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Muhammad Zubair Muis Alie, Ph.D <zubair.m@eng.unhas.ac.id>

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International Seminar on Marine Techn... <9783035711509@scientific.net> Mon, Jul 31, 2017 at 3:09 PM

Reply-To: "International Seminar on Marine Techn..." <9783035711509@scientific.net>
To: Muhammad Alie <zubair.m@eng.unhas.ac.id>

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Best regards,
Ketut Suastika
Teguh Putranto

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Dari: Seminar Nasional FTK (senta@its.ac.id)

Kepada: bair_offshore@yahoo.co.id

Tanggal: Jumat, 14 Oktober 2016 pukul 16.36 WITA

Dear Authors,

On behalf of SENTA 2016 Conference, we are pleased to inform you that your extended abstract entitled *"Collapse Analysis on VLCC Subjected to Longitudinal Bending with Bottom Damage"* has been accepted for oral presentation at the Conference. It is a condition of abstract acceptance that you or a nominated presenting co-author registers for the conference by submitting your **full paper** along with your **proof of payment** and **registration form** by mail to senta@its.ac.id no later than November 18, 2016. The abstracts of all **unregistered presenters** will be removed from the oral programme after this date.

Should you require more information about the conference, please do not hesitate to contact our committee Mr. Teguh Putranto (+62 85648595621) or Mr. Sholikhan Arif (+62 81357817997).
We look forward to meeting you on December 15-16, 2016.

Best Regards,

SENTA 2016 Reviewer Team

Re: Invitation for SENTA 2016 Conference

Dari: Seminar Nasional FTK (senta@its.ac.id)

Kepada: bair_offshore@yahoo.co.id

Tanggal: Selasa, 18 Oktober 2016 pukul 08.27 WITA

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We would conduct the review process and would inform you about the decision of your abstract.

Best regards,
Teguh Putranto
Secretary of SENTA 2016

On Tuesday, October 11, 2016, Muh.Zubair Muis Alie bair <bair_offshore@yahoo.co.id> wrote:

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>
> First of all, i would like to thank for your information and sending me an email regarding the SENTA 2016 International Conference will be held in Surabaya. This is very good achievement for SENTA becoming International Conference and the full paper will be submitted to Applied Mechanics and Materials (AMM). In conjunction with this, i attach the abstract for SENTA 2016 International Conference.
> Again, thank you.
>
> Sincerely yours,
> Muhammad Zubair Muis Alie
>
> Pada Jumat, 30 September 2016 12:43, Seminar Nasional FTK <senta@its.ac.id> menulis:
>
> Dear Mr. Muis Alie,
>
> On behalf of SENTA 2016 Conference, we are pleased to invite you to attend and participate in our inaugural International Marine Technology Conference that will be held on 15-16 December 2016 at Department of Naval Architecture and Shipbuilding Engineering, ITS, Surabaya.
>
> SENTA 2016 is an annual International Seminar on Marine Technology organized by the Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember (ITS) Surabaya. SENTA was initially a national seminar, the first seminar was organized in 2001, and this year will be upgraded to be an international seminar and indexed by AMM. The internationalization of SENTA is a response to the need of ITS to be an international institute as well as Indonesia as a global maritime axis.
>
> The purpose of the conference is to provide a platform for researchers, academicians, practitioners, as well as industrial professionals from all over the world to present their research results and development activities in the fields of Marine Technology. All honourable authors are kindly encouraged to contribute to the conference through submissions of their research papers and cordially invited for presentation at the conference.
>
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>
> We look forward to your confirmed presence at the SENTA Conference.
>
> Respectfully Yours,

Aries Sulisetyono
Conference Chairperson

Invitation for SENTA 2016 Conference

Dari: Seminar Nasional FTK (senta@its.ac.id)

Kepada: bair_offshore@yahoo.co.id

Tanggal: Jumat, 30 September 2016 pukul 12.43 WITA

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SENTA 2016 is an annual International Seminar on Marine Technology organized by the Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember (ITS) Surabaya. SENTA was initially a national seminar, the first seminar was organized in 2001, and this year will be upgraded to be an international seminar and indexed by AMM. The internationalization of SENTA is a response to the need of ITS to be an international institute as well as Indonesia as a global maritime axis.

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Strunk, W., Jr., & White, E. B. (1979). *The elements of style* (3rd ed.). New York: MacMillan.

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The 1st SENTA 2016 – International Conference on Marine Technology – ITS
Surabaya, 15-16 December 2016

Extended Abstract

Collapse Analysis on VLCC Subjected to Longitudinal Bending With Bottom Damage

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The objective of the present study is to analyze the progressive collapse of VLCC hull girder with bottom damaged subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection and crack are not considered. The bottom damage scenario is located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The result obtained for intact and damage condition by the analytical solution is compared with one another.

Keywords: VLCC, cross section, longitudinal bending, bottom damage

Intact

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Momen	**Rotasi**	**Momen**	**Curvature**	**Momen**
7.77E+11	2.68E-03	7.62E+06	5.74E-01	7.79E+11
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7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.98E+11
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.99E+11
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.99E+11
8.02E+11	2.35E-03	7.85E+06	5.04E-01	8.00E+11
8.02E+11	2.34E-03	7.86E+06	5.02E-01	8.01E+11
8.03E+11	2.33E-03	7.87E+06	5.00E-01	8.01E+11
8.04E+11	2.32E-03	7.88E+06	4.98E-01	8.02E+11
8.05E+11	2.31E-03	7.89E+06	4.96E-01	8.03E+11
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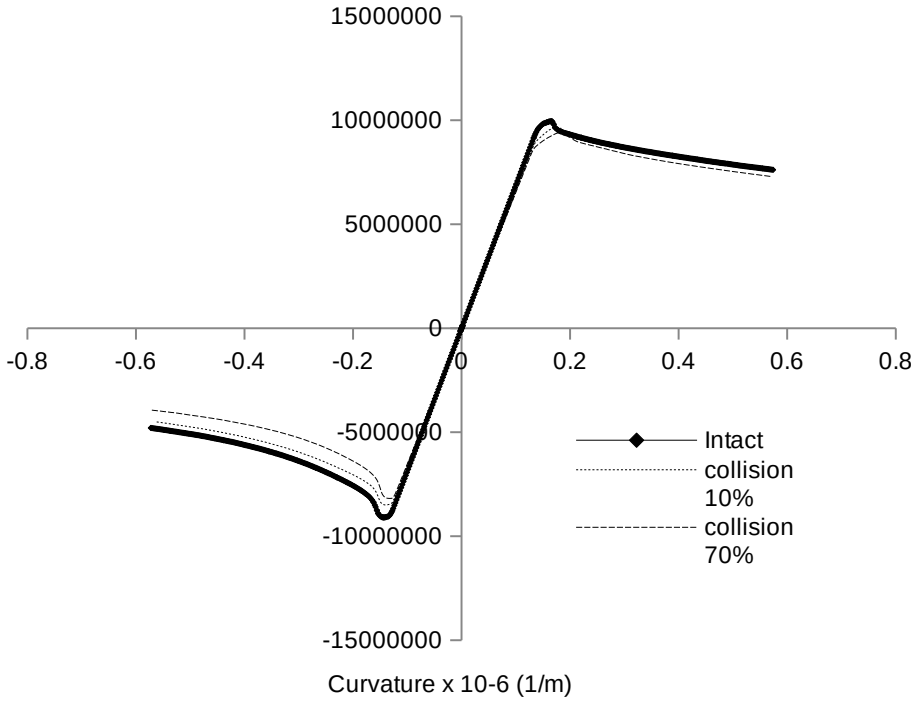

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8.08E+11	2.28E-03	7.91E+06	4.88E-01	8.05E+11
8.08E+11	2.27E-03	7.92E+06	4.86E-01	8.06E+11
8.09E+11	2.26E-03	7.93E+06	4.84E-01	8.06E+11
8.10E+11	2.25E-03	7.94E+06	4.82E-01	8.07E+11
8.11E+11	2.24E-03	7.94E+06	4.80E-01	8.08E+11
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8.16E+11	2.17E-03	8.00E+06	4.65E-01	8.13E+11
8.17E+11	2.16E-03	8.01E+06	4.63E-01	8.14E+11
8.18E+11	2.15E-03	8.01E+06	4.61E-01	8.15E+11
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8.23E+11	2.09E-03	8.06E+06	4.48E-01	8.19E+11
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8.27E+11	2.04E-03	8.11E+06	4.37E-01	8.23E+11
8.28E+11	2.03E-03	8.12E+06	4.35E-01	8.23E+11
8.29E+11	2.02E-03	8.12E+06	4.33E-01	8.24E+11
8.30E+11	2.01E-03	8.13E+06	4.31E-01	8.25E+11
8.30E+11	2.00E-03	8.14E+06	4.29E-01	8.25E+11
8.31E+11	1.99E-03	8.14E+06	4.27E-01	8.26E+11
8.32E+11	1.98E-03	8.15E+06	4.25E-01	8.27E+11
8.33E+11	1.97E-03	8.16E+06	4.23E-01	8.28E+11
8.34E+11	1.96E-03	8.17E+06	4.21E-01	8.28E+11
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8.41E+11	1.88E-03	8.24E+06	4.01E-01	8.35E+11

8.42E+11	1.87E-03	8.25E+06	3.99E-01	8.36E+11
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8.44E+11	1.85E-03	8.27E+06	3.95E-01	8.38E+11
8.45E+11	1.84E-03	8.28E+06	3.93E-01	8.38E+11
8.46E+11	1.83E-03	8.29E+06	3.91E-01	8.39E+11
8.47E+11	1.82E-03	8.30E+06	3.89E-01	8.40E+11
8.47E+11	1.81E-03	8.30E+06	3.88E-01	8.41E+11
8.48E+11	1.80E-03	8.31E+06	3.86E-01	8.42E+11
8.49E+11	1.79E-03	8.32E+06	3.84E-01	8.42E+11
8.50E+11	1.78E-03	8.33E+06	3.82E-01	8.43E+11
8.50E+11	1.77E-03	8.33E+06	3.79E-01	8.44E+11
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8.55E+11	1.72E-03	8.38E+06	3.69E-01	8.48E+11
8.56E+11	1.71E-03	8.39E+06	3.67E-01	8.49E+11
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.50E+11
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.50E+11
8.58E+11	1.69E-03	8.41E+06	3.62E-01	8.50E+11
8.59E+11	1.68E-03	8.42E+06	3.60E-01	8.51E+11
8.60E+11	1.67E-03	8.43E+06	3.58E-01	8.52E+11
8.61E+11	1.66E-03	8.44E+06	3.56E-01	8.53E+11
8.62E+11	1.65E-03	8.45E+06	3.54E-01	8.54E+11
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8.67E+11	1.59E-03	8.50E+06	3.41E-01	8.58E+11
8.68E+11	1.58E-03	8.51E+06	3.39E-01	8.59E+11
8.69E+11	1.57E-03	8.52E+06	3.37E-01	8.60E+11
8.70E+11	1.56E-03	8.53E+06	3.35E-01	8.61E+11
8.71E+11	1.55E-03	8.54E+06	3.33E-01	8.62E+11
8.72E+11	1.54E-03	8.55E+06	3.31E-01	8.63E+11
8.73E+11	1.53E-03	8.56E+06	3.28E-01	8.64E+11
8.74E+11	1.52E-03	8.57E+06	3.26E-01	8.65E+11
8.75E+11	1.52E-03	8.58E+06	3.24E-01	8.65E+11
8.76E+11	1.51E-03	8.59E+06	3.22E-01	8.66E+11
8.77E+11	1.50E-03	8.60E+06	3.20E-01	8.67E+11
8.79E+11	1.49E-03	8.61E+06	3.18E-01	8.68E+11
8.80E+11	1.48E-03	8.62E+06	3.16E-01	8.69E+11
8.81E+11	1.47E-03	8.63E+06	3.14E-01	8.70E+11
8.81E+11	1.46E-03	8.63E+06	3.13E-01	8.71E+11
8.82E+11	1.45E-03	8.64E+06	3.11E-01	8.72E+11

8.83E+11	1.44E-03	8.65E+06	3.09E-01	8.73E+11
8.84E+11	1.43E-03	8.66E+06	3.07E-01	8.74E+11
8.85E+11	1.42E-03	8.67E+06	3.05E-01	8.75E+11
8.86E+11	1.41E-03	8.68E+06	3.03E-01	8.76E+11
8.87E+11	1.40E-03	8.69E+06	3.01E-01	8.77E+11
8.88E+11	1.39E-03	8.70E+06	2.99E-01	8.78E+11
8.89E+11	1.38E-03	8.71E+06	2.96E-01	8.79E+11
8.90E+11	1.38E-03	8.72E+06	2.96E-01	8.79E+11
8.91E+11	1.37E-03	8.73E+06	2.93E-01	8.80E+11
8.92E+11	1.36E-03	8.74E+06	2.91E-01	8.81E+11
8.93E+11	1.35E-03	8.75E+06	2.89E-01	8.82E+11
8.94E+11	1.34E-03	8.76E+06	2.87E-01	8.83E+11
8.95E+11	1.33E-03	8.77E+06	2.85E-01	8.84E+11
8.96E+11	1.33E-03	8.78E+06	2.84E-01	8.85E+11
8.97E+11	1.32E-03	8.79E+06	2.82E-01	8.86E+11
8.98E+11	1.31E-03	8.80E+06	2.80E-01	8.88E+11
8.99E+11	1.30E-03	8.81E+06	2.78E-01	8.89E+11
9.00E+11	1.29E-03	8.82E+06	2.76E-01	8.90E+11
9.02E+11	1.28E-03	8.83E+06	2.73E-01	8.91E+11
9.02E+11	1.27E-03	8.84E+06	2.73E-01	8.92E+11
9.03E+11	1.26E-03	8.85E+06	2.71E-01	8.92E+11
9.04E+11	1.25E-03	8.86E+06	2.69E-01	8.93E+11
9.05E+11	1.24E-03	8.87E+06	2.66E-01	8.94E+11
9.07E+11	1.23E-03	8.89E+06	2.64E-01	8.96E+11
9.08E+11	1.22E-03	8.90E+06	2.62E-01	8.97E+11
9.09E+11	1.21E-03	8.91E+06	2.60E-01	8.98E+11
9.10E+11	1.21E-03	8.92E+06	2.58E-01	8.99E+11
9.11E+11	1.20E-03	8.93E+06	2.56E-01	9.00E+11
9.13E+11	1.19E-03	8.95E+06	2.54E-01	9.01E+11
9.14E+11	1.18E-03	8.96E+06	2.52E-01	9.02E+11
9.16E+11	1.17E-03	8.97E+06	2.49E-01	9.04E+11
9.17E+11	1.16E-03	8.98E+06	2.48E-01	9.05E+11
9.18E+11	1.15E-03	9.00E+06	2.45E-01	9.06E+11
9.20E+11	1.14E-03	9.01E+06	2.43E-01	9.07E+11
9.21E+11	1.13E-03	9.03E+06	2.41E-01	9.08E+11
9.22E+11	1.12E-03	9.04E+06	2.39E-01	9.09E+11
9.23E+11	1.11E-03	9.05E+06	2.38E-01	9.11E+11
9.24E+11	1.10E-03	9.06E+06	2.36E-01	9.11E+11
9.26E+11	1.09E-03	9.07E+06	2.34E-01	9.13E+11
9.27E+11	1.08E-03	9.09E+06	2.31E-01	9.14E+11
9.29E+11	1.07E-03	9.10E+06	2.29E-01	9.16E+11
9.30E+11	1.06E-03	9.11E+06	2.27E-01	9.17E+11
9.32E+11	1.05E-03	9.13E+06	2.25E-01	9.17E+11
9.33E+11	1.04E-03	9.15E+06	2.23E-01	9.19E+11
9.35E+11	1.03E-03	9.16E+06	2.21E-01	9.20E+11

9.35E+11	1.03E-03	9.17E+06	2.20E-01	9.21E+11
9.37E+11	1.02E-03	9.18E+06	2.18E-01	9.23E+11
9.38E+11	1.01E-03	9.19E+06	2.16E-01	9.24E+11
9.40E+11	9.99E-04	9.21E+06	2.14E-01	9.25E+11
9.42E+11	9.89E-04	9.23E+06	2.12E-01	9.27E+11
9.42E+11	9.87E-04	9.23E+06	2.11E-01	9.28E+11
9.43E+11	9.77E-04	9.25E+06	2.09E-01	9.29E+11
9.45E+11	9.67E-04	9.26E+06	2.07E-01	9.30E+11
9.47E+11	9.57E-04	9.28E+06	2.05E-01	9.32E+11
9.48E+11	9.49E-04	9.29E+06	2.03E-01	9.33E+11
9.50E+11	9.39E-04	9.31E+06	2.01E-01	9.34E+11
9.52E+11	9.29E-04	9.33E+06	1.99E-01	9.36E+11
9.53E+11	9.21E-04	9.34E+06	1.97E-01	9.38E+11
9.54E+11	9.11E-04	9.35E+06	1.95E-01	9.40E+11
9.56E+11	9.01E-04	9.37E+06	1.93E-01	9.42E+11
9.58E+11	8.91E-04	9.39E+06	1.91E-01	9.46E+11
9.58E+11	8.88E-04	9.39E+06	1.90E-01	9.47E+11
9.60E+11	8.78E-04	9.41E+06	1.88E-01	9.51E+11
9.62E+11	8.68E-04	9.43E+06	1.86E-01	9.54E+11
9.63E+11	8.65E-04	9.44E+06	1.85E-01	9.56E+11
9.65E+11	8.55E-04	9.46E+06	1.83E-01	9.70E+11
9.67E+11	8.46E-04	9.48E+06	1.81E-01	9.80E+11
9.70E+11	8.36E-04	9.51E+06	1.79E-01	9.84E+11
9.73E+11	8.28E-04	9.53E+06	1.77E-01	9.86E+11
9.77E+11	8.18E-04	9.58E+06	1.75E-01	9.86E+11
9.78E+11	8.18E-04	9.58E+06	1.75E-01	9.85E+11
9.83E+11	8.08E-04	9.63E+06	1.73E-01	9.84E+11
9.85E+11	8.04E-04	9.66E+06	1.72E-01	9.83E+11
9.86E+11	8.04E-04	9.66E+06	1.72E-01	9.81E+11
9.99E+11	7.94E-04	9.79E+06	1.70E-01	9.80E+11
1.00E+12	7.90E-04	9.84E+06	1.69E-01	9.79E+11
1.01E+12	7.82E-04	9.94E+06	1.67E-01	9.77E+11
1.02E+12	7.76E-04	9.96E+06	1.66E-01	9.75E+11
1.02E+12	7.66E-04	9.95E+06	1.64E-01	9.73E+11
1.02E+12	7.60E-04	9.95E+06	1.63E-01	9.73E+11
1.01E+12	7.50E-04	9.94E+06	1.61E-01	9.69E+11
1.01E+12	7.45E-04	9.92E+06	1.60E-01	9.65E+11
1.01E+12	7.35E-04	9.91E+06	1.57E-01	9.63E+11
1.01E+12	7.29E-04	9.89E+06	1.56E-01	9.59E+11
1.01E+12	7.19E-04	9.87E+06	1.54E-01	9.55E+11
1.01E+12	7.09E-04	9.85E+06	1.52E-01	9.51E+11
1.00E+12	7.01E-04	9.83E+06	1.50E-01	9.46E+11
1.00E+12	6.94E-04	9.80E+06	1.49E-01	9.41E+11
9.97E+11	6.88E-04	9.77E+06	1.47E-01	9.38E+11
9.91E+11	6.78E-04	9.71E+06	1.45E-01	9.35E+11

9.86E+11	6.69E-04	9.66E+06	1.43E-01	9.32E+11
9.82E+11	6.64E-04	9.63E+06	1.42E-01	9.27E+11
9.78E+11	6.58E-04	9.58E+06	1.41E-01	9.22E+11
9.73E+11	6.52E-04	9.53E+06	1.40E-01	9.19E+11
9.63E+11	6.43E-04	9.43E+06	1.38E-01	9.15E+11
9.54E+11	6.35E-04	9.35E+06	1.36E-01	9.11E+11
9.45E+11	6.28E-04	9.26E+06	1.35E-01	9.02E+11
9.35E+11	6.21E-04	9.16E+06	1.33E-01	8.94E+11
9.33E+11	6.20E-04	9.14E+06	1.33E-01	8.86E+11
9.18E+11	6.10E-04	8.99E+06	1.31E-01	8.77E+11
9.03E+11	6.00E-04	8.85E+06	1.28E-01	8.69E+11
8.88E+11	5.90E-04	8.70E+06	1.26E-01	8.55E+11
8.73E+11	5.80E-04	8.55E+06	1.24E-01	8.40E+11
8.58E+11	5.70E-04	8.40E+06	1.22E-01	8.26E+11
8.43E+11	5.60E-04	8.26E+06	1.20E-01	8.11E+11
8.28E+11	5.50E-04	8.11E+06	1.18E-01	7.97E+11
8.13E+11	5.40E-04	7.96E+06	1.16E-01	7.82E+11
7.98E+11	5.30E-04	7.82E+06	1.13E-01	7.68E+11
7.82E+11	5.20E-04	7.67E+06	1.11E-01	7.53E+11
7.67E+11	5.10E-04	7.52E+06	1.09E-01	7.39E+11
7.52E+11	5.00E-04	7.37E+06	1.07E-01	7.24E+11
7.37E+11	4.90E-04	7.23E+06	1.05E-01	7.10E+11
7.22E+11	4.80E-04	7.08E+06	1.03E-01	6.95E+11
7.07E+11	4.70E-04	6.93E+06	1.01E-01	6.81E+11
6.92E+11	4.60E-04	6.78E+06	9.85E-02	6.66E+11
6.77E+11	4.50E-04	6.64E+06	9.64E-02	6.52E+11
6.62E+11	4.40E-04	6.49E+06	9.42E-02	6.37E+11
6.47E+11	4.30E-04	6.34E+06	9.21E-02	6.23E+11
6.32E+11	4.20E-04	6.19E+06	8.99E-02	6.08E+11
6.17E+11	4.10E-04	6.05E+06	8.78E-02	5.94E+11
6.02E+11	4.00E-04	5.90E+06	8.57E-02	5.79E+11
5.87E+11	3.90E-04	5.75E+06	8.35E-02	5.65E+11
5.72E+11	3.80E-04	5.60E+06	8.14E-02	5.50E+11
5.57E+11	3.70E-04	5.46E+06	7.92E-02	5.36E+11
5.42E+11	3.60E-04	5.31E+06	7.71E-02	5.21E+11
5.27E+11	3.50E-04	5.16E+06	7.49E-02	5.07E+11
5.12E+11	3.40E-04	5.01E+06	7.28E-02	4.93E+11
4.97E+11	3.30E-04	4.87E+06	7.07E-02	4.78E+11
4.82E+11	3.20E-04	4.72E+06	6.85E-02	4.64E+11
4.67E+11	3.10E-04	4.57E+06	6.64E-02	4.49E+11
4.51E+11	3.00E-04	4.42E+06	6.42E-02	4.35E+11
4.36E+11	2.90E-04	4.28E+06	6.21E-02	4.20E+11
4.21E+11	2.80E-04	4.13E+06	6.00E-02	4.06E+11
4.06E+11	2.70E-04	3.98E+06	5.78E-02	3.91E+11
3.91E+11	2.60E-04	3.83E+06	5.57E-02	3.77E+11

3.76E+11	2.50E-04	3.69E+06	5.35E-02	3.62E+11
3.61E+11	2.40E-04	3.54E+06	5.14E-02	3.48E+11
3.46E+11	2.30E-04	3.39E+06	4.93E-02	3.33E+11
3.31E+11	2.20E-04	3.24E+06	4.71E-02	3.19E+11
3.16E+11	2.10E-04	3.10E+06	4.50E-02	3.04E+11
3.01E+11	2.00E-04	2.95E+06	4.28E-02	2.90E+11
2.86E+11	1.90E-04	2.80E+06	4.07E-02	2.75E+11
2.71E+11	1.80E-04	2.65E+06	3.85E-02	2.61E+11
2.56E+11	1.70E-04	2.51E+06	3.64E-02	2.46E+11
2.41E+11	1.60E-04	2.36E+06	3.43E-02	2.32E+11
2.26E+11	1.50E-04	2.21E+06	3.21E-02	2.17E+11
2.11E+11	1.40E-04	2.06E+06	3.00E-02	2.03E+11
1.96E+11	1.30E-04	1.92E+06	2.78E-02	1.88E+11
1.81E+11	1.20E-04	1.77E+06	2.57E-02	1.74E+11
1.66E+11	1.10E-04	1.62E+06	2.36E-02	1.59E+11
1.51E+11	1.00E-04	1.47E+06	2.14E-02	1.45E+11
1.35E+11	9.00E-05	1.33E+06	1.93E-02	1.30E+11
1.20E+11	8.00E-05	1.18E+06	1.71E-02	1.16E+11
1.05E+11	7.00E-05	1.03E+06	1.50E-02	1.01E+11
9.03E+10	6.00E-05	8.85E+05	1.28E-02	8.69E+10
7.52E+10	5.00E-05	7.37E+05	1.07E-02	7.24E+10
6.02E+10	4.00E-05	5.90E+05	8.57E-03	5.79E+10
4.51E+10	3.00E-05	4.42E+05	6.42E-03	4.35E+10
3.01E+10	2.00E-05	2.95E+05	4.28E-03	2.90E+10
1.51E+10	1.00E-05	1.47E+05	2.14E-03	1.45E+10
1.35E+10	9.00E-06	1.33E+05	1.93E-03	1.30E+10
1.20E+10	8.00E-06	1.18E+05	1.71E-03	1.16E+10
1.05E+10	7.00E-06	1.03E+05	1.50E-03	1.01E+10
9.03E+09	6.00E-06	8.85E+04	1.28E-03	8.69E+09
7.53E+09	5.00E-06	7.37E+04	1.07E-03	7.24E+09
6.02E+09	4.00E-06	5.90E+04	8.57E-04	5.79E+09
4.52E+09	3.00E-06	4.42E+04	6.42E-04	4.35E+09
3.01E+09	2.00E-06	2.95E+04	4.28E-04	2.90E+09
1.51E+09	1.00E-06	1.47E+04	2.14E-04	1.45E+09
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.51E+09	-1.00E-06	-1.47E+04	-2.14E-04	-1.45E+09
-3.01E+09	-2.00E-06	-2.95E+04	-4.28E-04	-2.90E+09
-4.52E+09	-3.00E-06	-4.42E+04	-6.42E-04	-4.35E+09
-6.02E+09	-4.00E-06	-5.90E+04	-8.57E-04	-5.79E+09
-7.52E+09	-5.00E-06	-7.37E+04	-1.07E-03	-7.24E+09
-9.03E+09	-6.00E-06	-8.85E+04	-1.28E-03	-8.69E+09
-1.05E+10	-7.00E-06	-1.03E+05	-1.50E-03	-1.01E+10
-1.20E+10	-8.00E-06	-1.18E+05	-1.71E-03	-1.16E+10
-1.35E+10	-9.00E-06	-1.33E+05	-1.93E-03	-1.30E+10
-1.51E+10	-1.00E-05	-1.47E+05	-2.14E-03	-1.45E+10

-3.01E+10	-2.00E-05	-2.95E+05	-4.28E-03	-2.90E+10
-4.51E+10	-3.00E-05	-4.42E+05	-6.42E-03	-4.35E+10
-6.02E+10	-4.00E-05	-5.90E+05	-8.57E-03	-5.79E+10
-7.52E+10	-5.00E-05	-7.37E+05	-1.07E-02	-7.24E+10
-9.03E+10	-6.00E-05	-8.85E+05	-1.28E-02	-8.69E+10
-1.05E+11	-7.00E-05	-1.03E+06	-1.50E-02	-1.01E+11
-1.20E+11	-8.00E-05	-1.18E+06	-1.71E-02	-1.16E+11
-1.35E+11	-9.00E-05	-1.33E+06	-1.93E-02	-1.30E+11
-1.51E+11	-1.00E-04	-1.47E+06	-2.14E-02	-1.45E+11
-1.66E+11	-1.10E-04	-1.62E+06	-2.36E-02	-1.59E+11
-1.81E+11	-1.20E-04	-1.77E+06	-2.57E-02	-1.74E+11
-1.96E+11	-1.30E-04	-1.92E+06	-2.78E-02	-1.88E+11
-2.11E+11	-1.40E-04	-2.06E+06	-3.00E-02	-2.03E+11
-2.26E+11	-1.50E-04	-2.21E+06	-3.21E-02	-2.17E+11
-2.41E+11	-1.60E-04	-2.36E+06	-3.43E-02	-2.32E+11
-2.56E+11	-1.70E-04	-2.51E+06	-3.64E-02	-2.46E+11
-2.71E+11	-1.80E-04	-2.65E+06	-3.85E-02	-2.61E+11
-2.86E+11	-1.90E-04	-2.80E+06	-4.07E-02	-2.75E+11
-3.01E+11	-2.00E-04	-2.95E+06	-4.28E-02	-2.90E+11
-3.16E+11	-2.10E-04	-3.10E+06	-4.50E-02	-3.04E+11
-3.31E+11	-2.20E-04	-3.24E+06	-4.71E-02	-3.19E+11
-3.46E+11	-2.30E-04	-3.39E+06	-4.93E-02	-3.33E+11
-3.61E+11	-2.40E-04	-3.54E+06	-5.14E-02	-3.48E+11
-3.76E+11	-2.50E-04	-3.69E+06	-5.35E-02	-3.62E+11
-3.91E+11	-2.60E-04	-3.83E+06	-5.57E-02	-3.77E+11
-4.06E+11	-2.70E-04	-3.98E+06	-5.78E-02	-3.91E+11
-4.21E+11	-2.80E-04	-4.13E+06	-6.00E-02	-4.06E+11
-4.36E+11	-2.90E-04	-4.28E+06	-6.21E-02	-4.20E+11
-4.51E+11	-3.00E-04	-4.42E+06	-6.42E-02	-4.34E+11
-4.66E+11	-3.10E-04	-4.57E+06	-6.64E-02	-4.49E+11
-4.81E+11	-3.20E-04	-4.72E+06	-6.85E-02	-4.63E+11
-4.97E+11	-3.30E-04	-4.87E+06	-7.07E-02	-4.78E+11
-5.12E+11	-3.40E-04	-5.01E+06	-7.28E-02	-4.92E+11
-5.27E+11	-3.50E-04	-5.16E+06	-7.49E-02	-5.07E+11
-5.42E+11	-3.60E-04	-5.31E+06	-7.71E-02	-5.21E+11
-5.57E+11	-3.70E-04	-5.45E+06	-7.92E-02	-5.36E+11
-5.72E+11	-3.80E-04	-5.60E+06	-8.14E-02	-5.50E+11
-5.87E+11	-3.90E-04	-5.75E+06	-8.35E-02	-5.65E+11
-6.02E+11	-4.00E-04	-5.90E+06	-8.57E-02	-5.79E+11
-6.17E+11	-4.10E-04	-6.04E+06	-8.78E-02	-5.94E+11
-6.32E+11	-4.20E-04	-6.19E+06	-8.99E-02	-6.08E+11
-6.47E+11	-4.30E-04	-6.34E+06	-9.21E-02	-6.23E+11
-6.62E+11	-4.40E-04	-6.49E+06	-9.42E-02	-6.37E+11
-6.77E+11	-4.50E-04	-6.63E+06	-9.64E-02	-6.52E+11
-6.92E+11	-4.60E-04	-6.78E+06	-9.85E-02	-6.66E+11

-7.07E+11	-4.70E-04	-6.93E+06	-1.01E-01	-6.81E+11
-7.22E+11	-4.80E-04	-7.08E+06	-1.03E-01	-6.95E+11
-7.37E+11	-4.90E-04	-7.22E+06	-1.05E-01	-7.10E+11
-7.52E+11	-5.00E-04	-7.37E+06	-1.07E-01	-7.24E+11
-7.67E+11	-5.10E-04	-7.52E+06	-1.09E-01	-7.38E+11
-7.82E+11	-5.20E-04	-7.67E+06	-1.11E-01	-7.53E+11
-7.97E+11	-5.30E-04	-7.81E+06	-1.13E-01	-7.67E+11
-8.12E+11	-5.40E-04	-7.96E+06	-1.16E-01	-7.82E+11
-8.27E+11	-5.50E-04	-8.11E+06	-1.18E-01	-7.96E+11
-8.42E+11	-5.60E-04	-8.25E+06	-1.20E-01	-8.10E+11
-8.57E+11	-5.70E-04	-8.40E+06	-1.22E-01	-8.15E+11
-8.70E+11	-5.78E-04	-8.52E+06	-1.24E-01	-8.29E+11
-8.84E+11	-5.88E-04	-8.66E+06	-1.26E-01	-8.40E+11
-8.95E+11	-5.96E-04	-8.77E+06	-1.28E-01	-8.46E+11
-9.03E+11	-6.03E-04	-8.85E+06	-1.29E-01	-8.52E+11
-9.09E+11	-6.09E-04	-8.91E+06	-1.30E-01	-8.57E+11
-9.15E+11	-6.16E-04	-8.97E+06	-1.32E-01	-8.60E+11
-9.20E+11	-6.22E-04	-9.01E+06	-1.33E-01	-8.62E+11
-9.23E+11	-6.28E-04	-9.04E+06	-1.34E-01	-8.63E+11
-9.24E+11	-6.33E-04	-9.05E+06	-1.36E-01	-8.65E+11
-9.25E+11	-6.43E-04	-9.07E+06	-1.38E-01	-8.66E+11
-9.27E+11	-6.50E-04	-9.08E+06	-1.39E-01	-8.66E+11
-9.28E+11	-6.57E-04	-9.09E+06	-1.41E-01	-8.66E+11
-9.28E+11	-6.63E-04	-9.09E+06	-1.42E-01	-8.67E+11
-9.28E+11	-6.68E-04	-9.10E+06	-1.43E-01	-8.67E+11
-9.28E+11	-6.72E-04	-9.10E+06	-1.44E-01	-8.67E+11
-9.28E+11	-6.77E-04	-9.09E+06	-1.45E-01	-8.67E+11
-9.27E+11	-6.83E-04	-9.09E+06	-1.46E-01	-8.66E+11
-9.27E+11	-6.87E-04	-9.08E+06	-1.47E-01	-8.64E+11
-9.24E+11	-6.97E-04	-9.05E+06	-1.49E-01	-8.60E+11
-9.18E+11	-7.07E-04	-9.00E+06	-1.51E-01	-8.53E+11
-9.10E+11	-7.17E-04	-8.92E+06	-1.54E-01	-8.51E+11
-9.08E+11	-7.18E-04	-8.90E+06	-1.54E-01	-8.39E+11
-8.95E+11	-7.28E-04	-8.77E+06	-1.56E-01	-8.38E+11
-8.93E+11	-7.30E-04	-8.75E+06	-1.56E-01	-8.23E+11
-8.77E+11	-7.40E-04	-8.60E+06	-1.58E-01	-8.13E+11
-8.67E+11	-7.47E-04	-8.50E+06	-1.60E-01	-8.02E+11
-8.55E+11	-7.57E-04	-8.38E+06	-1.62E-01	-7.99E+11
-8.52E+11	-7.60E-04	-8.35E+06	-1.63E-01	-7.90E+11
-8.43E+11	-7.70E-04	-8.26E+06	-1.65E-01	-7.83E+11
-8.36E+11	-7.80E-04	-8.19E+06	-1.67E-01	-7.83E+11
-8.35E+11	-7.81E-04	-8.19E+06	-1.67E-01	-7.77E+11
-8.29E+11	-7.91E-04	-8.12E+06	-1.69E-01	-7.73E+11
-8.25E+11	-8.00E-04	-8.08E+06	-1.71E-01	-7.68E+11
-8.19E+11	-8.10E-04	-8.03E+06	-1.73E-01	-7.64E+11

-8.15E+11	-8.20E-04	-7.99E+06	-1.75E-01	-7.62E+11
-8.13E+11	-8.24E-04	-7.97E+06	-1.76E-01	-7.60E+11
-8.10E+11	-8.31E-04	-7.94E+06	-1.78E-01	-7.56E+11
-8.06E+11	-8.41E-04	-7.89E+06	-1.80E-01	-7.52E+11
-8.02E+11	-8.51E-04	-7.85E+06	-1.82E-01	-7.49E+11
-7.98E+11	-8.61E-04	-7.82E+06	-1.84E-01	-7.48E+11
-7.96E+11	-8.64E-04	-7.80E+06	-1.85E-01	-7.45E+11
-7.93E+11	-8.74E-04	-7.77E+06	-1.87E-01	-7.44E+11
-7.93E+11	-8.75E-04	-7.77E+06	-1.87E-01	-7.41E+11
-7.89E+11	-8.85E-04	-7.73E+06	-1.89E-01	-7.37E+11
-7.85E+11	-8.95E-04	-7.70E+06	-1.92E-01	-7.34E+11
-7.82E+11	-9.05E-04	-7.66E+06	-1.94E-01	-7.31E+11
-7.78E+11	-9.15E-04	-7.63E+06	-1.96E-01	-7.29E+11
-7.76E+11	-9.23E-04	-7.60E+06	-1.98E-01	-7.27E+11
-7.74E+11	-9.30E-04	-7.58E+06	-1.99E-01	-7.24E+11
-7.71E+11	-9.40E-04	-7.55E+06	-2.01E-01	-7.21E+11
-7.67E+11	-9.50E-04	-7.52E+06	-2.03E-01	-7.18E+11
-7.64E+11	-9.60E-04	-7.49E+06	-2.06E-01	-7.15E+11
-7.61E+11	-9.70E-04	-7.46E+06	-2.08E-01	-7.12E+11
-7.58E+11	-9.80E-04	-7.43E+06	-2.10E-01	-7.10E+11
-7.55E+11	-9.90E-04	-7.40E+06	-2.12E-01	-7.07E+11
-7.55E+11	-9.92E-04	-7.40E+06	-2.12E-01	-7.07E+11
-7.52E+11	-1.00E-03	-7.37E+06	-2.14E-01	-7.04E+11
-7.50E+11	-1.01E-03	-7.35E+06	-2.16E-01	-7.02E+11
-7.46E+11	-1.02E-03	-7.31E+06	-2.18E-01	-6.99E+11
-7.44E+11	-1.03E-03	-7.29E+06	-2.21E-01	-6.96E+11
-7.41E+11	-1.04E-03	-7.26E+06	-2.23E-01	-6.94E+11
-7.38E+11	-1.05E-03	-7.23E+06	-2.25E-01	-6.91E+11
-7.35E+11	-1.06E-03	-7.20E+06	-2.27E-01	-6.89E+11
-7.33E+11	-1.07E-03	-7.18E+06	-2.29E-01	-6.88E+11
-7.32E+11	-1.07E-03	-7.17E+06	-2.30E-01	-6.87E+11
-7.30E+11	-1.08E-03	-7.15E+06	-2.31E-01	-6.84E+11
-7.27E+11	-1.09E-03	-7.12E+06	-2.33E-01	-6.82E+11
-7.24E+11	-1.10E-03	-7.10E+06	-2.36E-01	-6.79E+11
-7.21E+11	-1.11E-03	-7.07E+06	-2.38E-01	-6.76E+11
-7.19E+11	-1.12E-03	-7.04E+06	-2.40E-01	-6.74E+11
-7.16E+11	-1.13E-03	-7.02E+06	-2.42E-01	-6.71E+11
-7.13E+11	-1.14E-03	-6.99E+06	-2.44E-01	-6.69E+11
-7.11E+11	-1.15E-03	-6.97E+06	-2.46E-01	-6.68E+11
-7.09E+11	-1.16E-03	-6.95E+06	-2.48E-01	-6.65E+11
-7.07E+11	-1.17E-03	-6.93E+06	-2.50E-01	-6.64E+11
-7.06E+11	-1.17E-03	-6.91E+06	-2.51E-01	-6.62E+11
-7.03E+11	-1.18E-03	-6.89E+06	-2.53E-01	-6.59E+11
-7.00E+11	-1.19E-03	-6.86E+06	-2.55E-01	-6.57E+11
-6.98E+11	-1.20E-03	-6.84E+06	-2.57E-01	-6.54E+11

-6.95E+11	-1.21E-03	-6.81E+06	-2.59E-01	-6.52E+11
-6.93E+11	-1.22E-03	-6.79E+06	-2.61E-01	-6.50E+11
-6.90E+11	-1.23E-03	-6.76E+06	-2.64E-01	-6.48E+11
-6.88E+11	-1.24E-03	-6.74E+06	-2.66E-01	-6.45E+11
-6.86E+11	-1.25E-03	-6.72E+06	-2.68E-01	-6.45E+11
-6.85E+11	-1.25E-03	-6.71E+06	-2.68E-01	-6.43E+11
-6.83E+11	-1.26E-03	-6.69E+06	-2.70E-01	-6.40E+11
-6.80E+11	-1.27E-03	-6.67E+06	-2.73E-01	-6.40E+11
-6.79E+11	-1.28E-03	-6.66E+06	-2.74E-01	-6.37E+11
-6.77E+11	-1.29E-03	-6.63E+06	-2.76E-01	-6.35E+11
-6.74E+11	-1.30E-03	-6.61E+06	-2.78E-01	-6.33E+11
-6.72E+11	-1.31E-03	-6.58E+06	-2.80E-01	-6.31E+11
-6.70E+11	-1.32E-03	-6.56E+06	-2.82E-01	-6.28E+11
-6.67E+11	-1.33E-03	-6.54E+06	-2.84E-01	-6.26E+11
-6.65E+11	-1.34E-03	-6.52E+06	-2.87E-01	-6.24E+11
-6.63E+11	-1.35E-03	-6.50E+06	-2.89E-01	-6.22E+11
-6.61E+11	-1.36E-03	-6.48E+06	-2.91E-01	-6.22E+11
-6.61E+11	-1.36E-03	-6.47E+06	-2.91E-01	-6.20E+11
-6.58E+11	-1.37E-03	-6.45E+06	-2.93E-01	-6.18E+11
-6.56E+11	-1.38E-03	-6.43E+06	-2.96E-01	-6.16E+11
-6.54E+11	-1.39E-03	-6.41E+06	-2.98E-01	-6.14E+11
-6.52E+11	-1.40E-03	-6.39E+06	-3.00E-01	-6.12E+11
-6.50E+11	-1.41E-03	-6.37E+06	-3.02E-01	-6.11E+11
-6.48E+11	-1.42E-03	-6.35E+06	-3.03E-01	-6.09E+11
-6.46E+11	-1.43E-03	-6.33E+06	-3.05E-01	-6.07E+11
-6.44E+11	-1.44E-03	-6.31E+06	-3.07E-01	-6.05E+11
-6.42E+11	-1.45E-03	-6.29E+06	-3.10E-01	-6.03E+11
-6.40E+11	-1.46E-03	-6.27E+06	-3.12E-01	-6.01E+11
-6.38E+11	-1.47E-03	-6.26E+06	-3.14E-01	-5.99E+11
-6.36E+11	-1.48E-03	-6.24E+06	-3.16E-01	-5.98E+11
-6.35E+11	-1.49E-03	-6.22E+06	-3.18E-01	-5.96E+11
-6.33E+11	-1.50E-03	-6.20E+06	-3.20E-01	-5.94E+11
-6.31E+11	-1.51E-03	-6.18E+06	-3.22E-01	-5.92E+11
-6.29E+11	-1.52E-03	-6.16E+06	-3.24E-01	-5.90E+11
-6.27E+11	-1.53E-03	-6.15E+06	-3.27E-01	-5.89E+11
-6.25E+11	-1.54E-03	-6.13E+06	-3.29E-01	-5.87E+11
-6.23E+11	-1.55E-03	-6.11E+06	-3.31E-01	-5.85E+11
-6.22E+11	-1.56E-03	-6.09E+06	-3.33E-01	-5.83E+11
-6.20E+11	-1.57E-03	-6.07E+06	-3.35E-01	-5.82E+11
-6.18E+11	-1.58E-03	-6.06E+06	-3.37E-01	-5.80E+11
-6.16E+11	-1.59E-03	-6.04E+06	-3.39E-01	-5.79E+11
-6.15E+11	-1.60E-03	-6.02E+06	-3.42E-01	-5.78E+11
-6.14E+11	-1.60E-03	-6.02E+06	-3.42E-01	-5.77E+11
-6.12E+11	-1.61E-03	-6.00E+06	-3.45E-01	-5.75E+11
-6.11E+11	-1.62E-03	-5.98E+06	-3.47E-01	-5.74E+11

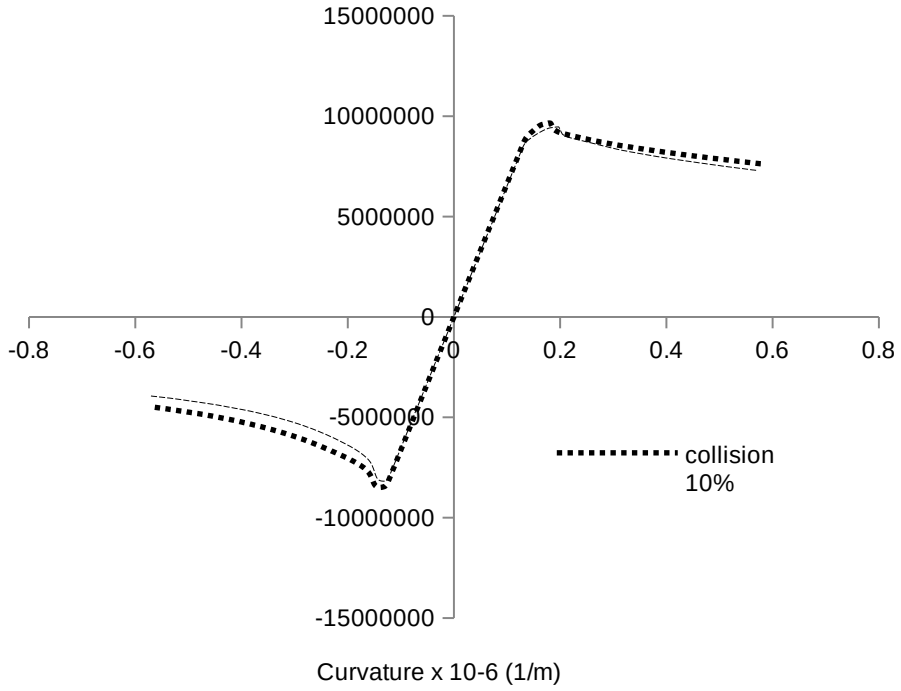
-6.09E+11	-1.63E-03	-5.97E+06	-3.49E-01	-5.72E+11
-6.07E+11	-1.64E-03	-5.95E+06	-3.51E-01	-5.70E+11
-6.06E+11	-1.65E-03	-5.93E+06	-3.53E-01	-5.69E+11
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-5.69E+11
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-5.67E+11
-6.02E+11	-1.67E-03	-5.90E+06	-3.58E-01	-5.65E+11
-6.01E+11	-1.68E-03	-5.88E+06	-3.60E-01	-5.64E+11
-5.99E+11	-1.69E-03	-5.87E+06	-3.62E-01	-5.62E+11
-5.97E+11	-1.70E-03	-5.85E+06	-3.64E-01	-5.61E+11
-5.96E+11	-1.71E-03	-5.84E+06	-3.66E-01	-5.59E+11
-5.94E+11	-1.72E-03	-5.82E+06	-3.68E-01	-5.58E+11
-5.92E+11	-1.73E-03	-5.80E+06	-3.70E-01	-5.56E+11
-5.91E+11	-1.74E-03	-5.79E+06	-3.73E-01	-5.55E+11
-5.89E+11	-1.75E-03	-5.78E+06	-3.75E-01	-5.53E+11
-5.88E+11	-1.76E-03	-5.76E+06	-3.77E-01	-5.52E+11
-5.86E+11	-1.77E-03	-5.75E+06	-3.79E-01	-5.51E+11
-5.85E+11	-1.78E-03	-5.73E+06	-3.81E-01	-5.49E+11
-5.84E+11	-1.79E-03	-5.72E+06	-3.83E-01	-5.49E+11
-5.83E+11	-1.80E-03	-5.71E+06	-3.85E-01	-5.47E+11
-5.81E+11	-1.81E-03	-5.70E+06	-3.87E-01	-5.46E+11
-5.80E+11	-1.82E-03	-5.68E+06	-3.89E-01	-5.45E+11
-5.78E+11	-1.83E-03	-5.67E+06	-3.91E-01	-5.43E+11
-5.77E+11	-1.84E-03	-5.65E+06	-3.93E-01	-5.42E+11
-5.76E+11	-1.85E-03	-5.64E+06	-3.96E-01	-5.41E+11
-5.74E+11	-1.86E-03	-5.63E+06	-3.98E-01	-5.39E+11
-5.73E+11	-1.87E-03	-5.62E+06	-3.99E-01	-5.38E+11
-5.72E+11	-1.88E-03	-5.60E+06	-4.01E-01	-5.37E+11
-5.70E+11	-1.89E-03	-5.59E+06	-4.04E-01	-5.35E+11
-5.69E+11	-1.90E-03	-5.57E+06	-4.06E-01	-5.34E+11
-5.67E+11	-1.91E-03	-5.56E+06	-4.08E-01	-5.33E+11
-5.66E+11	-1.92E-03	-5.55E+06	-4.10E-01	-5.31E+11
-5.65E+11	-1.93E-03	-5.53E+06	-4.12E-01	-5.30E+11
-5.63E+11	-1.94E-03	-5.52E+06	-4.14E-01	-5.29E+11
-5.62E+11	-1.95E-03	-5.51E+06	-4.16E-01	-5.28E+11
-5.61E+11	-1.96E-03	-5.49E+06	-4.19E-01	-5.26E+11
-5.59E+11	-1.97E-03	-5.48E+06	-4.21E-01	-5.25E+11
-5.58E+11	-1.98E-03	-5.47E+06	-4.23E-01	-5.24E+11
-5.57E+11	-1.99E-03	-5.46E+06	-4.25E-01	-5.23E+11
-5.56E+11	-2.00E-03	-5.45E+06	-4.27E-01	-5.22E+11
-5.55E+11	-2.01E-03	-5.43E+06	-4.29E-01	-5.21E+11
-5.53E+11	-2.02E-03	-5.42E+06	-4.31E-01	-5.19E+11
-5.52E+11	-2.03E-03	-5.41E+06	-4.34E-01	-5.18E+11
-5.51E+11	-2.04E-03	-5.40E+06	-4.36E-01	-5.17E+11
-5.50E+11	-2.05E-03	-5.39E+06	-4.38E-01	-5.17E+11
-5.49E+11	-2.05E-03	-5.38E+06	-4.39E-01	-5.16E+11

-5.48E+11	-2.06E-03	-5.37E+06	-4.41E-01	-5.15E+11
-5.47E+11	-2.07E-03	-5.36E+06	-4.43E-01	-5.14E+11
-5.46E+11	-2.08E-03	-5.35E+06	-4.45E-01	-5.13E+11
-5.45E+11	-2.09E-03	-5.34E+06	-4.47E-01	-5.12E+11
-5.44E+11	-2.10E-03	-5.33E+06	-4.49E-01	-5.10E+11
-5.42E+11	-2.11E-03	-5.31E+06	-4.52E-01	-5.09E+11
-5.41E+11	-2.12E-03	-5.30E+06	-4.54E-01	-5.08E+11
-5.40E+11	-2.13E-03	-5.30E+06	-4.55E-01	-5.07E+11
-5.39E+11	-2.14E-03	-5.28E+06	-4.58E-01	-5.06E+11
-5.38E+11	-2.15E-03	-5.27E+06	-4.60E-01	-5.05E+11
-5.37E+11	-2.16E-03	-5.26E+06	-4.62E-01	-5.04E+11
-5.36E+11	-2.17E-03	-5.25E+06	-4.64E-01	-5.03E+11
-5.35E+11	-2.18E-03	-5.24E+06	-4.66E-01	-5.02E+11
-5.34E+11	-2.19E-03	-5.23E+06	-4.68E-01	-5.01E+11
-5.33E+11	-2.20E-03	-5.22E+06	-4.70E-01	-5.00E+11
-5.31E+11	-2.21E-03	-5.21E+06	-4.73E-01	-4.99E+11
-5.30E+11	-2.22E-03	-5.20E+06	-4.75E-01	-4.98E+11
-5.29E+11	-2.23E-03	-5.19E+06	-4.77E-01	-4.97E+11
-5.28E+11	-2.24E-03	-5.18E+06	-4.79E-01	-4.96E+11
-5.27E+11	-2.25E-03	-5.16E+06	-4.81E-01	-4.95E+11
-5.26E+11	-2.26E-03	-5.15E+06	-4.83E-01	-4.94E+11
-5.25E+11	-2.27E-03	-5.15E+06	-4.85E-01	-4.93E+11
-5.24E+11	-2.28E-03	-5.14E+06	-4.88E-01	-4.92E+11
-5.23E+11	-2.29E-03	-5.13E+06	-4.90E-01	-4.91E+11
-5.22E+11	-2.30E-03	-5.12E+06	-4.92E-01	-4.90E+11
-5.21E+11	-2.31E-03	-5.11E+06	-4.94E-01	-4.89E+11
-5.20E+11	-2.32E-03	-5.10E+06	-4.96E-01	-4.88E+11
-5.19E+11	-2.33E-03	-5.09E+06	-4.98E-01	-4.87E+11
-5.19E+11	-2.34E-03	-5.08E+06	-5.00E-01	-4.86E+11
-5.18E+11	-2.35E-03	-5.07E+06	-5.03E-01	-4.86E+11
-5.17E+11	-2.36E-03	-5.06E+06	-5.05E-01	-4.85E+11
-5.16E+11	-2.37E-03	-5.06E+06	-5.07E-01	-4.84E+11
-5.15E+11	-2.38E-03	-5.05E+06	-5.09E-01	-4.84E+11
-5.14E+11	-2.39E-03	-5.04E+06	-5.11E-01	-4.83E+11
-5.14E+11	-2.40E-03	-5.03E+06	-5.13E-01	-4.82E+11
-5.13E+11	-2.41E-03	-5.02E+06	-5.15E-01	-4.81E+11
-5.12E+11	-2.42E-03	-5.01E+06	-5.17E-01	-4.80E+11
-5.11E+11	-2.43E-03	-5.00E+06	-5.19E-01	-4.79E+11
-5.10E+11	-2.44E-03	-5.00E+06	-5.21E-01	-4.79E+11
-5.09E+11	-2.45E-03	-4.99E+06	-5.24E-01	-4.78E+11
-5.08E+11	-2.46E-03	-4.98E+06	-5.26E-01	-4.77E+11
-5.07E+11	-2.47E-03	-4.97E+06	-5.28E-01	-4.76E+11
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-4.76E+11
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-4.75E+11
-5.05E+11	-2.49E-03	-4.95E+06	-5.32E-01	-4.74E+11

-5.05E+11	-2.50E-03	-4.94E+06	-5.34E-01	-4.73E+11
-5.04E+11	-2.51E-03	-4.94E+06	-5.36E-01	-4.73E+11
-5.03E+11	-2.51E-03	-4.93E+06	-5.38E-01	-4.72E+11
-5.02E+11	-2.52E-03	-4.92E+06	-5.40E-01	-4.71E+11
-5.01E+11	-2.53E-03	-4.91E+06	-5.42E-01	-4.70E+11
-5.00E+11	-2.54E-03	-4.90E+06	-5.45E-01	-4.69E+11
-4.99E+11	-2.55E-03	-4.89E+06	-5.47E-01	-4.68E+11
-4.98E+11	-2.56E-03	-4.88E+06	-5.49E-01	-4.67E+11
-4.98E+11	-2.57E-03	-4.88E+06	-5.51E-01	-4.67E+11
-4.97E+11	-2.58E-03	-4.87E+06	-5.53E-01	-4.66E+11
-4.96E+11	-2.59E-03	-4.86E+06	-5.55E-01	-4.65E+11
-4.95E+11	-2.60E-03	-4.85E+06	-5.57E-01	-4.64E+11
-4.94E+11	-2.61E-03	-4.84E+06	-5.60E-01	-4.63E+11
-4.93E+11	-2.62E-03	-4.84E+06	-5.62E-01	-4.63E+11
-4.93E+11	-2.63E-03	-4.83E+06	-5.64E-01	-4.62E+11
-4.92E+11	-2.64E-03	-4.82E+06	-5.66E-01	-4.61E+11
-4.91E+11	-2.65E-03	-4.81E+06	-5.68E-01	-4.60E+11
-4.90E+11	-2.66E-03	-4.80E+06	-5.70E-01	-4.60E+11
-4.89E+11	-2.67E-03	-4.80E+06	-5.72E-01	-4.59E+11

10% tubrukan

4670	9.80E-06	1.00E-06
Rotasi	**Momen**	**Curvature**
2.70E-03	7.63E+06	5.78E-01
2.51E-03	7.74E+06	5.38E-01
2.50E-03	7.75E+06	5.36E-01
2.49E-03	7.76E+06	5.34E-01
2.48E-03	7.77E+06	5.32E-01
2.47E-03	7.77E+06	5.30E-01
2.46E-03	7.78E+06	5.28E-01
2.45E-03	7.79E+06	5.25E-01
2.45E-03	7.79E+06	5.25E-01
2.44E-03	7.79E+06	5.23E-01
2.43E-03	7.80E+06	5.21E-01
2.42E-03	7.81E+06	5.19E-01
2.41E-03	7.81E+06	5.17E-01
2.40E-03	7.82E+06	5.15E-01
2.39E-03	7.83E+06	5.13E-01
2.38E-03	7.83E+06	5.10E-01
2.37E-03	7.84E+06	5.08E-01
2.36E-03	7.85E+06	5.06E-01
2.35E-03	7.85E+06	5.04E-01
2.34E-03	7.86E+06	5.02E-01
2.33E-03	7.87E+06	5.00E-01
2.32E-03	7.87E+06	4.98E-01



70% tubrukan

4670	9.80E-06	
Momen	**Rotasi**	**Momen**
7.45E+11	2.66E-03	7.30E+06
	E-03	7.31E+06
	E-03	7.32E+06
	E-03	7.32E+06
	E-03	7.33E+06
	E-03	7.34E+06
	E-03	7.35E+06
	E-03	7.35E+06
	E-03	7.36E+06
	E-03	7.37E+06
	E-03	7.37E+06
	E-03	7.38E+06
	E-03	7.39E+06
	E-03	7.39E+06
	E-03	7.40E+06
	E-03	7.41E+06
	E-03	7.41E+06
	E-03	7.42E+06
	E-03	7.43E+06
7.59E+11	2.47E-03	7.44E+06
7.60E+11	2.46E-03	7.45E+06
7.60E+11	2.45E-03	7.45E+06
7.61E+11	2.44E-03	7.46E+06
7.62E+11	2.43E-03	7.46E+06
7.62E+11	2.42E-03	7.47E+06
7.63E+11	2.41E-03	7.48E+06
7.64E+11	2.40E-03	7.49E+06
7.65E+11	2.39E-03	7.49E+06
7.65E+11	2.38E-03	7.50E+06
7.66E+11	2.37E-03	7.51E+06
7.67E+11	2.36E-03	7.51E+06
7.68E+11	2.35E-03	7.52E+06
7.68E+11	2.34E-03	7.53E+06
7.69E+11	2.33E-03	7.54E+06
7.70E+11	2.32E-03	7.55E+06
7.71E+11	2.31E-03	7.55E+06
7.72E+11	2.30E-03	7.56E+06
7.72E+11	2.30E-03	7.57E+06
7.73E+11	2.29E-03	7.57E+06
7.74E+11	2.28E-03	7.58E+06

2.32E-03	7.88E+06	4.96E-01	7.74E+11	2.27E-03	7.59E+06
2.31E-03	7.88E+06	4.94E-01	7.75E+11	2.26E-03	7.60E+06
2.30E-03	7.89E+06	4.91E-01	7.76E+11	2.25E-03	7.60E+06
2.29E-03	7.90E+06	4.89E-01	7.77E+11	2.24E-03	7.61E+06
2.28E-03	7.90E+06	4.87E-01	7.78E+11	2.23E-03	7.62E+06
2.27E-03	7.91E+06	4.85E-01	7.78E+11	2.22E-03	7.63E+06
2.26E-03	7.92E+06	4.83E-01	7.79E+11	2.21E-03	7.64E+06
2.25E-03	7.92E+06	4.81E-01	7.80E+11	2.20E-03	7.64E+06
2.24E-03	7.93E+06	4.79E-01	7.80E+11	2.20E-03	7.65E+06
2.23E-03	7.94E+06	4.76E-01	7.81E+11	2.19E-03	7.65E+06
2.22E-03	7.94E+06	4.74E-01	7.82E+11	2.18E-03	7.66E+06
2.21E-03	7.95E+06	4.72E-01	7.83E+11	2.17E-03	7.67E+06
2.20E-03	7.96E+06	4.70E-01	7.83E+11	2.16E-03	7.68E+06
2.19E-03	7.97E+06	4.68E-01	7.84E+11	2.15E-03	7.68E+06
2.18E-03	7.98E+06	4.66E-01	7.85E+11	2.14E-03	7.69E+06
2.17E-03	7.98E+06	4.64E-01	7.86E+11	2.13E-03	7.70E+06
2.16E-03	7.99E+06	4.63E-01	7.87E+11	2.12E-03	7.71E+06
2.15E-03	7.99E+06	4.61E-01	7.87E+11	2.11E-03	7.72E+06
2.14E-03	8.00E+06	4.58E-01	7.88E+11	2.10E-03	7.72E+06
2.13E-03	8.00E+06	4.56E-01	7.89E+11	2.09E-03	7.73E+06
2.12E-03	8.01E+06	4.54E-01	7.90E+11	2.08E-03	7.74E+06
2.11E-03	8.02E+06	4.52E-01	7.91E+11	2.07E-03	7.75E+06
2.10E-03	8.03E+06	4.50E-01	7.92E+11	2.06E-03	7.76E+06
2.09E-03	8.03E+06	4.48E-01	7.92E+11	2.05E-03	7.76E+06
2.08E-03	8.04E+06	4.46E-01	7.93E+11	2.04E-03	7.77E+06
2.07E-03	8.05E+06	4.43E-01	7.94E+11	2.03E-03	7.78E+06
2.06E-03	8.05E+06	4.41E-01	7.95E+11	2.02E-03	7.79E+06
2.05E-03	8.06E+06	4.39E-01	7.96E+11	2.01E-03	7.80E+06
2.04E-03	8.07E+06	4.37E-01	7.97E+11	2.00E-03	7.81E+06
2.03E-03	8.07E+06	4.36E-01	7.98E+11	1.99E-03	7.82E+06
2.02E-03	8.08E+06	4.33E-01	7.98E+11	1.98E-03	7.82E+06
2.01E-03	8.09E+06	4.31E-01	7.99E+11	1.98E-03	7.83E+06
2.00E-03	8.09E+06	4.29E-01	7.99E+11	1.97E-03	7.83E+06
1.99E-03	8.10E+06	4.27E-01	8.00E+11	1.96E-03	7.84E+06
1.98E-03	8.11E+06	4.25E-01	8.01E+11	1.95E-03	7.85E+06
1.97E-03	8.12E+06	4.23E-01	8.02E+11	1.94E-03	7.86E+06
1.96E-03	8.13E+06	4.21E-01	8.03E+11	1.93E-03	7.87E+06
1.95E-03	8.13E+06	4.18E-01	8.04E+11	1.92E-03	7.88E+06
1.94E-03	8.14E+06	4.16E-01	8.05E+11	1.91E-03	7.89E+06
1.93E-03	8.15E+06	4.14E-01	8.06E+11	1.90E-03	7.89E+06
1.92E-03	8.16E+06	4.12E-01	8.06E+11	1.89E-03	7.90E+06
1.91E-03	8.17E+06	4.10E-01	8.07E+11	1.88E-03	7.91E+06
1.91E-03	8.17E+06	4.08E-01	8.08E+11	1.87E-03	7.92E+06
1.90E-03	8.18E+06	4.06E-01	8.09E+11	1.86E-03	7.93E+06
1.89E-03	8.18E+06	4.04E-01	8.10E+11	1.85E-03	7.93E+06

1.88E-03	8.19E+06	4.02E-01	8.11E+11	1.84E-03	7.94E+06
1.87E-03	8.20E+06	4.00E-01	8.12E+11	1.83E-03	7.95E+06
1.86E-03	8.21E+06	3.97E-01	8.12E+11	1.82E-03	7.96E+06
1.85E-03	8.22E+06	3.95E-01	8.13E+11	1.81E-03	7.97E+06
1.84E-03	8.22E+06	3.93E-01	8.14E+11	1.80E-03	7.98E+06
1.83E-03	8.23E+06	3.91E-01	8.15E+11	1.79E-03	7.99E+06
1.82E-03	8.24E+06	3.89E-01	8.16E+11	1.78E-03	8.00E+06
1.81E-03	8.25E+06	3.87E-01	8.17E+11	1.77E-03	8.01E+06
1.80E-03	8.25E+06	3.86E-01	8.18E+11	1.76E-03	8.02E+06
1.79E-03	8.26E+06	3.84E-01	8.19E+11	1.75E-03	8.03E+06
1.78E-03	8.27E+06	3.81E-01	8.20E+11	1.74E-03	8.04E+06
1.77E-03	8.28E+06	3.79E-01	8.21E+11	1.73E-03	8.04E+06
1.76E-03	8.28E+06	3.77E-01	8.22E+11	1.72E-03	8.05E+06
1.75E-03	8.29E+06	3.75E-01	8.23E+11	1.71E-03	8.06E+06
1.74E-03	8.30E+06	3.73E-01	8.23E+11	1.71E-03	8.07E+06
1.73E-03	8.31E+06	3.71E-01	8.24E+11	1.70E-03	8.08E+06
1.72E-03	8.32E+06	3.69E-01	8.25E+11	1.69E-03	8.08E+06
1.71E-03	8.33E+06	3.66E-01	8.26E+11	1.68E-03	8.09E+06
1.71E-03	8.33E+06	3.66E-01	8.27E+11	1.67E-03	8.10E+06
1.70E-03	8.33E+06	3.64E-01	8.28E+11	1.66E-03	8.12E+06
1.69E-03	8.34E+06	3.62E-01	8.29E+11	1.65E-03	8.13E+06
1.68E-03	8.35E+06	3.60E-01	8.30E+11	1.64E-03	8.13E+06
1.67E-03	8.36E+06	3.58E-01	8.30E+11	1.64E-03	8.13E+06
1.66E-03	8.37E+06	3.55E-01	8.31E+11	1.63E-03	8.14E+06
1.65E-03	8.38E+06	3.53E-01	8.32E+11	1.62E-03	8.15E+06
1.64E-03	8.38E+06	3.51E-01	8.33E+11	1.61E-03	8.17E+06
1.63E-03	8.39E+06	3.49E-01	8.34E+11	1.60E-03	8.18E+06
1.62E-03	8.40E+06	3.47E-01	8.35E+11	1.59E-03	8.19E+06
1.62E-03	8.40E+06	3.46E-01	8.36E+11	1.58E-03	8.20E+06
1.61E-03	8.41E+06	3.44E-01	8.38E+11	1.57E-03	8.21E+06
1.60E-03	8.42E+06	3.42E-01	8.38E+11	1.56E-03	8.21E+06
1.59E-03	8.43E+06	3.40E-01	8.39E+11	1.55E-03	8.23E+06
1.58E-03	8.44E+06	3.38E-01	8.41E+11	1.54E-03	8.24E+06
1.57E-03	8.45E+06	3.36E-01	8.42E+11	1.53E-03	8.25E+06
1.56E-03	8.46E+06	3.34E-01	8.43E+11	1.52E-03	8.26E+06
1.55E-03	8.46E+06	3.31E-01	8.44E+11	1.51E-03	8.27E+06
1.54E-03	8.47E+06	3.29E-01	8.45E+11	1.50E-03	8.28E+06
1.53E-03	8.48E+06	3.27E-01	8.46E+11	1.49E-03	8.29E+06
1.52E-03	8.49E+06	3.25E-01	8.47E+11	1.48E-03	8.30E+06
1.51E-03	8.50E+06	3.23E-01	8.48E+11	1.47E-03	8.31E+06
1.50E-03	8.51E+06	3.21E-01	8.49E+11	1.46E-03	8.32E+06
1.49E-03	8.52E+06	3.19E-01	8.50E+11	1.45E-03	8.33E+06
1.48E-03	8.53E+06	3.17E-01	8.52E+11	1.44E-03	8.34E+06
1.47E-03	8.53E+06	3.15E-01	8.52E+11	1.44E-03	8.35E+06
1.46E-03	8.54E+06	3.13E-01	8.53E+11	1.43E-03	8.36E+06

1.45E-03	8.55E+06	3.10E-01	8.55E+11	1.42E-03	8.37E+06
1.44E-03	8.56E+06	3.08E-01	8.56E+11	1.41E-03	8.39E+06
1.43E-03	8.57E+06	3.06E-01	8.57E+11	1.40E-03	8.40E+06
1.42E-03	8.58E+06	3.04E-01	8.57E+11	1.40E-03	8.40E+06
1.41E-03	8.59E+06	3.02E-01	8.59E+11	1.39E-03	8.41E+06
1.40E-03	8.60E+06	3.00E-01	8.60E+11	1.38E-03	8.43E+06
1.39E-03	8.61E+06	2.98E-01	8.61E+11	1.37E-03	8.44E+06
1.39E-03	8.62E+06	2.97E-01	8.63E+11	1.36E-03	8.46E+06
1.38E-03	8.62E+06	2.95E-01	8.64E+11	1.35E-03	8.47E+06
1.37E-03	8.63E+06	2.93E-01	8.66E+11	1.34E-03	8.48E+06
1.36E-03	8.64E+06	2.90E-01	8.66E+11	1.34E-03	8.49E+06
1.35E-03	8.66E+06	2.88E-01	8.67E+11	1.33E-03	8.50E+06
1.34E-03	8.67E+06	2.86E-01	8.69E+11	1.32E-03	8.51E+06
1.33E-03	8.68E+06	2.84E-01	8.70E+11	1.31E-03	8.53E+06
1.32E-03	8.69E+06	2.82E-01	8.71E+11	1.30E-03	8.54E+06
1.31E-03	8.70E+06	2.80E-01	8.72E+11	1.30E-03	8.54E+06
1.30E-03	8.71E+06	2.78E-01	8.73E+11	1.29E-03	8.56E+06
1.29E-03	8.72E+06	2.75E-01	8.75E+11	1.28E-03	8.57E+06
1.28E-03	8.73E+06	2.73E-01	8.76E+11	1.27E-03	8.58E+06
1.27E-03	8.74E+06	2.71E-01	8.78E+11	1.26E-03	8.60E+06
1.27E-03	8.74E+06	2.71E-01	8.79E+11	1.25E-03	8.62E+06
1.26E-03	8.75E+06	2.69E-01	8.79E+11	1.24E-03	8.62E+06
1.25E-03	8.76E+06	2.67E-01	8.81E+11	1.23E-03	8.63E+06
1.24E-03	8.78E+06	2.65E-01	8.82E+11	1.22E-03	8.64E+06
1.23E-03	8.79E+06	2.63E-01	8.83E+11	1.21E-03	8.66E+06
1.22E-03	8.80E+06	2.60E-01	8.85E+11	1.20E-03	8.67E+06
1.21E-03	8.81E+06	2.59E-01	8.86E+11	1.20E-03	8.68E+06
1.20E-03	8.82E+06	2.57E-01	8.87E+11	1.19E-03	8.69E+06
1.19E-03	8.83E+06	2.55E-01	8.89E+11	1.18E-03	8.71E+06
1.18E-03	8.84E+06	2.53E-01	8.90E+11	1.17E-03	8.72E+06
1.17E-03	8.85E+06	2.51E-01	8.91E+11	1.16E-03	8.74E+06
1.16E-03	8.87E+06	2.49E-01	8.93E+11	1.15E-03	8.75E+06
1.15E-03	8.88E+06	2.47E-01	8.94E+11	1.14E-03	8.76E+06
1.14E-03	8.89E+06	2.45E-01	8.96E+11	1.13E-03	8.78E+06
1.13E-03	8.90E+06	2.43E-01	8.96E+11	1.13E-03	8.78E+06
1.12E-03	8.91E+06	2.40E-01	8.97E+11	1.12E-03	8.79E+06
1.11E-03	8.93E+06	2.38E-01	8.98E+11	1.11E-03	8.80E+06
1.11E-03	8.93E+06	2.37E-01	9.00E+11	1.10E-03	8.82E+06
1.10E-03	8.94E+06	2.35E-01	9.02E+11	1.09E-03	8.83E+06
1.09E-03	8.96E+06	2.33E-01	9.03E+11	1.08E-03	8.85E+06
1.08E-03	8.97E+06	2.31E-01	9.04E+11	1.07E-03	8.85E+06
1.07E-03	8.99E+06	2.29E-01	9.05E+11	1.06E-03	8.87E+06
1.07E-03	8.99E+06	2.28E-01	9.07E+11	1.05E-03	8.88E+06
1.06E-03	9.00E+06	2.26E-01	9.07E+11	1.04E-03	8.89E+06
1.05E-03	9.02E+06	2.24E-01	9.09E+11	1.03E-03	8.91E+06

1.04E-03	9.03E+06	2.22E-01	9.09E+11	1.03E-03	8.91E+06
1.03E-03	9.04E+06	2.20E-01	9.11E+11	1.02E-03	8.92E+06
1.02E-03	9.05E+06	2.18E-01	9.12E+11	1.01E-03	8.94E+06
1.01E-03	9.07E+06	2.16E-01	9.14E+11	1.00E-03	8.96E+06
9.97E-04	9.08E+06	2.14E-01	9.16E+11	9.93E-04	8.98E+06
9.87E-04	9.10E+06	2.11E-01	9.19E+11	9.83E-04	9.01E+06
9.82E-04	9.10E+06	2.10E-01	9.20E+11	9.79E-04	9.02E+06
9.72E-04	9.12E+06	2.08E-01	9.23E+11	9.69E-04	9.05E+06
9.62E-04	9.13E+06	2.06E-01	9.24E+11	9.65E-04	9.06E+06
9.56E-04	9.14E+06	2.05E-01	9.27E+11	9.57E-04	9.09E+06
9.46E-04	9.16E+06	2.03E-01	9.29E+11	9.53E-04	9.11E+06
9.39E-04	9.17E+06	2.01E-01	9.40E+11	9.43E-04	9.21E+06
9.29E-04	9.19E+06	1.99E-01	9.53E+11	9.33E-04	9.34E+06
9.19E-04	9.21E+06	1.97E-01	9.54E+11	9.33E-04	9.35E+06
9.09E-04	9.23E+06	1.95E-01	9.65E+11	9.23E-04	9.45E+06
8.99E-04	9.27E+06	1.93E-01	9.66E+11	9.20E-04	9.47E+06
8.95E-04	9.28E+06	1.92E-01	9.66E+11	9.10E-04	9.46E+06
8.85E-04	9.32E+06	1.89E-01	9.65E+11	9.00E-04	9.46E+06
8.78E-04	9.35E+06	1.88E-01	9.65E+11	8.94E-04	9.46E+06
8.74E-04	9.37E+06	1.87E-01	9.64E+11	8.84E-04	9.45E+06
8.64E-04	9.50E+06	1.85E-01	9.63E+11	8.74E-04	9.44E+06
8.55E-04	9.60E+06	1.83E-01	9.63E+11	8.69E-04	9.44E+06
8.51E-04	9.65E+06	1.82E-01	9.62E+11	8.59E-04	9.43E+06
8.41E-04	9.66E+06	1.80E-01	9.61E+11	8.49E-04	9.42E+06
8.40E-04	9.66E+06	1.80E-01	9.61E+11	8.48E-04	9.42E+06
8.30E-04	9.65E+06	1.78E-01	9.60E+11	8.38E-04	9.41E+06
8.20E-04	9.64E+06	1.75E-01	9.58E+11	8.28E-04	9.39E+06
8.10E-04	9.63E+06	1.73E-01	9.56E+11	8.18E-04	9.37E+06
8.00E-04	9.62E+06	1.71E-01	9.55E+11	8.10E-04	9.35E+06
7.91E-04	9.61E+06	1.69E-01	9.52E+11	8.00E-04	9.33E+06
7.81E-04	9.59E+06	1.67E-01	9.49E+11	7.90E-04	9.30E+06
7.72E-04	9.58E+06	1.65E-01	9.47E+11	7.82E-04	9.28E+06
7.62E-04	9.56E+06	1.63E-01	9.44E+11	7.72E-04	9.25E+06
7.56E-04	9.54E+06	1.62E-01	9.41E+11	7.62E-04	9.22E+06
7.55E-04	9.54E+06	1.62E-01	9.38E+11	7.52E-04	9.19E+06
7.45E-04	9.50E+06	1.60E-01	9.34E+11	7.42E-04	9.16E+06
7.35E-04	9.45E+06	1.57E-01	9.32E+11	7.36E-04	9.14E+06
7.32E-04	9.44E+06	1.57E-01	9.29E+11	7.26E-04	9.10E+06
7.22E-04	9.40E+06	1.55E-01	9.25E+11	7.16E-04	9.07E+06
7.13E-04	9.35E+06	1.53E-01	9.21E+11	7.06E-04	9.03E+06
7.06E-04	9.32E+06	1.51E-01	9.18E+11	6.98E-04	9.00E+06
6.96E-04	9.27E+06	1.49E-01	9.16E+11	6.93E-04	8.98E+06
6.86E-04	9.22E+06	1.47E-01	9.12E+11	6.83E-04	8.94E+06
6.80E-04	9.19E+06	1.46E-01	9.08E+11	6.73E-04	8.90E+06
6.74E-04	9.16E+06	1.44E-01	9.05E+11	6.67E-04	8.87E+06

6.68E-04	9.13E+06	1.43E-01	9.03E+11	6.62E-04	8.85E+06
6.59E-04	9.08E+06	1.41E-01	9.00E+11	6.57E-04	8.82E+06
6.51E-04	9.04E+06	1.39E-01	8.96E+11	6.48E-04	8.78E+06
6.46E-04	9.01E+06	1.38E-01	8.92E+11	6.40E-04	8.74E+06
6.40E-04	8.97E+06	1.37E-01	8.90E+11	6.35E-04	8.72E+06
6.35E-04	8.92E+06	1.36E-01	8.86E+11	6.30E-04	8.69E+06
6.26E-04	8.84E+06	1.34E-01	8.82E+11	6.25E-04	8.65E+06
6.19E-04	8.76E+06	1.33E-01	8.75E+11	6.16E-04	8.57E+06
6.12E-04	8.68E+06	1.31E-01	8.67E+11	6.10E-04	8.50E+06
6.06E-04	8.60E+06	1.30E-01	8.60E+11	6.03E-04	8.43E+06
6.00E-04	8.52E+06	1.28E-01	8.51E+11	5.97E-04	8.34E+06
5.90E-04	8.37E+06	1.26E-01	8.41E+11	5.90E-04	8.25E+06
5.80E-04	8.23E+06	1.24E-01	8.27E+11	5.80E-04	8.11E+06
5.70E-04	8.09E+06	1.22E-01	8.13E+11	5.70E-04	7.97E+06
5.60E-04	7.95E+06	1.20E-01	7.99E+11	5.60E-04	7.83E+06
5.50E-04	7.81E+06	1.18E-01	7.84E+11	5.50E-04	7.69E+06
5.40E-04	7.66E+06	1.16E-01	7.70E+11	5.40E-04	7.55E+06
5.30E-04	7.52E+06	1.13E-01	7.56E+11	5.30E-04	7.41E+06
5.20E-04	7.38E+06	1.11E-01	7.42E+11	5.20E-04	7.27E+06
5.10E-04	7.24E+06	1.09E-01	7.27E+11	5.10E-04	7.13E+06
5.00E-04	7.10E+06	1.07E-01	7.13E+11	5.00E-04	6.99E+06
4.90E-04	6.96E+06	1.05E-01	6.99E+11	4.90E-04	6.85E+06
4.80E-04	6.81E+06	1.03E-01	6.85E+11	4.80E-04	6.71E+06
4.70E-04	6.67E+06	1.01E-01	6.70E+11	4.70E-04	6.57E+06
4.60E-04	6.53E+06	9.85E-02	6.56E+11	4.60E-04	6.43E+06
4.50E-04	6.39E+06	9.64E-02	6.42E+11	4.50E-04	6.29E+06
4.40E-04	6.25E+06	9.42E-02	6.28E+11	4.40E-04	6.15E+06
4.30E-04	6.10E+06	9.21E-02	6.13E+11	4.30E-04	6.01E+06
4.20E-04	5.96E+06	8.99E-02	5.99E+11	4.20E-04	5.87E+06
4.10E-04	5.82E+06	8.78E-02	5.85E+11	4.10E-04	5.73E+06
4.00E-04	5.68E+06	8.57E-02	5.71E+11	4.00E-04	5.59E+06
3.90E-04	5.54E+06	8.35E-02	5.56E+11	3.90E-04	5.45E+06
3.80E-04	5.39E+06	8.14E-02	5.42E+11	3.80E-04	5.31E+06
3.70E-04	5.25E+06	7.92E-02	5.28E+11	3.70E-04	5.17E+06
3.60E-04	5.11E+06	7.71E-02	5.13E+11	3.60E-04	5.03E+06
3.50E-04	4.97E+06	7.49E-02	4.99E+11	3.50E-04	4.89E+06
3.40E-04	4.83E+06	7.28E-02	4.85E+11	3.40E-04	4.75E+06
3.30E-04	4.68E+06	7.07E-02	4.71E+11	3.30E-04	4.61E+06
3.20E-04	4.54E+06	6.85E-02	4.56E+11	3.20E-04	4.47E+06
3.10E-04	4.40E+06	6.64E-02	4.42E+11	3.10E-04	4.33E+06
3.00E-04	4.26E+06	6.42E-02	4.28E+11	3.00E-04	4.19E+06
2.90E-04	4.12E+06	6.21E-02	4.14E+11	2.90E-04	4.05E+06
2.80E-04	3.97E+06	6.00E-02	3.99E+11	2.80E-04	3.91E+06
2.70E-04	3.83E+06	5.78E-02	3.85E+11	2.70E-04	3.77E+06
2.60E-04	3.69E+06	5.57E-02	3.71E+11	2.60E-04	3.63E+06

2.50E-04	3.55E+06	5.35E-02	3.57E+11	2.50E-04	3.49E+06
2.40E-04	3.41E+06	5.14E-02	3.42E+11	2.40E-04	3.35E+06
2.30E-04	3.26E+06	4.93E-02	3.28E+11	2.30E-04	3.21E+06
2.20E-04	3.12E+06	4.71E-02	3.14E+11	2.20E-04	3.08E+06
2.10E-04	2.98E+06	4.50E-02	3.00E+11	2.10E-04	2.94E+06
2.00E-04	2.84E+06	4.28E-02	2.85E+11	2.00E-04	2.79E+06
1.90E-04	2.70E+06	4.07E-02	2.71E+11	1.90E-04	2.66E+06
1.80E-04	2.55E+06	3.85E-02	2.57E+11	1.80E-04	2.52E+06
1.70E-04	2.41E+06	3.64E-02	2.43E+11	1.70E-04	2.38E+06
1.60E-04	2.27E+06	3.43E-02	2.28E+11	1.60E-04	2.24E+06
1.50E-04	2.13E+06	3.21E-02	2.14E+11	1.50E-04	2.10E+06
1.40E-04	1.99E+06	3.00E-02	2.00E+11	1.40E-04	1.96E+06
1.30E-04	1.85E+06	2.78E-02	1.85E+11	1.30E-04	1.82E+06
1.20E-04	1.70E+06	2.57E-02	1.71E+11	1.20E-04	1.68E+06
1.10E-04	1.56E+06	2.36E-02	1.57E+11	1.10E-04	1.54E+06
1.00E-04	1.42E+06	2.14E-02	1.43E+11	1.00E-04	1.40E+06
9.00E-05	1.28E+06	1.93E-02	1.28E+11	9.00E-05	1.26E+06
8.00E-05	1.14E+06	1.71E-02	1.14E+11	8.00E-05	1.12E+06
7.00E-05	9.94E+05	1.50E-02	9.98E+10	7.00E-05	9.78E+05
6.00E-05	8.52E+05	1.28E-02	8.56E+10	6.00E-05	8.39E+05
5.00E-05	7.10E+05	1.07E-02	7.13E+10	5.00E-05	6.99E+05
4.00E-05	5.68E+05	8.57E-03	5.71E+10	4.00E-05	5.59E+05
3.00E-05	4.26E+05	6.42E-03	4.28E+10	3.00E-05	4.19E+05
2.00E-05	2.84E+05	4.28E-03	2.85E+10	2.00E-05	2.79E+05
1.00E-05	1.42E+05	2.14E-03	1.43E+10	1.00E-05	1.40E+05
9.00E-06	1.28E+05	1.93E-03	1.28E+10	9.00E-06	1.26E+05
8.00E-06	1.14E+05	1.71E-03	1.14E+10	8.00E-06	1.12E+05
7.00E-06	9.94E+04	1.50E-03	9.98E+09	7.00E-06	9.78E+04
6.00E-06	8.52E+04	1.28E-03	8.56E+09	6.00E-06	8.39E+04
5.00E-06	7.10E+04	1.07E-03	7.13E+09	5.00E-06	6.99E+04
4.00E-06	5.68E+04	8.57E-04	5.71E+09	4.00E-06	5.59E+04
3.00E-06	4.26E+04	6.42E-04	4.28E+09	3.00E-06	4.19E+04
2.00E-06	2.84E+04	4.28E-04	2.85E+09	2.00E-06	2.80E+04
1.00E-06	1.42E+04	2.14E-04	1.43E+09	1.00E-06	1.40E+04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.00E-06	-1.42E+04	-2.14E-04	-1.43E+09	-1.00E-06	-1.40E+04
-2.00E-06	-2.84E+04	-4.28E-04	-2.85E+09	-2.00E-06	-2.80E+04
-3.00E-06	-4.26E+04	-6.42E-04	-4.28E+09	-3.00E-06	-4.19E+04
-4.00E-06	-5.68E+04	-8.57E-04	-5.70E+09	-4.00E-06	-5.59E+04
-5.00E-06	-7.10E+04	-1.07E-03	-7.13E+09	-5.00E-06	-6.99E+04
-6.00E-06	-8.52E+04	-1.28E-03	-8.56E+09	-6.00E-06	-8.38E+04
-7.00E-06	-9.94E+04	-1.50E-03	-9.98E+09	-7.00E-06	-9.78E+04
-8.00E-06	-1.14E+05	-1.71E-03	-1.14E+10	-8.00E-06	-1.12E+05
-9.00E-06	-1.28E+05	-1.93E-03	-1.28E+10	-9.00E-06	-1.26E+05
-1.00E-05	-1.42E+05	-2.14E-03	-1.43E+10	-1.00E-05	-1.40E+05

-2.00E-05	-2.84E+05	-4.28E-03	-2.85E+10	-2.00E-05	-2.79E+05
-3.00E-05	-4.26E+05	-6.42E-03	-4.28E+10	-3.00E-05	-4.19E+05
-4.00E-05	-5.68E+05	-8.57E-03	-5.70E+10	-4.00E-05	-5.59E+05
-5.00E-05	-7.10E+05	-1.07E-02	-7.13E+10	-5.00E-05	-6.99E+05
-6.00E-05	-8.52E+05	-1.28E-02	-8.56E+10	-6.00E-05	-8.38E+05
-7.00E-05	-9.94E+05	-1.50E-02	-9.98E+10	-7.00E-05	-9.78E+05
-8.00E-05	-1.14E+06	-1.71E-02	-1.14E+11	-8.00E-05	-1.12E+06
-9.00E-05	-1.28E+06	-1.93E-02	-1.28E+11	-9.00E-05	-1.26E+06
-1.00E-04	-1.42E+06	-2.14E-02	-1.43E+11	-1.00E-04	-1.40E+06
-1.10E-04	-1.56E+06	-2.36E-02	-1.57E+11	-1.10E-04	-1.54E+06
-1.20E-04	-1.70E+06	-2.57E-02	-1.71E+11	-1.20E-04	-1.68E+06
-1.30E-04	-1.85E+06	-2.78E-02	-1.85E+11	-1.30E-04	-1.82E+06
-1.40E-04	-1.99E+06	-3.00E-02	-2.00E+11	-1.40E-04	-1.96E+06
-1.50E-04	-2.13E+06	-3.21E-02	-2.14E+11	-1.50E-04	-2.10E+06
-1.60E-04	-2.27E+06	-3.43E-02	-2.28E+11	-1.60E-04	-2.24E+06
-1.70E-04	-2.41E+06	-3.64E-02	-2.42E+11	-1.70E-04	-2.38E+06
-1.80E-04	-2.55E+06	-3.85E-02	-2.57E+11	-1.80E-04	-2.51E+06
-1.90E-04	-2.70E+06	-4.07E-02	-2.71E+11	-1.90E-04	-2.65E+06
-2.00E-04	-2.84E+06	-4.28E-02	-2.85E+11	-2.00E-04	-2.79E+06
-2.10E-04	-2.98E+06	-4.50E-02	-2.99E+11	-2.10E-04	-2.93E+06
-2.20E-04	-3.12E+06	-4.71E-02	-3.14E+11	-2.20E-04	-3.07E+06
-2.30E-04	-3.26E+06	-4.93E-02	-3.28E+11	-2.30E-04	-3.21E+06
-2.40E-04	-3.41E+06	-5.14E-02	-3.42E+11	-2.40E-04	-3.35E+06
-2.50E-04	-3.55E+06	-5.35E-02	-3.56E+11	-2.50E-04	-3.49E+06
-2.60E-04	-3.69E+06	-5.57E-02	-3.71E+11	-2.60E-04	-3.63E+06
-2.70E-04	-3.83E+06	-5.78E-02	-3.85E+11	-2.70E-04	-3.77E+06
-2.80E-04	-3.97E+06	-6.00E-02	-3.99E+11	-2.80E-04	-3.91E+06
-2.90E-04	-4.12E+06	-6.21E-02	-4.14E+11	-2.90E-04	-4.05E+06
-3.00E-04	-4.26E+06	-6.42E-02	-4.28E+11	-3.00E-04	-4.19E+06
-3.10E-04	-4.40E+06	-6.64E-02	-4.42E+11	-3.10E-04	-4.33E+06
-3.20E-04	-4.54E+06	-6.85E-02	-4.56E+11	-3.20E-04	-4.47E+06
-3.30E-04	-4.68E+06	-7.07E-02	-4.71E+11	-3.30E-04	-4.61E+06
-3.40E-04	-4.82E+06	-7.28E-02	-4.85E+11	-3.40E-04	-4.75E+06
-3.50E-04	-4.97E+06	-7.49E-02	-4.99E+11	-3.50E-04	-4.89E+06
-3.60E-04	-5.11E+06	-7.71E-02	-5.13E+11	-3.60E-04	-5.03E+06
-3.70E-04	-5.25E+06	-7.92E-02	-5.28E+11	-3.70E-04	-5.17E+06
-3.80E-04	-5.39E+06	-8.14E-02	-5.42E+11	-3.80E-04	-5.31E+06
-3.90E-04	-5.53E+06	-8.35E-02	-5.56E+11	-3.90E-04	-5.45E+06
-4.00E-04	-5.68E+06	-8.57E-02	-5.70E+11	-4.00E-04	-5.59E+06
-4.10E-04	-5.82E+06	-8.78E-02	-5.85E+11	-4.10E-04	-5.73E+06
-4.20E-04	-5.96E+06	-8.99E-02	-5.99E+11	-4.20E-04	-5.87E+06
-4.30E-04	-6.10E+06	-9.21E-02	-6.13E+11	-4.30E-04	-6.01E+06
-4.40E-04	-6.24E+06	-9.42E-02	-6.27E+11	-4.40E-04	-6.15E+06
-4.50E-04	-6.39E+06	-9.64E-02	-6.42E+11	-4.50E-04	-6.29E+06
-4.60E-04	-6.53E+06	-9.85E-02	-6.56E+11	-4.60E-04	-6.43E+06

-4.70E-04	-6.67E+06	-1.01E-01	-6.70E+11	-4.70E-04	-6.57E+06
-4.80E-04	-6.81E+06	-1.03E-01	-6.84E+11	-4.80E-04	-6.71E+06
-4.90E-04	-6.95E+06	-1.05E-01	-6.99E+11	-4.90E-04	-6.85E+06
-5.00E-04	-7.09E+06	-1.07E-01	-7.13E+11	-5.00E-04	-6.99E+06
-5.10E-04	-7.24E+06	-1.09E-01	-7.27E+11	-5.10E-04	-7.12E+06
-5.20E-04	-7.38E+06	-1.11E-01	-7.41E+11	-5.20E-04	-7.26E+06
-5.30E-04	-7.52E+06	-1.13E-01	-7.56E+11	-5.30E-04	-7.40E+06
-5.40E-04	-7.66E+06	-1.16E-01	-7.70E+11	-5.40E-04	-7.54E+06
-5.50E-04	-7.80E+06	-1.18E-01	-7.84E+11	-5.50E-04	-7.68E+06
-5.60E-04	-7.94E+06	-1.20E-01	-7.91E+11	-5.55E-04	-7.75E+06
-5.64E-04	-7.99E+06	-1.21E-01	-8.04E+11	-5.65E-04	-7.88E+06
-5.74E-04	-8.13E+06	-1.23E-01	-8.14E+11	-5.73E-04	-7.98E+06
-5.81E-04	-8.23E+06	-1.24E-01	-8.20E+11	-5.78E-04	-8.04E+06
-5.87E-04	-8.29E+06	-1.26E-01	-8.26E+11	-5.84E-04	-8.09E+06
-5.93E-04	-8.35E+06	-1.27E-01	-8.30E+11	-5.90E-04	-8.13E+06
-5.99E-04	-8.39E+06	-1.28E-01	-8.33E+11	-5.95E-04	-8.16E+06
-6.05E-04	-8.43E+06	-1.30E-01	-8.35E+11	-6.01E-04	-8.18E+06
-6.11E-04	-8.45E+06	-1.31E-01	-8.35E+11	-6.05E-04	-8.18E+06
-6.15E-04	-8.46E+06	-1.32E-01	-8.35E+11	-6.15E-04	-8.18E+06
-6.25E-04	-8.47E+06	-1.34E-01	-8.35E+11	-6.21E-04	-8.18E+06
-6.32E-04	-8.48E+06	-1.35E-01	-8.35E+11	-6.25E-04	-8.18E+06
-6.37E-04	-8.49E+06	-1.36E-01	-8.35E+11	-6.30E-04	-8.18E+06
-6.42E-04	-8.49E+06	-1.37E-01	-8.34E+11	-6.37E-04	-8.18E+06
-6.50E-04	-8.50E+06	-1.39E-01	-8.34E+11	-6.41E-04	-8.17E+06
-6.54E-04	-8.50E+06	-1.40E-01	-8.33E+11	-6.46E-04	-8.17E+06
-6.59E-04	-8.50E+06	-1.41E-01	-8.32E+11	-6.51E-04	-8.16E+06
-6.64E-04	-8.49E+06	-1.42E-01	-8.29E+11	-6.61E-04	-8.13E+06
-6.69E-04	-8.49E+06	-1.43E-01	-8.24E+11	-6.71E-04	-8.08E+06
-6.79E-04	-8.47E+06	-1.45E-01	-8.16E+11	-6.81E-04	-8.00E+06
-6.89E-04	-8.43E+06	-1.47E-01	-8.14E+11	-6.83E-04	-7.97E+06
-6.99E-04	-8.35E+06	-1.50E-01	-8.00E+11	-6.92E-04	-7.84E+06
-7.00E-04	-8.34E+06	-1.50E-01	-7.82E+11	-7.02E-04	-7.66E+06
-7.10E-04	-8.22E+06	-1.52E-01	-7.73E+11	-7.08E-04	-7.57E+06
-7.11E-04	-8.21E+06	-1.52E-01	-7.58E+11	-7.18E-04	-7.43E+06
-7.21E-04	-8.07E+06	-1.54E-01	-7.57E+11	-7.18E-04	-7.42E+06
-7.28E-04	-7.97E+06	-1.56E-01	-7.46E+11	-7.28E-04	-7.31E+06
-7.38E-04	-7.85E+06	-1.58E-01	-7.37E+11	-7.37E-04	-7.22E+06
-7.41E-04	-7.83E+06	-1.59E-01	-7.30E+11	-7.47E-04	-7.15E+06
-7.51E-04	-7.74E+06	-1.61E-01	-7.27E+11	-7.52E-04	-7.12E+06
-7.61E-04	-7.68E+06	-1.63E-01	-7.20E+11	-7.62E-04	-7.06E+06
-7.62E-04	-7.67E+06	-1.63E-01	-7.15E+11	-7.72E-04	-7.00E+06
-7.72E-04	-7.61E+06	-1.65E-01	-7.13E+11	-7.75E-04	-6.99E+06
-7.79E-04	-7.58E+06	-1.67E-01	-7.08E+11	-7.85E-04	-6.94E+06
-7.89E-04	-7.53E+06	-1.69E-01	-7.03E+11	-7.95E-04	-6.89E+06
-7.99E-04	-7.49E+06	-1.71E-01	-6.99E+11	-8.05E-04	-6.85E+06

-8.04E-04	-7.47E+06	-1.72E-01	-6.98E+11	-8.07E-04	-6.84E+06
-8.10E-04	-7.45E+06	-1.73E-01	-6.93E+11	-8.17E-04	-6.79E+06
-8.20E-04	-7.41E+06	-1.75E-01	-6.92E+11	-8.20E-04	-6.78E+06
-8.30E-04	-7.37E+06	-1.78E-01	-6.88E+11	-8.30E-04	-6.74E+06
-8.40E-04	-7.34E+06	-1.80E-01	-6.84E+11	-8.40E-04	-6.70E+06
-8.42E-04	-7.33E+06	-1.80E-01	-6.80E+11	-8.50E-04	-6.66E+06
-8.52E-04	-7.30E+06	-1.82E-01	-6.77E+11	-8.59E-04	-6.63E+06
-8.54E-04	-7.29E+06	-1.83E-01	-6.73E+11	-8.69E-04	-6.60E+06
-8.64E-04	-7.26E+06	-1.85E-01	-6.73E+11	-8.70E-04	-6.59E+06
-8.74E-04	-7.22E+06	-1.87E-01	-6.69E+11	-8.80E-04	-6.56E+06
-8.84E-04	-7.19E+06	-1.89E-01	-6.66E+11	-8.90E-04	-6.53E+06
-8.94E-04	-7.16E+06	-1.91E-01	-6.63E+11	-9.00E-04	-6.49E+06
-9.00E-04	-7.15E+06	-1.93E-01	-6.59E+11	-9.10E-04	-6.46E+06
-9.09E-04	-7.12E+06	-1.95E-01	-6.56E+11	-9.20E-04	-6.43E+06
-9.19E-04	-7.09E+06	-1.97E-01	-6.56E+11	-9.21E-04	-6.43E+06
-9.29E-04	-7.06E+06	-1.99E-01	-6.53E+11	-9.31E-04	-6.40E+06
-9.39E-04	-7.03E+06	-2.01E-01	-6.52E+11	-9.34E-04	-6.39E+06
-9.49E-04	-7.01E+06	-2.03E-01	-6.49E+11	-9.44E-04	-6.36E+06
-9.59E-04	-6.98E+06	-2.05E-01	-6.46E+11	-9.54E-04	-6.33E+06
-9.68E-04	-6.96E+06	-2.07E-01	-6.43E+11	-9.64E-04	-6.30E+06
-9.78E-04	-6.93E+06	-2.09E-01	-6.40E+11	-9.74E-04	-6.27E+06
-9.78E-04	-6.93E+06	-2.09E-01	-6.37E+11	-9.84E-04	-6.24E+06
-9.88E-04	-6.90E+06	-2.12E-01	-6.34E+11	-9.94E-04	-6.21E+06
-9.98E-04	-6.88E+06	-2.14E-01	-6.32E+11	-1.00E-03	-6.20E+06
-1.01E-03	-6.85E+06	-2.16E-01	-6.29E+11	-1.01E-03	-6.17E+06
-1.02E-03	-6.82E+06	-2.18E-01	-6.26E+11	-1.02E-03	-6.14E+06
-1.03E-03	-6.80E+06	-2.20E-01	-6.23E+11	-1.03E-03	-6.11E+06
-1.04E-03	-6.77E+06	-2.22E-01	-6.20E+11	-1.04E-03	-6.08E+06
-1.05E-03	-6.75E+06	-2.24E-01	-6.18E+11	-1.05E-03	-6.05E+06
-1.05E-03	-6.74E+06	-2.25E-01	-6.15E+11	-1.06E-03	-6.03E+06
-1.06E-03	-6.73E+06	-2.26E-01	-6.12E+11	-1.07E-03	-6.00E+06
-1.07E-03	-6.71E+06	-2.28E-01	-6.11E+11	-1.08E-03	-5.99E+06
-1.08E-03	-6.68E+06	-2.30E-01	-6.09E+11	-1.08E-03	-5.97E+06
-1.09E-03	-6.65E+06	-2.33E-01	-6.06E+11	-1.09E-03	-5.94E+06
-1.10E-03	-6.63E+06	-2.35E-01	-6.04E+11	-1.10E-03	-5.91E+06
-1.11E-03	-6.60E+06	-2.37E-01	-6.01E+11	-1.11E-03	-5.89E+06
-1.12E-03	-6.58E+06	-2.39E-01	-5.98E+11	-1.12E-03	-5.86E+06
-1.13E-03	-6.56E+06	-2.41E-01	-5.96E+11	-1.13E-03	-5.84E+06
-1.13E-03	-6.54E+06	-2.42E-01	-5.93E+11	-1.14E-03	-5.81E+06
-1.14E-03	-6.52E+06	-2.45E-01	-5.91E+11	-1.15E-03	-5.79E+06
-1.15E-03	-6.51E+06	-2.45E-01	-5.88E+11	-1.16E-03	-5.77E+06
-1.16E-03	-6.48E+06	-2.47E-01	-5.88E+11	-1.16E-03	-5.77E+06
-1.17E-03	-6.46E+06	-2.49E-01	-5.86E+11	-1.17E-03	-5.74E+06
-1.18E-03	-6.44E+06	-2.52E-01	-5.84E+11	-1.18E-03	-5.73E+06
-1.19E-03	-6.41E+06	-2.54E-01	-5.82E+11	-1.19E-03	-5.70E+06

-1.20E-03	-6.39E+06	-2.56E-01	-5.80E+11	-1.20E-03	-5.68E+06
-1.21E-03	-6.37E+06	-2.58E-01	-5.77E+11	-1.21E-03	-5.66E+06
-1.22E-03	-6.35E+06	-2.60E-01	-5.75E+11	-1.22E-03	-5.63E+06
-1.23E-03	-6.32E+06	-2.62E-01	-5.73E+11	-1.23E-03	-5.61E+06
-1.23E-03	-6.32E+06	-2.63E-01	-5.70E+11	-1.24E-03	-5.59E+06
-1.24E-03	-6.30E+06	-2.65E-01	-5.68E+11	-1.25E-03	-5.57E+06
-1.25E-03	-6.27E+06	-2.67E-01	-5.66E+11	-1.26E-03	-5.55E+06
-1.25E-03	-6.27E+06	-2.68E-01	-5.66E+11	-1.26E-03	-5.54E+06
-1.26E-03	-6.24E+06	-2.70E-01	-5.64E+11	-1.27E-03	-5.52E+06
-1.27E-03	-6.22E+06	-2.72E-01	-5.62E+11	-1.28E-03	-5.50E+06
-1.28E-03	-6.20E+06	-2.74E-01	-5.59E+11	-1.29E-03	-5.48E+06
-1.29E-03	-6.18E+06	-2.76E-01	-5.57E+11	-1.30E-03	-5.46E+06
-1.30E-03	-6.16E+06	-2.78E-01	-5.56E+11	-1.31E-03	-5.45E+06
-1.31E-03	-6.14E+06	-2.81E-01	-5.54E+11	-1.32E-03	-5.43E+06
-1.32E-03	-6.12E+06	-2.83E-01	-5.52E+11	-1.33E-03	-5.41E+06
-1.33E-03	-6.10E+06	-2.85E-01	-5.50E+11	-1.34E-03	-5.39E+06
-1.33E-03	-6.09E+06	-2.85E-01	-5.48E+11	-1.35E-03	-5.37E+06
-1.34E-03	-6.07E+06	-2.88E-01	-5.46E+11	-1.36E-03	-5.35E+06
-1.35E-03	-6.05E+06	-2.90E-01	-5.44E+11	-1.37E-03	-5.33E+06
-1.36E-03	-6.03E+06	-2.92E-01	-5.42E+11	-1.38E-03	-5.31E+06
-1.37E-03	-6.01E+06	-2.94E-01	-5.41E+11	-1.39E-03	-5.30E+06
-1.38E-03	-5.99E+06	-2.96E-01	-5.39E+11	-1.40E-03	-5.28E+06
-1.39E-03	-5.99E+06	-2.97E-01	-5.37E+11	-1.41E-03	-5.26E+06
-1.40E-03	-5.97E+06	-2.99E-01	-5.35E+11	-1.42E-03	-5.24E+06
-1.41E-03	-5.95E+06	-3.01E-01	-5.33E+11	-1.43E-03	-5.23E+06
-1.42E-03	-5.93E+06	-3.03E-01	-5.32E+11	-1.44E-03	-5.21E+06
-1.43E-03	-5.91E+06	-3.06E-01	-5.30E+11	-1.45E-03	-5.19E+06
-1.44E-03	-5.89E+06	-3.08E-01	-5.28E+11	-1.46E-03	-5.18E+06
-1.45E-03	-5.87E+06	-3.10E-01	-5.27E+11	-1.47E-03	-5.16E+06
-1.46E-03	-5.86E+06	-3.12E-01	-5.25E+11	-1.48E-03	-5.14E+06
-1.47E-03	-5.84E+06	-3.14E-01	-5.25E+11	-1.48E-03	-5.14E+06
-1.48E-03	-5.82E+06	-3.16E-01	-5.23E+11	-1.49E-03	-5.12E+06
-1.49E-03	-5.80E+06	-3.18E-01	-5.21E+11	-1.50E-03	-5.11E+06
-1.50E-03	-5.79E+06	-3.20E-01	-5.20E+11	-1.51E-03	-5.09E+06
-1.51E-03	-5.77E+06	-3.22E-01	-5.18E+11	-1.52E-03	-5.08E+06
-1.52E-03	-5.75E+06	-3.25E-01	-5.16E+11	-1.53E-03	-5.06E+06
-1.53E-03	-5.73E+06	-3.27E-01	-5.15E+11	-1.54E-03	-5.04E+06
-1.54E-03	-5.72E+06	-3.29E-01	-5.15E+11	-1.54E-03	-5.04E+06
-1.55E-03	-5.70E+06	-3.31E-01	-5.13E+11	-1.55E-03	-5.03E+06
-1.56E-03	-5.69E+06	-3.33E-01	-5.11E+11	-1.56E-03	-5.01E+06
-1.57E-03	-5.67E+06	-3.35E-01	-5.10E+11	-1.57E-03	-5.00E+06
-1.57E-03	-5.67E+06	-3.36E-01	-5.08E+11	-1.58E-03	-4.98E+06
-1.58E-03	-5.65E+06	-3.38E-01	-5.07E+11	-1.59E-03	-4.97E+06
-1.59E-03	-5.64E+06	-3.40E-01	-5.05E+11	-1.60E-03	-4.95E+06
-1.60E-03	-5.62E+06	-3.42E-01	-5.04E+11	-1.61E-03	-4.94E+06

-1.61E-03	-5.60E+06	-3.44E-01	-5.02E+11	-1.62E-03	-4.92E+06
-1.62E-03	-5.59E+06	-3.46E-01	-5.01E+11	-1.63E-03	-4.91E+06
-1.63E-03	-5.57E+06	-3.49E-01	-5.00E+11	-1.64E-03	-4.90E+06
-1.63E-03	-5.57E+06	-3.49E-01	-4.98E+11	-1.65E-03	-4.88E+06
-1.64E-03	-5.56E+06	-3.51E-01	-4.97E+11	-1.66E-03	-4.87E+06
-1.65E-03	-5.54E+06	-3.53E-01	-4.96E+11	-1.66E-03	-4.86E+06
-1.66E-03	-5.53E+06	-3.55E-01	-4.95E+11	-1.67E-03	-4.85E+06
-1.67E-03	-5.51E+06	-3.57E-01	-4.94E+11	-1.68E-03	-4.84E+06
-1.68E-03	-5.49E+06	-3.60E-01	-4.92E+11	-1.69E-03	-4.82E+06
-1.69E-03	-5.48E+06	-3.62E-01	-4.91E+11	-1.70E-03	-4.81E+06
-1.70E-03	-5.46E+06	-3.64E-01	-4.90E+11	-1.71E-03	-4.80E+06
-1.71E-03	-5.45E+06	-3.66E-01	-4.88E+11	-1.72E-03	-4.79E+06
-1.72E-03	-5.44E+06	-3.68E-01	-4.87E+11	-1.73E-03	-4.77E+06
-1.73E-03	-5.42E+06	-3.70E-01	-4.86E+11	-1.74E-03	-4.76E+06
-1.74E-03	-5.41E+06	-3.72E-01	-4.85E+11	-1.75E-03	-4.75E+06
-1.75E-03	-5.40E+06	-3.75E-01	-4.83E+11	-1.76E-03	-4.74E+06
-1.76E-03	-5.38E+06	-3.77E-01	-4.82E+11	-1.77E-03	-4.72E+06
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-1.77E-03	-5.36E+06	-3.79E-01	-4.79E+11	-1.79E-03	-4.70E+06
-1.78E-03	-5.35E+06	-3.82E-01	-4.78E+11	-1.80E-03	-4.69E+06
-1.79E-03	-5.34E+06	-3.84E-01	-4.77E+11	-1.81E-03	-4.67E+06
-1.80E-03	-5.32E+06	-3.86E-01	-4.76E+11	-1.82E-03	-4.66E+06
-1.81E-03	-5.31E+06	-3.88E-01	-4.75E+11	-1.83E-03	-4.65E+06
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-1.83E-03	-5.29E+06	-3.92E-01	-4.72E+11	-1.85E-03	-4.63E+06
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-1.85E-03	-5.26E+06	-3.96E-01	-4.70E+11	-1.87E-03	-4.61E+06
-1.86E-03	-5.25E+06	-3.99E-01	-4.69E+11	-1.88E-03	-4.60E+06
-1.87E-03	-5.23E+06	-4.01E-01	-4.68E+11	-1.89E-03	-4.59E+06
-1.88E-03	-5.22E+06	-4.03E-01	-4.67E+11	-1.90E-03	-4.58E+06
-1.89E-03	-5.21E+06	-4.05E-01	-4.66E+11	-1.91E-03	-4.57E+06
-1.90E-03	-5.19E+06	-4.07E-01	-4.65E+11	-1.92E-03	-4.56E+06
-1.91E-03	-5.18E+06	-4.09E-01	-4.64E+11	-1.93E-03	-4.55E+06
-1.92E-03	-5.17E+06	-4.11E-01	-4.63E+11	-1.94E-03	-4.53E+06
-1.93E-03	-5.16E+06	-4.13E-01	-4.62E+11	-1.95E-03	-4.52E+06
-1.94E-03	-5.15E+06	-4.16E-01	-4.61E+11	-1.96E-03	-4.51E+06
-1.95E-03	-5.13E+06	-4.18E-01	-4.60E+11	-1.97E-03	-4.50E+06
-1.96E-03	-5.12E+06	-4.20E-01	-4.59E+11	-1.98E-03	-4.50E+06
-1.97E-03	-5.11E+06	-4.22E-01	-4.58E+11	-1.99E-03	-4.48E+06
-1.98E-03	-5.10E+06	-4.24E-01	-4.57E+11	-2.00E-03	-4.47E+06
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-2.00E-03	-5.08E+06	-4.28E-01	-4.54E+11	-2.02E-03	-4.45E+06
-2.01E-03	-5.07E+06	-4.31E-01	-4.53E+11	-2.03E-03	-4.44E+06
-2.01E-03	-5.07E+06	-4.31E-01	-4.52E+11	-2.04E-03	-4.43E+06
-2.02E-03	-5.06E+06	-4.33E-01	-4.51E+11	-2.05E-03	-4.42E+06

-2.03E-03	-5.05E+06	-4.35E-01	-4.50E+11	-2.06E-03	-4.41E+06
-2.04E-03	-5.04E+06	-4.37E-01	-4.49E+11	-2.07E-03	-4.40E+06
-2.05E-03	-5.02E+06	-4.39E-01	-4.48E+11	-2.08E-03	-4.39E+06
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-2.08E-03	-4.99E+06	-4.46E-01	-4.45E+11	-2.11E-03	-4.36E+06
-2.09E-03	-4.98E+06	-4.47E-01	-4.44E+11	-2.12E-03	-4.36E+06
-2.10E-03	-4.97E+06	-4.49E-01	-4.44E+11	-2.13E-03	-4.35E+06
-2.11E-03	-4.96E+06	-4.52E-01	-4.43E+11	-2.14E-03	-4.34E+06
-2.12E-03	-4.95E+06	-4.54E-01	-4.42E+11	-2.15E-03	-4.33E+06
-2.13E-03	-4.94E+06	-4.56E-01	-4.41E+11	-2.16E-03	-4.32E+06
-2.14E-03	-4.93E+06	-4.58E-01	-4.40E+11	-2.17E-03	-4.31E+06
-2.15E-03	-4.92E+06	-4.60E-01	-4.39E+11	-2.18E-03	-4.30E+06
-2.16E-03	-4.91E+06	-4.62E-01	-4.38E+11	-2.19E-03	-4.30E+06
-2.17E-03	-4.90E+06	-4.64E-01	-4.37E+11	-2.20E-03	-4.29E+06
-2.18E-03	-4.89E+06	-4.67E-01	-4.37E+11	-2.21E-03	-4.28E+06
-2.19E-03	-4.88E+06	-4.69E-01	-4.36E+11	-2.22E-03	-4.27E+06
-2.20E-03	-4.87E+06	-4.71E-01	-4.35E+11	-2.23E-03	-4.26E+06
-2.21E-03	-4.86E+06	-4.73E-01	-4.34E+11	-2.24E-03	-4.26E+06
-2.22E-03	-4.85E+06	-4.75E-01	-4.33E+11	-2.25E-03	-4.25E+06
-2.23E-03	-4.84E+06	-4.77E-01	-4.33E+11	-2.26E-03	-4.24E+06
-2.24E-03	-4.83E+06	-4.79E-01	-4.32E+11	-2.27E-03	-4.23E+06
-2.25E-03	-4.82E+06	-4.82E-01	-4.31E+11	-2.28E-03	-4.22E+06
-2.26E-03	-4.81E+06	-4.84E-01	-4.30E+11	-2.29E-03	-4.21E+06
-2.27E-03	-4.80E+06	-4.86E-01	-4.29E+11	-2.30E-03	-4.21E+06
-2.28E-03	-4.79E+06	-4.88E-01	-4.29E+11	-2.31E-03	-4.20E+06
-2.29E-03	-4.78E+06	-4.90E-01	-4.28E+11	-2.31E-03	-4.20E+06
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-2.33E-03	-4.75E+06	-4.99E-01	-4.25E+11	-2.35E-03	-4.17E+06
-2.34E-03	-4.74E+06	-5.01E-01	-4.25E+11	-2.36E-03	-4.16E+06
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-2.36E-03	-4.72E+06	-5.06E-01	-4.22E+11	-2.39E-03	-4.13E+06
-2.37E-03	-4.71E+06	-5.08E-01	-4.21E+11	-2.40E-03	-4.13E+06
-2.38E-03	-4.71E+06	-5.10E-01	-4.20E+11	-2.41E-03	-4.12E+06
-2.39E-03	-4.70E+06	-5.12E-01	-4.19E+11	-2.42E-03	-4.11E+06
-2.40E-03	-4.69E+06	-5.14E-01	-4.19E+11	-2.43E-03	-4.10E+06
-2.41E-03	-4.68E+06	-5.16E-01	-4.18E+11	-2.44E-03	-4.09E+06
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-2.45E-03	-4.65E+06	-5.25E-01	-4.14E+11	-2.49E-03	-4.06E+06

-2.46E-03	-4.64E+06	-5.27E-01	-4.13E+11	-2.50E-03	-4.05E+06
-2.47E-03	-4.63E+06	-5.29E-01	-4.13E+11	-2.51E-03	-4.04E+06
-2.48E-03	-4.62E+06	-5.31E-01	-4.12E+11	-2.52E-03	-4.04E+06
-2.49E-03	-4.61E+06	-5.33E-01	-4.11E+11	-2.53E-03	-4.03E+06
-2.50E-03	-4.61E+06	-5.35E-01	-4.11E+11	-2.54E-03	-4.02E+06
-2.51E-03	-4.60E+06	-5.37E-01	-4.10E+11	-2.55E-03	-4.02E+06
-2.52E-03	-4.59E+06	-5.39E-01	-4.09E+11	-2.56E-03	-4.01E+06
-2.53E-03	-4.58E+06	-5.42E-01	-4.09E+11	-2.57E-03	-4.00E+06
-2.54E-03	-4.57E+06	-5.44E-01	-4.08E+11	-2.58E-03	-4.00E+06
-2.55E-03	-4.56E+06	-5.46E-01	-4.07E+11	-2.59E-03	-3.99E+06
-2.56E-03	-4.56E+06	-5.48E-01	-4.07E+11	-2.60E-03	-3.98E+06
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-2.58E-03	-4.54E+06	-5.52E-01	-4.05E+11	-2.62E-03	-3.97E+06
-2.59E-03	-4.53E+06	-5.54E-01	-4.05E+11	-2.63E-03	-3.97E+06
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-2.63E-03	-4.50E+06	-5.63E-01	-4.02E+11	-2.67E-03	-3.94E+06
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Curvature

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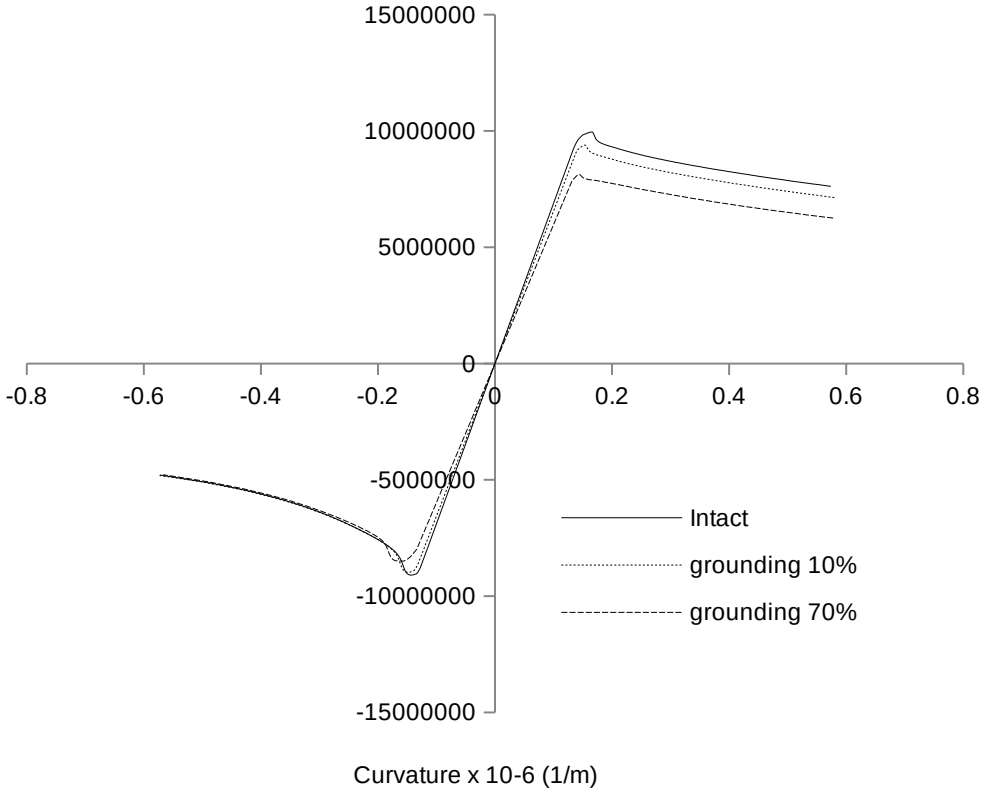
	Intact				10%
	4670	9.80E-06	1.00E-06		4670
Momen	**Rotasi**	**Momen**	**Curvature**	**Momen**	**Rotasi**
7.77E+11	2.68E-03	7.62E+06	5.74E-01	7.28E+11	2.71E-03
7.93E+11	2.47E-03	7.77E+06	5.28E-01	7.44E+11	2.49E-03
7.94E+11	2.46E-03	7.78E+06	5.26E-01	7.44E+11	2.48E-03
7.95E+11	2.45E-03	7.79E+06	5.24E-01	7.45E+11	2.47E-03
7.95E+11	2.44E-03	7.79E+06	5.21E-01	7.46E+11	2.46E-03
7.95E+11	2.43E-03	7.79E+06	5.21E-01	7.47E+11	2.45E-03
7.96E+11	2.42E-03	7.80E+06	5.19E-01	7.47E+11	2.44E-03
7.97E+11	2.41E-03	7.81E+06	5.17E-01	7.48E+11	2.43E-03
7.98E+11	2.40E-03	7.82E+06	5.15E-01	7.48E+11	2.43E-03
7.98E+11	2.39E-03	7.82E+06	5.13E-01	7.49E+11	2.42E-03
7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.50E+11	2.41E-03
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.51E+11	2.40E-03
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.51E+11	2.39E-03
8.02E+11	2.35E-03	7.85E+06	5.04E-01	7.52E+11	2.38E-03
8.02E+11	2.34E-03	7.86E+06	5.02E-01	7.53E+11	2.37E-03
8.03E+11	2.33E-03	7.87E+06	5.00E-01	7.54E+11	2.36E-03
8.04E+11	2.32E-03	7.88E+06	4.98E-01	7.54E+11	2.35E-03
8.05E+11	2.31E-03	7.89E+06	4.96E-01	7.55E+11	2.34E-03
8.06E+11	2.30E-03	7.90E+06	4.93E-01	7.56E+11	2.33E-03



8.07E+11	2.29E-03	7.90E+06	4.91E-01	7.57E+11	2.32E-03
8.07E+11	2.28E-03	7.91E+06	4.89E-01	7.58E+11	2.31E-03
8.08E+11	2.28E-03	7.91E+06	4.88E-01	7.58E+11	2.30E-03
8.08E+11	2.27E-03	7.92E+06	4.86E-01	7.59E+11	2.29E-03
8.09E+11	2.26E-03	7.93E+06	4.84E-01	7.60E+11	2.28E-03
8.10E+11	2.25E-03	7.94E+06	4.82E-01	7.61E+11	2.27E-03
8.11E+11	2.24E-03	7.94E+06	4.80E-01	7.62E+11	2.26E-03
8.11E+11	2.23E-03	7.95E+06	4.78E-01	7.62E+11	2.25E-03
8.12E+11	2.22E-03	7.96E+06	4.76E-01	7.63E+11	2.24E-03
8.13E+11	2.21E-03	7.97E+06	4.73E-01	7.64E+11	2.23E-03
8.14E+11	2.20E-03	7.97E+06	4.71E-01	7.65E+11	2.22E-03
8.15E+11	2.19E-03	7.98E+06	4.69E-01	7.65E+11	2.21E-03
8.15E+11	2.18E-03	7.99E+06	4.67E-01	7.66E+11	2.20E-03
8.16E+11	2.17E-03	8.00E+06	4.65E-01	7.67E+11	2.19E-03
8.17E+11	2.16E-03	8.01E+06	4.63E-01	7.68E+11	2.18E-03
8.18E+11	2.15E-03	8.01E+06	4.61E-01	7.68E+11	2.17E-03
8.19E+11	2.14E-03	8.02E+06	4.58E-01	7.69E+11	2.16E-03
8.19E+11	2.14E-03	8.02E+06	4.58E-01	7.70E+11	2.15E-03
8.19E+11	2.13E-03	8.03E+06	4.56E-01	7.71E+11	2.14E-03
8.20E+11	2.12E-03	8.04E+06	4.54E-01	7.71E+11	2.13E-03
8.21E+11	2.11E-03	8.05E+06	4.52E-01	7.72E+11	2.13E-03
8.22E+11	2.10E-03	8.05E+06	4.50E-01	7.72E+11	2.12E-03
8.23E+11	2.09E-03	8.06E+06	4.48E-01	7.73E+11	2.11E-03
8.24E+11	2.08E-03	8.07E+06	4.45E-01	7.74E+11	2.10E-03
8.25E+11	2.07E-03	8.08E+06	4.43E-01	7.75E+11	2.09E-03
8.25E+11	2.06E-03	8.09E+06	4.41E-01	7.76E+11	2.08E-03
8.26E+11	2.05E-03	8.10E+06	4.39E-01	7.77E+11	2.07E-03
8.27E+11	2.04E-03	8.11E+06	4.37E-01	7.77E+11	2.06E-03
8.28E+11	2.03E-03	8.12E+06	4.35E-01	7.78E+11	2.05E-03
8.29E+11	2.02E-03	8.12E+06	4.33E-01	7.79E+11	2.04E-03
8.30E+11	2.01E-03	8.13E+06	4.31E-01	7.80E+11	2.03E-03
8.30E+11	2.00E-03	8.14E+06	4.29E-01	7.81E+11	2.02E-03
8.31E+11	1.99E-03	8.14E+06	4.27E-01	7.82E+11	2.01E-03
8.32E+11	1.98E-03	8.15E+06	4.25E-01	7.82E+11	2.00E-03
8.33E+11	1.97E-03	8.16E+06	4.23E-01	7.83E+11	1.99E-03
8.34E+11	1.96E-03	8.17E+06	4.21E-01	7.84E+11	1.98E-03
8.35E+11	1.95E-03	8.18E+06	4.18E-01	7.85E+11	1.97E-03
8.35E+11	1.94E-03	8.19E+06	4.16E-01	7.86E+11	1.96E-03
8.36E+11	1.93E-03	8.20E+06	4.14E-01	7.86E+11	1.95E-03
8.37E+11	1.92E-03	8.20E+06	4.12E-01	7.87E+11	1.94E-03
8.38E+11	1.91E-03	8.21E+06	4.10E-01	7.88E+11	1.93E-03
8.39E+11	1.91E-03	8.22E+06	4.08E-01	7.89E+11	1.92E-03
8.40E+11	1.90E-03	8.23E+06	4.06E-01	7.90E+11	1.91E-03
8.40E+11	1.89E-03	8.24E+06	4.04E-01	7.91E+11	1.90E-03
8.41E+11	1.88E-03	8.24E+06	4.01E-01	7.91E+11	1.89E-03

8.42E+11	1.87E-03	8.25E+06	3.99E-01	7.92E+11	1.88E-03
8.43E+11	1.86E-03	8.26E+06	3.97E-01	7.93E+11	1.87E-03
8.44E+11	1.85E-03	8.27E+06	3.95E-01	7.94E+11	1.86E-03
8.45E+11	1.84E-03	8.28E+06	3.93E-01	7.95E+11	1.85E-03
8.46E+11	1.83E-03	8.29E+06	3.91E-01	7.96E+11	1.84E-03
8.47E+11	1.82E-03	8.30E+06	3.89E-01	7.97E+11	1.83E-03
8.47E+11	1.81E-03	8.30E+06	3.88E-01	7.98E+11	1.82E-03
8.48E+11	1.80E-03	8.31E+06	3.86E-01	7.99E+11	1.81E-03
8.49E+11	1.79E-03	8.32E+06	3.84E-01	8.00E+11	1.80E-03
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8.51E+11	1.76E-03	8.34E+06	3.77E-01	8.02E+11	1.78E-03
8.52E+11	1.75E-03	8.35E+06	3.75E-01	8.02E+11	1.77E-03
8.53E+11	1.74E-03	8.36E+06	3.73E-01	8.03E+11	1.76E-03
8.54E+11	1.73E-03	8.37E+06	3.71E-01	8.04E+11	1.75E-03
8.55E+11	1.72E-03	8.38E+06	3.69E-01	8.05E+11	1.74E-03
8.56E+11	1.71E-03	8.39E+06	3.67E-01	8.06E+11	1.73E-03
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.07E+11	1.72E-03
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.08E+11	1.71E-03
8.58E+11	1.69E-03	8.41E+06	3.62E-01	8.09E+11	1.70E-03
8.59E+11	1.68E-03	8.42E+06	3.60E-01	8.10E+11	1.69E-03
8.60E+11	1.67E-03	8.43E+06	3.58E-01	8.10E+11	1.69E-03
8.61E+11	1.66E-03	8.44E+06	3.56E-01	8.11E+11	1.68E-03
8.62E+11	1.65E-03	8.45E+06	3.54E-01	8.12E+11	1.67E-03
8.63E+11	1.64E-03	8.46E+06	3.52E-01	8.13E+11	1.66E-03
8.64E+11	1.63E-03	8.47E+06	3.49E-01	8.14E+11	1.65E-03
8.65E+11	1.62E-03	8.48E+06	3.47E-01	8.15E+11	1.64E-03
8.66E+11	1.61E-03	8.48E+06	3.46E-01	8.16E+11	1.63E-03
8.66E+11	1.60E-03	8.49E+06	3.43E-01	8.17E+11	1.62E-03
8.67E+11	1.59E-03	8.50E+06	3.41E-01	8.17E+11	1.61E-03
8.68E+11	1.58E-03	8.51E+06	3.39E-01	8.18E+11	1.60E-03
8.69E+11	1.57E-03	8.52E+06	3.37E-01	8.19E+11	1.59E-03
8.70E+11	1.56E-03	8.53E+06	3.35E-01	8.20E+11	1.58E-03
8.71E+11	1.55E-03	8.54E+06	3.33E-01	8.21E+11	1.57E-03
8.72E+11	1.54E-03	8.55E+06	3.31E-01	8.22E+11	1.56E-03
8.73E+11	1.53E-03	8.56E+06	3.28E-01	8.23E+11	1.55E-03
8.74E+11	1.52E-03	8.57E+06	3.26E-01	8.24E+11	1.54E-03
8.75E+11	1.52E-03	8.58E+06	3.24E-01	8.25E+11	1.53E-03
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8.79E+11	1.49E-03	8.61E+06	3.18E-01	8.28E+11	1.50E-03
8.80E+11	1.48E-03	8.62E+06	3.16E-01	8.29E+11	1.49E-03
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8.81E+11	1.46E-03	8.63E+06	3.13E-01	8.31E+11	1.47E-03
8.82E+11	1.45E-03	8.64E+06	3.11E-01	8.32E+11	1.46E-03

8.83E+11	1.44E-03	8.65E+06	3.09E-01	8.33E+11	1.45E-03
8.84E+11	1.43E-03	8.66E+06	3.07E-01	8.33E+11	1.45E-03
8.85E+11	1.42E-03	8.67E+06	3.05E-01	8.34E+11	1.44E-03
8.86E+11	1.41E-03	8.68E+06	3.03E-01	8.35E+11	1.43E-03
8.87E+11	1.40E-03	8.69E+06	3.01E-01	8.36E+11	1.42E-03
8.88E+11	1.39E-03	8.70E+06	2.99E-01	8.37E+11	1.41E-03
8.89E+11	1.38E-03	8.71E+06	2.96E-01	8.38E+11	1.40E-03
8.90E+11	1.38E-03	8.72E+06	2.96E-01	8.39E+11	1.39E-03
8.91E+11	1.37E-03	8.73E+06	2.93E-01	8.40E+11	1.38E-03
8.92E+11	1.36E-03	8.74E+06	2.91E-01	8.41E+11	1.37E-03
8.93E+11	1.35E-03	8.75E+06	2.89E-01	8.42E+11	1.36E-03
8.94E+11	1.34E-03	8.76E+06	2.87E-01	8.43E+11	1.35E-03
8.95E+11	1.33E-03	8.77E+06	2.85E-01	8.44E+11	1.34E-03
8.96E+11	1.33E-03	8.78E+06	2.84E-01	8.45E+11	1.33E-03
8.97E+11	1.32E-03	8.79E+06	2.82E-01	8.46E+11	1.32E-03
8.98E+11	1.31E-03	8.80E+06	2.80E-01	8.47E+11	1.31E-03
8.99E+11	1.30E-03	8.81E+06	2.78E-01	8.48E+11	1.31E-03
9.00E+11	1.29E-03	8.82E+06	2.76E-01	8.49E+11	1.30E-03
9.02E+11	1.28E-03	8.83E+06	2.73E-01	8.50E+11	1.29E-03
9.02E+11	1.27E-03	8.84E+06	2.73E-01	8.51E+11	1.28E-03
9.03E+11	1.26E-03	8.85E+06	2.71E-01	8.52E+11	1.27E-03
9.04E+11	1.25E-03	8.86E+06	2.69E-01	8.53E+11	1.26E-03
9.05E+11	1.24E-03	8.87E+06	2.66E-01	8.54E+11	1.25E-03
9.07E+11	1.23E-03	8.89E+06	2.64E-01	8.56E+11	1.24E-03
9.08E+11	1.22E-03	8.90E+06	2.62E-01	8.57E+11	1.23E-03
9.09E+11	1.21E-03	8.91E+06	2.60E-01	8.58E+11	1.22E-03
9.10E+11	1.21E-03	8.92E+06	2.58E-01	8.59E+11	1.21E-03
9.11E+11	1.20E-03	8.93E+06	2.56E-01	8.60E+11	1.20E-03
9.13E+11	1.19E-03	8.95E+06	2.54E-01	8.60E+11	1.20E-03
9.14E+11	1.18E-03	8.96E+06	2.52E-01	8.61E+11	1.19E-03
9.16E+11	1.17E-03	8.97E+06	2.49E-01	8.62E+11	1.18E-03
9.17E+11	1.16E-03	8.98E+06	2.48E-01	8.64E+11	1.17E-03
9.18E+11	1.15E-03	9.00E+06	2.45E-01	8.65E+11	1.16E-03
9.20E+11	1.14E-03	9.01E+06	2.43E-01	8.66E+11	1.15E-03
9.21E+11	1.13E-03	9.03E+06	2.41E-01	8.67E+11	1.14E-03
9.22E+11	1.12E-03	9.04E+06	2.39E-01	8.69E+11	1.13E-03
9.23E+11	1.11E-03	9.05E+06	2.38E-01	8.70E+11	1.12E-03
9.24E+11	1.10E-03	9.06E+06	2.36E-01	8.71E+11	1.11E-03
9.26E+11	1.09E-03	9.07E+06	2.34E-01	8.72E+11	1.10E-03
9.27E+11	1.08E-03	9.09E+06	2.31E-01	8.73E+11	1.09E-03
9.29E+11	1.07E-03	9.10E+06	2.29E-01	8.74E+11	1.08E-03
9.30E+11	1.06E-03	9.11E+06	2.27E-01	8.76E+11	1.07E-03
9.32E+11	1.05E-03	9.13E+06	2.25E-01	8.77E+11	1.06E-03
9.33E+11	1.04E-03	9.15E+06	2.23E-01	8.79E+11	1.05E-03
9.35E+11	1.03E-03	9.16E+06	2.21E-01	8.80E+11	1.05E-03

9.35E+11	1.03E-03	9.17E+06	2.20E-01	8.81E+11	1.04E-03
9.37E+11	1.02E-03	9.18E+06	2.18E-01	8.83E+11	1.03E-03
9.38E+11	1.01E-03	9.19E+06	2.16E-01	8.84E+11	1.02E-03
9.40E+11	9.99E-04	9.21E+06	2.14E-01	8.85E+11	1.01E-03
9.42E+11	9.89E-04	9.23E+06	2.12E-01	8.86E+11	1.00E-03
9.42E+11	9.87E-04	9.23E+06	2.11E-01	8.87E+11	9.92E-04
9.43E+11	9.77E-04	9.25E+06	2.09E-01	8.89E+11	9.82E-04
9.45E+11	9.67E-04	9.26E+06	2.07E-01	8.91E+11	9.72E-04
9.47E+11	9.57E-04	9.28E+06	2.05E-01	8.92E+11	9.62E-04
9.48E+11	9.49E-04	9.29E+06	2.03E-01	8.94E+11	9.52E-04
9.50E+11	9.39E-04	9.31E+06	2.01E-01	8.96E+11	9.42E-04
9.52E+11	9.29E-04	9.33E+06	1.99E-01	8.96E+11	9.40E-04
9.53E+11	9.21E-04	9.34E+06	1.97E-01	8.97E+11	9.30E-04
9.54E+11	9.11E-04	9.35E+06	1.95E-01	8.98E+11	9.20E-04
9.56E+11	9.01E-04	9.37E+06	1.93E-01	9.00E+11	9.10E-04
9.58E+11	8.91E-04	9.39E+06	1.91E-01	9.02E+11	9.00E-04
9.58E+11	8.88E-04	9.39E+06	1.90E-01	9.03E+11	8.96E-04
9.60E+11	8.78E-04	9.41E+06	1.88E-01	9.04E+11	8.86E-04
9.62E+11	8.68E-04	9.43E+06	1.86E-01	9.06E+11	8.76E-04
9.63E+11	8.65E-04	9.44E+06	1.85E-01	9.07E+11	8.71E-04
9.65E+11	8.55E-04	9.46E+06	1.83E-01	9.08E+11	8.61E-04
9.67E+11	8.46E-04	9.48E+06	1.81E-01	9.10E+11	8.51E-04
9.70E+11	8.36E-04	9.51E+06	1.79E-01	9.11E+11	8.44E-04
9.73E+11	8.28E-04	9.53E+06	1.77E-01	9.12E+11	8.37E-04
9.77E+11	8.18E-04	9.58E+06	1.75E-01	9.13E+11	8.27E-04
9.78E+11	8.18E-04	9.58E+06	1.75E-01	9.15E+11	8.17E-04
9.83E+11	8.08E-04	9.63E+06	1.73E-01	9.15E+11	8.16E-04
9.85E+11	8.04E-04	9.66E+06	1.72E-01	9.17E+11	8.06E-04
9.86E+11	8.04E-04	9.66E+06	1.72E-01	9.19E+11	7.96E-04
9.99E+11	7.94E-04	9.79E+06	1.70E-01	9.20E+11	7.94E-04
1.00E+12	7.90E-04	9.84E+06	1.69E-01	9.22E+11	7.84E-04
1.01E+12	7.82E-04	9.94E+06	1.67E-01	9.23E+11	7.79E-04
1.02E+12	7.76E-04	9.96E+06	1.66E-01	9.26E+11	7.69E-04
1.02E+12	7.66E-04	9.95E+06	1.64E-01	9.28E+11	7.62E-04
1.02E+12	7.60E-04	9.95E+06	1.63E-01	9.33E+11	7.52E-04
1.01E+12	7.50E-04	9.94E+06	1.61E-01	9.37E+11	7.46E-04
1.01E+12	7.45E-04	9.92E+06	1.60E-01	9.40E+11	7.41E-04
1.01E+12	7.35E-04	9.91E+06	1.57E-01	9.51E+11	7.31E-04
1.01E+12	7.29E-04	9.89E+06	1.56E-01	9.57E+11	7.26E-04
1.01E+12	7.19E-04	9.87E+06	1.54E-01	9.58E+11	7.20E-04
1.01E+12	7.09E-04	9.85E+06	1.52E-01	9.59E+11	7.19E-04
1.00E+12	7.01E-04	9.83E+06	1.50E-01	9.58E+11	7.09E-04
1.00E+12	6.94E-04	9.80E+06	1.49E-01	9.55E+11	6.99E-04
9.97E+11	6.88E-04	9.77E+06	1.47E-01	9.51E+11	6.89E-04
9.91E+11	6.78E-04	9.71E+06	1.45E-01	9.51E+11	6.88E-04

9.86E+11	6.69E-04	9.66E+06	1.43E-01	9.47E+11	6.78E-04
9.82E+11	6.64E-04	9.63E+06	1.42E-01	9.43E+11	6.69E-04
9.78E+11	6.58E-04	9.58E+06	1.41E-01	9.40E+11	6.63E-04
9.73E+11	6.52E-04	9.53E+06	1.40E-01	9.36E+11	6.57E-04
9.63E+11	6.43E-04	9.43E+06	1.38E-01	9.30E+11	6.51E-04
9.54E+11	6.35E-04	9.35E+06	1.36E-01	9.20E+11	6.43E-04
9.45E+11	6.28E-04	9.26E+06	1.35E-01	9.16E+11	6.40E-04
9.35E+11	6.21E-04	9.16E+06	1.33E-01	9.02E+11	6.30E-04
9.33E+11	6.20E-04	9.14E+06	1.33E-01	8.88E+11	6.20E-04
9.18E+11	6.10E-04	8.99E+06	1.31E-01	8.74E+11	6.10E-04
9.03E+11	6.00E-04	8.85E+06	1.28E-01	8.59E+11	6.00E-04
8.88E+11	5.90E-04	8.70E+06	1.26E-01	8.45E+11	5.90E-04
8.73E+11	5.80E-04	8.55E+06	1.24E-01	8.31E+11	5.80E-04
8.58E+11	5.70E-04	8.40E+06	1.22E-01	8.16E+11	5.70E-04
8.43E+11	5.60E-04	8.26E+06	1.20E-01	8.02E+11	5.60E-04
8.28E+11	5.50E-04	8.11E+06	1.18E-01	7.88E+11	5.50E-04
8.13E+11	5.40E-04	7.96E+06	1.16E-01	7.73E+11	5.40E-04
7.98E+11	5.30E-04	7.82E+06	1.13E-01	7.59E+11	5.30E-04
7.82E+11	5.20E-04	7.67E+06	1.11E-01	7.45E+11	5.20E-04
7.67E+11	5.10E-04	7.52E+06	1.09E-01	7.30E+11	5.10E-04
7.52E+11	5.00E-04	7.37E+06	1.07E-01	7.16E+11	5.00E-04
7.37E+11	4.90E-04	7.23E+06	1.05E-01	7.02E+11	4.90E-04
7.22E+11	4.80E-04	7.08E+06	1.03E-01	6.88E+11	4.80E-04
7.07E+11	4.70E-04	6.93E+06	1.01E-01	6.73E+11	4.70E-04
6.92E+11	4.60E-04	6.78E+06	9.85E-02	6.59E+11	4.60E-04
6.77E+11	4.50E-04	6.64E+06	9.64E-02	6.45E+11	4.50E-04
6.62E+11	4.40E-04	6.49E+06	9.42E-02	6.30E+11	4.40E-04
6.47E+11	4.30E-04	6.34E+06	9.21E-02	6.16E+11	4.30E-04
6.32E+11	4.20E-04	6.19E+06	8.99E-02	6.02E+11	4.20E-04
6.17E+11	4.10E-04	6.05E+06	8.78E-02	5.87E+11	4.10E-04
6.02E+11	4.00E-04	5.90E+06	8.57E-02	5.73E+11	4.00E-04
5.87E+11	3.90E-04	5.75E+06	8.35E-02	5.59E+11	3.90E-04
5.72E+11	3.80E-04	5.60E+06	8.14E-02	5.44E+11	3.80E-04
5.57E+11	3.70E-04	5.46E+06	7.92E-02	5.30E+11	3.70E-04
5.42E+11	3.60E-04	5.31E+06	7.71E-02	5.16E+11	3.60E-04
5.27E+11	3.50E-04	5.16E+06	7.49E-02	5.01E+11	3.50E-04
5.12E+11	3.40E-04	5.01E+06	7.28E-02	4.87E+11	3.40E-04
4.97E+11	3.30E-04	4.87E+06	7.07E-02	4.73E+11	3.30E-04
4.82E+11	3.20E-04	4.72E+06	6.85E-02	4.58E+11	3.20E-04
4.67E+11	3.10E-04	4.57E+06	6.64E-02	4.44E+11	3.10E-04
4.51E+11	3.00E-04	4.42E+06	6.42E-02	4.30E+11	3.00E-04
4.36E+11	2.90E-04	4.28E+06	6.21E-02	4.15E+11	2.90E-04
4.21E+11	2.80E-04	4.13E+06	6.00E-02	4.01E+11	2.80E-04
4.06E+11	2.70E-04	3.98E+06	5.78E-02	3.87E+11	2.70E-04
3.91E+11	2.60E-04	3.83E+06	5.57E-02	3.72E+11	2.60E-04

3.76E+11	2.50E-04	3.69E+06	5.35E-02	3.58E+11	2.50E-04
3.61E+11	2.40E-04	3.54E+06	5.14E-02	3.44E+11	2.40E-04
3.46E+11	2.30E-04	3.39E+06	4.93E-02	3.29E+11	2.30E-04
3.31E+11	2.20E-04	3.24E+06	4.71E-02	3.15E+11	2.20E-04
3.16E+11	2.10E-04	3.10E+06	4.50E-02	3.01E+11	2.10E-04
3.01E+11	2.00E-04	2.95E+06	4.28E-02	2.87E+11	2.00E-04
2.86E+11	1.90E-04	2.80E+06	4.07E-02	2.72E+11	1.90E-04
2.71E+11	1.80E-04	2.65E+06	3.85E-02	2.58E+11	1.80E-04
2.56E+11	1.70E-04	2.51E+06	3.64E-02	2.44E+11	1.70E-04
2.41E+11	1.60E-04	2.36E+06	3.43E-02	2.29E+11	1.60E-04
2.26E+11	1.50E-04	2.21E+06	3.21E-02	2.15E+11	1.50E-04
2.11E+11	1.40E-04	2.06E+06	3.00E-02	2.01E+11	1.40E-04
1.96E+11	1.30E-04	1.92E+06	2.78E-02	1.86E+11	1.30E-04
1.81E+11	1.20E-04	1.77E+06	2.57E-02	1.72E+11	1.20E-04
1.66E+11	1.10E-04	1.62E+06	2.36E-02	1.58E+11	1.10E-04
1.51E+11	1.00E-04	1.47E+06	2.14E-02	1.43E+11	1.00E-04
1.35E+11	9.00E-05	1.33E+06	1.93E-02	1.29E+11	9.00E-05
1.20E+11	8.00E-05	1.18E+06	1.71E-02	1.15E+11	8.00E-05
1.05E+11	7.00E-05	1.03E+06	1.50E-02	1.00E+11	7.00E-05
9.03E+10	6.00E-05	8.85E+05	1.28E-02	8.59E+10	6.00E-05
7.52E+10	5.00E-05	7.37E+05	1.07E-02	7.16E+10	5.00E-05
6.02E+10	4.00E-05	5.90E+05	8.57E-03	5.73E+10	4.00E-05
4.51E+10	3.00E-05	4.42E+05	6.42E-03	4.30E+10	3.00E-05
3.01E+10	2.00E-05	2.95E+05	4.28E-03	2.87E+10	2.00E-05
1.51E+10	1.00E-05	1.47E+05	2.14E-03	1.43E+10	1.00E-05
1.35E+10	9.00E-06	1.33E+05	1.93E-03	1.29E+10	9.00E-06
1.20E+10	8.00E-06	1.18E+05	1.71E-03	1.15E+10	8.00E-06
1.05E+10	7.00E-06	1.03E+05	1.50E-03	1.00E+10	7.00E-06
9.03E+09	6.00E-06	8.85E+04	1.28E-03	8.60E+09	6.00E-06
7.53E+09	5.00E-06	7.37E+04	1.07E-03	7.16E+09	5.00E-06
6.02E+09	4.00E-06	5.90E+04	8.57E-04	5.73E+09	4.00E-06
4.52E+09	3.00E-06	4.42E+04	6.42E-04	4.30E+09	3.00E-06
3.01E+09	2.00E-06	2.95E+04	4.28E-04	2.87E+09	2.00E-06
1.51E+09	1.00E-06	1.47E+04	2.14E-04	1.43E+09	1.00E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.51E+09	-1.00E-06	-1.47E+04	-2.14E-04	-1.43E+09	-1.00E-06
-3.01E+09	-2.00E-06	-2.95E+04	-4.28E-04	-2.87E+09	-2.00E-06
-4.52E+09	-3.00E-06	-4.42E+04	-6.42E-04	-4.30E+09	-3.00E-06
-6.02E+09	-4.00E-06	-5.90E+04	-8.57E-04	-5.73E+09	-4.00E-06
-7.52E+09	-5.00E-06	-7.37E+04	-1.07E-03	-7.16E+09	-5.00E-06
-9.03E+09	-6.00E-06	-8.85E+04	-1.28E-03	-8.59E+09	-6.00E-06
-1.05E+10	-7.00E-06	-1.03E+05	-1.50E-03	-1.00E+10	-7.00E-06
-1.20E+10	-8.00E-06	-1.18E+05	-1.71E-03	-1.15E+10	-8.00E-06
-1.35E+10	-9.00E-06	-1.33E+05	-1.93E-03	-1.29E+10	-9.00E-06
-1.51E+10	-1.00E-05	-1.47E+05	-2.14E-03	-1.43E+10	-1.00E-05

-3.01E+10	-2.00E-05	-2.95E+05	-4.28E-03	-2.87E+10	-2.00E-05
-4.51E+10	-3.00E-05	-4.42E+05	-6.42E-03	-4.30E+10	-3.00E-05
-6.02E+10	-4.00E-05	-5.90E+05	-8.57E-03	-5.73E+10	-4.00E-05
-7.52E+10	-5.00E-05	-7.37E+05	-1.07E-02	-7.16E+10	-5.00E-05
-9.03E+10	-6.00E-05	-8.85E+05	-1.28E-02	-8.59E+10	-6.00E-05
-1.05E+11	-7.00E-05	-1.03E+06	-1.50E-02	-1.00E+11	-7.00E-05
-1.20E+11	-8.00E-05	-1.18E+06	-1.71E-02	-1.15E+11	-8.00E-05
-1.35E+11	-9.00E-05	-1.33E+06	-1.93E-02	-1.29E+11	-9.00E-05
-1.51E+11	-1.00E-04	-1.47E+06	-2.14E-02	-1.43E+11	-1.00E-04
-1.66E+11	-1.10E-04	-1.62E+06	-2.36E-02	-1.58E+11	-1.10E-04
-1.81E+11	-1.20E-04	-1.77E+06	-2.57E-02	-1.72E+11	-1.20E-04
-1.96E+11	-1.30E-04	-1.92E+06	-2.78E-02	-1.86E+11	-1.30E-04
-2.11E+11	-1.40E-04	-2.06E+06	-3.00E-02	-2.01E+11	-1.40E-04
-2.26E+11	-1.50E-04	-2.21E+06	-3.21E-02	-2.15E+11	-1.50E-04
-2.41E+11	-1.60E-04	-2.36E+06	-3.43E-02	-2.29E+11	-1.60E-04
-2.56E+11	-1.70E-04	-2.51E+06	-3.64E-02	-2.44E+11	-1.70E-04
-2.71E+11	-1.80E-04	-2.65E+06	-3.85E-02	-2.58E+11	-1.80E-04
-2.86E+11	-1.90E-04	-2.80E+06	-4.07E-02	-2.72E+11	-1.90E-04
-3.01E+11	-2.00E-04	-2.95E+06	-4.28E-02	-2.86E+11	-2.00E-04
-3.16E+11	-2.10E-04	-3.10E+06	-4.50E-02	-3.01E+11	-2.10E-04
-3.31E+11	-2.20E-04	-3.24E+06	-4.71E-02	-3.15E+11	-2.20E-04
-3.46E+11	-2.30E-04	-3.39E+06	-4.93E-02	-3.29E+11	-2.30E-04
-3.61E+11	-2.40E-04	-3.54E+06	-5.14E-02	-3.44E+11	-2.40E-04
-3.76E+11	-2.50E-04	-3.69E+06	-5.35E-02	-3.58E+11	-2.50E-04
-3.91E+11	-2.60E-04	-3.83E+06	-5.57E-02	-3.72E+11	-2.60E-04
-4.06E+11	-2.70E-04	-3.98E+06	-5.78E-02	-3.87E+11	-2.70E-04
-4.21E+11	-2.80E-04	-4.13E+06	-6.00E-02	-4.01E+11	-2.80E-04
-4.36E+11	-2.90E-04	-4.28E+06	-6.21E-02	-4.15E+11	-2.90E-04
-4.51E+11	-3.00E-04	-4.42E+06	-6.42E-02	-4.30E+11	-3.00E-04
-4.66E+11	-3.10E-04	-4.57E+06	-6.64E-02	-4.44E+11	-3.10E-04
-4.81E+11	-3.20E-04	-4.72E+06	-6.85E-02	-4.58E+11	-3.20E-04
-4.97E+11	-3.30E-04	-4.87E+06	-7.07E-02	-4.73E+11	-3.30E-04
-5.12E+11	-3.40E-04	-5.01E+06	-7.28E-02	-4.87E+11	-3.40E-04
-5.27E+11	-3.50E-04	-5.16E+06	-7.49E-02	-5.01E+11	-3.50E-04
-5.42E+11	-3.60E-04	-5.31E+06	-7.71E-02	-5.16E+11	-3.60E-04
-5.57E+11	-3.70E-04	-5.45E+06	-7.92E-02	-5.30E+11	-3.70E-04
-5.72E+11	-3.80E-04	-5.60E+06	-8.14E-02	-5.44E+11	-3.80E-04
-5.87E+11	-3.90E-04	-5.75E+06	-8.35E-02	-5.59E+11	-3.90E-04
-6.02E+11	-4.00E-04	-5.90E+06	-8.57E-02	-5.73E+11	-4.00E-04
-6.17E+11	-4.10E-04	-6.04E+06	-8.78E-02	-5.87E+11	-4.10E-04
-6.32E+11	-4.20E-04	-6.19E+06	-8.99E-02	-6.01E+11	-4.20E-04
-6.47E+11	-4.30E-04	-6.34E+06	-9.21E-02	-6.16E+11	-4.30E-04
-6.62E+11	-4.40E-04	-6.49E+06	-9.42E-02	-6.30E+11	-4.40E-04
-6.77E+11	-4.50E-04	-6.63E+06	-9.64E-02	-6.44E+11	-4.50E-04
-6.92E+11	-4.60E-04	-6.78E+06	-9.85E-02	-6.59E+11	-4.60E-04

-7.07E+11	-4.70E-04	-6.93E+06	-1.01E-01	-6.73E+11	-4.70E-04
-7.22E+11	-4.80E-04	-7.08E+06	-1.03E-01	-6.87E+11	-4.80E-04
-7.37E+11	-4.90E-04	-7.22E+06	-1.05E-01	-7.02E+11	-4.90E-04
-7.52E+11	-5.00E-04	-7.37E+06	-1.07E-01	-7.16E+11	-5.00E-04
-7.67E+11	-5.10E-04	-7.52E+06	-1.09E-01	-7.30E+11	-5.10E-04
-7.82E+11	-5.20E-04	-7.67E+06	-1.11E-01	-7.45E+11	-5.20E-04
-7.97E+11	-5.30E-04	-7.81E+06	-1.13E-01	-7.59E+11	-5.30E-04
-8.12E+11	-5.40E-04	-7.96E+06	-1.16E-01	-7.73E+11	-5.40E-04
-8.27E+11	-5.50E-04	-8.11E+06	-1.18E-01	-7.88E+11	-5.50E-04
-8.42E+11	-5.60E-04	-8.25E+06	-1.20E-01	-8.02E+11	-5.60E-04
-8.57E+11	-5.70E-04	-8.40E+06	-1.22E-01	-8.16E+11	-5.70E-04
-8.70E+11	-5.78E-04	-8.52E+06	-1.24E-01	-8.30E+11	-5.80E-04
-8.84E+11	-5.88E-04	-8.66E+06	-1.26E-01	-8.45E+11	-5.90E-04
-8.95E+11	-5.96E-04	-8.77E+06	-1.28E-01	-8.57E+11	-5.99E-04
-9.03E+11	-6.03E-04	-8.85E+06	-1.29E-01	-8.70E+11	-6.09E-04
-9.09E+11	-6.09E-04	-8.91E+06	-1.30E-01	-8.82E+11	-6.17E-04
-9.15E+11	-6.16E-04	-8.97E+06	-1.32E-01	-8.89E+11	-6.24E-04
-9.20E+11	-6.22E-04	-9.01E+06	-1.33E-01	-8.95E+11	-6.30E-04
-9.23E+11	-6.28E-04	-9.04E+06	-1.34E-01	-9.00E+11	-6.35E-04
-9.24E+11	-6.33E-04	-9.05E+06	-1.36E-01	-9.05E+11	-6.42E-04
-9.25E+11	-6.43E-04	-9.07E+06	-1.38E-01	-9.08E+11	-6.47E-04
-9.27E+11	-6.50E-04	-9.08E+06	-1.39E-01	-9.10E+11	-6.52E-04
-9.28E+11	-6.57E-04	-9.09E+06	-1.41E-01	-9.12E+11	-6.58E-04
-9.28E+11	-6.63E-04	-9.09E+06	-1.42E-01	-9.13E+11	-6.68E-04
-9.28E+11	-6.68E-04	-9.10E+06	-1.43E-01	-9.14E+11	-6.74E-04
-9.28E+11	-6.72E-04	-9.10E+06	-1.44E-01	-9.15E+11	-6.80E-04
-9.28E+11	-6.77E-04	-9.09E+06	-1.45E-01	-9.16E+11	-6.87E-04
-9.27E+11	-6.83E-04	-9.09E+06	-1.46E-01	-9.16E+11	-6.92E-04
-9.27E+11	-6.87E-04	-9.08E+06	-1.47E-01	-9.16E+11	-6.97E-04
-9.24E+11	-6.97E-04	-9.05E+06	-1.49E-01	-9.16E+11	-7.02E-04
-9.18E+11	-7.07E-04	-9.00E+06	-1.51E-01	-9.15E+11	-7.07E-04
-9.10E+11	-7.17E-04	-8.92E+06	-1.54E-01	-9.14E+11	-7.13E-04
-9.08E+11	-7.18E-04	-8.90E+06	-1.54E-01	-9.11E+11	-7.23E-04
-8.95E+11	-7.28E-04	-8.77E+06	-1.56E-01	-9.05E+11	-7.33E-04
-8.93E+11	-7.30E-04	-8.75E+06	-1.56E-01	-8.96E+11	-7.43E-04
-8.77E+11	-7.40E-04	-8.60E+06	-1.58E-01	-8.94E+11	-7.45E-04
-8.67E+11	-7.47E-04	-8.50E+06	-1.60E-01	-8.79E+11	-7.55E-04
-8.55E+11	-7.57E-04	-8.38E+06	-1.62E-01	-8.76E+11	-7.57E-04
-8.52E+11	-7.60E-04	-8.35E+06	-1.63E-01	-8.61E+11	-7.67E-04
-8.43E+11	-7.70E-04	-8.26E+06	-1.65E-01	-8.52E+11	-7.74E-04
-8.36E+11	-7.80E-04	-8.19E+06	-1.67E-01	-8.42E+11	-7.84E-04
-8.35E+11	-7.81E-04	-8.19E+06	-1.67E-01	-8.37E+11	-7.89E-04
-8.29E+11	-7.91E-04	-8.12E+06	-1.69E-01	-8.29E+11	-7.99E-04
-8.25E+11	-8.00E-04	-8.08E+06	-1.71E-01	-8.23E+11	-8.09E-04
-8.19E+11	-8.10E-04	-8.03E+06	-1.73E-01	-8.22E+11	-8.10E-04

-8.15E+11	-8.20E-04	-7.99E+06	-1.75E-01	-8.16E+11	-8.20E-04
-8.13E+11	-8.24E-04	-7.97E+06	-1.76E-01	-8.12E+11	-8.30E-04
-8.10E+11	-8.31E-04	-7.94E+06	-1.78E-01	-8.11E+11	-8.31E-04
-8.06E+11	-8.41E-04	-7.89E+06	-1.80E-01	-8.07E+11	-8.41E-04
-8.02E+11	-8.51E-04	-7.85E+06	-1.82E-01	-8.03E+11	-8.51E-04
-7.98E+11	-8.61E-04	-7.82E+06	-1.84E-01	-8.01E+11	-8.55E-04
-7.96E+11	-8.64E-04	-7.80E+06	-1.85E-01	-7.97E+11	-8.64E-04
-7.93E+11	-8.74E-04	-7.77E+06	-1.87E-01	-7.93E+11	-8.74E-04
-7.93E+11	-8.75E-04	-7.77E+06	-1.87E-01	-7.89E+11	-8.84E-04
-7.89E+11	-8.85E-04	-7.73E+06	-1.89E-01	-7.86E+11	-8.94E-04
-7.85E+11	-8.95E-04	-7.70E+06	-1.92E-01	-7.84E+11	-9.00E-04
-7.82E+11	-9.05E-04	-7.66E+06	-1.94E-01	-7.81E+11	-9.09E-04
-7.78E+11	-9.15E-04	-7.63E+06	-1.96E-01	-7.78E+11	-9.19E-04
-7.76E+11	-9.23E-04	-7.60E+06	-1.98E-01	-7.74E+11	-9.29E-04
-7.74E+11	-9.30E-04	-7.58E+06	-1.99E-01	-7.71E+11	-9.39E-04
-7.71E+11	-9.40E-04	-7.55E+06	-2.01E-01	-7.68E+11	-9.49E-04
-7.67E+11	-9.50E-04	-7.52E+06	-2.03E-01	-7.65E+11	-9.59E-04
-7.64E+11	-9.60E-04	-7.49E+06	-2.06E-01	-7.64E+11	-9.62E-04
-7.61E+11	-9.70E-04	-7.46E+06	-2.08E-01	-7.61E+11	-9.72E-04
-7.58E+11	-9.80E-04	-7.43E+06	-2.10E-01	-7.57E+11	-9.82E-04
-7.55E+11	-9.90E-04	-7.40E+06	-2.12E-01	-7.54E+11	-9.92E-04
-7.55E+11	-9.92E-04	-7.40E+06	-2.12E-01	-7.51E+11	-1.00E-03
-7.52E+11	-1.00E-03	-7.37E+06	-2.14E-01	-7.49E+11	-1.01E-03
-7.50E+11	-1.01E-03	-7.35E+06	-2.16E-01	-7.46E+11	-1.02E-03
-7.46E+11	-1.02E-03	-7.31E+06	-2.18E-01	-7.43E+11	-1.03E-03
-7.44E+11	-1.03E-03	-7.29E+06	-2.21E-01	-7.43E+11	-1.03E-03
-7.41E+11	-1.04E-03	-7.26E+06	-2.23E-01	-7.41E+11	-1.04E-03
-7.38E+11	-1.05E-03	-7.23E+06	-2.25E-01	-7.38E+11	-1.05E-03
-7.35E+11	-1.06E-03	-7.20E+06	-2.27E-01	-7.35E+11	-1.06E-03
-7.33E+11	-1.07E-03	-7.18E+06	-2.29E-01	-7.33E+11	-1.07E-03
-7.32E+11	-1.07E-03	-7.17E+06	-2.30E-01	-7.30E+11	-1.08E-03
-7.30E+11	-1.08E-03	-7.15E+06	-2.31E-01	-7.27E+11	-1.09E-03
-7.27E+11	-1.09E-03	-7.12E+06	-2.33E-01	-7.25E+11	-1.10E-03
-7.24E+11	-1.10E-03	-7.10E+06	-2.36E-01	-7.22E+11	-1.11E-03
-7.21E+11	-1.11E-03	-7.07E+06	-2.38E-01	-7.20E+11	-1.12E-03
-7.19E+11	-1.12E-03	-7.04E+06	-2.40E-01	-7.18E+11	-1.13E-03
-7.16E+11	-1.13E-03	-7.02E+06	-2.42E-01	-7.18E+11	-1.13E-03
-7.13E+11	-1.14E-03	-6.99E+06	-2.44E-01	-7.15E+11	-1.14E-03
-7.11E+11	-1.15E-03	-6.97E+06	-2.46E-01	-7.12E+11	-1.15E-03
-7.09E+11	-1.16E-03	-6.95E+06	-2.48E-01	-7.10E+11	-1.16E-03
-7.07E+11	-1.17E-03	-6.93E+06	-2.50E-01	-7.07E+11	-1.17E-03
-7.06E+11	-1.17E-03	-6.91E+06	-2.51E-01	-7.04E+11	-1.18E-03
-7.03E+11	-1.18E-03	-6.89E+06	-2.53E-01	-7.02E+11	-1.19E-03
-7.00E+11	-1.19E-03	-6.86E+06	-2.55E-01	-7.00E+11	-1.20E-03
-6.98E+11	-1.20E-03	-6.84E+06	-2.57E-01	-6.98E+11	-1.21E-03

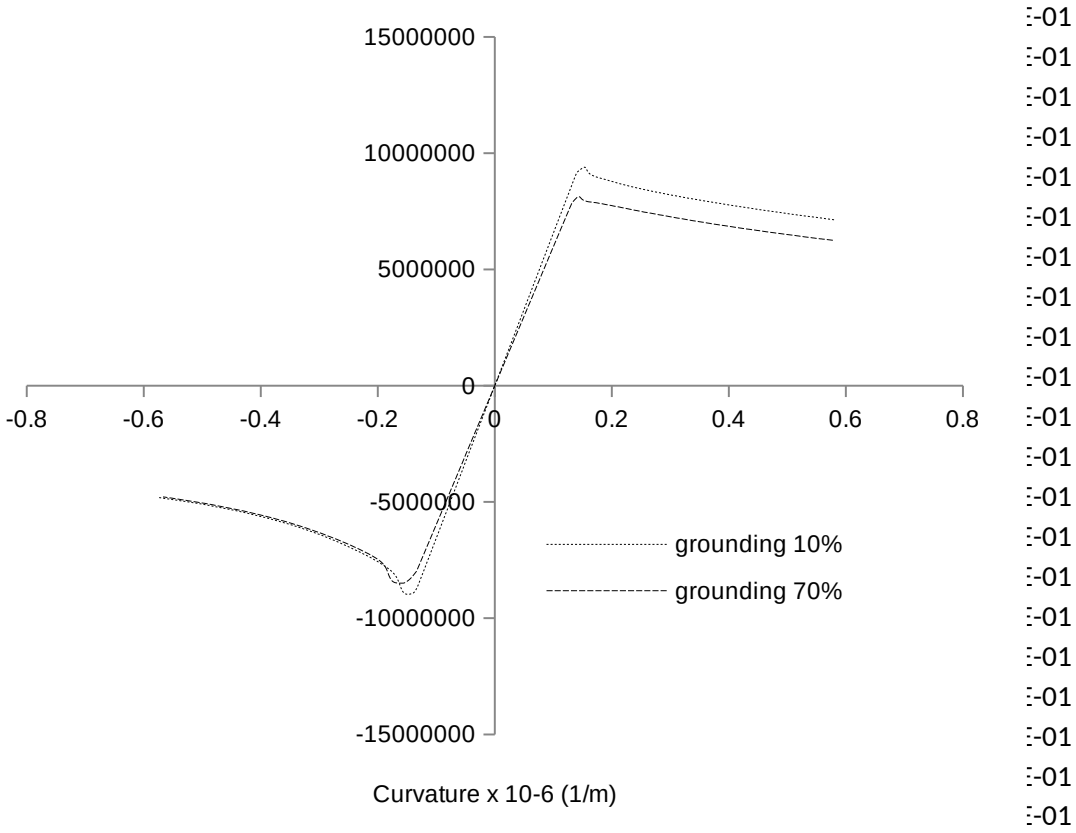
-6.95E+11	-1.21E-03	-6.81E+06	-2.59E-01	-6.96E+11	-1.22E-03
-6.93E+11	-1.22E-03	-6.79E+06	-2.61E-01	-6.93E+11	-1.22E-03
-6.90E+11	-1.23E-03	-6.76E+06	-2.64E-01	-6.91E+11	-1.23E-03
-6.88E+11	-1.24E-03	-6.74E+06	-2.66E-01	-6.88E+11	-1.24E-03
-6.86E+11	-1.25E-03	-6.72E+06	-2.68E-01	-6.86E+11	-1.25E-03
-6.85E+11	-1.25E-03	-6.71E+06	-2.68E-01	-6.83E+11	-1.26E-03
-6.83E+11	-1.26E-03	-6.69E+06	-2.70E-01	-6.81E+11	-1.27E-03
-6.80E+11	-1.27E-03	-6.67E+06	-2.73E-01	-6.79E+11	-1.28E-03
-6.79E+11	-1.28E-03	-6.66E+06	-2.74E-01	-6.77E+11	-1.29E-03
-6.77E+11	-1.29E-03	-6.63E+06	-2.76E-01	-6.74E+11	-1.30E-03
-6.74E+11	-1.30E-03	-6.61E+06	-2.78E-01	-6.74E+11	-1.31E-03
-6.72E+11	-1.31E-03	-6.58E+06	-2.80E-01	-6.72E+11	-1.32E-03
-6.70E+11	-1.32E-03	-6.56E+06	-2.82E-01	-6.69E+11	-1.33E-03
-6.67E+11	-1.33E-03	-6.54E+06	-2.84E-01	-6.67E+11	-1.34E-03
-6.65E+11	-1.34E-03	-6.52E+06	-2.87E-01	-6.65E+11	-1.35E-03
-6.63E+11	-1.35E-03	-6.50E+06	-2.89E-01	-6.63E+11	-1.36E-03
-6.61E+11	-1.36E-03	-6.48E+06	-2.91E-01	-6.60E+11	-1.37E-03
-6.61E+11	-1.36E-03	-6.47E+06	-2.91E-01	-6.58E+11	-1.38E-03
-6.58E+11	-1.37E-03	-6.45E+06	-2.93E-01	-6.56E+11	-1.39E-03
-6.56E+11	-1.38E-03	-6.43E+06	-2.96E-01	-6.54E+11	-1.40E-03
-6.54E+11	-1.39E-03	-6.41E+06	-2.98E-01	-6.52E+11	-1.41E-03
-6.52E+11	-1.40E-03	-6.39E+06	-3.00E-01	-6.50E+11	-1.42E-03
-6.50E+11	-1.41E-03	-6.37E+06	-3.02E-01	-6.49E+11	-1.42E-03
-6.48E+11	-1.42E-03	-6.35E+06	-3.03E-01	-6.47E+11	-1.43E-03
-6.46E+11	-1.43E-03	-6.33E+06	-3.05E-01	-6.45E+11	-1.44E-03
-6.44E+11	-1.44E-03	-6.31E+06	-3.07E-01	-6.43E+11	-1.45E-03
-6.42E+11	-1.45E-03	-6.29E+06	-3.10E-01	-6.41E+11	-1.46E-03
-6.40E+11	-1.46E-03	-6.27E+06	-3.12E-01	-6.39E+11	-1.47E-03
-6.38E+11	-1.47E-03	-6.26E+06	-3.14E-01	-6.37E+11	-1.48E-03
-6.36E+11	-1.48E-03	-6.24E+06	-3.16E-01	-6.37E+11	-1.48E-03
-6.35E+11	-1.49E-03	-6.22E+06	-3.18E-01	-6.35E+11	-1.49E-03
-6.33E+11	-1.50E-03	-6.20E+06	-3.20E-01	-6.33E+11	-1.50E-03
-6.31E+11	-1.51E-03	-6.18E+06	-3.22E-01	-6.31E+11	-1.51E-03
-6.29E+11	-1.52E-03	-6.16E+06	-3.24E-01	-6.29E+11	-1.52E-03
-6.27E+11	-1.53E-03	-6.15E+06	-3.27E-01	-6.27E+11	-1.53E-03
-6.25E+11	-1.54E-03	-6.13E+06	-3.29E-01	-6.25E+11	-1.54E-03
-6.23E+11	-1.55E-03	-6.11E+06	-3.31E-01	-6.24E+11	-1.55E-03
-6.22E+11	-1.56E-03	-6.09E+06	-3.33E-01	-6.22E+11	-1.56E-03
-6.20E+11	-1.57E-03	-6.07E+06	-3.35E-01	-6.20E+11	-1.57E-03
-6.18E+11	-1.58E-03	-6.06E+06	-3.37E-01	-6.18E+11	-1.58E-03
-6.16E+11	-1.59E-03	-6.04E+06	-3.39E-01	-6.17E+11	-1.59E-03
-6.15E+11	-1.60E-03	-6.02E+06	-3.42E-01	-6.15E+11	-1.60E-03
-6.14E+11	-1.60E-03	-6.02E+06	-3.42E-01	-6.13E+11	-1.61E-03
-6.12E+11	-1.61E-03	-6.00E+06	-3.45E-01	-6.11E+11	-1.62E-03
-6.11E+11	-1.62E-03	-5.98E+06	-3.47E-01	-6.10E+11	-1.63E-03

-6.09E+11	-1.63E-03	-5.97E+06	-3.49E-01	-6.08E+11	-1.64E-03
-6.07E+11	-1.64E-03	-5.95E+06	-3.51E-01	-6.07E+11	-1.65E-03
-6.06E+11	-1.65E-03	-5.93E+06	-3.53E-01	-6.05E+11	-1.66E-03
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-6.03E+11	-1.67E-03
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-6.03E+11	-1.68E-03
-6.02E+11	-1.67E-03	-5.90E+06	-3.58E-01	-6.01E+11	-1.69E-03
-6.01E+11	-1.68E-03	-5.88E+06	-3.60E-01	-6.00E+11	-1.70E-03
-5.99E+11	-1.69E-03	-5.87E+06	-3.62E-01	-5.98E+11	-1.71E-03
-5.97E+11	-1.70E-03	-5.85E+06	-3.64E-01	-5.97E+11	-1.72E-03
-5.96E+11	-1.71E-03	-5.84E+06	-3.66E-01	-5.95E+11	-1.73E-03
-5.94E+11	-1.72E-03	-5.82E+06	-3.68E-01	-5.94E+11	-1.74E-03
-5.92E+11	-1.73E-03	-5.80E+06	-3.70E-01	-5.93E+11	-1.74E-03
-5.91E+11	-1.74E-03	-5.79E+06	-3.73E-01	-5.92E+11	-1.75E-03
-5.89E+11	-1.75E-03	-5.78E+06	-3.75E-01	-5.90E+11	-1.76E-03
-5.88E+11	-1.76E-03	-5.76E+06	-3.77E-01	-5.89E+11	-1.77E-03
-5.86E+11	-1.77E-03	-5.75E+06	-3.79E-01	-5.87E+11	-1.78E-03
-5.85E+11	-1.78E-03	-5.73E+06	-3.81E-01	-5.86E+11	-1.79E-03
-5.84E+11	-1.79E-03	-5.72E+06	-3.83E-01	-5.84E+11	-1.80E-03
-5.83E+11	-1.80E-03	-5.71E+06	-3.85E-01	-5.83E+11	-1.81E-03
-5.81E+11	-1.81E-03	-5.70E+06	-3.87E-01	-5.81E+11	-1.82E-03
-5.80E+11	-1.82E-03	-5.68E+06	-3.89E-01	-5.80E+11	-1.83E-03
-5.78E+11	-1.83E-03	-5.67E+06	-3.91E-01	-5.78E+11	-1.84E-03
-5.77E+11	-1.84E-03	-5.65E+06	-3.93E-01	-5.77E+11	-1.85E-03
-5.76E+11	-1.85E-03	-5.64E+06	-3.96E-01	-5.76E+11	-1.86E-03
-5.74E+11	-1.86E-03	-5.63E+06	-3.98E-01	-5.74E+11	-1.87E-03
-5.73E+11	-1.87E-03	-5.62E+06	-3.99E-01	-5.73E+11	-1.88E-03
-5.72E+11	-1.88E-03	-5.60E+06	-4.01E-01	-5.72E+11	-1.88E-03
-5.70E+11	-1.89E-03	-5.59E+06	-4.04E-01	-5.71E+11	-1.89E-03
-5.69E+11	-1.90E-03	-5.57E+06	-4.06E-01	-5.69E+11	-1.90E-03
-5.67E+11	-1.91E-03	-5.56E+06	-4.08E-01	-5.68E+11	-1.91E-03
-5.66E+11	-1.92E-03	-5.55E+06	-4.10E-01	-5.67E+11	-1.92E-03
-5.65E+11	-1.93E-03	-5.53E+06	-4.12E-01	-5.65E+11	-1.93E-03
-5.63E+11	-1.94E-03	-5.52E+06	-4.14E-01	-5.64E+11	-1.94E-03
-5.62E+11	-1.95E-03	-5.51E+06	-4.16E-01	-5.63E+11	-1.95E-03
-5.61E+11	-1.96E-03	-5.49E+06	-4.19E-01	-5.62E+11	-1.96E-03
-5.59E+11	-1.97E-03	-5.48E+06	-4.21E-01	-5.60E+11	-1.97E-03
-5.58E+11	-1.98E-03	-5.47E+06	-4.23E-01	-5.59E+11	-1.98E-03
-5.57E+11	-1.99E-03	-5.46E+06	-4.25E-01	-5.58E+11	-1.99E-03
-5.56E+11	-2.00E-03	-5.45E+06	-4.27E-01	-5.56E+11	-2.00E-03
-5.55E+11	-2.01E-03	-5.43E+06	-4.29E-01	-5.55E+11	-2.01E-03
-5.53E+11	-2.02E-03	-5.42E+06	-4.31E-01	-5.54E+11	-2.02E-03
-5.52E+11	-2.03E-03	-5.41E+06	-4.34E-01	-5.53E+11	-2.03E-03
-5.51E+11	-2.04E-03	-5.40E+06	-4.36E-01	-5.51E+11	-2.04E-03
-5.50E+11	-2.05E-03	-5.39E+06	-4.38E-01	-5.50E+11	-2.05E-03
-5.49E+11	-2.05E-03	-5.38E+06	-4.39E-01	-5.49E+11	-2.06E-03

-5.48E+11	-2.06E-03	-5.37E+06	-4.41E-01	-5.48E+11	-2.07E-03
-5.47E+11	-2.07E-03	-5.36E+06	-4.43E-01	-5.47E+11	-2.08E-03
-5.46E+11	-2.08E-03	-5.35E+06	-4.45E-01	-5.46E+11	-2.09E-03
-5.45E+11	-2.09E-03	-5.34E+06	-4.47E-01	-5.45E+11	-2.10E-03
-5.44E+11	-2.10E-03	-5.33E+06	-4.49E-01	-5.43E+11	-2.11E-03
-5.42E+11	-2.11E-03	-5.31E+06	-4.52E-01	-5.42E+11	-2.12E-03
-5.41E+11	-2.12E-03	-5.30E+06	-4.54E-01	-5.41E+11	-2.13E-03
-5.40E+11	-2.13E-03	-5.30E+06	-4.55E-01	-5.40E+11	-2.14E-03
-5.39E+11	-2.14E-03	-5.28E+06	-4.58E-01	-5.39E+11	-2.15E-03
-5.38E+11	-2.15E-03	-5.27E+06	-4.60E-01	-5.38E+11	-2.16E-03
-5.37E+11	-2.16E-03	-5.26E+06	-4.62E-01	-5.37E+11	-2.17E-03
-5.36E+11	-2.17E-03	-5.25E+06	-4.64E-01	-5.36E+11	-2.18E-03
-5.35E+11	-2.18E-03	-5.24E+06	-4.66E-01	-5.35E+11	-2.19E-03
-5.34E+11	-2.19E-03	-5.23E+06	-4.68E-01	-5.34E+11	-2.20E-03
-5.33E+11	-2.20E-03	-5.22E+06	-4.70E-01	-5.33E+11	-2.21E-03
-5.31E+11	-2.21E-03	-5.21E+06	-4.73E-01	-5.32E+11	-2.22E-03
-5.30E+11	-2.22E-03	-5.20E+06	-4.75E-01	-5.31E+11	-2.23E-03
-5.29E+11	-2.23E-03	-5.19E+06	-4.77E-01	-5.30E+11	-2.24E-03
-5.28E+11	-2.24E-03	-5.18E+06	-4.79E-01	-5.29E+11	-2.25E-03
-5.27E+11	-2.25E-03	-5.16E+06	-4.81E-01	-5.28E+11	-2.26E-03
-5.26E+11	-2.26E-03	-5.15E+06	-4.83E-01	-5.27E+11	-2.27E-03
-5.25E+11	-2.27E-03	-5.15E+06	-4.85E-01	-5.26E+11	-2.28E-03
-5.24E+11	-2.28E-03	-5.14E+06	-4.88E-01	-5.25E+11	-2.29E-03
-5.23E+11	-2.29E-03	-5.13E+06	-4.90E-01	-5.24E+11	-2.30E-03
-5.22E+11	-2.30E-03	-5.12E+06	-4.92E-01	-5.23E+11	-2.31E-03
-5.21E+11	-2.31E-03	-5.11E+06	-4.94E-01	-5.22E+11	-2.32E-03
-5.20E+11	-2.32E-03	-5.10E+06	-4.96E-01	-5.21E+11	-2.33E-03
-5.19E+11	-2.33E-03	-5.09E+06	-4.98E-01	-5.20E+11	-2.34E-03
-5.19E+11	-2.34E-03	-5.08E+06	-5.00E-01	-5.19E+11	-2.35E-03
-5.18E+11	-2.35E-03	-5.07E+06	-5.03E-01	-5.18E+11	-2.36E-03
-5.17E+11	-2.36E-03	-5.06E+06	-5.05E-01	-5.17E+11	-2.37E-03
-5.16E+11	-2.37E-03	-5.06E+06	-5.07E-01	-5.16E+11	-2.38E-03
-5.15E+11	-2.38E-03	-5.05E+06	-5.09E-01	-5.15E+11	-2.39E-03
-5.14E+11	-2.39E-03	-5.04E+06	-5.11E-01	-5.14E+11	-2.40E-03
-5.14E+11	-2.40E-03	-5.03E+06	-5.13E-01	-5.13E+11	-2.41E-03
-5.13E+11	-2.41E-03	-5.02E+06	-5.15E-01	-5.12E+11	-2.42E-03
-5.12E+11	-2.42E-03	-5.01E+06	-5.17E-01	-5.12E+11	-2.43E-03
-5.11E+11	-2.43E-03	-5.00E+06	-5.19E-01	-5.11E+11	-2.44E-03
-5.10E+11	-2.44E-03	-5.00E+06	-5.21E-01	-5.10E+11	-2.45E-03
-5.09E+11	-2.45E-03	-4.99E+06	-5.24E-01	-5.09E+11	-2.46E-03
-5.08E+11	-2.46E-03	-4.98E+06	-5.26E-01	-5.08E+11	-2.47E-03
-5.07E+11	-2.47E-03	-4.97E+06	-5.28E-01	-5.07E+11	-2.48E-03
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-5.07E+11	-2.49E-03
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-5.06E+11	-2.50E-03
-5.05E+11	-2.49E-03	-4.95E+06	-5.32E-01	-5.05E+11	-2.51E-03

-5.05E+11	-2.50E-03	-4.94E+06	-5.34E-01	-5.04E+11	-2.52E-03
-5.04E+11	-2.51E-03	-4.94E+06	-5.36E-01	-5.03E+11	-2.53E-03
-5.03E+11	-2.51E-03	-4.93E+06	-5.38E-01	-5.03E+11	-2.54E-03
-5.02E+11	-2.52E-03	-4.92E+06	-5.40E-01	-5.02E+11	-2.55E-03
-5.01E+11	-2.53E-03	-4.91E+06	-5.42E-01	-5.01E+11	-2.56E-03
-5.00E+11	-2.54E-03	-4.90E+06	-5.45E-01	-5.00E+11	-2.57E-03
-4.99E+11	-2.55E-03	-4.89E+06	-5.47E-01	-4.99E+11	-2.58E-03
-4.98E+11	-2.56E-03	-4.88E+06	-5.49E-01	-4.99E+11	-2.59E-03
-4.98E+11	-2.57E-03	-4.88E+06	-5.51E-01	-4.98E+11	-2.60E-03
-4.97E+11	-2.58E-03	-4.87E+06	-5.53E-01	-4.98E+11	-2.60E-03
-4.96E+11	-2.59E-03	-4.86E+06	-5.55E-01	-4.97E+11	-2.61E-03
-4.95E+11	-2.60E-03	-4.85E+06	-5.57E-01	-4.96E+11	-2.62E-03
-4.94E+11	-2.61E-03	-4.84E+06	-5.60E-01	-4.95E+11	-2.63E-03
-4.93E+11	-2.62E-03	-4.84E+06	-5.62E-01	-4.95E+11	-2.64E-03
-4.93E+11	-2.63E-03	-4.83E+06	-5.64E-01	-4.94E+11	-2.65E-03
-4.92E+11	-2.64E-03	-4.82E+06	-5.66E-01	-4.93E+11	-2.66E-03
-4.91E+11	-2.65E-03	-4.81E+06	-5.68E-01	-4.92E+11	-2.67E-03
-4.90E+11	-2.66E-03	-4.80E+06	-5.70E-01	-4.91E+11	-2.68E-03
-4.89E+11	-2.67E-03	-4.80E+06	-5.72E-01	-4.90E+11	-2.69E-03

kandas			70% kandas			
9.80E-06	1.00E-06		4670	9.80E-06	1.00E-06	
Momen	**Curvature**		**Momen**	**Rotasi**	**Momen**	**Curvature**
7.14E+06	5.80E-01		6.38E+11	2.70E-03	6.26E+06	5.78E-01
7.29E+06	5.34E-01		6.53E+11	2.48E-03	6.40E+06	5.31E-01
7.30E+06	5.31E-01		6.54E+11	2.47E-03	6.41E+06	5.28E-01
7.30E+06	5.29E-01		6.54E+11	2.46E-03	6.41E+06	5.26E-01
7.31E+06	5.27E-01		6.55E+11	2.45E-03	6.42E+06	5.24E-01
7.32E+06	5.25E-01		6.56E+11	2.44E-03	6.43E+06	5.22E-01
7.32E+06	5.23E-01		6.57E+11	2.43E-03	6.44E+06	5.20E-01
7.33E+06	5.21E-01		6.58E+11	2.42E-03	6.44E+06	5.18E-01
7.33E+06	5.20E-01		6.58E+11	2.41E-03	6.45E+06	5.16E-01
7.34E+06	5.18E-01		6.59E+11	2.40E-03	6.46E+06	5.13E-01
7.35E+06	5.15E-01		6.60E+11	2.39E-03	6.46E+06	5.12E-01
7.36E+06	5.13E-01		6.60E+11	2.38E-03	6.47E+06	5.09E-01
7.36E+06	5.11E-01		6.61E+11	2.37E-03	6.48E+06	5.07E-01
7.37E+06	5.09E-01		6.62E+11	2.36E-03	6.48E+06	5.05E-01
7.38E+06	5.07E-01		6.62E+11	2.35E-03	6.49E+06	5.03E-01
7.39E+06	5.05E-01		6.63E+11	2.34E-03	6.50E+06	5.01E-01
7.39E+06	5.03E-01		6.64E+11	2.33E-03	6.51E+06	4.99E-01
7.40E+06	5.00E-01		6.65E+11	2.32E-03	6.51E+06	4.97E-01
7.41E+06	4.98E-01		6.65E+11	2.31E-03	6.52E+06	4.94E-01



7.42E+06	4.96E-01	6.66E+11	2.30E-03	6.53E+06	4.92E-01
7.42E+06	4.94E-01	6.67E+11	2.29E-03	6.53E+06	4.90E-01
7.43E+06	4.92E-01	6.67E+11	2.29E-03	6.54E+06	4.89E-01
7.44E+06	4.90E-01	6.68E+11	2.28E-03	6.54E+06	4.87E-01
7.45E+06	4.88E-01	6.68E+11	2.27E-03	6.55E+06	4.85E-01
7.46E+06	4.86E-01	6.69E+11	2.26E-03	6.56E+06	4.83E-01
7.46E+06	4.84E-01	6.70E+11	2.25E-03	6.56E+06	4.81E-01
7.47E+06	4.81E-01	6.71E+11	2.24E-03	6.57E+06	4.79E-01
7.48E+06	4.79E-01	6.71E+11	2.23E-03	6.58E+06	4.76E-01
7.49E+06	4.77E-01	6.72E+11	2.22E-03	6.59E+06	4.74E-01
7.49E+06	4.75E-01	6.73E+11	2.21E-03	6.59E+06	4.72E-01
7.50E+06	4.73E-01	6.74E+11	2.20E-03	6.60E+06	4.70E-01
7.51E+06	4.71E-01	6.74E+11	2.19E-03	6.61E+06	4.68E-01
7.51E+06	4.69E-01	6.75E+11	2.18E-03	6.62E+06	4.66E-01
7.52E+06	4.66E-01	6.76E+11	2.17E-03	6.62E+06	4.64E-01
7.53E+06	4.64E-01	6.77E+11	2.16E-03	6.63E+06	4.61E-01
7.54E+06	4.62E-01	6.77E+11	2.15E-03	6.64E+06	4.59E-01
7.54E+06	4.60E-01	6.78E+11	2.14E-03	6.65E+06	4.57E-01
7.55E+06	4.58E-01	6.79E+11	2.13E-03	6.65E+06	4.55E-01
7.56E+06	4.56E-01	6.80E+11	2.12E-03	6.66E+06	4.53E-01
7.56E+06	4.55E-01	6.81E+11	2.11E-03	6.67E+06	4.51E-01
7.57E+06	4.53E-01	6.81E+11	2.10E-03	6.68E+06	4.49E-01
7.58E+06	4.51E-01	6.82E+11	2.09E-03	6.68E+06	4.47E-01
7.59E+06	4.49E-01	6.83E+11	2.08E-03	6.69E+06	4.45E-01
7.59E+06	4.47E-01	6.84E+11	2.07E-03	6.70E+06	4.43E-01
7.60E+06	4.45E-01	6.84E+11	2.06E-03	6.71E+06	4.40E-01
7.61E+06	4.43E-01	6.85E+11	2.05E-03	6.71E+06	4.38E-01
7.62E+06	4.40E-01	6.86E+11	2.04E-03	6.72E+06	4.36E-01
7.63E+06	4.38E-01	6.87E+11	2.03E-03	6.73E+06	4.34E-01
7.64E+06	4.36E-01	6.87E+11	2.02E-03	6.74E+06	4.32E-01
7.64E+06	4.34E-01	6.88E+11	2.01E-03	6.74E+06	4.30E-01
7.65E+06	4.32E-01	6.89E+11	2.00E-03	6.75E+06	4.28E-01
7.66E+06	4.30E-01	6.90E+11	1.99E-03	6.76E+06	4.25E-01
7.67E+06	4.28E-01	6.90E+11	1.98E-03	6.76E+06	4.23E-01
7.67E+06	4.26E-01	6.91E+11	1.97E-03	6.77E+06	4.21E-01
7.68E+06	4.24E-01	6.92E+11	1.96E-03	6.78E+06	4.19E-01
7.69E+06	4.22E-01	6.92E+11	1.95E-03	6.78E+06	4.18E-01
7.70E+06	4.20E-01	6.93E+11	1.94E-03	6.79E+06	4.16E-01
7.71E+06	4.18E-01	6.94E+11	1.93E-03	6.80E+06	4.14E-01
7.71E+06	4.15E-01	6.95E+11	1.92E-03	6.81E+06	4.12E-01
7.72E+06	4.13E-01	6.96E+11	1.91E-03	6.82E+06	4.10E-01
7.73E+06	4.11E-01	6.97E+11	1.90E-03	6.83E+06	4.07E-01
7.74E+06	4.09E-01	6.97E+11	1.89E-03	6.83E+06	4.05E-01
7.75E+06	4.07E-01	6.98E+11	1.88E-03	6.84E+06	4.03E-01
7.76E+06	4.05E-01	6.99E+11	1.87E-03	6.85E+06	4.01E-01

7.76E+06	4.03E-01	7.00E+11	1.86E-03	6.86E+06	3.99E-01
7.77E+06	4.00E-01	7.01E+11	1.85E-03	6.87E+06	3.97E-01
7.78E+06	3.98E-01	7.02E+11	1.84E-03	6.88E+06	3.95E-01
7.79E+06	3.96E-01	7.02E+11	1.83E-03	6.88E+06	3.93E-01
7.80E+06	3.94E-01	7.03E+11	1.82E-03	6.89E+06	3.90E-01
7.81E+06	3.92E-01	7.04E+11	1.81E-03	6.90E+06	3.88E-01
7.82E+06	3.90E-01	7.05E+11	1.80E-03	6.91E+06	3.86E-01
7.83E+06	3.88E-01	7.06E+11	1.79E-03	6.91E+06	3.84E-01
7.84E+06	3.85E-01	7.06E+11	1.78E-03	6.92E+06	3.82E-01
7.84E+06	3.85E-01	7.07E+11	1.77E-03	6.93E+06	3.80E-01
7.85E+06	3.83E-01	7.08E+11	1.76E-03	6.94E+06	3.78E-01
7.85E+06	3.81E-01	7.09E+11	1.75E-03	6.95E+06	3.75E-01
7.86E+06	3.79E-01	7.10E+11	1.74E-03	6.96E+06	3.73E-01
7.87E+06	3.76E-01	7.11E+11	1.73E-03	6.96E+06	3.71E-01
7.88E+06	3.74E-01	7.12E+11	1.72E-03	6.97E+06	3.69E-01
7.89E+06	3.72E-01	7.12E+11	1.72E-03	6.98E+06	3.69E-01
7.90E+06	3.70E-01	7.13E+11	1.71E-03	6.98E+06	3.66E-01
7.91E+06	3.68E-01	7.14E+11	1.70E-03	6.99E+06	3.64E-01
7.92E+06	3.66E-01	7.15E+11	1.69E-03	7.00E+06	3.62E-01
7.93E+06	3.64E-01	7.16E+11	1.68E-03	7.01E+06	3.60E-01
7.93E+06	3.61E-01	7.17E+11	1.67E-03	7.02E+06	3.58E-01
7.94E+06	3.61E-01	7.17E+11	1.66E-03	7.03E+06	3.56E-01
7.94E+06	3.59E-01	7.18E+11	1.65E-03	7.04E+06	3.54E-01
7.95E+06	3.57E-01	7.19E+11	1.64E-03	7.04E+06	3.52E-01
7.96E+06	3.54E-01	7.20E+11	1.63E-03	7.05E+06	3.50E-01
7.97E+06	3.52E-01	7.20E+11	1.62E-03	7.06E+06	3.48E-01
7.98E+06	3.50E-01	7.21E+11	1.61E-03	7.07E+06	3.46E-01
7.99E+06	3.48E-01	7.22E+11	1.60E-03	7.08E+06	3.43E-01
8.00E+06	3.46E-01	7.23E+11	1.59E-03	7.09E+06	3.41E-01
8.01E+06	3.44E-01	7.24E+11	1.58E-03	7.09E+06	3.39E-01
8.02E+06	3.42E-01	7.25E+11	1.57E-03	7.10E+06	3.37E-01
8.03E+06	3.40E-01	7.26E+11	1.56E-03	7.11E+06	3.35E-01
8.04E+06	3.38E-01	7.27E+11	1.55E-03	7.12E+06	3.33E-01
8.04E+06	3.36E-01	7.28E+11	1.54E-03	7.13E+06	3.31E-01
8.05E+06	3.33E-01	7.29E+11	1.53E-03	7.14E+06	3.28E-01
8.06E+06	3.31E-01	7.29E+11	1.53E-03	7.14E+06	3.28E-01
8.07E+06	3.29E-01	7.30E+11	1.52E-03	7.15E+06	3.26E-01
8.08E+06	3.27E-01	7.31E+11	1.51E-03	7.16E+06	3.24E-01
8.09E+06	3.25E-01	7.32E+11	1.50E-03	7.17E+06	3.22E-01
8.10E+06	3.23E-01	7.33E+11	1.49E-03	7.18E+06	3.20E-01
8.11E+06	3.21E-01	7.33E+11	1.49E-03	7.18E+06	3.19E-01
8.12E+06	3.19E-01	7.34E+11	1.48E-03	7.19E+06	3.17E-01
8.13E+06	3.16E-01	7.35E+11	1.47E-03	7.20E+06	3.15E-01
8.14E+06	3.14E-01	7.36E+11	1.46E-03	7.21E+06	3.13E-01
8.15E+06	3.12E-01	7.37E+11	1.45E-03	7.22E+06	3.11E-01

8.16E+06	3.10E-01	7.37E+11	1.44E-03	7.23E+06	3.09E-01
8.16E+06	3.09E-01	7.38E+11	1.43E-03	7.24E+06	3.06E-01
8.17E+06	3.07E-01	7.39E+11	1.42E-03	7.25E+06	3.04E-01
8.18E+06	3.05E-01	7.41E+11	1.41E-03	7.26E+06	3.02E-01
8.19E+06	3.03E-01	7.42E+11	1.40E-03	7.27E+06	3.00E-01
8.20E+06	3.01E-01	7.43E+11	1.39E-03	7.28E+06	2.98E-01
8.21E+06	2.99E-01	7.43E+11	1.38E-03	7.28E+06	2.96E-01
8.22E+06	2.97E-01	7.44E+11	1.37E-03	7.30E+06	2.94E-01
8.23E+06	2.94E-01	7.45E+11	1.36E-03	7.30E+06	2.92E-01
8.24E+06	2.92E-01	7.46E+11	1.35E-03	7.31E+06	2.90E-01
8.26E+06	2.90E-01	7.47E+11	1.35E-03	7.32E+06	2.88E-01
8.26E+06	2.90E-01	7.48E+11	1.34E-03	7.33E+06	2.86E-01
8.27E+06	2.88E-01	7.49E+11	1.33E-03	7.34E+06	2.85E-01
8.28E+06	2.85E-01	7.49E+11	1.32E-03	7.34E+06	2.82E-01
8.29E+06	2.83E-01	7.50E+11	1.31E-03	7.35E+06	2.80E-01
8.30E+06	2.81E-01	7.51E+11	1.30E-03	7.36E+06	2.78E-01
8.31E+06	2.80E-01	7.52E+11	1.29E-03	7.37E+06	2.76E-01
8.32E+06	2.78E-01	7.54E+11	1.28E-03	7.38E+06	2.74E-01
8.33E+06	2.76E-01	7.55E+11	1.27E-03	7.39E+06	2.72E-01
8.34E+06	2.73E-01	7.56E+11	1.26E-03	7.40E+06	2.70E-01
8.35E+06	2.71E-01	7.56E+11	1.26E-03	7.41E+06	2.69E-01
8.36E+06	2.69E-01	7.57E+11	1.25E-03	7.42E+06	2.67E-01
8.37E+06	2.67E-01	7.58E+11	1.24E-03	7.43E+06	2.65E-01
8.38E+06	2.65E-01	7.59E+11	1.23E-03	7.44E+06	2.63E-01
8.39E+06	2.63E-01	7.60E+11	1.22E-03	7.44E+06	2.61E-01
8.41E+06	2.61E-01	7.61E+11	1.21E-03	7.45E+06	2.59E-01
8.42E+06	2.59E-01	7.61E+11	1.20E-03	7.46E+06	2.57E-01
8.43E+06	2.57E-01	7.62E+11	1.19E-03	7.47E+06	2.54E-01
8.43E+06	2.57E-01	7.64E+11	1.18E-03	7.48E+06	2.52E-01
8.44E+06	2.55E-01	7.65E+11	1.17E-03	7.49E+06	2.50E-01
8.45E+06	2.52E-01	7.66E+11	1.16E-03	7.50E+06	2.48E-01
8.46E+06	2.50E-01	7.67E+11	1.15E-03	7.52E+06	2.46E-01
8.48E+06	2.48E-01	7.68E+11	1.14E-03	7.53E+06	2.44E-01
8.49E+06	2.46E-01	7.69E+11	1.13E-03	7.54E+06	2.42E-01
8.50E+06	2.44E-01	7.70E+11	1.12E-03	7.54E+06	2.40E-01
8.51E+06	2.42E-01	7.71E+11	1.11E-03	7.55E+06	2.38E-01
8.52E+06	2.40E-01	7.72E+11	1.10E-03	7.56E+06	2.36E-01
8.54E+06	2.38E-01	7.73E+11	1.09E-03	7.57E+06	2.34E-01
8.55E+06	2.36E-01	7.74E+11	1.08E-03	7.58E+06	2.32E-01
8.56E+06	2.34E-01	7.75E+11	1.07E-03	7.59E+06	2.30E-01
8.57E+06	2.32E-01	7.76E+11	1.06E-03	7.61E+06	2.28E-01
8.58E+06	2.30E-01	7.77E+11	1.05E-03	7.62E+06	2.26E-01
8.60E+06	2.28E-01	7.78E+11	1.04E-03	7.63E+06	2.24E-01
8.61E+06	2.26E-01	7.79E+11	1.04E-03	7.63E+06	2.23E-01
8.62E+06	2.24E-01	7.80E+11	1.03E-03	7.64E+06	2.21E-01

8.64E+06	2.22E-01	7.81E+11	1.02E-03	7.65E+06	2.19E-01
8.65E+06	2.19E-01	7.82E+11	1.01E-03	7.66E+06	2.16E-01
8.66E+06	2.17E-01	7.83E+11	1.00E-03	7.67E+06	2.14E-01
8.67E+06	2.17E-01	7.83E+11	1.00E-03	7.68E+06	2.14E-01
8.68E+06	2.15E-01	7.84E+11	9.90E-04	7.69E+06	2.12E-01
8.70E+06	2.12E-01	7.85E+11	9.80E-04	7.70E+06	2.10E-01
8.71E+06	2.10E-01	7.86E+11	9.70E-04	7.71E+06	2.08E-01
8.73E+06	2.08E-01	7.87E+11	9.60E-04	7.71E+06	2.06E-01
8.74E+06	2.06E-01	7.88E+11	9.50E-04	7.72E+06	2.04E-01
8.76E+06	2.04E-01	7.89E+11	9.40E-04	7.74E+06	2.01E-01
8.78E+06	2.02E-01	7.91E+11	9.30E-04	7.75E+06	1.99E-01
8.78E+06	2.01E-01	7.91E+11	9.26E-04	7.75E+06	1.98E-01
8.79E+06	1.99E-01	7.92E+11	9.16E-04	7.76E+06	1.96E-01
8.80E+06	1.97E-01	7.93E+11	9.06E-04	7.77E+06	1.94E-01
8.82E+06	1.95E-01	7.94E+11	8.99E-04	7.78E+06	1.93E-01
8.84E+06	1.93E-01	7.95E+11	8.89E-04	7.79E+06	1.90E-01
8.84E+06	1.92E-01	7.96E+11	8.79E-04	7.80E+06	1.88E-01
8.86E+06	1.90E-01	7.97E+11	8.69E-04	7.81E+06	1.86E-01
8.88E+06	1.87E-01	7.97E+11	8.68E-04	7.81E+06	1.86E-01
8.88E+06	1.87E-01	7.98E+11	8.58E-04	7.82E+06	1.84E-01
8.90E+06	1.84E-01	7.99E+11	8.48E-04	7.83E+06	1.81E-01
8.91E+06	1.82E-01	8.00E+11	8.45E-04	7.84E+06	1.81E-01
8.92E+06	1.81E-01	8.00E+11	8.35E-04	7.84E+06	1.79E-01
8.93E+06	1.79E-01	8.01E+11	8.25E-04	7.85E+06	1.77E-01
8.95E+06	1.77E-01	8.02E+11	8.15E-04	7.86E+06	1.75E-01
8.97E+06	1.75E-01	8.03E+11	8.09E-04	7.87E+06	1.73E-01
8.97E+06	1.75E-01	8.04E+11	7.99E-04	7.88E+06	1.71E-01
8.98E+06	1.73E-01	8.04E+11	7.96E-04	7.88E+06	1.70E-01
9.01E+06	1.70E-01	8.05E+11	7.86E-04	7.88E+06	1.68E-01
9.01E+06	1.70E-01	8.06E+11	7.76E-04	7.89E+06	1.66E-01
9.03E+06	1.68E-01	8.06E+11	7.74E-04	7.89E+06	1.66E-01
9.05E+06	1.67E-01	8.06E+11	7.64E-04	7.90E+06	1.64E-01
9.07E+06	1.65E-01	8.07E+11	7.54E-04	7.90E+06	1.61E-01
9.10E+06	1.63E-01	8.07E+11	7.45E-04	7.91E+06	1.60E-01
9.14E+06	1.61E-01	8.09E+11	7.35E-04	7.93E+06	1.57E-01
9.18E+06	1.60E-01	8.10E+11	7.25E-04	7.94E+06	1.55E-01
9.21E+06	1.59E-01	8.10E+11	7.24E-04	7.94E+06	1.55E-01
9.32E+06	1.57E-01	8.12E+11	7.14E-04	7.96E+06	1.53E-01
9.37E+06	1.55E-01	8.14E+11	7.07E-04	7.98E+06	1.51E-01
9.39E+06	1.54E-01	8.18E+11	6.97E-04	8.02E+06	1.49E-01
9.40E+06	1.54E-01	8.20E+11	6.93E-04	8.03E+06	1.48E-01
9.38E+06	1.52E-01	8.23E+11	6.88E-04	8.06E+06	1.47E-01
9.36E+06	1.50E-01	8.28E+11	6.79E-04	8.12E+06	1.45E-01
9.32E+06	1.48E-01	8.29E+11	6.78E-04	8.12E+06	1.45E-01
9.32E+06	1.47E-01	8.30E+11	6.68E-04	8.13E+06	1.43E-01

9.28E+06	1.45E-01	8.30E+11	6.66E-04	8.13E+06	1.43E-01
9.24E+06	1.43E-01	8.26E+11	6.56E-04	8.10E+06	1.41E-01
9.21E+06	1.42E-01	8.26E+11	6.55E-04	8.09E+06	1.40E-01
9.17E+06	1.41E-01	8.20E+11	6.45E-04	8.04E+06	1.38E-01
9.12E+06	1.39E-01	8.15E+11	6.36E-04	7.98E+06	1.36E-01
9.02E+06	1.38E-01	8.10E+11	6.28E-04	7.94E+06	1.34E-01
8.98E+06	1.37E-01	8.07E+11	6.22E-04	7.90E+06	1.33E-01
8.84E+06	1.35E-01	8.02E+11	6.16E-04	7.86E+06	1.32E-01
8.70E+06	1.33E-01	8.01E+11	6.15E-04	7.84E+06	1.32E-01
8.56E+06	1.31E-01	7.88E+11	6.05E-04	7.72E+06	1.29E-01
8.42E+06	1.28E-01	7.82E+11	6.00E-04	7.66E+06	1.28E-01
8.28E+06	1.26E-01	7.69E+11	5.90E-04	7.54E+06	1.26E-01
8.14E+06	1.24E-01	7.56E+11	5.80E-04	7.41E+06	1.24E-01
8.00E+06	1.22E-01	7.43E+11	5.70E-04	7.28E+06	1.22E-01
7.86E+06	1.20E-01	7.30E+11	5.60E-04	7.16E+06	1.20E-01
7.72E+06	1.18E-01	7.17E+11	5.50E-04	7.03E+06	1.18E-01
7.58E+06	1.16E-01	7.04E+11	5.40E-04	6.90E+06	1.16E-01
7.44E+06	1.13E-01	6.91E+11	5.30E-04	6.77E+06	1.13E-01
7.30E+06	1.11E-01	6.78E+11	5.20E-04	6.65E+06	1.11E-01
7.16E+06	1.09E-01	6.65E+11	5.10E-04	6.52E+06	1.09E-01
7.02E+06	1.07E-01	6.52E+11	5.00E-04	6.39E+06	1.07E-01
6.88E+06	1.05E-01	6.39E+11	4.90E-04	6.26E+06	1.05E-01
6.74E+06	1.03E-01	6.26E+11	4.80E-04	6.13E+06	1.03E-01
6.60E+06	1.01E-01	6.13E+11	4.70E-04	6.01E+06	1.01E-01
6.46E+06	9.85E-02	6.00E+11	4.60E-04	5.88E+06	9.85E-02
6.32E+06	9.64E-02	5.87E+11	4.50E-04	5.75E+06	9.64E-02
6.18E+06	9.42E-02	5.74E+11	4.40E-04	5.62E+06	9.42E-02
6.04E+06	9.21E-02	5.61E+11	4.30E-04	5.50E+06	9.21E-02
5.89E+06	8.99E-02	5.48E+11	4.20E-04	5.37E+06	8.99E-02
5.75E+06	8.78E-02	5.35E+11	4.10E-04	5.24E+06	8.78E-02
5.61E+06	8.57E-02	5.22E+11	4.00E-04	5.11E+06	8.57E-02
5.47E+06	8.35E-02	5.09E+11	3.90E-04	4.98E+06	8.35E-02
5.33E+06	8.14E-02	4.96E+11	3.80E-04	4.86E+06	8.14E-02
5.19E+06	7.92E-02	4.83E+11	3.70E-04	4.73E+06	7.92E-02
5.05E+06	7.71E-02	4.70E+11	3.60E-04	4.60E+06	7.71E-02
4.91E+06	7.49E-02	4.56E+11	3.50E-04	4.47E+06	7.49E-02
4.77E+06	7.28E-02	4.43E+11	3.40E-04	4.35E+06	7.28E-02
4.63E+06	7.07E-02	4.30E+11	3.30E-04	4.22E+06	7.07E-02
4.49E+06	6.85E-02	4.17E+11	3.20E-04	4.09E+06	6.85E-02
4.35E+06	6.64E-02	4.04E+11	3.10E-04	3.96E+06	6.64E-02
4.21E+06	6.42E-02	3.91E+11	3.00E-04	3.83E+06	6.42E-02
4.07E+06	6.21E-02	3.78E+11	2.90E-04	3.71E+06	6.21E-02
3.93E+06	6.00E-02	3.65E+11	2.80E-04	3.58E+06	6.00E-02
3.79E+06	5.78E-02	3.52E+11	2.70E-04	3.45E+06	5.78E-02
3.65E+06	5.57E-02	3.39E+11	2.60E-04	3.32E+06	5.57E-02

3.51E+06	5.35E-02	3.26E+11	2.50E-04	3.19E+06	5.35E-02
3.37E+06	5.14E-02	3.13E+11	2.40E-04	3.07E+06	5.14E-02
3.23E+06	4.93E-02	3.00E+11	2.30E-04	2.94E+06	4.93E-02
3.09E+06	4.71E-02	2.87E+11	2.20E-04	2.81E+06	4.71E-02
2.95E+06	4.50E-02	2.74E+11	2.10E-04	2.68E+06	4.50E-02
2.81E+06	4.28E-02	2.61E+11	2.00E-04	2.56E+06	4.28E-02
2.67E+06	4.07E-02	2.48E+11	1.90E-04	2.43E+06	4.07E-02
2.53E+06	3.85E-02	2.35E+11	1.80E-04	2.30E+06	3.85E-02
2.39E+06	3.64E-02	2.22E+11	1.70E-04	2.17E+06	3.64E-02
2.25E+06	3.43E-02	2.09E+11	1.60E-04	2.05E+06	3.43E-02
2.11E+06	3.21E-02	1.96E+11	1.50E-04	1.92E+06	3.21E-02
1.96E+06	3.00E-02	1.83E+11	1.40E-04	1.79E+06	3.00E-02
1.82E+06	2.78E-02	1.70E+11	1.30E-04	1.66E+06	2.78E-02
1.68E+06	2.57E-02	1.57E+11	1.20E-04	1.53E+06	2.57E-02
1.54E+06	2.36E-02	1.44E+11	1.10E-04	1.41E+06	2.36E-02
1.40E+06	2.14E-02	1.30E+11	1.00E-04	1.28E+06	2.14E-02
1.26E+06	1.93E-02	1.17E+11	9.00E-05	1.15E+06	1.93E-02
1.12E+06	1.71E-02	1.04E+11	8.00E-05	1.02E+06	1.71E-02
9.83E+05	1.50E-02	9.13E+10	7.00E-05	8.95E+05	1.50E-02
8.42E+05	1.28E-02	7.83E+10	6.00E-05	7.67E+05	1.28E-02
7.02E+05	1.07E-02	6.52E+10	5.00E-05	6.39E+05	1.07E-02
5.61E+05	8.57E-03	5.22E+10	4.00E-05	5.11E+05	8.57E-03
4.21E+05	6.42E-03	3.91E+10	3.00E-05	3.83E+05	6.42E-03
2.81E+05	4.28E-03	2.61E+10	2.00E-05	2.56E+05	4.28E-03
1.40E+05	2.14E-03	1.30E+10	1.00E-05	1.28E+05	2.14E-03
1.26E+05	1.93E-03	1.17E+10	9.00E-06	1.15E+05	1.93E-03
1.12E+05	1.71E-03	1.04E+10	8.00E-06	1.02E+05	1.71E-03
9.83E+04	1.50E-03	9.13E+09	7.00E-06	8.95E+04	1.50E-03
8.42E+04	1.28E-03	7.83E+09	6.00E-06	7.67E+04	1.28E-03
7.02E+04	1.07E-03	6.52E+09	5.00E-06	6.39E+04	1.07E-03
5.62E+04	8.57E-04	5.22E+09	4.00E-06	5.11E+04	8.57E-04
4.21E+04	6.42E-04	3.91E+09	3.00E-06	3.83E+04	6.42E-04
2.81E+04	4.28E-04	2.61E+09	2.00E-06	2.56E+04	4.28E-04
1.40E+04	2.14E-04	1.31E+09	1.00E-06	1.28E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.40E+04	-2.14E-04	-1.31E+09	-1.00E-06	-1.28E+04	-2.14E-04
-2.81E+04	-4.28E-04	-2.61E+09	-2.00E-06	-2.56E+04	-4.28E-04
-4.21E+04	-6.42E-04	-3.91E+09	-3.00E-06	-3.84E+04	-6.42E-04
-5.62E+04	-8.57E-04	-5.22E+09	-4.00E-06	-5.11E+04	-8.57E-04
-7.02E+04	-1.07E-03	-6.52E+09	-5.00E-06	-6.39E+04	-1.07E-03
-8.42E+04	-1.28E-03	-7.83E+09	-6.00E-06	-7.67E+04	-1.28E-03
-9.83E+04	-1.50E-03	-9.13E+09	-7.00E-06	-8.95E+04	-1.50E-03
-1.12E+05	-1.71E-03	-1.04E+10	-8.00E-06	-1.02E+05	-1.71E-03
-1.26E+05	-1.93E-03	-1.17E+10	-9.00E-06	-1.15E+05	-1.93E-03
-1.40E+05	-2.14E-03	-1.30E+10	-1.00E-05	-1.28E+05	-2.14E-03

-2.81E+05	-4.28E-03	-2.61E+10	-2.00E-05	-2.56E+05	-4.28E-03
-4.21E+05	-6.42E-03	-3.91E+10	-3.00E-05	-3.83E+05	-6.42E-03
-5.61E+05	-8.57E-03	-5.22E+10	-4.00E-05	-5.11E+05	-8.57E-03
-7.02E+05	-1.07E-02	-6.52E+10	-5.00E-05	-6.39E+05	-1.07E-02
-8.42E+05	-1.28E-02	-7.83E+10	-6.00E-05	-7.67E+05	-1.28E-02
-9.83E+05	-1.50E-02	-9.13E+10	-7.00E-05	-8.95E+05	-1.50E-02
-1.12E+06	-1.71E-02	-1.04E+11	-8.00E-05	-1.02E+06	-1.71E-02
-1.26E+06	-1.93E-02	-1.17E+11	-9.00E-05	-1.15E+06	-1.93E-02
-1.40E+06	-2.14E-02	-1.30E+11	-1.00E-04	-1.28E+06	-2.14E-02
-1.54E+06	-2.36E-02	-1.44E+11	-1.10E-04	-1.41E+06	-2.36E-02
-1.68E+06	-2.57E-02	-1.57E+11	-1.20E-04	-1.53E+06	-2.57E-02
-1.82E+06	-2.78E-02	-1.70E+11	-1.30E-04	-1.66E+06	-2.78E-02
-1.96E+06	-3.00E-02	-1.83E+11	-1.40E-04	-1.79E+06	-3.00E-02
-2.11E+06	-3.21E-02	-1.96E+11	-1.50E-04	-1.92E+06	-3.21E-02
-2.25E+06	-3.43E-02	-2.09E+11	-1.60E-04	-2.05E+06	-3.43E-02
-2.39E+06	-3.64E-02	-2.22E+11	-1.70E-04	-2.17E+06	-3.64E-02
-2.53E+06	-3.85E-02	-2.35E+11	-1.80E-04	-2.30E+06	-3.85E-02
-2.67E+06	-4.07E-02	-2.48E+11	-1.90E-04	-2.43E+06	-4.07E-02
-2.81E+06	-4.28E-02	-2.61E+11	-2.00E-04	-2.56E+06	-4.28E-02
-2.95E+06	-4.50E-02	-2.74E+11	-2.10E-04	-2.68E+06	-4.50E-02
-3.09E+06	-4.71E-02	-2.87E+11	-2.20E-04	-2.81E+06	-4.71E-02
-3.23E+06	-4.93E-02	-3.00E+11	-2.30E-04	-2.94E+06	-4.93E-02
-3.37E+06	-5.14E-02	-3.13E+11	-2.40E-04	-3.07E+06	-5.14E-02
-3.51E+06	-5.35E-02	-3.26E+11	-2.50E-04	-3.20E+06	-5.35E-02
-3.65E+06	-5.57E-02	-3.39E+11	-2.60E-04	-3.32E+06	-5.57E-02
-3.79E+06	-5.78E-02	-3.52E+11	-2.70E-04	-3.45E+06	-5.78E-02
-3.93E+06	-6.00E-02	-3.65E+11	-2.80E-04	-3.58E+06	-6.00E-02
-4.07E+06	-6.21E-02	-3.78E+11	-2.90E-04	-3.71E+06	-6.21E-02
-4.21E+06	-6.42E-02	-3.91E+11	-3.00E-04	-3.83E+06	-6.42E-02
-4.35E+06	-6.64E-02	-4.04E+11	-3.10E-04	-3.96E+06	-6.64E-02
-4.49E+06	-6.85E-02	-4.17E+11	-3.20E-04	-4.09E+06	-6.85E-02
-4.63E+06	-7.07E-02	-4.30E+11	-3.30E-04	-4.22E+06	-7.07E-02
-4.77E+06	-7.28E-02	-4.43E+11	-3.40E-04	-4.35E+06	-7.28E-02
-4.91E+06	-7.49E-02	-4.57E+11	-3.50E-04	-4.47E+06	-7.49E-02
-5.05E+06	-7.71E-02	-4.70E+11	-3.60E-04	-4.60E+06	-7.71E-02
-5.19E+06	-7.92E-02	-4.83E+11	-3.70E-04	-4.73E+06	-7.92E-02
-5.33E+06	-8.14E-02	-4.96E+11	-3.80E-04	-4.86E+06	-8.14E-02
-5.47E+06	-8.35E-02	-5.09E+11	-3.90E-04	-4.98E+06	-8.35E-02
-5.61E+06	-8.57E-02	-5.22E+11	-4.00E-04	-5.11E+06	-8.57E-02
-5.75E+06	-8.78E-02	-5.35E+11	-4.10E-04	-5.24E+06	-8.78E-02
-5.89E+06	-8.99E-02	-5.48E+11	-4.20E-04	-5.37E+06	-8.99E-02
-6.03E+06	-9.21E-02	-5.61E+11	-4.30E-04	-5.50E+06	-9.21E-02
-6.17E+06	-9.42E-02	-5.74E+11	-4.40E-04	-5.62E+06	-9.42E-02
-6.32E+06	-9.64E-02	-5.87E+11	-4.50E-04	-5.75E+06	-9.64E-02
-6.46E+06	-9.85E-02	-6.00E+11	-4.60E-04	-5.88E+06	-9.85E-02

-6.60E+06	-1.01E-01	-6.13E+11	-4.70E-04	-6.01E+06	-1.01E-01
-6.74E+06	-1.03E-01	-6.26E+11	-4.80E-04	-6.13E+06	-1.03E-01
-6.88E+06	-1.05E-01	-6.39E+11	-4.90E-04	-6.26E+06	-1.05E-01
-7.02E+06	-1.07E-01	-6.52E+11	-5.00E-04	-6.39E+06	-1.07E-01
-7.16E+06	-1.09E-01	-6.65E+11	-5.10E-04	-6.52E+06	-1.09E-01
-7.30E+06	-1.11E-01	-6.78E+11	-5.20E-04	-6.65E+06	-1.11E-01
-7.44E+06	-1.13E-01	-6.91E+11	-5.30E-04	-6.77E+06	-1.13E-01
-7.58E+06	-1.16E-01	-7.04E+11	-5.40E-04	-6.90E+06	-1.16E-01
-7.72E+06	-1.18E-01	-7.17E+11	-5.50E-04	-7.03E+06	-1.18E-01
-7.86E+06	-1.20E-01	-7.30E+11	-5.60E-04	-7.16E+06	-1.20E-01
-8.00E+06	-1.22E-01	-7.43E+11	-5.70E-04	-7.28E+06	-1.22E-01
-8.14E+06	-1.24E-01	-7.56E+11	-5.80E-04	-7.41E+06	-1.24E-01
-8.28E+06	-1.26E-01	-7.69E+11	-5.90E-04	-7.54E+06	-1.26E-01
-8.39E+06	-1.28E-01	-7.82E+11	-6.00E-04	-7.67E+06	-1.28E-01
-8.53E+06	-1.30E-01	-7.95E+11	-6.10E-04	-7.79E+06	-1.31E-01
-8.64E+06	-1.32E-01	-8.04E+11	-6.17E-04	-7.88E+06	-1.32E-01
-8.72E+06	-1.34E-01	-8.15E+11	-6.25E-04	-7.99E+06	-1.34E-01
-8.77E+06	-1.35E-01	-8.19E+11	-6.31E-04	-8.03E+06	-1.35E-01
-8.82E+06	-1.36E-01	-8.25E+11	-6.40E-04	-8.08E+06	-1.37E-01
-8.87E+06	-1.37E-01	-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.90E+06	-1.39E-01	-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.92E+06	-1.40E-01	-8.37E+11	-6.58E-04	-8.21E+06	-1.41E-01
-8.93E+06	-1.41E-01	-8.41E+11	-6.64E-04	-8.24E+06	-1.42E-01
-8.95E+06	-1.43E-01	-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.96E+06	-1.44E-01	-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.97E+06	-1.46E-01	-8.51E+11	-6.83E-04	-8.34E+06	-1.46E-01
-8.97E+06	-1.47E-01	-8.56E+11	-6.92E-04	-8.38E+06	-1.48E-01
-8.97E+06	-1.48E-01	-8.59E+11	-7.02E-04	-8.42E+06	-1.50E-01
-8.98E+06	-1.49E-01	-8.63E+11	-7.12E-04	-8.45E+06	-1.53E-01
-8.97E+06	-1.50E-01	-8.63E+11	-7.13E-04	-8.46E+06	-1.53E-01
-8.97E+06	-1.51E-01	-8.65E+11	-7.20E-04	-8.48E+06	-1.54E-01
-8.96E+06	-1.53E-01	-8.66E+11	-7.27E-04	-8.49E+06	-1.56E-01
-8.92E+06	-1.55E-01	-8.67E+11	-7.33E-04	-8.49E+06	-1.57E-01
-8.87E+06	-1.57E-01	-8.67E+11	-7.43E-04	-8.49E+06	-1.59E-01
-8.78E+06	-1.59E-01	-8.67E+11	-7.53E-04	-8.49E+06	-1.61E-01
-8.76E+06	-1.60E-01	-8.67E+11	-7.61E-04	-8.49E+06	-1.63E-01
-8.62E+06	-1.62E-01	-8.67E+11	-7.68E-04	-8.49E+06	-1.64E-01
-8.59E+06	-1.62E-01	-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.44E+06	-1.64E-01	-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.35E+06	-1.66E-01	-8.66E+11	-7.85E-04	-8.48E+06	-1.68E-01
-8.25E+06	-1.68E-01	-8.65E+11	-7.92E-04	-8.48E+06	-1.69E-01
-8.20E+06	-1.69E-01	-8.64E+11	-7.99E-04	-8.47E+06	-1.71E-01
-8.12E+06	-1.71E-01	-8.62E+11	-8.06E-04	-8.45E+06	-1.73E-01
-8.06E+06	-1.73E-01	-8.60E+11	-8.15E-04	-8.42E+06	-1.74E-01
-8.06E+06	-1.74E-01	-8.56E+11	-8.22E-04	-8.38E+06	-1.76E-01

-8.00E+06	-1.76E-01	-8.48E+11	-8.32E-04	-8.31E+06	-1.78E-01
-7.95E+06	-1.78E-01	-8.37E+11	-8.42E-04	-8.20E+06	-1.80E-01
-7.95E+06	-1.78E-01	-8.31E+11	-8.47E-04	-8.14E+06	-1.81E-01
-7.91E+06	-1.80E-01	-8.16E+11	-8.57E-04	-7.99E+06	-1.84E-01
-7.87E+06	-1.82E-01	-8.11E+11	-8.61E-04	-7.95E+06	-1.84E-01
-7.85E+06	-1.83E-01	-7.98E+11	-8.71E-04	-7.82E+06	-1.86E-01
-7.81E+06	-1.85E-01	-7.93E+11	-8.77E-04	-7.77E+06	-1.88E-01
-7.77E+06	-1.87E-01	-7.85E+11	-8.87E-04	-7.69E+06	-1.90E-01
-7.74E+06	-1.89E-01	-7.79E+11	-8.97E-04	-7.63E+06	-1.92E-01
-7.70E+06	-1.91E-01	-7.78E+11	-8.98E-04	-7.63E+06	-1.92E-01
-7.68E+06	-1.93E-01	-7.73E+11	-9.08E-04	-7.58E+06	-1.94E-01
-7.65E+06	-1.95E-01	-7.69E+11	-9.18E-04	-7.54E+06	-1.97E-01
-7.62E+06	-1.97E-01	-7.68E+11	-9.22E-04	-7.52E+06	-1.97E-01
-7.59E+06	-1.99E-01	-7.63E+11	-9.32E-04	-7.48E+06	-1.99E-01
-7.55E+06	-2.01E-01	-7.60E+11	-9.42E-04	-7.44E+06	-2.02E-01
-7.52E+06	-2.03E-01	-7.57E+11	-9.50E-04	-7.41E+06	-2.03E-01
-7.50E+06	-2.05E-01	-7.53E+11	-9.60E-04	-7.38E+06	-2.06E-01
-7.49E+06	-2.06E-01	-7.50E+11	-9.70E-04	-7.35E+06	-2.08E-01
-7.45E+06	-2.08E-01	-7.48E+11	-9.77E-04	-7.33E+06	-2.09E-01
-7.42E+06	-2.10E-01	-7.45E+11	-9.87E-04	-7.30E+06	-2.11E-01
-7.39E+06	-2.12E-01	-7.42E+11	-9.95E-04	-7.27E+06	-2.13E-01
-7.36E+06	-2.15E-01	-7.39E+11	-1.01E-03	-7.24E+06	-2.15E-01
-7.34E+06	-2.17E-01	-7.36E+11	-1.02E-03	-7.21E+06	-2.17E-01
-7.31E+06	-2.19E-01	-7.33E+11	-1.03E-03	-7.19E+06	-2.19E-01
-7.28E+06	-2.21E-01	-7.33E+11	-1.03E-03	-7.18E+06	-2.20E-01
-7.28E+06	-2.21E-01	-7.30E+11	-1.04E-03	-7.16E+06	-2.22E-01
-7.26E+06	-2.23E-01	-7.28E+11	-1.05E-03	-7.13E+06	-2.24E-01
-7.23E+06	-2.25E-01	-7.25E+11	-1.06E-03	-7.11E+06	-2.26E-01
-7.21E+06	-2.27E-01	-7.22E+11	-1.07E-03	-7.08E+06	-2.28E-01
-7.18E+06	-2.29E-01	-7.20E+11	-1.08E-03	-7.05E+06	-2.30E-01
-7.15E+06	-2.31E-01	-7.17E+11	-1.09E-03	-7.02E+06	-2.33E-01
-7.12E+06	-2.33E-01	-7.14E+11	-1.10E-03	-7.00E+06	-2.35E-01
-7.10E+06	-2.36E-01	-7.12E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.08E+06	-2.38E-01	-7.11E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.06E+06	-2.39E-01	-7.09E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.04E+06	-2.41E-01	-7.08E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.03E+06	-2.42E-01	-7.07E+11	-1.13E-03	-6.92E+06	-2.41E-01
-7.01E+06	-2.44E-01	-7.04E+11	-1.14E-03	-6.90E+06	-2.43E-01
-6.98E+06	-2.46E-01	-7.01E+11	-1.15E-03	-6.87E+06	-2.46E-01
-6.95E+06	-2.48E-01	-6.99E+11	-1.16E-03	-6.85E+06	-2.48E-01
-6.93E+06	-2.50E-01	-6.96E+11	-1.17E-03	-6.82E+06	-2.50E-01
-6.90E+06	-2.52E-01	-6.94E+11	-1.18E-03	-6.80E+06	-2.52E-01
-6.88E+06	-2.54E-01	-6.92E+11	-1.19E-03	-6.78E+06	-2.54E-01
-6.86E+06	-2.57E-01	-6.89E+11	-1.20E-03	-6.76E+06	-2.56E-01
-6.84E+06	-2.58E-01	-6.89E+11	-1.20E-03	-6.75E+06	-2.57E-01

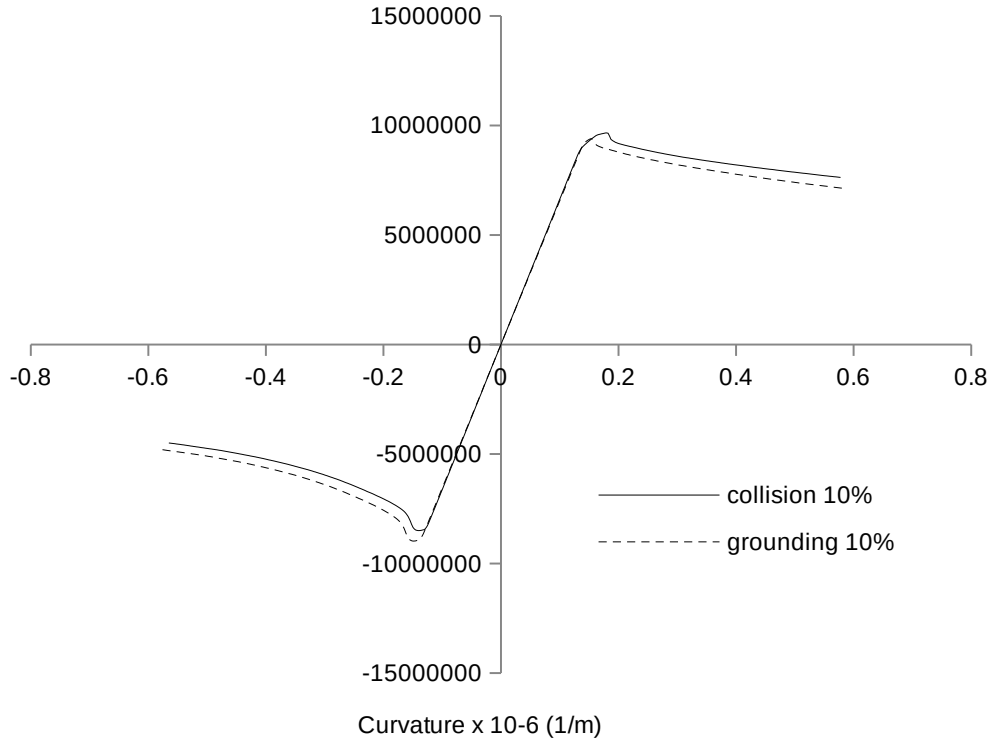
-6.82E+06	-2.60E-01	-6.87E+11	-1.21E-03	-6.73E+06	-2.59E-01
-6.79E+06	-2.62E-01	-6.85E+11	-1.22E-03	-6.72E+06	-2.60E-01
-6.77E+06	-2.64E-01	-6.84E+11	-1.22E-03	-6.70E+06	-2.62E-01
-6.74E+06	-2.66E-01	-6.81E+11	-1.23E-03	-6.67E+06	-2.64E-01
-6.72E+06	-2.69E-01	-6.79E+11	-1.24E-03	-6.65E+06	-2.66E-01
-6.70E+06	-2.71E-01	-6.76E+11	-1.25E-03	-6.63E+06	-2.68E-01
-6.67E+06	-2.73E-01	-6.74E+11	-1.26E-03	-6.61E+06	-2.70E-01
-6.65E+06	-2.75E-01	-6.72E+11	-1.27E-03	-6.58E+06	-2.73E-01
-6.63E+06	-2.77E-01	-6.70E+11	-1.28E-03	-6.56E+06	-2.75E-01
-6.61E+06	-2.79E-01	-6.68E+11	-1.29E-03	-6.54E+06	-2.77E-01
-6.60E+06	-2.80E-01	-6.66E+11	-1.30E-03	-6.52E+06	-2.79E-01
-6.58E+06	-2.82E-01	-6.64E+11	-1.31E-03	-6.50E+06	-2.81E-01
-6.56E+06	-2.84E-01	-6.63E+11	-1.32E-03	-6.50E+06	-2.82E-01
-6.54E+06	-2.86E-01	-6.61E+11	-1.33E-03	-6.48E+06	-2.84E-01
-6.51E+06	-2.88E-01	-6.59E+11	-1.34E-03	-6.46E+06	-2.86E-01
-6.49E+06	-2.90E-01	-6.57E+11	-1.35E-03	-6.43E+06	-2.88E-01
-6.47E+06	-2.93E-01	-6.54E+11	-1.36E-03	-6.41E+06	-2.90E-01
-6.45E+06	-2.95E-01	-6.52E+11	-1.37E-03	-6.39E+06	-2.92E-01
-6.43E+06	-2.97E-01	-6.50E+11	-1.38E-03	-6.37E+06	-2.94E-01
-6.41E+06	-2.99E-01	-6.48E+11	-1.39E-03	-6.35E+06	-2.97E-01
-6.39E+06	-3.01E-01	-6.46E+11	-1.40E-03	-6.33E+06	-2.99E-01
-6.37E+06	-3.03E-01	-6.44E+11	-1.41E-03	-6.31E+06	-3.01E-01
-6.36E+06	-3.04E-01	-6.42E+11	-1.42E-03	-6.29E+06	-3.03E-01
-6.34E+06	-3.06E-01	-6.42E+11	-1.42E-03	-6.29E+06	-3.04E-01
-6.32E+06	-3.08E-01	-6.40E+11	-1.43E-03	-6.27E+06	-3.06E-01
-6.30E+06	-3.10E-01	-6.39E+11	-1.43E-03	-6.26E+06	-3.07E-01
-6.28E+06	-3.13E-01	-6.37E+11	-1.44E-03	-6.24E+06	-3.09E-01
-6.26E+06	-3.15E-01	-6.35E+11	-1.45E-03	-6.22E+06	-3.11E-01
-6.24E+06	-3.17E-01	-6.33E+11	-1.46E-03	-6.21E+06	-3.13E-01
-6.24E+06	-3.18E-01	-6.31E+11	-1.47E-03	-6.19E+06	-3.15E-01
-6.22E+06	-3.20E-01	-6.31E+11	-1.48E-03	-6.18E+06	-3.16E-01
-6.20E+06	-3.22E-01	-6.29E+11	-1.49E-03	-6.16E+06	-3.18E-01
-6.18E+06	-3.24E-01	-6.27E+11	-1.50E-03	-6.14E+06	-3.20E-01
-6.17E+06	-3.26E-01	-6.25E+11	-1.51E-03	-6.12E+06	-3.22E-01
-6.15E+06	-3.28E-01	-6.23E+11	-1.52E-03	-6.11E+06	-3.24E-01
-6.13E+06	-3.30E-01	-6.21E+11	-1.53E-03	-6.09E+06	-3.27E-01
-6.11E+06	-3.33E-01	-6.20E+11	-1.54E-03	-6.07E+06	-3.29E-01
-6.10E+06	-3.34E-01	-6.18E+11	-1.55E-03	-6.05E+06	-3.31E-01
-6.08E+06	-3.37E-01	-6.16E+11	-1.56E-03	-6.04E+06	-3.33E-01
-6.06E+06	-3.39E-01	-6.15E+11	-1.57E-03	-6.02E+06	-3.35E-01
-6.04E+06	-3.41E-01	-6.14E+11	-1.57E-03	-6.02E+06	-3.36E-01
-6.03E+06	-3.43E-01	-6.12E+11	-1.58E-03	-6.00E+06	-3.38E-01
-6.01E+06	-3.45E-01	-6.10E+11	-1.59E-03	-5.98E+06	-3.40E-01
-5.99E+06	-3.47E-01	-6.09E+11	-1.60E-03	-5.96E+06	-3.42E-01
-5.98E+06	-3.49E-01	-6.07E+11	-1.61E-03	-5.95E+06	-3.45E-01

-5.96E+06	-3.52E-01	-6.05E+11	-1.62E-03	-5.93E+06	-3.47E-01
-5.94E+06	-3.54E-01	-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-5.93E+06	-3.56E-01	-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-5.91E+06	-3.58E-01	-6.02E+11	-1.64E-03	-5.90E+06	-3.51E-01
-5.91E+06	-3.59E-01	-6.00E+11	-1.65E-03	-5.88E+06	-3.53E-01
-5.89E+06	-3.61E-01	-5.98E+11	-1.66E-03	-5.86E+06	-3.55E-01
-5.88E+06	-3.63E-01	-5.97E+11	-1.67E-03	-5.85E+06	-3.57E-01
-5.86E+06	-3.65E-01	-5.95E+11	-1.68E-03	-5.83E+06	-3.60E-01
-5.85E+06	-3.67E-01	-5.94E+11	-1.69E-03	-5.82E+06	-3.62E-01
-5.83E+06	-3.69E-01	-5.92E+11	-1.70E-03	-5.80E+06	-3.64E-01
-5.82E+06	-3.72E-01	-5.91E+11	-1.71E-03	-5.79E+06	-3.66E-01
-5.81E+06	-3.72E-01	-5.89E+11	-1.72E-03	-5.77E+06	-3.68E-01
-5.80E+06	-3.74E-01	-5.88E+11	-1.73E-03	-5.77E+06	-3.69E-01
-5.78E+06	-3.76E-01	-5.87E+11	-1.74E-03	-5.75E+06	-3.72E-01
-5.77E+06	-3.78E-01	-5.85E+11	-1.75E-03	-5.74E+06	-3.74E-01
-5.75E+06	-3.81E-01	-5.84E+11	-1.76E-03	-5.72E+06	-3.76E-01
-5.74E+06	-3.83E-01	-5.82E+11	-1.77E-03	-5.71E+06	-3.78E-01
-5.72E+06	-3.85E-01	-5.81E+11	-1.78E-03	-5.69E+06	-3.80E-01
-5.71E+06	-3.87E-01	-5.79E+11	-1.79E-03	-5.68E+06	-3.82E-01
-5.69E+06	-3.89E-01	-5.78E+11	-1.80E-03	-5.66E+06	-3.84E-01
-5.68E+06	-3.91E-01	-5.76E+11	-1.81E-03	-5.65E+06	-3.87E-01
-5.67E+06	-3.93E-01	-5.75E+11	-1.82E-03	-5.64E+06	-3.89E-01
-5.65E+06	-3.96E-01	-5.74E+11	-1.83E-03	-5.62E+06	-3.91E-01
-5.64E+06	-3.98E-01	-5.73E+11	-1.83E-03	-5.61E+06	-3.93E-01
-5.63E+06	-4.00E-01	-5.71E+11	-1.84E-03	-5.60E+06	-3.95E-01
-5.62E+06	-4.02E-01	-5.70E+11	-1.85E-03	-5.59E+06	-3.97E-01
-5.61E+06	-4.03E-01	-5.69E+11	-1.86E-03	-5.57E+06	-3.99E-01
-5.59E+06	-4.06E-01	-5.67E+11	-1.87E-03	-5.56E+06	-4.01E-01
-5.58E+06	-4.08E-01	-5.66E+11	-1.88E-03	-5.55E+06	-4.03E-01
-5.57E+06	-4.10E-01	-5.65E+11	-1.89E-03	-5.53E+06	-4.05E-01
-5.55E+06	-4.12E-01	-5.63E+11	-1.90E-03	-5.52E+06	-4.07E-01
-5.54E+06	-4.14E-01	-5.62E+11	-1.91E-03	-5.51E+06	-4.10E-01
-5.53E+06	-4.16E-01	-5.61E+11	-1.92E-03	-5.50E+06	-4.12E-01
-5.52E+06	-4.18E-01	-5.61E+11	-1.93E-03	-5.49E+06	-4.12E-01
-5.50E+06	-4.20E-01	-5.59E+11	-1.94E-03	-5.48E+06	-4.14E-01
-5.49E+06	-4.22E-01	-5.58E+11	-1.95E-03	-5.47E+06	-4.16E-01
-5.48E+06	-4.25E-01	-5.57E+11	-1.96E-03	-5.45E+06	-4.19E-01
-5.47E+06	-4.27E-01	-5.55E+11	-1.97E-03	-5.44E+06	-4.21E-01
-5.45E+06	-4.29E-01	-5.54E+11	-1.98E-03	-5.43E+06	-4.23E-01
-5.44E+06	-4.31E-01	-5.53E+11	-1.99E-03	-5.42E+06	-4.25E-01
-5.43E+06	-4.33E-01	-5.51E+11	-2.00E-03	-5.40E+06	-4.27E-01
-5.42E+06	-4.35E-01	-5.50E+11	-2.01E-03	-5.39E+06	-4.29E-01
-5.40E+06	-4.37E-01	-5.49E+11	-2.02E-03	-5.38E+06	-4.31E-01
-5.39E+06	-4.40E-01	-5.48E+11	-2.03E-03	-5.37E+06	-4.34E-01
-5.38E+06	-4.42E-01	-5.47E+11	-2.04E-03	-5.36E+06	-4.36E-01

-5.37E+06	-4.44E-01	-5.46E+11	-2.05E-03	-5.35E+06	-4.38E-01
-5.36E+06	-4.46E-01	-5.44E+11	-2.06E-03	-5.34E+06	-4.40E-01
-5.35E+06	-4.48E-01	-5.43E+11	-2.07E-03	-5.32E+06	-4.42E-01
-5.34E+06	-4.50E-01	-5.42E+11	-2.08E-03	-5.31E+06	-4.44E-01
-5.33E+06	-4.52E-01	-5.41E+11	-2.09E-03	-5.30E+06	-4.46E-01
-5.32E+06	-4.55E-01	-5.40E+11	-2.10E-03	-5.29E+06	-4.49E-01
-5.30E+06	-4.57E-01	-5.39E+11	-2.11E-03	-5.28E+06	-4.51E-01
-5.29E+06	-4.59E-01	-5.38E+11	-2.12E-03	-5.27E+06	-4.53E-01
-5.29E+06	-4.61E-01	-5.37E+11	-2.13E-03	-5.26E+06	-4.55E-01
-5.28E+06	-4.63E-01	-5.36E+11	-2.14E-03	-5.25E+06	-4.57E-01
-5.26E+06	-4.65E-01	-5.35E+11	-2.15E-03	-5.24E+06	-4.59E-01
-5.25E+06	-4.67E-01	-5.34E+11	-2.16E-03	-5.23E+06	-4.61E-01
-5.24E+06	-4.70E-01	-5.32E+11	-2.17E-03	-5.22E+06	-4.64E-01
-5.23E+06	-4.72E-01	-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.22E+06	-4.74E-01	-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.21E+06	-4.76E-01	-5.30E+11	-2.19E-03	-5.20E+06	-4.68E-01
-5.20E+06	-4.78E-01	-5.29E+11	-2.20E-03	-5.19E+06	-4.70E-01
-5.19E+06	-4.80E-01	-5.28E+11	-2.21E-03	-5.17E+06	-4.72E-01
-5.18E+06	-4.82E-01	-5.27E+11	-2.22E-03	-5.16E+06	-4.75E-01
-5.17E+06	-4.84E-01	-5.26E+11	-2.23E-03	-5.15E+06	-4.77E-01
-5.16E+06	-4.86E-01	-5.25E+11	-2.24E-03	-5.14E+06	-4.79E-01
-5.15E+06	-4.88E-01	-5.24E+11	-2.25E-03	-5.13E+06	-4.81E-01
-5.14E+06	-4.91E-01	-5.23E+11	-2.26E-03	-5.12E+06	-4.83E-01
-5.13E+06	-4.93E-01	-5.21E+11	-2.27E-03	-5.11E+06	-4.85E-01
-5.12E+06	-4.95E-01	-5.20E+11	-2.28E-03	-5.10E+06	-4.87E-01
-5.11E+06	-4.97E-01	-5.19E+11	-2.29E-03	-5.09E+06	-4.90E-01
-5.10E+06	-4.99E-01	-5.19E+11	-2.30E-03	-5.08E+06	-4.92E-01
-5.09E+06	-5.01E-01	-5.18E+11	-2.31E-03	-5.07E+06	-4.94E-01
-5.08E+06	-5.03E-01	-5.17E+11	-2.32E-03	-5.06E+06	-4.96E-01
-5.07E+06	-5.06E-01	-5.16E+11	-2.33E-03	-5.05E+06	-4.98E-01
-5.06E+06	-5.08E-01	-5.15E+11	-2.34E-03	-5.05E+06	-5.00E-01
-5.06E+06	-5.10E-01	-5.14E+11	-2.35E-03	-5.04E+06	-5.02E-01
-5.05E+06	-5.12E-01	-5.13E+11	-2.36E-03	-5.03E+06	-5.04E-01
-5.04E+06	-5.14E-01	-5.12E+11	-2.37E-03	-5.02E+06	-5.07E-01
-5.03E+06	-5.16E-01	-5.11E+11	-2.38E-03	-5.01E+06	-5.09E-01
-5.02E+06	-5.18E-01	-5.10E+11	-2.39E-03	-5.00E+06	-5.11E-01
-5.01E+06	-5.21E-01	-5.10E+11	-2.40E-03	-4.99E+06	-5.13E-01
-5.00E+06	-5.23E-01	-5.09E+11	-2.41E-03	-4.99E+06	-5.15E-01
-5.00E+06	-5.25E-01	-5.08E+11	-2.42E-03	-4.98E+06	-5.17E-01
-4.99E+06	-5.27E-01	-5.08E+11	-2.42E-03	-4.98E+06	-5.18E-01
-4.98E+06	-5.29E-01	-5.07E+11	-2.43E-03	-4.97E+06	-5.20E-01
-4.97E+06	-5.31E-01	-5.06E+11	-2.44E-03	-4.96E+06	-5.22E-01
-4.96E+06	-5.33E-01	-5.05E+11	-2.45E-03	-4.95E+06	-5.24E-01
-4.96E+06	-5.36E-01	-5.04E+11	-2.46E-03	-4.94E+06	-5.26E-01
-4.95E+06	-5.37E-01	-5.03E+11	-2.47E-03	-4.93E+06	-5.28E-01

-4.94E+06	-5.39E-01	-5.02E+11	-2.48E-03	-4.92E+06	-5.30E-01
-4.93E+06	-5.42E-01	-5.02E+11	-2.49E-03	-4.92E+06	-5.33E-01
-4.93E+06	-5.44E-01	-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-4.92E+06	-5.46E-01	-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-4.91E+06	-5.48E-01	-5.00E+11	-2.51E-03	-4.90E+06	-5.37E-01
-4.90E+06	-5.50E-01	-4.99E+11	-2.52E-03	-4.89E+06	-5.39E-01
-4.89E+06	-5.52E-01	-4.98E+11	-2.53E-03	-4.88E+06	-5.41E-01
-4.89E+06	-5.54E-01	-4.97E+11	-2.54E-03	-4.87E+06	-5.43E-01
-4.88E+06	-5.57E-01	-4.96E+11	-2.55E-03	-4.86E+06	-5.46E-01
-4.88E+06	-5.57E-01	-4.95E+11	-2.56E-03	-4.85E+06	-5.48E-01
-4.87E+06	-5.59E-01	-4.95E+11	-2.57E-03	-4.85E+06	-5.50E-01
-4.86E+06	-5.61E-01	-4.94E+11	-2.58E-03	-4.84E+06	-5.52E-01
-4.85E+06	-5.63E-01	-4.93E+11	-2.59E-03	-4.83E+06	-5.54E-01
-4.85E+06	-5.65E-01	-4.92E+11	-2.60E-03	-4.82E+06	-5.56E-01
-4.84E+06	-5.67E-01	-4.91E+11	-2.61E-03	-4.81E+06	-5.58E-01
-4.83E+06	-5.70E-01	-4.91E+11	-2.62E-03	-4.81E+06	-5.61E-01
-4.82E+06	-5.72E-01	-4.90E+11	-2.63E-03	-4.80E+06	-5.63E-01
-4.81E+06	-5.74E-01	-4.89E+11	-2.64E-03	-4.79E+06	-5.65E-01
-4.80E+06	-5.76E-01	-4.88E+11	-2.65E-03	-4.78E+06	-5.67E-01

		10% tubrukan				**10%**
	4670	9.80E-06	1.00E-06		4670	
Momen	**Rotasi**	**Momen**	**Curvature**		**Momen**	**Rotasi**
7.79E+11	2.70E-03	7.63E+06	5.78E-01		7.28E+11	2.71E-03



7.92E+11	2.49E-03	7.76E+06	5.34E-01	7.43E+11	2.50E-03
7.93E+11	2.48E-03	7.77E+06	5.32E-01	7.44E+11	2.49E-03
7.93E+11	2.47E-03	7.77E+06	5.30E-01	7.44E+11	2.48E-03
7.94E+11	2.46E-03	7.78E+06	5.28E-01	7.45E+11	2.47E-03
7.95E+11	2.45E-03	7.79E+06	5.25E-01	7.46E+11	2.46E-03
7.95E+11	2.45E-03	7.79E+06	5.25E-01	7.47E+11	2.45E-03
7.95E+11	2.44E-03	7.79E+06	5.23E-01	7.47E+11	2.44E-03
7.96E+11	2.43E-03	7.80E+06	5.21E-01	7.48E+11	2.43E-03
7.97E+11	2.42E-03	7.81E+06	5.19E-01	7.48E+11	2.43E-03
7.97E+11	2.41E-03	7.81E+06	5.17E-01	7.49E+11	2.42E-03
7.98E+11	2.40E-03	7.82E+06	5.15E-01	7.50E+11	2.41E-03
7.99E+11	2.39E-03	7.83E+06	5.13E-01	7.51E+11	2.40E-03
7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.51E+11	2.39E-03
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.52E+11	2.38E-03
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.53E+11	2.37E-03
8.01E+11	2.35E-03	7.85E+06	5.04E-01	7.54E+11	2.36E-03
8.02E+11	2.34E-03	7.86E+06	5.02E-01	7.54E+11	2.35E-03
8.03E+11	2.33E-03	7.87E+06	5.00E-01	7.55E+11	2.34E-03
8.03E+11	2.32E-03	7.87E+06	4.98E-01	7.56E+11	2.33E-03

8.04E+11	2.32E-03	7.88E+06	4.96E-01	7.57E+11	2.32E-03
8.05E+11	2.31E-03	7.88E+06	4.94E-01	7.58E+11	2.31E-03
8.05E+11	2.30E-03	7.89E+06	4.91E-01	7.58E+11	2.30E-03
8.06E+11	2.29E-03	7.90E+06	4.89E-01	7.59E+11	2.29E-03
8.06E+11	2.28E-03	7.90E+06	4.87E-01	7.60E+11	2.28E-03
8.07E+11	2.27E-03	7.91E+06	4.85E-01	7.61E+11	2.27E-03
8.08E+11	2.26E-03	7.92E+06	4.83E-01	7.62E+11	2.26E-03
8.09E+11	2.25E-03	7.92E+06	4.81E-01	7.62E+11	2.25E-03
8.09E+11	2.24E-03	7.93E+06	4.79E-01	7.63E+11	2.24E-03
8.10E+11	2.23E-03	7.94E+06	4.76E-01	7.64E+11	2.23E-03
8.11E+11	2.22E-03	7.94E+06	4.74E-01	7.65E+11	2.22E-03
8.12E+11	2.21E-03	7.95E+06	4.72E-01	7.65E+11	2.21E-03
8.12E+11	2.20E-03	7.96E+06	4.70E-01	7.66E+11	2.20E-03
8.13E+11	2.19E-03	7.97E+06	4.68E-01	7.67E+11	2.19E-03
8.14E+11	2.18E-03	7.98E+06	4.66E-01	7.68E+11	2.18E-03
8.15E+11	2.17E-03	7.98E+06	4.64E-01	7.68E+11	2.17E-03
8.15E+11	2.16E-03	7.99E+06	4.63E-01	7.69E+11	2.16E-03
8.16E+11	2.15E-03	7.99E+06	4.61E-01	7.70E+11	2.15E-03
8.16E+11	2.14E-03	8.00E+06	4.58E-01	7.71E+11	2.14E-03
8.17E+11	2.13E-03	8.00E+06	4.56E-01	7.71E+11	2.13E-03
8.18E+11	2.12E-03	8.01E+06	4.54E-01	7.72E+11	2.13E-03
8.18E+11	2.11E-03	8.02E+06	4.52E-01	7.72E+11	2.12E-03
8.19E+11	2.10E-03	8.03E+06	4.50E-01	7.73E+11	2.11E-03
8.20E+11	2.09E-03	8.03E+06	4.48E-01	7.74E+11	2.10E-03
8.20E+11	2.08E-03	8.04E+06	4.46E-01	7.75E+11	2.09E-03
8.21E+11	2.07E-03	8.05E+06	4.43E-01	7.76E+11	2.08E-03
8.22E+11	2.06E-03	8.05E+06	4.41E-01	7.77E+11	2.07E-03
8.23E+11	2.05E-03	8.06E+06	4.39E-01	7.77E+11	2.06E-03
8.23E+11	2.04E-03	8.07E+06	4.37E-01	7.78E+11	2.05E-03
8.24E+11	2.03E-03	8.07E+06	4.36E-01	7.79E+11	2.04E-03
8.25E+11	2.02E-03	8.08E+06	4.33E-01	7.80E+11	2.03E-03
8.25E+11	2.01E-03	8.09E+06	4.31E-01	7.81E+11	2.02E-03
8.26E+11	2.00E-03	8.09E+06	4.29E-01	7.82E+11	2.01E-03
8.27E+11	1.99E-03	8.10E+06	4.27E-01	7.82E+11	2.00E-03
8.28E+11	1.98E-03	8.11E+06	4.25E-01	7.83E+11	1.99E-03
8.28E+11	1.97E-03	8.12E+06	4.23E-01	7.84E+11	1.98E-03
8.29E+11	1.96E-03	8.13E+06	4.21E-01	7.85E+11	1.97E-03
8.30E+11	1.95E-03	8.13E+06	4.18E-01	7.86E+11	1.96E-03
8.31E+11	1.94E-03	8.14E+06	4.16E-01	7.86E+11	1.95E-03
8.32E+11	1.93E-03	8.15E+06	4.14E-01	7.87E+11	1.94E-03
8.32E+11	1.92E-03	8.16E+06	4.12E-01	7.88E+11	1.93E-03
8.33E+11	1.91E-03	8.17E+06	4.10E-01	7.89E+11	1.92E-03
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8.35E+11	1.90E-03	8.18E+06	4.06E-01	7.91E+11	1.90E-03
8.35E+11	1.89E-03	8.18E+06	4.04E-01	7.91E+11	1.89E-03

8.36E+11	1.88E-03	8.19E+06	4.02E-01	7.92E+11	1.88E-03
8.37E+11	1.87E-03	8.20E+06	4.00E-01	7.93E+11	1.87E-03
8.38E+11	1.86E-03	8.21E+06	3.97E-01	7.94E+11	1.86E-03
8.38E+11	1.85E-03	8.22E+06	3.95E-01	7.95E+11	1.85E-03
8.39E+11	1.84E-03	8.22E+06	3.93E-01	7.96E+11	1.84E-03
8.40E+11	1.83E-03	8.23E+06	3.91E-01	7.97E+11	1.83E-03
8.41E+11	1.82E-03	8.24E+06	3.89E-01	7.98E+11	1.82E-03
8.42E+11	1.81E-03	8.25E+06	3.87E-01	7.99E+11	1.81E-03
8.42E+11	1.80E-03	8.25E+06	3.86E-01	8.00E+11	1.80E-03
8.43E+11	1.79E-03	8.26E+06	3.84E-01	8.00E+11	1.80E-03
8.44E+11	1.78E-03	8.27E+06	3.81E-01	8.01E+11	1.79E-03
8.44E+11	1.77E-03	8.28E+06	3.79E-01	8.02E+11	1.78E-03
8.45E+11	1.76E-03	8.28E+06	3.77E-01	8.02E+11	1.77E-03
8.46E+11	1.75E-03	8.29E+06	3.75E-01	8.03E+11	1.76E-03
8.47E+11	1.74E-03	8.30E+06	3.73E-01	8.04E+11	1.75E-03
8.48E+11	1.73E-03	8.31E+06	3.71E-01	8.05E+11	1.74E-03
8.49E+11	1.72E-03	8.32E+06	3.69E-01	8.06E+11	1.73E-03
8.50E+11	1.71E-03	8.33E+06	3.66E-01	8.07E+11	1.72E-03
8.50E+11	1.71E-03	8.33E+06	3.66E-01	8.08E+11	1.71E-03
8.50E+11	1.70E-03	8.33E+06	3.64E-01	8.09E+11	1.70E-03
8.51E+11	1.69E-03	8.34E+06	3.62E-01	8.10E+11	1.69E-03
8.52E+11	1.68E-03	8.35E+06	3.60E-01	8.10E+11	1.69E-03
8.53E+11	1.67E-03	8.36E+06	3.58E-01	8.11E+11	1.68E-03
8.54E+11	1.66E-03	8.37E+06	3.55E-01	8.12E+11	1.67E-03
8.55E+11	1.65E-03	8.38E+06	3.53E-01	8.13E+11	1.66E-03
8.55E+11	1.64E-03	8.38E+06	3.51E-01	8.14E+11	1.65E-03
8.56E+11	1.63E-03	8.39E+06	3.49E-01	8.15E+11	1.64E-03
8.57E+11	1.62E-03	8.40E+06	3.47E-01	8.16E+11	1.63E-03
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8.58E+11	1.61E-03	8.41E+06	3.44E-01	8.17E+11	1.61E-03
8.59E+11	1.60E-03	8.42E+06	3.42E-01	8.18E+11	1.60E-03
8.60E+11	1.59E-03	8.43E+06	3.40E-01	8.19E+11	1.59E-03
8.61E+11	1.58E-03	8.44E+06	3.38E-01	8.20E+11	1.58E-03
8.62E+11	1.57E-03	8.45E+06	3.36E-01	8.21E+11	1.57E-03
8.63E+11	1.56E-03	8.46E+06	3.34E-01	8.22E+11	1.56E-03
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8.65E+11	1.54E-03	8.47E+06	3.29E-01	8.24E+11	1.54E-03
8.65E+11	1.53E-03	8.48E+06	3.27E-01	8.25E+11	1.53E-03
8.66E+11	1.52E-03	8.49E+06	3.25E-01	8.26E+11	1.52E-03
8.67E+11	1.51E-03	8.50E+06	3.23E-01	8.27E+11	1.51E-03
8.68E+11	1.50E-03	8.51E+06	3.21E-01	8.28E+11	1.50E-03
8.69E+11	1.49E-03	8.52E+06	3.19E-01	8.29E+11	1.49E-03
8.70E+11	1.48E-03	8.53E+06	3.17E-01	8.30E+11	1.48E-03
8.71E+11	1.47E-03	8.53E+06	3.15E-01	8.31E+11	1.47E-03
8.72E+11	1.46E-03	8.54E+06	3.13E-01	8.32E+11	1.46E-03

8.73E+11	1.45E-03	8.55E+06	3.10E-01	8.33E+11	1.45E-03
8.74E+11	1.44E-03	8.56E+06	3.08E-01	8.33E+11	1.45E-03
8.75E+11	1.43E-03	8.57E+06	3.06E-01	8.34E+11	1.44E-03
8.76E+11	1.42E-03	8.58E+06	3.04E-01	8.35E+11	1.43E-03
8.77E+11	1.41E-03	8.59E+06	3.02E-01	8.36E+11	1.42E-03
8.78E+11	1.40E-03	8.60E+06	3.00E-01	8.37E+11	1.41E-03
8.79E+11	1.39E-03	8.61E+06	2.98E-01	8.38E+11	1.40E-03
8.79E+11	1.39E-03	8.62E+06	2.97E-01	8.39E+11	1.39E-03
8.80E+11	1.38E-03	8.62E+06	2.95E-01	8.40E+11	1.38E-03
8.81E+11	1.37E-03	8.63E+06	2.93E-01	8.41E+11	1.37E-03
8.82E+11	1.36E-03	8.64E+06	2.90E-01	8.42E+11	1.36E-03
8.83E+11	1.35E-03	8.66E+06	2.88E-01	8.43E+11	1.35E-03
8.84E+11	1.34E-03	8.67E+06	2.86E-01	8.44E+11	1.34E-03
8.85E+11	1.33E-03	8.68E+06	2.84E-01	8.45E+11	1.33E-03
8.86E+11	1.32E-03	8.69E+06	2.82E-01	8.46E+11	1.32E-03
8.88E+11	1.31E-03	8.70E+06	2.80E-01	8.47E+11	1.31E-03
8.89E+11	1.30E-03	8.71E+06	2.78E-01	8.48E+11	1.31E-03
8.90E+11	1.29E-03	8.72E+06	2.75E-01	8.49E+11	1.30E-03
8.91E+11	1.28E-03	8.73E+06	2.73E-01	8.50E+11	1.29E-03
8.92E+11	1.27E-03	8.74E+06	2.71E-01	8.51E+11	1.28E-03
8.92E+11	1.27E-03	8.74E+06	2.71E-01	8.52E+11	1.27E-03
8.93E+11	1.26E-03	8.75E+06	2.69E-01	8.53E+11	1.26E-03
8.94E+11	1.25E-03	8.76E+06	2.67E-01	8.54E+11	1.25E-03
8.96E+11	1.24E-03	8.78E+06	2.65E-01	8.56E+11	1.24E-03
8.97E+11	1.23E-03	8.79E+06	2.63E-01	8.57E+11	1.23E-03
8.98E+11	1.22E-03	8.80E+06	2.60E-01	8.58E+11	1.22E-03
8.99E+11	1.21E-03	8.81E+06	2.59E-01	8.59E+11	1.21E-03
9.00E+11	1.20E-03	8.82E+06	2.57E-01	8.60E+11	1.20E-03
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9.06E+11	1.15E-03	8.88E+06	2.47E-01	8.65E+11	1.16E-03
9.07E+11	1.14E-03	8.89E+06	2.45E-01	8.66E+11	1.15E-03
9.08E+11	1.13E-03	8.90E+06	2.43E-01	8.67E+11	1.14E-03
9.09E+11	1.12E-03	8.91E+06	2.40E-01	8.69E+11	1.13E-03
9.11E+11	1.11E-03	8.93E+06	2.38E-01	8.70E+11	1.12E-03
9.11E+11	1.11E-03	8.93E+06	2.37E-01	8.71E+11	1.11E-03
9.13E+11	1.10E-03	8.94E+06	2.35E-01	8.72E+11	1.10E-03
9.14E+11	1.09E-03	8.96E+06	2.33E-01	8.73E+11	1.09E-03
9.16E+11	1.08E-03	8.97E+06	2.31E-01	8.74E+11	1.08E-03
9.17E+11	1.07E-03	8.99E+06	2.29E-01	8.76E+11	1.07E-03
9.17E+11	1.07E-03	8.99E+06	2.28E-01	8.77E+11	1.06E-03
9.19E+11	1.06E-03	9.00E+06	2.26E-01	8.79E+11	1.05E-03
9.20E+11	1.05E-03	9.02E+06	2.24E-01	8.80E+11	1.05E-03

9.21E+11	1.04E-03	9.03E+06	2.22E-01	8.81E+11	1.04E-03
9.23E+11	1.03E-03	9.04E+06	2.20E-01	8.83E+11	1.03E-03
9.24E+11	1.02E-03	9.05E+06	2.18E-01	8.84E+11	1.02E-03
9.25E+11	1.01E-03	9.07E+06	2.16E-01	8.85E+11	1.01E-03
9.27E+11	9.97E-04	9.08E+06	2.14E-01	8.86E+11	1.00E-03
9.28E+11	9.87E-04	9.10E+06	2.11E-01	8.87E+11	9.92E-04
9.29E+11	9.82E-04	9.10E+06	2.10E-01	8.89E+11	9.82E-04
9.30E+11	9.72E-04	9.12E+06	2.08E-01	8.91E+11	9.72E-04
9.32E+11	9.62E-04	9.13E+06	2.06E-01	8.92E+11	9.62E-04
9.33E+11	9.56E-04	9.14E+06	2.05E-01	8.94E+11	9.52E-04
9.34E+11	9.46E-04	9.16E+06	2.03E-01	8.96E+11	9.42E-04
9.36E+11	9.39E-04	9.17E+06	2.01E-01	8.96E+11	9.40E-04
9.38E+11	9.29E-04	9.19E+06	1.99E-01	8.97E+11	9.30E-04
9.40E+11	9.19E-04	9.21E+06	1.97E-01	8.98E+11	9.20E-04
9.42E+11	9.09E-04	9.23E+06	1.95E-01	9.00E+11	9.10E-04
9.46E+11	8.99E-04	9.27E+06	1.93E-01	9.02E+11	9.00E-04
9.47E+11	8.95E-04	9.28E+06	1.92E-01	9.03E+11	8.96E-04
9.51E+11	8.85E-04	9.32E+06	1.89E-01	9.04E+11	8.86E-04
9.54E+11	8.78E-04	9.35E+06	1.88E-01	9.06E+11	8.76E-04
9.56E+11	8.74E-04	9.37E+06	1.87E-01	9.07E+11	8.71E-04
9.70E+11	8.64E-04	9.50E+06	1.85E-01	9.08E+11	8.61E-04
9.80E+11	8.55E-04	9.60E+06	1.83E-01	9.10E+11	8.51E-04
9.84E+11	8.51E-04	9.65E+06	1.82E-01	9.11E+11	8.44E-04
9.86E+11	8.41E-04	9.66E+06	1.80E-01	9.12E+11	8.37E-04
9.86E+11	8.40E-04	9.66E+06	1.80E-01	9.13E+11	8.27E-04
9.85E+11	8.30E-04	9.65E+06	1.78E-01	9.15E+11	8.17E-04
9.84E+11	8.20E-04	9.64E+06	1.75E-01	9.15E+11	8.16E-04
9.83E+11	8.10E-04	9.63E+06	1.73E-01	9.17E+11	8.06E-04
9.81E+11	8.00E-04	9.62E+06	1.71E-01	9.19E+11	7.96E-04
9.80E+11	7.91E-04	9.61E+06	1.69E-01	9.20E+11	7.94E-04
9.79E+11	7.81E-04	9.59E+06	1.67E-01	9.22E+11	7.84E-04
9.77E+11	7.72E-04	9.58E+06	1.65E-01	9.23E+11	7.79E-04
9.75E+11	7.62E-04	9.56E+06	1.63E-01	9.26E+11	7.69E-04
9.73E+11	7.56E-04	9.54E+06	1.62E-01	9.28E+11	7.62E-04
9.73E+11	7.55E-04	9.54E+06	1.62E-01	9.33E+11	7.52E-04
9.69E+11	7.45E-04	9.50E+06	1.60E-01	9.37E+11	7.46E-04
9.65E+11	7.35E-04	9.45E+06	1.57E-01	9.40E+11	7.41E-04
9.63E+11	7.32E-04	9.44E+06	1.57E-01	9.51E+11	7.31E-04
9.59E+11	7.22E-04	9.40E+06	1.55E-01	9.57E+11	7.26E-04
9.55E+11	7.13E-04	9.35E+06	1.53E-01	9.58E+11	7.20E-04
9.51E+11	7.06E-04	9.32E+06	1.51E-01	9.59E+11	7.19E-04
9.46E+11	6.96E-04	9.27E+06	1.49E-01	9.58E+11	7.09E-04
9.41E+11	6.86E-04	9.22E+06	1.47E-01	9.55E+11	6.99E-04
9.38E+11	6.80E-04	9.19E+06	1.46E-01	9.51E+11	6.89E-04
9.35E+11	6.74E-04	9.16E+06	1.44E-01	9.51E+11	6.88E-04

9.32E+11	6.68E-04	9.13E+06	1.43E-01	9.47E+11	6.78E-04
9.27E+11	6.59E-04	9.08E+06	1.41E-01	9.43E+11	6.69E-04
9.22E+11	6.51E-04	9.04E+06	1.39E-01	9.40E+11	6.63E-04
9.19E+11	6.46E-04	9.01E+06	1.38E-01	9.36E+11	6.57E-04
9.15E+11	6.40E-04	8.97E+06	1.37E-01	9.30E+11	6.51E-04
9.11E+11	6.35E-04	8.92E+06	1.36E-01	9.20E+11	6.43E-04
9.02E+11	6.26E-04	8.84E+06	1.34E-01	9.16E+11	6.40E-04
8.94E+11	6.19E-04	8.76E+06	1.33E-01	9.02E+11	6.30E-04
8.86E+11	6.12E-04	8.68E+06	1.31E-01	8.88E+11	6.20E-04
8.77E+11	6.06E-04	8.60E+06	1.30E-01	8.74E+11	6.10E-04
8.69E+11	6.00E-04	8.52E+06	1.28E-01	8.59E+11	6.00E-04
8.55E+11	5.90E-04	8.37E+06	1.26E-01	8.45E+11	5.90E-04
8.40E+11	5.80E-04	8.23E+06	1.24E-01	8.31E+11	5.80E-04
8.26E+11	5.70E-04	8.09E+06	1.22E-01	8.16E+11	5.70E-04
8.11E+11	5.60E-04	7.95E+06	1.20E-01	8.02E+11	5.60E-04
7.97E+11	5.50E-04	7.81E+06	1.18E-01	7.88E+11	5.50E-04
7.82E+11	5.40E-04	7.66E+06	1.16E-01	7.73E+11	5.40E-04
7.68E+11	5.30E-04	7.52E+06	1.13E-01	7.59E+11	5.30E-04
7.53E+11	5.20E-04	7.38E+06	1.11E-01	7.45E+11	5.20E-04
7.39E+11	5.10E-04	7.24E+06	1.09E-01	7.30E+11	5.10E-04
7.24E+11	5.00E-04	7.10E+06	1.07E-01	7.16E+11	5.00E-04
7.10E+11	4.90E-04	6.96E+06	1.05E-01	7.02E+11	4.90E-04
6.95E+11	4.80E-04	6.81E+06	1.03E-01	6.88E+11	4.80E-04
6.81E+11	4.70E-04	6.67E+06	1.01E-01	6.73E+11	4.70E-04
6.66E+11	4.60E-04	6.53E+06	9.85E-02	6.59E+11	4.60E-04
6.52E+11	4.50E-04	6.39E+06	9.64E-02	6.45E+11	4.50E-04
6.37E+11	4.40E-04	6.25E+06	9.42E-02	6.30E+11	4.40E-04
6.23E+11	4.30E-04	6.10E+06	9.21E-02	6.16E+11	4.30E-04
6.08E+11	4.20E-04	5.96E+06	8.99E-02	6.02E+11	4.20E-04
5.94E+11	4.10E-04	5.82E+06	8.78E-02	5.87E+11	4.10E-04
5.79E+11	4.00E-04	5.68E+06	8.57E-02	5.73E+11	4.00E-04
5.65E+11	3.90E-04	5.54E+06	8.35E-02	5.59E+11	3.90E-04
5.50E+11	3.80E-04	5.39E+06	8.14E-02	5.44E+11	3.80E-04
5.36E+11	3.70E-04	5.25E+06	7.92E-02	5.30E+11	3.70E-04
5.21E+11	3.60E-04	5.11E+06	7.71E-02	5.16E+11	3.60E-04
5.07E+11	3.50E-04	4.97E+06	7.49E-02	5.01E+11	3.50E-04
4.93E+11	3.40E-04	4.83E+06	7.28E-02	4.87E+11	3.40E-04
4.78E+11	3.30E-04	4.68E+06	7.07E-02	4.73E+11	3.30E-04
4.64E+11	3.20E-04	4.54E+06	6.85E-02	4.58E+11	3.20E-04
4.49E+11	3.10E-04	4.40E+06	6.64E-02	4.44E+11	3.10E-04
4.35E+11	3.00E-04	4.26E+06	6.42E-02	4.30E+11	3.00E-04
4.20E+11	2.90E-04	4.12E+06	6.21E-02	4.15E+11	2.90E-04
4.06E+11	2.80E-04	3.97E+06	6.00E-02	4.01E+11	2.80E-04
3.91E+11	2.70E-04	3.83E+06	5.78E-02	3.87E+11	2.70E-04
3.77E+11	2.60E-04	3.69E+06	5.57E-02	3.72E+11	2.60E-04

3.62E+11	2.50E-04	3.55E+06	5.35E-02	3.58E+11	2.50E-04
3.48E+11	2.40E-04	3.41E+06	5.14E-02	3.44E+11	2.40E-04
3.33E+11	2.30E-04	3.26E+06	4.93E-02	3.29E+11	2.30E-04
3.19E+11	2.20E-04	3.12E+06	4.71E-02	3.15E+11	2.20E-04
3.04E+11	2.10E-04	2.98E+06	4.50E-02	3.01E+11	2.10E-04
2.90E+11	2.00E-04	2.84E+06	4.28E-02	2.87E+11	2.00E-04
2.75E+11	1.90E-04	2.70E+06	4.07E-02	2.72E+11	1.90E-04
2.61E+11	1.80E-04	2.55E+06	3.85E-02	2.58E+11	1.80E-04
2.46E+11	1.70E-04	2.41E+06	3.64E-02	2.44E+11	1.70E-04
2.32E+11	1.60E-04	2.27E+06	3.43E-02	2.29E+11	1.60E-04
2.17E+11	1.50E-04	2.13E+06	3.21E-02	2.15E+11	1.50E-04
2.03E+11	1.40E-04	1.99E+06	3.00E-02	2.01E+11	1.40E-04
1.88E+11	1.30E-04	1.85E+06	2.78E-02	1.86E+11	1.30E-04
1.74E+11	1.20E-04	1.70E+06	2.57E-02	1.72E+11	1.20E-04
1.59E+11	1.10E-04	1.56E+06	2.36E-02	1.58E+11	1.10E-04
1.45E+11	1.00E-04	1.42E+06	2.14E-02	1.43E+11	1.00E-04
1.30E+11	9.00E-05	1.28E+06	1.93E-02	1.29E+11	9.00E-05
1.16E+11	8.00E-05	1.14E+06	1.71E-02	1.15E+11	8.00E-05
1.01E+11	7.00E-05	9.94E+05	1.50E-02	1.00E+11	7.00E-05
8.69E+10	6.00E-05	8.52E+05	1.28E-02	8.59E+10	6.00E-05
7.24E+10	5.00E-05	7.10E+05	1.07E-02	7.16E+10	5.00E-05
5.79E+10	4.00E-05	5.68E+05	8.57E-03	5.73E+10	4.00E-05
4.35E+10	3.00E-05	4.26E+05	6.42E-03	4.30E+10	3.00E-05
2.90E+10	2.00E-05	2.84E+05	4.28E-03	2.87E+10	2.00E-05
1.45E+10	1.00E-05	1.42E+05	2.14E-03	1.43E+10	1.00E-05
1.30E+10	9.00E-06	1.28E+05	1.93E-03	1.29E+10	9.00E-06
1.16E+10	8.00E-06	1.14E+05	1.71E-03	1.15E+10	8.00E-06
1.01E+10	7.00E-06	9.94E+04	1.50E-03	1.00E+10	7.00E-06
8.69E+09	6.00E-06	8.52E+04	1.28E-03	8.60E+09	6.00E-06
7.24E+09	5.00E-06	7.10E+04	1.07E-03	7.16E+09	5.00E-06
5.79E+09	4.00E-06	5.68E+04	8.57E-04	5.73E+09	4.00E-06
4.35E+09	3.00E-06	4.26E+04	6.42E-04	4.30E+09	3.00E-06
2.90E+09	2.00E-06	2.84E+04	4.28E-04	2.87E+09	2.00E-06
1.45E+09	1.00E-06	1.42E+04	2.14E-04	1.43E+09	1.00E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.45E+09	-1.00E-06	-1.42E+04	-2.14E-04	-1.43E+09	-1.00E-06
-2.90E+09	-2.00E-06	-2.84E+04	-4.28E-04	-2.87E+09	-2.00E-06
-4.35E+09	-3.00E-06	-4.26E+04	-6.42E-04	-4.30E+09	-3.00E-06
-5.79E+09	-4.00E-06	-5.68E+04	-8.57E-04	-5.73E+09	-4.00E-06
-7.24E+09	-5.00E-06	-7.10E+04	-1.07E-03	-7.16E+09	-5.00E-06
-8.69E+09	-6.00E-06	-8.52E+04	-1.28E-03	-8.59E+09	-6.00E-06
-1.01E+10	-7.00E-06	-9.94E+04	-1.50E-03	-1.00E+10	-7.00E-06
-1.16E+10	-8.00E-06	-1.14E+05	-1.71E-03	-1.15E+10	-8.00E-06
-1.30E+10	-9.00E-06	-1.28E+05	-1.93E-03	-1.29E+10	-9.00E-06
-1.45E+10	-1.00E-05	-1.42E+05	-2.14E-03	-1.43E+10	-1.00E-05

-2.90E+10	-2.00E-05	-2.84E+05	-4.28E-03	-2.87E+10	-2.00E-05
-4.35E+10	-3.00E-05	-4.26E+05	-6.42E-03	-4.30E+10	-3.00E-05
-5.79E+10	-4.00E-05	-5.68E+05	-8.57E-03	-5.73E+10	-4.00E-05
-7.24E+10	-5.00E-05	-7.10E+05	-1.07E-02	-7.16E+10	-5.00E-05
-8.69E+10	-6.00E-05	-8.52E+05	-1.28E-02	-8.59E+10	-6.00E-05
-1.01E+11	-7.00E-05	-9.94E+05	-1.50E-02	-1.00E+11	-7.00E-05
-1.16E+11	-8.00E-05	-1.14E+06	-1.71E-02	-1.15E+11	-8.00E-05
-1.30E+11	-9.00E-05	-1.28E+06	-1.93E-02	-1.29E+11	-9.00E-05
-1.45E+11	-1.00E-04	-1.42E+06	-2.14E-02	-1.43E+11	-1.00E-04
-1.59E+11	-1.10E-04	-1.56E+06	-2.36E-02	-1.58E+11	-1.10E-04
-1.74E+11	-1.20E-04	-1.70E+06	-2.57E-02	-1.72E+11	-1.20E-04
-1.88E+11	-1.30E-04	-1.85E+06	-2.78E-02	-1.86E+11	-1.30E-04
-2.03E+11	-1.40E-04	-1.99E+06	-3.00E-02	-2.01E+11	-1.40E-04
-2.17E+11	-1.50E-04	-2.13E+06	-3.21E-02	-2.15E+11	-1.50E-04
-2.32E+11	-1.60E-04	-2.27E+06	-3.43E-02	-2.29E+11	-1.60E-04
-2.46E+11	-1.70E-04	-2.41E+06	-3.64E-02	-2.44E+11	-1.70E-04
-2.61E+11	-1.80E-04	-2.55E+06	-3.85E-02	-2.58E+11	-1.80E-04
-2.75E+11	-1.90E-04	-2.70E+06	-4.07E-02	-2.72E+11	-1.90E-04
-2.90E+11	-2.00E-04	-2.84E+06	-4.28E-02	-2.86E+11	-2.00E-04
-3.04E+11	-2.10E-04	-2.98E+06	-4.50E-02	-3.01E+11	-2.10E-04
-3.19E+11	-2.20E-04	-3.12E+06	-4.71E-02	-3.15E+11	-2.20E-04
-3.33E+11	-2.30E-04	-3.26E+06	-4.93E-02	-3.29E+11	-2.30E-04
-3.48E+11	-2.40E-04	-3.41E+06	-5.14E-02	-3.44E+11	-2.40E-04
-3.62E+11	-2.50E-04	-3.55E+06	-5.35E-02	-3.58E+11	-2.50E-04
-3.77E+11	-2.60E-04	-3.69E+06	-5.57E-02	-3.72E+11	-2.60E-04
-3.91E+11	-2.70E-04	-3.83E+06	-5.78E-02	-3.87E+11	-2.70E-04
-4.06E+11	-2.80E-04	-3.97E+06	-6.00E-02	-4.01E+11	-2.80E-04
-4.20E+11	-2.90E-04	-4.12E+06	-6.21E-02	-4.15E+11	-2.90E-04
-4.34E+11	-3.00E-04	-4.26E+06	-6.42E-02	-4.30E+11	-3.00E-04
-4.49E+11	-3.10E-04	-4.40E+06	-6.64E-02	-4.44E+11	-3.10E-04
-4.63E+11	-3.20E-04	-4.54E+06	-6.85E-02	-4.58E+11	-3.20E-04
-4.78E+11	-3.30E-04	-4.68E+06	-7.07E-02	-4.73E+11	-3.30E-04
-4.92E+11	-3.40E-04	-4.82E+06	-7.28E-02	-4.87E+11	-3.40E-04
-5.07E+11	-3.50E-04	-4.97E+06	-7.49E-02	-5.01E+11	-3.50E-04
-5.21E+11	-3.60E-04	-5.11E+06	-7.71E-02	-5.16E+11	-3.60E-04
-5.36E+11	-3.70E-04	-5.25E+06	-7.92E-02	-5.30E+11	-3.70E-04
-5.50E+11	-3.80E-04	-5.39E+06	-8.14E-02	-5.44E+11	-3.80E-04
-5.65E+11	-3.90E-04	-5.53E+06	-8.35E-02	-5.59E+11	-3.90E-04
-5.79E+11	-4.00E-04	-5.68E+06	-8.57E-02	-5.73E+11	-4.00E-04
-5.94E+11	-4.10E-04	-5.82E+06	-8.78E-02	-5.87E+11	-4.10E-04
-6.08E+11	-4.20E-04	-5.96E+06	-8.99E-02	-6.01E+11	-4.20E-04
-6.23E+11	-4.30E-04	-6.10E+06	-9.21E-02	-6.16E+11	-4.30E-04
-6.37E+11	-4.40E-04	-6.24E+06	-9.42E-02	-6.30E+11	-4.40E-04
-6.52E+11	-4.50E-04	-6.39E+06	-9.64E-02	-6.44E+11	-4.50E-04
-6.66E+11	-4.60E-04	-6.53E+06	-9.85E-02	-6.59E+11	-4.60E-04

-6.81E+11	-4.70E-04	-6.67E+06	-1.01E-01	-6.73E+11	-4.70E-04
-6.95E+11	-4.80E-04	-6.81E+06	-1.03E-01	-6.87E+11	-4.80E-04
-7.10E+11	-4.90E-04	-6.95E+06	-1.05E-01	-7.02E+11	-4.90E-04
-7.24E+11	-5.00E-04	-7.09E+06	-1.07E-01	-7.16E+11	-5.00E-04
-7.38E+11	-5.10E-04	-7.24E+06	-1.09E-01	-7.30E+11	-5.10E-04
-7.53E+11	-5.20E-04	-7.38E+06	-1.11E-01	-7.45E+11	-5.20E-04
-7.67E+11	-5.30E-04	-7.52E+06	-1.13E-01	-7.59E+11	-5.30E-04
-7.82E+11	-5.40E-04	-7.66E+06	-1.16E-01	-7.73E+11	-5.40E-04
-7.96E+11	-5.50E-04	-7.80E+06	-1.18E-01	-7.88E+11	-5.50E-04
-8.10E+11	-5.60E-04	-7.94E+06	-1.20E-01	-8.02E+11	-5.60E-04
-8.15E+11	-5.64E-04	-7.99E+06	-1.21E-01	-8.16E+11	-5.70E-04
-8.29E+11	-5.74E-04	-8.13E+06	-1.23E-01	-8.30E+11	-5.80E-04
-8.40E+11	-5.81E-04	-8.23E+06	-1.24E-01	-8.45E+11	-5.90E-04
-8.46E+11	-5.87E-04	-8.29E+06	-1.26E-01	-8.57E+11	-5.99E-04
-8.52E+11	-5.93E-04	-8.35E+06	-1.27E-01	-8.70E+11	-6.09E-04
-8.57E+11	-5.99E-04	-8.39E+06	-1.28E-01	-8.82E+11	-6.17E-04
-8.60E+11	-6.05E-04	-8.43E+06	-1.30E-01	-8.89E+11	-6.24E-04
-8.62E+11	-6.11E-04	-8.45E+06	-1.31E-01	-8.95E+11	-6.30E-04
-8.63E+11	-6.15E-04	-8.46E+06	-1.32E-01	-9.00E+11	-6.35E-04
-8.65E+11	-6.25E-04	-8.47E+06	-1.34E-01	-9.05E+11	-6.42E-04
-8.66E+11	-6.32E-04	-8.48E+06	-1.35E-01	-9.08E+11	-6.47E-04
-8.66E+11	-6.37E-04	-8.49E+06	-1.36E-01	-9.10E+11	-6.52E-04
-8.66E+11	-6.42E-04	-8.49E+06	-1.37E-01	-9.12E+11	-6.58E-04
-8.67E+11	-6.50E-04	-8.50E+06	-1.39E-01	-9.13E+11	-6.68E-04
-8.67E+11	-6.54E-04	-8.50E+06	-1.40E-01	-9.14E+11	-6.74E-04
-8.67E+11	-6.59E-04	-8.50E+06	-1.41E-01	-9.15E+11	-6.80E-04
-8.67E+11	-6.64E-04	-8.49E+06	-1.42E-01	-9.16E+11	-6.87E-04
-8.66E+11	-6.69E-04	-8.49E+06	-1.43E-01	-9.16E+11	-6.92E-04
-8.64E+11	-6.79E-04	-8.47E+06	-1.45E-01	-9.16E+11	-6.97E-04
-8.60E+11	-6.89E-04	-8.43E+06	-1.47E-01	-9.16E+11	-7.02E-04
-8.53E+11	-6.99E-04	-8.35E+06	-1.50E-01	-9.15E+11	-7.07E-04
-8.51E+11	-7.00E-04	-8.34E+06	-1.50E-01	-9.14E+11	-7.13E-04
-8.39E+11	-7.10E-04	-8.22E+06	-1.52E-01	-9.11E+11	-7.23E-04
-8.38E+11	-7.11E-04	-8.21E+06	-1.52E-01	-9.05E+11	-7.33E-04
-8.23E+11	-7.21E-04	-8.07E+06	-1.54E-01	-8.96E+11	-7.43E-04
-8.13E+11	-7.28E-04	-7.97E+06	-1.56E-01	-8.94E+11	-7.45E-04
-8.02E+11	-7.38E-04	-7.85E+06	-1.58E-01	-8.79E+11	-7.55E-04
-7.99E+11	-7.41E-04	-7.83E+06	-1.59E-01	-8.76E+11	-7.57E-04
-7.90E+11	-7.51E-04	-7.74E+06	-1.61E-01	-8.61E+11	-7.67E-04
-7.83E+11	-7.61E-04	-7.68E+06	-1.63E-01	-8.52E+11	-7.74E-04
-7.83E+11	-7.62E-04	-7.67E+06	-1.63E-01	-8.42E+11	-7.84E-04
-7.77E+11	-7.72E-04	-7.61E+06	-1.65E-01	-8.37E+11	-7.89E-04
-7.73E+11	-7.79E-04	-7.58E+06	-1.67E-01	-8.29E+11	-7.99E-04
-7.68E+11	-7.89E-04	-7.53E+06	-1.69E-01	-8.23E+11	-8.09E-04
-7.64E+11	-7.99E-04	-7.49E+06	-1.71E-01	-8.22E+11	-8.10E-04

-7.62E+11	-8.04E-04	-7.47E+06	-1.72E-01	-8.16E+11	-8.20E-04
-7.60E+11	-8.10E-04	-7.45E+06	-1.73E-01	-8.12E+11	-8.30E-04
-7.56E+11	-8.20E-04	-7.41E+06	-1.75E-01	-8.11E+11	-8.31E-04
-7.52E+11	-8.30E-04	-7.37E+06	-1.78E-01	-8.07E+11	-8.41E-04
-7.49E+11	-8.40E-04	-7.34E+06	-1.80E-01	-8.03E+11	-8.51E-04
-7.48E+11	-8.42E-04	-7.33E+06	-1.80E-01	-8.01E+11	-8.55E-04
-7.45E+11	-8.52E-04	-7.30E+06	-1.82E-01	-7.97E+11	-8.64E-04
-7.44E+11	-8.54E-04	-7.29E+06	-1.83E-01	-7.93E+11	-8.74E-04
-7.41E+11	-8.64E-04	-7.26E+06	-1.85E-01	-7.89E+11	-8.84E-04
-7.37E+11	-8.74E-04	-7.22E+06	-1.87E-01	-7.86E+11	-8.94E-04
-7.34E+11	-8.84E-04	-7.19E+06	-1.89E-01	-7.84E+11	-9.00E-04
-7.31E+11	-8.94E-04	-7.16E+06	-1.91E-01	-7.81E+11	-9.09E-04
-7.29E+11	-9.00E-04	-7.15E+06	-1.93E-01	-7.78E+11	-9.19E-04
-7.27E+11	-9.09E-04	-7.12E+06	-1.95E-01	-7.74E+11	-9.29E-04
-7.24E+11	-9.19E-04	-7.09E+06	-1.97E-01	-7.71E+11	-9.39E-04
-7.21E+11	-9.29E-04	-7.06E+06	-1.99E-01	-7.68E+11	-9.49E-04
-7.18E+11	-9.39E-04	-7.03E+06	-2.01E-01	-7.65E+11	-9.59E-04
-7.15E+11	-9.49E-04	-7.01E+06	-2.03E-01	-7.64E+11	-9.62E-04
-7.12E+11	-9.59E-04	-6.98E+06	-2.05E-01	-7.61E+11	-9.72E-04
-7.10E+11	-9.68E-04	-6.96E+06	-2.07E-01	-7.57E+11	-9.82E-04
-7.07E+11	-9.78E-04	-6.93E+06	-2.09E-01	-7.54E+11	-9.92E-04
-7.07E+11	-9.78E-04	-6.93E+06	-2.09E-01	-7.51E+11	-1.00E-03
-7.04E+11	-9.88E-04	-6.90E+06	-2.12E-01	-7.49E+11	-1.01E-03
-7.02E+11	-9.98E-04	-6.88E+06	-2.14E-01	-7.46E+11	-1.02E-03
-6.99E+11	-1.01E-03	-6.85E+06	-2.16E-01	-7.43E+11	-1.03E-03
-6.96E+11	-1.02E-03	-6.82E+06	-2.18E-01	-7.43E+11	-1.03E-03
-6.94E+11	-1.03E-03	-6.80E+06	-2.20E-01	-7.41E+11	-1.04E-03
-6.91E+11	-1.04E-03	-6.77E+06	-2.22E-01	-7.38E+11	-1.05E-03
-6.89E+11	-1.05E-03	-6.75E+06	-2.24E-01	-7.35E+11	-1.06E-03
-6.88E+11	-1.05E-03	-6.74E+06	-2.25E-01	-7.33E+11	-1.07E-03
-6.87E+11	-1.06E-03	-6.73E+06	-2.26E-01	-7.30E+11	-1.08E-03
-6.84E+11	-1.07E-03	-6.71E+06	-2.28E-01	-7.27E+11	-1.09E-03
-6.82E+11	-1.08E-03	-6.68E+06	-2.30E-01	-7.25E+11	-1.10E-03
-6.79E+11	-1.09E-03	-6.65E+06	-2.33E-01	-7.22E+11	-1.11E-03
-6.76E+11	-1.10E-03	-6.63E+06	-2.35E-01	-7.20E+11	-1.12E-03
-6.74E+11	-1.11E-03	-6.60E+06	-2.37E-01	-7.18E+11	-1.13E-03
-6.71E+11	-1.12E-03	-6.58E+06	-2.39E-01	-7.18E+11	-1.13E-03
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-6.68E+11	-1.13E-03	-6.54E+06	-2.42E-01	-7.12E+11	-1.15E-03
-6.65E+11	-1.14E-03	-6.52E+06	-2.45E-01	-7.10E+11	-1.16E-03
-6.64E+11	-1.15E-03	-6.51E+06	-2.45E-01	-7.07E+11	-1.17E-03
-6.62E+11	-1.16E-03	-6.48E+06	-2.47E-01	-7.04E+11	-1.18E-03
-6.59E+11	-1.17E-03	-6.46E+06	-2.49E-01	-7.02E+11	-1.19E-03
-6.57E+11	-1.18E-03	-6.44E+06	-2.52E-01	-7.00E+11	-1.20E-03
-6.54E+11	-1.19E-03	-6.41E+06	-2.54E-01	-6.98E+11	-1.21E-03

-6.52E+11	-1.20E-03	-6.39E+06	-2.56E-01	-6.96E+11	-1.22E-03
-6.50E+11	-1.21E-03	-6.37E+06	-2.58E-01	-6.93E+11	-1.22E-03
-6.48E+11	-1.22E-03	-6.35E+06	-2.60E-01	-6.91E+11	-1.23E-03
-6.45E+11	-1.23E-03	-6.32E+06	-2.62E-01	-6.88E+11	-1.24E-03
-6.45E+11	-1.23E-03	-6.32E+06	-2.63E-01	-6.86E+11	-1.25E-03
-6.43E+11	-1.24E-03	-6.30E+06	-2.65E-01	-6.83E+11	-1.26E-03
-6.40E+11	-1.25E-03	-6.27E+06	-2.67E-01	-6.81E+11	-1.27E-03
-6.40E+11	-1.25E-03	-6.27E+06	-2.68E-01	-6.79E+11	-1.28E-03
-6.37E+11	-1.26E-03	-6.24E+06	-2.70E-01	-6.77E+11	-1.29E-03
-6.35E+11	-1.27E-03	-6.22E+06	-2.72E-01	-6.74E+11	-1.30E-03
-6.33E+11	-1.28E-03	-6.20E+06	-2.74E-01	-6.74E+11	-1.31E-03
-6.31E+11	-1.29E-03	-6.18E+06	-2.76E-01	-6.72E+11	-1.32E-03
-6.28E+11	-1.30E-03	-6.16E+06	-2.78E-01	-6.69E+11	-1.33E-03
-6.26E+11	-1.31E-03	-6.14E+06	-2.81E-01	-6.67E+11	-1.34E-03
-6.24E+11	-1.32E-03	-6.12E+06	-2.83E-01	-6.65E+11	-1.35E-03
-6.22E+11	-1.33E-03	-6.10E+06	-2.85E-01	-6.63E+11	-1.36E-03
-6.22E+11	-1.33E-03	-6.09E+06	-2.85E-01	-6.60E+11	-1.37E-03
-6.20E+11	-1.34E-03	-6.07E+06	-2.88E-01	-6.58E+11	-1.38E-03
-6.18E+11	-1.35E-03	-6.05E+06	-2.90E-01	-6.56E+11	-1.39E-03
-6.16E+11	-1.36E-03	-6.03E+06	-2.92E-01	-6.54E+11	-1.40E-03
-6.14E+11	-1.37E-03	-6.01E+06	-2.94E-01	-6.52E+11	-1.41E-03
-6.12E+11	-1.38E-03	-5.99E+06	-2.96E-01	-6.50E+11	-1.42E-03
-6.11E+11	-1.39E-03	-5.99E+06	-2.97E-01	-6.49E+11	-1.42E-03
-6.09E+11	-1.40E-03	-5.97E+06	-2.99E-01	-6.47E+11	-1.43E-03
-6.07E+11	-1.41E-03	-5.95E+06	-3.01E-01	-6.45E+11	-1.44E-03
-6.05E+11	-1.42E-03	-5.93E+06	-3.03E-01	-6.43E+11	-1.45E-03
-6.03E+11	-1.43E-03	-5.91E+06	-3.06E-01	-6.41E+11	-1.46E-03
-6.01E+11	-1.44E-03	-5.89E+06	-3.08E-01	-6.39E+11	-1.47E-03
-5.99E+11	-1.45E-03	-5.87E+06	-3.10E-01	-6.37E+11	-1.48E-03
-5.98E+11	-1.46E-03	-5.86E+06	-3.12E-01	-6.37E+11	-1.48E-03
-5.96E+11	-1.47E-03	-5.84E+06	-3.14E-01	-6.35E+11	-1.49E-03
-5.94E+11	-1.48E-03	-5.82E+06	-3.16E-01	-6.33E+11	-1.50E-03
-5.92E+11	-1.49E-03	-5.80E+06	-3.18E-01	-6.31E+11	-1.51E-03
-5.90E+11	-1.50E-03	-5.79E+06	-3.20E-01	-6.29E+11	-1.52E-03
-5.89E+11	-1.51E-03	-5.77E+06	-3.22E-01	-6.27E+11	-1.53E-03
-5.87E+11	-1.52E-03	-5.75E+06	-3.25E-01	-6.25E+11	-1.54E-03
-5.85E+11	-1.53E-03	-5.73E+06	-3.27E-01	-6.24E+11	-1.55E-03
-5.83E+11	-1.54E-03	-5.72E+06	-3.29E-01	-6.22E+11	-1.56E-03
-5.82E+11	-1.55E-03	-5.70E+06	-3.31E-01	-6.20E+11	-1.57E-03
-5.80E+11	-1.56E-03	-5.69E+06	-3.33E-01	-6.18E+11	-1.58E-03
-5.79E+11	-1.57E-03	-5.67E+06	-3.35E-01	-6.17E+11	-1.59E-03
-5.78E+11	-1.57E-03	-5.67E+06	-3.36E-01	-6.15E+11	-1.60E-03
-5.77E+11	-1.58E-03	-5.65E+06	-3.38E-01	-6.13E+11	-1.61E-03
-5.75E+11	-1.59E-03	-5.64E+06	-3.40E-01	-6.11E+11	-1.62E-03
-5.74E+11	-1.60E-03	-5.62E+06	-3.42E-01	-6.10E+11	-1.63E-03

-5.72E+11	-1.61E-03	-5.60E+06	-3.44E-01	-6.08E+11	-1.64E-03
-5.70E+11	-1.62E-03	-5.59E+06	-3.46E-01	-6.07E+11	-1.65E-03
-5.69E+11	-1.63E-03	-5.57E+06	-3.49E-01	-6.05E+11	-1.66E-03
-5.69E+11	-1.63E-03	-5.57E+06	-3.49E-01	-6.03E+11	-1.67E-03
-5.67E+11	-1.64E-03	-5.56E+06	-3.51E-01	-6.03E+11	-1.68E-03
-5.65E+11	-1.65E-03	-5.54E+06	-3.53E-01	-6.01E+11	-1.69E-03
-5.64E+11	-1.66E-03	-5.53E+06	-3.55E-01	-6.00E+11	-1.70E-03
-5.62E+11	-1.67E-03	-5.51E+06	-3.57E-01	-5.98E+11	-1.71E-03
-5.61E+11	-1.68E-03	-5.49E+06	-3.60E-01	-5.97E+11	-1.72E-03
-5.59E+11	-1.69E-03	-5.48E+06	-3.62E-01	-5.95E+11	-1.73E-03
-5.58E+11	-1.70E-03	-5.46E+06	-3.64E-01	-5.94E+11	-1.74E-03
-5.56E+11	-1.71E-03	-5.45E+06	-3.66E-01	-5.93E+11	-1.74E-03
-5.55E+11	-1.72E-03	-5.44E+06	-3.68E-01	-5.92E+11	-1.75E-03
-5.53E+11	-1.73E-03	-5.42E+06	-3.70E-01	-5.90E+11	-1.76E-03
-5.52E+11	-1.74E-03	-5.41E+06	-3.72E-01	-5.89E+11	-1.77E-03
-5.51E+11	-1.75E-03	-5.40E+06	-3.75E-01	-5.87E+11	-1.78E-03
-5.49E+11	-1.76E-03	-5.38E+06	-3.77E-01	-5.86E+11	-1.79E-03
-5.49E+11	-1.76E-03	-5.38E+06	-3.77E-01	-5.84E+11	-1.80E-03
-5.47E+11	-1.77E-03	-5.36E+06	-3.79E-01	-5.83E+11	-1.81E-03
-5.46E+11	-1.78E-03	-5.35E+06	-3.82E-01	-5.81E+11	-1.82E-03
-5.45E+11	-1.79E-03	-5.34E+06	-3.84E-01	-5.80E+11	-1.83E-03
-5.43E+11	-1.80E-03	-5.32E+06	-3.86E-01	-5.78E+11	-1.84E-03
-5.42E+11	-1.81E-03	-5.31E+06	-3.88E-01	-5.77E+11	-1.85E-03
-5.41E+11	-1.82E-03	-5.30E+06	-3.90E-01	-5.76E+11	-1.86E-03
-5.39E+11	-1.83E-03	-5.29E+06	-3.92E-01	-5.74E+11	-1.87E-03
-5.38E+11	-1.84E-03	-5.27E+06	-3.94E-01	-5.73E+11	-1.88E-03
-5.37E+11	-1.85E-03	-5.26E+06	-3.96E-01	-5.72E+11	-1.88E-03
-5.35E+11	-1.86E-03	-5.25E+06	-3.99E-01	-5.71E+11	-1.89E-03
-5.34E+11	-1.87E-03	-5.23E+06	-4.01E-01	-5.69E+11	-1.90E-03
-5.33E+11	-1.88E-03	-5.22E+06	-4.03E-01	-5.68E+11	-1.91E-03
-5.31E+11	-1.89E-03	-5.21E+06	-4.05E-01	-5.67E+11	-1.92E-03
-5.30E+11	-1.90E-03	-5.19E+06	-4.07E-01	-5.65E+11	-1.93E-03
-5.29E+11	-1.91E-03	-5.18E+06	-4.09E-01	-5.64E+11	-1.94E-03
-5.28E+11	-1.92E-03	-5.17E+06	-4.11E-01	-5.63E+11	-1.95E-03
-5.26E+11	-1.93E-03	-5.16E+06	-4.13E-01	-5.62E+11	-1.96E-03
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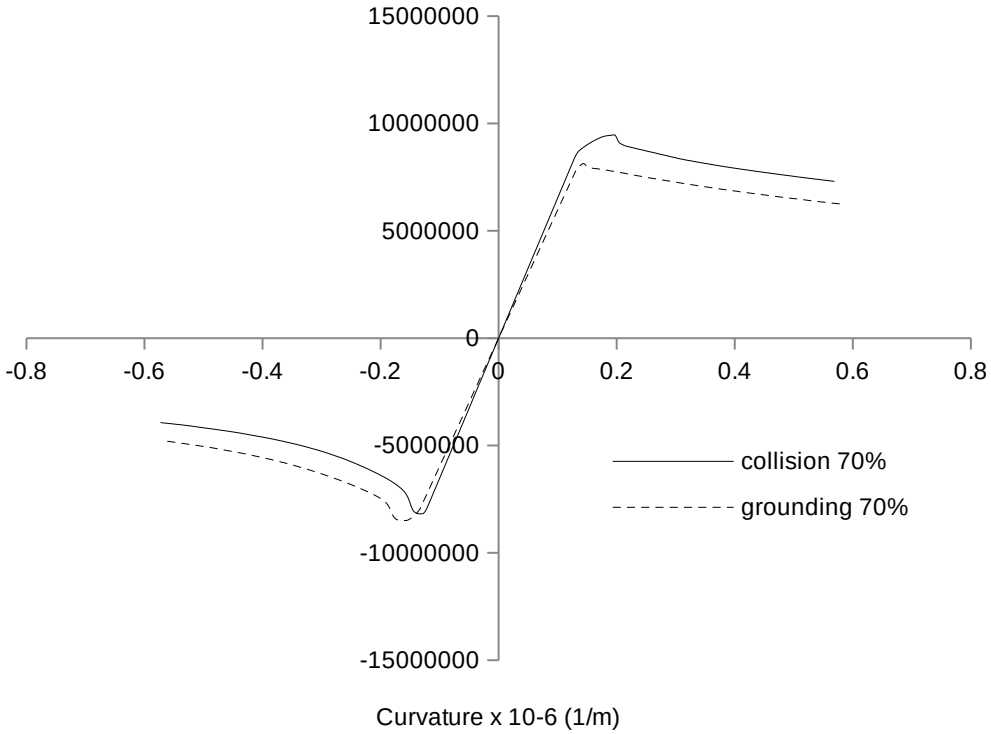
-5.24E+11	-1.95E-03	-5.13E+06	-4.18E-01	-5.59E+11	-1.98E-03
-5.23E+11	-1.96E-03	-5.12E+06	-4.20E-01	-5.58E+11	-1.99E-03
-5.22E+11	-1.97E-03	-5.11E+06	-4.22E-01	-5.56E+11	-2.00E-03
-5.21E+11	-1.98E-03	-5.10E+06	-4.24E-01	-5.55E+11	-2.01E-03
-5.19E+11	-1.99E-03	-5.09E+06	-4.26E-01	-5.54E+11	-2.02E-03
-5.18E+11	-2.00E-03	-5.08E+06	-4.28E-01	-5.53E+11	-2.03E-03
-5.17E+11	-2.01E-03	-5.07E+06	-4.31E-01	-5.51E+11	-2.04E-03
-5.17E+11	-2.01E-03	-5.07E+06	-4.31E-01	-5.50E+11	-2.05E-03
-5.16E+11	-2.02E-03	-5.06E+06	-4.33E-01	-5.49E+11	-2.06E-03

-5.15E+11	-2.03E-03	-5.05E+06	-4.35E-01	-5.48E+11	-2.07E-03
-5.14E+11	-2.04E-03	-5.04E+06	-4.37E-01	-5.47E+11	-2.08E-03
-5.13E+11	-2.05E-03	-5.02E+06	-4.39E-01	-5.46E+11	-2.09E-03
-5.12E+11	-2.06E-03	-5.01E+06	-4.41E-01	-5.45E+11	-2.10E-03
-5.10E+11	-2.07E-03	-5.00E+06	-4.43E-01	-5.43E+11	-2.11E-03
-5.09E+11	-2.08E-03	-4.99E+06	-4.46E-01	-5.42E+11	-2.12E-03
-5.08E+11	-2.09E-03	-4.98E+06	-4.47E-01	-5.41E+11	-2.13E-03
-5.07E+11	-2.10E-03	-4.97E+06	-4.49E-01	-5.40E+11	-2.14E-03
-5.06E+11	-2.11E-03	-4.96E+06	-4.52E-01	-5.39E+11	-2.15E-03
-5.05E+11	-2.12E-03	-4.95E+06	-4.54E-01	-5.38E+11	-2.16E-03
-5.04E+11	-2.13E-03	-4.94E+06	-4.56E-01	-5.37E+11	-2.17E-03
-5.03E+11	-2.14E-03	-4.93E+06	-4.58E-01	-5.36E+11	-2.18E-03
-5.02E+11	-2.15E-03	-4.92E+06	-4.60E-01	-5.35E+11	-2.19E-03
-5.01E+11	-2.16E-03	-4.91E+06	-4.62E-01	-5.34E+11	-2.20E-03
-5.00E+11	-2.17E-03	-4.90E+06	-4.64E-01	-5.33E+11	-2.21E-03
-4.99E+11	-2.18E-03	-4.89E+06	-4.67E-01	-5.32E+11	-2.22E-03
-4.98E+11	-2.19E-03	-4.88E+06	-4.69E-01	-5.31E+11	-2.23E-03
-4.97E+11	-2.20E-03	-4.87E+06	-4.71E-01	-5.30E+11	-2.24E-03
-4.96E+11	-2.21E-03	-4.86E+06	-4.73E-01	-5.29E+11	-2.25E-03
-4.95E+11	-2.22E-03	-4.85E+06	-4.75E-01	-5.28E+11	-2.26E-03
-4.94E+11	-2.23E-03	-4.84E+06	-4.77E-01	-5.27E+11	-2.27E-03
-4.93E+11	-2.24E-03	-4.83E+06	-4.79E-01	-5.26E+11	-2.28E-03
-4.92E+11	-2.25E-03	-4.82E+06	-4.82E-01	-5.25E+11	-2.29E-03
-4.91E+11	-2.26E-03	-4.81E+06	-4.84E-01	-5.24E+11	-2.30E-03
-4.90E+11	-2.27E-03	-4.80E+06	-4.86E-01	-5.23E+11	-2.31E-03
-4.89E+11	-2.28E-03	-4.79E+06	-4.88E-01	-5.22E+11	-2.32E-03
-4.88E+11	-2.29E-03	-4.78E+06	-4.90E-01	-5.21E+11	-2.33E-03
-4.87E+11	-2.30E-03	-4.78E+06	-4.92E-01	-5.20E+11	-2.34E-03
-4.86E+11	-2.31E-03	-4.77E+06	-4.94E-01	-5.19E+11	-2.35E-03
-4.86E+11	-2.32E-03	-4.76E+06	-4.97E-01	-5.18E+11	-2.36E-03
-4.85E+11	-2.33E-03	-4.75E+06	-4.99E-01	-5.17E+11	-2.37E-03
-4.84E+11	-2.34E-03	-4.74E+06	-5.01E-01	-5.16E+11	-2.38E-03
-4.84E+11	-2.34E-03	-4.74E+06	-5.01E-01	-5.15E+11	-2.39E-03
-4.83E+11	-2.35E-03	-4.73E+06	-5.03E-01	-5.14E+11	-2.40E-03
-4.82E+11	-2.36E-03	-4.72E+06	-5.06E-01	-5.13E+11	-2.41E-03
-4.81E+11	-2.37E-03	-4.71E+06	-5.08E-01	-5.12E+11	-2.42E-03
-4.80E+11	-2.38E-03	-4.71E+06	-5.10E-01	-5.12E+11	-2.43E-03
-4.79E+11	-2.39E-03	-4.70E+06	-5.12E-01	-5.11E+11	-2.44E-03
-4.79E+11	-2.40E-03	-4.69E+06	-5.14E-01	-5.10E+11	-2.45E-03
-4.78E+11	-2.41E-03	-4.68E+06	-5.16E-01	-5.09E+11	-2.46E-03
-4.77E+11	-2.42E-03	-4.67E+06	-5.18E-01	-5.08E+11	-2.47E-03
-4.76E+11	-2.43E-03	-4.66E+06	-5.21E-01	-5.07E+11	-2.48E-03
-4.76E+11	-2.43E-03	-4.66E+06	-5.21E-01	-5.07E+11	-2.49E-03
-4.75E+11	-2.44E-03	-4.66E+06	-5.23E-01	-5.06E+11	-2.50E-03
-4.74E+11	-2.45E-03	-4.65E+06	-5.25E-01	-5.05E+11	-2.51E-03

-4.73E+11	-2.46E-03	-4.64E+06	-5.27E-01	-5.04E+11	-2.52E-03
-4.73E+11	-2.47E-03	-4.63E+06	-5.29E-01	-5.03E+11	-2.53E-03
-4.72E+11	-2.48E-03	-4.62E+06	-5.31E-01	-5.03E+11	-2.54E-03
-4.71E+11	-2.49E-03	-4.61E+06	-5.33E-01	-5.02E+11	-2.55E-03
-4.70E+11	-2.50E-03	-4.61E+06	-5.35E-01	-5.01E+11	-2.56E-03
-4.69E+11	-2.51E-03	-4.60E+06	-5.37E-01	-5.00E+11	-2.57E-03
-4.68E+11	-2.52E-03	-4.59E+06	-5.39E-01	-4.99E+11	-2.58E-03
-4.67E+11	-2.53E-03	-4.58E+06	-5.42E-01	-4.99E+11	-2.59E-03
-4.67E+11	-2.54E-03	-4.57E+06	-5.44E-01	-4.98E+11	-2.60E-03
-4.66E+11	-2.55E-03	-4.56E+06	-5.46E-01	-4.98E+11	-2.60E-03
-4.65E+11	-2.56E-03	-4.56E+06	-5.48E-01	-4.97E+11	-2.61E-03
-4.64E+11	-2.57E-03	-4.55E+06	-5.50E-01	-4.96E+11	-2.62E-03
-4.63E+11	-2.58E-03	-4.54E+06	-5.52E-01	-4.95E+11	-2.63E-03
-4.63E+11	-2.59E-03	-4.53E+06	-5.54E-01	-4.95E+11	-2.64E-03
-4.62E+11	-2.60E-03	-4.53E+06	-5.57E-01	-4.94E+11	-2.65E-03
-4.61E+11	-2.61E-03	-4.52E+06	-5.59E-01	-4.93E+11	-2.66E-03
-4.60E+11	-2.62E-03	-4.51E+06	-5.61E-01	-4.92E+11	-2.67E-03
-4.60E+11	-2.63E-03	-4.50E+06	-5.63E-01	-4.91E+11	-2.68E-03
-4.59E+11	-2.64E-03	-4.50E+06	-5.65E-01	-4.90E+11	-2.69E-03

% kandas				70% tubrukan	
9.80E-06	1.00E-06		4670	9.80E-06	1.00E-06
Momen	**Curvature**	**Momen**	**Rotasi**	**Momen**	**Curvature**
7.14E+06	5.80E-01	7.45E+11	2.66E-03	7.30E+06	5.69E-01
7.14E					
7.15E					
7.16E					
7.16E					
7.17E					
7.18E					
7.19E					
7.19E					
7.20E					
7.21E					
7.22E					
7.22E					
7.23E					
7.23E					
7.24E					
7.25E					
7.25E					
7.26E					
7.27E					
7.27E					
7.28E+06	5.36E-01	7.60E+11	2.45E-03	7.45E+06	5.24E-01
7.29E+06	5.34E-01	7.61E+11	2.44E-03	7.46E+06	5.22E-01
7.30E+06	5.31E-01	7.62E+11	2.43E-03	7.46E+06	5.21E-01
7.30E+06	5.29E-01	7.62E+11	2.42E-03	7.47E+06	5.19E-01
7.31E+06	5.27E-01	7.63E+11	2.41E-03	7.48E+06	5.17E-01
7.32E+06	5.25E-01	7.64E+11	2.40E-03	7.49E+06	5.15E-01
7.32E+06	5.23E-01	7.65E+11	2.39E-03	7.49E+06	5.12E-01
7.33E+06	5.21E-01	7.65E+11	2.38E-03	7.50E+06	5.10E-01
7.33E+06	5.20E-01	7.66E+11	2.37E-03	7.51E+06	5.08E-01
7.34E+06	5.18E-01	7.67E+11	2.36E-03	7.51E+06	5.06E-01
7.35E+06	5.15E-01	7.68E+11	2.35E-03	7.52E+06	5.04E-01
7.36E+06	5.13E-01	7.68E+11	2.34E-03	7.53E+06	5.02E-01
7.36E+06	5.11E-01	7.69E+11	2.33E-03	7.54E+06	5.00E-01
7.37E+06	5.09E-01	7.70E+11	2.32E-03	7.55E+06	4.97E-01
7.38E+06	5.07E-01	7.71E+11	2.31E-03	7.55E+06	4.95E-01
7.39E+06	5.05E-01	7.72E+11	2.30E-03	7.56E+06	4.93E-01
7.39E+06	5.03E-01	7.72E+11	2.30E-03	7.57E+06	4.92E-01
7.40E+06	5.00E-01	7.73E+11	2.29E-03	7.57E+06	4.90E-01
7.41E+06	4.98E-01	7.74E+11	2.28E-03	7.58E+06	4.88E-01



7.42E+06	4.96E-01	7.74E+11	2.27E-03	7.59E+06	4.86E-01
7.42E+06	4.94E-01	7.75E+11	2.26E-03	7.60E+06	4.84E-01
7.43E+06	4.92E-01	7.76E+11	2.25E-03	7.60E+06	4.81E-01
7.44E+06	4.90E-01	7.77E+11	2.24E-03	7.61E+06	4.79E-01
7.45E+06	4.88E-01	7.78E+11	2.23E-03	7.62E+06	4.77E-01
7.46E+06	4.86E-01	7.78E+11	2.22E-03	7.63E+06	4.75E-01
7.46E+06	4.84E-01	7.79E+11	2.21E-03	7.64E+06	4.73E-01
7.47E+06	4.81E-01	7.80E+11	2.20E-03	7.64E+06	4.71E-01
7.48E+06	4.79E-01	7.80E+11	2.20E-03	7.65E+06	4.70E-01
7.49E+06	4.77E-01	7.81E+11	2.19E-03	7.65E+06	4.68E-01
7.49E+06	4.75E-01	7.82E+11	2.18E-03	7.66E+06	4.66E-01
7.50E+06	4.73E-01	7.83E+11	2.17E-03	7.67E+06	4.64E-01
7.51E+06	4.71E-01	7.83E+11	2.16E-03	7.68E+06	4.62E-01
7.51E+06	4.69E-01	7.84E+11	2.15E-03	7.68E+06	4.60E-01
7.52E+06	4.66E-01	7.85E+11	2.14E-03	7.69E+06	4.58E-01
7.53E+06	4.64E-01	7.86E+11	2.13E-03	7.70E+06	4.55E-01
7.54E+06	4.62E-01	7.87E+11	2.12E-03	7.71E+06	4.53E-01
7.54E+06	4.60E-01	7.87E+11	2.11E-03	7.72E+06	4.51E-01
7.55E+06	4.58E-01	7.88E+11	2.10E-03	7.72E+06	4.49E-01
7.56E+06	4.56E-01	7.89E+11	2.09E-03	7.73E+06	4.47E-01
7.56E+06	4.55E-01	7.90E+11	2.08E-03	7.74E+06	4.45E-01
7.57E+06	4.53E-01	7.91E+11	2.07E-03	7.75E+06	4.43E-01
7.58E+06	4.51E-01	7.92E+11	2.06E-03	7.76E+06	4.40E-01
7.59E+06	4.49E-01	7.92E+11	2.05E-03	7.76E+06	4.38E-01
7.59E+06	4.47E-01	7.93E+11	2.04E-03	7.77E+06	4.36E-01
7.60E+06	4.45E-01	7.94E+11	2.03E-03	7.78E+06	4.34E-01
7.61E+06	4.43E-01	7.95E+11	2.02E-03	7.79E+06	4.32E-01
7.62E+06	4.40E-01	7.96E+11	2.01E-03	7.80E+06	4.30E-01
7.63E+06	4.38E-01	7.97E+11	2.00E-03	7.81E+06	4.28E-01
7.64E+06	4.36E-01	7.98E+11	1.99E-03	7.82E+06	4.25E-01
7.64E+06	4.34E-01	7.98E+11	1.98E-03	7.82E+06	4.23E-01
7.65E+06	4.32E-01	7.99E+11	1.98E-03	7.83E+06	4.23E-01
7.66E+06	4.30E-01	7.99E+11	1.97E-03	7.83E+06	4.21E-01
7.67E+06	4.28E-01	8.00E+11	1.96E-03	7.84E+06	4.19E-01
7.67E+06	4.26E-01	8.01E+11	1.95E-03	7.85E+06	4.16E-01
7.68E+06	4.24E-01	8.02E+11	1.94E-03	7.86E+06	4.14E-01
7.69E+06	4.22E-01	8.03E+11	1.93E-03	7.87E+06	4.12E-01
7.70E+06	4.20E-01	8.04E+11	1.92E-03	7.88E+06	4.10E-01
7.71E+06	4.18E-01	8.05E+11	1.91E-03	7.89E+06	4.08E-01
7.71E+06	4.15E-01	8.06E+11	1.90E-03	7.89E+06	4.06E-01
7.72E+06	4.13E-01	8.06E+11	1.89E-03	7.90E+06	4.04E-01
7.73E+06	4.11E-01	8.07E+11	1.88E-03	7.91E+06	4.01E-01
7.74E+06	4.09E-01	8.08E+11	1.87E-03	7.92E+06	4.00E-01
7.75E+06	4.07E-01	8.09E+11	1.86E-03	7.93E+06	3.98E-01
7.76E+06	4.05E-01	8.10E+11	1.85E-03	7.93E+06	3.96E-01

7.76E+06	4.03E-01	8.11E+11	1.84E-03	7.94E+06	3.94E-01
7.77E+06	4.00E-01	8.12E+11	1.83E-03	7.95E+06	3.91E-01
7.78E+06	3.98E-01	8.12E+11	1.82E-03	7.96E+06	3.89E-01
7.79E+06	3.96E-01	8.13E+11	1.81E-03	7.97E+06	3.87E-01
7.80E+06	3.94E-01	8.14E+11	1.80E-03	7.98E+06	3.85E-01
7.81E+06	3.92E-01	8.15E+11	1.79E-03	7.99E+06	3.83E-01
7.82E+06	3.90E-01	8.16E+11	1.78E-03	8.00E+06	3.81E-01
7.83E+06	3.88E-01	8.17E+11	1.77E-03	8.01E+06	3.79E-01
7.84E+06	3.85E-01	8.18E+11	1.76E-03	8.02E+06	3.77E-01
7.84E+06	3.85E-01	8.19E+11	1.75E-03	8.03E+06	3.75E-01
7.85E+06	3.83E-01	8.20E+11	1.74E-03	8.04E+06	3.73E-01
7.85E+06	3.81E-01	8.21E+11	1.73E-03	8.04E+06	3.70E-01
7.86E+06	3.79E-01	8.22E+11	1.72E-03	8.05E+06	3.68E-01
7.87E+06	3.76E-01	8.23E+11	1.71E-03	8.06E+06	3.66E-01
7.88E+06	3.74E-01	8.23E+11	1.71E-03	8.07E+06	3.66E-01
7.89E+06	3.72E-01	8.24E+11	1.70E-03	8.08E+06	3.64E-01
7.90E+06	3.70E-01	8.25E+11	1.69E-03	8.08E+06	3.61E-01
7.91E+06	3.68E-01	8.26E+11	1.68E-03	8.09E+06	3.59E-01
7.92E+06	3.66E-01	8.27E+11	1.67E-03	8.10E+06	3.57E-01
7.93E+06	3.64E-01	8.28E+11	1.66E-03	8.12E+06	3.55E-01
7.93E+06	3.61E-01	8.29E+11	1.65E-03	8.13E+06	3.53E-01
7.94E+06	3.61E-01	8.30E+11	1.64E-03	8.13E+06	3.51E-01
7.94E+06	3.59E-01	8.30E+11	1.64E-03	8.13E+06	3.51E-01
7.95E+06	3.57E-01	8.31E+11	1.63E-03	8.14E+06	3.49E-01
7.96E+06	3.54E-01	8.32E+11	1.62E-03	8.15E+06	3.46E-01
7.97E+06	3.52E-01	8.33E+11	1.61E-03	8.17E+06	3.44E-01
7.98E+06	3.50E-01	8.34E+11	1.60E-03	8.18E+06	3.42E-01
7.99E+06	3.48E-01	8.35E+11	1.59E-03	8.19E+06	3.40E-01
8.00E+06	3.46E-01	8.36E+11	1.58E-03	8.20E+06	3.38E-01
8.01E+06	3.44E-01	8.38E+11	1.57E-03	8.21E+06	3.36E-01
8.02E+06	3.42E-01	8.38E+11	1.56E-03	8.21E+06	3.34E-01
8.03E+06	3.40E-01	8.39E+11	1.55E-03	8.23E+06	3.32E-01
8.04E+06	3.38E-01	8.41E+11	1.54E-03	8.24E+06	3.30E-01
8.04E+06	3.36E-01	8.42E+11	1.53E-03	8.25E+06	3.28E-01
8.05E+06	3.33E-01	8.43E+11	1.52E-03	8.26E+06	3.25E-01
8.06E+06	3.31E-01	8.44E+11	1.51E-03	8.27E+06	3.24E-01
8.07E+06	3.29E-01	8.45E+11	1.50E-03	8.28E+06	3.22E-01
8.08E+06	3.27E-01	8.46E+11	1.49E-03	8.29E+06	3.20E-01
8.09E+06	3.25E-01	8.47E+11	1.48E-03	8.30E+06	3.18E-01
8.10E+06	3.23E-01	8.48E+11	1.47E-03	8.31E+06	3.15E-01
8.11E+06	3.21E-01	8.49E+11	1.46E-03	8.32E+06	3.13E-01
8.12E+06	3.19E-01	8.50E+11	1.45E-03	8.33E+06	3.11E-01
8.13E+06	3.16E-01	8.52E+11	1.44E-03	8.34E+06	3.09E-01
8.14E+06	3.14E-01	8.52E+11	1.44E-03	8.35E+06	3.08E-01
8.15E+06	3.12E-01	8.53E+11	1.43E-03	8.36E+06	3.06E-01

8.16E+06	3.10E-01	8.55E+11	1.42E-03	8.37E+06	3.04E-01
8.16E+06	3.09E-01	8.56E+11	1.41E-03	8.39E+06	3.02E-01
8.17E+06	3.07E-01	8.57E+11	1.40E-03	8.40E+06	3.00E-01
8.18E+06	3.05E-01	8.57E+11	1.40E-03	8.40E+06	3.00E-01
8.19E+06	3.03E-01	8.59E+11	1.39E-03	8.41E+06	2.98E-01
8.20E+06	3.01E-01	8.60E+11	1.38E-03	8.43E+06	2.96E-01
8.21E+06	2.99E-01	8.61E+11	1.37E-03	8.44E+06	2.93E-01
8.22E+06	2.97E-01	8.63E+11	1.36E-03	8.46E+06	2.91E-01
8.23E+06	2.94E-01	8.64E+11	1.35E-03	8.47E+06	2.89E-01
8.24E+06	2.92E-01	8.66E+11	1.34E-03	8.48E+06	2.87E-01
8.26E+06	2.90E-01	8.66E+11	1.34E-03	8.49E+06	2.87E-01
8.26E+06	2.90E-01	8.67E+11	1.33E-03	8.50E+06	2.84E-01
8.27E+06	2.88E-01	8.69E+11	1.32E-03	8.51E+06	2.82E-01
8.28E+06	2.85E-01	8.70E+11	1.31E-03	8.53E+06	2.80E-01
8.29E+06	2.83E-01	8.71E+11	1.30E-03	8.54E+06	2.78E-01
8.30E+06	2.81E-01	8.72E+11	1.30E-03	8.54E+06	2.78E-01
8.31E+06	2.80E-01	8.73E+11	1.29E-03	8.56E+06	2.75E-01
8.32E+06	2.78E-01	8.75E+11	1.28E-03	8.57E+06	2.73E-01
8.33E+06	2.76E-01	8.76E+11	1.27E-03	8.58E+06	2.71E-01
8.34E+06	2.73E-01	8.78E+11	1.26E-03	8.60E+06	2.69E-01
8.35E+06	2.71E-01	8.79E+11	1.25E-03	8.62E+06	2.67E-01
8.36E+06	2.69E-01	8.79E+11	1.24E-03	8.62E+06	2.66E-01
8.37E+06	2.67E-01	8.81E+11	1.23E-03	8.63E+06	2.64E-01
8.38E+06	2.65E-01	8.82E+11	1.22E-03	8.64E+06	2.62E-01
8.39E+06	2.63E-01	8.83E+11	1.21E-03	8.66E+06	2.60E-01
8.41E+06	2.61E-01	8.85E+11	1.20E-03	8.67E+06	2.58E-01
8.42E+06	2.59E-01	8.86E+11	1.20E-03	8.68E+06	2.56E-01
8.43E+06	2.57E-01	8.87E+11	1.19E-03	8.69E+06	2.54E-01
8.43E+06	2.57E-01	8.89E+11	1.18E-03	8.71E+06	2.52E-01
8.44E+06	2.55E-01	8.90E+11	1.17E-03	8.72E+06	2.50E-01
8.45E+06	2.52E-01	8.91E+11	1.16E-03	8.74E+06	2.48E-01
8.46E+06	2.50E-01	8.93E+11	1.15E-03	8.75E+06	2.46E-01
8.48E+06	2.48E-01	8.94E+11	1.14E-03	8.76E+06	2.44E-01
8.49E+06	2.46E-01	8.96E+11	1.13E-03	8.78E+06	2.42E-01
8.50E+06	2.44E-01	8.96E+11	1.13E-03	8.78E+06	2.41E-01
8.51E+06	2.42E-01	8.97E+11	1.12E-03	8.79E+06	2.39E-01
8.52E+06	2.40E-01	8.98E+11	1.11E-03	8.80E+06	2.37E-01
8.54E+06	2.38E-01	9.00E+11	1.10E-03	8.82E+06	2.34E-01
8.55E+06	2.36E-01	9.02E+11	1.09E-03	8.83E+06	2.32E-01
8.56E+06	2.34E-01	9.03E+11	1.08E-03	8.85E+06	2.30E-01
8.57E+06	2.32E-01	9.04E+11	1.07E-03	8.85E+06	2.29E-01
8.58E+06	2.30E-01	9.05E+11	1.06E-03	8.87E+06	2.27E-01
8.60E+06	2.28E-01	9.07E+11	1.05E-03	8.88E+06	2.25E-01
8.61E+06	2.26E-01	9.07E+11	1.04E-03	8.89E+06	2.24E-01
8.62E+06	2.24E-01	9.09E+11	1.03E-03	8.91E+06	2.21E-01

8.64E+06	2.22E-01	9.09E+11	1.03E-03	8.91E+06	2.21E-01
8.65E+06	2.19E-01	9.11E+11	1.02E-03	8.92E+06	2.19E-01
8.66E+06	2.17E-01	9.12E+11	1.01E-03	8.94E+06	2.17E-01
8.67E+06	2.17E-01	9.14E+11	1.00E-03	8.96E+06	2.15E-01
8.68E+06	2.15E-01	9.16E+11	9.93E-04	8.98E+06	2.13E-01
8.70E+06	2.12E-01	9.19E+11	9.83E-04	9.01E+06	2.10E-01
8.71E+06	2.10E-01	9.20E+11	9.79E-04	9.02E+06	2.10E-01
8.73E+06	2.08E-01	9.23E+11	9.69E-04	9.05E+06	2.07E-01
8.74E+06	2.06E-01	9.24E+11	9.65E-04	9.06E+06	2.07E-01
8.76E+06	2.04E-01	9.27E+11	9.57E-04	9.09E+06	2.05E-01
8.78E+06	2.02E-01	9.29E+11	9.53E-04	9.11E+06	2.04E-01
8.78E+06	2.01E-01	9.40E+11	9.43E-04	9.21E+06	2.02E-01
8.79E+06	1.99E-01	9.53E+11	9.33E-04	9.34E+06	2.00E-01
8.80E+06	1.97E-01	9.54E+11	9.33E-04	9.35E+06	2.00E-01
8.82E+06	1.95E-01	9.65E+11	9.23E-04	9.45E+06	1.98E-01
8.84E+06	1.93E-01	9.66E+11	9.20E-04	9.47E+06	1.97E-01
8.84E+06	1.92E-01	9.66E+11	9.10E-04	9.46E+06	1.95E-01
8.86E+06	1.90E-01	9.65E+11	9.00E-04	9.46E+06	1.93E-01
8.88E+06	1.87E-01	9.65E+11	8.94E-04	9.46E+06	1.91E-01
8.88E+06	1.87E-01	9.64E+11	8.84E-04	9.45E+06	1.89E-01
8.90E+06	1.84E-01	9.63E+11	8.74E-04	9.44E+06	1.87E-01
8.91E+06	1.82E-01	9.63E+11	8.69E-04	9.44E+06	1.86E-01
8.92E+06	1.81E-01	9.62E+11	8.59E-04	9.43E+06	1.84E-01
8.93E+06	1.79E-01	9.61E+11	8.49E-04	9.42E+06	1.82E-01
8.95E+06	1.77E-01	9.61E+11	8.48E-04	9.42E+06	1.82E-01
8.97E+06	1.75E-01	9.60E+11	8.38E-04	9.41E+06	1.79E-01
8.97E+06	1.75E-01	9.58E+11	8.28E-04	9.39E+06	1.77E-01
8.98E+06	1.73E-01	9.56E+11	8.18E-04	9.37E+06	1.75E-01
9.01E+06	1.70E-01	9.55E+11	8.10E-04	9.35E+06	1.73E-01
9.01E+06	1.70E-01	9.52E+11	8.00E-04	9.33E+06	1.71E-01
9.03E+06	1.68E-01	9.49E+11	7.90E-04	9.30E+06	1.69E-01
9.05E+06	1.67E-01	9.47E+11	7.82E-04	9.28E+06	1.67E-01
9.07E+06	1.65E-01	9.44E+11	7.72E-04	9.25E+06	1.65E-01
9.10E+06	1.63E-01	9.41E+11	7.62E-04	9.22E+06	1.63E-01
9.14E+06	1.61E-01	9.38E+11	7.52E-04	9.19E+06	1.61E-01
9.18E+06	1.60E-01	9.34E+11	7.42E-04	9.16E+06	1.59E-01
9.21E+06	1.59E-01	9.32E+11	7.36E-04	9.14E+06	1.58E-01
9.32E+06	1.57E-01	9.29E+11	7.26E-04	9.10E+06	1.56E-01
9.37E+06	1.55E-01	9.25E+11	7.16E-04	9.07E+06	1.53E-01
9.39E+06	1.54E-01	9.21E+11	7.06E-04	9.03E+06	1.51E-01
9.40E+06	1.54E-01	9.18E+11	6.98E-04	9.00E+06	1.49E-01
9.38E+06	1.52E-01	9.16E+11	6.93E-04	8.98E+06	1.48E-01
9.36E+06	1.50E-01	9.12E+11	6.83E-04	8.94E+06	1.46E-01
9.32E+06	1.48E-01	9.08E+11	6.73E-04	8.90E+06	1.44E-01
9.32E+06	1.47E-01	9.05E+11	6.67E-04	8.87E+06	1.43E-01

9.28E+06	1.45E-01	9.03E+11	6.62E-04	8.85E+06	1.42E-01
9.24E+06	1.43E-01	9.00E+11	6.57E-04	8.82E+06	1.41E-01
9.21E+06	1.42E-01	8.96E+11	6.48E-04	8.78E+06	1.39E-01
9.17E+06	1.41E-01	8.92E+11	6.40E-04	8.74E+06	1.37E-01
9.12E+06	1.39E-01	8.90E+11	6.35E-04	8.72E+06	1.36E-01
9.02E+06	1.38E-01	8.86E+11	6.30E-04	8.69E+06	1.35E-01
8.98E+06	1.37E-01	8.82E+11	6.25E-04	8.65E+06	1.34E-01
8.84E+06	1.35E-01	8.75E+11	6.16E-04	8.57E+06	1.32E-01
8.70E+06	1.33E-01	8.67E+11	6.10E-04	8.50E+06	1.31E-01
8.56E+06	1.31E-01	8.60E+11	6.03E-04	8.43E+06	1.29E-01
8.42E+06	1.28E-01	8.51E+11	5.97E-04	8.34E+06	1.28E-01
8.28E+06	1.26E-01	8.41E+11	5.90E-04	8.25E+06	1.26E-01
8.14E+06	1.24E-01	8.27E+11	5.80E-04	8.11E+06	1.24E-01
8.00E+06	1.22E-01	8.13E+11	5.70E-04	7.97E+06	1.22E-01
7.86E+06	1.20E-01	7.99E+11	5.60E-04	7.83E+06	1.20E-01
7.72E+06	1.18E-01	7.84E+11	5.50E-04	7.69E+06	1.18E-01
7.58E+06	1.16E-01	7.70E+11	5.40E-04	7.55E+06	1.16E-01
7.44E+06	1.13E-01	7.56E+11	5.30E-04	7.41E+06	1.13E-01
7.30E+06	1.11E-01	7.42E+11	5.20E-04	7.27E+06	1.11E-01
7.16E+06	1.09E-01	7.27E+11	5.10E-04	7.13E+06	1.09E-01
7.02E+06	1.07E-01	7.13E+11	5.00E-04	6.99E+06	1.07E-01
6.88E+06	1.05E-01	6.99E+11	4.90E-04	6.85E+06	1.05E-01
6.74E+06	1.03E-01	6.85E+11	4.80E-04	6.71E+06	1.03E-01
6.60E+06	1.01E-01	6.70E+11	4.70E-04	6.57E+06	1.01E-01
6.46E+06	9.85E-02	6.56E+11	4.60E-04	6.43E+06	9.85E-02
6.32E+06	9.64E-02	6.42E+11	4.50E-04	6.29E+06	9.64E-02
6.18E+06	9.42E-02	6.28E+11	4.40E-04	6.15E+06	9.42E-02
6.04E+06	9.21E-02	6.13E+11	4.30E-04	6.01E+06	9.21E-02
5.89E+06	8.99E-02	5.99E+11	4.20E-04	5.87E+06	8.99E-02
5.75E+06	8.78E-02	5.85E+11	4.10E-04	5.73E+06	8.78E-02
5.61E+06	8.57E-02	5.71E+11	4.00E-04	5.59E+06	8.57E-02
5.47E+06	8.35E-02	5.56E+11	3.90E-04	5.45E+06	8.35E-02
5.33E+06	8.14E-02	5.42E+11	3.80E-04	5.31E+06	8.14E-02
5.19E+06	7.92E-02	5.28E+11	3.70E-04	5.17E+06	7.92E-02
5.05E+06	7.71E-02	5.13E+11	3.60E-04	5.03E+06	7.71E-02
4.91E+06	7.49E-02	4.99E+11	3.50E-04	4.89E+06	7.49E-02
4.77E+06	7.28E-02	4.85E+11	3.40E-04	4.75E+06	7.28E-02
4.63E+06	7.07E-02	4.71E+11	3.30E-04	4.61E+06	7.07E-02
4.49E+06	6.85E-02	4.56E+11	3.20E-04	4.47E+06	6.85E-02
4.35E+06	6.64E-02	4.42E+11	3.10E-04	4.33E+06	6.64E-02
4.21E+06	6.42E-02	4.28E+11	3.00E-04	4.19E+06	6.42E-02
4.07E+06	6.21E-02	4.14E+11	2.90E-04	4.05E+06	6.21E-02
3.93E+06	6.00E-02	3.99E+11	2.80E-04	3.91E+06	6.00E-02
3.79E+06	5.78E-02	3.85E+11	2.70E-04	3.77E+06	5.78E-02
3.65E+06	5.57E-02	3.71E+11	2.60E-04	3.63E+06	5.57E-02

3.51E+06	5.35E-02	3.57E+11	2.50E-04	3.49E+06	5.35E-02
3.37E+06	5.14E-02	3.42E+11	2.40E-04	3.35E+06	5.14E-02
3.23E+06	4.93E-02	3.28E+11	2.30E-04	3.21E+06	4.93E-02
3.09E+06	4.71E-02	3.14E+11	2.20E-04	3.08E+06	4.71E-02
2.95E+06	4.50E-02	3.00E+11	2.10E-04	2.94E+06	4.50E-02
2.81E+06	4.28E-02	2.85E+11	2.00E-04	2.79E+06	4.28E-02
2.67E+06	4.07E-02	2.71E+11	1.90E-04	2.66E+06	4.07E-02
2.53E+06	3.85E-02	2.57E+11	1.80E-04	2.52E+06	3.85E-02
2.39E+06	3.64E-02	2.43E+11	1.70E-04	2.38E+06	3.64E-02
2.25E+06	3.43E-02	2.28E+11	1.60E-04	2.24E+06	3.43E-02
2.11E+06	3.21E-02	2.14E+11	1.50E-04	2.10E+06	3.21E-02
1.96E+06	3.00E-02	2.00E+11	1.40E-04	1.96E+06	3.00E-02
1.82E+06	2.78E-02	1.85E+11	1.30E-04	1.82E+06	2.78E-02
1.68E+06	2.57E-02	1.71E+11	1.20E-04	1.68E+06	2.57E-02
1.54E+06	2.36E-02	1.57E+11	1.10E-04	1.54E+06	2.36E-02
1.40E+06	2.14E-02	1.43E+11	1.00E-04	1.40E+06	2.14E-02
1.26E+06	1.93E-02	1.28E+11	9.00E-05	1.26E+06	1.93E-02
1.12E+06	1.71E-02	1.14E+11	8.00E-05	1.12E+06	1.71E-02
9.83E+05	1.50E-02	9.98E+10	7.00E-05	9.78E+05	1.50E-02
8.42E+05	1.28E-02	8.56E+10	6.00E-05	8.39E+05	1.28E-02
7.02E+05	1.07E-02	7.13E+10	5.00E-05	6.99E+05	1.07E-02
5.61E+05	8.57E-03	5.71E+10	4.00E-05	5.59E+05	8.57E-03
4.21E+05	6.42E-03	4.28E+10	3.00E-05	4.19E+05	6.42E-03
2.81E+05	4.28E-03	2.85E+10	2.00E-05	2.79E+05	4.28E-03
1.40E+05	2.14E-03	1.43E+10	1.00E-05	1.40E+05	2.14E-03
1.26E+05	1.93E-03	1.28E+10	9.00E-06	1.26E+05	1.93E-03
1.12E+05	1.71E-03	1.14E+10	8.00E-06	1.12E+05	1.71E-03
9.83E+04	1.50E-03	9.98E+09	7.00E-06	9.78E+04	1.50E-03
8.42E+04	1.28E-03	8.56E+09	6.00E-06	8.39E+04	1.28E-03
7.02E+04	1.07E-03	7.13E+09	5.00E-06	6.99E+04	1.07E-03
5.62E+04	8.57E-04	5.71E+09	4.00E-06	5.59E+04	8.57E-04
4.21E+04	6.42E-04	4.28E+09	3.00E-06	4.19E+04	6.42E-04
2.81E+04	4.28E-04	2.85E+09	2.00E-06	2.80E+04	4.28E-04
1.40E+04	2.14E-04	1.43E+09	1.00E-06	1.40E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.40E+04	-2.14E-04	-1.43E+09	-1.00E-06	-1.40E+04	-2.14E-04
-2.81E+04	-4.28E-04	-2.85E+09	-2.00E-06	-2.80E+04	-4.28E-04
-4.21E+04	-6.42E-04	-4.28E+09	-3.00E-06	-4.19E+04	-6.42E-04
-5.62E+04	-8.57E-04	-5.70E+09	-4.00E-06	-5.59E+04	-8.57E-04
-7.02E+04	-1.07E-03	-7.13E+09	-5.00E-06	-6.99E+04	-1.07E-03
-8.42E+04	-1.28E-03	-8.56E+09	-6.00E-06	-8.38E+04	-1.28E-03
-9.83E+04	-1.50E-03	-9.98E+09	-7.00E-06	-9.78E+04	-1.50E-03
-1.12E+05	-1.71E-03	-1.14E+10	-8.00E-06	-1.12E+05	-1.71E-03
-1.26E+05	-1.93E-03	-1.28E+10	-9.00E-06	-1.26E+05	-1.93E-03
-1.40E+05	-2.14E-03	-1.43E+10	-1.00E-05	-1.40E+05	-2.14E-03

-2.81E+05	-4.28E-03	-2.85E+10	-2.00E-05	-2.79E+05	-4.28E-03
-4.21E+05	-6.42E-03	-4.28E+10	-3.00E-05	-4.19E+05	-6.42E-03
-5.61E+05	-8.57E-03	-5.70E+10	-4.00E-05	-5.59E+05	-8.57E-03
-7.02E+05	-1.07E-02	-7.13E+10	-5.00E-05	-6.99E+05	-1.07E-02
-8.42E+05	-1.28E-02	-8.56E+10	-6.00E-05	-8.38E+05	-1.28E-02
-9.83E+05	-1.50E-02	-9.98E+10	-7.00E-05	-9.78E+05	-1.50E-02
-1.12E+06	-1.71E-02	-1.14E+11	-8.00E-05	-1.12E+06	-1.71E-02
-1.26E+06	-1.93E-02	-1.28E+11	-9.00E-05	-1.26E+06	-1.93E-02
-1.40E+06	-2.14E-02	-1.43E+11	-1.00E-04	-1.40E+06	-2.14E-02
-1.54E+06	-2.36E-02	-1.57E+11	-1.10E-04	-1.54E+06	-2.36E-02
-1.68E+06	-2.57E-02	-1.71E+11	-1.20E-04	-1.68E+06	-2.57E-02
-1.82E+06	-2.78E-02	-1.85E+11	-1.30E-04	-1.82E+06	-2.78E-02
-1.96E+06	-3.00E-02	-2.00E+11	-1.40E-04	-1.96E+06	-3.00E-02
-2.11E+06	-3.21E-02	-2.14E+11	-1.50E-04	-2.10E+06	-3.21E-02
-2.25E+06	-3.43E-02	-2.28E+11	-1.60E-04	-2.24E+06	-3.43E-02
-2.39E+06	-3.64E-02	-2.42E+11	-1.70E-04	-2.38E+06	-3.64E-02
-2.53E+06	-3.85E-02	-2.57E+11	-1.80E-04	-2.51E+06	-3.85E-02
-2.67E+06	-4.07E-02	-2.71E+11	-1.90E-04	-2.65E+06	-4.07E-02
-2.81E+06	-4.28E-02	-2.85E+11	-2.00E-04	-2.79E+06	-4.28E-02
-2.95E+06	-4.50E-02	-2.99E+11	-2.10E-04	-2.93E+06	-4.50E-02
-3.09E+06	-4.71E-02	-3.14E+11	-2.20E-04	-3.07E+06	-4.71E-02
-3.23E+06	-4.93E-02	-3.28E+11	-2.30E-04	-3.21E+06	-4.93E-02
-3.37E+06	-5.14E-02	-3.42E+11	-2.40E-04	-3.35E+06	-5.14E-02
-3.51E+06	-5.35E-02	-3.56E+11	-2.50E-04	-3.49E+06	-5.35E-02
-3.65E+06	-5.57E-02	-3.71E+11	-2.60E-04	-3.63E+06	-5.57E-02
-3.79E+06	-5.78E-02	-3.85E+11	-2.70E-04	-3.77E+06	-5.78E-02
-3.93E+06	-6.00E-02	-3.99E+11	-2.80E-04	-3.91E+06	-6.00E-02
-4.07E+06	-6.21E-02	-4.14E+11	-2.90E-04	-4.05E+06	-6.21E-02
-4.21E+06	-6.42E-02	-4.28E+11	-3.00E-04	-4.19E+06	-6.42E-02
-4.35E+06	-6.64E-02	-4.42E+11	-3.10E-04	-4.33E+06	-6.64E-02
-4.49E+06	-6.85E-02	-4.56E+11	-3.20E-04	-4.47E+06	-6.85E-02
-4.63E+06	-7.07E-02	-4.71E+11	-3.30E-04	-4.61E+06	-7.07E-02
-4.77E+06	-7.28E-02	-4.85E+11	-3.40E-04	-4.75E+06	-7.28E-02
-4.91E+06	-7.49E-02	-4.99E+11	-3.50E-04	-4.89E+06	-7.49E-02
-5.05E+06	-7.71E-02	-5.13E+11	-3.60E-04	-5.03E+06	-7.71E-02
-5.19E+06	-7.92E-02	-5.28E+11	-3.70E-04	-5.17E+06	-7.92E-02
-5.33E+06	-8.14E-02	-5.42E+11	-3.80E-04	-5.31E+06	-8.14E-02
-5.47E+06	-8.35E-02	-5.56E+11	-3.90E-04	-5.45E+06	-8.35E-02
-5.61E+06	-8.57E-02	-5.70E+11	-4.00E-04	-5.59E+06	-8.57E-02
-5.75E+06	-8.78E-02	-5.85E+11	-4.10E-04	-5.73E+06	-8.78E-02
-5.89E+06	-8.99E-02	-5.99E+11	-4.20E-04	-5.87E+06	-8.99E-02
-6.03E+06	-9.21E-02	-6.13E+11	-4.30E-04	-6.01E+06	-9.21E-02
-6.17E+06	-9.42E-02	-6.27E+11	-4.40E-04	-6.15E+06	-9.42E-02
-6.32E+06	-9.64E-02	-6.42E+11	-4.50E-04	-6.29E+06	-9.64E-02
-6.46E+06	-9.85E-02	-6.56E+11	-4.60E-04	-6.43E+06	-9.85E-02

-6.60E+06	-1.01E-01	-6.70E+11	-4.70E-04	-6.57E+06	-1.01E-01
-6.74E+06	-1.03E-01	-6.84E+11	-4.80E-04	-6.71E+06	-1.03E-01
-6.88E+06	-1.05E-01	-6.99E+11	-4.90E-04	-6.85E+06	-1.05E-01
-7.02E+06	-1.07E-01	-7.13E+11	-5.00E-04	-6.99E+06	-1.07E-01
-7.16E+06	-1.09E-01	-7.27E+11	-5.10E-04	-7.12E+06	-1.09E-01
-7.30E+06	-1.11E-01	-7.41E+11	-5.20E-04	-7.26E+06	-1.11E-01
-7.44E+06	-1.13E-01	-7.56E+11	-5.30E-04	-7.40E+06	-1.13E-01
-7.58E+06	-1.16E-01	-7.70E+11	-5.40E-04	-7.54E+06	-1.16E-01
-7.72E+06	-1.18E-01	-7.84E+11	-5.50E-04	-7.68E+06	-1.18E-01
-7.86E+06	-1.20E-01	-7.91E+11	-5.55E-04	-7.75E+06	-1.19E-01
-8.00E+06	-1.22E-01	-8.04E+11	-5.65E-04	-7.88E+06	-1.21E-01
-8.14E+06	-1.24E-01	-8.14E+11	-5.73E-04	-7.98E+06	-1.23E-01
-8.28E+06	-1.26E-01	-8.20E+11	-5.78E-04	-8.04E+06	-1.24E-01
-8.39E+06	-1.28E-01	-8.26E+11	-5.84E-04	-8.09E+06	-1.25E-01
-8.53E+06	-1.30E-01	-8.30E+11	-5.90E-04	-8.13E+06	-1.26E-01
-8.64E+06	-1.32E-01	-8.33E+11	-5.95E-04	-8.16E+06	-1.27E-01
-8.72E+06	-1.34E-01	-8.35E+11	-6.01E-04	-8.18E+06	-1.29E-01
-8.77E+06	-1.35E-01	-8.35E+11	-6.05E-04	-8.18E+06	-1.30E-01
-8.82E+06	-1.36E-01	-8.35E+11	-6.15E-04	-8.18E+06	-1.32E-01
-8.87E+06	-1.37E-01	-8.35E+11	-6.21E-04	-8.18E+06	-1.33E-01
-8.90E+06	-1.39E-01	-8.35E+11	-6.25E-04	-8.18E+06	-1.34E-01
-8.92E+06	-1.40E-01	-8.35E+11	-6.30E-04	-8.18E+06	-1.35E-01
-8.93E+06	-1.41E-01	-8.34E+11	-6.37E-04	-8.18E+06	-1.36E-01
-8.95E+06	-1.43E-01	-8.34E+11	-6.41E-04	-8.17E+06	-1.37E-01
-8.96E+06	-1.44E-01	-8.33E+11	-6.46E-04	-8.17E+06	-1.38E-01
-8.97E+06	-1.46E-01	-8.32E+11	-6.51E-04	-8.16E+06	-1.39E-01
-8.97E+06	-1.47E-01	-8.29E+11	-6.61E-04	-8.13E+06	-1.41E-01
-8.97E+06	-1.48E-01	-8.24E+11	-6.71E-04	-8.08E+06	-1.44E-01
-8.98E+06	-1.49E-01	-8.16E+11	-6.81E-04	-8.00E+06	-1.46E-01
-8.97E+06	-1.50E-01	-8.14E+11	-6.83E-04	-7.97E+06	-1.46E-01
-8.97E+06	-1.51E-01	-8.00E+11	-6.92E-04	-7.84E+06	-1.48E-01
-8.96E+06	-1.53E-01	-7.82E+11	-7.02E-04	-7.66E+06	-1.50E-01
-8.92E+06	-1.55E-01	-7.73E+11	-7.08E-04	-7.57E+06	-1.51E-01
-8.87E+06	-1.57E-01	-7.58E+11	-7.18E-04	-7.43E+06	-1.54E-01
-8.78E+06	-1.59E-01	-7.57E+11	-7.18E-04	-7.42E+06	-1.54E-01
-8.76E+06	-1.60E-01	-7.46E+11	-7.28E-04	-7.31E+06	-1.56E-01
-8.62E+06	-1.62E-01	-7.37E+11	-7.37E-04	-7.22E+06	-1.58E-01
-8.59E+06	-1.62E-01	-7.30E+11	-7.47E-04	-7.15E+06	-1.60E-01
-8.44E+06	-1.64E-01	-7.27E+11	-7.52E-04	-7.12E+06	-1.61E-01
-8.35E+06	-1.66E-01	-7.20E+11	-7.62E-04	-7.06E+06	-1.63E-01
-8.25E+06	-1.68E-01	-7.15E+11	-7.72E-04	-7.00E+06	-1.65E-01
-8.20E+06	-1.69E-01	-7.13E+11	-7.75E-04	-6.99E+06	-1.66E-01
-8.12E+06	-1.71E-01	-7.08E+11	-7.85E-04	-6.94E+06	-1.68E-01
-8.06E+06	-1.73E-01	-7.03E+11	-7.95E-04	-6.89E+06	-1.70E-01
-8.06E+06	-1.74E-01	-6.99E+11	-8.05E-04	-6.85E+06	-1.72E-01

-8.00E+06	-1.76E-01	-6.98E+11	-8.07E-04	-6.84E+06	-1.73E-01
-7.95E+06	-1.78E-01	-6.93E+11	-8.17E-04	-6.79E+06	-1.75E-01
-7.95E+06	-1.78E-01	-6.92E+11	-8.20E-04	-6.78E+06	-1.76E-01
-7.91E+06	-1.80E-01	-6.88E+11	-8.30E-04	-6.74E+06	-1.78E-01
-7.87E+06	-1.82E-01	-6.84E+11	-8.40E-04	-6.70E+06	-1.80E-01
-7.85E+06	-1.83E-01	-6.80E+11	-8.50E-04	-6.66E+06	-1.82E-01
-7.81E+06	-1.85E-01	-6.77E+11	-8.59E-04	-6.63E+06	-1.84E-01
-7.77E+06	-1.87E-01	-6.73E+11	-8.69E-04	-6.60E+06	-1.86E-01
-7.74E+06	-1.89E-01	-6.73E+11	-8.70E-04	-6.59E+06	-1.86E-01
-7.70E+06	-1.91E-01	-6.69E+11	-8.80E-04	-6.56E+06	-1.88E-01
-7.68E+06	-1.93E-01	-6.66E+11	-8.90E-04	-6.53E+06	-1.91E-01
-7.65E+06	-1.95E-01	-6.63E+11	-9.00E-04	-6.49E+06	-1.93E-01
-7.62E+06	-1.97E-01	-6.59E+11	-9.10E-04	-6.46E+06	-1.95E-01
-7.59E+06	-1.99E-01	-6.56E+11	-9.20E-04	-6.43E+06	-1.97E-01
-7.55E+06	-2.01E-01	-6.56E+11	-9.21E-04	-6.43E+06	-1.97E-01
-7.52E+06	-2.03E-01	-6.53E+11	-9.31E-04	-6.40E+06	-1.99E-01
-7.50E+06	-2.05E-01	-6.52E+11	-9.34E-04	-6.39E+06	-2.00E-01
-7.49E+06	-2.06E-01	-6.49E+11	-9.44E-04	-6.36E+06	-2.02E-01
-7.45E+06	-2.08E-01	-6.46E+11	-9.54E-04	-6.33E+06	-2.04E-01
-7.42E+06	-2.10E-01	-6.43E+11	-9.64E-04	-6.30E+06	-2.06E-01
-7.39E+06	-2.12E-01	-6.40E+11	-9.74E-04	-6.27E+06	-2.09E-01
-7.36E+06	-2.15E-01	-6.37E+11	-9.84E-04	-6.24E+06	-2.11E-01
-7.34E+06	-2.17E-01	-6.34E+11	-9.94E-04	-6.21E+06	-2.13E-01
-7.31E+06	-2.19E-01	-6.32E+11	-1.00E-03	-6.20E+06	-2.14E-01
-7.28E+06	-2.21E-01	-6.29E+11	-1.01E-03	-6.17E+06	-2.16E-01
-7.28E+06	-2.21E-01	-6.26E+11	-1.02E-03	-6.14E+06	-2.18E-01
-7.26E+06	-2.23E-01	-6.23E+11	-1.03E-03	-6.11E+06	-2.21E-01
-7.23E+06	-2.25E-01	-6.20E+11	-1.04E-03	-6.08E+06	-2.23E-01
-7.21E+06	-2.27E-01	-6.18E+11	-1.05E-03	-6.05E+06	-2.25E-01
-7.18E+06	-2.29E-01	-6.15E+11	-1.06E-03	-6.03E+06	-2.27E-01
-7.15E+06	-2.31E-01	-6.12E+11	-1.07E-03	-6.00E+06	-2.29E-01
-7.12E+06	-2.33E-01	-6.11E+11	-1.08E-03	-5.99E+06	-2.30E-01
-7.10E+06	-2.36E-01	-6.09E+11	-1.08E-03	-5.97E+06	-2.32E-01
-7.08E+06	-2.38E-01	-6.06E+11	-1.09E-03	-5.94E+06	-2.34E-01
-7.06E+06	-2.39E-01	-6.04E+11	-1.10E-03	-5.91E+06	-2.36E-01
-7.04E+06	-2.41E-01	-6.01E+11	-1.11E-03	-5.89E+06	-2.39E-01
-7.03E+06	-2.42E-01	-5.98E+11	-1.12E-03	-5.86E+06	-2.41E-01
-7.01E+06	-2.44E-01	-5.96E+11	-1.13E-03	-5.84E+06	-2.43E-01
-6.98E+06	-2.46E-01	-5.93E+11	-1.14E-03	-5.81E+06	-2.45E-01
-6.95E+06	-2.48E-01	-5.91E+11	-1.15E-03	-5.79E+06	-2.47E-01
-6.93E+06	-2.50E-01	-5.88E+11	-1.16E-03	-5.77E+06	-2.49E-01
-6.90E+06	-2.52E-01	-5.88E+11	-1.16E-03	-5.77E+06	-2.49E-01
-6.88E+06	-2.54E-01	-5.86E+11	-1.17E-03	-5.74E+06	-2.51E-01
-6.86E+06	-2.57E-01	-5.84E+11	-1.18E-03	-5.73E+06	-2.53E-01
-6.84E+06	-2.58E-01	-5.82E+11	-1.19E-03	-5.70E+06	-2.55E-01

-6.82E+06	-2.60E-01	-5.80E+11	-1.20E-03	-5.68E+06	-2.57E-01
-6.79E+06	-2.62E-01	-5.77E+11	-1.21E-03	-5.66E+06	-2.59E-01
-6.77E+06	-2.64E-01	-5.75E+11	-1.22E-03	-5.63E+06	-2.61E-01
-6.74E+06	-2.66E-01	-5.73E+11	-1.23E-03	-5.61E+06	-2.63E-01
-6.72E+06	-2.69E-01	-5.70E+11	-1.24E-03	-5.59E+06	-2.66E-01
-6.70E+06	-2.71E-01	-5.68E+11	-1.25E-03	-5.57E+06	-2.68E-01
-6.67E+06	-2.73E-01	-5.66E+11	-1.26E-03	-5.55E+06	-2.70E-01
-6.65E+06	-2.75E-01	-5.66E+11	-1.26E-03	-5.54E+06	-2.70E-01
-6.63E+06	-2.77E-01	-5.64E+11	-1.27E-03	-5.52E+06	-2.72E-01
-6.61E+06	-2.79E-01	-5.62E+11	-1.28E-03	-5.50E+06	-2.75E-01
-6.60E+06	-2.80E-01	-5.59E+11	-1.29E-03	-5.48E+06	-2.77E-01
-6.58E+06	-2.82E-01	-5.57E+11	-1.30E-03	-5.46E+06	-2.79E-01
-6.56E+06	-2.84E-01	-5.56E+11	-1.31E-03	-5.45E+06	-2.80E-01
-6.54E+06	-2.86E-01	-5.54E+11	-1.32E-03	-5.43E+06	-2.82E-01
-6.51E+06	-2.88E-01	-5.52E+11	-1.33E-03	-5.41E+06	-2.84E-01
-6.49E+06	-2.90E-01	-5.50E+11	-1.34E-03	-5.39E+06	-2.87E-01
-6.47E+06	-2.93E-01	-5.48E+11	-1.35E-03	-5.37E+06	-2.89E-01
-6.45E+06	-2.95E-01	-5.46E+11	-1.36E-03	-5.35E+06	-2.91E-01
-6.43E+06	-2.97E-01	-5.44E+11	-1.37E-03	-5.33E+06	-2.93E-01
-6.41E+06	-2.99E-01	-5.42E+11	-1.38E-03	-5.31E+06	-2.95E-01
-6.39E+06	-3.01E-01	-5.41E+11	-1.39E-03	-5.30E+06	-2.97E-01
-6.37E+06	-3.03E-01	-5.39E+11	-1.40E-03	-5.28E+06	-2.99E-01
-6.36E+06	-3.04E-01	-5.37E+11	-1.41E-03	-5.26E+06	-3.01E-01
-6.34E+06	-3.06E-01	-5.35E+11	-1.42E-03	-5.24E+06	-3.03E-01
-6.32E+06	-3.08E-01	-5.33E+11	-1.43E-03	-5.23E+06	-3.05E-01
-6.30E+06	-3.10E-01	-5.32E+11	-1.44E-03	-5.21E+06	-3.07E-01
-6.28E+06	-3.13E-01	-5.30E+11	-1.45E-03	-5.19E+06	-3.10E-01
-6.26E+06	-3.15E-01	-5.28E+11	-1.46E-03	-5.18E+06	-3.12E-01
-6.24E+06	-3.17E-01	-5.27E+11	-1.47E-03	-5.16E+06	-3.14E-01
-6.24E+06	-3.18E-01	-5.25E+11	-1.48E-03	-5.14E+06	-3.16E-01
-6.22E+06	-3.20E-01	-5.25E+11	-1.48E-03	-5.14E+06	-3.16E-01
-6.20E+06	-3.22E-01	-5.23E+11	-1.49E-03	-5.12E+06	-3.19E-01
-6.18E+06	-3.24E-01	-5.21E+11	-1.50E-03	-5.11E+06	-3.21E-01
-6.17E+06	-3.26E-01	-5.20E+11	-1.51E-03	-5.09E+06	-3.23E-01
-6.15E+06	-3.28E-01	-5.18E+11	-1.52E-03	-5.08E+06	-3.25E-01
-6.13E+06	-3.30E-01	-5.16E+11	-1.53E-03	-5.06E+06	-3.27E-01
-6.11E+06	-3.33E-01	-5.15E+11	-1.54E-03	-5.04E+06	-3.29E-01
-6.10E+06	-3.34E-01	-5.15E+11	-1.54E-03	-5.04E+06	-3.30E-01
-6.08E+06	-3.37E-01	-5.13E+11	-1.55E-03	-5.03E+06	-3.32E-01
-6.06E+06	-3.39E-01	-5.11E+11	-1.56E-03	-5.01E+06	-3.34E-01
-6.04E+06	-3.41E-01	-5.10E+11	-1.57E-03	-5.00E+06	-3.36E-01
-6.03E+06	-3.43E-01	-5.08E+11	-1.58E-03	-4.98E+06	-3.38E-01
-6.01E+06	-3.45E-01	-5.07E+11	-1.59E-03	-4.97E+06	-3.40E-01
-5.99E+06	-3.47E-01	-5.05E+11	-1.60E-03	-4.95E+06	-3.42E-01
-5.98E+06	-3.49E-01	-5.04E+11	-1.61E-03	-4.94E+06	-3.45E-01

-5.96E+06	-3.52E-01	-5.02E+11	-1.62E-03	-4.92E+06	-3.47E-01
-5.94E+06	-3.54E-01	-5.01E+11	-1.63E-03	-4.91E+06	-3.49E-01
-5.93E+06	-3.56E-01	-5.00E+11	-1.64E-03	-4.90E+06	-3.51E-01
-5.91E+06	-3.58E-01	-4.98E+11	-1.65E-03	-4.88E+06	-3.53E-01
-5.91E+06	-3.59E-01	-4.97E+11	-1.66E-03	-4.87E+06	-3.55E-01
-5.89E+06	-3.61E-01	-4.96E+11	-1.66E-03	-4.86E+06	-3.56E-01
-5.88E+06	-3.63E-01	-4.95E+11	-1.67E-03	-4.85E+06	-3.58E-01
-5.86E+06	-3.65E-01	-4.94E+11	-1.68E-03	-4.84E+06	-3.60E-01
-5.85E+06	-3.67E-01	-4.92E+11	-1.69E-03	-4.82E+06	-3.62E-01
-5.83E+06	-3.69E-01	-4.91E+11	-1.70E-03	-4.81E+06	-3.64E-01
-5.82E+06	-3.72E-01	-4.90E+11	-1.71E-03	-4.80E+06	-3.67E-01
-5.81E+06	-3.72E-01	-4.88E+11	-1.72E-03	-4.79E+06	-3.69E-01
-5.80E+06	-3.74E-01	-4.87E+11	-1.73E-03	-4.77E+06	-3.71E-01
-5.78E+06	-3.76E-01	-4.86E+11	-1.74E-03	-4.76E+06	-3.73E-01
-5.77E+06	-3.78E-01	-4.85E+11	-1.75E-03	-4.75E+06	-3.75E-01
-5.75E+06	-3.81E-01	-4.83E+11	-1.76E-03	-4.74E+06	-3.77E-01
-5.74E+06	-3.83E-01	-4.82E+11	-1.77E-03	-4.72E+06	-3.79E-01
-5.72E+06	-3.85E-01	-4.81E+11	-1.78E-03	-4.71E+06	-3.81E-01
-5.71E+06	-3.87E-01	-4.79E+11	-1.79E-03	-4.70E+06	-3.84E-01
-5.69E+06	-3.89E-01	-4.78E+11	-1.80E-03	-4.69E+06	-3.86E-01
-5.68E+06	-3.91E-01	-4.77E+11	-1.81E-03	-4.67E+06	-3.88E-01
-5.67E+06	-3.93E-01	-4.76E+11	-1.82E-03	-4.66E+06	-3.90E-01
-5.65E+06	-3.96E-01	-4.75E+11	-1.83E-03	-4.65E+06	-3.92E-01
-5.64E+06	-3.98E-01	-4.74E+11	-1.84E-03	-4.64E+06	-3.94E-01
-5.63E+06	-4.00E-01	-4.72E+11	-1.85E-03	-4.63E+06	-3.96E-01
-5.62E+06	-4.02E-01	-4.71E+11	-1.86E-03	-4.62E+06	-3.99E-01
-5.61E+06	-4.03E-01	-4.70E+11	-1.87E-03	-4.61E+06	-4.01E-01
-5.59E+06	-4.06E-01	-4.69E+11	-1.88E-03	-4.60E+06	-4.03E-01
-5.58E+06	-4.08E-01	-4.68E+11	-1.89E-03	-4.59E+06	-4.05E-01
-5.57E+06	-4.10E-01	-4.67E+11	-1.90E-03	-4.58E+06	-4.07E-01
-5.55E+06	-4.12E-01	-4.66E+11	-1.91E-03	-4.57E+06	-4.09E-01
-5.54E+06	-4.14E-01	-4.65E+11	-1.92E-03	-4.56E+06	-4.11E-01
-5.53E+06	-4.16E-01	-4.64E+11	-1.93E-03	-4.55E+06	-4.13E-01
-5.52E+06	-4.18E-01	-4.63E+11	-1.94E-03	-4.53E+06	-4.15E-01
-5.50E+06	-4.20E-01	-4.62E+11	-1.95E-03	-4.52E+06	-4.18E-01
-5.49E+06	-4.22E-01	-4.61E+11	-1.96E-03	-4.51E+06	-4.20E-01
-5.48E+06	-4.25E-01	-4.60E+11	-1.97E-03	-4.50E+06	-4.22E-01
-5.47E+06	-4.27E-01	-4.59E+11	-1.98E-03	-4.50E+06	-4.24E-01
-5.45E+06	-4.29E-01	-4.58E+11	-1.99E-03	-4.48E+06	-4.26E-01
-5.44E+06	-4.31E-01	-4.57E+11	-2.00E-03	-4.47E+06	-4.28E-01
-5.43E+06	-4.33E-01	-4.55E+11	-2.01E-03	-4.46E+06	-4.30E-01
-5.42E+06	-4.35E-01	-4.54E+11	-2.02E-03	-4.45E+06	-4.32E-01
-5.40E+06	-4.37E-01	-4.53E+11	-2.03E-03	-4.44E+06	-4.34E-01
-5.39E+06	-4.40E-01	-4.52E+11	-2.04E-03	-4.43E+06	-4.37E-01
-5.38E+06	-4.42E-01	-4.51E+11	-2.05E-03	-4.42E+06	-4.39E-01

-5.37E+06	-4.44E-01	-4.50E+11	-2.06E-03	-4.41E+06	-4.41E-01
-5.36E+06	-4.46E-01	-4.49E+11	-2.07E-03	-4.40E+06	-4.43E-01
-5.35E+06	-4.48E-01	-4.48E+11	-2.08E-03	-4.39E+06	-4.45E-01
-5.34E+06	-4.50E-01	-4.47E+11	-2.09E-03	-4.38E+06	-4.47E-01
-5.33E+06	-4.52E-01	-4.46E+11	-2.10E-03	-4.37E+06	-4.49E-01
-5.32E+06	-4.55E-01	-4.45E+11	-2.11E-03	-4.36E+06	-4.52E-01
-5.30E+06	-4.57E-01	-4.44E+11	-2.12E-03	-4.36E+06	-4.54E-01
-5.29E+06	-4.59E-01	-4.44E+11	-2.13E-03	-4.35E+06	-4.56E-01
-5.29E+06	-4.61E-01	-4.43E+11	-2.14E-03	-4.34E+06	-4.58E-01
-5.28E+06	-4.63E-01	-4.42E+11	-2.15E-03	-4.33E+06	-4.60E-01
-5.26E+06	-4.65E-01	-4.41E+11	-2.16E-03	-4.32E+06	-4.62E-01
-5.25E+06	-4.67E-01	-4.40E+11	-2.17E-03	-4.31E+06	-4.64E-01
-5.24E+06	-4.70E-01	-4.39E+11	-2.18E-03	-4.30E+06	-4.67E-01
-5.23E+06	-4.72E-01	-4.38E+11	-2.19E-03	-4.30E+06	-4.69E-01
-5.22E+06	-4.74E-01	-4.37E+11	-2.20E-03	-4.29E+06	-4.71E-01
-5.21E+06	-4.76E-01	-4.37E+11	-2.21E-03	-4.28E+06	-4.73E-01
-5.20E+06	-4.78E-01	-4.36E+11	-2.22E-03	-4.27E+06	-4.75E-01
-5.19E+06	-4.80E-01	-4.35E+11	-2.23E-03	-4.26E+06	-4.77E-01
-5.18E+06	-4.82E-01	-4.34E+11	-2.24E-03	-4.26E+06	-4.79E-01
-5.17E+06	-4.84E-01	-4.33E+11	-2.25E-03	-4.25E+06	-4.81E-01
-5.16E+06	-4.86E-01	-4.33E+11	-2.26E-03	-4.24E+06	-4.83E-01
-5.15E+06	-4.88E-01	-4.32E+11	-2.27E-03	-4.23E+06	-4.85E-01
-5.14E+06	-4.91E-01	-4.31E+11	-2.28E-03	-4.22E+06	-4.87E-01
-5.13E+06	-4.93E-01	-4.30E+11	-2.29E-03	-4.21E+06	-4.90E-01
-5.12E+06	-4.95E-01	-4.29E+11	-2.30E-03	-4.21E+06	-4.92E-01
-5.11E+06	-4.97E-01	-4.29E+11	-2.31E-03	-4.20E+06	-4.94E-01
-5.10E+06	-4.99E-01	-4.28E+11	-2.31E-03	-4.20E+06	-4.94E-01
-5.09E+06	-5.01E-01	-4.28E+11	-2.32E-03	-4.19E+06	-4.96E-01
-5.08E+06	-5.03E-01	-4.27E+11	-2.33E-03	-4.18E+06	-4.99E-01
-5.07E+06	-5.06E-01	-4.26E+11	-2.34E-03	-4.17E+06	-5.01E-01
-5.06E+06	-5.08E-01	-4.25E+11	-2.35E-03	-4.17E+06	-5.02E-01
-5.06E+06	-5.10E-01	-4.25E+11	-2.36E-03	-4.16E+06	-5.04E-01
-5.05E+06	-5.12E-01	-4.24E+11	-2.37E-03	-4.15E+06	-5.06E-01
-5.04E+06	-5.14E-01	-4.23E+11	-2.38E-03	-4.14E+06	-5.09E-01
-5.03E+06	-5.16E-01	-4.22E+11	-2.39E-03	-4.13E+06	-5.11E-01
-5.02E+06	-5.18E-01	-4.21E+11	-2.40E-03	-4.13E+06	-5.13E-01
-5.01E+06	-5.21E-01	-4.20E+11	-2.41E-03	-4.12E+06	-5.15E-01
-5.00E+06	-5.23E-01	-4.19E+11	-2.42E-03	-4.11E+06	-5.17E-01
-5.00E+06	-5.25E-01	-4.19E+11	-2.43E-03	-4.10E+06	-5.19E-01
-4.99E+06	-5.27E-01	-4.18E+11	-2.44E-03	-4.09E+06	-5.21E-01
-4.98E+06	-5.29E-01	-4.17E+11	-2.45E-03	-4.09E+06	-5.24E-01
-4.97E+06	-5.31E-01	-4.16E+11	-2.46E-03	-4.08E+06	-5.26E-01
-4.96E+06	-5.33E-01	-4.16E+11	-2.47E-03	-4.07E+06	-5.28E-01
-4.96E+06	-5.36E-01	-4.15E+11	-2.48E-03	-4.06E+06	-5.30E-01
-4.95E+06	-5.37E-01	-4.14E+11	-2.49E-03	-4.06E+06	-5.32E-01

-4.94E+06	-5.39E-01	-4.13E+11	-2.50E-03	-4.05E+06	-5.34E-01
-4.93E+06	-5.42E-01	-4.13E+11	-2.51E-03	-4.04E+06	-5.36E-01
-4.93E+06	-5.44E-01	-4.12E+11	-2.52E-03	-4.04E+06	-5.39E-01
-4.92E+06	-5.46E-01	-4.11E+11	-2.53E-03	-4.03E+06	-5.41E-01
-4.91E+06	-5.48E-01	-4.11E+11	-2.54E-03	-4.02E+06	-5.43E-01
-4.90E+06	-5.50E-01	-4.10E+11	-2.55E-03	-4.02E+06	-5.45E-01
-4.89E+06	-5.52E-01	-4.09E+11	-2.56E-03	-4.01E+06	-5.47E-01
-4.89E+06	-5.54E-01	-4.09E+11	-2.57E-03	-4.00E+06	-5.49E-01
-4.88E+06	-5.57E-01	-4.08E+11	-2.58E-03	-4.00E+06	-5.51E-01
-4.88E+06	-5.57E-01	-4.07E+11	-2.59E-03	-3.99E+06	-5.54E-01
-4.87E+06	-5.59E-01	-4.07E+11	-2.60E-03	-3.98E+06	-5.56E-01
-4.86E+06	-5.61E-01	-4.06E+11	-2.61E-03	-3.98E+06	-5.58E-01
-4.85E+06	-5.63E-01	-4.05E+11	-2.62E-03	-3.97E+06	-5.60E-01
-4.85E+06	-5.65E-01	-4.05E+11	-2.63E-03	-3.97E+06	-5.62E-01
-4.84E+06	-5.67E-01	-4.04E+11	-2.64E-03	-3.96E+06	-5.64E-01
-4.83E+06	-5.70E-01	-4.03E+11	-2.65E-03	-3.95E+06	-5.66E-01
-4.82E+06	-5.72E-01	-4.03E+11	-2.66E-03	-3.95E+06	-5.69E-01
-4.81E+06	-5.74E-01	-4.02E+11	-2.67E-03	-3.94E+06	-5.71E-01
-4.80E+06	-5.76E-01	-4.02E+11	-2.68E-03	-3.93E+06	-5.73E-01

70% kandas

	4670	9.80E-06	1.00E-06
Momen	**Rotasi**	**Momen**	**Curvature**
6.38E+11	2.70E-03	6.26E+06	5.78E-01
6.39E+11	2.69E-03	6.26E+06	5.76E-01
6.40E+11	2.68E-03	6.27E+06	5.73E-01
6.40E+11	2.67E-03	6.27E+06	5.71E-01
6.41E+11	2.66E-03	6.28E+06	5.69E-01
6.41E+11	2.65E-03	6.29E+06	5.67E-01
6.42E+11	2.64E-03	6.29E+06	5.65E-01
6.43E+11	2.63E-03	6.30E+06	5.63E-01
6.43E+11	2.62E-03	6.30E+06	5.61E-01
6.44E+11	2.61E-03	6.31E+06	5.58E-01
6.45E+11	2.60E-03	6.32E+06	5.56E-01
6.45E+11	2.59E-03	6.32E+06	5.54E-01
6.46E+11	2.58E-03	6.33E+06	5.52E-01
6.47E+11	2.57E-03	6.34E+06	5.50E-01
6.47E+11	2.56E-03	6.34E+06	5.48E-01
6.48E+11	2.55E-03	6.35E+06	5.46E-01
6.49E+11	2.54E-03	6.36E+06	5.43E-01
6.49E+11	2.53E-03	6.36E+06	5.41E-01
6.50E+11	2.52E-03	6.37E+06	5.39E-01
6.51E+11	2.51E-03	6.38E+06	5.37E-01
6.51E+11	2.50E-03	6.38E+06	5.35E-01
6.52E+11	2.49E-03	6.39E+06	5.33E-01
6.53E+11	2.48E-03	6.40E+06	5.31E-01
6.54E+11	2.47E-03	6.41E+06	5.28E-01
6.54E+11	2.46E-03	6.41E+06	5.26E-01
6.55E+11	2.45E-03	6.42E+06	5.24E-01
6.56E+11	2.44E-03	6.43E+06	5.22E-01
6.57E+11	2.43E-03	6.44E+06	5.20E-01
6.58E+11	2.42E-03	6.44E+06	5.18E-01
6.58E+11	2.41E-03	6.45E+06	5.16E-01
6.59E+11	2.40E-03	6.46E+06	5.13E-01
6.60E+11	2.39E-03	6.46E+06	5.12E-01
6.60E+11	2.38E-03	6.47E+06	5.09E-01
6.61E+11	2.37E-03	6.48E+06	5.07E-01
6.62E+11	2.36E-03	6.48E+06	5.05E-01
6.62E+11	2.35E-03	6.49E+06	5.03E-01
6.63E+11	2.34E-03	6.50E+06	5.01E-01
6.64E+11	2.33E-03	6.51E+06	4.99E-01
6.65E+11	2.32E-03	6.51E+06	4.97E-01
6.65E+11	2.31E-03	6.52E+06	4.94E-01

6.66E+11	2.30E-03	6.53E+06	4.92E-01
6.67E+11	2.29E-03	6.53E+06	4.90E-01
6.67E+11	2.29E-03	6.54E+06	4.89E-01
6.68E+11	2.28E-03	6.54E+06	4.87E-01
6.68E+11	2.27E-03	6.55E+06	4.85E-01
6.69E+11	2.26E-03	6.56E+06	4.83E-01
6.70E+11	2.25E-03	6.56E+06	4.81E-01
6.71E+11	2.24E-03	6.57E+06	4.79E-01
6.71E+11	2.23E-03	6.58E+06	4.76E-01
6.72E+11	2.22E-03	6.59E+06	4.74E-01
6.73E+11	2.21E-03	6.59E+06	4.72E-01
6.74E+11	2.20E-03	6.60E+06	4.70E-01
6.74E+11	2.19E-03	6.61E+06	4.68E-01
6.75E+11	2.18E-03	6.62E+06	4.66E-01
6.76E+11	2.17E-03	6.62E+06	4.64E-01
6.77E+11	2.16E-03	6.63E+06	4.61E-01
6.77E+11	2.15E-03	6.64E+06	4.59E-01
6.78E+11	2.14E-03	6.65E+06	4.57E-01
6.79E+11	2.13E-03	6.65E+06	4.55E-01
6.80E+11	2.12E-03	6.66E+06	4.53E-01
6.81E+11	2.11E-03	6.67E+06	4.51E-01
6.81E+11	2.10E-03	6.68E+06	4.49E-01
6.82E+11	2.09E-03	6.68E+06	4.47E-01
6.83E+11	2.08E-03	6.69E+06	4.45E-01
6.84E+11	2.07E-03	6.70E+06	4.43E-01
6.84E+11	2.06E-03	6.71E+06	4.40E-01
6.85E+11	2.05E-03	6.71E+06	4.38E-01
6.86E+11	2.04E-03	6.72E+06	4.36E-01
6.87E+11	2.03E-03	6.73E+06	4.34E-01
6.87E+11	2.02E-03	6.74E+06	4.32E-01
6.88E+11	2.01E-03	6.74E+06	4.30E-01
6.89E+11	2.00E-03	6.75E+06	4.28E-01
6.90E+11	1.99E-03	6.76E+06	4.25E-01
6.90E+11	1.98E-03	6.76E+06	4.23E-01
6.91E+11	1.97E-03	6.77E+06	4.21E-01
6.92E+11	1.96E-03	6.78E+06	4.19E-01
6.92E+11	1.95E-03	6.78E+06	4.18E-01
6.93E+11	1.94E-03	6.79E+06	4.16E-01
6.94E+11	1.93E-03	6.80E+06	4.14E-01
6.95E+11	1.92E-03	6.81E+06	4.12E-01
6.96E+11	1.91E-03	6.82E+06	4.10E-01
6.97E+11	1.90E-03	6.83E+06	4.07E-01
6.97E+11	1.89E-03	6.83E+06	4.05E-01
6.98E+11	1.88E-03	6.84E+06	4.03E-01
6.99E+11	1.87E-03	6.85E+06	4.01E-01

7.00E+11	1.86E-03	6.86E+06	3.99E-01
7.01E+11	1.85E-03	6.87E+06	3.97E-01
7.02E+11	1.84E-03	6.88E+06	3.95E-01
7.02E+11	1.83E-03	6.88E+06	3.93E-01
7.03E+11	1.82E-03	6.89E+06	3.90E-01
7.04E+11	1.81E-03	6.90E+06	3.88E-01
7.05E+11	1.80E-03	6.91E+06	3.86E-01
7.06E+11	1.79E-03	6.91E+06	3.84E-01
7.06E+11	1.78E-03	6.92E+06	3.82E-01
7.07E+11	1.77E-03	6.93E+06	3.80E-01
7.08E+11	1.76E-03	6.94E+06	3.78E-01
7.09E+11	1.75E-03	6.95E+06	3.75E-01
7.10E+11	1.74E-03	6.96E+06	3.73E-01
7.11E+11	1.73E-03	6.96E+06	3.71E-01
7.12E+11	1.72E-03	6.97E+06	3.69E-01
7.12E+11	1.72E-03	6.98E+06	3.69E-01
7.13E+11	1.71E-03	6.98E+06	3.66E-01
7.14E+11	1.70E-03	6.99E+06	3.64E-01
7.15E+11	1.69E-03	7.00E+06	3.62E-01
7.16E+11	1.68E-03	7.01E+06	3.60E-01
7.17E+11	1.67E-03	7.02E+06	3.58E-01
7.17E+11	1.66E-03	7.03E+06	3.56E-01
7.18E+11	1.65E-03	7.04E+06	3.54E-01
7.19E+11	1.64E-03	7.04E+06	3.52E-01
7.20E+11	1.63E-03	7.05E+06	3.50E-01
7.20E+11	1.62E-03	7.06E+06	3.48E-01
7.21E+11	1.61E-03	7.07E+06	3.46E-01
7.22E+11	1.60E-03	7.08E+06	3.43E-01
7.23E+11	1.59E-03	7.09E+06	3.41E-01
7.24E+11	1.58E-03	7.09E+06	3.39E-01
7.25E+11	1.57E-03	7.10E+06	3.37E-01
7.26E+11	1.56E-03	7.11E+06	3.35E-01
7.27E+11	1.55E-03	7.12E+06	3.33E-01
7.28E+11	1.54E-03	7.13E+06	3.31E-01
7.29E+11	1.53E-03	7.14E+06	3.28E-01
7.29E+11	1.53E-03	7.14E+06	3.28E-01
7.30E+11	1.52E-03	7.15E+06	3.26E-01
7.31E+11	1.51E-03	7.16E+06	3.24E-01
7.32E+11	1.50E-03	7.17E+06	3.22E-01
7.33E+11	1.49E-03	7.18E+06	3.20E-01
7.33E+11	1.49E-03	7.18E+06	3.19E-01
7.34E+11	1.48E-03	7.19E+06	3.17E-01
7.35E+11	1.47E-03	7.20E+06	3.15E-01
7.36E+11	1.46E-03	7.21E+06	3.13E-01
7.37E+11	1.45E-03	7.22E+06	3.11E-01

7.37E+11	1.44E-03	7.23E+06	3.09E-01
7.38E+11	1.43E-03	7.24E+06	3.06E-01
7.39E+11	1.42E-03	7.25E+06	3.04E-01
7.41E+11	1.41E-03	7.26E+06	3.02E-01
7.42E+11	1.40E-03	7.27E+06	3.00E-01
7.43E+11	1.39E-03	7.28E+06	2.98E-01
7.43E+11	1.38E-03	7.28E+06	2.96E-01
7.44E+11	1.37E-03	7.30E+06	2.94E-01
7.45E+11	1.36E-03	7.30E+06	2.92E-01
7.46E+11	1.35E-03	7.31E+06	2.90E-01
7.47E+11	1.35E-03	7.32E+06	2.88E-01
7.48E+11	1.34E-03	7.33E+06	2.86E-01
7.49E+11	1.33E-03	7.34E+06	2.85E-01
7.49E+11	1.32E-03	7.34E+06	2.82E-01
7.50E+11	1.31E-03	7.35E+06	2.80E-01
7.51E+11	1.30E-03	7.36E+06	2.78E-01
7.52E+11	1.29E-03	7.37E+06	2.76E-01
7.54E+11	1.28E-03	7.38E+06	2.74E-01
7.55E+11	1.27E-03	7.39E+06	2.72E-01
7.56E+11	1.26E-03	7.40E+06	2.70E-01
7.56E+11	1.26E-03	7.41E+06	2.69E-01
7.57E+11	1.25E-03	7.42E+06	2.67E-01
7.58E+11	1.24E-03	7.43E+06	2.65E-01
7.59E+11	1.23E-03	7.44E+06	2.63E-01
7.60E+11	1.22E-03	7.44E+06	2.61E-01
7.61E+11	1.21E-03	7.45E+06	2.59E-01
7.61E+11	1.20E-03	7.46E+06	2.57E-01
7.62E+11	1.19E-03	7.47E+06	2.54E-01
7.64E+11	1.18E-03	7.48E+06	2.52E-01
7.65E+11	1.17E-03	7.49E+06	2.50E-01
7.66E+11	1.16E-03	7.50E+06	2.48E-01
7.67E+11	1.15E-03	7.52E+06	2.46E-01
7.68E+11	1.14E-03	7.53E+06	2.44E-01
7.69E+11	1.13E-03	7.54E+06	2.42E-01
7.70E+11	1.12E-03	7.54E+06	2.40E-01
7.71E+11	1.11E-03	7.55E+06	2.38E-01
7.72E+11	1.10E-03	7.56E+06	2.36E-01
7.73E+11	1.09E-03	7.57E+06	2.34E-01
7.74E+11	1.08E-03	7.58E+06	2.32E-01
7.75E+11	1.07E-03	7.59E+06	2.30E-01
7.76E+11	1.06E-03	7.61E+06	2.28E-01
7.77E+11	1.05E-03	7.62E+06	2.26E-01
7.78E+11	1.04E-03	7.63E+06	2.24E-01
7.79E+11	1.04E-03	7.63E+06	2.23E-01
7.80E+11	1.03E-03	7.64E+06	2.21E-01

7.81E+11	1.02E-03	7.65E+06	2.19E-01
7.82E+11	1.01E-03	7.66E+06	2.16E-01
7.83E+11	1.00E-03	7.67E+06	2.14E-01
7.83E+11	1.00E-03	7.68E+06	2.14E-01
7.84E+11	9.90E-04	7.69E+06	2.12E-01
7.85E+11	9.80E-04	7.70E+06	2.10E-01
7.86E+11	9.70E-04	7.71E+06	2.08E-01
7.87E+11	9.60E-04	7.71E+06	2.06E-01
7.88E+11	9.50E-04	7.72E+06	2.04E-01
7.89E+11	9.40E-04	7.74E+06	2.01E-01
7.91E+11	9.30E-04	7.75E+06	1.99E-01
7.91E+11	9.26E-04	7.75E+06	1.98E-01
7.92E+11	9.16E-04	7.76E+06	1.96E-01
7.93E+11	9.06E-04	7.77E+06	1.94E-01
7.94E+11	8.99E-04	7.78E+06	1.93E-01
7.95E+11	8.89E-04	7.79E+06	1.90E-01
7.96E+11	8.79E-04	7.80E+06	1.88E-01
7.97E+11	8.69E-04	7.81E+06	1.86E-01
7.97E+11	8.68E-04	7.81E+06	1.86E-01
7.98E+11	8.58E-04	7.82E+06	1.84E-01
7.99E+11	8.48E-04	7.83E+06	1.81E-01
8.00E+11	8.45E-04	7.84E+06	1.81E-01
8.00E+11	8.35E-04	7.84E+06	1.79E-01
8.01E+11	8.25E-04	7.85E+06	1.77E-01
8.02E+11	8.15E-04	7.86E+06	1.75E-01
8.03E+11	8.09E-04	7.87E+06	1.73E-01
8.04E+11	7.99E-04	7.88E+06	1.71E-01
8.04E+11	7.96E-04	7.88E+06	1.70E-01
8.05E+11	7.86E-04	7.88E+06	1.68E-01
8.06E+11	7.76E-04	7.89E+06	1.66E-01
8.06E+11	7.74E-04	7.89E+06	1.66E-01
8.06E+11	7.64E-04	7.90E+06	1.64E-01
8.07E+11	7.54E-04	7.90E+06	1.61E-01
8.07E+11	7.45E-04	7.91E+06	1.60E-01
8.09E+11	7.35E-04	7.93E+06	1.57E-01
8.10E+11	7.25E-04	7.94E+06	1.55E-01
8.10E+11	7.24E-04	7.94E+06	1.55E-01
8.12E+11	7.14E-04	7.96E+06	1.53E-01
8.14E+11	7.07E-04	7.98E+06	1.51E-01
8.18E+11	6.97E-04	8.02E+06	1.49E-01
8.20E+11	6.93E-04	8.03E+06	1.48E-01
8.23E+11	6.88E-04	8.06E+06	1.47E-01
8.28E+11	6.79E-04	8.12E+06	1.45E-01
8.29E+11	6.78E-04	8.12E+06	1.45E-01
8.30E+11	6.68E-04	8.13E+06	1.43E-01

8.30E+11	6.66E-04	8.13E+06	1.43E-01
8.26E+11	6.56E-04	8.10E+06	1.41E-01
8.26E+11	6.55E-04	8.09E+06	1.40E-01
8.20E+11	6.45E-04	8.04E+06	1.38E-01
8.15E+11	6.36E-04	7.98E+06	1.36E-01
8.10E+11	6.28E-04	7.94E+06	1.34E-01
8.07E+11	6.22E-04	7.90E+06	1.33E-01
8.02E+11	6.16E-04	7.86E+06	1.32E-01
8.01E+11	6.15E-04	7.84E+06	1.32E-01
7.88E+11	6.05E-04	7.72E+06	1.29E-01
7.82E+11	6.00E-04	7.66E+06	1.28E-01
7.69E+11	5.90E-04	7.54E+06	1.26E-01
7.56E+11	5.80E-04	7.41E+06	1.24E-01
7.43E+11	5.70E-04	7.28E+06	1.22E-01
7.30E+11	5.60E-04	7.16E+06	1.20E-01
7.17E+11	5.50E-04	7.03E+06	1.18E-01
7.04E+11	5.40E-04	6.90E+06	1.16E-01
6.91E+11	5.30E-04	6.77E+06	1.13E-01
6.78E+11	5.20E-04	6.65E+06	1.11E-01
6.65E+11	5.10E-04	6.52E+06	1.09E-01
6.52E+11	5.00E-04	6.39E+06	1.07E-01
6.39E+11	4.90E-04	6.26E+06	1.05E-01
6.26E+11	4.80E-04	6.13E+06	1.03E-01
6.13E+11	4.70E-04	6.01E+06	1.01E-01
6.00E+11	4.60E-04	5.88E+06	9.85E-02
5.87E+11	4.50E-04	5.75E+06	9.64E-02
5.74E+11	4.40E-04	5.62E+06	9.42E-02
5.61E+11	4.30E-04	5.50E+06	9.21E-02
5.48E+11	4.20E-04	5.37E+06	8.99E-02
5.35E+11	4.10E-04	5.24E+06	8.78E-02
5.22E+11	4.00E-04	5.11E+06	8.57E-02
5.09E+11	3.90E-04	4.98E+06	8.35E-02
4.96E+11	3.80E-04	4.86E+06	8.14E-02
4.83E+11	3.70E-04	4.73E+06	7.92E-02
4.70E+11	3.60E-04	4.60E+06	7.71E-02
4.56E+11	3.50E-04	4.47E+06	7.49E-02
4.43E+11	3.40E-04	4.35E+06	7.28E-02
4.30E+11	3.30E-04	4.22E+06	7.07E-02
4.17E+11	3.20E-04	4.09E+06	6.85E-02
4.04E+11	3.10E-04	3.96E+06	6.64E-02
3.91E+11	3.00E-04	3.83E+06	6.42E-02
3.78E+11	2.90E-04	3.71E+06	6.21E-02
3.65E+11	2.80E-04	3.58E+06	6.00E-02
3.52E+11	2.70E-04	3.45E+06	5.78E-02
3.39E+11	2.60E-04	3.32E+06	5.57E-02

3.26E+11	2.50E-04	3.19E+06	5.35E-02
3.13E+11	2.40E-04	3.07E+06	5.14E-02
3.00E+11	2.30E-04	2.94E+06	4.93E-02
2.87E+11	2.20E-04	2.81E+06	4.71E-02
2.74E+11	2.10E-04	2.68E+06	4.50E-02
2.61E+11	2.00E-04	2.56E+06	4.28E-02
2.48E+11	1.90E-04	2.43E+06	4.07E-02
2.35E+11	1.80E-04	2.30E+06	3.85E-02
2.22E+11	1.70E-04	2.17E+06	3.64E-02
2.09E+11	1.60E-04	2.05E+06	3.43E-02
1.96E+11	1.50E-04	1.92E+06	3.21E-02
1.83E+11	1.40E-04	1.79E+06	3.00E-02
1.70E+11	1.30E-04	1.66E+06	2.78E-02
1.57E+11	1.20E-04	1.53E+06	2.57E-02
1.44E+11	1.10E-04	1.41E+06	2.36E-02
1.30E+11	1.00E-04	1.28E+06	2.14E-02
1.17E+11	9.00E-05	1.15E+06	1.93E-02
1.04E+11	8.00E-05	1.02E+06	1.71E-02
9.13E+10	7.00E-05	8.95E+05	1.50E-02
7.83E+10	6.00E-05	7.67E+05	1.28E-02
6.52E+10	5.00E-05	6.39E+05	1.07E-02
5.22E+10	4.00E-05	5.11E+05	8.57E-03
3.91E+10	3.00E-05	3.83E+05	6.42E-03
2.61E+10	2.00E-05	2.56E+05	4.28E-03
1.30E+10	1.00E-05	1.28E+05	2.14E-03
1.17E+10	9.00E-06	1.15E+05	1.93E-03
1.04E+10	8.00E-06	1.02E+05	1.71E-03
9.13E+09	7.00E-06	8.95E+04	1.50E-03
7.83E+09	6.00E-06	7.67E+04	1.28E-03
6.52E+09	5.00E-06	6.39E+04	1.07E-03
5.22E+09	4.00E-06	5.11E+04	8.57E-04
3.91E+09	3.00E-06	3.83E+04	6.42E-04
2.61E+09	2.00E-06	2.56E+04	4.28E-04
1.31E+09	1.00E-06	1.28E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.31E+09	-1.00E-06	-1.28E+04	-2.14E-04
-2.61E+09	-2.00E-06	-2.56E+04	-4.28E-04
-3.91E+09	-3.00E-06	-3.84E+04	-6.42E-04
-5.22E+09	-4.00E-06	-5.11E+04	-8.57E-04
-6.52E+09	-5.00E-06	-6.39E+04	-1.07E-03
-7.83E+09	-6.00E-06	-7.67E+04	-1.28E-03
-9.13E+09	-7.00E-06	-8.95E+04	-1.50E-03
-1.04E+10	-8.00E-06	-1.02E+05	-1.71E-03
-1.17E+10	-9.00E-06	-1.15E+05	-1.93E-03
-1.30E+10	-1.00E-05	-1.28E+05	-2.14E-03

-2.61E+10	-2.00E-05	-2.56E+05	-4.28E-03
-3.91E+10	-3.00E-05	-3.83E+05	-6.42E-03
-5.22E+10	-4.00E-05	-5.11E+05	-8.57E-03
-6.52E+10	-5.00E-05	-6.39E+05	-1.07E-02
-7.83E+10	-6.00E-05	-7.67E+05	-1.28E-02
-9.13E+10	-7.00E-05	-8.95E+05	-1.50E-02
-1.04E+11	-8.00E-05	-1.02E+06	-1.71E-02
-1.17E+11	-9.00E-05	-1.15E+06	-1.93E-02
-1.30E+11	-1.00E-04	-1.28E+06	-2.14E-02
-1.44E+11	-1.10E-04	-1.41E+06	-2.36E-02
-1.57E+11	-1.20E-04	-1.53E+06	-2.57E-02
-1.70E+11	-1.30E-04	-1.66E+06	-2.78E-02
-1.83E+11	-1.40E-04	-1.79E+06	-3.00E-02
-1.96E+11	-1.50E-04	-1.92E+06	-3.21E-02
-2.09E+11	-1.60E-04	-2.05E+06	-3.43E-02
-2.22E+11	-1.70E-04	-2.17E+06	-3.64E-02
-2.35E+11	-1.80E-04	-2.30E+06	-3.85E-02
-2.48E+11	-1.90E-04	-2.43E+06	-4.07E-02
-2.61E+11	-2.00E-04	-2.56E+06	-4.28E-02
-2.74E+11	-2.10E-04	-2.68E+06	-4.50E-02
-2.87E+11	-2.20E-04	-2.81E+06	-4.71E-02
-3.00E+11	-2.30E-04	-2.94E+06	-4.93E-02
-3.13E+11	-2.40E-04	-3.07E+06	-5.14E-02
-3.26E+11	-2.50E-04	-3.20E+06	-5.35E-02
-3.39E+11	-2.60E-04	-3.32E+06	-5.57E-02
-3.52E+11	-2.70E-04	-3.45E+06	-5.78E-02
-3.65E+11	-2.80E-04	-3.58E+06	-6.00E-02
-3.78E+11	-2.90E-04	-3.71E+06	-6.21E-02
-3.91E+11	-3.00E-04	-3.83E+06	-6.42E-02
-4.04E+11	-3.10E-04	-3.96E+06	-6.64E-02
-4.17E+11	-3.20E-04	-4.09E+06	-6.85E-02
-4.30E+11	-3.30E-04	-4.22E+06	-7.07E-02
-4.43E+11	-3.40E-04	-4.35E+06	-7.28E-02
-4.57E+11	-3.50E-04	-4.47E+06	-7.49E-02
-4.70E+11	-3.60E-04	-4.60E+06	-7.71E-02
-4.83E+11	-3.70E-04	-4.73E+06	-7.92E-02
-4.96E+11	-3.80E-04	-4.86E+06	-8.14E-02
-5.09E+11	-3.90E-04	-4.98E+06	-8.35E-02
-5.22E+11	-4.00E-04	-5.11E+06	-8.57E-02
-5.35E+11	-4.10E-04	-5.24E+06	-8.78E-02
-5.48E+11	-4.20E-04	-5.37E+06	-8.99E-02
-5.61E+11	-4.30E-04	-5.50E+06	-9.21E-02
-5.74E+11	-4.40E-04	-5.62E+06	-9.42E-02
-5.87E+11	-4.50E-04	-5.75E+06	-9.64E-02
-6.00E+11	-4.60E-04	-5.88E+06	-9.85E-02

-6.13E+11	-4.70E-04	-6.01E+06	-1.01E-01
-6.26E+11	-4.80E-04	-6.13E+06	-1.03E-01
-6.39E+11	-4.90E-04	-6.26E+06	-1.05E-01
-6.52E+11	-5.00E-04	-6.39E+06	-1.07E-01
-6.65E+11	-5.10E-04	-6.52E+06	-1.09E-01
-6.78E+11	-5.20E-04	-6.65E+06	-1.11E-01
-6.91E+11	-5.30E-04	-6.77E+06	-1.13E-01
-7.04E+11	-5.40E-04	-6.90E+06	-1.16E-01
-7.17E+11	-5.50E-04	-7.03E+06	-1.18E-01
-7.30E+11	-5.60E-04	-7.16E+06	-1.20E-01
-7.43E+11	-5.70E-04	-7.28E+06	-1.22E-01
-7.56E+11	-5.80E-04	-7.41E+06	-1.24E-01
-7.69E+11	-5.90E-04	-7.54E+06	-1.26E-01
-7.82E+11	-6.00E-04	-7.67E+06	-1.28E-01
-7.95E+11	-6.10E-04	-7.79E+06	-1.31E-01
-8.04E+11	-6.17E-04	-7.88E+06	-1.32E-01
-8.15E+11	-6.25E-04	-7.99E+06	-1.34E-01
-8.19E+11	-6.31E-04	-8.03E+06	-1.35E-01
-8.25E+11	-6.40E-04	-8.08E+06	-1.37E-01
-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.37E+11	-6.58E-04	-8.21E+06	-1.41E-01
-8.41E+11	-6.64E-04	-8.24E+06	-1.42E-01
-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.51E+11	-6.83E-04	-8.34E+06	-1.46E-01
-8.56E+11	-6.92E-04	-8.38E+06	-1.48E-01
-8.59E+11	-7.02E-04	-8.42E+06	-1.50E-01
-8.63E+11	-7.12E-04	-8.45E+06	-1.53E-01
-8.63E+11	-7.13E-04	-8.46E+06	-1.53E-01
-8.65E+11	-7.20E-04	-8.48E+06	-1.54E-01
-8.66E+11	-7.27E-04	-8.49E+06	-1.56E-01
-8.67E+11	-7.33E-04	-8.49E+06	-1.57E-01
-8.67E+11	-7.43E-04	-8.49E+06	-1.59E-01
-8.67E+11	-7.53E-04	-8.49E+06	-1.61E-01
-8.67E+11	-7.61E-04	-8.49E+06	-1.63E-01
-8.67E+11	-7.68E-04	-8.49E+06	-1.64E-01
-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.66E+11	-7.85E-04	-8.48E+06	-1.68E-01
-8.65E+11	-7.92E-04	-8.48E+06	-1.69E-01
-8.64E+11	-7.99E-04	-8.47E+06	-1.71E-01
-8.62E+11	-8.06E-04	-8.45E+06	-1.73E-01
-8.60E+11	-8.15E-04	-8.42E+06	-1.74E-01
-8.56E+11	-8.22E-04	-8.38E+06	-1.76E-01

-8.48E+11	-8.32E-04	-8.31E+06	-1.78E-01
-8.37E+11	-8.42E-04	-8.20E+06	-1.80E-01
-8.31E+11	-8.47E-04	-8.14E+06	-1.81E-01
-8.16E+11	-8.57E-04	-7.99E+06	-1.84E-01
-8.11E+11	-8.61E-04	-7.95E+06	-1.84E-01
-7.98E+11	-8.71E-04	-7.82E+06	-1.86E-01
-7.93E+11	-8.77E-04	-7.77E+06	-1.88E-01
-7.85E+11	-8.87E-04	-7.69E+06	-1.90E-01
-7.79E+11	-8.97E-04	-7.63E+06	-1.92E-01
-7.78E+11	-8.98E-04	-7.63E+06	-1.92E-01
-7.73E+11	-9.08E-04	-7.58E+06	-1.94E-01
-7.69E+11	-9.18E-04	-7.54E+06	-1.97E-01
-7.68E+11	-9.22E-04	-7.52E+06	-1.97E-01
-7.63E+11	-9.32E-04	-7.48E+06	-1.99E-01
-7.60E+11	-9.42E-04	-7.44E+06	-2.02E-01
-7.57E+11	-9.50E-04	-7.41E+06	-2.03E-01
-7.53E+11	-9.60E-04	-7.38E+06	-2.06E-01
-7.50E+11	-9.70E-04	-7.35E+06	-2.08E-01
-7.48E+11	-9.77E-04	-7.33E+06	-2.09E-01
-7.45E+11	-9.87E-04	-7.30E+06	-2.11E-01
-7.42E+11	-9.95E-04	-7.27E+06	-2.13E-01
-7.39E+11	-1.01E-03	-7.24E+06	-2.15E-01
-7.36E+11	-1.02E-03	-7.21E+06	-2.17E-01
-7.33E+11	-1.03E-03	-7.19E+06	-2.19E-01
-7.33E+11	-1.03E-03	-7.18E+06	-2.20E-01
-7.30E+11	-1.04E-03	-7.16E+06	-2.22E-01
-7.28E+11	-1.05E-03	-7.13E+06	-2.24E-01
-7.25E+11	-1.06E-03	-7.11E+06	-2.26E-01
-7.22E+11	-1.07E-03	-7.08E+06	-2.28E-01
-7.20E+11	-1.08E-03	-7.05E+06	-2.30E-01
-7.17E+11	-1.09E-03	-7.02E+06	-2.33E-01
-7.14E+11	-1.10E-03	-7.00E+06	-2.35E-01
-7.12E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.11E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.09E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.08E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.07E+11	-1.13E-03	-6.92E+06	-2.41E-01
-7.04E+11	-1.14E-03	-6.90E+06	-2.43E-01
-7.01E+11	-1.15E-03	-6.87E+06	-2.46E-01
-6.99E+11	-1.16E-03	-6.85E+06	-2.48E-01
-6.96E+11	-1.17E-03	-6.82E+06	-2.50E-01
-6.94E+11	-1.18E-03	-6.80E+06	-2.52E-01
-6.92E+11	-1.19E-03	-6.78E+06	-2.54E-01
-6.89E+11	-1.20E-03	-6.76E+06	-2.56E-01
-6.89E+11	-1.20E-03	-6.75E+06	-2.57E-01

-6.87E+11	-1.21E-03	-6.73E+06	-2.59E-01
-6.85E+11	-1.22E-03	-6.72E+06	-2.60E-01
-6.84E+11	-1.22E-03	-6.70E+06	-2.62E-01
-6.81E+11	-1.23E-03	-6.67E+06	-2.64E-01
-6.79E+11	-1.24E-03	-6.65E+06	-2.66E-01
-6.76E+11	-1.25E-03	-6.63E+06	-2.68E-01
-6.74E+11	-1.26E-03	-6.61E+06	-2.70E-01
-6.72E+11	-1.27E-03	-6.58E+06	-2.73E-01
-6.70E+11	-1.28E-03	-6.56E+06	-2.75E-01
-6.68E+11	-1.29E-03	-6.54E+06	-2.77E-01
-6.66E+11	-1.30E-03	-6.52E+06	-2.79E-01
-6.64E+11	-1.31E-03	-6.50E+06	-2.81E-01
-6.63E+11	-1.32E-03	-6.50E+06	-2.82E-01
-6.61E+11	-1.33E-03	-6.48E+06	-2.84E-01
-6.59E+11	-1.34E-03	-6.46E+06	-2.86E-01
-6.57E+11	-1.35E-03	-6.43E+06	-2.88E-01
-6.54E+11	-1.36E-03	-6.41E+06	-2.90E-01
-6.52E+11	-1.37E-03	-6.39E+06	-2.92E-01
-6.50E+11	-1.38E-03	-6.37E+06	-2.94E-01
-6.48E+11	-1.39E-03	-6.35E+06	-2.97E-01
-6.46E+11	-1.40E-03	-6.33E+06	-2.99E-01
-6.44E+11	-1.41E-03	-6.31E+06	-3.01E-01
-6.42E+11	-1.42E-03	-6.29E+06	-3.03E-01
-6.42E+11	-1.42E-03	-6.29E+06	-3.04E-01
-6.40E+11	-1.43E-03	-6.27E+06	-3.06E-01
-6.39E+11	-1.43E-03	-6.26E+06	-3.07E-01
-6.37E+11	-1.44E-03	-6.24E+06	-3.09E-01
-6.35E+11	-1.45E-03	-6.22E+06	-3.11E-01
-6.33E+11	-1.46E-03	-6.21E+06	-3.13E-01
-6.31E+11	-1.47E-03	-6.19E+06	-3.15E-01
-6.31E+11	-1.48E-03	-6.18E+06	-3.16E-01
-6.29E+11	-1.49E-03	-6.16E+06	-3.18E-01
-6.27E+11	-1.50E-03	-6.14E+06	-3.20E-01
-6.25E+11	-1.51E-03	-6.12E+06	-3.22E-01
-6.23E+11	-1.52E-03	-6.11E+06	-3.24E-01
-6.21E+11	-1.53E-03	-6.09E+06	-3.27E-01
-6.20E+11	-1.54E-03	-6.07E+06	-3.29E-01
-6.18E+11	-1.55E-03	-6.05E+06	-3.31E-01
-6.16E+11	-1.56E-03	-6.04E+06	-3.33E-01
-6.15E+11	-1.57E-03	-6.02E+06	-3.35E-01
-6.14E+11	-1.57E-03	-6.02E+06	-3.36E-01
-6.12E+11	-1.58E-03	-6.00E+06	-3.38E-01
-6.10E+11	-1.59E-03	-5.98E+06	-3.40E-01
-6.09E+11	-1.60E-03	-5.96E+06	-3.42E-01
-6.07E+11	-1.61E-03	-5.95E+06	-3.45E-01

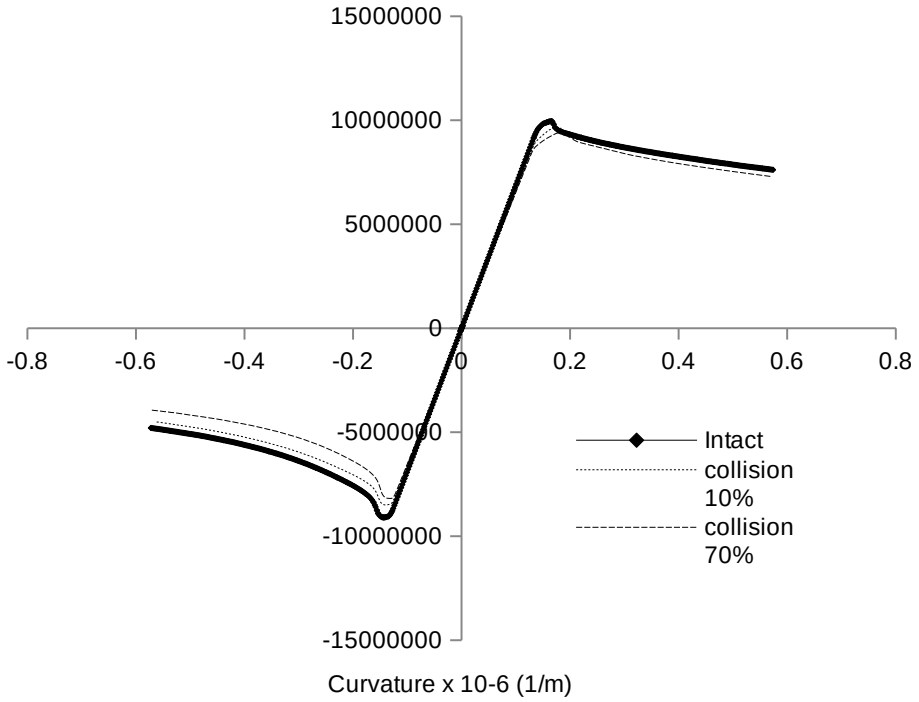
-6.05E+11	-1.62E-03	-5.93E+06	-3.47E-01
-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-6.02E+11	-1.64E-03	-5.90E+06	-3.51E-01
-6.00E+11	-1.65E-03	-5.88E+06	-3.53E-01
-5.98E+11	-1.66E-03	-5.86E+06	-3.55E-01
-5.97E+11	-1.67E-03	-5.85E+06	-3.57E-01
-5.95E+11	-1.68E-03	-5.83E+06	-3.60E-01
-5.94E+11	-1.69E-03	-5.82E+06	-3.62E-01
-5.92E+11	-1.70E-03	-5.80E+06	-3.64E-01
-5.91E+11	-1.71E-03	-5.79E+06	-3.66E-01
-5.89E+11	-1.72E-03	-5.77E+06	-3.68E-01
-5.88E+11	-1.73E-03	-5.77E+06	-3.69E-01
-5.87E+11	-1.74E-03	-5.75E+06	-3.72E-01
-5.85E+11	-1.75E-03	-5.74E+06	-3.74E-01
-5.84E+11	-1.76E-03	-5.72E+06	-3.76E-01
-5.82E+11	-1.77E-03	-5.71E+06	-3.78E-01
-5.81E+11	-1.78E-03	-5.69E+06	-3.80E-01
-5.79E+11	-1.79E-03	-5.68E+06	-3.82E-01
-5.78E+11	-1.80E-03	-5.66E+06	-3.84E-01
-5.76E+11	-1.81E-03	-5.65E+06	-3.87E-01
-5.75E+11	-1.82E-03	-5.64E+06	-3.89E-01
-5.74E+11	-1.83E-03	-5.62E+06	-3.91E-01
-5.73E+11	-1.83E-03	-5.61E+06	-3.93E-01
-5.71E+11	-1.84E-03	-5.60E+06	-3.95E-01
-5.70E+11	-1.85E-03	-5.59E+06	-3.97E-01
-5.69E+11	-1.86E-03	-5.57E+06	-3.99E-01
-5.67E+11	-1.87E-03	-5.56E+06	-4.01E-01
-5.66E+11	-1.88E-03	-5.55E+06	-4.03E-01
-5.65E+11	-1.89E-03	-5.53E+06	-4.05E-01
-5.63E+11	-1.90E-03	-5.52E+06	-4.07E-01
-5.62E+11	-1.91E-03	-5.51E+06	-4.10E-01
-5.61E+11	-1.92E-03	-5.50E+06	-4.12E-01
-5.61E+11	-1.93E-03	-5.49E+06	-4.12E-01
-5.59E+11	-1.94E-03	-5.48E+06	-4.14E-01
-5.58E+11	-1.95E-03	-5.47E+06	-4.16E-01
-5.57E+11	-1.96E-03	-5.45E+06	-4.19E-01
-5.55E+11	-1.97E-03	-5.44E+06	-4.21E-01
-5.54E+11	-1.98E-03	-5.43E+06	-4.23E-01
-5.53E+11	-1.99E-03	-5.42E+06	-4.25E-01
-5.51E+11	-2.00E-03	-5.40E+06	-4.27E-01
-5.50E+11	-2.01E-03	-5.39E+06	-4.29E-01
-5.49E+11	-2.02E-03	-5.38E+06	-4.31E-01
-5.48E+11	-2.03E-03	-5.37E+06	-4.34E-01
-5.47E+11	-2.04E-03	-5.36E+06	-4.36E-01

-5.46E+11	-2.05E-03	-5.35E+06	-4.38E-01
-5.44E+11	-2.06E-03	-5.34E+06	-4.40E-01
-5.43E+11	-2.07E-03	-5.32E+06	-4.42E-01
-5.42E+11	-2.08E-03	-5.31E+06	-4.44E-01
-5.41E+11	-2.09E-03	-5.30E+06	-4.46E-01
-5.40E+11	-2.10E-03	-5.29E+06	-4.49E-01
-5.39E+11	-2.11E-03	-5.28E+06	-4.51E-01
-5.38E+11	-2.12E-03	-5.27E+06	-4.53E-01
-5.37E+11	-2.13E-03	-5.26E+06	-4.55E-01
-5.36E+11	-2.14E-03	-5.25E+06	-4.57E-01
-5.35E+11	-2.15E-03	-5.24E+06	-4.59E-01
-5.34E+11	-2.16E-03	-5.23E+06	-4.61E-01
-5.32E+11	-2.17E-03	-5.22E+06	-4.64E-01
-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.30E+11	-2.19E-03	-5.20E+06	-4.68E-01
-5.29E+11	-2.20E-03	-5.19E+06	-4.70E-01
-5.28E+11	-2.21E-03	-5.17E+06	-4.72E-01
-5.27E+11	-2.22E-03	-5.16E+06	-4.75E-01
-5.26E+11	-2.23E-03	-5.15E+06	-4.77E-01
-5.25E+11	-2.24E-03	-5.14E+06	-4.79E-01
-5.24E+11	-2.25E-03	-5.13E+06	-4.81E-01
-5.23E+11	-2.26E-03	-5.12E+06	-4.83E-01
-5.21E+11	-2.27E-03	-5.11E+06	-4.85E-01
-5.20E+11	-2.28E-03	-5.10E+06	-4.87E-01
-5.19E+11	-2.29E-03	-5.09E+06	-4.90E-01
-5.19E+11	-2.30E-03	-5.08E+06	-4.92E-01
-5.18E+11	-2.31E-03	-5.07E+06	-4.94E-01
-5.17E+11	-2.32E-03	-5.06E+06	-4.96E-01
-5.16E+11	-2.33E-03	-5.05E+06	-4.98E-01
-5.15E+11	-2.34E-03	-5.05E+06	-5.00E-01
-5.14E+11	-2.35E-03	-5.04E+06	-5.02E-01
-5.13E+11	-2.36E-03	-5.03E+06	-5.04E-01
-5.12E+11	-2.37E-03	-5.02E+06	-5.07E-01
-5.11E+11	-2.38E-03	-5.01E+06	-5.09E-01
-5.10E+11	-2.39E-03	-5.00E+06	-5.11E-01
-5.10E+11	-2.40E-03	-4.99E+06	-5.13E-01
-5.09E+11	-2.41E-03	-4.99E+06	-5.15E-01
-5.08E+11	-2.42E-03	-4.98E+06	-5.17E-01
-5.08E+11	-2.42E-03	-4.98E+06	-5.18E-01
-5.07E+11	-2.43E-03	-4.97E+06	-5.20E-01
-5.06E+11	-2.44E-03	-4.96E+06	-5.22E-01
-5.05E+11	-2.45E-03	-4.95E+06	-5.24E-01
-5.04E+11	-2.46E-03	-4.94E+06	-5.26E-01
-5.03E+11	-2.47E-03	-4.93E+06	-5.28E-01

-5.02E+11	-2.48E-03	-4.92E+06	-5.30E-01
-5.02E+11	-2.49E-03	-4.92E+06	-5.33E-01
-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-5.00E+11	-2.51E-03	-4.90E+06	-5.37E-01
-4.99E+11	-2.52E-03	-4.89E+06	-5.39E-01
-4.98E+11	-2.53E-03	-4.88E+06	-5.41E-01
-4.97E+11	-2.54E-03	-4.87E+06	-5.43E-01
-4.96E+11	-2.55E-03	-4.86E+06	-5.46E-01
-4.95E+11	-2.56E-03	-4.85E+06	-5.48E-01
-4.95E+11	-2.57E-03	-4.85E+06	-5.50E-01
-4.94E+11	-2.58E-03	-4.84E+06	-5.52E-01
-4.93E+11	-2.59E-03	-4.83E+06	-5.54E-01
-4.92E+11	-2.60E-03	-4.82E+06	-5.56E-01
-4.91E+11	-2.61E-03	-4.81E+06	-5.58E-01
-4.91E+11	-2.62E-03	-4.81E+06	-5.61E-01
-4.90E+11	-2.63E-03	-4.80E+06	-5.63E-01
-4.89E+11	-2.64E-03	-4.79E+06	-5.65E-01
-4.88E+11	-2.65E-03	-4.78E+06	-5.67E-01

Intact

	4670	9.80E-06	1.00E-06	
Momen	**Rotasi**	**Momen**	**Curvature**	**Momen**
7.77E+11	2.68E-03	7.62E+06	5.74E-01	7.79E+11
				7.79E+
				7.80E+
				7.80E+
				7.81E+
				7.82E+
				7.82E+
				7.83E+
				7.83E+
				7.84E+
				7.84E+
				7.85E+
				7.86E+
				7.86E+
				7.87E+
				7.88E+
				7.88E+
				7.89E+
				7.90E+
7.91E+11	2.50E-03	7.75E+06	5.34E-01	7.90E+11
7.92E+11	2.49E-03	7.76E+06	5.32E-01	7.91E+11
7.92E+11	2.48E-03	7.77E+06	5.30E-01	7.92E+11
7.93E+11	2.47E-03	7.77E+06	5.28E-01	7.93E+11
7.94E+11	2.46E-03	7.78E+06	5.26E-01	7.93E+11
7.95E+11	2.45E-03	7.79E+06	5.24E-01	7.94E+11
7.95E+11	2.44E-03	7.79E+06	5.21E-01	7.95E+11
7.95E+11	2.43E-03	7.79E+06	5.21E-01	7.95E+11
7.96E+11	2.42E-03	7.80E+06	5.19E-01	7.95E+11
7.97E+11	2.41E-03	7.81E+06	5.17E-01	7.96E+11
7.98E+11	2.40E-03	7.82E+06	5.15E-01	7.97E+11
7.98E+11	2.39E-03	7.82E+06	5.13E-01	7.97E+11
7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.98E+11
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.99E+11
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.99E+11
8.02E+11	2.35E-03	7.85E+06	5.04E-01	8.00E+11
8.02E+11	2.34E-03	7.86E+06	5.02E-01	8.01E+11
8.03E+11	2.33E-03	7.87E+06	5.00E-01	8.01E+11
8.04E+11	2.32E-03	7.88E+06	4.98E-01	8.02E+11
8.05E+11	2.31E-03	7.89E+06	4.96E-01	8.03E+11
8.06E+11	2.30E-03	7.90E+06	4.93E-01	8.03E+11



8.07E+11	2.29E-03	7.90E+06	4.91E-01	8.04E+11
8.07E+11	2.28E-03	7.91E+06	4.89E-01	8.05E+11
8.08E+11	2.28E-03	7.91E+06	4.88E-01	8.05E+11
8.08E+11	2.27E-03	7.92E+06	4.86E-01	8.06E+11
8.09E+11	2.26E-03	7.93E+06	4.84E-01	8.06E+11
8.10E+11	2.25E-03	7.94E+06	4.82E-01	8.07E+11
8.11E+11	2.24E-03	7.94E+06	4.80E-01	8.08E+11
8.11E+11	2.23E-03	7.95E+06	4.78E-01	8.09E+11
8.12E+11	2.22E-03	7.96E+06	4.76E-01	8.09E+11
8.13E+11	2.21E-03	7.97E+06	4.73E-01	8.10E+11
8.14E+11	2.20E-03	7.97E+06	4.71E-01	8.11E+11
8.15E+11	2.19E-03	7.98E+06	4.69E-01	8.12E+11
8.15E+11	2.18E-03	7.99E+06	4.67E-01	8.12E+11
8.16E+11	2.17E-03	8.00E+06	4.65E-01	8.13E+11
8.17E+11	2.16E-03	8.01E+06	4.63E-01	8.14E+11
8.18E+11	2.15E-03	8.01E+06	4.61E-01	8.15E+11
8.19E+11	2.14E-03	8.02E+06	4.58E-01	8.15E+11
8.19E+11	2.14E-03	8.02E+06	4.58E-01	8.16E+11
8.19E+11	2.13E-03	8.03E+06	4.56E-01	8.16E+11
8.20E+11	2.12E-03	8.04E+06	4.54E-01	8.17E+11
8.21E+11	2.11E-03	8.05E+06	4.52E-01	8.18E+11
8.22E+11	2.10E-03	8.05E+06	4.50E-01	8.18E+11
8.23E+11	2.09E-03	8.06E+06	4.48E-01	8.19E+11
8.24E+11	2.08E-03	8.07E+06	4.45E-01	8.20E+11
8.25E+11	2.07E-03	8.08E+06	4.43E-01	8.20E+11
8.25E+11	2.06E-03	8.09E+06	4.41E-01	8.21E+11
8.26E+11	2.05E-03	8.10E+06	4.39E-01	8.22E+11
8.27E+11	2.04E-03	8.11E+06	4.37E-01	8.23E+11
8.28E+11	2.03E-03	8.12E+06	4.35E-01	8.23E+11
8.29E+11	2.02E-03	8.12E+06	4.33E-01	8.24E+11
8.30E+11	2.01E-03	8.13E+06	4.31E-01	8.25E+11
8.30E+11	2.00E-03	8.14E+06	4.29E-01	8.25E+11
8.31E+11	1.99E-03	8.14E+06	4.27E-01	8.26E+11
8.32E+11	1.98E-03	8.15E+06	4.25E-01	8.27E+11
8.33E+11	1.97E-03	8.16E+06	4.23E-01	8.28E+11
8.34E+11	1.96E-03	8.17E+06	4.21E-01	8.28E+11
8.35E+11	1.95E-03	8.18E+06	4.18E-01	8.29E+11
8.35E+11	1.94E-03	8.19E+06	4.16E-01	8.30E+11
8.36E+11	1.93E-03	8.20E+06	4.14E-01	8.31E+11
8.37E+11	1.92E-03	8.20E+06	4.12E-01	8.32E+11
8.38E+11	1.91E-03	8.21E+06	4.10E-01	8.32E+11
8.39E+11	1.91E-03	8.22E+06	4.08E-01	8.33E+11
8.40E+11	1.90E-03	8.23E+06	4.06E-01	8.34E+11
8.40E+11	1.89E-03	8.24E+06	4.04E-01	8.35E+11
8.41E+11	1.88E-03	8.24E+06	4.01E-01	8.35E+11

8.42E+11	1.87E-03	8.25E+06	3.99E-01	8.36E+11
8.43E+11	1.86E-03	8.26E+06	3.97E-01	8.37E+11
8.44E+11	1.85E-03	8.27E+06	3.95E-01	8.38E+11
8.45E+11	1.84E-03	8.28E+06	3.93E-01	8.38E+11
8.46E+11	1.83E-03	8.29E+06	3.91E-01	8.39E+11
8.47E+11	1.82E-03	8.30E+06	3.89E-01	8.40E+11
8.47E+11	1.81E-03	8.30E+06	3.88E-01	8.41E+11
8.48E+11	1.80E-03	8.31E+06	3.86E-01	8.42E+11
8.49E+11	1.79E-03	8.32E+06	3.84E-01	8.42E+11
8.50E+11	1.78E-03	8.33E+06	3.82E-01	8.43E+11
8.50E+11	1.77E-03	8.33E+06	3.79E-01	8.44E+11
8.51E+11	1.76E-03	8.34E+06	3.77E-01	8.44E+11
8.52E+11	1.75E-03	8.35E+06	3.75E-01	8.45E+11
8.53E+11	1.74E-03	8.36E+06	3.73E-01	8.46E+11
8.54E+11	1.73E-03	8.37E+06	3.71E-01	8.47E+11
8.55E+11	1.72E-03	8.38E+06	3.69E-01	8.48E+11
8.56E+11	1.71E-03	8.39E+06	3.67E-01	8.49E+11
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.50E+11
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.50E+11
8.58E+11	1.69E-03	8.41E+06	3.62E-01	8.50E+11
8.59E+11	1.68E-03	8.42E+06	3.60E-01	8.51E+11
8.60E+11	1.67E-03	8.43E+06	3.58E-01	8.52E+11
8.61E+11	1.66E-03	8.44E+06	3.56E-01	8.53E+11
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8.63E+11	1.64E-03	8.46E+06	3.52E-01	8.55E+11
8.64E+11	1.63E-03	8.47E+06	3.49E-01	8.55E+11
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8.66E+11	1.61E-03	8.48E+06	3.46E-01	8.57E+11
8.66E+11	1.60E-03	8.49E+06	3.43E-01	8.57E+11
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8.68E+11	1.58E-03	8.51E+06	3.39E-01	8.59E+11
8.69E+11	1.57E-03	8.52E+06	3.37E-01	8.60E+11
8.70E+11	1.56E-03	8.53E+06	3.35E-01	8.61E+11
8.71E+11	1.55E-03	8.54E+06	3.33E-01	8.62E+11
8.72E+11	1.54E-03	8.55E+06	3.31E-01	8.63E+11
8.73E+11	1.53E-03	8.56E+06	3.28E-01	8.64E+11
8.74E+11	1.52E-03	8.57E+06	3.26E-01	8.65E+11
8.75E+11	1.52E-03	8.58E+06	3.24E-01	8.65E+11
8.76E+11	1.51E-03	8.59E+06	3.22E-01	8.66E+11
8.77E+11	1.50E-03	8.60E+06	3.20E-01	8.67E+11
8.79E+11	1.49E-03	8.61E+06	3.18E-01	8.68E+11
8.80E+11	1.48E-03	8.62E+06	3.16E-01	8.69E+11
8.81E+11	1.47E-03	8.63E+06	3.14E-01	8.70E+11
8.81E+11	1.46E-03	8.63E+06	3.13E-01	8.71E+11
8.82E+11	1.45E-03	8.64E+06	3.11E-01	8.72E+11

8.83E+11	1.44E-03	8.65E+06	3.09E-01	8.73E+11
8.84E+11	1.43E-03	8.66E+06	3.07E-01	8.74E+11
8.85E+11	1.42E-03	8.67E+06	3.05E-01	8.75E+11
8.86E+11	1.41E-03	8.68E+06	3.03E-01	8.76E+11
8.87E+11	1.40E-03	8.69E+06	3.01E-01	8.77E+11
8.88E+11	1.39E-03	8.70E+06	2.99E-01	8.78E+11
8.89E+11	1.38E-03	8.71E+06	2.96E-01	8.79E+11
8.90E+11	1.38E-03	8.72E+06	2.96E-01	8.79E+11
8.91E+11	1.37E-03	8.73E+06	2.93E-01	8.80E+11
8.92E+11	1.36E-03	8.74E+06	2.91E-01	8.81E+11
8.93E+11	1.35E-03	8.75E+06	2.89E-01	8.82E+11
8.94E+11	1.34E-03	8.76E+06	2.87E-01	8.83E+11
8.95E+11	1.33E-03	8.77E+06	2.85E-01	8.84E+11
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8.98E+11	1.31E-03	8.80E+06	2.80E-01	8.88E+11
8.99E+11	1.30E-03	8.81E+06	2.78E-01	8.89E+11
9.00E+11	1.29E-03	8.82E+06	2.76E-01	8.90E+11
9.02E+11	1.28E-03	8.83E+06	2.73E-01	8.91E+11
9.02E+11	1.27E-03	8.84E+06	2.73E-01	8.92E+11
9.03E+11	1.26E-03	8.85E+06	2.71E-01	8.92E+11
9.04E+11	1.25E-03	8.86E+06	2.69E-01	8.93E+11
9.05E+11	1.24E-03	8.87E+06	2.66E-01	8.94E+11
9.07E+11	1.23E-03	8.89E+06	2.64E-01	8.96E+11
9.08E+11	1.22E-03	8.90E+06	2.62E-01	8.97E+11
9.09E+11	1.21E-03	8.91E+06	2.60E-01	8.98E+11
9.10E+11	1.21E-03	8.92E+06	2.58E-01	8.99E+11
9.11E+11	1.20E-03	8.93E+06	2.56E-01	9.00E+11
9.13E+11	1.19E-03	8.95E+06	2.54E-01	9.01E+11
9.14E+11	1.18E-03	8.96E+06	2.52E-01	9.02E+11
9.16E+11	1.17E-03	8.97E+06	2.49E-01	9.04E+11
9.17E+11	1.16E-03	8.98E+06	2.48E-01	9.05E+11
9.18E+11	1.15E-03	9.00E+06	2.45E-01	9.06E+11
9.20E+11	1.14E-03	9.01E+06	2.43E-01	9.07E+11
9.21E+11	1.13E-03	9.03E+06	2.41E-01	9.08E+11
9.22E+11	1.12E-03	9.04E+06	2.39E-01	9.09E+11
9.23E+11	1.11E-03	9.05E+06	2.38E-01	9.11E+11
9.24E+11	1.10E-03	9.06E+06	2.36E-01	9.11E+11
9.26E+11	1.09E-03	9.07E+06	2.34E-01	9.13E+11
9.27E+11	1.08E-03	9.09E+06	2.31E-01	9.14E+11
9.29E+11	1.07E-03	9.10E+06	2.29E-01	9.16E+11
9.30E+11	1.06E-03	9.11E+06	2.27E-01	9.17E+11
9.32E+11	1.05E-03	9.13E+06	2.25E-01	9.17E+11
9.33E+11	1.04E-03	9.15E+06	2.23E-01	9.19E+11
9.35E+11	1.03E-03	9.16E+06	2.21E-01	9.20E+11

9.35E+11	1.03E-03	9.17E+06	2.20E-01	9.21E+11
9.37E+11	1.02E-03	9.18E+06	2.18E-01	9.23E+11
9.38E+11	1.01E-03	9.19E+06	2.16E-01	9.24E+11
9.40E+11	9.99E-04	9.21E+06	2.14E-01	9.25E+11
9.42E+11	9.89E-04	9.23E+06	2.12E-01	9.27E+11
9.42E+11	9.87E-04	9.23E+06	2.11E-01	9.28E+11
9.43E+11	9.77E-04	9.25E+06	2.09E-01	9.29E+11
9.45E+11	9.67E-04	9.26E+06	2.07E-01	9.30E+11
9.47E+11	9.57E-04	9.28E+06	2.05E-01	9.32E+11
9.48E+11	9.49E-04	9.29E+06	2.03E-01	9.33E+11
9.50E+11	9.39E-04	9.31E+06	2.01E-01	9.34E+11
9.52E+11	9.29E-04	9.33E+06	1.99E-01	9.36E+11
9.53E+11	9.21E-04	9.34E+06	1.97E-01	9.38E+11
9.54E+11	9.11E-04	9.35E+06	1.95E-01	9.40E+11
9.56E+11	9.01E-04	9.37E+06	1.93E-01	9.42E+11
9.58E+11	8.91E-04	9.39E+06	1.91E-01	9.46E+11
9.58E+11	8.88E-04	9.39E+06	1.90E-01	9.47E+11
9.60E+11	8.78E-04	9.41E+06	1.88E-01	9.51E+11
9.62E+11	8.68E-04	9.43E+06	1.86E-01	9.54E+11
9.63E+11	8.65E-04	9.44E+06	1.85E-01	9.56E+11
9.65E+11	8.55E-04	9.46E+06	1.83E-01	9.70E+11
9.67E+11	8.46E-04	9.48E+06	1.81E-01	9.80E+11
9.70E+11	8.36E-04	9.51E+06	1.79E-01	9.84E+11
9.73E+11	8.28E-04	9.53E+06	1.77E-01	9.86E+11
9.77E+11	8.18E-04	9.58E+06	1.75E-01	9.86E+11
9.78E+11	8.18E-04	9.58E+06	1.75E-01	9.85E+11
9.83E+11	8.08E-04	9.63E+06	1.73E-01	9.84E+11
9.85E+11	8.04E-04	9.66E+06	1.72E-01	9.83E+11
9.86E+11	8.04E-04	9.66E+06	1.72E-01	9.81E+11
9.99E+11	7.94E-04	9.79E+06	1.70E-01	9.80E+11
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1.02E+12	7.76E-04	9.96E+06	1.66E-01	9.75E+11
1.02E+12	7.66E-04	9.95E+06	1.64E-01	9.73E+11
1.02E+12	7.60E-04	9.95E+06	1.63E-01	9.73E+11
1.01E+12	7.50E-04	9.94E+06	1.61E-01	9.69E+11
1.01E+12	7.45E-04	9.92E+06	1.60E-01	9.65E+11
1.01E+12	7.35E-04	9.91E+06	1.57E-01	9.63E+11
1.01E+12	7.29E-04	9.89E+06	1.56E-01	9.59E+11
1.01E+12	7.19E-04	9.87E+06	1.54E-01	9.55E+11
1.01E+12	7.09E-04	9.85E+06	1.52E-01	9.51E+11
1.00E+12	7.01E-04	9.83E+06	1.50E-01	9.46E+11
1.00E+12	6.94E-04	9.80E+06	1.49E-01	9.41E+11
9.97E+11	6.88E-04	9.77E+06	1.47E-01	9.38E+11
9.91E+11	6.78E-04	9.71E+06	1.45E-01	9.35E+11

9.86E+11	6.69E-04	9.66E+06	1.43E-01	9.32E+11
9.82E+11	6.64E-04	9.63E+06	1.42E-01	9.27E+11
9.78E+11	6.58E-04	9.58E+06	1.41E-01	9.22E+11
9.73E+11	6.52E-04	9.53E+06	1.40E-01	9.19E+11
9.63E+11	6.43E-04	9.43E+06	1.38E-01	9.15E+11
9.54E+11	6.35E-04	9.35E+06	1.36E-01	9.11E+11
9.45E+11	6.28E-04	9.26E+06	1.35E-01	9.02E+11
9.35E+11	6.21E-04	9.16E+06	1.33E-01	8.94E+11
9.33E+11	6.20E-04	9.14E+06	1.33E-01	8.86E+11
9.18E+11	6.10E-04	8.99E+06	1.31E-01	8.77E+11
9.03E+11	6.00E-04	8.85E+06	1.28E-01	8.69E+11
8.88E+11	5.90E-04	8.70E+06	1.26E-01	8.55E+11
8.73E+11	5.80E-04	8.55E+06	1.24E-01	8.40E+11
8.58E+11	5.70E-04	8.40E+06	1.22E-01	8.26E+11
8.43E+11	5.60E-04	8.26E+06	1.20E-01	8.11E+11
8.28E+11	5.50E-04	8.11E+06	1.18E-01	7.97E+11
8.13E+11	5.40E-04	7.96E+06	1.16E-01	7.82E+11
7.98E+11	5.30E-04	7.82E+06	1.13E-01	7.68E+11
7.82E+11	5.20E-04	7.67E+06	1.11E-01	7.53E+11
7.67E+11	5.10E-04	7.52E+06	1.09E-01	7.39E+11
7.52E+11	5.00E-04	7.37E+06	1.07E-01	7.24E+11
7.37E+11	4.90E-04	7.23E+06	1.05E-01	7.10E+11
7.22E+11	4.80E-04	7.08E+06	1.03E-01	6.95E+11
7.07E+11	4.70E-04	6.93E+06	1.01E-01	6.81E+11
6.92E+11	4.60E-04	6.78E+06	9.85E-02	6.66E+11
6.77E+11	4.50E-04	6.64E+06	9.64E-02	6.52E+11
6.62E+11	4.40E-04	6.49E+06	9.42E-02	6.37E+11
6.47E+11	4.30E-04	6.34E+06	9.21E-02	6.23E+11
6.32E+11	4.20E-04	6.19E+06	8.99E-02	6.08E+11
6.17E+11	4.10E-04	6.05E+06	8.78E-02	5.94E+11
6.02E+11	4.00E-04	5.90E+06	8.57E-02	5.79E+11
5.87E+11	3.90E-04	5.75E+06	8.35E-02	5.65E+11
5.72E+11	3.80E-04	5.60E+06	8.14E-02	5.50E+11
5.57E+11	3.70E-04	5.46E+06	7.92E-02	5.36E+11
5.42E+11	3.60E-04	5.31E+06	7.71E-02	5.21E+11
5.27E+11	3.50E-04	5.16E+06	7.49E-02	5.07E+11
5.12E+11	3.40E-04	5.01E+06	7.28E-02	4.93E+11
4.97E+11	3.30E-04	4.87E+06	7.07E-02	4.78E+11
4.82E+11	3.20E-04	4.72E+06	6.85E-02	4.64E+11
4.67E+11	3.10E-04	4.57E+06	6.64E-02	4.49E+11
4.51E+11	3.00E-04	4.42E+06	6.42E-02	4.35E+11
4.36E+11	2.90E-04	4.28E+06	6.21E-02	4.20E+11
4.21E+11	2.80E-04	4.13E+06	6.00E-02	4.06E+11
4.06E+11	2.70E-04	3.98E+06	5.78E-02	3.91E+11
3.91E+11	2.60E-04	3.83E+06	5.57E-02	3.77E+11

3.76E+11	2.50E-04	3.69E+06	5.35E-02	3.62E+11
3.61E+11	2.40E-04	3.54E+06	5.14E-02	3.48E+11
3.46E+11	2.30E-04	3.39E+06	4.93E-02	3.33E+11
3.31E+11	2.20E-04	3.24E+06	4.71E-02	3.19E+11
3.16E+11	2.10E-04	3.10E+06	4.50E-02	3.04E+11
3.01E+11	2.00E-04	2.95E+06	4.28E-02	2.90E+11
2.86E+11	1.90E-04	2.80E+06	4.07E-02	2.75E+11
2.71E+11	1.80E-04	2.65E+06	3.85E-02	2.61E+11
2.56E+11	1.70E-04	2.51E+06	3.64E-02	2.46E+11
2.41E+11	1.60E-04	2.36E+06	3.43E-02	2.32E+11
2.26E+11	1.50E-04	2.21E+06	3.21E-02	2.17E+11
2.11E+11	1.40E-04	2.06E+06	3.00E-02	2.03E+11
1.96E+11	1.30E-04	1.92E+06	2.78E-02	1.88E+11
1.81E+11	1.20E-04	1.77E+06	2.57E-02	1.74E+11
1.66E+11	1.10E-04	1.62E+06	2.36E-02	1.59E+11
1.51E+11	1.00E-04	1.47E+06	2.14E-02	1.45E+11
1.35E+11	9.00E-05	1.33E+06	1.93E-02	1.30E+11
1.20E+11	8.00E-05	1.18E+06	1.71E-02	1.16E+11
1.05E+11	7.00E-05	1.03E+06	1.50E-02	1.01E+11
9.03E+10	6.00E-05	8.85E+05	1.28E-02	8.69E+10
7.52E+10	5.00E-05	7.37E+05	1.07E-02	7.24E+10
6.02E+10	4.00E-05	5.90E+05	8.57E-03	5.79E+10
4.51E+10	3.00E-05	4.42E+05	6.42E-03	4.35E+10
3.01E+10	2.00E-05	2.95E+05	4.28E-03	2.90E+10
1.51E+10	1.00E-05	1.47E+05	2.14E-03	1.45E+10
1.35E+10	9.00E-06	1.33E+05	1.93E-03	1.30E+10
1.20E+10	8.00E-06	1.18E+05	1.71E-03	1.16E+10
1.05E+10	7.00E-06	1.03E+05	1.50E-03	1.01E+10
9.03E+09	6.00E-06	8.85E+04	1.28E-03	8.69E+09
7.53E+09	5.00E-06	7.37E+04	1.07E-03	7.24E+09
6.02E+09	4.00E-06	5.90E+04	8.57E-04	5.79E+09
4.52E+09	3.00E-06	4.42E+04	6.42E-04	4.35E+09
3.01E+09	2.00E-06	2.95E+04	4.28E-04	2.90E+09
1.51E+09	1.00E-06	1.47E+04	2.14E-04	1.45E+09
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.51E+09	-1.00E-06	-1.47E+04	-2.14E-04	-1.45E+09
-3.01E+09	-2.00E-06	-2.95E+04	-4.28E-04	-2.90E+09
-4.52E+09	-3.00E-06	-4.42E+04	-6.42E-04	-4.35E+09
-6.02E+09	-4.00E-06	-5.90E+04	-8.57E-04	-5.79E+09
-7.52E+09	-5.00E-06	-7.37E+04	-1.07E-03	-7.24E+09
-9.03E+09	-6.00E-06	-8.85E+04	-1.28E-03	-8.69E+09
-1.05E+10	-7.00E-06	-1.03E+05	-1.50E-03	-1.01E+10
-1.20E+10	-8.00E-06	-1.18E+05	-1.71E-03	-1.16E+10
-1.35E+10	-9.00E-06	-1.33E+05	-1.93E-03	-1.30E+10
-1.51E+10	-1.00E-05	-1.47E+05	-2.14E-03	-1.45E+10

-3.01E+10	-2.00E-05	-2.95E+05	-4.28E-03	-2.90E+10
-4.51E+10	-3.00E-05	-4.42E+05	-6.42E-03	-4.35E+10
-6.02E+10	-4.00E-05	-5.90E+05	-8.57E-03	-5.79E+10
-7.52E+10	-5.00E-05	-7.37E+05	-1.07E-02	-7.24E+10
-9.03E+10	-6.00E-05	-8.85E+05	-1.28E-02	-8.69E+10
-1.05E+11	-7.00E-05	-1.03E+06	-1.50E-02	-1.01E+11
-1.20E+11	-8.00E-05	-1.18E+06	-1.71E-02	-1.16E+11
-1.35E+11	-9.00E-05	-1.33E+06	-1.93E-02	-1.30E+11
-1.51E+11	-1.00E-04	-1.47E+06	-2.14E-02	-1.45E+11
-1.66E+11	-1.10E-04	-1.62E+06	-2.36E-02	-1.59E+11
-1.81E+11	-1.20E-04	-1.77E+06	-2.57E-02	-1.74E+11
-1.96E+11	-1.30E-04	-1.92E+06	-2.78E-02	-1.88E+11
-2.11E+11	-1.40E-04	-2.06E+06	-3.00E-02	-2.03E+11
-2.26E+11	-1.50E-04	-2.21E+06	-3.21E-02	-2.17E+11
-2.41E+11	-1.60E-04	-2.36E+06	-3.43E-02	-2.32E+11
-2.56E+11	-1.70E-04	-2.51E+06	-3.64E-02	-2.46E+11
-2.71E+11	-1.80E-04	-2.65E+06	-3.85E-02	-2.61E+11
-2.86E+11	-1.90E-04	-2.80E+06	-4.07E-02	-2.75E+11
-3.01E+11	-2.00E-04	-2.95E+06	-4.28E-02	-2.90E+11
-3.16E+11	-2.10E-04	-3.10E+06	-4.50E-02	-3.04E+11
-3.31E+11	-2.20E-04	-3.24E+06	-4.71E-02	-3.19E+11
-3.46E+11	-2.30E-04	-3.39E+06	-4.93E-02	-3.33E+11
-3.61E+11	-2.40E-04	-3.54E+06	-5.14E-02	-3.48E+11
-3.76E+11	-2.50E-04	-3.69E+06	-5.35E-02	-3.62E+11
-3.91E+11	-2.60E-04	-3.83E+06	-5.57E-02	-3.77E+11
-4.06E+11	-2.70E-04	-3.98E+06	-5.78E-02	-3.91E+11
-4.21E+11	-2.80E-04	-4.13E+06	-6.00E-02	-4.06E+11
-4.36E+11	-2.90E-04	-4.28E+06	-6.21E-02	-4.20E+11
-4.51E+11	-3.00E-04	-4.42E+06	-6.42E-02	-4.34E+11
-4.66E+11	-3.10E-04	-4.57E+06	-6.64E-02	-4.49E+11
-4.81E+11	-3.20E-04	-4.72E+06	-6.85E-02	-4.63E+11
-4.97E+11	-3.30E-04	-4.87E+06	-7.07E-02	-4.78E+11
-5.12E+11	-3.40E-04	-5.01E+06	-7.28E-02	-4.92E+11
-5.27E+11	-3.50E-04	-5.16E+06	-7.49E-02	-5.07E+11
-5.42E+11	-3.60E-04	-5.31E+06	-7.71E-02	-5.21E+11
-5.57E+11	-3.70E-04	-5.45E+06	-7.92E-02	-5.36E+11
-5.72E+11	-3.80E-04	-5.60E+06	-8.14E-02	-5.50E+11
-5.87E+11	-3.90E-04	-5.75E+06	-8.35E-02	-5.65E+11
-6.02E+11	-4.00E-04	-5.90E+06	-8.57E-02	-5.79E+11
-6.17E+11	-4.10E-04	-6.04E+06	-8.78E-02	-5.94E+11
-6.32E+11	-4.20E-04	-6.19E+06	-8.99E-02	-6.08E+11
-6.47E+11	-4.30E-04	-6.34E+06	-9.21E-02	-6.23E+11
-6.62E+11	-4.40E-04	-6.49E+06	-9.42E-02	-6.37E+11
-6.77E+11	-4.50E-04	-6.63E+06	-9.64E-02	-6.52E+11
-6.92E+11	-4.60E-04	-6.78E+06	-9.85E-02	-6.66E+11

-7.07E+11	-4.70E-04	-6.93E+06	-1.01E-01	-6.81E+11
-7.22E+11	-4.80E-04	-7.08E+06	-1.03E-01	-6.95E+11
-7.37E+11	-4.90E-04	-7.22E+06	-1.05E-01	-7.10E+11
-7.52E+11	-5.00E-04	-7.37E+06	-1.07E-01	-7.24E+11
-7.67E+11	-5.10E-04	-7.52E+06	-1.09E-01	-7.38E+11
-7.82E+11	-5.20E-04	-7.67E+06	-1.11E-01	-7.53E+11
-7.97E+11	-5.30E-04	-7.81E+06	-1.13E-01	-7.67E+11
-8.12E+11	-5.40E-04	-7.96E+06	-1.16E-01	-7.82E+11
-8.27E+11	-5.50E-04	-8.11E+06	-1.18E-01	-7.96E+11
-8.42E+11	-5.60E-04	-8.25E+06	-1.20E-01	-8.10E+11
-8.57E+11	-5.70E-04	-8.40E+06	-1.22E-01	-8.15E+11
-8.70E+11	-5.78E-04	-8.52E+06	-1.24E-01	-8.29E+11
-8.84E+11	-5.88E-04	-8.66E+06	-1.26E-01	-8.40E+11
-8.95E+11	-5.96E-04	-8.77E+06	-1.28E-01	-8.46E+11
-9.03E+11	-6.03E-04	-8.85E+06	-1.29E-01	-8.52E+11
-9.09E+11	-6.09E-04	-8.91E+06	-1.30E-01	-8.57E+11
-9.15E+11	-6.16E-04	-8.97E+06	-1.32E-01	-8.60E+11
-9.20E+11	-6.22E-04	-9.01E+06	-1.33E-01	-8.62E+11
-9.23E+11	-6.28E-04	-9.04E+06	-1.34E-01	-8.63E+11
-9.24E+11	-6.33E-04	-9.05E+06	-1.36E-01	-8.65E+11
-9.25E+11	-6.43E-04	-9.07E+06	-1.38E-01	-8.66E+11
-9.27E+11	-6.50E-04	-9.08E+06	-1.39E-01	-8.66E+11
-9.28E+11	-6.57E-04	-9.09E+06	-1.41E-01	-8.66E+11
-9.28E+11	-6.63E-04	-9.09E+06	-1.42E-01	-8.67E+11
-9.28E+11	-6.68E-04	-9.10E+06	-1.43E-01	-8.67E+11
-9.28E+11	-6.72E-04	-9.10E+06	-1.44E-01	-8.67E+11
-9.28E+11	-6.77E-04	-9.09E+06	-1.45E-01	-8.67E+11
-9.27E+11	-6.83E-04	-9.09E+06	-1.46E-01	-8.66E+11
-9.27E+11	-6.87E-04	-9.08E+06	-1.47E-01	-8.64E+11
-9.24E+11	-6.97E-04	-9.05E+06	-1.49E-01	-8.60E+11
-9.18E+11	-7.07E-04	-9.00E+06	-1.51E-01	-8.53E+11
-9.10E+11	-7.17E-04	-8.92E+06	-1.54E-01	-8.51E+11
-9.08E+11	-7.18E-04	-8.90E+06	-1.54E-01	-8.39E+11
-8.95E+11	-7.28E-04	-8.77E+06	-1.56E-01	-8.38E+11
-8.93E+11	-7.30E-04	-8.75E+06	-1.56E-01	-8.23E+11
-8.77E+11	-7.40E-04	-8.60E+06	-1.58E-01	-8.13E+11
-8.67E+11	-7.47E-04	-8.50E+06	-1.60E-01	-8.02E+11
-8.55E+11	-7.57E-04	-8.38E+06	-1.62E-01	-7.99E+11
-8.52E+11	-7.60E-04	-8.35E+06	-1.63E-01	-7.90E+11
-8.43E+11	-7.70E-04	-8.26E+06	-1.65E-01	-7.83E+11
-8.36E+11	-7.80E-04	-8.19E+06	-1.67E-01	-7.83E+11
-8.35E+11	-7.81E-04	-8.19E+06	-1.67E-01	-7.77E+11
-8.29E+11	-7.91E-04	-8.12E+06	-1.69E-01	-7.73E+11
-8.25E+11	-8.00E-04	-8.08E+06	-1.71E-01	-7.68E+11
-8.19E+11	-8.10E-04	-8.03E+06	-1.73E-01	-7.64E+11

-8.15E+11	-8.20E-04	-7.99E+06	-1.75E-01	-7.62E+11
-8.13E+11	-8.24E-04	-7.97E+06	-1.76E-01	-7.60E+11
-8.10E+11	-8.31E-04	-7.94E+06	-1.78E-01	-7.56E+11
-8.06E+11	-8.41E-04	-7.89E+06	-1.80E-01	-7.52E+11
-8.02E+11	-8.51E-04	-7.85E+06	-1.82E-01	-7.49E+11
-7.98E+11	-8.61E-04	-7.82E+06	-1.84E-01	-7.48E+11
-7.96E+11	-8.64E-04	-7.80E+06	-1.85E-01	-7.45E+11
-7.93E+11	-8.74E-04	-7.77E+06	-1.87E-01	-7.44E+11
-7.93E+11	-8.75E-04	-7.77E+06	-1.87E-01	-7.41E+11
-7.89E+11	-8.85E-04	-7.73E+06	-1.89E-01	-7.37E+11
-7.85E+11	-8.95E-04	-7.70E+06	-1.92E-01	-7.34E+11
-7.82E+11	-9.05E-04	-7.66E+06	-1.94E-01	-7.31E+11
-7.78E+11	-9.15E-04	-7.63E+06	-1.96E-01	-7.29E+11
-7.76E+11	-9.23E-04	-7.60E+06	-1.98E-01	-7.27E+11
-7.74E+11	-9.30E-04	-7.58E+06	-1.99E-01	-7.24E+11
-7.71E+11	-9.40E-04	-7.55E+06	-2.01E-01	-7.21E+11
-7.67E+11	-9.50E-04	-7.52E+06	-2.03E-01	-7.18E+11
-7.64E+11	-9.60E-04	-7.49E+06	-2.06E-01	-7.15E+11
-7.61E+11	-9.70E-04	-7.46E+06	-2.08E-01	-7.12E+11
-7.58E+11	-9.80E-04	-7.43E+06	-2.10E-01	-7.10E+11
-7.55E+11	-9.90E-04	-7.40E+06	-2.12E-01	-7.07E+11
-7.55E+11	-9.92E-04	-7.40E+06	-2.12E-01	-7.07E+11
-7.52E+11	-1.00E-03	-7.37E+06	-2.14E-01	-7.04E+11
-7.50E+11	-1.01E-03	-7.35E+06	-2.16E-01	-7.02E+11
-7.46E+11	-1.02E-03	-7.31E+06	-2.18E-01	-6.99E+11
-7.44E+11	-1.03E-03	-7.29E+06	-2.21E-01	-6.96E+11
-7.41E+11	-1.04E-03	-7.26E+06	-2.23E-01	-6.94E+11
-7.38E+11	-1.05E-03	-7.23E+06	-2.25E-01	-6.91E+11
-7.35E+11	-1.06E-03	-7.20E+06	-2.27E-01	-6.89E+11
-7.33E+11	-1.07E-03	-7.18E+06	-2.29E-01	-6.88E+11
-7.32E+11	-1.07E-03	-7.17E+06	-2.30E-01	-6.87E+11
-7.30E+11	-1.08E-03	-7.15E+06	-2.31E-01	-6.84E+11
-7.27E+11	-1.09E-03	-7.12E+06	-2.33E-01	-6.82E+11
-7.24E+11	-1.10E-03	-7.10E+06	-2.36E-01	-6.79E+11
-7.21E+11	-1.11E-03	-7.07E+06	-2.38E-01	-6.76E+11
-7.19E+11	-1.12E-03	-7.04E+06	-2.40E-01	-6.74E+11
-7.16E+11	-1.13E-03	-7.02E+06	-2.42E-01	-6.71E+11
-7.13E+11	-1.14E-03	-6.99E+06	-2.44E-01	-6.69E+11
-7.11E+11	-1.15E-03	-6.97E+06	-2.46E-01	-6.68E+11
-7.09E+11	-1.16E-03	-6.95E+06	-2.48E-01	-6.65E+11
-7.07E+11	-1.17E-03	-6.93E+06	-2.50E-01	-6.64E+11
-7.06E+11	-1.17E-03	-6.91E+06	-2.51E-01	-6.62E+11
-7.03E+11	-1.18E-03	-6.89E+06	-2.53E-01	-6.59E+11
-7.00E+11	-1.19E-03	-6.86E+06	-2.55E-01	-6.57E+11
-6.98E+11	-1.20E-03	-6.84E+06	-2.57E-01	-6.54E+11

-6.95E+11	-1.21E-03	-6.81E+06	-2.59E-01	-6.52E+11
-6.93E+11	-1.22E-03	-6.79E+06	-2.61E-01	-6.50E+11
-6.90E+11	-1.23E-03	-6.76E+06	-2.64E-01	-6.48E+11
-6.88E+11	-1.24E-03	-6.74E+06	-2.66E-01	-6.45E+11
-6.86E+11	-1.25E-03	-6.72E+06	-2.68E-01	-6.45E+11
-6.85E+11	-1.25E-03	-6.71E+06	-2.68E-01	-6.43E+11
-6.83E+11	-1.26E-03	-6.69E+06	-2.70E-01	-6.40E+11
-6.80E+11	-1.27E-03	-6.67E+06	-2.73E-01	-6.40E+11
-6.79E+11	-1.28E-03	-6.66E+06	-2.74E-01	-6.37E+11
-6.77E+11	-1.29E-03	-6.63E+06	-2.76E-01	-6.35E+11
-6.74E+11	-1.30E-03	-6.61E+06	-2.78E-01	-6.33E+11
-6.72E+11	-1.31E-03	-6.58E+06	-2.80E-01	-6.31E+11
-6.70E+11	-1.32E-03	-6.56E+06	-2.82E-01	-6.28E+11
-6.67E+11	-1.33E-03	-6.54E+06	-2.84E-01	-6.26E+11
-6.65E+11	-1.34E-03	-6.52E+06	-2.87E-01	-6.24E+11
-6.63E+11	-1.35E-03	-6.50E+06	-2.89E-01	-6.22E+11
-6.61E+11	-1.36E-03	-6.48E+06	-2.91E-01	-6.22E+11
-6.61E+11	-1.36E-03	-6.47E+06	-2.91E-01	-6.20E+11
-6.58E+11	-1.37E-03	-6.45E+06	-2.93E-01	-6.18E+11
-6.56E+11	-1.38E-03	-6.43E+06	-2.96E-01	-6.16E+11
-6.54E+11	-1.39E-03	-6.41E+06	-2.98E-01	-6.14E+11
-6.52E+11	-1.40E-03	-6.39E+06	-3.00E-01	-6.12E+11
-6.50E+11	-1.41E-03	-6.37E+06	-3.02E-01	-6.11E+11
-6.48E+11	-1.42E-03	-6.35E+06	-3.03E-01	-6.09E+11
-6.46E+11	-1.43E-03	-6.33E+06	-3.05E-01	-6.07E+11
-6.44E+11	-1.44E-03	-6.31E+06	-3.07E-01	-6.05E+11
-6.42E+11	-1.45E-03	-6.29E+06	-3.10E-01	-6.03E+11
-6.40E+11	-1.46E-03	-6.27E+06	-3.12E-01	-6.01E+11
-6.38E+11	-1.47E-03	-6.26E+06	-3.14E-01	-5.99E+11
-6.36E+11	-1.48E-03	-6.24E+06	-3.16E-01	-5.98E+11
-6.35E+11	-1.49E-03	-6.22E+06	-3.18E-01	-5.96E+11
-6.33E+11	-1.50E-03	-6.20E+06	-3.20E-01	-5.94E+11
-6.31E+11	-1.51E-03	-6.18E+06	-3.22E-01	-5.92E+11
-6.29E+11	-1.52E-03	-6.16E+06	-3.24E-01	-5.90E+11
-6.27E+11	-1.53E-03	-6.15E+06	-3.27E-01	-5.89E+11
-6.25E+11	-1.54E-03	-6.13E+06	-3.29E-01	-5.87E+11
-6.23E+11	-1.55E-03	-6.11E+06	-3.31E-01	-5.85E+11
-6.22E+11	-1.56E-03	-6.09E+06	-3.33E-01	-5.83E+11
-6.20E+11	-1.57E-03	-6.07E+06	-3.35E-01	-5.82E+11
-6.18E+11	-1.58E-03	-6.06E+06	-3.37E-01	-5.80E+11
-6.16E+11	-1.59E-03	-6.04E+06	-3.39E-01	-5.79E+11
-6.15E+11	-1.60E-03	-6.02E+06	-3.42E-01	-5.78E+11
-6.14E+11	-1.60E-03	-6.02E+06	-3.42E-01	-5.77E+11
-6.12E+11	-1.61E-03	-6.00E+06	-3.45E-01	-5.75E+11
-6.11E+11	-1.62E-03	-5.98E+06	-3.47E-01	-5.74E+11

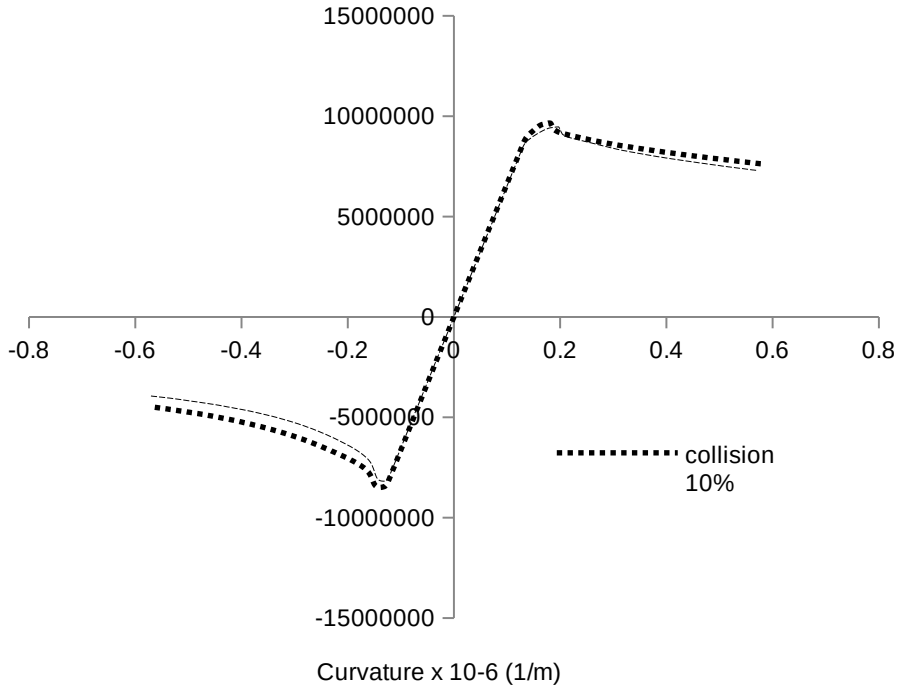
-6.09E+11	-1.63E-03	-5.97E+06	-3.49E-01	-5.72E+11
-6.07E+11	-1.64E-03	-5.95E+06	-3.51E-01	-5.70E+11
-6.06E+11	-1.65E-03	-5.93E+06	-3.53E-01	-5.69E+11
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-5.69E+11
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-5.67E+11
-6.02E+11	-1.67E-03	-5.90E+06	-3.58E-01	-5.65E+11
-6.01E+11	-1.68E-03	-5.88E+06	-3.60E-01	-5.64E+11
-5.99E+11	-1.69E-03	-5.87E+06	-3.62E-01	-5.62E+11
-5.97E+11	-1.70E-03	-5.85E+06	-3.64E-01	-5.61E+11
-5.96E+11	-1.71E-03	-5.84E+06	-3.66E-01	-5.59E+11
-5.94E+11	-1.72E-03	-5.82E+06	-3.68E-01	-5.58E+11
-5.92E+11	-1.73E-03	-5.80E+06	-3.70E-01	-5.56E+11
-5.91E+11	-1.74E-03	-5.79E+06	-3.73E-01	-5.55E+11
-5.89E+11	-1.75E-03	-5.78E+06	-3.75E-01	-5.53E+11
-5.88E+11	-1.76E-03	-5.76E+06	-3.77E-01	-5.52E+11
-5.86E+11	-1.77E-03	-5.75E+06	-3.79E-01	-5.51E+11
-5.85E+11	-1.78E-03	-5.73E+06	-3.81E-01	-5.49E+11
-5.84E+11	-1.79E-03	-5.72E+06	-3.83E-01	-5.49E+11
-5.83E+11	-1.80E-03	-5.71E+06	-3.85E-01	-5.47E+11
-5.81E+11	-1.81E-03	-5.70E+06	-3.87E-01	-5.46E+11
-5.80E+11	-1.82E-03	-5.68E+06	-3.89E-01	-5.45E+11
-5.78E+11	-1.83E-03	-5.67E+06	-3.91E-01	-5.43E+11
-5.77E+11	-1.84E-03	-5.65E+06	-3.93E-01	-5.42E+11
-5.76E+11	-1.85E-03	-5.64E+06	-3.96E-01	-5.41E+11
-5.74E+11	-1.86E-03	-5.63E+06	-3.98E-01	-5.39E+11
-5.73E+11	-1.87E-03	-5.62E+06	-3.99E-01	-5.38E+11
-5.72E+11	-1.88E-03	-5.60E+06	-4.01E-01	-5.37E+11
-5.70E+11	-1.89E-03	-5.59E+06	-4.04E-01	-5.35E+11
-5.69E+11	-1.90E-03	-5.57E+06	-4.06E-01	-5.34E+11
-5.67E+11	-1.91E-03	-5.56E+06	-4.08E-01	-5.33E+11
-5.66E+11	-1.92E-03	-5.55E+06	-4.10E-01	-5.31E+11
-5.65E+11	-1.93E-03	-5.53E+06	-4.12E-01	-5.30E+11
-5.63E+11	-1.94E-03	-5.52E+06	-4.14E-01	-5.29E+11
-5.62E+11	-1.95E-03	-5.51E+06	-4.16E-01	-5.28E+11
-5.61E+11	-1.96E-03	-5.49E+06	-4.19E-01	-5.26E+11
-5.59E+11	-1.97E-03	-5.48E+06	-4.21E-01	-5.25E+11
-5.58E+11	-1.98E-03	-5.47E+06	-4.23E-01	-5.24E+11
-5.57E+11	-1.99E-03	-5.46E+06	-4.25E-01	-5.23E+11
-5.56E+11	-2.00E-03	-5.45E+06	-4.27E-01	-5.22E+11
-5.55E+11	-2.01E-03	-5.43E+06	-4.29E-01	-5.21E+11
-5.53E+11	-2.02E-03	-5.42E+06	-4.31E-01	-5.19E+11
-5.52E+11	-2.03E-03	-5.41E+06	-4.34E-01	-5.18E+11
-5.51E+11	-2.04E-03	-5.40E+06	-4.36E-01	-5.17E+11
-5.50E+11	-2.05E-03	-5.39E+06	-4.38E-01	-5.17E+11
-5.49E+11	-2.05E-03	-5.38E+06	-4.39E-01	-5.16E+11

-5.48E+11	-2.06E-03	-5.37E+06	-4.41E-01	-5.15E+11
-5.47E+11	-2.07E-03	-5.36E+06	-4.43E-01	-5.14E+11
-5.46E+11	-2.08E-03	-5.35E+06	-4.45E-01	-5.13E+11
-5.45E+11	-2.09E-03	-5.34E+06	-4.47E-01	-5.12E+11
-5.44E+11	-2.10E-03	-5.33E+06	-4.49E-01	-5.10E+11
-5.42E+11	-2.11E-03	-5.31E+06	-4.52E-01	-5.09E+11
-5.41E+11	-2.12E-03	-5.30E+06	-4.54E-01	-5.08E+11
-5.40E+11	-2.13E-03	-5.30E+06	-4.55E-01	-5.07E+11
-5.39E+11	-2.14E-03	-5.28E+06	-4.58E-01	-5.06E+11
-5.38E+11	-2.15E-03	-5.27E+06	-4.60E-01	-5.05E+11
-5.37E+11	-2.16E-03	-5.26E+06	-4.62E-01	-5.04E+11
-5.36E+11	-2.17E-03	-5.25E+06	-4.64E-01	-5.03E+11
-5.35E+11	-2.18E-03	-5.24E+06	-4.66E-01	-5.02E+11
-5.34E+11	-2.19E-03	-5.23E+06	-4.68E-01	-5.01E+11
-5.33E+11	-2.20E-03	-5.22E+06	-4.70E-01	-5.00E+11
-5.31E+11	-2.21E-03	-5.21E+06	-4.73E-01	-4.99E+11
-5.30E+11	-2.22E-03	-5.20E+06	-4.75E-01	-4.98E+11
-5.29E+11	-2.23E-03	-5.19E+06	-4.77E-01	-4.97E+11
-5.28E+11	-2.24E-03	-5.18E+06	-4.79E-01	-4.96E+11
-5.27E+11	-2.25E-03	-5.16E+06	-4.81E-01	-4.95E+11
-5.26E+11	-2.26E-03	-5.15E+06	-4.83E-01	-4.94E+11
-5.25E+11	-2.27E-03	-5.15E+06	-4.85E-01	-4.93E+11
-5.24E+11	-2.28E-03	-5.14E+06	-4.88E-01	-4.92E+11
-5.23E+11	-2.29E-03	-5.13E+06	-4.90E-01	-4.91E+11
-5.22E+11	-2.30E-03	-5.12E+06	-4.92E-01	-4.90E+11
-5.21E+11	-2.31E-03	-5.11E+06	-4.94E-01	-4.89E+11
-5.20E+11	-2.32E-03	-5.10E+06	-4.96E-01	-4.88E+11
-5.19E+11	-2.33E-03	-5.09E+06	-4.98E-01	-4.87E+11
-5.19E+11	-2.34E-03	-5.08E+06	-5.00E-01	-4.86E+11
-5.18E+11	-2.35E-03	-5.07E+06	-5.03E-01	-4.86E+11
-5.17E+11	-2.36E-03	-5.06E+06	-5.05E-01	-4.85E+11
-5.16E+11	-2.37E-03	-5.06E+06	-5.07E-01	-4.84E+11
-5.15E+11	-2.38E-03	-5.05E+06	-5.09E-01	-4.84E+11
-5.14E+11	-2.39E-03	-5.04E+06	-5.11E-01	-4.83E+11
-5.14E+11	-2.40E-03	-5.03E+06	-5.13E-01	-4.82E+11
-5.13E+11	-2.41E-03	-5.02E+06	-5.15E-01	-4.81E+11
-5.12E+11	-2.42E-03	-5.01E+06	-5.17E-01	-4.80E+11
-5.11E+11	-2.43E-03	-5.00E+06	-5.19E-01	-4.79E+11
-5.10E+11	-2.44E-03	-5.00E+06	-5.21E-01	-4.79E+11
-5.09E+11	-2.45E-03	-4.99E+06	-5.24E-01	-4.78E+11
-5.08E+11	-2.46E-03	-4.98E+06	-5.26E-01	-4.77E+11
-5.07E+11	-2.47E-03	-4.97E+06	-5.28E-01	-4.76E+11
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-4.76E+11
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-4.75E+11
-5.05E+11	-2.49E-03	-4.95E+06	-5.32E-01	-4.74E+11

-5.05E+11	-2.50E-03	-4.94E+06	-5.34E-01	-4.73E+11
-5.04E+11	-2.51E-03	-4.94E+06	-5.36E-01	-4.73E+11
-5.03E+11	-2.51E-03	-4.93E+06	-5.38E-01	-4.72E+11
-5.02E+11	-2.52E-03	-4.92E+06	-5.40E-01	-4.71E+11
-5.01E+11	-2.53E-03	-4.91E+06	-5.42E-01	-4.70E+11
-5.00E+11	-2.54E-03	-4.90E+06	-5.45E-01	-4.69E+11
-4.99E+11	-2.55E-03	-4.89E+06	-5.47E-01	-4.68E+11
-4.98E+11	-2.56E-03	-4.88E+06	-5.49E-01	-4.67E+11
-4.98E+11	-2.57E-03	-4.88E+06	-5.51E-01	-4.67E+11
-4.97E+11	-2.58E-03	-4.87E+06	-5.53E-01	-4.66E+11
-4.96E+11	-2.59E-03	-4.86E+06	-5.55E-01	-4.65E+11
-4.95E+11	-2.60E-03	-4.85E+06	-5.57E-01	-4.64E+11
-4.94E+11	-2.61E-03	-4.84E+06	-5.60E-01	-4.63E+11
-4.93E+11	-2.62E-03	-4.84E+06	-5.62E-01	-4.63E+11
-4.93E+11	-2.63E-03	-4.83E+06	-5.64E-01	-4.62E+11
-4.92E+11	-2.64E-03	-4.82E+06	-5.66E-01	-4.61E+11
-4.91E+11	-2.65E-03	-4.81E+06	-5.68E-01	-4.60E+11
-4.90E+11	-2.66E-03	-4.80E+06	-5.70E-01	-4.60E+11
-4.89E+11	-2.67E-03	-4.80E+06	-5.72E-01	-4.59E+11

10% tubrukan

4670	9.80E-06	1.00E-06
Rotasi	**Momen**	**Curvature**
2.70E-03	7.63E+06	5.78E-01
2.51E-03	7.74E+06	5.38E-01
2.50E-03	7.75E+06	5.36E-01
2.49E-03	7.76E+06	5.34E-01
2.48E-03	7.77E+06	5.32E-01
2.47E-03	7.77E+06	5.30E-01
2.46E-03	7.78E+06	5.28E-01
2.45E-03	7.79E+06	5.25E-01
2.45E-03	7.79E+06	5.25E-01
2.44E-03	7.79E+06	5.23E-01
2.43E-03	7.80E+06	5.21E-01
2.42E-03	7.81E+06	5.19E-01
2.41E-03	7.81E+06	5.17E-01
2.40E-03	7.82E+06	5.15E-01
2.39E-03	7.83E+06	5.13E-01
2.38E-03	7.83E+06	5.10E-01
2.37E-03	7.84E+06	5.08E-01
2.36E-03	7.85E+06	5.06E-01
2.35E-03	7.85E+06	5.04E-01
2.34E-03	7.86E+06	5.02E-01
2.33E-03	7.87E+06	5.00E-01
2.32E-03	7.87E+06	4.98E-01



70% tubrukan

4670	9.80E-06	
Momen	**Rotasi**	**Momen**
7.45E+11	2.66E-03	7.30E+06
	E-03	7.31E+06
	E-03	7.32E+06
	E-03	7.32E+06
	E-03	7.33E+06
	E-03	7.34E+06
	E-03	7.35E+06
	E-03	7.35E+06
	E-03	7.36E+06
	E-03	7.37E+06
	E-03	7.37E+06
	E-03	7.38E+06
	E-03	7.39E+06
	E-03	7.39E+06
	E-03	7.40E+06
	E-03	7.41E+06
	E-03	7.41E+06
	E-03	7.42E+06
	E-03	7.43E+06
7.59E+11	2.47E-03	7.44E+06
7.60E+11	2.46E-03	7.45E+06
7.60E+11	2.45E-03	7.45E+06
7.61E+11	2.44E-03	7.46E+06
7.62E+11	2.43E-03	7.46E+06
7.62E+11	2.42E-03	7.47E+06
7.63E+11	2.41E-03	7.48E+06
7.64E+11	2.40E-03	7.49E+06
7.65E+11	2.39E-03	7.49E+06
7.65E+11	2.38E-03	7.50E+06
7.66E+11	2.37E-03	7.51E+06
7.67E+11	2.36E-03	7.51E+06
7.68E+11	2.35E-03	7.52E+06
7.68E+11	2.34E-03	7.53E+06
7.69E+11	2.33E-03	7.54E+06
7.70E+11	2.32E-03	7.55E+06
7.71E+11	2.31E-03	7.55E+06
7.72E+11	2.30E-03	7.56E+06
7.72E+11	2.30E-03	7.57E+06
7.73E+11	2.29E-03	7.57E+06
7.74E+11	2.28E-03	7.58E+06

2.32E-03	7.88E+06	4.96E-01	7.74E+11	2.27E-03	7.59E+06
2.31E-03	7.88E+06	4.94E-01	7.75E+11	2.26E-03	7.60E+06
2.30E-03	7.89E+06	4.91E-01	7.76E+11	2.25E-03	7.60E+06
2.29E-03	7.90E+06	4.89E-01	7.77E+11	2.24E-03	7.61E+06
2.28E-03	7.90E+06	4.87E-01	7.78E+11	2.23E-03	7.62E+06
2.27E-03	7.91E+06	4.85E-01	7.78E+11	2.22E-03	7.63E+06
2.26E-03	7.92E+06	4.83E-01	7.79E+11	2.21E-03	7.64E+06
2.25E-03	7.92E+06	4.81E-01	7.80E+11	2.20E-03	7.64E+06
2.24E-03	7.93E+06	4.79E-01	7.80E+11	2.20E-03	7.65E+06
2.23E-03	7.94E+06	4.76E-01	7.81E+11	2.19E-03	7.65E+06
2.22E-03	7.94E+06	4.74E-01	7.82E+11	2.18E-03	7.66E+06
2.21E-03	7.95E+06	4.72E-01	7.83E+11	2.17E-03	7.67E+06
2.20E-03	7.96E+06	4.70E-01	7.83E+11	2.16E-03	7.68E+06
2.19E-03	7.97E+06	4.68E-01	7.84E+11	2.15E-03	7.68E+06
2.18E-03	7.98E+06	4.66E-01	7.85E+11	2.14E-03	7.69E+06
2.17E-03	7.98E+06	4.64E-01	7.86E+11	2.13E-03	7.70E+06
2.16E-03	7.99E+06	4.63E-01	7.87E+11	2.12E-03	7.71E+06
2.15E-03	7.99E+06	4.61E-01	7.87E+11	2.11E-03	7.72E+06
2.14E-03	8.00E+06	4.58E-01	7.88E+11	2.10E-03	7.72E+06
2.13E-03	8.00E+06	4.56E-01	7.89E+11	2.09E-03	7.73E+06
2.12E-03	8.01E+06	4.54E-01	7.90E+11	2.08E-03	7.74E+06
2.11E-03	8.02E+06	4.52E-01	7.91E+11	2.07E-03	7.75E+06
2.10E-03	8.03E+06	4.50E-01	7.92E+11	2.06E-03	7.76E+06
2.09E-03	8.03E+06	4.48E-01	7.92E+11	2.05E-03	7.76E+06
2.08E-03	8.04E+06	4.46E-01	7.93E+11	2.04E-03	7.77E+06
2.07E-03	8.05E+06	4.43E-01	7.94E+11	2.03E-03	7.78E+06
2.06E-03	8.05E+06	4.41E-01	7.95E+11	2.02E-03	7.79E+06
2.05E-03	8.06E+06	4.39E-01	7.96E+11	2.01E-03	7.80E+06
2.04E-03	8.07E+06	4.37E-01	7.97E+11	2.00E-03	7.81E+06
2.03E-03	8.07E+06	4.36E-01	7.98E+11	1.99E-03	7.82E+06
2.02E-03	8.08E+06	4.33E-01	7.98E+11	1.98E-03	7.82E+06
2.01E-03	8.09E+06	4.31E-01	7.99E+11	1.98E-03	7.83E+06
2.00E-03	8.09E+06	4.29E-01	7.99E+11	1.97E-03	7.83E+06
1.99E-03	8.10E+06	4.27E-01	8.00E+11	1.96E-03	7.84E+06
1.98E-03	8.11E+06	4.25E-01	8.01E+11	1.95E-03	7.85E+06
1.97E-03	8.12E+06	4.23E-01	8.02E+11	1.94E-03	7.86E+06
1.96E-03	8.13E+06	4.21E-01	8.03E+11	1.93E-03	7.87E+06
1.95E-03	8.13E+06	4.18E-01	8.04E+11	1.92E-03	7.88E+06
1.94E-03	8.14E+06	4.16E-01	8.05E+11	1.91E-03	7.89E+06
1.93E-03	8.15E+06	4.14E-01	8.06E+11	1.90E-03	7.89E+06
1.92E-03	8.16E+06	4.12E-01	8.06E+11	1.89E-03	7.90E+06
1.91E-03	8.17E+06	4.10E-01	8.07E+11	1.88E-03	7.91E+06
1.91E-03	8.17E+06	4.08E-01	8.08E+11	1.87E-03	7.92E+06
1.90E-03	8.18E+06	4.06E-01	8.09E+11	1.86E-03	7.93E+06
1.89E-03	8.18E+06	4.04E-01	8.10E+11	1.85E-03	7.93E+06

1.88E-03	8.19E+06	4.02E-01	8.11E+11	1.84E-03	7.94E+06
1.87E-03	8.20E+06	4.00E-01	8.12E+11	1.83E-03	7.95E+06
1.86E-03	8.21E+06	3.97E-01	8.12E+11	1.82E-03	7.96E+06
1.85E-03	8.22E+06	3.95E-01	8.13E+11	1.81E-03	7.97E+06
1.84E-03	8.22E+06	3.93E-01	8.14E+11	1.80E-03	7.98E+06
1.83E-03	8.23E+06	3.91E-01	8.15E+11	1.79E-03	7.99E+06
1.82E-03	8.24E+06	3.89E-01	8.16E+11	1.78E-03	8.00E+06
1.81E-03	8.25E+06	3.87E-01	8.17E+11	1.77E-03	8.01E+06
1.80E-03	8.25E+06	3.86E-01	8.18E+11	1.76E-03	8.02E+06
1.79E-03	8.26E+06	3.84E-01	8.19E+11	1.75E-03	8.03E+06
1.78E-03	8.27E+06	3.81E-01	8.20E+11	1.74E-03	8.04E+06
1.77E-03	8.28E+06	3.79E-01	8.21E+11	1.73E-03	8.04E+06
1.76E-03	8.28E+06	3.77E-01	8.22E+11	1.72E-03	8.05E+06
1.75E-03	8.29E+06	3.75E-01	8.23E+11	1.71E-03	8.06E+06
1.74E-03	8.30E+06	3.73E-01	8.23E+11	1.71E-03	8.07E+06
1.73E-03	8.31E+06	3.71E-01	8.24E+11	1.70E-03	8.08E+06
1.72E-03	8.32E+06	3.69E-01	8.25E+11	1.69E-03	8.08E+06
1.71E-03	8.33E+06	3.66E-01	8.26E+11	1.68E-03	8.09E+06
1.71E-03	8.33E+06	3.66E-01	8.27E+11	1.67E-03	8.10E+06
1.70E-03	8.33E+06	3.64E-01	8.28E+11	1.66E-03	8.12E+06
1.69E-03	8.34E+06	3.62E-01	8.29E+11	1.65E-03	8.13E+06
1.68E-03	8.35E+06	3.60E-01	8.30E+11	1.64E-03	8.13E+06
1.67E-03	8.36E+06	3.58E-01	8.30E+11	1.64E-03	8.13E+06
1.66E-03	8.37E+06	3.55E-01	8.31E+11	1.63E-03	8.14E+06
1.65E-03	8.38E+06	3.53E-01	8.32E+11	1.62E-03	8.15E+06
1.64E-03	8.38E+06	3.51E-01	8.33E+11	1.61E-03	8.17E+06
1.63E-03	8.39E+06	3.49E-01	8.34E+11	1.60E-03	8.18E+06
1.62E-03	8.40E+06	3.47E-01	8.35E+11	1.59E-03	8.19E+06
1.62E-03	8.40E+06	3.46E-01	8.36E+11	1.58E-03	8.20E+06
1.61E-03	8.41E+06	3.44E-01	8.38E+11	1.57E-03	8.21E+06
1.60E-03	8.42E+06	3.42E-01	8.38E+11	1.56E-03	8.21E+06
1.59E-03	8.43E+06	3.40E-01	8.39E+11	1.55E-03	8.23E+06
1.58E-03	8.44E+06	3.38E-01	8.41E+11	1.54E-03	8.24E+06
1.57E-03	8.45E+06	3.36E-01	8.42E+11	1.53E-03	8.25E+06
1.56E-03	8.46E+06	3.34E-01	8.43E+11	1.52E-03	8.26E+06
1.55E-03	8.46E+06	3.31E-01	8.44E+11	1.51E-03	8.27E+06
1.54E-03	8.47E+06	3.29E-01	8.45E+11	1.50E-03	8.28E+06
1.53E-03	8.48E+06	3.27E-01	8.46E+11	1.49E-03	8.29E+06
1.52E-03	8.49E+06	3.25E-01	8.47E+11	1.48E-03	8.30E+06
1.51E-03	8.50E+06	3.23E-01	8.48E+11	1.47E-03	8.31E+06
1.50E-03	8.51E+06	3.21E-01	8.49E+11	1.46E-03	8.32E+06
1.49E-03	8.52E+06	3.19E-01	8.50E+11	1.45E-03	8.33E+06
1.48E-03	8.53E+06	3.17E-01	8.52E+11	1.44E-03	8.34E+06
1.47E-03	8.53E+06	3.15E-01	8.52E+11	1.44E-03	8.35E+06
1.46E-03	8.54E+06	3.13E-01	8.53E+11	1.43E-03	8.36E+06

1.45E-03	8.55E+06	3.10E-01	8.55E+11	1.42E-03	8.37E+06
1.44E-03	8.56E+06	3.08E-01	8.56E+11	1.41E-03	8.39E+06
1.43E-03	8.57E+06	3.06E-01	8.57E+11	1.40E-03	8.40E+06
1.42E-03	8.58E+06	3.04E-01	8.57E+11	1.40E-03	8.40E+06
1.41E-03	8.59E+06	3.02E-01	8.59E+11	1.39E-03	8.41E+06
1.40E-03	8.60E+06	3.00E-01	8.60E+11	1.38E-03	8.43E+06
1.39E-03	8.61E+06	2.98E-01	8.61E+11	1.37E-03	8.44E+06
1.39E-03	8.62E+06	2.97E-01	8.63E+11	1.36E-03	8.46E+06
1.38E-03	8.62E+06	2.95E-01	8.64E+11	1.35E-03	8.47E+06
1.37E-03	8.63E+06	2.93E-01	8.66E+11	1.34E-03	8.48E+06
1.36E-03	8.64E+06	2.90E-01	8.66E+11	1.34E-03	8.49E+06
1.35E-03	8.66E+06	2.88E-01	8.67E+11	1.33E-03	8.50E+06
1.34E-03	8.67E+06	2.86E-01	8.69E+11	1.32E-03	8.51E+06
1.33E-03	8.68E+06	2.84E-01	8.70E+11	1.31E-03	8.53E+06
1.32E-03	8.69E+06	2.82E-01	8.71E+11	1.30E-03	8.54E+06
1.31E-03	8.70E+06	2.80E-01	8.72E+11	1.30E-03	8.54E+06
1.30E-03	8.71E+06	2.78E-01	8.73E+11	1.29E-03	8.56E+06
1.29E-03	8.72E+06	2.75E-01	8.75E+11	1.28E-03	8.57E+06
1.28E-03	8.73E+06	2.73E-01	8.76E+11	1.27E-03	8.58E+06
1.27E-03	8.74E+06	2.71E-01	8.78E+11	1.26E-03	8.60E+06
1.27E-03	8.74E+06	2.71E-01	8.79E+11	1.25E-03	8.62E+06
1.26E-03	8.75E+06	2.69E-01	8.79E+11	1.24E-03	8.62E+06
1.25E-03	8.76E+06	2.67E-01	8.81E+11	1.23E-03	8.63E+06
1.24E-03	8.78E+06	2.65E-01	8.82E+11	1.22E-03	8.64E+06
1.23E-03	8.79E+06	2.63E-01	8.83E+11	1.21E-03	8.66E+06
1.22E-03	8.80E+06	2.60E-01	8.85E+11	1.20E-03	8.67E+06
1.21E-03	8.81E+06	2.59E-01	8.86E+11	1.20E-03	8.68E+06
1.20E-03	8.82E+06	2.57E-01	8.87E+11	1.19E-03	8.69E+06
1.19E-03	8.83E+06	2.55E-01	8.89E+11	1.18E-03	8.71E+06
1.18E-03	8.84E+06	2.53E-01	8.90E+11	1.17E-03	8.72E+06
1.17E-03	8.85E+06	2.51E-01	8.91E+11	1.16E-03	8.74E+06
1.16E-03	8.87E+06	2.49E-01	8.93E+11	1.15E-03	8.75E+06
1.15E-03	8.88E+06	2.47E-01	8.94E+11	1.14E-03	8.76E+06
1.14E-03	8.89E+06	2.45E-01	8.96E+11	1.13E-03	8.78E+06
1.13E-03	8.90E+06	2.43E-01	8.96E+11	1.13E-03	8.78E+06
1.12E-03	8.91E+06	2.40E-01	8.97E+11	1.12E-03	8.79E+06
1.11E-03	8.93E+06	2.38E-01	8.98E+11	1.11E-03	8.80E+06
1.11E-03	8.93E+06	2.37E-01	9.00E+11	1.10E-03	8.82E+06
1.10E-03	8.94E+06	2.35E-01	9.02E+11	1.09E-03	8.83E+06
1.09E-03	8.96E+06	2.33E-01	9.03E+11	1.08E-03	8.85E+06
1.08E-03	8.97E+06	2.31E-01	9.04E+11	1.07E-03	8.85E+06
1.07E-03	8.99E+06	2.29E-01	9.05E+11	1.06E-03	8.87E+06
1.07E-03	8.99E+06	2.28E-01	9.07E+11	1.05E-03	8.88E+06
1.06E-03	9.00E+06	2.26E-01	9.07E+11	1.04E-03	8.89E+06
1.05E-03	9.02E+06	2.24E-01	9.09E+11	1.03E-03	8.91E+06

1.04E-03	9.03E+06	2.22E-01	9.09E+11	1.03E-03	8.91E+06
1.03E-03	9.04E+06	2.20E-01	9.11E+11	1.02E-03	8.92E+06
1.02E-03	9.05E+06	2.18E-01	9.12E+11	1.01E-03	8.94E+06
1.01E-03	9.07E+06	2.16E-01	9.14E+11	1.00E-03	8.96E+06
9.97E-04	9.08E+06	2.14E-01	9.16E+11	9.93E-04	8.98E+06
9.87E-04	9.10E+06	2.11E-01	9.19E+11	9.83E-04	9.01E+06
9.82E-04	9.10E+06	2.10E-01	9.20E+11	9.79E-04	9.02E+06
9.72E-04	9.12E+06	2.08E-01	9.23E+11	9.69E-04	9.05E+06
9.62E-04	9.13E+06	2.06E-01	9.24E+11	9.65E-04	9.06E+06
9.56E-04	9.14E+06	2.05E-01	9.27E+11	9.57E-04	9.09E+06
9.46E-04	9.16E+06	2.03E-01	9.29E+11	9.53E-04	9.11E+06
9.39E-04	9.17E+06	2.01E-01	9.40E+11	9.43E-04	9.21E+06
9.29E-04	9.19E+06	1.99E-01	9.53E+11	9.33E-04	9.34E+06
9.19E-04	9.21E+06	1.97E-01	9.54E+11	9.33E-04	9.35E+06
9.09E-04	9.23E+06	1.95E-01	9.65E+11	9.23E-04	9.45E+06
8.99E-04	9.27E+06	1.93E-01	9.66E+11	9.20E-04	9.47E+06
8.95E-04	9.28E+06	1.92E-01	9.66E+11	9.10E-04	9.46E+06
8.85E-04	9.32E+06	1.89E-01	9.65E+11	9.00E-04	9.46E+06
8.78E-04	9.35E+06	1.88E-01	9.65E+11	8.94E-04	9.46E+06
8.74E-04	9.37E+06	1.87E-01	9.64E+11	8.84E-04	9.45E+06
8.64E-04	9.50E+06	1.85E-01	9.63E+11	8.74E-04	9.44E+06
8.55E-04	9.60E+06	1.83E-01	9.63E+11	8.69E-04	9.44E+06
8.51E-04	9.65E+06	1.82E-01	9.62E+11	8.59E-04	9.43E+06
8.41E-04	9.66E+06	1.80E-01	9.61E+11	8.49E-04	9.42E+06
8.40E-04	9.66E+06	1.80E-01	9.61E+11	8.48E-04	9.42E+06
8.30E-04	9.65E+06	1.78E-01	9.60E+11	8.38E-04	9.41E+06
8.20E-04	9.64E+06	1.75E-01	9.58E+11	8.28E-04	9.39E+06
8.10E-04	9.63E+06	1.73E-01	9.56E+11	8.18E-04	9.37E+06
8.00E-04	9.62E+06	1.71E-01	9.55E+11	8.10E-04	9.35E+06
7.91E-04	9.61E+06	1.69E-01	9.52E+11	8.00E-04	9.33E+06
7.81E-04	9.59E+06	1.67E-01	9.49E+11	7.90E-04	9.30E+06
7.72E-04	9.58E+06	1.65E-01	9.47E+11	7.82E-04	9.28E+06
7.62E-04	9.56E+06	1.63E-01	9.44E+11	7.72E-04	9.25E+06
7.56E-04	9.54E+06	1.62E-01	9.41E+11	7.62E-04	9.22E+06
7.55E-04	9.54E+06	1.62E-01	9.38E+11	7.52E-04	9.19E+06
7.45E-04	9.50E+06	1.60E-01	9.34E+11	7.42E-04	9.16E+06
7.35E-04	9.45E+06	1.57E-01	9.32E+11	7.36E-04	9.14E+06
7.32E-04	9.44E+06	1.57E-01	9.29E+11	7.26E-04	9.10E+06
7.22E-04	9.40E+06	1.55E-01	9.25E+11	7.16E-04	9.07E+06
7.13E-04	9.35E+06	1.53E-01	9.21E+11	7.06E-04	9.03E+06
7.06E-04	9.32E+06	1.51E-01	9.18E+11	6.98E-04	9.00E+06
6.96E-04	9.27E+06	1.49E-01	9.16E+11	6.93E-04	8.98E+06
6.86E-04	9.22E+06	1.47E-01	9.12E+11	6.83E-04	8.94E+06
6.80E-04	9.19E+06	1.46E-01	9.08E+11	6.73E-04	8.90E+06
6.74E-04	9.16E+06	1.44E-01	9.05E+11	6.67E-04	8.87E+06

6.68E-04	9.13E+06	1.43E-01	9.03E+11	6.62E-04	8.85E+06
6.59E-04	9.08E+06	1.41E-01	9.00E+11	6.57E-04	8.82E+06
6.51E-04	9.04E+06	1.39E-01	8.96E+11	6.48E-04	8.78E+06
6.46E-04	9.01E+06	1.38E-01	8.92E+11	6.40E-04	8.74E+06
6.40E-04	8.97E+06	1.37E-01	8.90E+11	6.35E-04	8.72E+06
6.35E-04	8.92E+06	1.36E-01	8.86E+11	6.30E-04	8.69E+06
6.26E-04	8.84E+06	1.34E-01	8.82E+11	6.25E-04	8.65E+06
6.19E-04	8.76E+06	1.33E-01	8.75E+11	6.16E-04	8.57E+06
6.12E-04	8.68E+06	1.31E-01	8.67E+11	6.10E-04	8.50E+06
6.06E-04	8.60E+06	1.30E-01	8.60E+11	6.03E-04	8.43E+06
6.00E-04	8.52E+06	1.28E-01	8.51E+11	5.97E-04	8.34E+06
5.90E-04	8.37E+06	1.26E-01	8.41E+11	5.90E-04	8.25E+06
5.80E-04	8.23E+06	1.24E-01	8.27E+11	5.80E-04	8.11E+06
5.70E-04	8.09E+06	1.22E-01	8.13E+11	5.70E-04	7.97E+06
5.60E-04	7.95E+06	1.20E-01	7.99E+11	5.60E-04	7.83E+06
5.50E-04	7.81E+06	1.18E-01	7.84E+11	5.50E-04	7.69E+06
5.40E-04	7.66E+06	1.16E-01	7.70E+11	5.40E-04	7.55E+06
5.30E-04	7.52E+06	1.13E-01	7.56E+11	5.30E-04	7.41E+06
5.20E-04	7.38E+06	1.11E-01	7.42E+11	5.20E-04	7.27E+06
5.10E-04	7.24E+06	1.09E-01	7.27E+11	5.10E-04	7.13E+06
5.00E-04	7.10E+06	1.07E-01	7.13E+11	5.00E-04	6.99E+06
4.90E-04	6.96E+06	1.05E-01	6.99E+11	4.90E-04	6.85E+06
4.80E-04	6.81E+06	1.03E-01	6.85E+11	4.80E-04	6.71E+06
4.70E-04	6.67E+06	1.01E-01	6.70E+11	4.70E-04	6.57E+06
4.60E-04	6.53E+06	9.85E-02	6.56E+11	4.60E-04	6.43E+06
4.50E-04	6.39E+06	9.64E-02	6.42E+11	4.50E-04	6.29E+06
4.40E-04	6.25E+06	9.42E-02	6.28E+11	4.40E-04	6.15E+06
4.30E-04	6.10E+06	9.21E-02	6.13E+11	4.30E-04	6.01E+06
4.20E-04	5.96E+06	8.99E-02	5.99E+11	4.20E-04	5.87E+06
4.10E-04	5.82E+06	8.78E-02	5.85E+11	4.10E-04	5.73E+06
4.00E-04	5.68E+06	8.57E-02	5.71E+11	4.00E-04	5.59E+06
3.90E-04	5.54E+06	8.35E-02	5.56E+11	3.90E-04	5.45E+06
3.80E-04	5.39E+06	8.14E-02	5.42E+11	3.80E-04	5.31E+06
3.70E-04	5.25E+06	7.92E-02	5.28E+11	3.70E-04	5.17E+06
3.60E-04	5.11E+06	7.71E-02	5.13E+11	3.60E-04	5.03E+06
3.50E-04	4.97E+06	7.49E-02	4.99E+11	3.50E-04	4.89E+06
3.40E-04	4.83E+06	7.28E-02	4.85E+11	3.40E-04	4.75E+06
3.30E-04	4.68E+06	7.07E-02	4.71E+11	3.30E-04	4.61E+06
3.20E-04	4.54E+06	6.85E-02	4.56E+11	3.20E-04	4.47E+06
3.10E-04	4.40E+06	6.64E-02	4.42E+11	3.10E-04	4.33E+06
3.00E-04	4.26E+06	6.42E-02	4.28E+11	3.00E-04	4.19E+06
2.90E-04	4.12E+06	6.21E-02	4.14E+11	2.90E-04	4.05E+06
2.80E-04	3.97E+06	6.00E-02	3.99E+11	2.80E-04	3.91E+06
2.70E-04	3.83E+06	5.78E-02	3.85E+11	2.70E-04	3.77E+06
2.60E-04	3.69E+06	5.57E-02	3.71E+11	2.60E-04	3.63E+06

2.50E-04	3.55E+06	5.35E-02	3.57E+11	2.50E-04	3.49E+06
2.40E-04	3.41E+06	5.14E-02	3.42E+11	2.40E-04	3.35E+06
2.30E-04	3.26E+06	4.93E-02	3.28E+11	2.30E-04	3.21E+06
2.20E-04	3.12E+06	4.71E-02	3.14E+11	2.20E-04	3.08E+06
2.10E-04	2.98E+06	4.50E-02	3.00E+11	2.10E-04	2.94E+06
2.00E-04	2.84E+06	4.28E-02	2.85E+11	2.00E-04	2.79E+06
1.90E-04	2.70E+06	4.07E-02	2.71E+11	1.90E-04	2.66E+06
1.80E-04	2.55E+06	3.85E-02	2.57E+11	1.80E-04	2.52E+06
1.70E-04	2.41E+06	3.64E-02	2.43E+11	1.70E-04	2.38E+06
1.60E-04	2.27E+06	3.43E-02	2.28E+11	1.60E-04	2.24E+06
1.50E-04	2.13E+06	3.21E-02	2.14E+11	1.50E-04	2.10E+06
1.40E-04	1.99E+06	3.00E-02	2.00E+11	1.40E-04	1.96E+06
1.30E-04	1.85E+06	2.78E-02	1.85E+11	1.30E-04	1.82E+06
1.20E-04	1.70E+06	2.57E-02	1.71E+11	1.20E-04	1.68E+06
1.10E-04	1.56E+06	2.36E-02	1.57E+11	1.10E-04	1.54E+06
1.00E-04	1.42E+06	2.14E-02	1.43E+11	1.00E-04	1.40E+06
9.00E-05	1.28E+06	1.93E-02	1.28E+11	9.00E-05	1.26E+06
8.00E-05	1.14E+06	1.71E-02	1.14E+11	8.00E-05	1.12E+06
7.00E-05	9.94E+05	1.50E-02	9.98E+10	7.00E-05	9.78E+05
6.00E-05	8.52E+05	1.28E-02	8.56E+10	6.00E-05	8.39E+05
5.00E-05	7.10E+05	1.07E-02	7.13E+10	5.00E-05	6.99E+05
4.00E-05	5.68E+05	8.57E-03	5.71E+10	4.00E-05	5.59E+05
3.00E-05	4.26E+05	6.42E-03	4.28E+10	3.00E-05	4.19E+05
2.00E-05	2.84E+05	4.28E-03	2.85E+10	2.00E-05	2.79E+05
1.00E-05	1.42E+05	2.14E-03	1.43E+10	1.00E-05	1.40E+05
9.00E-06	1.28E+05	1.93E-03	1.28E+10	9.00E-06	1.26E+05
8.00E-06	1.14E+05	1.71E-03	1.14E+10	8.00E-06	1.12E+05
7.00E-06	9.94E+04	1.50E-03	9.98E+09	7.00E-06	9.78E+04
6.00E-06	8.52E+04	1.28E-03	8.56E+09	6.00E-06	8.39E+04
5.00E-06	7.10E+04	1.07E-03	7.13E+09	5.00E-06	6.99E+04
4.00E-06	5.68E+04	8.57E-04	5.71E+09	4.00E-06	5.59E+04
3.00E-06	4.26E+04	6.42E-04	4.28E+09	3.00E-06	4.19E+04
2.00E-06	2.84E+04	4.28E-04	2.85E+09	2.00E-06	2.80E+04
1.00E-06	1.42E+04	2.14E-04	1.43E+09	1.00E-06	1.40E+04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.00E-06	-1.42E+04	-2.14E-04	-1.43E+09	-1.00E-06	-1.40E+04
-2.00E-06	-2.84E+04	-4.28E-04	-2.85E+09	-2.00E-06	-2.80E+04
-3.00E-06	-4.26E+04	-6.42E-04	-4.28E+09	-3.00E-06	-4.19E+04
-4.00E-06	-5.68E+04	-8.57E-04	-5.70E+09	-4.00E-06	-5.59E+04
-5.00E-06	-7.10E+04	-1.07E-03	-7.13E+09	-5.00E-06	-6.99E+04
-6.00E-06	-8.52E+04	-1.28E-03	-8.56E+09	-6.00E-06	-8.38E+04
-7.00E-06	-9.94E+04	-1.50E-03	-9.98E+09	-7.00E-06	-9.78E+04
-8.00E-06	-1.14E+05	-1.71E-03	-1.14E+10	-8.00E-06	-1.12E+05
-9.00E-06	-1.28E+05	-1.93E-03	-1.28E+10	-9.00E-06	-1.26E+05
-1.00E-05	-1.42E+05	-2.14E-03	-1.43E+10	-1.00E-05	-1.40E+05

-2.00E-05	-2.84E+05	-4.28E-03	-2.85E+10	-2.00E-05	-2.79E+05
-3.00E-05	-4.26E+05	-6.42E-03	-4.28E+10	-3.00E-05	-4.19E+05
-4.00E-05	-5.68E+05	-8.57E-03	-5.70E+10	-4.00E-05	-5.59E+05
-5.00E-05	-7.10E+05	-1.07E-02	-7.13E+10	-5.00E-05	-6.99E+05
-6.00E-05	-8.52E+05	-1.28E-02	-8.56E+10	-6.00E-05	-8.38E+05
-7.00E-05	-9.94E+05	-1.50E-02	-9.98E+10	-7.00E-05	-9.78E+05
-8.00E-05	-1.14E+06	-1.71E-02	-1.14E+11	-8.00E-05	-1.12E+06
-9.00E-05	-1.28E+06	-1.93E-02	-1.28E+11	-9.00E-05	-1.26E+06
-1.00E-04	-1.42E+06	-2.14E-02	-1.43E+11	-1.00E-04	-1.40E+06
-1.10E-04	-1.56E+06	-2.36E-02	-1.57E+11	-1.10E-04	-1.54E+06
-1.20E-04	-1.70E+06	-2.57E-02	-1.71E+11	-1.20E-04	-1.68E+06
-1.30E-04	-1.85E+06	-2.78E-02	-1.85E+11	-1.30E-04	-1.82E+06
-1.40E-04	-1.99E+06	-3.00E-02	-2.00E+11	-1.40E-04	-1.96E+06
-1.50E-04	-2.13E+06	-3.21E-02	-2.14E+11	-1.50E-04	-2.10E+06
-1.60E-04	-2.27E+06	-3.43E-02	-2.28E+11	-1.60E-04	-2.24E+06
-1.70E-04	-2.41E+06	-3.64E-02	-2.42E+11	-1.70E-04	-2.38E+06
-1.80E-04	-2.55E+06	-3.85E-02	-2.57E+11	-1.80E-04	-2.51E+06
-1.90E-04	-2.70E+06	-4.07E-02	-2.71E+11	-1.90E-04	-2.65E+06
-2.00E-04	-2.84E+06	-4.28E-02	-2.85E+11	-2.00E-04	-2.79E+06
-2.10E-04	-2.98E+06	-4.50E-02	-2.99E+11	-2.10E-04	-2.93E+06
-2.20E-04	-3.12E+06	-4.71E-02	-3.14E+11	-2.20E-04	-3.07E+06
-2.30E-04	-3.26E+06	-4.93E-02	-3.28E+11	-2.30E-04	-3.21E+06
-2.40E-04	-3.41E+06	-5.14E-02	-3.42E+11	-2.40E-04	-3.35E+06
-2.50E-04	-3.55E+06	-5.35E-02	-3.56E+11	-2.50E-04	-3.49E+06
-2.60E-04	-3.69E+06	-5.57E-02	-3.71E+11	-2.60E-04	-3.63E+06
-2.70E-04	-3.83E+06	-5.78E-02	-3.85E+11	-2.70E-04	-3.77E+06
-2.80E-04	-3.97E+06	-6.00E-02	-3.99E+11	-2.80E-04	-3.91E+06
-2.90E-04	-4.12E+06	-6.21E-02	-4.14E+11	-2.90E-04	-4.05E+06
-3.00E-04	-4.26E+06	-6.42E-02	-4.28E+11	-3.00E-04	-4.19E+06
-3.10E-04	-4.40E+06	-6.64E-02	-4.42E+11	-3.10E-04	-4.33E+06
-3.20E-04	-4.54E+06	-6.85E-02	-4.56E+11	-3.20E-04	-4.47E+06
-3.30E-04	-4.68E+06	-7.07E-02	-4.71E+11	-3.30E-04	-4.61E+06
-3.40E-04	-4.82E+06	-7.28E-02	-4.85E+11	-3.40E-04	-4.75E+06
-3.50E-04	-4.97E+06	-7.49E-02	-4.99E+11	-3.50E-04	-4.89E+06
-3.60E-04	-5.11E+06	-7.71E-02	-5.13E+11	-3.60E-04	-5.03E+06
-3.70E-04	-5.25E+06	-7.92E-02	-5.28E+11	-3.70E-04	-5.17E+06
-3.80E-04	-5.39E+06	-8.14E-02	-5.42E+11	-3.80E-04	-5.31E+06
-3.90E-04	-5.53E+06	-8.35E-02	-5.56E+11	-3.90E-04	-5.45E+06
-4.00E-04	-5.68E+06	-8.57E-02	-5.70E+11	-4.00E-04	-5.59E+06
-4.10E-04	-5.82E+06	-8.78E-02	-5.85E+11	-4.10E-04	-5.73E+06
-4.20E-04	-5.96E+06	-8.99E-02	-5.99E+11	-4.20E-04	-5.87E+06
-4.30E-04	-6.10E+06	-9.21E-02	-6.13E+11	-4.30E-04	-6.01E+06
-4.40E-04	-6.24E+06	-9.42E-02	-6.27E+11	-4.40E-04	-6.15E+06
-4.50E-04	-6.39E+06	-9.64E-02	-6.42E+11	-4.50E-04	-6.29E+06
-4.60E-04	-6.53E+06	-9.85E-02	-6.56E+11	-4.60E-04	-6.43E+06

-4.70E-04	-6.67E+06	-1.01E-01	-6.70E+11	-4.70E-04	-6.57E+06
-4.80E-04	-6.81E+06	-1.03E-01	-6.84E+11	-4.80E-04	-6.71E+06
-4.90E-04	-6.95E+06	-1.05E-01	-6.99E+11	-4.90E-04	-6.85E+06
-5.00E-04	-7.09E+06	-1.07E-01	-7.13E+11	-5.00E-04	-6.99E+06
-5.10E-04	-7.24E+06	-1.09E-01	-7.27E+11	-5.10E-04	-7.12E+06
-5.20E-04	-7.38E+06	-1.11E-01	-7.41E+11	-5.20E-04	-7.26E+06
-5.30E-04	-7.52E+06	-1.13E-01	-7.56E+11	-5.30E-04	-7.40E+06
-5.40E-04	-7.66E+06	-1.16E-01	-7.70E+11	-5.40E-04	-7.54E+06
-5.50E-04	-7.80E+06	-1.18E-01	-7.84E+11	-5.50E-04	-7.68E+06
-5.60E-04	-7.94E+06	-1.20E-01	-7.91E+11	-5.55E-04	-7.75E+06
-5.64E-04	-7.99E+06	-1.21E-01	-8.04E+11	-5.65E-04	-7.88E+06
-5.74E-04	-8.13E+06	-1.23E-01	-8.14E+11	-5.73E-04	-7.98E+06
-5.81E-04	-8.23E+06	-1.24E-01	-8.20E+11	-5.78E-04	-8.04E+06
-5.87E-04	-8.29E+06	-1.26E-01	-8.26E+11	-5.84E-04	-8.09E+06
-5.93E-04	-8.35E+06	-1.27E-01	-8.30E+11	-5.90E-04	-8.13E+06
-5.99E-04	-8.39E+06	-1.28E-01	-8.33E+11	-5.95E-04	-8.16E+06
-6.05E-04	-8.43E+06	-1.30E-01	-8.35E+11	-6.01E-04	-8.18E+06
-6.11E-04	-8.45E+06	-1.31E-01	-8.35E+11	-6.05E-04	-8.18E+06
-6.15E-04	-8.46E+06	-1.32E-01	-8.35E+11	-6.15E-04	-8.18E+06
-6.25E-04	-8.47E+06	-1.34E-01	-8.35E+11	-6.21E-04	-8.18E+06
-6.32E-04	-8.48E+06	-1.35E-01	-8.35E+11	-6.25E-04	-8.18E+06
-6.37E-04	-8.49E+06	-1.36E-01	-8.35E+11	-6.30E-04	-8.18E+06
-6.42E-04	-8.49E+06	-1.37E-01	-8.34E+11	-6.37E-04	-8.18E+06
-6.50E-04	-8.50E+06	-1.39E-01	-8.34E+11	-6.41E-04	-8.17E+06
-6.54E-04	-8.50E+06	-1.40E-01	-8.33E+11	-6.46E-04	-8.17E+06
-6.59E-04	-8.50E+06	-1.41E-01	-8.32E+11	-6.51E-04	-8.16E+06
-6.64E-04	-8.49E+06	-1.42E-01	-8.29E+11	-6.61E-04	-8.13E+06
-6.69E-04	-8.49E+06	-1.43E-01	-8.24E+11	-6.71E-04	-8.08E+06
-6.79E-04	-8.47E+06	-1.45E-01	-8.16E+11	-6.81E-04	-8.00E+06
-6.89E-04	-8.43E+06	-1.47E-01	-8.14E+11	-6.83E-04	-7.97E+06
-6.99E-04	-8.35E+06	-1.50E-01	-8.00E+11	-6.92E-04	-7.84E+06
-7.00E-04	-8.34E+06	-1.50E-01	-7.82E+11	-7.02E-04	-7.66E+06
-7.10E-04	-8.22E+06	-1.52E-01	-7.73E+11	-7.08E-04	-7.57E+06
-7.11E-04	-8.21E+06	-1.52E-01	-7.58E+11	-7.18E-04	-7.43E+06
-7.21E-04	-8.07E+06	-1.54E-01	-7.57E+11	-7.18E-04	-7.42E+06
-7.28E-04	-7.97E+06	-1.56E-01	-7.46E+11	-7.28E-04	-7.31E+06
-7.38E-04	-7.85E+06	-1.58E-01	-7.37E+11	-7.37E-04	-7.22E+06
-7.41E-04	-7.83E+06	-1.59E-01	-7.30E+11	-7.47E-04	-7.15E+06
-7.51E-04	-7.74E+06	-1.61E-01	-7.27E+11	-7.52E-04	-7.12E+06
-7.61E-04	-7.68E+06	-1.63E-01	-7.20E+11	-7.62E-04	-7.06E+06
-7.62E-04	-7.67E+06	-1.63E-01	-7.15E+11	-7.72E-04	-7.00E+06
-7.72E-04	-7.61E+06	-1.65E-01	-7.13E+11	-7.75E-04	-6.99E+06
-7.79E-04	-7.58E+06	-1.67E-01	-7.08E+11	-7.85E-04	-6.94E+06
-7.89E-04	-7.53E+06	-1.69E-01	-7.03E+11	-7.95E-04	-6.89E+06
-7.99E-04	-7.49E+06	-1.71E-01	-6.99E+11	-8.05E-04	-6.85E+06

-8.04E-04	-7.47E+06	-1.72E-01	-6.98E+11	-8.07E-04	-6.84E+06
-8.10E-04	-7.45E+06	-1.73E-01	-6.93E+11	-8.17E-04	-6.79E+06
-8.20E-04	-7.41E+06	-1.75E-01	-6.92E+11	-8.20E-04	-6.78E+06
-8.30E-04	-7.37E+06	-1.78E-01	-6.88E+11	-8.30E-04	-6.74E+06
-8.40E-04	-7.34E+06	-1.80E-01	-6.84E+11	-8.40E-04	-6.70E+06
-8.42E-04	-7.33E+06	-1.80E-01	-6.80E+11	-8.50E-04	-6.66E+06
-8.52E-04	-7.30E+06	-1.82E-01	-6.77E+11	-8.59E-04	-6.63E+06
-8.54E-04	-7.29E+06	-1.83E-01	-6.73E+11	-8.69E-04	-6.60E+06
-8.64E-04	-7.26E+06	-1.85E-01	-6.73E+11	-8.70E-04	-6.59E+06
-8.74E-04	-7.22E+06	-1.87E-01	-6.69E+11	-8.80E-04	-6.56E+06
-8.84E-04	-7.19E+06	-1.89E-01	-6.66E+11	-8.90E-04	-6.53E+06
-8.94E-04	-7.16E+06	-1.91E-01	-6.63E+11	-9.00E-04	-6.49E+06
-9.00E-04	-7.15E+06	-1.93E-01	-6.59E+11	-9.10E-04	-6.46E+06
-9.09E-04	-7.12E+06	-1.95E-01	-6.56E+11	-9.20E-04	-6.43E+06
-9.19E-04	-7.09E+06	-1.97E-01	-6.56E+11	-9.21E-04	-6.43E+06
-9.29E-04	-7.06E+06	-1.99E-01	-6.53E+11	-9.31E-04	-6.40E+06
-9.39E-04	-7.03E+06	-2.01E-01	-6.52E+11	-9.34E-04	-6.39E+06
-9.49E-04	-7.01E+06	-2.03E-01	-6.49E+11	-9.44E-04	-6.36E+06
-9.59E-04	-6.98E+06	-2.05E-01	-6.46E+11	-9.54E-04	-6.33E+06
-9.68E-04	-6.96E+06	-2.07E-01	-6.43E+11	-9.64E-04	-6.30E+06
-9.78E-04	-6.93E+06	-2.09E-01	-6.40E+11	-9.74E-04	-6.27E+06
-9.78E-04	-6.93E+06	-2.09E-01	-6.37E+11	-9.84E-04	-6.24E+06
-9.88E-04	-6.90E+06	-2.12E-01	-6.34E+11	-9.94E-04	-6.21E+06
-9.98E-04	-6.88E+06	-2.14E-01	-6.32E+11	-1.00E-03	-6.20E+06
-1.01E-03	-6.85E+06	-2.16E-01	-6.29E+11	-1.01E-03	-6.17E+06
-1.02E-03	-6.82E+06	-2.18E-01	-6.26E+11	-1.02E-03	-6.14E+06
-1.03E-03	-6.80E+06	-2.20E-01	-6.23E+11	-1.03E-03	-6.11E+06
-1.04E-03	-6.77E+06	-2.22E-01	-6.20E+11	-1.04E-03	-6.08E+06
-1.05E-03	-6.75E+06	-2.24E-01	-6.18E+11	-1.05E-03	-6.05E+06
-1.05E-03	-6.74E+06	-2.25E-01	-6.15E+11	-1.06E-03	-6.03E+06
-1.06E-03	-6.73E+06	-2.26E-01	-6.12E+11	-1.07E-03	-6.00E+06
-1.07E-03	-6.71E+06	-2.28E-01	-6.11E+11	-1.08E-03	-5.99E+06
-1.08E-03	-6.68E+06	-2.30E-01	-6.09E+11	-1.08E-03	-5.97E+06
-1.09E-03	-6.65E+06	-2.33E-01	-6.06E+11	-1.09E-03	-5.94E+06
-1.10E-03	-6.63E+06	-2.35E-01	-6.04E+11	-1.10E-03	-5.91E+06
-1.11E-03	-6.60E+06	-2.37E-01	-6.01E+11	-1.11E-03	-5.89E+06
-1.12E-03	-6.58E+06	-2.39E-01	-5.98E+11	-1.12E-03	-5.86E+06
-1.13E-03	-6.56E+06	-2.41E-01	-5.96E+11	-1.13E-03	-5.84E+06
-1.13E-03	-6.54E+06	-2.42E-01	-5.93E+11	-1.14E-03	-5.81E+06
-1.14E-03	-6.52E+06	-2.45E-01	-5.91E+11	-1.15E-03	-5.79E+06
-1.15E-03	-6.51E+06	-2.45E-01	-5.88E+11	-1.16E-03	-5.77E+06
-1.16E-03	-6.48E+06	-2.47E-01	-5.88E+11	-1.16E-03	-5.77E+06
-1.17E-03	-6.46E+06	-2.49E-01	-5.86E+11	-1.17E-03	-5.74E+06
-1.18E-03	-6.44E+06	-2.52E-01	-5.84E+11	-1.18E-03	-5.73E+06
-1.19E-03	-6.41E+06	-2.54E-01	-5.82E+11	-1.19E-03	-5.70E+06

-1.20E-03	-6.39E+06	-2.56E-01	-5.80E+11	-1.20E-03	-5.68E+06
-1.21E-03	-6.37E+06	-2.58E-01	-5.77E+11	-1.21E-03	-5.66E+06
-1.22E-03	-6.35E+06	-2.60E-01	-5.75E+11	-1.22E-03	-5.63E+06
-1.23E-03	-6.32E+06	-2.62E-01	-5.73E+11	-1.23E-03	-5.61E+06
-1.23E-03	-6.32E+06	-2.63E-01	-5.70E+11	-1.24E-03	-5.59E+06
-1.24E-03	-6.30E+06	-2.65E-01	-5.68E+11	-1.25E-03	-5.57E+06
-1.25E-03	-6.27E+06	-2.67E-01	-5.66E+11	-1.26E-03	-5.55E+06
-1.25E-03	-6.27E+06	-2.68E-01	-5.66E+11	-1.26E-03	-5.54E+06
-1.26E-03	-6.24E+06	-2.70E-01	-5.64E+11	-1.27E-03	-5.52E+06
-1.27E-03	-6.22E+06	-2.72E-01	-5.62E+11	-1.28E-03	-5.50E+06
-1.28E-03	-6.20E+06	-2.74E-01	-5.59E+11	-1.29E-03	-5.48E+06
-1.29E-03	-6.18E+06	-2.76E-01	-5.57E+11	-1.30E-03	-5.46E+06
-1.30E-03	-6.16E+06	-2.78E-01	-5.56E+11	-1.31E-03	-5.45E+06
-1.31E-03	-6.14E+06	-2.81E-01	-5.54E+11	-1.32E-03	-5.43E+06
-1.32E-03	-6.12E+06	-2.83E-01	-5.52E+11	-1.33E-03	-5.41E+06
-1.33E-03	-6.10E+06	-2.85E-01	-5.50E+11	-1.34E-03	-5.39E+06
-1.33E-03	-6.09E+06	-2.85E-01	-5.48E+11	-1.35E-03	-5.37E+06
-1.34E-03	-6.07E+06	-2.88E-01	-5.46E+11	-1.36E-03	-5.35E+06
-1.35E-03	-6.05E+06	-2.90E-01	-5.44E+11	-1.37E-03	-5.33E+06
-1.36E-03	-6.03E+06	-2.92E-01	-5.42E+11	-1.38E-03	-5.31E+06
-1.37E-03	-6.01E+06	-2.94E-01	-5.41E+11	-1.39E-03	-5.30E+06
-1.38E-03	-5.99E+06	-2.96E-01	-5.39E+11	-1.40E-03	-5.28E+06
-1.39E-03	-5.99E+06	-2.97E-01	-5.37E+11	-1.41E-03	-5.26E+06
-1.40E-03	-5.97E+06	-2.99E-01	-5.35E+11	-1.42E-03	-5.24E+06
-1.41E-03	-5.95E+06	-3.01E-01	-5.33E+11	-1.43E-03	-5.23E+06
-1.42E-03	-5.93E+06	-3.03E-01	-5.32E+11	-1.44E-03	-5.21E+06
-1.43E-03	-5.91E+06	-3.06E-01	-5.30E+11	-1.45E-03	-5.19E+06
-1.44E-03	-5.89E+06	-3.08E-01	-5.28E+11	-1.46E-03	-5.18E+06
-1.45E-03	-5.87E+06	-3.10E-01	-5.27E+11	-1.47E-03	-5.16E+06
-1.46E-03	-5.86E+06	-3.12E-01	-5.25E+11	-1.48E-03	-5.14E+06
-1.47E-03	-5.84E+06	-3.14E-01	-5.25E+11	-1.48E-03	-5.14E+06
-1.48E-03	-5.82E+06	-3.16E-01	-5.23E+11	-1.49E-03	-5.12E+06
-1.49E-03	-5.80E+06	-3.18E-01	-5.21E+11	-1.50E-03	-5.11E+06
-1.50E-03	-5.79E+06	-3.20E-01	-5.20E+11	-1.51E-03	-5.09E+06
-1.51E-03	-5.77E+06	-3.22E-01	-5.18E+11	-1.52E-03	-5.08E+06
-1.52E-03	-5.75E+06	-3.25E-01	-5.16E+11	-1.53E-03	-5.06E+06
-1.53E-03	-5.73E+06	-3.27E-01	-5.15E+11	-1.54E-03	-5.04E+06
-1.54E-03	-5.72E+06	-3.29E-01	-5.15E+11	-1.54E-03	-5.04E+06
-1.55E-03	-5.70E+06	-3.31E-01	-5.13E+11	-1.55E-03	-5.03E+06
-1.56E-03	-5.69E+06	-3.33E-01	-5.11E+11	-1.56E-03	-5.01E+06
-1.57E-03	-5.67E+06	-3.35E-01	-5.10E+11	-1.57E-03	-5.00E+06
-1.57E-03	-5.67E+06	-3.36E-01	-5.08E+11	-1.58E-03	-4.98E+06
-1.58E-03	-5.65E+06	-3.38E-01	-5.07E+11	-1.59E-03	-4.97E+06
-1.59E-03	-5.64E+06	-3.40E-01	-5.05E+11	-1.60E-03	-4.95E+06
-1.60E-03	-5.62E+06	-3.42E-01	-5.04E+11	-1.61E-03	-4.94E+06

-1.61E-03	-5.60E+06	-3.44E-01	-5.02E+11	-1.62E-03	-4.92E+06
-1.62E-03	-5.59E+06	-3.46E-01	-5.01E+11	-1.63E-03	-4.91E+06
-1.63E-03	-5.57E+06	-3.49E-01	-5.00E+11	-1.64E-03	-4.90E+06
-1.63E-03	-5.57E+06	-3.49E-01	-4.98E+11	-1.65E-03	-4.88E+06
-1.64E-03	-5.56E+06	-3.51E-01	-4.97E+11	-1.66E-03	-4.87E+06
-1.65E-03	-5.54E+06	-3.53E-01	-4.96E+11	-1.66E-03	-4.86E+06
-1.66E-03	-5.53E+06	-3.55E-01	-4.95E+11	-1.67E-03	-4.85E+06
-1.67E-03	-5.51E+06	-3.57E-01	-4.94E+11	-1.68E-03	-4.84E+06
-1.68E-03	-5.49E+06	-3.60E-01	-4.92E+11	-1.69E-03	-4.82E+06
-1.69E-03	-5.48E+06	-3.62E-01	-4.91E+11	-1.70E-03	-4.81E+06
-1.70E-03	-5.46E+06	-3.64E-01	-4.90E+11	-1.71E-03	-4.80E+06
-1.71E-03	-5.45E+06	-3.66E-01	-4.88E+11	-1.72E-03	-4.79E+06
-1.72E-03	-5.44E+06	-3.68E-01	-4.87E+11	-1.73E-03	-4.77E+06
-1.73E-03	-5.42E+06	-3.70E-01	-4.86E+11	-1.74E-03	-4.76E+06
-1.74E-03	-5.41E+06	-3.72E-01	-4.85E+11	-1.75E-03	-4.75E+06
-1.75E-03	-5.40E+06	-3.75E-01	-4.83E+11	-1.76E-03	-4.74E+06
-1.76E-03	-5.38E+06	-3.77E-01	-4.82E+11	-1.77E-03	-4.72E+06
-1.76E-03	-5.38E+06	-3.77E-01	-4.81E+11	-1.78E-03	-4.71E+06
-1.77E-03	-5.36E+06	-3.79E-01	-4.79E+11	-1.79E-03	-4.70E+06
-1.78E-03	-5.35E+06	-3.82E-01	-4.78E+11	-1.80E-03	-4.69E+06
-1.79E-03	-5.34E+06	-3.84E-01	-4.77E+11	-1.81E-03	-4.67E+06
-1.80E-03	-5.32E+06	-3.86E-01	-4.76E+11	-1.82E-03	-4.66E+06
-1.81E-03	-5.31E+06	-3.88E-01	-4.75E+11	-1.83E-03	-4.65E+06
-1.82E-03	-5.30E+06	-3.90E-01	-4.74E+11	-1.84E-03	-4.64E+06
-1.83E-03	-5.29E+06	-3.92E-01	-4.72E+11	-1.85E-03	-4.63E+06
-1.84E-03	-5.27E+06	-3.94E-01	-4.71E+11	-1.86E-03	-4.62E+06
-1.85E-03	-5.26E+06	-3.96E-01	-4.70E+11	-1.87E-03	-4.61E+06
-1.86E-03	-5.25E+06	-3.99E-01	-4.69E+11	-1.88E-03	-4.60E+06
-1.87E-03	-5.23E+06	-4.01E-01	-4.68E+11	-1.89E-03	-4.59E+06
-1.88E-03	-5.22E+06	-4.03E-01	-4.67E+11	-1.90E-03	-4.58E+06
-1.89E-03	-5.21E+06	-4.05E-01	-4.66E+11	-1.91E-03	-4.57E+06
-1.90E-03	-5.19E+06	-4.07E-01	-4.65E+11	-1.92E-03	-4.56E+06
-1.91E-03	-5.18E+06	-4.09E-01	-4.64E+11	-1.93E-03	-4.55E+06
-1.92E-03	-5.17E+06	-4.11E-01	-4.63E+11	-1.94E-03	-4.53E+06
-1.93E-03	-5.16E+06	-4.13E-01	-4.62E+11	-1.95E-03	-4.52E+06
-1.94E-03	-5.15E+06	-4.16E-01	-4.61E+11	-1.96E-03	-4.51E+06
-1.95E-03	-5.13E+06	-4.18E-01	-4.60E+11	-1.97E-03	-4.50E+06
-1.96E-03	-5.12E+06	-4.20E-01	-4.59E+11	-1.98E-03	-4.50E+06
-1.97E-03	-5.11E+06	-4.22E-01	-4.58E+11	-1.99E-03	-4.48E+06
-1.98E-03	-5.10E+06	-4.24E-01	-4.57E+11	-2.00E-03	-4.47E+06
-1.99E-03	-5.09E+06	-4.26E-01	-4.55E+11	-2.01E-03	-4.46E+06
-2.00E-03	-5.08E+06	-4.28E-01	-4.54E+11	-2.02E-03	-4.45E+06
-2.01E-03	-5.07E+06	-4.31E-01	-4.53E+11	-2.03E-03	-4.44E+06
-2.01E-03	-5.07E+06	-4.31E-01	-4.52E+11	-2.04E-03	-4.43E+06
-2.02E-03	-5.06E+06	-4.33E-01	-4.51E+11	-2.05E-03	-4.42E+06

-2.03E-03	-5.05E+06	-4.35E-01	-4.50E+11	-2.06E-03	-4.41E+06
-2.04E-03	-5.04E+06	-4.37E-01	-4.49E+11	-2.07E-03	-4.40E+06
-2.05E-03	-5.02E+06	-4.39E-01	-4.48E+11	-2.08E-03	-4.39E+06
-2.06E-03	-5.01E+06	-4.41E-01	-4.47E+11	-2.09E-03	-4.38E+06
-2.07E-03	-5.00E+06	-4.43E-01	-4.46E+11	-2.10E-03	-4.37E+06
-2.08E-03	-4.99E+06	-4.46E-01	-4.45E+11	-2.11E-03	-4.36E+06
-2.09E-03	-4.98E+06	-4.47E-01	-4.44E+11	-2.12E-03	-4.36E+06
-2.10E-03	-4.97E+06	-4.49E-01	-4.44E+11	-2.13E-03	-4.35E+06
-2.11E-03	-4.96E+06	-4.52E-01	-4.43E+11	-2.14E-03	-4.34E+06
-2.12E-03	-4.95E+06	-4.54E-01	-4.42E+11	-2.15E-03	-4.33E+06
-2.13E-03	-4.94E+06	-4.56E-01	-4.41E+11	-2.16E-03	-4.32E+06
-2.14E-03	-4.93E+06	-4.58E-01	-4.40E+11	-2.17E-03	-4.31E+06
-2.15E-03	-4.92E+06	-4.60E-01	-4.39E+11	-2.18E-03	-4.30E+06
-2.16E-03	-4.91E+06	-4.62E-01	-4.38E+11	-2.19E-03	-4.30E+06
-2.17E-03	-4.90E+06	-4.64E-01	-4.37E+11	-2.20E-03	-4.29E+06
-2.18E-03	-4.89E+06	-4.67E-01	-4.37E+11	-2.21E-03	-4.28E+06
-2.19E-03	-4.88E+06	-4.69E-01	-4.36E+11	-2.22E-03	-4.27E+06
-2.20E-03	-4.87E+06	-4.71E-01	-4.35E+11	-2.23E-03	-4.26E+06
-2.21E-03	-4.86E+06	-4.73E-01	-4.34E+11	-2.24E-03	-4.26E+06
-2.22E-03	-4.85E+06	-4.75E-01	-4.33E+11	-2.25E-03	-4.25E+06
-2.23E-03	-4.84E+06	-4.77E-01	-4.33E+11	-2.26E-03	-4.24E+06
-2.24E-03	-4.83E+06	-4.79E-01	-4.32E+11	-2.27E-03	-4.23E+06
-2.25E-03	-4.82E+06	-4.82E-01	-4.31E+11	-2.28E-03	-4.22E+06
-2.26E-03	-4.81E+06	-4.84E-01	-4.30E+11	-2.29E-03	-4.21E+06
-2.27E-03	-4.80E+06	-4.86E-01	-4.29E+11	-2.30E-03	-4.21E+06
-2.28E-03	-4.79E+06	-4.88E-01	-4.29E+11	-2.31E-03	-4.20E+06
-2.29E-03	-4.78E+06	-4.90E-01	-4.28E+11	-2.31E-03	-4.20E+06
-2.30E-03	-4.78E+06	-4.92E-01	-4.28E+11	-2.32E-03	-4.19E+06
-2.31E-03	-4.77E+06	-4.94E-01	-4.27E+11	-2.33E-03	-4.18E+06
-2.32E-03	-4.76E+06	-4.97E-01	-4.26E+11	-2.34E-03	-4.17E+06
-2.33E-03	-4.75E+06	-4.99E-01	-4.25E+11	-2.35E-03	-4.17E+06
-2.34E-03	-4.74E+06	-5.01E-01	-4.25E+11	-2.36E-03	-4.16E+06
-2.34E-03	-4.74E+06	-5.01E-01	-4.24E+11	-2.37E-03	-4.15E+06
-2.35E-03	-4.73E+06	-5.03E-01	-4.23E+11	-2.38E-03	-4.14E+06
-2.36E-03	-4.72E+06	-5.06E-01	-4.22E+11	-2.39E-03	-4.13E+06
-2.37E-03	-4.71E+06	-5.08E-01	-4.21E+11	-2.40E-03	-4.13E+06
-2.38E-03	-4.71E+06	-5.10E-01	-4.20E+11	-2.41E-03	-4.12E+06
-2.39E-03	-4.70E+06	-5.12E-01	-4.19E+11	-2.42E-03	-4.11E+06
-2.40E-03	-4.69E+06	-5.14E-01	-4.19E+11	-2.43E-03	-4.10E+06
-2.41E-03	-4.68E+06	-5.16E-01	-4.18E+11	-2.44E-03	-4.09E+06
-2.42E-03	-4.67E+06	-5.18E-01	-4.17E+11	-2.45E-03	-4.09E+06
-2.43E-03	-4.66E+06	-5.21E-01	-4.16E+11	-2.46E-03	-4.08E+06
-2.43E-03	-4.66E+06	-5.21E-01	-4.16E+11	-2.47E-03	-4.07E+06
-2.44E-03	-4.66E+06	-5.23E-01	-4.15E+11	-2.48E-03	-4.06E+06
-2.45E-03	-4.65E+06	-5.25E-01	-4.14E+11	-2.49E-03	-4.06E+06

-2.46E-03	-4.64E+06	-5.27E-01	-4.13E+11	-2.50E-03	-4.05E+06
-2.47E-03	-4.63E+06	-5.29E-01	-4.13E+11	-2.51E-03	-4.04E+06
-2.48E-03	-4.62E+06	-5.31E-01	-4.12E+11	-2.52E-03	-4.04E+06
-2.49E-03	-4.61E+06	-5.33E-01	-4.11E+11	-2.53E-03	-4.03E+06
-2.50E-03	-4.61E+06	-5.35E-01	-4.11E+11	-2.54E-03	-4.02E+06
-2.51E-03	-4.60E+06	-5.37E-01	-4.10E+11	-2.55E-03	-4.02E+06
-2.52E-03	-4.59E+06	-5.39E-01	-4.09E+11	-2.56E-03	-4.01E+06
-2.53E-03	-4.58E+06	-5.42E-01	-4.09E+11	-2.57E-03	-4.00E+06
-2.54E-03	-4.57E+06	-5.44E-01	-4.08E+11	-2.58E-03	-4.00E+06
-2.55E-03	-4.56E+06	-5.46E-01	-4.07E+11	-2.59E-03	-3.99E+06
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-2.58E-03	-4.54E+06	-5.52E-01	-4.05E+11	-2.62E-03	-3.97E+06
-2.59E-03	-4.53E+06	-5.54E-01	-4.05E+11	-2.63E-03	-3.97E+06
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-2.62E-03	-4.51E+06	-5.61E-01	-4.03E+11	-2.66E-03	-3.95E+06
-2.63E-03	-4.50E+06	-5.63E-01	-4.02E+11	-2.67E-03	-3.94E+06
-2.64E-03	-4.50E+06	-5.65E-01	-4.02E+11	-2.68E-03	-3.93E+06

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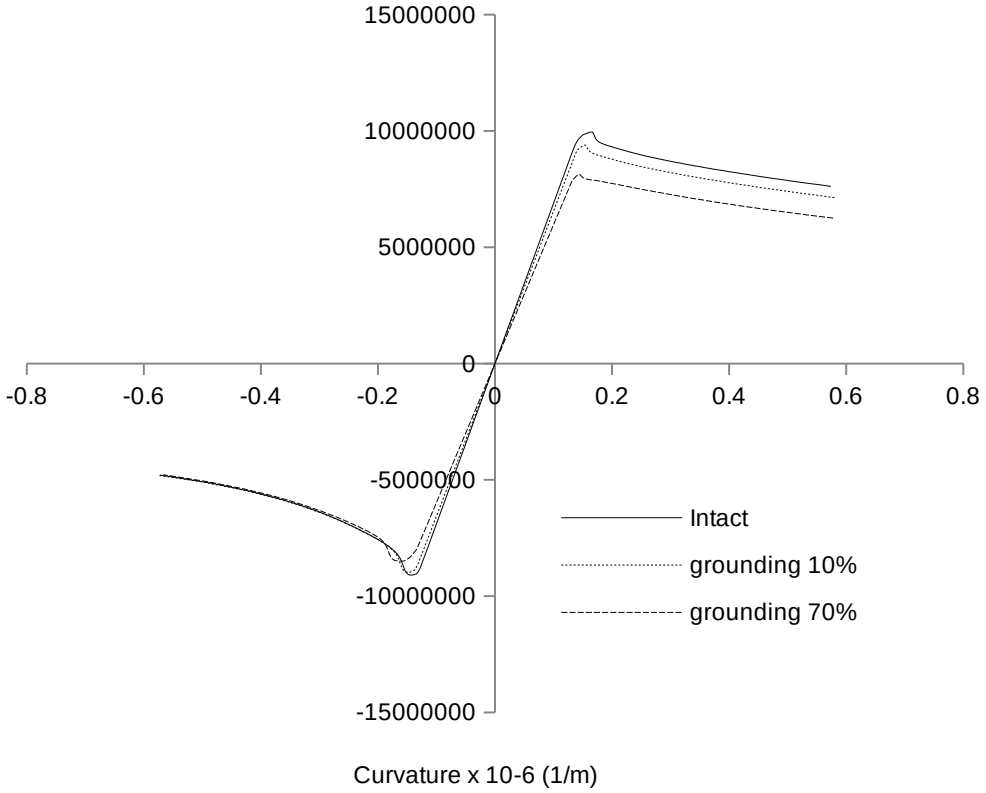
	Intact				10%
	4670	9.80E-06	1.00E-06		4670
Momen	**Rotasi**	**Momen**	**Curvature**	**Momen**	**Rotasi**
7.77E+11	2.68E-03	7.62E+06	5.74E-01	7.28E+11	2.71E-03
7.93E+11	2.47E-03	7.77E+06	5.28E-01	7.44E+11	2.49E-03
7.94E+11	2.46E-03	7.78E+06	5.26E-01	7.44E+11	2.48E-03
7.95E+11	2.45E-03	7.79E+06	5.24E-01	7.45E+11	2.47E-03
7.95E+11	2.44E-03	7.79E+06	5.21E-01	7.46E+11	2.46E-03
7.95E+11	2.43E-03	7.79E+06	5.21E-01	7.47E+11	2.45E-03
7.96E+11	2.42E-03	7.80E+06	5.19E-01	7.47E+11	2.44E-03
7.97E+11	2.41E-03	7.81E+06	5.17E-01	7.48E+11	2.43E-03
7.98E+11	2.40E-03	7.82E+06	5.15E-01	7.48E+11	2.43E-03
7.98E+11	2.39E-03	7.82E+06	5.13E-01	7.49E+11	2.42E-03
7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.50E+11	2.41E-03
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.51E+11	2.40E-03
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.51E+11	2.39E-03
8.02E+11	2.35E-03	7.85E+06	5.04E-01	7.52E+11	2.38E-03
8.02E+11	2.34E-03	7.86E+06	5.02E-01	7.53E+11	2.37E-03
8.03E+11	2.33E-03	7.87E+06	5.00E-01	7.54E+11	2.36E-03
8.04E+11	2.32E-03	7.88E+06	4.98E-01	7.54E+11	2.35E-03
8.05E+11	2.31E-03	7.89E+06	4.96E-01	7.55E+11	2.34E-03
8.06E+11	2.30E-03	7.90E+06	4.93E-01	7.56E+11	2.33E-03



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8.07E+11	2.28E-03	7.91E+06	4.89E-01	7.58E+11	2.31E-03
8.08E+11	2.28E-03	7.91E+06	4.88E-01	7.58E+11	2.30E-03
8.08E+11	2.27E-03	7.92E+06	4.86E-01	7.59E+11	2.29E-03
8.09E+11	2.26E-03	7.93E+06	4.84E-01	7.60E+11	2.28E-03
8.10E+11	2.25E-03	7.94E+06	4.82E-01	7.61E+11	2.27E-03
8.11E+11	2.24E-03	7.94E+06	4.80E-01	7.62E+11	2.26E-03
8.11E+11	2.23E-03	7.95E+06	4.78E-01	7.62E+11	2.25E-03
8.12E+11	2.22E-03	7.96E+06	4.76E-01	7.63E+11	2.24E-03
8.13E+11	2.21E-03	7.97E+06	4.73E-01	7.64E+11	2.23E-03
8.14E+11	2.20E-03	7.97E+06	4.71E-01	7.65E+11	2.22E-03
8.15E+11	2.19E-03	7.98E+06	4.69E-01	7.65E+11	2.21E-03
8.15E+11	2.18E-03	7.99E+06	4.67E-01	7.66E+11	2.20E-03
8.16E+11	2.17E-03	8.00E+06	4.65E-01	7.67E+11	2.19E-03
8.17E+11	2.16E-03	8.01E+06	4.63E-01	7.68E+11	2.18E-03
8.18E+11	2.15E-03	8.01E+06	4.61E-01	7.68E+11	2.17E-03
8.19E+11	2.14E-03	8.02E+06	4.58E-01	7.69E+11	2.16E-03
8.19E+11	2.14E-03	8.02E+06	4.58E-01	7.70E+11	2.15E-03
8.19E+11	2.13E-03	8.03E+06	4.56E-01	7.71E+11	2.14E-03
8.20E+11	2.12E-03	8.04E+06	4.54E-01	7.71E+11	2.13E-03
8.21E+11	2.11E-03	8.05E+06	4.52E-01	7.72E+11	2.13E-03
8.22E+11	2.10E-03	8.05E+06	4.50E-01	7.72E+11	2.12E-03
8.23E+11	2.09E-03	8.06E+06	4.48E-01	7.73E+11	2.11E-03
8.24E+11	2.08E-03	8.07E+06	4.45E-01	7.74E+11	2.10E-03
8.25E+11	2.07E-03	8.08E+06	4.43E-01	7.75E+11	2.09E-03
8.25E+11	2.06E-03	8.09E+06	4.41E-01	7.76E+11	2.08E-03
8.26E+11	2.05E-03	8.10E+06	4.39E-01	7.77E+11	2.07E-03
8.27E+11	2.04E-03	8.11E+06	4.37E-01	7.77E+11	2.06E-03
8.28E+11	2.03E-03	8.12E+06	4.35E-01	7.78E+11	2.05E-03
8.29E+11	2.02E-03	8.12E+06	4.33E-01	7.79E+11	2.04E-03
8.30E+11	2.01E-03	8.13E+06	4.31E-01	7.80E+11	2.03E-03
8.30E+11	2.00E-03	8.14E+06	4.29E-01	7.81E+11	2.02E-03
8.31E+11	1.99E-03	8.14E+06	4.27E-01	7.82E+11	2.01E-03
8.32E+11	1.98E-03	8.15E+06	4.25E-01	7.82E+11	2.00E-03
8.33E+11	1.97E-03	8.16E+06	4.23E-01	7.83E+11	1.99E-03
8.34E+11	1.96E-03	8.17E+06	4.21E-01	7.84E+11	1.98E-03
8.35E+11	1.95E-03	8.18E+06	4.18E-01	7.85E+11	1.97E-03
8.35E+11	1.94E-03	8.19E+06	4.16E-01	7.86E+11	1.96E-03
8.36E+11	1.93E-03	8.20E+06	4.14E-01	7.86E+11	1.95E-03
8.37E+11	1.92E-03	8.20E+06	4.12E-01	7.87E+11	1.94E-03
8.38E+11	1.91E-03	8.21E+06	4.10E-01	7.88E+11	1.93E-03
8.39E+11	1.91E-03	8.22E+06	4.08E-01	7.89E+11	1.92E-03
8.40E+11	1.90E-03	8.23E+06	4.06E-01	7.90E+11	1.91E-03
8.40E+11	1.89E-03	8.24E+06	4.04E-01	7.91E+11	1.90E-03
8.41E+11	1.88E-03	8.24E+06	4.01E-01	7.91E+11	1.89E-03

8.42E+11	1.87E-03	8.25E+06	3.99E-01	7.92E+11	1.88E-03
8.43E+11	1.86E-03	8.26E+06	3.97E-01	7.93E+11	1.87E-03
8.44E+11	1.85E-03	8.27E+06	3.95E-01	7.94E+11	1.86E-03
8.45E+11	1.84E-03	8.28E+06	3.93E-01	7.95E+11	1.85E-03
8.46E+11	1.83E-03	8.29E+06	3.91E-01	7.96E+11	1.84E-03
8.47E+11	1.82E-03	8.30E+06	3.89E-01	7.97E+11	1.83E-03
8.47E+11	1.81E-03	8.30E+06	3.88E-01	7.98E+11	1.82E-03
8.48E+11	1.80E-03	8.31E+06	3.86E-01	7.99E+11	1.81E-03
8.49E+11	1.79E-03	8.32E+06	3.84E-01	8.00E+11	1.80E-03
8.50E+11	1.78E-03	8.33E+06	3.82E-01	8.00E+11	1.80E-03
8.50E+11	1.77E-03	8.33E+06	3.79E-01	8.01E+11	1.79E-03
8.51E+11	1.76E-03	8.34E+06	3.77E-01	8.02E+11	1.78E-03
8.52E+11	1.75E-03	8.35E+06	3.75E-01	8.02E+11	1.77E-03
8.53E+11	1.74E-03	8.36E+06	3.73E-01	8.03E+11	1.76E-03
8.54E+11	1.73E-03	8.37E+06	3.71E-01	8.04E+11	1.75E-03
8.55E+11	1.72E-03	8.38E+06	3.69E-01	8.05E+11	1.74E-03
8.56E+11	1.71E-03	8.39E+06	3.67E-01	8.06E+11	1.73E-03
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.07E+11	1.72E-03
8.57E+11	1.70E-03	8.40E+06	3.64E-01	8.08E+11	1.71E-03
8.58E+11	1.69E-03	8.41E+06	3.62E-01	8.09E+11	1.70E-03
8.59E+11	1.68E-03	8.42E+06	3.60E-01	8.10E+11	1.69E-03
8.60E+11	1.67E-03	8.43E+06	3.58E-01	8.10E+11	1.69E-03
8.61E+11	1.66E-03	8.44E+06	3.56E-01	8.11E+11	1.68E-03
8.62E+11	1.65E-03	8.45E+06	3.54E-01	8.12E+11	1.67E-03
8.63E+11	1.64E-03	8.46E+06	3.52E-01	8.13E+11	1.66E-03
8.64E+11	1.63E-03	8.47E+06	3.49E-01	8.14E+11	1.65E-03
8.65E+11	1.62E-03	8.48E+06	3.47E-01	8.15E+11	1.64E-03
8.66E+11	1.61E-03	8.48E+06	3.46E-01	8.16E+11	1.63E-03
8.66E+11	1.60E-03	8.49E+06	3.43E-01	8.17E+11	1.62E-03
8.67E+11	1.59E-03	8.50E+06	3.41E-01	8.17E+11	1.61E-03
8.68E+11	1.58E-03	8.51E+06	3.39E-01	8.18E+11	1.60E-03
8.69E+11	1.57E-03	8.52E+06	3.37E-01	8.19E+11	1.59E-03
8.70E+11	1.56E-03	8.53E+06	3.35E-01	8.20E+11	1.58E-03
8.71E+11	1.55E-03	8.54E+06	3.33E-01	8.21E+11	1.57E-03
8.72E+11	1.54E-03	8.55E+06	3.31E-01	8.22E+11	1.56E-03
8.73E+11	1.53E-03	8.56E+06	3.28E-01	8.23E+11	1.55E-03
8.74E+11	1.52E-03	8.57E+06	3.26E-01	8.24E+11	1.54E-03
8.75E+11	1.52E-03	8.58E+06	3.24E-01	8.25E+11	1.53E-03
8.76E+11	1.51E-03	8.59E+06	3.22E-01	8.26E+11	1.52E-03
8.77E+11	1.50E-03	8.60E+06	3.20E-01	8.27E+11	1.51E-03
8.79E+11	1.49E-03	8.61E+06	3.18E-01	8.28E+11	1.50E-03
8.80E+11	1.48E-03	8.62E+06	3.16E-01	8.29E+11	1.49E-03
8.81E+11	1.47E-03	8.63E+06	3.14E-01	8.30E+11	1.48E-03
8.81E+11	1.46E-03	8.63E+06	3.13E-01	8.31E+11	1.47E-03
8.82E+11	1.45E-03	8.64E+06	3.11E-01	8.32E+11	1.46E-03

8.83E+11	1.44E-03	8.65E+06	3.09E-01	8.33E+11	1.45E-03
8.84E+11	1.43E-03	8.66E+06	3.07E-01	8.33E+11	1.45E-03
8.85E+11	1.42E-03	8.67E+06	3.05E-01	8.34E+11	1.44E-03
8.86E+11	1.41E-03	8.68E+06	3.03E-01	8.35E+11	1.43E-03
8.87E+11	1.40E-03	8.69E+06	3.01E-01	8.36E+11	1.42E-03
8.88E+11	1.39E-03	8.70E+06	2.99E-01	8.37E+11	1.41E-03
8.89E+11	1.38E-03	8.71E+06	2.96E-01	8.38E+11	1.40E-03
8.90E+11	1.38E-03	8.72E+06	2.96E-01	8.39E+11	1.39E-03
8.91E+11	1.37E-03	8.73E+06	2.93E-01	8.40E+11	1.38E-03
8.92E+11	1.36E-03	8.74E+06	2.91E-01	8.41E+11	1.37E-03
8.93E+11	1.35E-03	8.75E+06	2.89E-01	8.42E+11	1.36E-03
8.94E+11	1.34E-03	8.76E+06	2.87E-01	8.43E+11	1.35E-03
8.95E+11	1.33E-03	8.77E+06	2.85E-01	8.44E+11	1.34E-03
8.96E+11	1.33E-03	8.78E+06	2.84E-01	8.45E+11	1.33E-03
8.97E+11	1.32E-03	8.79E+06	2.82E-01	8.46E+11	1.32E-03
8.98E+11	1.31E-03	8.80E+06	2.80E-01	8.47E+11	1.31E-03
8.99E+11	1.30E-03	8.81E+06	2.78E-01	8.48E+11	1.31E-03
9.00E+11	1.29E-03	8.82E+06	2.76E-01	8.49E+11	1.30E-03
9.02E+11	1.28E-03	8.83E+06	2.73E-01	8.50E+11	1.29E-03
9.02E+11	1.27E-03	8.84E+06	2.73E-01	8.51E+11	1.28E-03
9.03E+11	1.26E-03	8.85E+06	2.71E-01	8.52E+11	1.27E-03
9.04E+11	1.25E-03	8.86E+06	2.69E-01	8.53E+11	1.26E-03
9.05E+11	1.24E-03	8.87E+06	2.66E-01	8.54E+11	1.25E-03
9.07E+11	1.23E-03	8.89E+06	2.64E-01	8.56E+11	1.24E-03
9.08E+11	1.22E-03	8.90E+06	2.62E-01	8.57E+11	1.23E-03
9.09E+11	1.21E-03	8.91E+06	2.60E-01	8.58E+11	1.22E-03
9.10E+11	1.21E-03	8.92E+06	2.58E-01	8.59E+11	1.21E-03
9.11E+11	1.20E-03	8.93E+06	2.56E-01	8.60E+11	1.20E-03
9.13E+11	1.19E-03	8.95E+06	2.54E-01	8.60E+11	1.20E-03
9.14E+11	1.18E-03	8.96E+06	2.52E-01	8.61E+11	1.19E-03
9.16E+11	1.17E-03	8.97E+06	2.49E-01	8.62E+11	1.18E-03
9.17E+11	1.16E-03	8.98E+06	2.48E-01	8.64E+11	1.17E-03
9.18E+11	1.15E-03	9.00E+06	2.45E-01	8.65E+11	1.16E-03
9.20E+11	1.14E-03	9.01E+06	2.43E-01	8.66E+11	1.15E-03
9.21E+11	1.13E-03	9.03E+06	2.41E-01	8.67E+11	1.14E-03
9.22E+11	1.12E-03	9.04E+06	2.39E-01	8.69E+11	1.13E-03
9.23E+11	1.11E-03	9.05E+06	2.38E-01	8.70E+11	1.12E-03
9.24E+11	1.10E-03	9.06E+06	2.36E-01	8.71E+11	1.11E-03
9.26E+11	1.09E-03	9.07E+06	2.34E-01	8.72E+11	1.10E-03
9.27E+11	1.08E-03	9.09E+06	2.31E-01	8.73E+11	1.09E-03
9.29E+11	1.07E-03	9.10E+06	2.29E-01	8.74E+11	1.08E-03
9.30E+11	1.06E-03	9.11E+06	2.27E-01	8.76E+11	1.07E-03
9.32E+11	1.05E-03	9.13E+06	2.25E-01	8.77E+11	1.06E-03
9.33E+11	1.04E-03	9.15E+06	2.23E-01	8.79E+11	1.05E-03
9.35E+11	1.03E-03	9.16E+06	2.21E-01	8.80E+11	1.05E-03

9.35E+11	1.03E-03	9.17E+06	2.20E-01	8.81E+11	1.04E-03
9.37E+11	1.02E-03	9.18E+06	2.18E-01	8.83E+11	1.03E-03
9.38E+11	1.01E-03	9.19E+06	2.16E-01	8.84E+11	1.02E-03
9.40E+11	9.99E-04	9.21E+06	2.14E-01	8.85E+11	1.01E-03
9.42E+11	9.89E-04	9.23E+06	2.12E-01	8.86E+11	1.00E-03
9.42E+11	9.87E-04	9.23E+06	2.11E-01	8.87E+11	9.92E-04
9.43E+11	9.77E-04	9.25E+06	2.09E-01	8.89E+11	9.82E-04
9.45E+11	9.67E-04	9.26E+06	2.07E-01	8.91E+11	9.72E-04
9.47E+11	9.57E-04	9.28E+06	2.05E-01	8.92E+11	9.62E-04
9.48E+11	9.49E-04	9.29E+06	2.03E-01	8.94E+11	9.52E-04
9.50E+11	9.39E-04	9.31E+06	2.01E-01	8.96E+11	9.42E-04
9.52E+11	9.29E-04	9.33E+06	1.99E-01	8.96E+11	9.40E-04
9.53E+11	9.21E-04	9.34E+06	1.97E-01	8.97E+11	9.30E-04
9.54E+11	9.11E-04	9.35E+06	1.95E-01	8.98E+11	9.20E-04
9.56E+11	9.01E-04	9.37E+06	1.93E-01	9.00E+11	9.10E-04
9.58E+11	8.91E-04	9.39E+06	1.91E-01	9.02E+11	9.00E-04
9.58E+11	8.88E-04	9.39E+06	1.90E-01	9.03E+11	8.96E-04
9.60E+11	8.78E-04	9.41E+06	1.88E-01	9.04E+11	8.86E-04
9.62E+11	8.68E-04	9.43E+06	1.86E-01	9.06E+11	8.76E-04
9.63E+11	8.65E-04	9.44E+06	1.85E-01	9.07E+11	8.71E-04
9.65E+11	8.55E-04	9.46E+06	1.83E-01	9.08E+11	8.61E-04
9.67E+11	8.46E-04	9.48E+06	1.81E-01	9.10E+11	8.51E-04
9.70E+11	8.36E-04	9.51E+06	1.79E-01	9.11E+11	8.44E-04
9.73E+11	8.28E-04	9.53E+06	1.77E-01	9.12E+11	8.37E-04
9.77E+11	8.18E-04	9.58E+06	1.75E-01	9.13E+11	8.27E-04
9.78E+11	8.18E-04	9.58E+06	1.75E-01	9.15E+11	8.17E-04
9.83E+11	8.08E-04	9.63E+06	1.73E-01	9.15E+11	8.16E-04
9.85E+11	8.04E-04	9.66E+06	1.72E-01	9.17E+11	8.06E-04
9.86E+11	8.04E-04	9.66E+06	1.72E-01	9.19E+11	7.96E-04
9.99E+11	7.94E-04	9.79E+06	1.70E-01	9.20E+11	7.94E-04
1.00E+12	7.90E-04	9.84E+06	1.69E-01	9.22E+11	7.84E-04
1.01E+12	7.82E-04	9.94E+06	1.67E-01	9.23E+11	7.79E-04
1.02E+12	7.76E-04	9.96E+06	1.66E-01	9.26E+11	7.69E-04
1.02E+12	7.66E-04	9.95E+06	1.64E-01	9.28E+11	7.62E-04
1.02E+12	7.60E-04	9.95E+06	1.63E-01	9.33E+11	7.52E-04
1.01E+12	7.50E-04	9.94E+06	1.61E-01	9.37E+11	7.46E-04
1.01E+12	7.45E-04	9.92E+06	1.60E-01	9.40E+11	7.41E-04
1.01E+12	7.35E-04	9.91E+06	1.57E-01	9.51E+11	7.31E-04
1.01E+12	7.29E-04	9.89E+06	1.56E-01	9.57E+11	7.26E-04
1.01E+12	7.19E-04	9.87E+06	1.54E-01	9.58E+11	7.20E-04
1.01E+12	7.09E-04	9.85E+06	1.52E-01	9.59E+11	7.19E-04
1.00E+12	7.01E-04	9.83E+06	1.50E-01	9.58E+11	7.09E-04
1.00E+12	6.94E-04	9.80E+06	1.49E-01	9.55E+11	6.99E-04
9.97E+11	6.88E-04	9.77E+06	1.47E-01	9.51E+11	6.89E-04
9.91E+11	6.78E-04	9.71E+06	1.45E-01	9.51E+11	6.88E-04

9.86E+11	6.69E-04	9.66E+06	1.43E-01	9.47E+11	6.78E-04
9.82E+11	6.64E-04	9.63E+06	1.42E-01	9.43E+11	6.69E-04
9.78E+11	6.58E-04	9.58E+06	1.41E-01	9.40E+11	6.63E-04
9.73E+11	6.52E-04	9.53E+06	1.40E-01	9.36E+11	6.57E-04
9.63E+11	6.43E-04	9.43E+06	1.38E-01	9.30E+11	6.51E-04
9.54E+11	6.35E-04	9.35E+06	1.36E-01	9.20E+11	6.43E-04
9.45E+11	6.28E-04	9.26E+06	1.35E-01	9.16E+11	6.40E-04
9.35E+11	6.21E-04	9.16E+06	1.33E-01	9.02E+11	6.30E-04
9.33E+11	6.20E-04	9.14E+06	1.33E-01	8.88E+11	6.20E-04
9.18E+11	6.10E-04	8.99E+06	1.31E-01	8.74E+11	6.10E-04
9.03E+11	6.00E-04	8.85E+06	1.28E-01	8.59E+11	6.00E-04
8.88E+11	5.90E-04	8.70E+06	1.26E-01	8.45E+11	5.90E-04
8.73E+11	5.80E-04	8.55E+06	1.24E-01	8.31E+11	5.80E-04
8.58E+11	5.70E-04	8.40E+06	1.22E-01	8.16E+11	5.70E-04
8.43E+11	5.60E-04	8.26E+06	1.20E-01	8.02E+11	5.60E-04
8.28E+11	5.50E-04	8.11E+06	1.18E-01	7.88E+11	5.50E-04
8.13E+11	5.40E-04	7.96E+06	1.16E-01	7.73E+11	5.40E-04
7.98E+11	5.30E-04	7.82E+06	1.13E-01	7.59E+11	5.30E-04
7.82E+11	5.20E-04	7.67E+06	1.11E-01	7.45E+11	5.20E-04
7.67E+11	5.10E-04	7.52E+06	1.09E-01	7.30E+11	5.10E-04
7.52E+11	5.00E-04	7.37E+06	1.07E-01	7.16E+11	5.00E-04
7.37E+11	4.90E-04	7.23E+06	1.05E-01	7.02E+11	4.90E-04
7.22E+11	4.80E-04	7.08E+06	1.03E-01	6.88E+11	4.80E-04
7.07E+11	4.70E-04	6.93E+06	1.01E-01	6.73E+11	4.70E-04
6.92E+11	4.60E-04	6.78E+06	9.85E-02	6.59E+11	4.60E-04
6.77E+11	4.50E-04	6.64E+06	9.64E-02	6.45E+11	4.50E-04
6.62E+11	4.40E-04	6.49E+06	9.42E-02	6.30E+11	4.40E-04
6.47E+11	4.30E-04	6.34E+06	9.21E-02	6.16E+11	4.30E-04
6.32E+11	4.20E-04	6.19E+06	8.99E-02	6.02E+11	4.20E-04
6.17E+11	4.10E-04	6.05E+06	8.78E-02	5.87E+11	4.10E-04
6.02E+11	4.00E-04	5.90E+06	8.57E-02	5.73E+11	4.00E-04
5.87E+11	3.90E-04	5.75E+06	8.35E-02	5.59E+11	3.90E-04
5.72E+11	3.80E-04	5.60E+06	8.14E-02	5.44E+11	3.80E-04
5.57E+11	3.70E-04	5.46E+06	7.92E-02	5.30E+11	3.70E-04
5.42E+11	3.60E-04	5.31E+06	7.71E-02	5.16E+11	3.60E-04
5.27E+11	3.50E-04	5.16E+06	7.49E-02	5.01E+11	3.50E-04
5.12E+11	3.40E-04	5.01E+06	7.28E-02	4.87E+11	3.40E-04
4.97E+11	3.30E-04	4.87E+06	7.07E-02	4.73E+11	3.30E-04
4.82E+11	3.20E-04	4.72E+06	6.85E-02	4.58E+11	3.20E-04
4.67E+11	3.10E-04	4.57E+06	6.64E-02	4.44E+11	3.10E-04
4.51E+11	3.00E-04	4.42E+06	6.42E-02	4.30E+11	3.00E-04
4.36E+11	2.90E-04	4.28E+06	6.21E-02	4.15E+11	2.90E-04
4.21E+11	2.80E-04	4.13E+06	6.00E-02	4.01E+11	2.80E-04
4.06E+11	2.70E-04	3.98E+06	5.78E-02	3.87E+11	2.70E-04
3.91E+11	2.60E-04	3.83E+06	5.57E-02	3.72E+11	2.60E-04

3.76E+11	2.50E-04	3.69E+06	5.35E-02	3.58E+11	2.50E-04
3.61E+11	2.40E-04	3.54E+06	5.14E-02	3.44E+11	2.40E-04
3.46E+11	2.30E-04	3.39E+06	4.93E-02	3.29E+11	2.30E-04
3.31E+11	2.20E-04	3.24E+06	4.71E-02	3.15E+11	2.20E-04
3.16E+11	2.10E-04	3.10E+06	4.50E-02	3.01E+11	2.10E-04
3.01E+11	2.00E-04	2.95E+06	4.28E-02	2.87E+11	2.00E-04
2.86E+11	1.90E-04	2.80E+06	4.07E-02	2.72E+11	1.90E-04
2.71E+11	1.80E-04	2.65E+06	3.85E-02	2.58E+11	1.80E-04
2.56E+11	1.70E-04	2.51E+06	3.64E-02	2.44E+11	1.70E-04
2.41E+11	1.60E-04	2.36E+06	3.43E-02	2.29E+11	1.60E-04
2.26E+11	1.50E-04	2.21E+06	3.21E-02	2.15E+11	1.50E-04
2.11E+11	1.40E-04	2.06E+06	3.00E-02	2.01E+11	1.40E-04
1.96E+11	1.30E-04	1.92E+06	2.78E-02	1.86E+11	1.30E-04
1.81E+11	1.20E-04	1.77E+06	2.57E-02	1.72E+11	1.20E-04
1.66E+11	1.10E-04	1.62E+06	2.36E-02	1.58E+11	1.10E-04
1.51E+11	1.00E-04	1.47E+06	2.14E-02	1.43E+11	1.00E-04
1.35E+11	9.00E-05	1.33E+06	1.93E-02	1.29E+11	9.00E-05
1.20E+11	8.00E-05	1.18E+06	1.71E-02	1.15E+11	8.00E-05
1.05E+11	7.00E-05	1.03E+06	1.50E-02	1.00E+11	7.00E-05
9.03E+10	6.00E-05	8.85E+05	1.28E-02	8.59E+10	6.00E-05
7.52E+10	5.00E-05	7.37E+05	1.07E-02	7.16E+10	5.00E-05
6.02E+10	4.00E-05	5.90E+05	8.57E-03	5.73E+10	4.00E-05
4.51E+10	3.00E-05	4.42E+05	6.42E-03	4.30E+10	3.00E-05
3.01E+10	2.00E-05	2.95E+05	4.28E-03	2.87E+10	2.00E-05
1.51E+10	1.00E-05	1.47E+05	2.14E-03	1.43E+10	1.00E-05
1.35E+10	9.00E-06	1.33E+05	1.93E-03	1.29E+10	9.00E-06
1.20E+10	8.00E-06	1.18E+05	1.71E-03	1.15E+10	8.00E-06
1.05E+10	7.00E-06	1.03E+05	1.50E-03	1.00E+10	7.00E-06
9.03E+09	6.00E-06	8.85E+04	1.28E-03	8.60E+09	6.00E-06
7.53E+09	5.00E-06	7.37E+04	1.07E-03	7.16E+09	5.00E-06
6.02E+09	4.00E-06	5.90E+04	8.57E-04	5.73E+09	4.00E-06
4.52E+09	3.00E-06	4.42E+04	6.42E-04	4.30E+09	3.00E-06
3.01E+09	2.00E-06	2.95E+04	4.28E-04	2.87E+09	2.00E-06
1.51E+09	1.00E-06	1.47E+04	2.14E-04	1.43E+09	1.00E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.51E+09	-1.00E-06	-1.47E+04	-2.14E-04	-1.43E+09	-1.00E-06
-3.01E+09	-2.00E-06	-2.95E+04	-4.28E-04	-2.87E+09	-2.00E-06
-4.52E+09	-3.00E-06	-4.42E+04	-6.42E-04	-4.30E+09	-3.00E-06
-6.02E+09	-4.00E-06	-5.90E+04	-8.57E-04	-5.73E+09	-4.00E-06
-7.52E+09	-5.00E-06	-7.37E+04	-1.07E-03	-7.16E+09	-5.00E-06
-9.03E+09	-6.00E-06	-8.85E+04	-1.28E-03	-8.59E+09	-6.00E-06
-1.05E+10	-7.00E-06	-1.03E+05	-1.50E-03	-1.00E+10	-7.00E-06
-1.20E+10	-8.00E-06	-1.18E+05	-1.71E-03	-1.15E+10	-8.00E-06
-1.35E+10	-9.00E-06	-1.33E+05	-1.93E-03	-1.29E+10	-9.00E-06
-1.51E+10	-1.00E-05	-1.47E+05	-2.14E-03	-1.43E+10	-1.00E-05

-3.01E+10	-2.00E-05	-2.95E+05	-4.28E-03	-2.87E+10	-2.00E-05
-4.51E+10	-3.00E-05	-4.42E+05	-6.42E-03	-4.30E+10	-3.00E-05
-6.02E+10	-4.00E-05	-5.90E+05	-8.57E-03	-5.73E+10	-4.00E-05
-7.52E+10	-5.00E-05	-7.37E+05	-1.07E-02	-7.16E+10	-5.00E-05
-9.03E+10	-6.00E-05	-8.85E+05	-1.28E-02	-8.59E+10	-6.00E-05
-1.05E+11	-7.00E-05	-1.03E+06	-1.50E-02	-1.00E+11	-7.00E-05
-1.20E+11	-8.00E-05	-1.18E+06	-1.71E-02	-1.15E+11	-8.00E-05
-1.35E+11	-9.00E-05	-1.33E+06	-1.93E-02	-1.29E+11	-9.00E-05
-1.51E+11	-1.00E-04	-1.47E+06	-2.14E-02	-1.43E+11	-1.00E-04
-1.66E+11	-1.10E-04	-1.62E+06	-2.36E-02	-1.58E+11	-1.10E-04
-1.81E+11	-1.20E-04	-1.77E+06	-2.57E-02	-1.72E+11	-1.20E-04
-1.96E+11	-1.30E-04	-1.92E+06	-2.78E-02	-1.86E+11	-1.30E-04
-2.11E+11	-1.40E-04	-2.06E+06	-3.00E-02	-2.01E+11	-1.40E-04
-2.26E+11	-1.50E-04	-2.21E+06	-3.21E-02	-2.15E+11	-1.50E-04
-2.41E+11	-1.60E-04	-2.36E+06	-3.43E-02	-2.29E+11	-1.60E-04
-2.56E+11	-1.70E-04	-2.51E+06	-3.64E-02	-2.44E+11	-1.70E-04
-2.71E+11	-1.80E-04	-2.65E+06	-3.85E-02	-2.58E+11	-1.80E-04
-2.86E+11	-1.90E-04	-2.80E+06	-4.07E-02	-2.72E+11	-1.90E-04
-3.01E+11	-2.00E-04	-2.95E+06	-4.28E-02	-2.86E+11	-2.00E-04
-3.16E+11	-2.10E-04	-3.10E+06	-4.50E-02	-3.01E+11	-2.10E-04
-3.31E+11	-2.20E-04	-3.24E+06	-4.71E-02	-3.15E+11	-2.20E-04
-3.46E+11	-2.30E-04	-3.39E+06	-4.93E-02	-3.29E+11	-2.30E-04
-3.61E+11	-2.40E-04	-3.54E+06	-5.14E-02	-3.44E+11	-2.40E-04
-3.76E+11	-2.50E-04	-3.69E+06	-5.35E-02	-3.58E+11	-2.50E-04
-3.91E+11	-2.60E-04	-3.83E+06	-5.57E-02	-3.72E+11	-2.60E-04
-4.06E+11	-2.70E-04	-3.98E+06	-5.78E-02	-3.87E+11	-2.70E-04
-4.21E+11	-2.80E-04	-4.13E+06	-6.00E-02	-4.01E+11	-2.80E-04
-4.36E+11	-2.90E-04	-4.28E+06	-6.21E-02	-4.15E+11	-2.90E-04
-4.51E+11	-3.00E-04	-4.42E+06	-6.42E-02	-4.30E+11	-3.00E-04
-4.66E+11	-3.10E-04	-4.57E+06	-6.64E-02	-4.44E+11	-3.10E-04
-4.81E+11	-3.20E-04	-4.72E+06	-6.85E-02	-4.58E+11	-3.20E-04
-4.97E+11	-3.30E-04	-4.87E+06	-7.07E-02	-4.73E+11	-3.30E-04
-5.12E+11	-3.40E-04	-5.01E+06	-7.28E-02	-4.87E+11	-3.40E-04
-5.27E+11	-3.50E-04	-5.16E+06	-7.49E-02	-5.01E+11	-3.50E-04
-5.42E+11	-3.60E-04	-5.31E+06	-7.71E-02	-5.16E+11	-3.60E-04
-5.57E+11	-3.70E-04	-5.45E+06	-7.92E-02	-5.30E+11	-3.70E-04
-5.72E+11	-3.80E-04	-5.60E+06	-8.14E-02	-5.44E+11	-3.80E-04
-5.87E+11	-3.90E-04	-5.75E+06	-8.35E-02	-5.59E+11	-3.90E-04
-6.02E+11	-4.00E-04	-5.90E+06	-8.57E-02	-5.73E+11	-4.00E-04
-6.17E+11	-4.10E-04	-6.04E+06	-8.78E-02	-5.87E+11	-4.10E-04
-6.32E+11	-4.20E-04	-6.19E+06	-8.99E-02	-6.01E+11	-4.20E-04
-6.47E+11	-4.30E-04	-6.34E+06	-9.21E-02	-6.16E+11	-4.30E-04
-6.62E+11	-4.40E-04	-6.49E+06	-9.42E-02	-6.30E+11	-4.40E-04
-6.77E+11	-4.50E-04	-6.63E+06	-9.64E-02	-6.44E+11	-4.50E-04
-6.92E+11	-4.60E-04	-6.78E+06	-9.85E-02	-6.59E+11	-4.60E-04

-7.07E+11	-4.70E-04	-6.93E+06	-1.01E-01	-6.73E+11	-4.70E-04
-7.22E+11	-4.80E-04	-7.08E+06	-1.03E-01	-6.87E+11	-4.80E-04
-7.37E+11	-4.90E-04	-7.22E+06	-1.05E-01	-7.02E+11	-4.90E-04
-7.52E+11	-5.00E-04	-7.37E+06	-1.07E-01	-7.16E+11	-5.00E-04
-7.67E+11	-5.10E-04	-7.52E+06	-1.09E-01	-7.30E+11	-5.10E-04
-7.82E+11	-5.20E-04	-7.67E+06	-1.11E-01	-7.45E+11	-5.20E-04
-7.97E+11	-5.30E-04	-7.81E+06	-1.13E-01	-7.59E+11	-5.30E-04
-8.12E+11	-5.40E-04	-7.96E+06	-1.16E-01	-7.73E+11	-5.40E-04
-8.27E+11	-5.50E-04	-8.11E+06	-1.18E-01	-7.88E+11	-5.50E-04
-8.42E+11	-5.60E-04	-8.25E+06	-1.20E-01	-8.02E+11	-5.60E-04
-8.57E+11	-5.70E-04	-8.40E+06	-1.22E-01	-8.16E+11	-5.70E-04
-8.70E+11	-5.78E-04	-8.52E+06	-1.24E-01	-8.30E+11	-5.80E-04
-8.84E+11	-5.88E-04	-8.66E+06	-1.26E-01	-8.45E+11	-5.90E-04
-8.95E+11	-5.96E-04	-8.77E+06	-1.28E-01	-8.57E+11	-5.99E-04
-9.03E+11	-6.03E-04	-8.85E+06	-1.29E-01	-8.70E+11	-6.09E-04
-9.09E+11	-6.09E-04	-8.91E+06	-1.30E-01	-8.82E+11	-6.17E-04
-9.15E+11	-6.16E-04	-8.97E+06	-1.32E-01	-8.89E+11	-6.24E-04
-9.20E+11	-6.22E-04	-9.01E+06	-1.33E-01	-8.95E+11	-6.30E-04
-9.23E+11	-6.28E-04	-9.04E+06	-1.34E-01	-9.00E+11	-6.35E-04
-9.24E+11	-6.33E-04	-9.05E+06	-1.36E-01	-9.05E+11	-6.42E-04
-9.25E+11	-6.43E-04	-9.07E+06	-1.38E-01	-9.08E+11	-6.47E-04
-9.27E+11	-6.50E-04	-9.08E+06	-1.39E-01	-9.10E+11	-6.52E-04
-9.28E+11	-6.57E-04	-9.09E+06	-1.41E-01	-9.12E+11	-6.58E-04
-9.28E+11	-6.63E-04	-9.09E+06	-1.42E-01	-9.13E+11	-6.68E-04
-9.28E+11	-6.68E-04	-9.10E+06	-1.43E-01	-9.14E+11	-6.74E-04
-9.28E+11	-6.72E-04	-9.10E+06	-1.44E-01	-9.15E+11	-6.80E-04
-9.28E+11	-6.77E-04	-9.09E+06	-1.45E-01	-9.16E+11	-6.87E-04
-9.27E+11	-6.83E-04	-9.09E+06	-1.46E-01	-9.16E+11	-6.92E-04
-9.27E+11	-6.87E-04	-9.08E+06	-1.47E-01	-9.16E+11	-6.97E-04
-9.24E+11	-6.97E-04	-9.05E+06	-1.49E-01	-9.16E+11	-7.02E-04
-9.18E+11	-7.07E-04	-9.00E+06	-1.51E-01	-9.15E+11	-7.07E-04
-9.10E+11	-7.17E-04	-8.92E+06	-1.54E-01	-9.14E+11	-7.13E-04
-9.08E+11	-7.18E-04	-8.90E+06	-1.54E-01	-9.11E+11	-7.23E-04
-8.95E+11	-7.28E-04	-8.77E+06	-1.56E-01	-9.05E+11	-7.33E-04
-8.93E+11	-7.30E-04	-8.75E+06	-1.56E-01	-8.96E+11	-7.43E-04
-8.77E+11	-7.40E-04	-8.60E+06	-1.58E-01	-8.94E+11	-7.45E-04
-8.67E+11	-7.47E-04	-8.50E+06	-1.60E-01	-8.79E+11	-7.55E-04
-8.55E+11	-7.57E-04	-8.38E+06	-1.62E-01	-8.76E+11	-7.57E-04
-8.52E+11	-7.60E-04	-8.35E+06	-1.63E-01	-8.61E+11	-7.67E-04
-8.43E+11	-7.70E-04	-8.26E+06	-1.65E-01	-8.52E+11	-7.74E-04
-8.36E+11	-7.80E-04	-8.19E+06	-1.67E-01	-8.42E+11	-7.84E-04
-8.35E+11	-7.81E-04	-8.19E+06	-1.67E-01	-8.37E+11	-7.89E-04
-8.29E+11	-7.91E-04	-8.12E+06	-1.69E-01	-8.29E+11	-7.99E-04
-8.25E+11	-8.00E-04	-8.08E+06	-1.71E-01	-8.23E+11	-8.09E-04
-8.19E+11	-8.10E-04	-8.03E+06	-1.73E-01	-8.22E+11	-8.10E-04

-8.15E+11	-8.20E-04	-7.99E+06	-1.75E-01	-8.16E+11	-8.20E-04
-8.13E+11	-8.24E-04	-7.97E+06	-1.76E-01	-8.12E+11	-8.30E-04
-8.10E+11	-8.31E-04	-7.94E+06	-1.78E-01	-8.11E+11	-8.31E-04
-8.06E+11	-8.41E-04	-7.89E+06	-1.80E-01	-8.07E+11	-8.41E-04
-8.02E+11	-8.51E-04	-7.85E+06	-1.82E-01	-8.03E+11	-8.51E-04
-7.98E+11	-8.61E-04	-7.82E+06	-1.84E-01	-8.01E+11	-8.55E-04
-7.96E+11	-8.64E-04	-7.80E+06	-1.85E-01	-7.97E+11	-8.64E-04
-7.93E+11	-8.74E-04	-7.77E+06	-1.87E-01	-7.93E+11	-8.74E-04
-7.93E+11	-8.75E-04	-7.77E+06	-1.87E-01	-7.89E+11	-8.84E-04
-7.89E+11	-8.85E-04	-7.73E+06	-1.89E-01	-7.86E+11	-8.94E-04
-7.85E+11	-8.95E-04	-7.70E+06	-1.92E-01	-7.84E+11	-9.00E-04
-7.82E+11	-9.05E-04	-7.66E+06	-1.94E-01	-7.81E+11	-9.09E-04
-7.78E+11	-9.15E-04	-7.63E+06	-1.96E-01	-7.78E+11	-9.19E-04
-7.76E+11	-9.23E-04	-7.60E+06	-1.98E-01	-7.74E+11	-9.29E-04
-7.74E+11	-9.30E-04	-7.58E+06	-1.99E-01	-7.71E+11	-9.39E-04
-7.71E+11	-9.40E-04	-7.55E+06	-2.01E-01	-7.68E+11	-9.49E-04
-7.67E+11	-9.50E-04	-7.52E+06	-2.03E-01	-7.65E+11	-9.59E-04
-7.64E+11	-9.60E-04	-7.49E+06	-2.06E-01	-7.64E+11	-9.62E-04
-7.61E+11	-9.70E-04	-7.46E+06	-2.08E-01	-7.61E+11	-9.72E-04
-7.58E+11	-9.80E-04	-7.43E+06	-2.10E-01	-7.57E+11	-9.82E-04
-7.55E+11	-9.90E-04	-7.40E+06	-2.12E-01	-7.54E+11	-9.92E-04
-7.55E+11	-9.92E-04	-7.40E+06	-2.12E-01	-7.51E+11	-1.00E-03
-7.52E+11	-1.00E-03	-7.37E+06	-2.14E-01	-7.49E+11	-1.01E-03
-7.50E+11	-1.01E-03	-7.35E+06	-2.16E-01	-7.46E+11	-1.02E-03
-7.46E+11	-1.02E-03	-7.31E+06	-2.18E-01	-7.43E+11	-1.03E-03
-7.44E+11	-1.03E-03	-7.29E+06	-2.21E-01	-7.43E+11	-1.03E-03
-7.41E+11	-1.04E-03	-7.26E+06	-2.23E-01	-7.41E+11	-1.04E-03
-7.38E+11	-1.05E-03	-7.23E+06	-2.25E-01	-7.38E+11	-1.05E-03
-7.35E+11	-1.06E-03	-7.20E+06	-2.27E-01	-7.35E+11	-1.06E-03
-7.33E+11	-1.07E-03	-7.18E+06	-2.29E-01	-7.33E+11	-1.07E-03
-7.32E+11	-1.07E-03	-7.17E+06	-2.30E-01	-7.30E+11	-1.08E-03
-7.30E+11	-1.08E-03	-7.15E+06	-2.31E-01	-7.27E+11	-1.09E-03
-7.27E+11	-1.09E-03	-7.12E+06	-2.33E-01	-7.25E+11	-1.10E-03
-7.24E+11	-1.10E-03	-7.10E+06	-2.36E-01	-7.22E+11	-1.11E-03
-7.21E+11	-1.11E-03	-7.07E+06	-2.38E-01	-7.20E+11	-1.12E-03
-7.19E+11	-1.12E-03	-7.04E+06	-2.40E-01	-7.18E+11	-1.13E-03
-7.16E+11	-1.13E-03	-7.02E+06	-2.42E-01	-7.18E+11	-1.13E-03
-7.13E+11	-1.14E-03	-6.99E+06	-2.44E-01	-7.15E+11	-1.14E-03
-7.11E+11	-1.15E-03	-6.97E+06	-2.46E-01	-7.12E+11	-1.15E-03
-7.09E+11	-1.16E-03	-6.95E+06	-2.48E-01	-7.10E+11	-1.16E-03
-7.07E+11	-1.17E-03	-6.93E+06	-2.50E-01	-7.07E+11	-1.17E-03
-7.06E+11	-1.17E-03	-6.91E+06	-2.51E-01	-7.04E+11	-1.18E-03
-7.03E+11	-1.18E-03	-6.89E+06	-2.53E-01	-7.02E+11	-1.19E-03
-7.00E+11	-1.19E-03	-6.86E+06	-2.55E-01	-7.00E+11	-1.20E-03
-6.98E+11	-1.20E-03	-6.84E+06	-2.57E-01	-6.98E+11	-1.21E-03

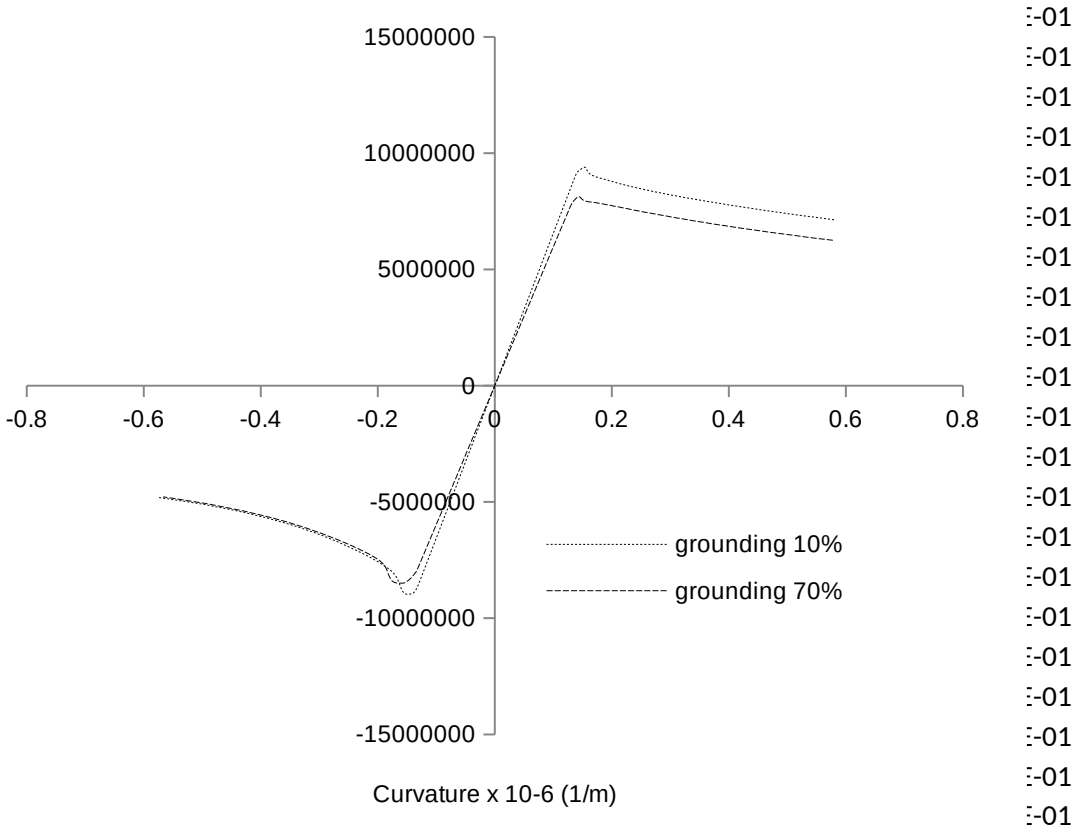
-6.95E+11	-1.21E-03	-6.81E+06	-2.59E-01	-6.96E+11	-1.22E-03
-6.93E+11	-1.22E-03	-6.79E+06	-2.61E-01	-6.93E+11	-1.22E-03
-6.90E+11	-1.23E-03	-6.76E+06	-2.64E-01	-6.91E+11	-1.23E-03
-6.88E+11	-1.24E-03	-6.74E+06	-2.66E-01	-6.88E+11	-1.24E-03
-6.86E+11	-1.25E-03	-6.72E+06	-2.68E-01	-6.86E+11	-1.25E-03
-6.85E+11	-1.25E-03	-6.71E+06	-2.68E-01	-6.83E+11	-1.26E-03
-6.83E+11	-1.26E-03	-6.69E+06	-2.70E-01	-6.81E+11	-1.27E-03
-6.80E+11	-1.27E-03	-6.67E+06	-2.73E-01	-6.79E+11	-1.28E-03
-6.79E+11	-1.28E-03	-6.66E+06	-2.74E-01	-6.77E+11	-1.29E-03
-6.77E+11	-1.29E-03	-6.63E+06	-2.76E-01	-6.74E+11	-1.30E-03
-6.74E+11	-1.30E-03	-6.61E+06	-2.78E-01	-6.74E+11	-1.31E-03
-6.72E+11	-1.31E-03	-6.58E+06	-2.80E-01	-6.72E+11	-1.32E-03
-6.70E+11	-1.32E-03	-6.56E+06	-2.82E-01	-6.69E+11	-1.33E-03
-6.67E+11	-1.33E-03	-6.54E+06	-2.84E-01	-6.67E+11	-1.34E-03
-6.65E+11	-1.34E-03	-6.52E+06	-2.87E-01	-6.65E+11	-1.35E-03
-6.63E+11	-1.35E-03	-6.50E+06	-2.89E-01	-6.63E+11	-1.36E-03
-6.61E+11	-1.36E-03	-6.48E+06	-2.91E-01	-6.60E+11	-1.37E-03
-6.61E+11	-1.36E-03	-6.47E+06	-2.91E-01	-6.58E+11	-1.38E-03
-6.58E+11	-1.37E-03	-6.45E+06	-2.93E-01	-6.56E+11	-1.39E-03
-6.56E+11	-1.38E-03	-6.43E+06	-2.96E-01	-6.54E+11	-1.40E-03
-6.54E+11	-1.39E-03	-6.41E+06	-2.98E-01	-6.52E+11	-1.41E-03
-6.52E+11	-1.40E-03	-6.39E+06	-3.00E-01	-6.50E+11	-1.42E-03
-6.50E+11	-1.41E-03	-6.37E+06	-3.02E-01	-6.49E+11	-1.42E-03
-6.48E+11	-1.42E-03	-6.35E+06	-3.03E-01	-6.47E+11	-1.43E-03
-6.46E+11	-1.43E-03	-6.33E+06	-3.05E-01	-6.45E+11	-1.44E-03
-6.44E+11	-1.44E-03	-6.31E+06	-3.07E-01	-6.43E+11	-1.45E-03
-6.42E+11	-1.45E-03	-6.29E+06	-3.10E-01	-6.41E+11	-1.46E-03
-6.40E+11	-1.46E-03	-6.27E+06	-3.12E-01	-6.39E+11	-1.47E-03
-6.38E+11	-1.47E-03	-6.26E+06	-3.14E-01	-6.37E+11	-1.48E-03
-6.36E+11	-1.48E-03	-6.24E+06	-3.16E-01	-6.37E+11	-1.48E-03
-6.35E+11	-1.49E-03	-6.22E+06	-3.18E-01	-6.35E+11	-1.49E-03
-6.33E+11	-1.50E-03	-6.20E+06	-3.20E-01	-6.33E+11	-1.50E-03
-6.31E+11	-1.51E-03	-6.18E+06	-3.22E-01	-6.31E+11	-1.51E-03
-6.29E+11	-1.52E-03	-6.16E+06	-3.24E-01	-6.29E+11	-1.52E-03
-6.27E+11	-1.53E-03	-6.15E+06	-3.27E-01	-6.27E+11	-1.53E-03
-6.25E+11	-1.54E-03	-6.13E+06	-3.29E-01	-6.25E+11	-1.54E-03
-6.23E+11	-1.55E-03	-6.11E+06	-3.31E-01	-6.24E+11	-1.55E-03
-6.22E+11	-1.56E-03	-6.09E+06	-3.33E-01	-6.22E+11	-1.56E-03
-6.20E+11	-1.57E-03	-6.07E+06	-3.35E-01	-6.20E+11	-1.57E-03
-6.18E+11	-1.58E-03	-6.06E+06	-3.37E-01	-6.18E+11	-1.58E-03
-6.16E+11	-1.59E-03	-6.04E+06	-3.39E-01	-6.17E+11	-1.59E-03
-6.15E+11	-1.60E-03	-6.02E+06	-3.42E-01	-6.15E+11	-1.60E-03
-6.14E+11	-1.60E-03	-6.02E+06	-3.42E-01	-6.13E+11	-1.61E-03
-6.12E+11	-1.61E-03	-6.00E+06	-3.45E-01	-6.11E+11	-1.62E-03
-6.11E+11	-1.62E-03	-5.98E+06	-3.47E-01	-6.10E+11	-1.63E-03

-6.09E+11	-1.63E-03	-5.97E+06	-3.49E-01	-6.08E+11	-1.64E-03
-6.07E+11	-1.64E-03	-5.95E+06	-3.51E-01	-6.07E+11	-1.65E-03
-6.06E+11	-1.65E-03	-5.93E+06	-3.53E-01	-6.05E+11	-1.66E-03
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-6.03E+11	-1.67E-03
-6.04E+11	-1.66E-03	-5.92E+06	-3.55E-01	-6.03E+11	-1.68E-03
-6.02E+11	-1.67E-03	-5.90E+06	-3.58E-01	-6.01E+11	-1.69E-03
-6.01E+11	-1.68E-03	-5.88E+06	-3.60E-01	-6.00E+11	-1.70E-03
-5.99E+11	-1.69E-03	-5.87E+06	-3.62E-01	-5.98E+11	-1.71E-03
-5.97E+11	-1.70E-03	-5.85E+06	-3.64E-01	-5.97E+11	-1.72E-03
-5.96E+11	-1.71E-03	-5.84E+06	-3.66E-01	-5.95E+11	-1.73E-03
-5.94E+11	-1.72E-03	-5.82E+06	-3.68E-01	-5.94E+11	-1.74E-03
-5.92E+11	-1.73E-03	-5.80E+06	-3.70E-01	-5.93E+11	-1.74E-03
-5.91E+11	-1.74E-03	-5.79E+06	-3.73E-01	-5.92E+11	-1.75E-03
-5.89E+11	-1.75E-03	-5.78E+06	-3.75E-01	-5.90E+11	-1.76E-03
-5.88E+11	-1.76E-03	-5.76E+06	-3.77E-01	-5.89E+11	-1.77E-03
-5.86E+11	-1.77E-03	-5.75E+06	-3.79E-01	-5.87E+11	-1.78E-03
-5.85E+11	-1.78E-03	-5.73E+06	-3.81E-01	-5.86E+11	-1.79E-03
-5.84E+11	-1.79E-03	-5.72E+06	-3.83E-01	-5.84E+11	-1.80E-03
-5.83E+11	-1.80E-03	-5.71E+06	-3.85E-01	-5.83E+11	-1.81E-03
-5.81E+11	-1.81E-03	-5.70E+06	-3.87E-01	-5.81E+11	-1.82E-03
-5.80E+11	-1.82E-03	-5.68E+06	-3.89E-01	-5.80E+11	-1.83E-03
-5.78E+11	-1.83E-03	-5.67E+06	-3.91E-01	-5.78E+11	-1.84E-03
-5.77E+11	-1.84E-03	-5.65E+06	-3.93E-01	-5.77E+11	-1.85E-03
-5.76E+11	-1.85E-03	-5.64E+06	-3.96E-01	-5.76E+11	-1.86E-03
-5.74E+11	-1.86E-03	-5.63E+06	-3.98E-01	-5.74E+11	-1.87E-03
-5.73E+11	-1.87E-03	-5.62E+06	-3.99E-01	-5.73E+11	-1.88E-03
-5.72E+11	-1.88E-03	-5.60E+06	-4.01E-01	-5.72E+11	-1.88E-03
-5.70E+11	-1.89E-03	-5.59E+06	-4.04E-01	-5.71E+11	-1.89E-03
-5.69E+11	-1.90E-03	-5.57E+06	-4.06E-01	-5.69E+11	-1.90E-03
-5.67E+11	-1.91E-03	-5.56E+06	-4.08E-01	-5.68E+11	-1.91E-03
-5.66E+11	-1.92E-03	-5.55E+06	-4.10E-01	-5.67E+11	-1.92E-03
-5.65E+11	-1.93E-03	-5.53E+06	-4.12E-01	-5.65E+11	-1.93E-03
-5.63E+11	-1.94E-03	-5.52E+06	-4.14E-01	-5.64E+11	-1.94E-03
-5.62E+11	-1.95E-03	-5.51E+06	-4.16E-01	-5.63E+11	-1.95E-03
-5.61E+11	-1.96E-03	-5.49E+06	-4.19E-01	-5.62E+11	-1.96E-03
-5.59E+11	-1.97E-03	-5.48E+06	-4.21E-01	-5.60E+11	-1.97E-03
-5.58E+11	-1.98E-03	-5.47E+06	-4.23E-01	-5.59E+11	-1.98E-03
-5.57E+11	-1.99E-03	-5.46E+06	-4.25E-01	-5.58E+11	-1.99E-03
-5.56E+11	-2.00E-03	-5.45E+06	-4.27E-01	-5.56E+11	-2.00E-03
-5.55E+11	-2.01E-03	-5.43E+06	-4.29E-01	-5.55E+11	-2.01E-03
-5.53E+11	-2.02E-03	-5.42E+06	-4.31E-01	-5.54E+11	-2.02E-03
-5.52E+11	-2.03E-03	-5.41E+06	-4.34E-01	-5.53E+11	-2.03E-03
-5.51E+11	-2.04E-03	-5.40E+06	-4.36E-01	-5.51E+11	-2.04E-03
-5.50E+11	-2.05E-03	-5.39E+06	-4.38E-01	-5.50E+11	-2.05E-03
-5.49E+11	-2.05E-03	-5.38E+06	-4.39E-01	-5.49E+11	-2.06E-03

-5.48E+11	-2.06E-03	-5.37E+06	-4.41E-01	-5.48E+11	-2.07E-03
-5.47E+11	-2.07E-03	-5.36E+06	-4.43E-01	-5.47E+11	-2.08E-03
-5.46E+11	-2.08E-03	-5.35E+06	-4.45E-01	-5.46E+11	-2.09E-03
-5.45E+11	-2.09E-03	-5.34E+06	-4.47E-01	-5.45E+11	-2.10E-03
-5.44E+11	-2.10E-03	-5.33E+06	-4.49E-01	-5.43E+11	-2.11E-03
-5.42E+11	-2.11E-03	-5.31E+06	-4.52E-01	-5.42E+11	-2.12E-03
-5.41E+11	-2.12E-03	-5.30E+06	-4.54E-01	-5.41E+11	-2.13E-03
-5.40E+11	-2.13E-03	-5.30E+06	-4.55E-01	-5.40E+11	-2.14E-03
-5.39E+11	-2.14E-03	-5.28E+06	-4.58E-01	-5.39E+11	-2.15E-03
-5.38E+11	-2.15E-03	-5.27E+06	-4.60E-01	-5.38E+11	-2.16E-03
-5.37E+11	-2.16E-03	-5.26E+06	-4.62E-01	-5.37E+11	-2.17E-03
-5.36E+11	-2.17E-03	-5.25E+06	-4.64E-01	-5.36E+11	-2.18E-03
-5.35E+11	-2.18E-03	-5.24E+06	-4.66E-01	-5.35E+11	-2.19E-03
-5.34E+11	-2.19E-03	-5.23E+06	-4.68E-01	-5.34E+11	-2.20E-03
-5.33E+11	-2.20E-03	-5.22E+06	-4.70E-01	-5.33E+11	-2.21E-03
-5.31E+11	-2.21E-03	-5.21E+06	-4.73E-01	-5.32E+11	-2.22E-03
-5.30E+11	-2.22E-03	-5.20E+06	-4.75E-01	-5.31E+11	-2.23E-03
-5.29E+11	-2.23E-03	-5.19E+06	-4.77E-01	-5.30E+11	-2.24E-03
-5.28E+11	-2.24E-03	-5.18E+06	-4.79E-01	-5.29E+11	-2.25E-03
-5.27E+11	-2.25E-03	-5.16E+06	-4.81E-01	-5.28E+11	-2.26E-03
-5.26E+11	-2.26E-03	-5.15E+06	-4.83E-01	-5.27E+11	-2.27E-03
-5.25E+11	-2.27E-03	-5.15E+06	-4.85E-01	-5.26E+11	-2.28E-03
-5.24E+11	-2.28E-03	-5.14E+06	-4.88E-01	-5.25E+11	-2.29E-03
-5.23E+11	-2.29E-03	-5.13E+06	-4.90E-01	-5.24E+11	-2.30E-03
-5.22E+11	-2.30E-03	-5.12E+06	-4.92E-01	-5.23E+11	-2.31E-03
-5.21E+11	-2.31E-03	-5.11E+06	-4.94E-01	-5.22E+11	-2.32E-03
-5.20E+11	-2.32E-03	-5.10E+06	-4.96E-01	-5.21E+11	-2.33E-03
-5.19E+11	-2.33E-03	-5.09E+06	-4.98E-01	-5.20E+11	-2.34E-03
-5.19E+11	-2.34E-03	-5.08E+06	-5.00E-01	-5.19E+11	-2.35E-03
-5.18E+11	-2.35E-03	-5.07E+06	-5.03E-01	-5.18E+11	-2.36E-03
-5.17E+11	-2.36E-03	-5.06E+06	-5.05E-01	-5.17E+11	-2.37E-03
-5.16E+11	-2.37E-03	-5.06E+06	-5.07E-01	-5.16E+11	-2.38E-03
-5.15E+11	-2.38E-03	-5.05E+06	-5.09E-01	-5.15E+11	-2.39E-03
-5.14E+11	-2.39E-03	-5.04E+06	-5.11E-01	-5.14E+11	-2.40E-03
-5.14E+11	-2.40E-03	-5.03E+06	-5.13E-01	-5.13E+11	-2.41E-03
-5.13E+11	-2.41E-03	-5.02E+06	-5.15E-01	-5.12E+11	-2.42E-03
-5.12E+11	-2.42E-03	-5.01E+06	-5.17E-01	-5.12E+11	-2.43E-03
-5.11E+11	-2.43E-03	-5.00E+06	-5.19E-01	-5.11E+11	-2.44E-03
-5.10E+11	-2.44E-03	-5.00E+06	-5.21E-01	-5.10E+11	-2.45E-03
-5.09E+11	-2.45E-03	-4.99E+06	-5.24E-01	-5.09E+11	-2.46E-03
-5.08E+11	-2.46E-03	-4.98E+06	-5.26E-01	-5.08E+11	-2.47E-03
-5.07E+11	-2.47E-03	-4.97E+06	-5.28E-01	-5.07E+11	-2.48E-03
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-5.07E+11	-2.49E-03
-5.06E+11	-2.48E-03	-4.96E+06	-5.30E-01	-5.06E+11	-2.50E-03
-5.05E+11	-2.49E-03	-4.95E+06	-5.32E-01	-5.05E+11	-2.51E-03

-5.05E+11	-2.50E-03	-4.94E+06	-5.34E-01	-5.04E+11	-2.52E-03
-5.04E+11	-2.51E-03	-4.94E+06	-5.36E-01	-5.03E+11	-2.53E-03
-5.03E+11	-2.51E-03	-4.93E+06	-5.38E-01	-5.03E+11	-2.54E-03
-5.02E+11	-2.52E-03	-4.92E+06	-5.40E-01	-5.02E+11	-2.55E-03
-5.01E+11	-2.53E-03	-4.91E+06	-5.42E-01	-5.01E+11	-2.56E-03
-5.00E+11	-2.54E-03	-4.90E+06	-5.45E-01	-5.00E+11	-2.57E-03
-4.99E+11	-2.55E-03	-4.89E+06	-5.47E-01	-4.99E+11	-2.58E-03
-4.98E+11	-2.56E-03	-4.88E+06	-5.49E-01	-4.99E+11	-2.59E-03
-4.98E+11	-2.57E-03	-4.88E+06	-5.51E-01	-4.98E+11	-2.60E-03
-4.97E+11	-2.58E-03	-4.87E+06	-5.53E-01	-4.98E+11	-2.60E-03
-4.96E+11	-2.59E-03	-4.86E+06	-5.55E-01	-4.97E+11	-2.61E-03
-4.95E+11	-2.60E-03	-4.85E+06	-5.57E-01	-4.96E+11	-2.62E-03
-4.94E+11	-2.61E-03	-4.84E+06	-5.60E-01	-4.95E+11	-2.63E-03
-4.93E+11	-2.62E-03	-4.84E+06	-5.62E-01	-4.95E+11	-2.64E-03
-4.93E+11	-2.63E-03	-4.83E+06	-5.64E-01	-4.94E+11	-2.65E-03
-4.92E+11	-2.64E-03	-4.82E+06	-5.66E-01	-4.93E+11	-2.66E-03
-4.91E+11	-2.65E-03	-4.81E+06	-5.68E-01	-4.92E+11	-2.67E-03
-4.90E+11	-2.66E-03	-4.80E+06	-5.70E-01	-4.91E+11	-2.68E-03
-4.89E+11	-2.67E-03	-4.80E+06	-5.72E-01	-4.90E+11	-2.69E-03

kandas			70% kandas			
9.80E-06	1.00E-06		4670	9.80E-06	1.00E-06	
Momen	**Curvature**		**Momen**	**Rotasi**	**Momen**	**Curvature**
7.14E+06	5.80E-01		6.38E+11	2.70E-03	6.26E+06	5.78E-01
7.29E+06	5.34E-01		6.53E+11	2.48E-03	6.40E+06	5.31E-01
7.30E+06	5.31E-01		6.54E+11	2.47E-03	6.41E+06	5.28E-01
7.30E+06	5.29E-01		6.54E+11	2.46E-03	6.41E+06	5.26E-01
7.31E+06	5.27E-01		6.55E+11	2.45E-03	6.42E+06	5.24E-01
7.32E+06	5.25E-01		6.56E+11	2.44E-03	6.43E+06	5.22E-01
7.32E+06	5.23E-01		6.57E+11	2.43E-03	6.44E+06	5.20E-01
7.33E+06	5.21E-01		6.58E+11	2.42E-03	6.44E+06	5.18E-01
7.33E+06	5.20E-01		6.58E+11	2.41E-03	6.45E+06	5.16E-01
7.34E+06	5.18E-01		6.59E+11	2.40E-03	6.46E+06	5.13E-01
7.35E+06	5.15E-01		6.60E+11	2.39E-03	6.46E+06	5.12E-01
7.36E+06	5.13E-01		6.60E+11	2.38E-03	6.47E+06	5.09E-01
7.36E+06	5.11E-01		6.61E+11	2.37E-03	6.48E+06	5.07E-01
7.37E+06	5.09E-01		6.62E+11	2.36E-03	6.48E+06	5.05E-01
7.38E+06	5.07E-01		6.62E+11	2.35E-03	6.49E+06	5.03E-01
7.39E+06	5.05E-01		6.63E+11	2.34E-03	6.50E+06	5.01E-01
7.39E+06	5.03E-01		6.64E+11	2.33E-03	6.51E+06	4.99E-01
7.40E+06	5.00E-01		6.65E+11	2.32E-03	6.51E+06	4.97E-01
7.41E+06	4.98E-01		6.65E+11	2.31E-03	6.52E+06	4.94E-01



7.42E+06	4.96E-01	6.66E+11	2.30E-03	6.53E+06	4.92E-01
7.42E+06	4.94E-01	6.67E+11	2.29E-03	6.53E+06	4.90E-01
7.43E+06	4.92E-01	6.67E+11	2.29E-03	6.54E+06	4.89E-01
7.44E+06	4.90E-01	6.68E+11	2.28E-03	6.54E+06	4.87E-01
7.45E+06	4.88E-01	6.68E+11	2.27E-03	6.55E+06	4.85E-01
7.46E+06	4.86E-01	6.69E+11	2.26E-03	6.56E+06	4.83E-01
7.46E+06	4.84E-01	6.70E+11	2.25E-03	6.56E+06	4.81E-01
7.47E+06	4.81E-01	6.71E+11	2.24E-03	6.57E+06	4.79E-01
7.48E+06	4.79E-01	6.71E+11	2.23E-03	6.58E+06	4.76E-01
7.49E+06	4.77E-01	6.72E+11	2.22E-03	6.59E+06	4.74E-01
7.49E+06	4.75E-01	6.73E+11	2.21E-03	6.59E+06	4.72E-01
7.50E+06	4.73E-01	6.74E+11	2.20E-03	6.60E+06	4.70E-01
7.51E+06	4.71E-01	6.74E+11	2.19E-03	6.61E+06	4.68E-01
7.51E+06	4.69E-01	6.75E+11	2.18E-03	6.62E+06	4.66E-01
7.52E+06	4.66E-01	6.76E+11	2.17E-03	6.62E+06	4.64E-01
7.53E+06	4.64E-01	6.77E+11	2.16E-03	6.63E+06	4.61E-01
7.54E+06	4.62E-01	6.77E+11	2.15E-03	6.64E+06	4.59E-01
7.54E+06	4.60E-01	6.78E+11	2.14E-03	6.65E+06	4.57E-01
7.55E+06	4.58E-01	6.79E+11	2.13E-03	6.65E+06	4.55E-01
7.56E+06	4.56E-01	6.80E+11	2.12E-03	6.66E+06	4.53E-01
7.56E+06	4.55E-01	6.81E+11	2.11E-03	6.67E+06	4.51E-01
7.57E+06	4.53E-01	6.81E+11	2.10E-03	6.68E+06	4.49E-01
7.58E+06	4.51E-01	6.82E+11	2.09E-03	6.68E+06	4.47E-01
7.59E+06	4.49E-01	6.83E+11	2.08E-03	6.69E+06	4.45E-01
7.59E+06	4.47E-01	6.84E+11	2.07E-03	6.70E+06	4.43E-01
7.60E+06	4.45E-01	6.84E+11	2.06E-03	6.71E+06	4.40E-01
7.61E+06	4.43E-01	6.85E+11	2.05E-03	6.71E+06	4.38E-01
7.62E+06	4.40E-01	6.86E+11	2.04E-03	6.72E+06	4.36E-01
7.63E+06	4.38E-01	6.87E+11	2.03E-03	6.73E+06	4.34E-01
7.64E+06	4.36E-01	6.87E+11	2.02E-03	6.74E+06	4.32E-01
7.64E+06	4.34E-01	6.88E+11	2.01E-03	6.74E+06	4.30E-01
7.65E+06	4.32E-01	6.89E+11	2.00E-03	6.75E+06	4.28E-01
7.66E+06	4.30E-01	6.90E+11	1.99E-03	6.76E+06	4.25E-01
7.67E+06	4.28E-01	6.90E+11	1.98E-03	6.76E+06	4.23E-01
7.67E+06	4.26E-01	6.91E+11	1.97E-03	6.77E+06	4.21E-01
7.68E+06	4.24E-01	6.92E+11	1.96E-03	6.78E+06	4.19E-01
7.69E+06	4.22E-01	6.92E+11	1.95E-03	6.78E+06	4.18E-01
7.70E+06	4.20E-01	6.93E+11	1.94E-03	6.79E+06	4.16E-01
7.71E+06	4.18E-01	6.94E+11	1.93E-03	6.80E+06	4.14E-01
7.71E+06	4.15E-01	6.95E+11	1.92E-03	6.81E+06	4.12E-01
7.72E+06	4.13E-01	6.96E+11	1.91E-03	6.82E+06	4.10E-01
7.73E+06	4.11E-01	6.97E+11	1.90E-03	6.83E+06	4.07E-01
7.74E+06	4.09E-01	6.97E+11	1.89E-03	6.83E+06	4.05E-01
7.75E+06	4.07E-01	6.98E+11	1.88E-03	6.84E+06	4.03E-01
7.76E+06	4.05E-01	6.99E+11	1.87E-03	6.85E+06	4.01E-01

7.76E+06	4.03E-01	7.00E+11	1.86E-03	6.86E+06	3.99E-01
7.77E+06	4.00E-01	7.01E+11	1.85E-03	6.87E+06	3.97E-01
7.78E+06	3.98E-01	7.02E+11	1.84E-03	6.88E+06	3.95E-01
7.79E+06	3.96E-01	7.02E+11	1.83E-03	6.88E+06	3.93E-01
7.80E+06	3.94E-01	7.03E+11	1.82E-03	6.89E+06	3.90E-01
7.81E+06	3.92E-01	7.04E+11	1.81E-03	6.90E+06	3.88E-01
7.82E+06	3.90E-01	7.05E+11	1.80E-03	6.91E+06	3.86E-01
7.83E+06	3.88E-01	7.06E+11	1.79E-03	6.91E+06	3.84E-01
7.84E+06	3.85E-01	7.06E+11	1.78E-03	6.92E+06	3.82E-01
7.84E+06	3.85E-01	7.07E+11	1.77E-03	6.93E+06	3.80E-01
7.85E+06	3.83E-01	7.08E+11	1.76E-03	6.94E+06	3.78E-01
7.85E+06	3.81E-01	7.09E+11	1.75E-03	6.95E+06	3.75E-01
7.86E+06	3.79E-01	7.10E+11	1.74E-03	6.96E+06	3.73E-01
7.87E+06	3.76E-01	7.11E+11	1.73E-03	6.96E+06	3.71E-01
7.88E+06	3.74E-01	7.12E+11	1.72E-03	6.97E+06	3.69E-01
7.89E+06	3.72E-01	7.12E+11	1.72E-03	6.98E+06	3.69E-01
7.90E+06	3.70E-01	7.13E+11	1.71E-03	6.98E+06	3.66E-01
7.91E+06	3.68E-01	7.14E+11	1.70E-03	6.99E+06	3.64E-01
7.92E+06	3.66E-01	7.15E+11	1.69E-03	7.00E+06	3.62E-01
7.93E+06	3.64E-01	7.16E+11	1.68E-03	7.01E+06	3.60E-01
7.93E+06	3.61E-01	7.17E+11	1.67E-03	7.02E+06	3.58E-01
7.94E+06	3.61E-01	7.17E+11	1.66E-03	7.03E+06	3.56E-01
7.94E+06	3.59E-01	7.18E+11	1.65E-03	7.04E+06	3.54E-01
7.95E+06	3.57E-01	7.19E+11	1.64E-03	7.04E+06	3.52E-01
7.96E+06	3.54E-01	7.20E+11	1.63E-03	7.05E+06	3.50E-01
7.97E+06	3.52E-01	7.20E+11	1.62E-03	7.06E+06	3.48E-01
7.98E+06	3.50E-01	7.21E+11	1.61E-03	7.07E+06	3.46E-01
7.99E+06	3.48E-01	7.22E+11	1.60E-03	7.08E+06	3.43E-01
8.00E+06	3.46E-01	7.23E+11	1.59E-03	7.09E+06	3.41E-01
8.01E+06	3.44E-01	7.24E+11	1.58E-03	7.09E+06	3.39E-01
8.02E+06	3.42E-01	7.25E+11	1.57E-03	7.10E+06	3.37E-01
8.03E+06	3.40E-01	7.26E+11	1.56E-03	7.11E+06	3.35E-01
8.04E+06	3.38E-01	7.27E+11	1.55E-03	7.12E+06	3.33E-01
8.04E+06	3.36E-01	7.28E+11	1.54E-03	7.13E+06	3.31E-01
8.05E+06	3.33E-01	7.29E+11	1.53E-03	7.14E+06	3.28E-01
8.06E+06	3.31E-01	7.29E+11	1.53E-03	7.14E+06	3.28E-01
8.07E+06	3.29E-01	7.30E+11	1.52E-03	7.15E+06	3.26E-01
8.08E+06	3.27E-01	7.31E+11	1.51E-03	7.16E+06	3.24E-01
8.09E+06	3.25E-01	7.32E+11	1.50E-03	7.17E+06	3.22E-01
8.10E+06	3.23E-01	7.33E+11	1.49E-03	7.18E+06	3.20E-01
8.11E+06	3.21E-01	7.33E+11	1.49E-03	7.18E+06	3.19E-01
8.12E+06	3.19E-01	7.34E+11	1.48E-03	7.19E+06	3.17E-01
8.13E+06	3.16E-01	7.35E+11	1.47E-03	7.20E+06	3.15E-01
8.14E+06	3.14E-01	7.36E+11	1.46E-03	7.21E+06	3.13E-01
8.15E+06	3.12E-01	7.37E+11	1.45E-03	7.22E+06	3.11E-01

8.16E+06	3.10E-01	7.37E+11	1.44E-03	7.23E+06	3.09E-01
8.16E+06	3.09E-01	7.38E+11	1.43E-03	7.24E+06	3.06E-01
8.17E+06	3.07E-01	7.39E+11	1.42E-03	7.25E+06	3.04E-01
8.18E+06	3.05E-01	7.41E+11	1.41E-03	7.26E+06	3.02E-01
8.19E+06	3.03E-01	7.42E+11	1.40E-03	7.27E+06	3.00E-01
8.20E+06	3.01E-01	7.43E+11	1.39E-03	7.28E+06	2.98E-01
8.21E+06	2.99E-01	7.43E+11	1.38E-03	7.28E+06	2.96E-01
8.22E+06	2.97E-01	7.44E+11	1.37E-03	7.30E+06	2.94E-01
8.23E+06	2.94E-01	7.45E+11	1.36E-03	7.30E+06	2.92E-01
8.24E+06	2.92E-01	7.46E+11	1.35E-03	7.31E+06	2.90E-01
8.26E+06	2.90E-01	7.47E+11	1.35E-03	7.32E+06	2.88E-01
8.26E+06	2.90E-01	7.48E+11	1.34E-03	7.33E+06	2.86E-01
8.27E+06	2.88E-01	7.49E+11	1.33E-03	7.34E+06	2.85E-01
8.28E+06	2.85E-01	7.49E+11	1.32E-03	7.34E+06	2.82E-01
8.29E+06	2.83E-01	7.50E+11	1.31E-03	7.35E+06	2.80E-01
8.30E+06	2.81E-01	7.51E+11	1.30E-03	7.36E+06	2.78E-01
8.31E+06	2.80E-01	7.52E+11	1.29E-03	7.37E+06	2.76E-01
8.32E+06	2.78E-01	7.54E+11	1.28E-03	7.38E+06	2.74E-01
8.33E+06	2.76E-01	7.55E+11	1.27E-03	7.39E+06	2.72E-01
8.34E+06	2.73E-01	7.56E+11	1.26E-03	7.40E+06	2.70E-01
8.35E+06	2.71E-01	7.56E+11	1.26E-03	7.41E+06	2.69E-01
8.36E+06	2.69E-01	7.57E+11	1.25E-03	7.42E+06	2.67E-01
8.37E+06	2.67E-01	7.58E+11	1.24E-03	7.43E+06	2.65E-01
8.38E+06	2.65E-01	7.59E+11	1.23E-03	7.44E+06	2.63E-01
8.39E+06	2.63E-01	7.60E+11	1.22E-03	7.44E+06	2.61E-01
8.41E+06	2.61E-01	7.61E+11	1.21E-03	7.45E+06	2.59E-01
8.42E+06	2.59E-01	7.61E+11	1.20E-03	7.46E+06	2.57E-01
8.43E+06	2.57E-01	7.62E+11	1.19E-03	7.47E+06	2.54E-01
8.43E+06	2.57E-01	7.64E+11	1.18E-03	7.48E+06	2.52E-01
8.44E+06	2.55E-01	7.65E+11	1.17E-03	7.49E+06	2.50E-01
8.45E+06	2.52E-01	7.66E+11	1.16E-03	7.50E+06	2.48E-01
8.46E+06	2.50E-01	7.67E+11	1.15E-03	7.52E+06	2.46E-01
8.48E+06	2.48E-01	7.68E+11	1.14E-03	7.53E+06	2.44E-01
8.49E+06	2.46E-01	7.69E+11	1.13E-03	7.54E+06	2.42E-01
8.50E+06	2.44E-01	7.70E+11	1.12E-03	7.54E+06	2.40E-01
8.51E+06	2.42E-01	7.71E+11	1.11E-03	7.55E+06	2.38E-01
8.52E+06	2.40E-01	7.72E+11	1.10E-03	7.56E+06	2.36E-01
8.54E+06	2.38E-01	7.73E+11	1.09E-03	7.57E+06	2.34E-01
8.55E+06	2.36E-01	7.74E+11	1.08E-03	7.58E+06	2.32E-01
8.56E+06	2.34E-01	7.75E+11	1.07E-03	7.59E+06	2.30E-01
8.57E+06	2.32E-01	7.76E+11	1.06E-03	7.61E+06	2.28E-01
8.58E+06	2.30E-01	7.77E+11	1.05E-03	7.62E+06	2.26E-01
8.60E+06	2.28E-01	7.78E+11	1.04E-03	7.63E+06	2.24E-01
8.61E+06	2.26E-01	7.79E+11	1.04E-03	7.63E+06	2.23E-01
8.62E+06	2.24E-01	7.80E+11	1.03E-03	7.64E+06	2.21E-01

8.64E+06	2.22E-01	7.81E+11	1.02E-03	7.65E+06	2.19E-01
8.65E+06	2.19E-01	7.82E+11	1.01E-03	7.66E+06	2.16E-01
8.66E+06	2.17E-01	7.83E+11	1.00E-03	7.67E+06	2.14E-01
8.67E+06	2.17E-01	7.83E+11	1.00E-03	7.68E+06	2.14E-01
8.68E+06	2.15E-01	7.84E+11	9.90E-04	7.69E+06	2.12E-01
8.70E+06	2.12E-01	7.85E+11	9.80E-04	7.70E+06	2.10E-01
8.71E+06	2.10E-01	7.86E+11	9.70E-04	7.71E+06	2.08E-01
8.73E+06	2.08E-01	7.87E+11	9.60E-04	7.71E+06	2.06E-01
8.74E+06	2.06E-01	7.88E+11	9.50E-04	7.72E+06	2.04E-01
8.76E+06	2.04E-01	7.89E+11	9.40E-04	7.74E+06	2.01E-01
8.78E+06	2.02E-01	7.91E+11	9.30E-04	7.75E+06	1.99E-01
8.78E+06	2.01E-01	7.91E+11	9.26E-04	7.75E+06	1.98E-01
8.79E+06	1.99E-01	7.92E+11	9.16E-04	7.76E+06	1.96E-01
8.80E+06	1.97E-01	7.93E+11	9.06E-04	7.77E+06	1.94E-01
8.82E+06	1.95E-01	7.94E+11	8.99E-04	7.78E+06	1.93E-01
8.84E+06	1.93E-01	7.95E+11	8.89E-04	7.79E+06	1.90E-01
8.84E+06	1.92E-01	7.96E+11	8.79E-04	7.80E+06	1.88E-01
8.86E+06	1.90E-01	7.97E+11	8.69E-04	7.81E+06	1.86E-01
8.88E+06	1.87E-01	7.97E+11	8.68E-04	7.81E+06	1.86E-01
8.88E+06	1.87E-01	7.98E+11	8.58E-04	7.82E+06	1.84E-01
8.90E+06	1.84E-01	7.99E+11	8.48E-04	7.83E+06	1.81E-01
8.91E+06	1.82E-01	8.00E+11	8.45E-04	7.84E+06	1.81E-01
8.92E+06	1.81E-01	8.00E+11	8.35E-04	7.84E+06	1.79E-01
8.93E+06	1.79E-01	8.01E+11	8.25E-04	7.85E+06	1.77E-01
8.95E+06	1.77E-01	8.02E+11	8.15E-04	7.86E+06	1.75E-01
8.97E+06	1.75E-01	8.03E+11	8.09E-04	7.87E+06	1.73E-01
8.97E+06	1.75E-01	8.04E+11	7.99E-04	7.88E+06	1.71E-01
8.98E+06	1.73E-01	8.04E+11	7.96E-04	7.88E+06	1.70E-01
9.01E+06	1.70E-01	8.05E+11	7.86E-04	7.88E+06	1.68E-01
9.01E+06	1.70E-01	8.06E+11	7.76E-04	7.89E+06	1.66E-01
9.03E+06	1.68E-01	8.06E+11	7.74E-04	7.89E+06	1.66E-01
9.05E+06	1.67E-01	8.06E+11	7.64E-04	7.90E+06	1.64E-01
9.07E+06	1.65E-01	8.07E+11	7.54E-04	7.90E+06	1.61E-01
9.10E+06	1.63E-01	8.07E+11	7.45E-04	7.91E+06	1.60E-01
9.14E+06	1.61E-01	8.09E+11	7.35E-04	7.93E+06	1.57E-01
9.18E+06	1.60E-01	8.10E+11	7.25E-04	7.94E+06	1.55E-01
9.21E+06	1.59E-01	8.10E+11	7.24E-04	7.94E+06	1.55E-01
9.32E+06	1.57E-01	8.12E+11	7.14E-04	7.96E+06	1.53E-01
9.37E+06	1.55E-01	8.14E+11	7.07E-04	7.98E+06	1.51E-01
9.39E+06	1.54E-01	8.18E+11	6.97E-04	8.02E+06	1.49E-01
9.40E+06	1.54E-01	8.20E+11	6.93E-04	8.03E+06	1.48E-01
9.38E+06	1.52E-01	8.23E+11	6.88E-04	8.06E+06	1.47E-01
9.36E+06	1.50E-01	8.28E+11	6.79E-04	8.12E+06	1.45E-01
9.32E+06	1.48E-01	8.29E+11	6.78E-04	8.12E+06	1.45E-01
9.32E+06	1.47E-01	8.30E+11	6.68E-04	8.13E+06	1.43E-01

9.28E+06	1.45E-01	8.30E+11	6.66E-04	8.13E+06	1.43E-01
9.24E+06	1.43E-01	8.26E+11	6.56E-04	8.10E+06	1.41E-01
9.21E+06	1.42E-01	8.26E+11	6.55E-04	8.09E+06	1.40E-01
9.17E+06	1.41E-01	8.20E+11	6.45E-04	8.04E+06	1.38E-01
9.12E+06	1.39E-01	8.15E+11	6.36E-04	7.98E+06	1.36E-01
9.02E+06	1.38E-01	8.10E+11	6.28E-04	7.94E+06	1.34E-01
8.98E+06	1.37E-01	8.07E+11	6.22E-04	7.90E+06	1.33E-01
8.84E+06	1.35E-01	8.02E+11	6.16E-04	7.86E+06	1.32E-01
8.70E+06	1.33E-01	8.01E+11	6.15E-04	7.84E+06	1.32E-01
8.56E+06	1.31E-01	7.88E+11	6.05E-04	7.72E+06	1.29E-01
8.42E+06	1.28E-01	7.82E+11	6.00E-04	7.66E+06	1.28E-01
8.28E+06	1.26E-01	7.69E+11	5.90E-04	7.54E+06	1.26E-01
8.14E+06	1.24E-01	7.56E+11	5.80E-04	7.41E+06	1.24E-01
8.00E+06	1.22E-01	7.43E+11	5.70E-04	7.28E+06	1.22E-01
7.86E+06	1.20E-01	7.30E+11	5.60E-04	7.16E+06	1.20E-01
7.72E+06	1.18E-01	7.17E+11	5.50E-04	7.03E+06	1.18E-01
7.58E+06	1.16E-01	7.04E+11	5.40E-04	6.90E+06	1.16E-01
7.44E+06	1.13E-01	6.91E+11	5.30E-04	6.77E+06	1.13E-01
7.30E+06	1.11E-01	6.78E+11	5.20E-04	6.65E+06	1.11E-01
7.16E+06	1.09E-01	6.65E+11	5.10E-04	6.52E+06	1.09E-01
7.02E+06	1.07E-01	6.52E+11	5.00E-04	6.39E+06	1.07E-01
6.88E+06	1.05E-01	6.39E+11	4.90E-04	6.26E+06	1.05E-01
6.74E+06	1.03E-01	6.26E+11	4.80E-04	6.13E+06	1.03E-01
6.60E+06	1.01E-01	6.13E+11	4.70E-04	6.01E+06	1.01E-01
6.46E+06	9.85E-02	6.00E+11	4.60E-04	5.88E+06	9.85E-02
6.32E+06	9.64E-02	5.87E+11	4.50E-04	5.75E+06	9.64E-02
6.18E+06	9.42E-02	5.74E+11	4.40E-04	5.62E+06	9.42E-02
6.04E+06	9.21E-02	5.61E+11	4.30E-04	5.50E+06	9.21E-02
5.89E+06	8.99E-02	5.48E+11	4.20E-04	5.37E+06	8.99E-02
5.75E+06	8.78E-02	5.35E+11	4.10E-04	5.24E+06	8.78E-02
5.61E+06	8.57E-02	5.22E+11	4.00E-04	5.11E+06	8.57E-02
5.47E+06	8.35E-02	5.09E+11	3.90E-04	4.98E+06	8.35E-02
5.33E+06	8.14E-02	4.96E+11	3.80E-04	4.86E+06	8.14E-02
5.19E+06	7.92E-02	4.83E+11	3.70E-04	4.73E+06	7.92E-02
5.05E+06	7.71E-02	4.70E+11	3.60E-04	4.60E+06	7.71E-02
4.91E+06	7.49E-02	4.56E+11	3.50E-04	4.47E+06	7.49E-02
4.77E+06	7.28E-02	4.43E+11	3.40E-04	4.35E+06	7.28E-02
4.63E+06	7.07E-02	4.30E+11	3.30E-04	4.22E+06	7.07E-02
4.49E+06	6.85E-02	4.17E+11	3.20E-04	4.09E+06	6.85E-02
4.35E+06	6.64E-02	4.04E+11	3.10E-04	3.96E+06	6.64E-02
4.21E+06	6.42E-02	3.91E+11	3.00E-04	3.83E+06	6.42E-02
4.07E+06	6.21E-02	3.78E+11	2.90E-04	3.71E+06	6.21E-02
3.93E+06	6.00E-02	3.65E+11	2.80E-04	3.58E+06	6.00E-02
3.79E+06	5.78E-02	3.52E+11	2.70E-04	3.45E+06	5.78E-02
3.65E+06	5.57E-02	3.39E+11	2.60E-04	3.32E+06	5.57E-02

3.51E+06	5.35E-02	3.26E+11	2.50E-04	3.19E+06	5.35E-02
3.37E+06	5.14E-02	3.13E+11	2.40E-04	3.07E+06	5.14E-02
3.23E+06	4.93E-02	3.00E+11	2.30E-04	2.94E+06	4.93E-02
3.09E+06	4.71E-02	2.87E+11	2.20E-04	2.81E+06	4.71E-02
2.95E+06	4.50E-02	2.74E+11	2.10E-04	2.68E+06	4.50E-02
2.81E+06	4.28E-02	2.61E+11	2.00E-04	2.56E+06	4.28E-02
2.67E+06	4.07E-02	2.48E+11	1.90E-04	2.43E+06	4.07E-02
2.53E+06	3.85E-02	2.35E+11	1.80E-04	2.30E+06	3.85E-02
2.39E+06	3.64E-02	2.22E+11	1.70E-04	2.17E+06	3.64E-02
2.25E+06	3.43E-02	2.09E+11	1.60E-04	2.05E+06	3.43E-02
2.11E+06	3.21E-02	1.96E+11	1.50E-04	1.92E+06	3.21E-02
1.96E+06	3.00E-02	1.83E+11	1.40E-04	1.79E+06	3.00E-02
1.82E+06	2.78E-02	1.70E+11	1.30E-04	1.66E+06	2.78E-02
1.68E+06	2.57E-02	1.57E+11	1.20E-04	1.53E+06	2.57E-02
1.54E+06	2.36E-02	1.44E+11	1.10E-04	1.41E+06	2.36E-02
1.40E+06	2.14E-02	1.30E+11	1.00E-04	1.28E+06	2.14E-02
1.26E+06	1.93E-02	1.17E+11	9.00E-05	1.15E+06	1.93E-02
1.12E+06	1.71E-02	1.04E+11	8.00E-05	1.02E+06	1.71E-02
9.83E+05	1.50E-02	9.13E+10	7.00E-05	8.95E+05	1.50E-02
8.42E+05	1.28E-02	7.83E+10	6.00E-05	7.67E+05	1.28E-02
7.02E+05	1.07E-02	6.52E+10	5.00E-05	6.39E+05	1.07E-02
5.61E+05	8.57E-03	5.22E+10	4.00E-05	5.11E+05	8.57E-03
4.21E+05	6.42E-03	3.91E+10	3.00E-05	3.83E+05	6.42E-03
2.81E+05	4.28E-03	2.61E+10	2.00E-05	2.56E+05	4.28E-03
1.40E+05	2.14E-03	1.30E+10	1.00E-05	1.28E+05	2.14E-03
1.26E+05	1.93E-03	1.17E+10	9.00E-06	1.15E+05	1.93E-03
1.12E+05	1.71E-03	1.04E+10	8.00E-06	1.02E+05	1.71E-03
9.83E+04	1.50E-03	9.13E+09	7.00E-06	8.95E+04	1.50E-03
8.42E+04	1.28E-03	7.83E+09	6.00E-06	7.67E+04	1.28E-03
7.02E+04	1.07E-03	6.52E+09	5.00E-06	6.39E+04	1.07E-03
5.62E+04	8.57E-04	5.22E+09	4.00E-06	5.11E+04	8.57E-04
4.21E+04	6.42E-04	3.91E+09	3.00E-06	3.83E+04	6.42E-04
2.81E+04	4.28E-04	2.61E+09	2.00E-06	2.56E+04	4.28E-04
1.40E+04	2.14E-04	1.31E+09	1.00E-06	1.28E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.40E+04	-2.14E-04	-1.31E+09	-1.00E-06	-1.28E+04	-2.14E-04
-2.81E+04	-4.28E-04	-2.61E+09	-2.00E-06	-2.56E+04	-4.28E-04
-4.21E+04	-6.42E-04	-3.91E+09	-3.00E-06	-3.84E+04	-6.42E-04
-5.62E+04	-8.57E-04	-5.22E+09	-4.00E-06	-5.11E+04	-8.57E-04
-7.02E+04	-1.07E-03	-6.52E+09	-5.00E-06	-6.39E+04	-1.07E-03
-8.42E+04	-1.28E-03	-7.83E+09	-6.00E-06	-7.67E+04	-1.28E-03
-9.83E+04	-1.50E-03	-9.13E+09	-7.00E-06	-8.95E+04	-1.50E-03
-1.12E+05	-1.71E-03	-1.04E+10	-8.00E-06	-1.02E+05	-1.71E-03
-1.26E+05	-1.93E-03	-1.17E+10	-9.00E-06	-1.15E+05	-1.93E-03
-1.40E+05	-2.14E-03	-1.30E+10	-1.00E-05	-1.28E+05	-2.14E-03

-2.81E+05	-4.28E-03	-2.61E+10	-2.00E-05	-2.56E+05	-4.28E-03
-4.21E+05	-6.42E-03	-3.91E+10	-3.00E-05	-3.83E+05	-6.42E-03
-5.61E+05	-8.57E-03	-5.22E+10	-4.00E-05	-5.11E+05	-8.57E-03
-7.02E+05	-1.07E-02	-6.52E+10	-5.00E-05	-6.39E+05	-1.07E-02
-8.42E+05	-1.28E-02	-7.83E+10	-6.00E-05	-7.67E+05	-1.28E-02
-9.83E+05	-1.50E-02	-9.13E+10	-7.00E-05	-8.95E+05	-1.50E-02
-1.12E+06	-1.71E-02	-1.04E+11	-8.00E-05	-1.02E+06	-1.71E-02
-1.26E+06	-1.93E-02	-1.17E+11	-9.00E-05	-1.15E+06	-1.93E-02
-1.40E+06	-2.14E-02	-1.30E+11	-1.00E-04	-1.28E+06	-2.14E-02
-1.54E+06	-2.36E-02	-1.44E+11	-1.10E-04	-1.41E+06	-2.36E-02
-1.68E+06	-2.57E-02	-1.57E+11	-1.20E-04	-1.53E+06	-2.57E-02
-1.82E+06	-2.78E-02	-1.70E+11	-1.30E-04	-1.66E+06	-2.78E-02
-1.96E+06	-3.00E-02	-1.83E+11	-1.40E-04	-1.79E+06	-3.00E-02
-2.11E+06	-3.21E-02	-1.96E+11	-1.50E-04	-1.92E+06	-3.21E-02
-2.25E+06	-3.43E-02	-2.09E+11	-1.60E-04	-2.05E+06	-3.43E-02
-2.39E+06	-3.64E-02	-2.22E+11	-1.70E-04	-2.17E+06	-3.64E-02
-2.53E+06	-3.85E-02	-2.35E+11	-1.80E-04	-2.30E+06	-3.85E-02
-2.67E+06	-4.07E-02	-2.48E+11	-1.90E-04	-2.43E+06	-4.07E-02
-2.81E+06	-4.28E-02	-2.61E+11	-2.00E-04	-2.56E+06	-4.28E-02
-2.95E+06	-4.50E-02	-2.74E+11	-2.10E-04	-2.68E+06	-4.50E-02
-3.09E+06	-4.71E-02	-2.87E+11	-2.20E-04	-2.81E+06	-4.71E-02
-3.23E+06	-4.93E-02	-3.00E+11	-2.30E-04	-2.94E+06	-4.93E-02
-3.37E+06	-5.14E-02	-3.13E+11	-2.40E-04	-3.07E+06	-5.14E-02
-3.51E+06	-5.35E-02	-3.26E+11	-2.50E-04	-3.20E+06	-5.35E-02
-3.65E+06	-5.57E-02	-3.39E+11	-2.60E-04	-3.32E+06	-5.57E-02
-3.79E+06	-5.78E-02	-3.52E+11	-2.70E-04	-3.45E+06	-5.78E-02
-3.93E+06	-6.00E-02	-3.65E+11	-2.80E-04	-3.58E+06	-6.00E-02
-4.07E+06	-6.21E-02	-3.78E+11	-2.90E-04	-3.71E+06	-6.21E-02
-4.21E+06	-6.42E-02	-3.91E+11	-3.00E-04	-3.83E+06	-6.42E-02
-4.35E+06	-6.64E-02	-4.04E+11	-3.10E-04	-3.96E+06	-6.64E-02
-4.49E+06	-6.85E-02	-4.17E+11	-3.20E-04	-4.09E+06	-6.85E-02
-4.63E+06	-7.07E-02	-4.30E+11	-3.30E-04	-4.22E+06	-7.07E-02
-4.77E+06	-7.28E-02	-4.43E+11	-3.40E-04	-4.35E+06	-7.28E-02
-4.91E+06	-7.49E-02	-4.57E+11	-3.50E-04	-4.47E+06	-7.49E-02
-5.05E+06	-7.71E-02	-4.70E+11	-3.60E-04	-4.60E+06	-7.71E-02
-5.19E+06	-7.92E-02	-4.83E+11	-3.70E-04	-4.73E+06	-7.92E-02
-5.33E+06	-8.14E-02	-4.96E+11	-3.80E-04	-4.86E+06	-8.14E-02
-5.47E+06	-8.35E-02	-5.09E+11	-3.90E-04	-4.98E+06	-8.35E-02
-5.61E+06	-8.57E-02	-5.22E+11	-4.00E-04	-5.11E+06	-8.57E-02
-5.75E+06	-8.78E-02	-5.35E+11	-4.10E-04	-5.24E+06	-8.78E-02
-5.89E+06	-8.99E-02	-5.48E+11	-4.20E-04	-5.37E+06	-8.99E-02
-6.03E+06	-9.21E-02	-5.61E+11	-4.30E-04	-5.50E+06	-9.21E-02
-6.17E+06	-9.42E-02	-5.74E+11	-4.40E-04	-5.62E+06	-9.42E-02
-6.32E+06	-9.64E-02	-5.87E+11	-4.50E-04	-5.75E+06	-9.64E-02
-6.46E+06	-9.85E-02	-6.00E+11	-4.60E-04	-5.88E+06	-9.85E-02

-6.60E+06	-1.01E-01	-6.13E+11	-4.70E-04	-6.01E+06	-1.01E-01
-6.74E+06	-1.03E-01	-6.26E+11	-4.80E-04	-6.13E+06	-1.03E-01
-6.88E+06	-1.05E-01	-6.39E+11	-4.90E-04	-6.26E+06	-1.05E-01
-7.02E+06	-1.07E-01	-6.52E+11	-5.00E-04	-6.39E+06	-1.07E-01
-7.16E+06	-1.09E-01	-6.65E+11	-5.10E-04	-6.52E+06	-1.09E-01
-7.30E+06	-1.11E-01	-6.78E+11	-5.20E-04	-6.65E+06	-1.11E-01
-7.44E+06	-1.13E-01	-6.91E+11	-5.30E-04	-6.77E+06	-1.13E-01
-7.58E+06	-1.16E-01	-7.04E+11	-5.40E-04	-6.90E+06	-1.16E-01
-7.72E+06	-1.18E-01	-7.17E+11	-5.50E-04	-7.03E+06	-1.18E-01
-7.86E+06	-1.20E-01	-7.30E+11	-5.60E-04	-7.16E+06	-1.20E-01
-8.00E+06	-1.22E-01	-7.43E+11	-5.70E-04	-7.28E+06	-1.22E-01
-8.14E+06	-1.24E-01	-7.56E+11	-5.80E-04	-7.41E+06	-1.24E-01
-8.28E+06	-1.26E-01	-7.69E+11	-5.90E-04	-7.54E+06	-1.26E-01
-8.39E+06	-1.28E-01	-7.82E+11	-6.00E-04	-7.67E+06	-1.28E-01
-8.53E+06	-1.30E-01	-7.95E+11	-6.10E-04	-7.79E+06	-1.31E-01
-8.64E+06	-1.32E-01	-8.04E+11	-6.17E-04	-7.88E+06	-1.32E-01
-8.72E+06	-1.34E-01	-8.15E+11	-6.25E-04	-7.99E+06	-1.34E-01
-8.77E+06	-1.35E-01	-8.19E+11	-6.31E-04	-8.03E+06	-1.35E-01
-8.82E+06	-1.36E-01	-8.25E+11	-6.40E-04	-8.08E+06	-1.37E-01
-8.87E+06	-1.37E-01	-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.90E+06	-1.39E-01	-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.92E+06	-1.40E-01	-8.37E+11	-6.58E-04	-8.21E+06	-1.41E-01
-8.93E+06	-1.41E-01	-8.41E+11	-6.64E-04	-8.24E+06	-1.42E-01
-8.95E+06	-1.43E-01	-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.96E+06	-1.44E-01	-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.97E+06	-1.46E-01	-8.51E+11	-6.83E-04	-8.34E+06	-1.46E-01
-8.97E+06	-1.47E-01	-8.56E+11	-6.92E-04	-8.38E+06	-1.48E-01
-8.97E+06	-1.48E-01	-8.59E+11	-7.02E-04	-8.42E+06	-1.50E-01
-8.98E+06	-1.49E-01	-8.63E+11	-7.12E-04	-8.45E+06	-1.53E-01
-8.97E+06	-1.50E-01	-8.63E+11	-7.13E-04	-8.46E+06	-1.53E-01
-8.97E+06	-1.51E-01	-8.65E+11	-7.20E-04	-8.48E+06	-1.54E-01
-8.96E+06	-1.53E-01	-8.66E+11	-7.27E-04	-8.49E+06	-1.56E-01
-8.92E+06	-1.55E-01	-8.67E+11	-7.33E-04	-8.49E+06	-1.57E-01
-8.87E+06	-1.57E-01	-8.67E+11	-7.43E-04	-8.49E+06	-1.59E-01
-8.78E+06	-1.59E-01	-8.67E+11	-7.53E-04	-8.49E+06	-1.61E-01
-8.76E+06	-1.60E-01	-8.67E+11	-7.61E-04	-8.49E+06	-1.63E-01
-8.62E+06	-1.62E-01	-8.67E+11	-7.68E-04	-8.49E+06	-1.64E-01
-8.59E+06	-1.62E-01	-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.44E+06	-1.64E-01	-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.35E+06	-1.66E-01	-8.66E+11	-7.85E-04	-8.48E+06	-1.68E-01
-8.25E+06	-1.68E-01	-8.65E+11	-7.92E-04	-8.48E+06	-1.69E-01
-8.20E+06	-1.69E-01	-8.64E+11	-7.99E-04	-8.47E+06	-1.71E-01
-8.12E+06	-1.71E-01	-8.62E+11	-8.06E-04	-8.45E+06	-1.73E-01
-8.06E+06	-1.73E-01	-8.60E+11	-8.15E-04	-8.42E+06	-1.74E-01
-8.06E+06	-1.74E-01	-8.56E+11	-8.22E-04	-8.38E+06	-1.76E-01

-8.00E+06	-1.76E-01	-8.48E+11	-8.32E-04	-8.31E+06	-1.78E-01
-7.95E+06	-1.78E-01	-8.37E+11	-8.42E-04	-8.20E+06	-1.80E-01
-7.95E+06	-1.78E-01	-8.31E+11	-8.47E-04	-8.14E+06	-1.81E-01
-7.91E+06	-1.80E-01	-8.16E+11	-8.57E-04	-7.99E+06	-1.84E-01
-7.87E+06	-1.82E-01	-8.11E+11	-8.61E-04	-7.95E+06	-1.84E-01
-7.85E+06	-1.83E-01	-7.98E+11	-8.71E-04	-7.82E+06	-1.86E-01
-7.81E+06	-1.85E-01	-7.93E+11	-8.77E-04	-7.77E+06	-1.88E-01
-7.77E+06	-1.87E-01	-7.85E+11	-8.87E-04	-7.69E+06	-1.90E-01
-7.74E+06	-1.89E-01	-7.79E+11	-8.97E-04	-7.63E+06	-1.92E-01
-7.70E+06	-1.91E-01	-7.78E+11	-8.98E-04	-7.63E+06	-1.92E-01
-7.68E+06	-1.93E-01	-7.73E+11	-9.08E-04	-7.58E+06	-1.94E-01
-7.65E+06	-1.95E-01	-7.69E+11	-9.18E-04	-7.54E+06	-1.97E-01
-7.62E+06	-1.97E-01	-7.68E+11	-9.22E-04	-7.52E+06	-1.97E-01
-7.59E+06	-1.99E-01	-7.63E+11	-9.32E-04	-7.48E+06	-1.99E-01
-7.55E+06	-2.01E-01	-7.60E+11	-9.42E-04	-7.44E+06	-2.02E-01
-7.52E+06	-2.03E-01	-7.57E+11	-9.50E-04	-7.41E+06	-2.03E-01
-7.50E+06	-2.05E-01	-7.53E+11	-9.60E-04	-7.38E+06	-2.06E-01
-7.49E+06	-2.06E-01	-7.50E+11	-9.70E-04	-7.35E+06	-2.08E-01
-7.45E+06	-2.08E-01	-7.48E+11	-9.77E-04	-7.33E+06	-2.09E-01
-7.42E+06	-2.10E-01	-7.45E+11	-9.87E-04	-7.30E+06	-2.11E-01
-7.39E+06	-2.12E-01	-7.42E+11	-9.95E-04	-7.27E+06	-2.13E-01
-7.36E+06	-2.15E-01	-7.39E+11	-1.01E-03	-7.24E+06	-2.15E-01
-7.34E+06	-2.17E-01	-7.36E+11	-1.02E-03	-7.21E+06	-2.17E-01
-7.31E+06	-2.19E-01	-7.33E+11	-1.03E-03	-7.19E+06	-2.19E-01
-7.28E+06	-2.21E-01	-7.33E+11	-1.03E-03	-7.18E+06	-2.20E-01
-7.28E+06	-2.21E-01	-7.30E+11	-1.04E-03	-7.16E+06	-2.22E-01
-7.26E+06	-2.23E-01	-7.28E+11	-1.05E-03	-7.13E+06	-2.24E-01
-7.23E+06	-2.25E-01	-7.25E+11	-1.06E-03	-7.11E+06	-2.26E-01
-7.21E+06	-2.27E-01	-7.22E+11	-1.07E-03	-7.08E+06	-2.28E-01
-7.18E+06	-2.29E-01	-7.20E+11	-1.08E-03	-7.05E+06	-2.30E-01
-7.15E+06	-2.31E-01	-7.17E+11	-1.09E-03	-7.02E+06	-2.33E-01
-7.12E+06	-2.33E-01	-7.14E+11	-1.10E-03	-7.00E+06	-2.35E-01
-7.10E+06	-2.36E-01	-7.12E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.08E+06	-2.38E-01	-7.11E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.06E+06	-2.39E-01	-7.09E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.04E+06	-2.41E-01	-7.08E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.03E+06	-2.42E-01	-7.07E+11	-1.13E-03	-6.92E+06	-2.41E-01
-7.01E+06	-2.44E-01	-7.04E+11	-1.14E-03	-6.90E+06	-2.43E-01
-6.98E+06	-2.46E-01	-7.01E+11	-1.15E-03	-6.87E+06	-2.46E-01
-6.95E+06	-2.48E-01	-6.99E+11	-1.16E-03	-6.85E+06	-2.48E-01
-6.93E+06	-2.50E-01	-6.96E+11	-1.17E-03	-6.82E+06	-2.50E-01
-6.90E+06	-2.52E-01	-6.94E+11	-1.18E-03	-6.80E+06	-2.52E-01
-6.88E+06	-2.54E-01	-6.92E+11	-1.19E-03	-6.78E+06	-2.54E-01
-6.86E+06	-2.57E-01	-6.89E+11	-1.20E-03	-6.76E+06	-2.56E-01
-6.84E+06	-2.58E-01	-6.89E+11	-1.20E-03	-6.75E+06	-2.57E-01

-6.82E+06	-2.60E-01	-6.87E+11	-1.21E-03	-6.73E+06	-2.59E-01
-6.79E+06	-2.62E-01	-6.85E+11	-1.22E-03	-6.72E+06	-2.60E-01
-6.77E+06	-2.64E-01	-6.84E+11	-1.22E-03	-6.70E+06	-2.62E-01
-6.74E+06	-2.66E-01	-6.81E+11	-1.23E-03	-6.67E+06	-2.64E-01
-6.72E+06	-2.69E-01	-6.79E+11	-1.24E-03	-6.65E+06	-2.66E-01
-6.70E+06	-2.71E-01	-6.76E+11	-1.25E-03	-6.63E+06	-2.68E-01
-6.67E+06	-2.73E-01	-6.74E+11	-1.26E-03	-6.61E+06	-2.70E-01
-6.65E+06	-2.75E-01	-6.72E+11	-1.27E-03	-6.58E+06	-2.73E-01
-6.63E+06	-2.77E-01	-6.70E+11	-1.28E-03	-6.56E+06	-2.75E-01
-6.61E+06	-2.79E-01	-6.68E+11	-1.29E-03	-6.54E+06	-2.77E-01
-6.60E+06	-2.80E-01	-6.66E+11	-1.30E-03	-6.52E+06	-2.79E-01
-6.58E+06	-2.82E-01	-6.64E+11	-1.31E-03	-6.50E+06	-2.81E-01
-6.56E+06	-2.84E-01	-6.63E+11	-1.32E-03	-6.50E+06	-2.82E-01
-6.54E+06	-2.86E-01	-6.61E+11	-1.33E-03	-6.48E+06	-2.84E-01
-6.51E+06	-2.88E-01	-6.59E+11	-1.34E-03	-6.46E+06	-2.86E-01
-6.49E+06	-2.90E-01	-6.57E+11	-1.35E-03	-6.43E+06	-2.88E-01
-6.47E+06	-2.93E-01	-6.54E+11	-1.36E-03	-6.41E+06	-2.90E-01
-6.45E+06	-2.95E-01	-6.52E+11	-1.37E-03	-6.39E+06	-2.92E-01
-6.43E+06	-2.97E-01	-6.50E+11	-1.38E-03	-6.37E+06	-2.94E-01
-6.41E+06	-2.99E-01	-6.48E+11	-1.39E-03	-6.35E+06	-2.97E-01
-6.39E+06	-3.01E-01	-6.46E+11	-1.40E-03	-6.33E+06	-2.99E-01
-6.37E+06	-3.03E-01	-6.44E+11	-1.41E-03	-6.31E+06	-3.01E-01
-6.36E+06	-3.04E-01	-6.42E+11	-1.42E-03	-6.29E+06	-3.03E-01
-6.34E+06	-3.06E-01	-6.42E+11	-1.42E-03	-6.29E+06	-3.04E-01
-6.32E+06	-3.08E-01	-6.40E+11	-1.43E-03	-6.27E+06	-3.06E-01
-6.30E+06	-3.10E-01	-6.39E+11	-1.43E-03	-6.26E+06	-3.07E-01
-6.28E+06	-3.13E-01	-6.37E+11	-1.44E-03	-6.24E+06	-3.09E-01
-6.26E+06	-3.15E-01	-6.35E+11	-1.45E-03	-6.22E+06	-3.11E-01
-6.24E+06	-3.17E-01	-6.33E+11	-1.46E-03	-6.21E+06	-3.13E-01
-6.24E+06	-3.18E-01	-6.31E+11	-1.47E-03	-6.19E+06	-3.15E-01
-6.22E+06	-3.20E-01	-6.31E+11	-1.48E-03	-6.18E+06	-3.16E-01
-6.20E+06	-3.22E-01	-6.29E+11	-1.49E-03	-6.16E+06	-3.18E-01
-6.18E+06	-3.24E-01	-6.27E+11	-1.50E-03	-6.14E+06	-3.20E-01
-6.17E+06	-3.26E-01	-6.25E+11	-1.51E-03	-6.12E+06	-3.22E-01
-6.15E+06	-3.28E-01	-6.23E+11	-1.52E-03	-6.11E+06	-3.24E-01
-6.13E+06	-3.30E-01	-6.21E+11	-1.53E-03	-6.09E+06	-3.27E-01
-6.11E+06	-3.33E-01	-6.20E+11	-1.54E-03	-6.07E+06	-3.29E-01
-6.10E+06	-3.34E-01	-6.18E+11	-1.55E-03	-6.05E+06	-3.31E-01
-6.08E+06	-3.37E-01	-6.16E+11	-1.56E-03	-6.04E+06	-3.33E-01
-6.06E+06	-3.39E-01	-6.15E+11	-1.57E-03	-6.02E+06	-3.35E-01
-6.04E+06	-3.41E-01	-6.14E+11	-1.57E-03	-6.02E+06	-3.36E-01
-6.03E+06	-3.43E-01	-6.12E+11	-1.58E-03	-6.00E+06	-3.38E-01
-6.01E+06	-3.45E-01	-6.10E+11	-1.59E-03	-5.98E+06	-3.40E-01
-5.99E+06	-3.47E-01	-6.09E+11	-1.60E-03	-5.96E+06	-3.42E-01
-5.98E+06	-3.49E-01	-6.07E+11	-1.61E-03	-5.95E+06	-3.45E-01

-5.96E+06	-3.52E-01	-6.05E+11	-1.62E-03	-5.93E+06	-3.47E-01
-5.94E+06	-3.54E-01	-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-5.93E+06	-3.56E-01	-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-5.91E+06	-3.58E-01	-6.02E+11	-1.64E-03	-5.90E+06	-3.51E-01
-5.91E+06	-3.59E-01	-6.00E+11	-1.65E-03	-5.88E+06	-3.53E-01
-5.89E+06	-3.61E-01	-5.98E+11	-1.66E-03	-5.86E+06	-3.55E-01
-5.88E+06	-3.63E-01	-5.97E+11	-1.67E-03	-5.85E+06	-3.57E-01
-5.86E+06	-3.65E-01	-5.95E+11	-1.68E-03	-5.83E+06	-3.60E-01
-5.85E+06	-3.67E-01	-5.94E+11	-1.69E-03	-5.82E+06	-3.62E-01
-5.83E+06	-3.69E-01	-5.92E+11	-1.70E-03	-5.80E+06	-3.64E-01
-5.82E+06	-3.72E-01	-5.91E+11	-1.71E-03	-5.79E+06	-3.66E-01
-5.81E+06	-3.72E-01	-5.89E+11	-1.72E-03	-5.77E+06	-3.68E-01
-5.80E+06	-3.74E-01	-5.88E+11	-1.73E-03	-5.77E+06	-3.69E-01
-5.78E+06	-3.76E-01	-5.87E+11	-1.74E-03	-5.75E+06	-3.72E-01
-5.77E+06	-3.78E-01	-5.85E+11	-1.75E-03	-5.74E+06	-3.74E-01
-5.75E+06	-3.81E-01	-5.84E+11	-1.76E-03	-5.72E+06	-3.76E-01
-5.74E+06	-3.83E-01	-5.82E+11	-1.77E-03	-5.71E+06	-3.78E-01
-5.72E+06	-3.85E-01	-5.81E+11	-1.78E-03	-5.69E+06	-3.80E-01
-5.71E+06	-3.87E-01	-5.79E+11	-1.79E-03	-5.68E+06	-3.82E-01
-5.69E+06	-3.89E-01	-5.78E+11	-1.80E-03	-5.66E+06	-3.84E-01
-5.68E+06	-3.91E-01	-5.76E+11	-1.81E-03	-5.65E+06	-3.87E-01
-5.67E+06	-3.93E-01	-5.75E+11	-1.82E-03	-5.64E+06	-3.89E-01
-5.65E+06	-3.96E-01	-5.74E+11	-1.83E-03	-5.62E+06	-3.91E-01
-5.64E+06	-3.98E-01	-5.73E+11	-1.83E-03	-5.61E+06	-3.93E-01
-5.63E+06	-4.00E-01	-5.71E+11	-1.84E-03	-5.60E+06	-3.95E-01
-5.62E+06	-4.02E-01	-5.70E+11	-1.85E-03	-5.59E+06	-3.97E-01
-5.61E+06	-4.03E-01	-5.69E+11	-1.86E-03	-5.57E+06	-3.99E-01
-5.59E+06	-4.06E-01	-5.67E+11	-1.87E-03	-5.56E+06	-4.01E-01
-5.58E+06	-4.08E-01	-5.66E+11	-1.88E-03	-5.55E+06	-4.03E-01
-5.57E+06	-4.10E-01	-5.65E+11	-1.89E-03	-5.53E+06	-4.05E-01
-5.55E+06	-4.12E-01	-5.63E+11	-1.90E-03	-5.52E+06	-4.07E-01
-5.54E+06	-4.14E-01	-5.62E+11	-1.91E-03	-5.51E+06	-4.10E-01
-5.53E+06	-4.16E-01	-5.61E+11	-1.92E-03	-5.50E+06	-4.12E-01
-5.52E+06	-4.18E-01	-5.61E+11	-1.93E-03	-5.49E+06	-4.12E-01
-5.50E+06	-4.20E-01	-5.59E+11	-1.94E-03	-5.48E+06	-4.14E-01
-5.49E+06	-4.22E-01	-5.58E+11	-1.95E-03	-5.47E+06	-4.16E-01
-5.48E+06	-4.25E-01	-5.57E+11	-1.96E-03	-5.45E+06	-4.19E-01
-5.47E+06	-4.27E-01	-5.55E+11	-1.97E-03	-5.44E+06	-4.21E-01
-5.45E+06	-4.29E-01	-5.54E+11	-1.98E-03	-5.43E+06	-4.23E-01
-5.44E+06	-4.31E-01	-5.53E+11	-1.99E-03	-5.42E+06	-4.25E-01
-5.43E+06	-4.33E-01	-5.51E+11	-2.00E-03	-5.40E+06	-4.27E-01
-5.42E+06	-4.35E-01	-5.50E+11	-2.01E-03	-5.39E+06	-4.29E-01
-5.40E+06	-4.37E-01	-5.49E+11	-2.02E-03	-5.38E+06	-4.31E-01
-5.39E+06	-4.40E-01	-5.48E+11	-2.03E-03	-5.37E+06	-4.34E-01
-5.38E+06	-4.42E-01	-5.47E+11	-2.04E-03	-5.36E+06	-4.36E-01

-5.37E+06	-4.44E-01	-5.46E+11	-2.05E-03	-5.35E+06	-4.38E-01
-5.36E+06	-4.46E-01	-5.44E+11	-2.06E-03	-5.34E+06	-4.40E-01
-5.35E+06	-4.48E-01	-5.43E+11	-2.07E-03	-5.32E+06	-4.42E-01
-5.34E+06	-4.50E-01	-5.42E+11	-2.08E-03	-5.31E+06	-4.44E-01
-5.33E+06	-4.52E-01	-5.41E+11	-2.09E-03	-5.30E+06	-4.46E-01
-5.32E+06	-4.55E-01	-5.40E+11	-2.10E-03	-5.29E+06	-4.49E-01
-5.30E+06	-4.57E-01	-5.39E+11	-2.11E-03	-5.28E+06	-4.51E-01
-5.29E+06	-4.59E-01	-5.38E+11	-2.12E-03	-5.27E+06	-4.53E-01
-5.29E+06	-4.61E-01	-5.37E+11	-2.13E-03	-5.26E+06	-4.55E-01
-5.28E+06	-4.63E-01	-5.36E+11	-2.14E-03	-5.25E+06	-4.57E-01
-5.26E+06	-4.65E-01	-5.35E+11	-2.15E-03	-5.24E+06	-4.59E-01
-5.25E+06	-4.67E-01	-5.34E+11	-2.16E-03	-5.23E+06	-4.61E-01
-5.24E+06	-4.70E-01	-5.32E+11	-2.17E-03	-5.22E+06	-4.64E-01
-5.23E+06	-4.72E-01	-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.22E+06	-4.74E-01	-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
-5.21E+06	-4.76E-01	-5.30E+11	-2.19E-03	-5.20E+06	-4.68E-01
-5.20E+06	-4.78E-01	-5.29E+11	-2.20E-03	-5.19E+06	-4.70E-01
-5.19E+06	-4.80E-01	-5.28E+11	-2.21E-03	-5.17E+06	-4.72E-01
-5.18E+06	-4.82E-01	-5.27E+11	-2.22E-03	-5.16E+06	-4.75E-01
-5.17E+06	-4.84E-01	-5.26E+11	-2.23E-03	-5.15E+06	-4.77E-01
-5.16E+06	-4.86E-01	-5.25E+11	-2.24E-03	-5.14E+06	-4.79E-01
-5.15E+06	-4.88E-01	-5.24E+11	-2.25E-03	-5.13E+06	-4.81E-01
-5.14E+06	-4.91E-01	-5.23E+11	-2.26E-03	-5.12E+06	-4.83E-01
-5.13E+06	-4.93E-01	-5.21E+11	-2.27E-03	-5.11E+06	-4.85E-01
-5.12E+06	-4.95E-01	-5.20E+11	-2.28E-03	-5.10E+06	-4.87E-01
-5.11E+06	-4.97E-01	-5.19E+11	-2.29E-03	-5.09E+06	-4.90E-01
-5.10E+06	-4.99E-01	-5.19E+11	-2.30E-03	-5.08E+06	-4.92E-01
-5.09E+06	-5.01E-01	-5.18E+11	-2.31E-03	-5.07E+06	-4.94E-01
-5.08E+06	-5.03E-01	-5.17E+11	-2.32E-03	-5.06E+06	-4.96E-01
-5.07E+06	-5.06E-01	-5.16E+11	-2.33E-03	-5.05E+06	-4.98E-01
-5.06E+06	-5.08E-01	-5.15E+11	-2.34E-03	-5.05E+06	-5.00E-01
-5.06E+06	-5.10E-01	-5.14E+11	-2.35E-03	-5.04E+06	-5.02E-01
-5.05E+06	-5.12E-01	-5.13E+11	-2.36E-03	-5.03E+06	-5.04E-01
-5.04E+06	-5.14E-01	-5.12E+11	-2.37E-03	-5.02E+06	-5.07E-01
-5.03E+06	-5.16E-01	-5.11E+11	-2.38E-03	-5.01E+06	-5.09E-01
-5.02E+06	-5.18E-01	-5.10E+11	-2.39E-03	-5.00E+06	-5.11E-01
-5.01E+06	-5.21E-01	-5.10E+11	-2.40E-03	-4.99E+06	-5.13E-01
-5.00E+06	-5.23E-01	-5.09E+11	-2.41E-03	-4.99E+06	-5.15E-01
-5.00E+06	-5.25E-01	-5.08E+11	-2.42E-03	-4.98E+06	-5.17E-01
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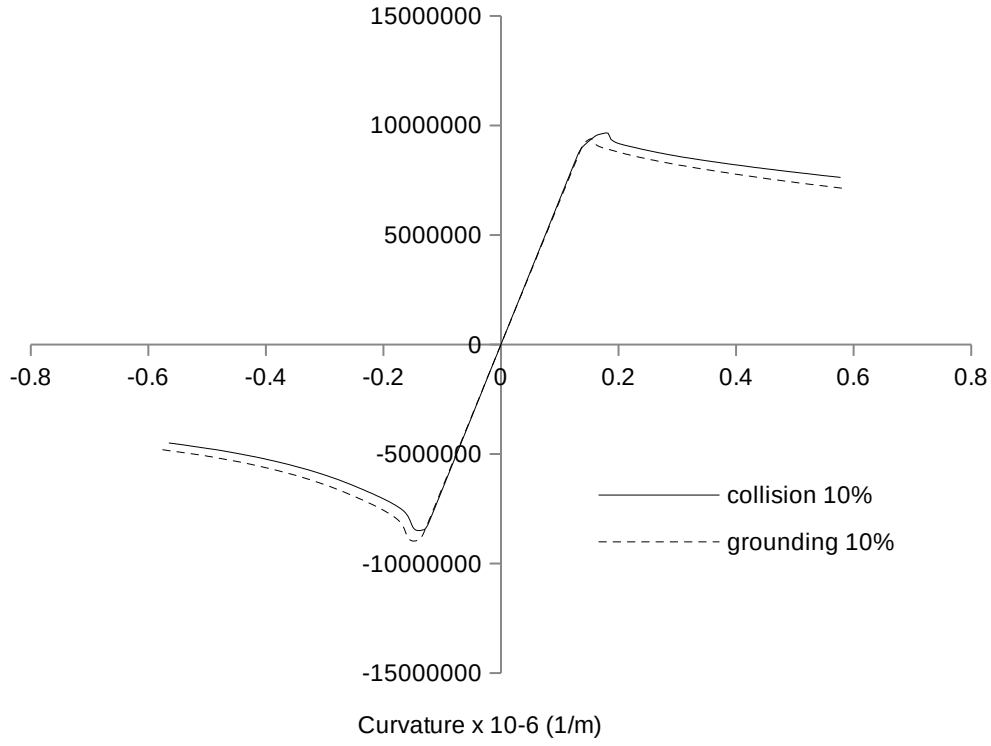
-4.98E+06	-5.29E-01	-5.07E+11	-2.43E-03	-4.97E+06	-5.20E-01
-4.97E+06	-5.31E-01	-5.06E+11	-2.44E-03	-4.96E+06	-5.22E-01
-4.96E+06	-5.33E-01	-5.05E+11	-2.45E-03	-4.95E+06	-5.24E-01
-4.96E+06	-5.36E-01	-5.04E+11	-2.46E-03	-4.94E+06	-5.26E-01
-4.95E+06	-5.37E-01	-5.03E+11	-2.47E-03	-4.93E+06	-5.28E-01

-4.94E+06	-5.39E-01	-5.02E+11	-2.48E-03	-4.92E+06	-5.30E-01
-4.93E+06	-5.42E-01	-5.02E+11	-2.49E-03	-4.92E+06	-5.33E-01
-4.93E+06	-5.44E-01	-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-4.92E+06	-5.46E-01	-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-4.91E+06	-5.48E-01	-5.00E+11	-2.51E-03	-4.90E+06	-5.37E-01
-4.90E+06	-5.50E-01	-4.99E+11	-2.52E-03	-4.89E+06	-5.39E-01
-4.89E+06	-5.52E-01	-4.98E+11	-2.53E-03	-4.88E+06	-5.41E-01
-4.89E+06	-5.54E-01	-4.97E+11	-2.54E-03	-4.87E+06	-5.43E-01
-4.88E+06	-5.57E-01	-4.96E+11	-2.55E-03	-4.86E+06	-5.46E-01
-4.88E+06	-5.57E-01	-4.95E+11	-2.56E-03	-4.85E+06	-5.48E-01
-4.87E+06	-5.59E-01	-4.95E+11	-2.57E-03	-4.85E+06	-5.50E-01
-4.86E+06	-5.61E-01	-4.94E+11	-2.58E-03	-4.84E+06	-5.52E-01
-4.85E+06	-5.63E-01	-4.93E+11	-2.59E-03	-4.83E+06	-5.54E-01
-4.85E+06	-5.65E-01	-4.92E+11	-2.60E-03	-4.82E+06	-5.56E-01
-4.84E+06	-5.67E-01	-4.91E+11	-2.61E-03	-4.81E+06	-5.58E-01
-4.83E+06	-5.70E-01	-4.91E+11	-2.62E-03	-4.81E+06	-5.61E-01
-4.82E+06	-5.72E-01	-4.90E+11	-2.63E-03	-4.80E+06	-5.63E-01
-4.81E+06	-5.74E-01	-4.89E+11	-2.64E-03	-4.79E+06	-5.65E-01
-4.80E+06	-5.76E-01	-4.88E+11	-2.65E-03	-4.78E+06	-5.67E-01

		10% tubrukan				**10%**
	4670	9.80E-06	1.00E-06		4670	
Momen	**Rotasi**	**Momen**	**Curvature**		**Momen**	**Rotasi**
7.79E+11	2.70E-03	7.63E+06	5.78E-01		7.28E+11	2.71E-03



7.92E+11	2.49E-03	7.76E+06	5.34E-01	7.43E+11	2.50E-03
7.93E+11	2.48E-03	7.77E+06	5.32E-01	7.44E+11	2.49E-03
7.93E+11	2.47E-03	7.77E+06	5.30E-01	7.44E+11	2.48E-03
7.94E+11	2.46E-03	7.78E+06	5.28E-01	7.45E+11	2.47E-03
7.95E+11	2.45E-03	7.79E+06	5.25E-01	7.46E+11	2.46E-03
7.95E+11	2.45E-03	7.79E+06	5.25E-01	7.47E+11	2.45E-03
7.95E+11	2.44E-03	7.79E+06	5.23E-01	7.47E+11	2.44E-03
7.96E+11	2.43E-03	7.80E+06	5.21E-01	7.48E+11	2.43E-03
7.97E+11	2.42E-03	7.81E+06	5.19E-01	7.48E+11	2.43E-03
7.97E+11	2.41E-03	7.81E+06	5.17E-01	7.49E+11	2.42E-03
7.98E+11	2.40E-03	7.82E+06	5.15E-01	7.50E+11	2.41E-03
7.99E+11	2.39E-03	7.83E+06	5.13E-01	7.51E+11	2.40E-03
7.99E+11	2.38E-03	7.83E+06	5.10E-01	7.51E+11	2.39E-03
8.00E+11	2.37E-03	7.84E+06	5.08E-01	7.52E+11	2.38E-03
8.01E+11	2.36E-03	7.85E+06	5.06E-01	7.53E+11	2.37E-03
8.01E+11	2.35E-03	7.85E+06	5.04E-01	7.54E+11	2.36E-03
8.02E+11	2.34E-03	7.86E+06	5.02E-01	7.54E+11	2.35E-03
8.03E+11	2.33E-03	7.87E+06	5.00E-01	7.55E+11	2.34E-03
8.03E+11	2.32E-03	7.87E+06	4.98E-01	7.56E+11	2.33E-03

8.04E+11	2.32E-03	7.88E+06	4.96E-01	7.57E+11	2.32E-03
8.05E+11	2.31E-03	7.88E+06	4.94E-01	7.58E+11	2.31E-03
8.05E+11	2.30E-03	7.89E+06	4.91E-01	7.58E+11	2.30E-03
8.06E+11	2.29E-03	7.90E+06	4.89E-01	7.59E+11	2.29E-03
8.06E+11	2.28E-03	7.90E+06	4.87E-01	7.60E+11	2.28E-03
8.07E+11	2.27E-03	7.91E+06	4.85E-01	7.61E+11	2.27E-03
8.08E+11	2.26E-03	7.92E+06	4.83E-01	7.62E+11	2.26E-03
8.09E+11	2.25E-03	7.92E+06	4.81E-01	7.62E+11	2.25E-03
8.09E+11	2.24E-03	7.93E+06	4.79E-01	7.63E+11	2.24E-03
8.10E+11	2.23E-03	7.94E+06	4.76E-01	7.64E+11	2.23E-03
8.11E+11	2.22E-03	7.94E+06	4.74E-01	7.65E+11	2.22E-03
8.12E+11	2.21E-03	7.95E+06	4.72E-01	7.65E+11	2.21E-03
8.12E+11	2.20E-03	7.96E+06	4.70E-01	7.66E+11	2.20E-03
8.13E+11	2.19E-03	7.97E+06	4.68E-01	7.67E+11	2.19E-03
8.14E+11	2.18E-03	7.98E+06	4.66E-01	7.68E+11	2.18E-03
8.15E+11	2.17E-03	7.98E+06	4.64E-01	7.68E+11	2.17E-03
8.15E+11	2.16E-03	7.99E+06	4.63E-01	7.69E+11	2.16E-03
8.16E+11	2.15E-03	7.99E+06	4.61E-01	7.70E+11	2.15E-03
8.16E+11	2.14E-03	8.00E+06	4.58E-01	7.71E+11	2.14E-03
8.17E+11	2.13E-03	8.00E+06	4.56E-01	7.71E+11	2.13E-03
8.18E+11	2.12E-03	8.01E+06	4.54E-01	7.72E+11	2.13E-03
8.18E+11	2.11E-03	8.02E+06	4.52E-01	7.72E+11	2.12E-03
8.19E+11	2.10E-03	8.03E+06	4.50E-01	7.73E+11	2.11E-03
8.20E+11	2.09E-03	8.03E+06	4.48E-01	7.74E+11	2.10E-03
8.20E+11	2.08E-03	8.04E+06	4.46E-01	7.75E+11	2.09E-03
8.21E+11	2.07E-03	8.05E+06	4.43E-01	7.76E+11	2.08E-03
8.22E+11	2.06E-03	8.05E+06	4.41E-01	7.77E+11	2.07E-03
8.23E+11	2.05E-03	8.06E+06	4.39E-01	7.77E+11	2.06E-03
8.23E+11	2.04E-03	8.07E+06	4.37E-01	7.78E+11	2.05E-03
8.24E+11	2.03E-03	8.07E+06	4.36E-01	7.79E+11	2.04E-03
8.25E+11	2.02E-03	8.08E+06	4.33E-01	7.80E+11	2.03E-03
8.25E+11	2.01E-03	8.09E+06	4.31E-01	7.81E+11	2.02E-03
8.26E+11	2.00E-03	8.09E+06	4.29E-01	7.82E+11	2.01E-03
8.27E+11	1.99E-03	8.10E+06	4.27E-01	7.82E+11	2.00E-03
8.28E+11	1.98E-03	8.11E+06	4.25E-01	7.83E+11	1.99E-03
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8.29E+11	1.96E-03	8.13E+06	4.21E-01	7.85E+11	1.97E-03
8.30E+11	1.95E-03	8.13E+06	4.18E-01	7.86E+11	1.96E-03
8.31E+11	1.94E-03	8.14E+06	4.16E-01	7.86E+11	1.95E-03
8.32E+11	1.93E-03	8.15E+06	4.14E-01	7.87E+11	1.94E-03
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8.34E+11	1.91E-03	8.17E+06	4.08E-01	7.90E+11	1.91E-03
8.35E+11	1.90E-03	8.18E+06	4.06E-01	7.91E+11	1.90E-03
8.35E+11	1.89E-03	8.18E+06	4.04E-01	7.91E+11	1.89E-03

8.36E+11	1.88E-03	8.19E+06	4.02E-01	7.92E+11	1.88E-03
8.37E+11	1.87E-03	8.20E+06	4.00E-01	7.93E+11	1.87E-03
8.38E+11	1.86E-03	8.21E+06	3.97E-01	7.94E+11	1.86E-03
8.38E+11	1.85E-03	8.22E+06	3.95E-01	7.95E+11	1.85E-03
8.39E+11	1.84E-03	8.22E+06	3.93E-01	7.96E+11	1.84E-03
8.40E+11	1.83E-03	8.23E+06	3.91E-01	7.97E+11	1.83E-03
8.41E+11	1.82E-03	8.24E+06	3.89E-01	7.98E+11	1.82E-03
8.42E+11	1.81E-03	8.25E+06	3.87E-01	7.99E+11	1.81E-03
8.42E+11	1.80E-03	8.25E+06	3.86E-01	8.00E+11	1.80E-03
8.43E+11	1.79E-03	8.26E+06	3.84E-01	8.00E+11	1.80E-03
8.44E+11	1.78E-03	8.27E+06	3.81E-01	8.01E+11	1.79E-03
8.44E+11	1.77E-03	8.28E+06	3.79E-01	8.02E+11	1.78E-03
8.45E+11	1.76E-03	8.28E+06	3.77E-01	8.02E+11	1.77E-03
8.46E+11	1.75E-03	8.29E+06	3.75E-01	8.03E+11	1.76E-03
8.47E+11	1.74E-03	8.30E+06	3.73E-01	8.04E+11	1.75E-03
8.48E+11	1.73E-03	8.31E+06	3.71E-01	8.05E+11	1.74E-03
8.49E+11	1.72E-03	8.32E+06	3.69E-01	8.06E+11	1.73E-03
8.50E+11	1.71E-03	8.33E+06	3.66E-01	8.07E+11	1.72E-03
8.50E+11	1.71E-03	8.33E+06	3.66E-01	8.08E+11	1.71E-03
8.50E+11	1.70E-03	8.33E+06	3.64E-01	8.09E+11	1.70E-03
8.51E+11	1.69E-03	8.34E+06	3.62E-01	8.10E+11	1.69E-03
8.52E+11	1.68E-03	8.35E+06	3.60E-01	8.10E+11	1.69E-03
8.53E+11	1.67E-03	8.36E+06	3.58E-01	8.11E+11	1.68E-03
8.54E+11	1.66E-03	8.37E+06	3.55E-01	8.12E+11	1.67E-03
8.55E+11	1.65E-03	8.38E+06	3.53E-01	8.13E+11	1.66E-03
8.55E+11	1.64E-03	8.38E+06	3.51E-01	8.14E+11	1.65E-03
8.56E+11	1.63E-03	8.39E+06	3.49E-01	8.15E+11	1.64E-03
8.57E+11	1.62E-03	8.40E+06	3.47E-01	8.16E+11	1.63E-03
8.57E+11	1.62E-03	8.40E+06	3.46E-01	8.17E+11	1.62E-03
8.58E+11	1.61E-03	8.41E+06	3.44E-01	8.17E+11	1.61E-03
8.59E+11	1.60E-03	8.42E+06	3.42E-01	8.18E+11	1.60E-03
8.60E+11	1.59E-03	8.43E+06	3.40E-01	8.19E+11	1.59E-03
8.61E+11	1.58E-03	8.44E+06	3.38E-01	8.20E+11	1.58E-03
8.62E+11	1.57E-03	8.45E+06	3.36E-01	8.21E+11	1.57E-03
8.63E+11	1.56E-03	8.46E+06	3.34E-01	8.22E+11	1.56E-03
8.64E+11	1.55E-03	8.46E+06	3.31E-01	8.23E+11	1.55E-03
8.65E+11	1.54E-03	8.47E+06	3.29E-01	8.24E+11	1.54E-03
8.65E+11	1.53E-03	8.48E+06	3.27E-01	8.25E+11	1.53E-03
8.66E+11	1.52E-03	8.49E+06	3.25E-01	8.26E+11	1.52E-03
8.67E+11	1.51E-03	8.50E+06	3.23E-01	8.27E+11	1.51E-03
8.68E+11	1.50E-03	8.51E+06	3.21E-01	8.28E+11	1.50E-03
8.69E+11	1.49E-03	8.52E+06	3.19E-01	8.29E+11	1.49E-03
8.70E+11	1.48E-03	8.53E+06	3.17E-01	8.30E+11	1.48E-03
8.71E+11	1.47E-03	8.53E+06	3.15E-01	8.31E+11	1.47E-03
8.72E+11	1.46E-03	8.54E+06	3.13E-01	8.32E+11	1.46E-03

8.73E+11	1.45E-03	8.55E+06	3.10E-01	8.33E+11	1.45E-03
8.74E+11	1.44E-03	8.56E+06	3.08E-01	8.33E+11	1.45E-03
8.75E+11	1.43E-03	8.57E+06	3.06E-01	8.34E+11	1.44E-03
8.76E+11	1.42E-03	8.58E+06	3.04E-01	8.35E+11	1.43E-03
8.77E+11	1.41E-03	8.59E+06	3.02E-01	8.36E+11	1.42E-03
8.78E+11	1.40E-03	8.60E+06	3.00E-01	8.37E+11	1.41E-03
8.79E+11	1.39E-03	8.61E+06	2.98E-01	8.38E+11	1.40E-03
8.79E+11	1.39E-03	8.62E+06	2.97E-01	8.39E+11	1.39E-03
8.80E+11	1.38E-03	8.62E+06	2.95E-01	8.40E+11	1.38E-03
8.81E+11	1.37E-03	8.63E+06	2.93E-01	8.41E+11	1.37E-03
8.82E+11	1.36E-03	8.64E+06	2.90E-01	8.42E+11	1.36E-03
8.83E+11	1.35E-03	8.66E+06	2.88E-01	8.43E+11	1.35E-03
8.84E+11	1.34E-03	8.67E+06	2.86E-01	8.44E+11	1.34E-03
8.85E+11	1.33E-03	8.68E+06	2.84E-01	8.45E+11	1.33E-03
8.86E+11	1.32E-03	8.69E+06	2.82E-01	8.46E+11	1.32E-03
8.88E+11	1.31E-03	8.70E+06	2.80E-01	8.47E+11	1.31E-03
8.89E+11	1.30E-03	8.71E+06	2.78E-01	8.48E+11	1.31E-03
8.90E+11	1.29E-03	8.72E+06	2.75E-01	8.49E+11	1.30E-03
8.91E+11	1.28E-03	8.73E+06	2.73E-01	8.50E+11	1.29E-03
8.92E+11	1.27E-03	8.74E+06	2.71E-01	8.51E+11	1.28E-03
8.92E+11	1.27E-03	8.74E+06	2.71E-01	8.52E+11	1.27E-03
8.93E+11	1.26E-03	8.75E+06	2.69E-01	8.53E+11	1.26E-03
8.94E+11	1.25E-03	8.76E+06	2.67E-01	8.54E+11	1.25E-03
8.96E+11	1.24E-03	8.78E+06	2.65E-01	8.56E+11	1.24E-03
8.97E+11	1.23E-03	8.79E+06	2.63E-01	8.57E+11	1.23E-03
8.98E+11	1.22E-03	8.80E+06	2.60E-01	8.58E+11	1.22E-03
8.99E+11	1.21E-03	8.81E+06	2.59E-01	8.59E+11	1.21E-03
9.00E+11	1.20E-03	8.82E+06	2.57E-01	8.60E+11	1.20E-03
9.01E+11	1.19E-03	8.83E+06	2.55E-01	8.60E+11	1.20E-03
9.02E+11	1.18E-03	8.84E+06	2.53E-01	8.61E+11	1.19E-03
9.04E+11	1.17E-03	8.85E+06	2.51E-01	8.62E+11	1.18E-03
9.05E+11	1.16E-03	8.87E+06	2.49E-01	8.64E+11	1.17E-03
9.06E+11	1.15E-03	8.88E+06	2.47E-01	8.65E+11	1.16E-03
9.07E+11	1.14E-03	8.89E+06	2.45E-01	8.66E+11	1.15E-03
9.08E+11	1.13E-03	8.90E+06	2.43E-01	8.67E+11	1.14E-03
9.09E+11	1.12E-03	8.91E+06	2.40E-01	8.69E+11	1.13E-03
9.11E+11	1.11E-03	8.93E+06	2.38E-01	8.70E+11	1.12E-03
9.11E+11	1.11E-03	8.93E+06	2.37E-01	8.71E+11	1.11E-03
9.13E+11	1.10E-03	8.94E+06	2.35E-01	8.72E+11	1.10E-03
9.14E+11	1.09E-03	8.96E+06	2.33E-01	8.73E+11	1.09E-03
9.16E+11	1.08E-03	8.97E+06	2.31E-01	8.74E+11	1.08E-03
9.17E+11	1.07E-03	8.99E+06	2.29E-01	8.76E+11	1.07E-03
9.17E+11	1.07E-03	8.99E+06	2.28E-01	8.77E+11	1.06E-03
9.19E+11	1.06E-03	9.00E+06	2.26E-01	8.79E+11	1.05E-03
9.20E+11	1.05E-03	9.02E+06	2.24E-01	8.80E+11	1.05E-03

9.21E+11	1.04E-03	9.03E+06	2.22E-01	8.81E+11	1.04E-03
9.23E+11	1.03E-03	9.04E+06	2.20E-01	8.83E+11	1.03E-03
9.24E+11	1.02E-03	9.05E+06	2.18E-01	8.84E+11	1.02E-03
9.25E+11	1.01E-03	9.07E+06	2.16E-01	8.85E+11	1.01E-03
9.27E+11	9.97E-04	9.08E+06	2.14E-01	8.86E+11	1.00E-03
9.28E+11	9.87E-04	9.10E+06	2.11E-01	8.87E+11	9.92E-04
9.29E+11	9.82E-04	9.10E+06	2.10E-01	8.89E+11	9.82E-04
9.30E+11	9.72E-04	9.12E+06	2.08E-01	8.91E+11	9.72E-04
9.32E+11	9.62E-04	9.13E+06	2.06E-01	8.92E+11	9.62E-04
9.33E+11	9.56E-04	9.14E+06	2.05E-01	8.94E+11	9.52E-04
9.34E+11	9.46E-04	9.16E+06	2.03E-01	8.96E+11	9.42E-04
9.36E+11	9.39E-04	9.17E+06	2.01E-01	8.96E+11	9.40E-04
9.38E+11	9.29E-04	9.19E+06	1.99E-01	8.97E+11	9.30E-04
9.40E+11	9.19E-04	9.21E+06	1.97E-01	8.98E+11	9.20E-04
9.42E+11	9.09E-04	9.23E+06	1.95E-01	9.00E+11	9.10E-04
9.46E+11	8.99E-04	9.27E+06	1.93E-01	9.02E+11	9.00E-04
9.47E+11	8.95E-04	9.28E+06	1.92E-01	9.03E+11	8.96E-04
9.51E+11	8.85E-04	9.32E+06	1.89E-01	9.04E+11	8.86E-04
9.54E+11	8.78E-04	9.35E+06	1.88E-01	9.06E+11	8.76E-04
9.56E+11	8.74E-04	9.37E+06	1.87E-01	9.07E+11	8.71E-04
9.70E+11	8.64E-04	9.50E+06	1.85E-01	9.08E+11	8.61E-04
9.80E+11	8.55E-04	9.60E+06	1.83E-01	9.10E+11	8.51E-04
9.84E+11	8.51E-04	9.65E+06	1.82E-01	9.11E+11	8.44E-04
9.86E+11	8.41E-04	9.66E+06	1.80E-01	9.12E+11	8.37E-04
9.86E+11	8.40E-04	9.66E+06	1.80E-01	9.13E+11	8.27E-04
9.85E+11	8.30E-04	9.65E+06	1.78E-01	9.15E+11	8.17E-04
9.84E+11	8.20E-04	9.64E+06	1.75E-01	9.15E+11	8.16E-04
9.83E+11	8.10E-04	9.63E+06	1.73E-01	9.17E+11	8.06E-04
9.81E+11	8.00E-04	9.62E+06	1.71E-01	9.19E+11	7.96E-04
9.80E+11	7.91E-04	9.61E+06	1.69E-01	9.20E+11	7.94E-04
9.79E+11	7.81E-04	9.59E+06	1.67E-01	9.22E+11	7.84E-04
9.77E+11	7.72E-04	9.58E+06	1.65E-01	9.23E+11	7.79E-04
9.75E+11	7.62E-04	9.56E+06	1.63E-01	9.26E+11	7.69E-04
9.73E+11	7.56E-04	9.54E+06	1.62E-01	9.28E+11	7.62E-04
9.73E+11	7.55E-04	9.54E+06	1.62E-01	9.33E+11	7.52E-04
9.69E+11	7.45E-04	9.50E+06	1.60E-01	9.37E+11	7.46E-04
9.65E+11	7.35E-04	9.45E+06	1.57E-01	9.40E+11	7.41E-04
9.63E+11	7.32E-04	9.44E+06	1.57E-01	9.51E+11	7.31E-04
9.59E+11	7.22E-04	9.40E+06	1.55E-01	9.57E+11	7.26E-04
9.55E+11	7.13E-04	9.35E+06	1.53E-01	9.58E+11	7.20E-04
9.51E+11	7.06E-04	9.32E+06	1.51E-01	9.59E+11	7.19E-04
9.46E+11	6.96E-04	9.27E+06	1.49E-01	9.58E+11	7.09E-04
9.41E+11	6.86E-04	9.22E+06	1.47E-01	9.55E+11	6.99E-04
9.38E+11	6.80E-04	9.19E+06	1.46E-01	9.51E+11	6.89E-04
9.35E+11	6.74E-04	9.16E+06	1.44E-01	9.51E+11	6.88E-04

9.32E+11	6.68E-04	9.13E+06	1.43E-01	9.47E+11	6.78E-04
9.27E+11	6.59E-04	9.08E+06	1.41E-01	9.43E+11	6.69E-04
9.22E+11	6.51E-04	9.04E+06	1.39E-01	9.40E+11	6.63E-04
9.19E+11	6.46E-04	9.01E+06	1.38E-01	9.36E+11	6.57E-04
9.15E+11	6.40E-04	8.97E+06	1.37E-01	9.30E+11	6.51E-04
9.11E+11	6.35E-04	8.92E+06	1.36E-01	9.20E+11	6.43E-04
9.02E+11	6.26E-04	8.84E+06	1.34E-01	9.16E+11	6.40E-04
8.94E+11	6.19E-04	8.76E+06	1.33E-01	9.02E+11	6.30E-04
8.86E+11	6.12E-04	8.68E+06	1.31E-01	8.88E+11	6.20E-04
8.77E+11	6.06E-04	8.60E+06	1.30E-01	8.74E+11	6.10E-04
8.69E+11	6.00E-04	8.52E+06	1.28E-01	8.59E+11	6.00E-04
8.55E+11	5.90E-04	8.37E+06	1.26E-01	8.45E+11	5.90E-04
8.40E+11	5.80E-04	8.23E+06	1.24E-01	8.31E+11	5.80E-04
8.26E+11	5.70E-04	8.09E+06	1.22E-01	8.16E+11	5.70E-04
8.11E+11	5.60E-04	7.95E+06	1.20E-01	8.02E+11	5.60E-04
7.97E+11	5.50E-04	7.81E+06	1.18E-01	7.88E+11	5.50E-04
7.82E+11	5.40E-04	7.66E+06	1.16E-01	7.73E+11	5.40E-04
7.68E+11	5.30E-04	7.52E+06	1.13E-01	7.59E+11	5.30E-04
7.53E+11	5.20E-04	7.38E+06	1.11E-01	7.45E+11	5.20E-04
7.39E+11	5.10E-04	7.24E+06	1.09E-01	7.30E+11	5.10E-04
7.24E+11	5.00E-04	7.10E+06	1.07E-01	7.16E+11	5.00E-04
7.10E+11	4.90E-04	6.96E+06	1.05E-01	7.02E+11	4.90E-04
6.95E+11	4.80E-04	6.81E+06	1.03E-01	6.88E+11	4.80E-04
6.81E+11	4.70E-04	6.67E+06	1.01E-01	6.73E+11	4.70E-04
6.66E+11	4.60E-04	6.53E+06	9.85E-02	6.59E+11	4.60E-04
6.52E+11	4.50E-04	6.39E+06	9.64E-02	6.45E+11	4.50E-04
6.37E+11	4.40E-04	6.25E+06	9.42E-02	6.30E+11	4.40E-04
6.23E+11	4.30E-04	6.10E+06	9.21E-02	6.16E+11	4.30E-04
6.08E+11	4.20E-04	5.96E+06	8.99E-02	6.02E+11	4.20E-04
5.94E+11	4.10E-04	5.82E+06	8.78E-02	5.87E+11	4.10E-04
5.79E+11	4.00E-04	5.68E+06	8.57E-02	5.73E+11	4.00E-04
5.65E+11	3.90E-04	5.54E+06	8.35E-02	5.59E+11	3.90E-04
5.50E+11	3.80E-04	5.39E+06	8.14E-02	5.44E+11	3.80E-04
5.36E+11	3.70E-04	5.25E+06	7.92E-02	5.30E+11	3.70E-04
5.21E+11	3.60E-04	5.11E+06	7.71E-02	5.16E+11	3.60E-04
5.07E+11	3.50E-04	4.97E+06	7.49E-02	5.01E+11	3.50E-04
4.93E+11	3.40E-04	4.83E+06	7.28E-02	4.87E+11	3.40E-04
4.78E+11	3.30E-04	4.68E+06	7.07E-02	4.73E+11	3.30E-04
4.64E+11	3.20E-04	4.54E+06	6.85E-02	4.58E+11	3.20E-04
4.49E+11	3.10E-04	4.40E+06	6.64E-02	4.44E+11	3.10E-04
4.35E+11	3.00E-04	4.26E+06	6.42E-02	4.30E+11	3.00E-04
4.20E+11	2.90E-04	4.12E+06	6.21E-02	4.15E+11	2.90E-04
4.06E+11	2.80E-04	3.97E+06	6.00E-02	4.01E+11	2.80E-04
3.91E+11	2.70E-04	3.83E+06	5.78E-02	3.87E+11	2.70E-04
3.77E+11	2.60E-04	3.69E+06	5.57E-02	3.72E+11	2.60E-04

3.62E+11	2.50E-04	3.55E+06	5.35E-02	3.58E+11	2.50E-04
3.48E+11	2.40E-04	3.41E+06	5.14E-02	3.44E+11	2.40E-04
3.33E+11	2.30E-04	3.26E+06	4.93E-02	3.29E+11	2.30E-04
3.19E+11	2.20E-04	3.12E+06	4.71E-02	3.15E+11	2.20E-04
3.04E+11	2.10E-04	2.98E+06	4.50E-02	3.01E+11	2.10E-04
2.90E+11	2.00E-04	2.84E+06	4.28E-02	2.87E+11	2.00E-04
2.75E+11	1.90E-04	2.70E+06	4.07E-02	2.72E+11	1.90E-04
2.61E+11	1.80E-04	2.55E+06	3.85E-02	2.58E+11	1.80E-04
2.46E+11	1.70E-04	2.41E+06	3.64E-02	2.44E+11	1.70E-04
2.32E+11	1.60E-04	2.27E+06	3.43E-02	2.29E+11	1.60E-04
2.17E+11	1.50E-04	2.13E+06	3.21E-02	2.15E+11	1.50E-04
2.03E+11	1.40E-04	1.99E+06	3.00E-02	2.01E+11	1.40E-04
1.88E+11	1.30E-04	1.85E+06	2.78E-02	1.86E+11	1.30E-04
1.74E+11	1.20E-04	1.70E+06	2.57E-02	1.72E+11	1.20E-04
1.59E+11	1.10E-04	1.56E+06	2.36E-02	1.58E+11	1.10E-04
1.45E+11	1.00E-04	1.42E+06	2.14E-02	1.43E+11	1.00E-04
1.30E+11	9.00E-05	1.28E+06	1.93E-02	1.29E+11	9.00E-05
1.16E+11	8.00E-05	1.14E+06	1.71E-02	1.15E+11	8.00E-05
1.01E+11	7.00E-05	9.94E+05	1.50E-02	1.00E+11	7.00E-05
8.69E+10	6.00E-05	8.52E+05	1.28E-02	8.59E+10	6.00E-05
7.24E+10	5.00E-05	7.10E+05	1.07E-02	7.16E+10	5.00E-05
5.79E+10	4.00E-05	5.68E+05	8.57E-03	5.73E+10	4.00E-05
4.35E+10	3.00E-05	4.26E+05	6.42E-03	4.30E+10	3.00E-05
2.90E+10	2.00E-05	2.84E+05	4.28E-03	2.87E+10	2.00E-05
1.45E+10	1.00E-05	1.42E+05	2.14E-03	1.43E+10	1.00E-05
1.30E+10	9.00E-06	1.28E+05	1.93E-03	1.29E+10	9.00E-06
1.16E+10	8.00E-06	1.14E+05	1.71E-03	1.15E+10	8.00E-06
1.01E+10	7.00E-06	9.94E+04	1.50E-03	1.00E+10	7.00E-06
8.69E+09	6.00E-06	8.52E+04	1.28E-03	8.60E+09	6.00E-06
7.24E+09	5.00E-06	7.10E+04	1.07E-03	7.16E+09	5.00E-06
5.79E+09	4.00E-06	5.68E+04	8.57E-04	5.73E+09	4.00E-06
4.35E+09	3.00E-06	4.26E+04	6.42E-04	4.30E+09	3.00E-06
2.90E+09	2.00E-06	2.84E+04	4.28E-04	2.87E+09	2.00E-06
1.45E+09	1.00E-06	1.42E+04	2.14E-04	1.43E+09	1.00E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.45E+09	-1.00E-06	-1.42E+04	-2.14E-04	-1.43E+09	-1.00E-06
-2.90E+09	-2.00E-06	-2.84E+04	-4.28E-04	-2.87E+09	-2.00E-06
-4.35E+09	-3.00E-06	-4.26E+04	-6.42E-04	-4.30E+09	-3.00E-06
-5.79E+09	-4.00E-06	-5.68E+04	-8.57E-04	-5.73E+09	-4.00E-06
-7.24E+09	-5.00E-06	-7.10E+04	-1.07E-03	-7.16E+09	-5.00E-06
-8.69E+09	-6.00E-06	-8.52E+04	-1.28E-03	-8.59E+09	-6.00E-06
-1.01E+10	-7.00E-06	-9.94E+04	-1.50E-03	-1.00E+10	-7.00E-06
-1.16E+10	-8.00E-06	-1.14E+05	-1.71E-03	-1.15E+10	-8.00E-06
-1.30E+10	-9.00E-06	-1.28E+05	-1.93E-03	-1.29E+10	-9.00E-06
-1.45E+10	-1.00E-05	-1.42E+05	-2.14E-03	-1.43E+10	-1.00E-05

-2.90E+10	-2.00E-05	-2.84E+05	-4.28E-03	-2.87E+10	-2.00E-05
-4.35E+10	-3.00E-05	-4.26E+05	-6.42E-03	-4.30E+10	-3.00E-05
-5.79E+10	-4.00E-05	-5.68E+05	-8.57E-03	-5.73E+10	-4.00E-05
-7.24E+10	-5.00E-05	-7.10E+05	-1.07E-02	-7.16E+10	-5.00E-05
-8.69E+10	-6.00E-05	-8.52E+05	-1.28E-02	-8.59E+10	-6.00E-05
-1.01E+11	-7.00E-05	-9.94E+05	-1.50E-02	-1.00E+11	-7.00E-05
-1.16E+11	-8.00E-05	-1.14E+06	-1.71E-02	-1.15E+11	-8.00E-05
-1.30E+11	-9.00E-05	-1.28E+06	-1.93E-02	-1.29E+11	-9.00E-05
-1.45E+11	-1.00E-04	-1.42E+06	-2.14E-02	-1.43E+11	-1.00E-04
-1.59E+11	-1.10E-04	-1.56E+06	-2.36E-02	-1.58E+11	-1.10E-04
-1.74E+11	-1.20E-04	-1.70E+06	-2.57E-02	-1.72E+11	-1.20E-04
-1.88E+11	-1.30E-04	-1.85E+06	-2.78E-02	-1.86E+11	-1.30E-04
-2.03E+11	-1.40E-04	-1.99E+06	-3.00E-02	-2.01E+11	-1.40E-04
-2.17E+11	-1.50E-04	-2.13E+06	-3.21E-02	-2.15E+11	-1.50E-04
-2.32E+11	-1.60E-04	-2.27E+06	-3.43E-02	-2.29E+11	-1.60E-04
-2.46E+11	-1.70E-04	-2.41E+06	-3.64E-02	-2.44E+11	-1.70E-04
-2.61E+11	-1.80E-04	-2.55E+06	-3.85E-02	-2.58E+11	-1.80E-04
-2.75E+11	-1.90E-04	-2.70E+06	-4.07E-02	-2.72E+11	-1.90E-04
-2.90E+11	-2.00E-04	-2.84E+06	-4.28E-02	-2.86E+11	-2.00E-04
-3.04E+11	-2.10E-04	-2.98E+06	-4.50E-02	-3.01E+11	-2.10E-04
-3.19E+11	-2.20E-04	-3.12E+06	-4.71E-02	-3.15E+11	-2.20E-04
-3.33E+11	-2.30E-04	-3.26E+06	-4.93E-02	-3.29E+11	-2.30E-04
-3.48E+11	-2.40E-04	-3.41E+06	-5.14E-02	-3.44E+11	-2.40E-04
-3.62E+11	-2.50E-04	-3.55E+06	-5.35E-02	-3.58E+11	-2.50E-04
-3.77E+11	-2.60E-04	-3.69E+06	-5.57E-02	-3.72E+11	-2.60E-04
-3.91E+11	-2.70E-04	-3.83E+06	-5.78E-02	-3.87E+11	-2.70E-04
-4.06E+11	-2.80E-04	-3.97E+06	-6.00E-02	-4.01E+11	-2.80E-04
-4.20E+11	-2.90E-04	-4.12E+06	-6.21E-02	-4.15E+11	-2.90E-04
-4.34E+11	-3.00E-04	-4.26E+06	-6.42E-02	-4.30E+11	-3.00E-04
-4.49E+11	-3.10E-04	-4.40E+06	-6.64E-02	-4.44E+11	-3.10E-04
-4.63E+11	-3.20E-04	-4.54E+06	-6.85E-02	-4.58E+11	-3.20E-04
-4.78E+11	-3.30E-04	-4.68E+06	-7.07E-02	-4.73E+11	-3.30E-04
-4.92E+11	-3.40E-04	-4.82E+06	-7.28E-02	-4.87E+11	-3.40E-04
-5.07E+11	-3.50E-04	-4.97E+06	-7.49E-02	-5.01E+11	-3.50E-04
-5.21E+11	-3.60E-04	-5.11E+06	-7.71E-02	-5.16E+11	-3.60E-04
-5.36E+11	-3.70E-04	-5.25E+06	-7.92E-02	-5.30E+11	-3.70E-04
-5.50E+11	-3.80E-04	-5.39E+06	-8.14E-02	-5.44E+11	-3.80E-04
-5.65E+11	-3.90E-04	-5.53E+06	-8.35E-02	-5.59E+11	-3.90E-04
-5.79E+11	-4.00E-04	-5.68E+06	-8.57E-02	-5.73E+11	-4.00E-04
-5.94E+11	-4.10E-04	-5.82E+06	-8.78E-02	-5.87E+11	-4.10E-04
-6.08E+11	-4.20E-04	-5.96E+06	-8.99E-02	-6.01E+11	-4.20E-04
-6.23E+11	-4.30E-04	-6.10E+06	-9.21E-02	-6.16E+11	-4.30E-04
-6.37E+11	-4.40E-04	-6.24E+06	-9.42E-02	-6.30E+11	-4.40E-04
-6.52E+11	-4.50E-04	-6.39E+06	-9.64E-02	-6.44E+11	-4.50E-04
-6.66E+11	-4.60E-04	-6.53E+06	-9.85E-02	-6.59E+11	-4.60E-04

-6.81E+11	-4.70E-04	-6.67E+06	-1.01E-01	-6.73E+11	-4.70E-04
-6.95E+11	-4.80E-04	-6.81E+06	-1.03E-01	-6.87E+11	-4.80E-04
-7.10E+11	-4.90E-04	-6.95E+06	-1.05E-01	-7.02E+11	-4.90E-04
-7.24E+11	-5.00E-04	-7.09E+06	-1.07E-01	-7.16E+11	-5.00E-04
-7.38E+11	-5.10E-04	-7.24E+06	-1.09E-01	-7.30E+11	-5.10E-04
-7.53E+11	-5.20E-04	-7.38E+06	-1.11E-01	-7.45E+11	-5.20E-04
-7.67E+11	-5.30E-04	-7.52E+06	-1.13E-01	-7.59E+11	-5.30E-04
-7.82E+11	-5.40E-04	-7.66E+06	-1.16E-01	-7.73E+11	-5.40E-04
-7.96E+11	-5.50E-04	-7.80E+06	-1.18E-01	-7.88E+11	-5.50E-04
-8.10E+11	-5.60E-04	-7.94E+06	-1.20E-01	-8.02E+11	-5.60E-04
-8.15E+11	-5.64E-04	-7.99E+06	-1.21E-01	-8.16E+11	-5.70E-04
-8.29E+11	-5.74E-04	-8.13E+06	-1.23E-01	-8.30E+11	-5.80E-04
-8.40E+11	-5.81E-04	-8.23E+06	-1.24E-01	-8.45E+11	-5.90E-04
-8.46E+11	-5.87E-04	-8.29E+06	-1.26E-01	-8.57E+11	-5.99E-04
-8.52E+11	-5.93E-04	-8.35E+06	-1.27E-01	-8.70E+11	-6.09E-04
-8.57E+11	-5.99E-04	-8.39E+06	-1.28E-01	-8.82E+11	-6.17E-04
-8.60E+11	-6.05E-04	-8.43E+06	-1.30E-01	-8.89E+11	-6.24E-04
-8.62E+11	-6.11E-04	-8.45E+06	-1.31E-01	-8.95E+11	-6.30E-04
-8.63E+11	-6.15E-04	-8.46E+06	-1.32E-01	-9.00E+11	-6.35E-04
-8.65E+11	-6.25E-04	-8.47E+06	-1.34E-01	-9.05E+11	-6.42E-04
-8.66E+11	-6.32E-04	-8.48E+06	-1.35E-01	-9.08E+11	-6.47E-04
-8.66E+11	-6.37E-04	-8.49E+06	-1.36E-01	-9.10E+11	-6.52E-04
-8.66E+11	-6.42E-04	-8.49E+06	-1.37E-01	-9.12E+11	-6.58E-04
-8.67E+11	-6.50E-04	-8.50E+06	-1.39E-01	-9.13E+11	-6.68E-04
-8.67E+11	-6.54E-04	-8.50E+06	-1.40E-01	-9.14E+11	-6.74E-04
-8.67E+11	-6.59E-04	-8.50E+06	-1.41E-01	-9.15E+11	-6.80E-04
-8.67E+11	-6.64E-04	-8.49E+06	-1.42E-01	-9.16E+11	-6.87E-04
-8.66E+11	-6.69E-04	-8.49E+06	-1.43E-01	-9.16E+11	-6.92E-04
-8.64E+11	-6.79E-04	-8.47E+06	-1.45E-01	-9.16E+11	-6.97E-04
-8.60E+11	-6.89E-04	-8.43E+06	-1.47E-01	-9.16E+11	-7.02E-04
-8.53E+11	-6.99E-04	-8.35E+06	-1.50E-01	-9.15E+11	-7.07E-04
-8.51E+11	-7.00E-04	-8.34E+06	-1.50E-01	-9.14E+11	-7.13E-04
-8.39E+11	-7.10E-04	-8.22E+06	-1.52E-01	-9.11E+11	-7.23E-04
-8.38E+11	-7.11E-04	-8.21E+06	-1.52E-01	-9.05E+11	-7.33E-04
-8.23E+11	-7.21E-04	-8.07E+06	-1.54E-01	-8.96E+11	-7.43E-04
-8.13E+11	-7.28E-04	-7.97E+06	-1.56E-01	-8.94E+11	-7.45E-04
-8.02E+11	-7.38E-04	-7.85E+06	-1.58E-01	-8.79E+11	-7.55E-04
-7.99E+11	-7.41E-04	-7.83E+06	-1.59E-01	-8.76E+11	-7.57E-04
-7.90E+11	-7.51E-04	-7.74E+06	-1.61E-01	-8.61E+11	-7.67E-04
-7.83E+11	-7.61E-04	-7.68E+06	-1.63E-01	-8.52E+11	-7.74E-04
-7.83E+11	-7.62E-04	-7.67E+06	-1.63E-01	-8.42E+11	-7.84E-04
-7.77E+11	-7.72E-04	-7.61E+06	-1.65E-01	-8.37E+11	-7.89E-04
-7.73E+11	-7.79E-04	-7.58E+06	-1.67E-01	-8.29E+11	-7.99E-04
-7.68E+11	-7.89E-04	-7.53E+06	-1.69E-01	-8.23E+11	-8.09E-04
-7.64E+11	-7.99E-04	-7.49E+06	-1.71E-01	-8.22E+11	-8.10E-04

-7.62E+11	-8.04E-04	-7.47E+06	-1.72E-01	-8.16E+11	-8.20E-04
-7.60E+11	-8.10E-04	-7.45E+06	-1.73E-01	-8.12E+11	-8.30E-04
-7.56E+11	-8.20E-04	-7.41E+06	-1.75E-01	-8.11E+11	-8.31E-04
-7.52E+11	-8.30E-04	-7.37E+06	-1.78E-01	-8.07E+11	-8.41E-04
-7.49E+11	-8.40E-04	-7.34E+06	-1.80E-01	-8.03E+11	-8.51E-04
-7.48E+11	-8.42E-04	-7.33E+06	-1.80E-01	-8.01E+11	-8.55E-04
-7.45E+11	-8.52E-04	-7.30E+06	-1.82E-01	-7.97E+11	-8.64E-04
-7.44E+11	-8.54E-04	-7.29E+06	-1.83E-01	-7.93E+11	-8.74E-04
-7.41E+11	-8.64E-04	-7.26E+06	-1.85E-01	-7.89E+11	-8.84E-04
-7.37E+11	-8.74E-04	-7.22E+06	-1.87E-01	-7.86E+11	-8.94E-04
-7.34E+11	-8.84E-04	-7.19E+06	-1.89E-01	-7.84E+11	-9.00E-04
-7.31E+11	-8.94E-04	-7.16E+06	-1.91E-01	-7.81E+11	-9.09E-04
-7.29E+11	-9.00E-04	-7.15E+06	-1.93E-01	-7.78E+11	-9.19E-04
-7.27E+11	-9.09E-04	-7.12E+06	-1.95E-01	-7.74E+11	-9.29E-04
-7.24E+11	-9.19E-04	-7.09E+06	-1.97E-01	-7.71E+11	-9.39E-04
-7.21E+11	-9.29E-04	-7.06E+06	-1.99E-01	-7.68E+11	-9.49E-04
-7.18E+11	-9.39E-04	-7.03E+06	-2.01E-01	-7.65E+11	-9.59E-04
-7.15E+11	-9.49E-04	-7.01E+06	-2.03E-01	-7.64E+11	-9.62E-04
-7.12E+11	-9.59E-04	-6.98E+06	-2.05E-01	-7.61E+11	-9.72E-04
-7.10E+11	-9.68E-04	-6.96E+06	-2.07E-01	-7.57E+11	-9.82E-04
-7.07E+11	-9.78E-04	-6.93E+06	-2.09E-01	-7.54E+11	-9.92E-04
-7.07E+11	-9.78E-04	-6.93E+06	-2.09E-01	-7.51E+11	-1.00E-03
-7.04E+11	-9.88E-04	-6.90E+06	-2.12E-01	-7.49E+11	-1.01E-03
-7.02E+11	-9.98E-04	-6.88E+06	-2.14E-01	-7.46E+11	-1.02E-03
-6.99E+11	-1.01E-03	-6.85E+06	-2.16E-01	-7.43E+11	-1.03E-03
-6.96E+11	-1.02E-03	-6.82E+06	-2.18E-01	-7.43E+11	-1.03E-03
-6.94E+11	-1.03E-03	-6.80E+06	-2.20E-01	-7.41E+11	-1.04E-03
-6.91E+11	-1.04E-03	-6.77E+06	-2.22E-01	-7.38E+11	-1.05E-03
-6.89E+11	-1.05E-03	-6.75E+06	-2.24E-01	-7.35E+11	-1.06E-03
-6.88E+11	-1.05E-03	-6.74E+06	-2.25E-01	-7.33E+11	-1.07E-03
-6.87E+11	-1.06E-03	-6.73E+06	-2.26E-01	-7.30E+11	-1.08E-03
-6.84E+11	-1.07E-03	-6.71E+06	-2.28E-01	-7.27E+11	-1.09E-03
-6.82E+11	-1.08E-03	-6.68E+06	-2.30E-01	-7.25E+11	-1.10E-03
-6.79E+11	-1.09E-03	-6.65E+06	-2.33E-01	-7.22E+11	-1.11E-03
-6.76E+11	-1.10E-03	-6.63E+06	-2.35E-01	-7.20E+11	-1.12E-03
-6.74E+11	-1.11E-03	-6.60E+06	-2.37E-01	-7.18E+11	-1.13E-03
-6.71E+11	-1.12E-03	-6.58E+06	-2.39E-01	-7.18E+11	-1.13E-03
-6.69E+11	-1.13E-03	-6.56E+06	-2.41E-01	-7.15E+11	-1.14E-03
-6.68E+11	-1.13E-03	-6.54E+06	-2.42E-01	-7.12E+11	-1.15E-03
-6.65E+11	-1.14E-03	-6.52E+06	-2.45E-01	-7.10E+11	-1.16E-03
-6.64E+11	-1.15E-03	-6.51E+06	-2.45E-01	-7.07E+11	-1.17E-03
-6.62E+11	-1.16E-03	-6.48E+06	-2.47E-01	-7.04E+11	-1.18E-03
-6.59E+11	-1.17E-03	-6.46E+06	-2.49E-01	-7.02E+11	-1.19E-03
-6.57E+11	-1.18E-03	-6.44E+06	-2.52E-01	-7.00E+11	-1.20E-03
-6.54E+11	-1.19E-03	-6.41E+06	-2.54E-01	-6.98E+11	-1.21E-03

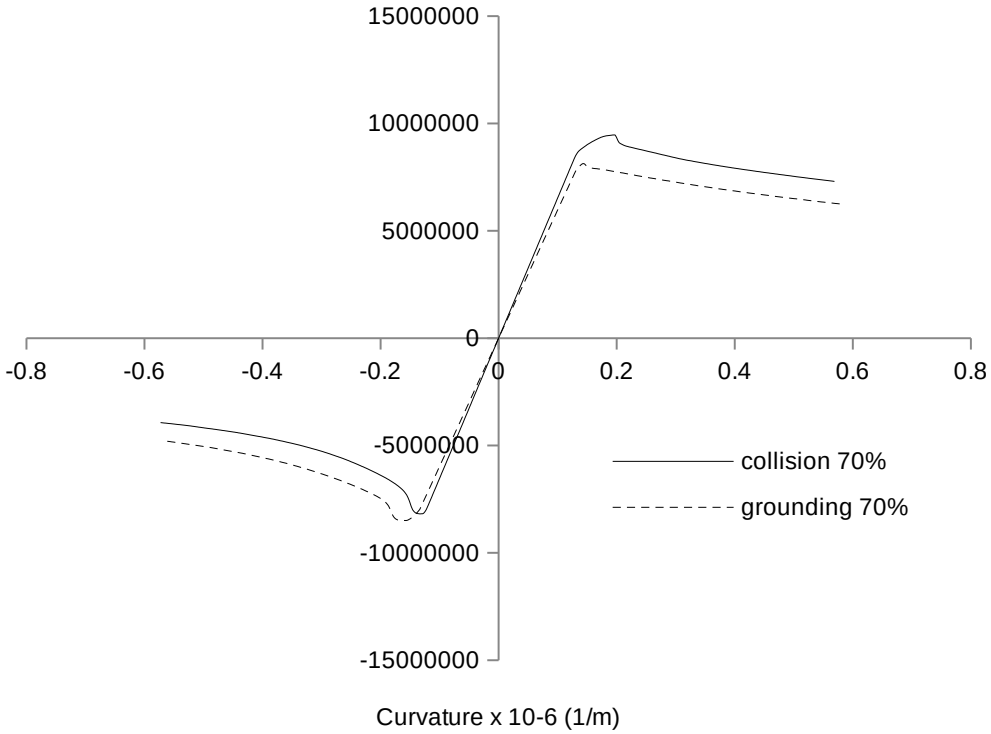
-6.52E+11	-1.20E-03	-6.39E+06	-2.56E-01	-6.96E+11	-1.22E-03
-6.50E+11	-1.21E-03	-6.37E+06	-2.58E-01	-6.93E+11	-1.22E-03
-6.48E+11	-1.22E-03	-6.35E+06	-2.60E-01	-6.91E+11	-1.23E-03
-6.45E+11	-1.23E-03	-6.32E+06	-2.62E-01	-6.88E+11	-1.24E-03
-6.45E+11	-1.23E-03	-6.32E+06	-2.63E-01	-6.86E+11	-1.25E-03
-6.43E+11	-1.24E-03	-6.30E+06	-2.65E-01	-6.83E+11	-1.26E-03
-6.40E+11	-1.25E-03	-6.27E+06	-2.67E-01	-6.81E+11	-1.27E-03
-6.40E+11	-1.25E-03	-6.27E+06	-2.68E-01	-6.79E+11	-1.28E-03
-6.37E+11	-1.26E-03	-6.24E+06	-2.70E-01	-6.77E+11	-1.29E-03
-6.35E+11	-1.27E-03	-6.22E+06	-2.72E-01	-6.74E+11	-1.30E-03
-6.33E+11	-1.28E-03	-6.20E+06	-2.74E-01	-6.74E+11	-1.31E-03
-6.31E+11	-1.29E-03	-6.18E+06	-2.76E-01	-6.72E+11	-1.32E-03
-6.28E+11	-1.30E-03	-6.16E+06	-2.78E-01	-6.69E+11	-1.33E-03
-6.26E+11	-1.31E-03	-6.14E+06	-2.81E-01	-6.67E+11	-1.34E-03
-6.24E+11	-1.32E-03	-6.12E+06	-2.83E-01	-6.65E+11	-1.35E-03
-6.22E+11	-1.33E-03	-6.10E+06	-2.85E-01	-6.63E+11	-1.36E-03
-6.22E+11	-1.33E-03	-6.09E+06	-2.85E-01	-6.60E+11	-1.37E-03
-6.20E+11	-1.34E-03	-6.07E+06	-2.88E-01	-6.58E+11	-1.38E-03
-6.18E+11	-1.35E-03	-6.05E+06	-2.90E-01	-6.56E+11	-1.39E-03
-6.16E+11	-1.36E-03	-6.03E+06	-2.92E-01	-6.54E+11	-1.40E-03
-6.14E+11	-1.37E-03	-6.01E+06	-2.94E-01	-6.52E+11	-1.41E-03
-6.12E+11	-1.38E-03	-5.99E+06	-2.96E-01	-6.50E+11	-1.42E-03
-6.11E+11	-1.39E-03	-5.99E+06	-2.97E-01	-6.49E+11	-1.42E-03
-6.09E+11	-1.40E-03	-5.97E+06	-2.99E-01	-6.47E+11	-1.43E-03
-6.07E+11	-1.41E-03	-5.95E+06	-3.01E-01	-6.45E+11	-1.44E-03
-6.05E+11	-1.42E-03	-5.93E+06	-3.03E-01	-6.43E+11	-1.45E-03
-6.03E+11	-1.43E-03	-5.91E+06	-3.06E-01	-6.41E+11	-1.46E-03
-6.01E+11	-1.44E-03	-5.89E+06	-3.08E-01	-6.39E+11	-1.47E-03
-5.99E+11	-1.45E-03	-5.87E+06	-3.10E-01	-6.37E+11	-1.48E-03
-5.98E+11	-1.46E-03	-5.86E+06	-3.12E-01	-6.37E+11	-1.48E-03
-5.96E+11	-1.47E-03	-5.84E+06	-3.14E-01	-6.35E+11	-1.49E-03
-5.94E+11	-1.48E-03	-5.82E+06	-3.16E-01	-6.33E+11	-1.50E-03
-5.92E+11	-1.49E-03	-5.80E+06	-3.18E-01	-6.31E+11	-1.51E-03
-5.90E+11	-1.50E-03	-5.79E+06	-3.20E-01	-6.29E+11	-1.52E-03
-5.89E+11	-1.51E-03	-5.77E+06	-3.22E-01	-6.27E+11	-1.53E-03
-5.87E+11	-1.52E-03	-5.75E+06	-3.25E-01	-6.25E+11	-1.54E-03
-5.85E+11	-1.53E-03	-5.73E+06	-3.27E-01	-6.24E+11	-1.55E-03
-5.83E+11	-1.54E-03	-5.72E+06	-3.29E-01	-6.22E+11	-1.56E-03
-5.82E+11	-1.55E-03	-5.70E+06	-3.31E-01	-6.20E+11	-1.57E-03
-5.80E+11	-1.56E-03	-5.69E+06	-3.33E-01	-6.18E+11	-1.58E-03
-5.79E+11	-1.57E-03	-5.67E+06	-3.35E-01	-6.17E+11	-1.59E-03
-5.78E+11	-1.57E-03	-5.67E+06	-3.36E-01	-6.15E+11	-1.60E-03
-5.77E+11	-1.58E-03	-5.65E+06	-3.38E-01	-6.13E+11	-1.61E-03
-5.75E+11	-1.59E-03	-5.64E+06	-3.40E-01	-6.11E+11	-1.62E-03
-5.74E+11	-1.60E-03	-5.62E+06	-3.42E-01	-6.10E+11	-1.63E-03

-5.72E+11	-1.61E-03	-5.60E+06	-3.44E-01	-6.08E+11	-1.64E-03
-5.70E+11	-1.62E-03	-5.59E+06	-3.46E-01	-6.07E+11	-1.65E-03
-5.69E+11	-1.63E-03	-5.57E+06	-3.49E-01	-6.05E+11	-1.66E-03
-5.69E+11	-1.63E-03	-5.57E+06	-3.49E-01	-6.03E+11	-1.67E-03
-5.67E+11	-1.64E-03	-5.56E+06	-3.51E-01	-6.03E+11	-1.68E-03
-5.65E+11	-1.65E-03	-5.54E+06	-3.53E-01	-6.01E+11	-1.69E-03
-5.64E+11	-1.66E-03	-5.53E+06	-3.55E-01	-6.00E+11	-1.70E-03
-5.62E+11	-1.67E-03	-5.51E+06	-3.57E-01	-5.98E+11	-1.71E-03
-5.61E+11	-1.68E-03	-5.49E+06	-3.60E-01	-5.97E+11	-1.72E-03
-5.59E+11	-1.69E-03	-5.48E+06	-3.62E-01	-5.95E+11	-1.73E-03
-5.58E+11	-1.70E-03	-5.46E+06	-3.64E-01	-5.94E+11	-1.74E-03
-5.56E+11	-1.71E-03	-5.45E+06	-3.66E-01	-5.93E+11	-1.74E-03
-5.55E+11	-1.72E-03	-5.44E+06	-3.68E-01	-5.92E+11	-1.75E-03
-5.53E+11	-1.73E-03	-5.42E+06	-3.70E-01	-5.90E+11	-1.76E-03
-5.52E+11	-1.74E-03	-5.41E+06	-3.72E-01	-5.89E+11	-1.77E-03
-5.51E+11	-1.75E-03	-5.40E+06	-3.75E-01	-5.87E+11	-1.78E-03
-5.49E+11	-1.76E-03	-5.38E+06	-3.77E-01	-5.86E+11	-1.79E-03
-5.49E+11	-1.76E-03	-5.38E+06	-3.77E-01	-5.84E+11	-1.80E-03
-5.47E+11	-1.77E-03	-5.36E+06	-3.79E-01	-5.83E+11	-1.81E-03
-5.46E+11	-1.78E-03	-5.35E+06	-3.82E-01	-5.81E+11	-1.82E-03
-5.45E+11	-1.79E-03	-5.34E+06	-3.84E-01	-5.80E+11	-1.83E-03
-5.43E+11	-1.80E-03	-5.32E+06	-3.86E-01	-5.78E+11	-1.84E-03
-5.42E+11	-1.81E-03	-5.31E+06	-3.88E-01	-5.77E+11	-1.85E-03
-5.41E+11	-1.82E-03	-5.30E+06	-3.90E-01	-5.76E+11	-1.86E-03
-5.39E+11	-1.83E-03	-5.29E+06	-3.92E-01	-5.74E+11	-1.87E-03
-5.38E+11	-1.84E-03	-5.27E+06	-3.94E-01	-5.73E+11	-1.88E-03
-5.37E+11	-1.85E-03	-5.26E+06	-3.96E-01	-5.72E+11	-1.88E-03
-5.35E+11	-1.86E-03	-5.25E+06	-3.99E-01	-5.71E+11	-1.89E-03
-5.34E+11	-1.87E-03	-5.23E+06	-4.01E-01	-5.69E+11	-1.90E-03
-5.33E+11	-1.88E-03	-5.22E+06	-4.03E-01	-5.68E+11	-1.91E-03
-5.31E+11	-1.89E-03	-5.21E+06	-4.05E-01	-5.67E+11	-1.92E-03
-5.30E+11	-1.90E-03	-5.19E+06	-4.07E-01	-5.65E+11	-1.93E-03
-5.29E+11	-1.91E-03	-5.18E+06	-4.09E-01	-5.64E+11	-1.94E-03
-5.28E+11	-1.92E-03	-5.17E+06	-4.11E-01	-5.63E+11	-1.95E-03
-5.26E+11	-1.93E-03	-5.16E+06	-4.13E-01	-5.62E+11	-1.96E-03
-5.25E+11	-1.94E-03	-5.15E+06	-4.16E-01	-5.60E+11	-1.97E-03
-5.24E+11	-1.95E-03	-5.13E+06	-4.18E-01	-5.59E+11	-1.98E-03
-5.23E+11	-1.96E-03	-5.12E+06	-4.20E-01	-5.58E+11	-1.99E-03
-5.22E+11	-1.97E-03	-5.11E+06	-4.22E-01	-5.56E+11	-2.00E-03
-5.21E+11	-1.98E-03	-5.10E+06	-4.24E-01	-5.55E+11	-2.01E-03
-5.19E+11	-1.99E-03	-5.09E+06	-4.26E-01	-5.54E+11	-2.02E-03
-5.18E+11	-2.00E-03	-5.08E+06	-4.28E-01	-5.53E+11	-2.03E-03
-5.17E+11	-2.01E-03	-5.07E+06	-4.31E-01	-5.51E+11	-2.04E-03
-5.17E+11	-2.01E-03	-5.07E+06	-4.31E-01	-5.50E+11	-2.05E-03
-5.16E+11	-2.02E-03	-5.06E+06	-4.33E-01	-5.49E+11	-2.06E-03

-5.15E+11	-2.03E-03	-5.05E+06	-4.35E-01	-5.48E+11	-2.07E-03
-5.14E+11	-2.04E-03	-5.04E+06	-4.37E-01	-5.47E+11	-2.08E-03
-5.13E+11	-2.05E-03	-5.02E+06	-4.39E-01	-5.46E+11	-2.09E-03
-5.12E+11	-2.06E-03	-5.01E+06	-4.41E-01	-5.45E+11	-2.10E-03
-5.10E+11	-2.07E-03	-5.00E+06	-4.43E-01	-5.43E+11	-2.11E-03
-5.09E+11	-2.08E-03	-4.99E+06	-4.46E-01	-5.42E+11	-2.12E-03
-5.08E+11	-2.09E-03	-4.98E+06	-4.47E-01	-5.41E+11	-2.13E-03
-5.07E+11	-2.10E-03	-4.97E+06	-4.49E-01	-5.40E+11	-2.14E-03
-5.06E+11	-2.11E-03	-4.96E+06	-4.52E-01	-5.39E+11	-2.15E-03
-5.05E+11	-2.12E-03	-4.95E+06	-4.54E-01	-5.38E+11	-2.16E-03
-5.04E+11	-2.13E-03	-4.94E+06	-4.56E-01	-5.37E+11	-2.17E-03
-5.03E+11	-2.14E-03	-4.93E+06	-4.58E-01	-5.36E+11	-2.18E-03
-5.02E+11	-2.15E-03	-4.92E+06	-4.60E-01	-5.35E+11	-2.19E-03
-5.01E+11	-2.16E-03	-4.91E+06	-4.62E-01	-5.34E+11	-2.20E-03
-5.00E+11	-2.17E-03	-4.90E+06	-4.64E-01	-5.33E+11	-2.21E-03
-4.99E+11	-2.18E-03	-4.89E+06	-4.67E-01	-5.32E+11	-2.22E-03
-4.98E+11	-2.19E-03	-4.88E+06	-4.69E-01	-5.31E+11	-2.23E-03
-4.97E+11	-2.20E-03	-4.87E+06	-4.71E-01	-5.30E+11	-2.24E-03
-4.96E+11	-2.21E-03	-4.86E+06	-4.73E-01	-5.29E+11	-2.25E-03
-4.95E+11	-2.22E-03	-4.85E+06	-4.75E-01	-5.28E+11	-2.26E-03
-4.94E+11	-2.23E-03	-4.84E+06	-4.77E-01	-5.27E+11	-2.27E-03
-4.93E+11	-2.24E-03	-4.83E+06	-4.79E-01	-5.26E+11	-2.28E-03
-4.92E+11	-2.25E-03	-4.82E+06	-4.82E-01	-5.25E+11	-2.29E-03
-4.91E+11	-2.26E-03	-4.81E+06	-4.84E-01	-5.24E+11	-2.30E-03
-4.90E+11	-2.27E-03	-4.80E+06	-4.86E-01	-5.23E+11	-2.31E-03
-4.89E+11	-2.28E-03	-4.79E+06	-4.88E-01	-5.22E+11	-2.32E-03
-4.88E+11	-2.29E-03	-4.78E+06	-4.90E-01	-5.21E+11	-2.33E-03
-4.87E+11	-2.30E-03	-4.78E+06	-4.92E-01	-5.20E+11	-2.34E-03
-4.86E+11	-2.31E-03	-4.77E+06	-4.94E-01	-5.19E+11	-2.35E-03
-4.86E+11	-2.32E-03	-4.76E+06	-4.97E-01	-5.18E+11	-2.36E-03
-4.85E+11	-2.33E-03	-4.75E+06	-4.99E-01	-5.17E+11	-2.37E-03
-4.84E+11	-2.34E-03	-4.74E+06	-5.01E-01	-5.16E+11	-2.38E-03
-4.84E+11	-2.34E-03	-4.74E+06	-5.01E-01	-5.15E+11	-2.39E-03
-4.83E+11	-2.35E-03	-4.73E+06	-5.03E-01	-5.14E+11	-2.40E-03
-4.82E+11	-2.36E-03	-4.72E+06	-5.06E-01	-5.13E+11	-2.41E-03
-4.81E+11	-2.37E-03	-4.71E+06	-5.08E-01	-5.12E+11	-2.42E-03
-4.80E+11	-2.38E-03	-4.71E+06	-5.10E-01	-5.12E+11	-2.43E-03
-4.79E+11	-2.39E-03	-4.70E+06	-5.12E-01	-5.11E+11	-2.44E-03
-4.79E+11	-2.40E-03	-4.69E+06	-5.14E-01	-5.10E+11	-2.45E-03
-4.78E+11	-2.41E-03	-4.68E+06	-5.16E-01	-5.09E+11	-2.46E-03
-4.77E+11	-2.42E-03	-4.67E+06	-5.18E-01	-5.08E+11	-2.47E-03
-4.76E+11	-2.43E-03	-4.66E+06	-5.21E-01	-5.07E+11	-2.48E-03
-4.76E+11	-2.43E-03	-4.66E+06	-5.21E-01	-5.07E+11	-2.49E-03
-4.75E+11	-2.44E-03	-4.66E+06	-5.23E-01	-5.06E+11	-2.50E-03
-4.74E+11	-2.45E-03	-4.65E+06	-5.25E-01	-5.05E+11	-2.51E-03

-4.73E+11	-2.46E-03	-4.64E+06	-5.27E-01	-5.04E+11	-2.52E-03
-4.73E+11	-2.47E-03	-4.63E+06	-5.29E-01	-5.03E+11	-2.53E-03
-4.72E+11	-2.48E-03	-4.62E+06	-5.31E-01	-5.03E+11	-2.54E-03
-4.71E+11	-2.49E-03	-4.61E+06	-5.33E-01	-5.02E+11	-2.55E-03
-4.70E+11	-2.50E-03	-4.61E+06	-5.35E-01	-5.01E+11	-2.56E-03
-4.69E+11	-2.51E-03	-4.60E+06	-5.37E-01	-5.00E+11	-2.57E-03
-4.68E+11	-2.52E-03	-4.59E+06	-5.39E-01	-4.99E+11	-2.58E-03
-4.67E+11	-2.53E-03	-4.58E+06	-5.42E-01	-4.99E+11	-2.59E-03
-4.67E+11	-2.54E-03	-4.57E+06	-5.44E-01	-4.98E+11	-2.60E-03
-4.66E+11	-2.55E-03	-4.56E+06	-5.46E-01	-4.98E+11	-2.60E-03
-4.65E+11	-2.56E-03	-4.56E+06	-5.48E-01	-4.97E+11	-2.61E-03
-4.64E+11	-2.57E-03	-4.55E+06	-5.50E-01	-4.96E+11	-2.62E-03
-4.63E+11	-2.58E-03	-4.54E+06	-5.52E-01	-4.95E+11	-2.63E-03
-4.63E+11	-2.59E-03	-4.53E+06	-5.54E-01	-4.95E+11	-2.64E-03
-4.62E+11	-2.60E-03	-4.53E+06	-5.57E-01	-4.94E+11	-2.65E-03
-4.61E+11	-2.61E-03	-4.52E+06	-5.59E-01	-4.93E+11	-2.66E-03
-4.60E+11	-2.62E-03	-4.51E+06	-5.61E-01	-4.92E+11	-2.67E-03
-4.60E+11	-2.63E-03	-4.50E+06	-5.63E-01	-4.91E+11	-2.68E-03
-4.59E+11	-2.64E-03	-4.50E+06	-5.65E-01	-4.90E+11	-2.69E-03

% kandas				70% tubrukan	
9.80E-06	1.00E-06		4670	9.80E-06	1.00E-06
Momen	**Curvature**	**Momen**	**Rotasi**	**Momen**	**Curvature**
7.14E+06	5.80E-01	7.45E+11	2.66E-03	7.30E+06	5.69E-01
7.14E					
7.15E					
7.16E					
7.16E					
7.17E					
7.18E					
7.19E					
7.19E					
7.20E					
7.21E					
7.22E					
7.22E					
7.23E					
7.23E					
7.24E					
7.25E					
7.25E					
7.26E					
7.27E					
7.27E					
7.28E+06	5.36E-01	7.60E+11	2.45E-03	7.45E+06	5.24E-01
7.29E+06	5.34E-01	7.61E+11	2.44E-03	7.46E+06	5.22E-01
7.30E+06	5.31E-01	7.62E+11	2.43E-03	7.46E+06	5.21E-01
7.30E+06	5.29E-01	7.62E+11	2.42E-03	7.47E+06	5.19E-01
7.31E+06	5.27E-01	7.63E+11	2.41E-03	7.48E+06	5.17E-01
7.32E+06	5.25E-01	7.64E+11	2.40E-03	7.49E+06	5.15E-01
7.32E+06	5.23E-01	7.65E+11	2.39E-03	7.49E+06	5.12E-01
7.33E+06	5.21E-01	7.65E+11	2.38E-03	7.50E+06	5.10E-01
7.33E+06	5.20E-01	7.66E+11	2.37E-03	7.51E+06	5.08E-01
7.34E+06	5.18E-01	7.67E+11	2.36E-03	7.51E+06	5.06E-01
7.35E+06	5.15E-01	7.68E+11	2.35E-03	7.52E+06	5.04E-01
7.36E+06	5.13E-01	7.68E+11	2.34E-03	7.53E+06	5.02E-01
7.36E+06	5.11E-01	7.69E+11	2.33E-03	7.54E+06	5.00E-01
7.37E+06	5.09E-01	7.70E+11	2.32E-03	7.55E+06	4.97E-01
7.38E+06	5.07E-01	7.71E+11	2.31E-03	7.55E+06	4.95E-01
7.39E+06	5.05E-01	7.72E+11	2.30E-03	7.56E+06	4.93E-01
7.39E+06	5.03E-01	7.72E+11	2.30E-03	7.57E+06	4.92E-01
7.40E+06	5.00E-01	7.73E+11	2.29E-03	7.57E+06	4.90E-01
7.41E+06	4.98E-01	7.74E+11	2.28E-03	7.58E+06	4.88E-01



7.42E+06	4.96E-01	7.74E+11	2.27E-03	7.59E+06	4.86E-01
7.42E+06	4.94E-01	7.75E+11	2.26E-03	7.60E+06	4.84E-01
7.43E+06	4.92E-01	7.76E+11	2.25E-03	7.60E+06	4.81E-01
7.44E+06	4.90E-01	7.77E+11	2.24E-03	7.61E+06	4.79E-01
7.45E+06	4.88E-01	7.78E+11	2.23E-03	7.62E+06	4.77E-01
7.46E+06	4.86E-01	7.78E+11	2.22E-03	7.63E+06	4.75E-01
7.46E+06	4.84E-01	7.79E+11	2.21E-03	7.64E+06	4.73E-01
7.47E+06	4.81E-01	7.80E+11	2.20E-03	7.64E+06	4.71E-01
7.48E+06	4.79E-01	7.80E+11	2.20E-03	7.65E+06	4.70E-01
7.49E+06	4.77E-01	7.81E+11	2.19E-03	7.65E+06	4.68E-01
7.49E+06	4.75E-01	7.82E+11	2.18E-03	7.66E+06	4.66E-01
7.50E+06	4.73E-01	7.83E+11	2.17E-03	7.67E+06	4.64E-01
7.51E+06	4.71E-01	7.83E+11	2.16E-03	7.68E+06	4.62E-01
7.51E+06	4.69E-01	7.84E+11	2.15E-03	7.68E+06	4.60E-01
7.52E+06	4.66E-01	7.85E+11	2.14E-03	7.69E+06	4.58E-01
7.53E+06	4.64E-01	7.86E+11	2.13E-03	7.70E+06	4.55E-01
7.54E+06	4.62E-01	7.87E+11	2.12E-03	7.71E+06	4.53E-01
7.54E+06	4.60E-01	7.87E+11	2.11E-03	7.72E+06	4.51E-01
7.55E+06	4.58E-01	7.88E+11	2.10E-03	7.72E+06	4.49E-01
7.56E+06	4.56E-01	7.89E+11	2.09E-03	7.73E+06	4.47E-01
7.56E+06	4.55E-01	7.90E+11	2.08E-03	7.74E+06	4.45E-01
7.57E+06	4.53E-01	7.91E+11	2.07E-03	7.75E+06	4.43E-01
7.58E+06	4.51E-01	7.92E+11	2.06E-03	7.76E+06	4.40E-01
7.59E+06	4.49E-01	7.92E+11	2.05E-03	7.76E+06	4.38E-01
7.59E+06	4.47E-01	7.93E+11	2.04E-03	7.77E+06	4.36E-01
7.60E+06	4.45E-01	7.94E+11	2.03E-03	7.78E+06	4.34E-01
7.61E+06	4.43E-01	7.95E+11	2.02E-03	7.79E+06	4.32E-01
7.62E+06	4.40E-01	7.96E+11	2.01E-03	7.80E+06	4.30E-01
7.63E+06	4.38E-01	7.97E+11	2.00E-03	7.81E+06	4.28E-01
7.64E+06	4.36E-01	7.98E+11	1.99E-03	7.82E+06	4.25E-01
7.64E+06	4.34E-01	7.98E+11	1.98E-03	7.82E+06	4.23E-01
7.65E+06	4.32E-01	7.99E+11	1.98E-03	7.83E+06	4.23E-01
7.66E+06	4.30E-01	7.99E+11	1.97E-03	7.83E+06	4.21E-01
7.67E+06	4.28E-01	8.00E+11	1.96E-03	7.84E+06	4.19E-01
7.67E+06	4.26E-01	8.01E+11	1.95E-03	7.85E+06	4.16E-01
7.68E+06	4.24E-01	8.02E+11	1.94E-03	7.86E+06	4.14E-01
7.69E+06	4.22E-01	8.03E+11	1.93E-03	7.87E+06	4.12E-01
7.70E+06	4.20E-01	8.04E+11	1.92E-03	7.88E+06	4.10E-01
7.71E+06	4.18E-01	8.05E+11	1.91E-03	7.89E+06	4.08E-01
7.71E+06	4.15E-01	8.06E+11	1.90E-03	7.89E+06	4.06E-01
7.72E+06	4.13E-01	8.06E+11	1.89E-03	7.90E+06	4.04E-01
7.73E+06	4.11E-01	8.07E+11	1.88E-03	7.91E+06	4.01E-01
7.74E+06	4.09E-01	8.08E+11	1.87E-03	7.92E+06	4.00E-01
7.75E+06	4.07E-01	8.09E+11	1.86E-03	7.93E+06	3.98E-01
7.76E+06	4.05E-01	8.10E+11	1.85E-03	7.93E+06	3.96E-01

7.76E+06	4.03E-01	8.11E+11	1.84E-03	7.94E+06	3.94E-01
7.77E+06	4.00E-01	8.12E+11	1.83E-03	7.95E+06	3.91E-01
7.78E+06	3.98E-01	8.12E+11	1.82E-03	7.96E+06	3.89E-01
7.79E+06	3.96E-01	8.13E+11	1.81E-03	7.97E+06	3.87E-01
7.80E+06	3.94E-01	8.14E+11	1.80E-03	7.98E+06	3.85E-01
7.81E+06	3.92E-01	8.15E+11	1.79E-03	7.99E+06	3.83E-01
7.82E+06	3.90E-01	8.16E+11	1.78E-03	8.00E+06	3.81E-01
7.83E+06	3.88E-01	8.17E+11	1.77E-03	8.01E+06	3.79E-01
7.84E+06	3.85E-01	8.18E+11	1.76E-03	8.02E+06	3.77E-01
7.84E+06	3.85E-01	8.19E+11	1.75E-03	8.03E+06	3.75E-01
7.85E+06	3.83E-01	8.20E+11	1.74E-03	8.04E+06	3.73E-01
7.85E+06	3.81E-01	8.21E+11	1.73E-03	8.04E+06	3.70E-01
7.86E+06	3.79E-01	8.22E+11	1.72E-03	8.05E+06	3.68E-01
7.87E+06	3.76E-01	8.23E+11	1.71E-03	8.06E+06	3.66E-01
7.88E+06	3.74E-01	8.23E+11	1.71E-03	8.07E+06	3.66E-01
7.89E+06	3.72E-01	8.24E+11	1.70E-03	8.08E+06	3.64E-01
7.90E+06	3.70E-01	8.25E+11	1.69E-03	8.08E+06	3.61E-01
7.91E+06	3.68E-01	8.26E+11	1.68E-03	8.09E+06	3.59E-01
7.92E+06	3.66E-01	8.27E+11	1.67E-03	8.10E+06	3.57E-01
7.93E+06	3.64E-01	8.28E+11	1.66E-03	8.12E+06	3.55E-01
7.93E+06	3.61E-01	8.29E+11	1.65E-03	8.13E+06	3.53E-01
7.94E+06	3.61E-01	8.30E+11	1.64E-03	8.13E+06	3.51E-01
7.94E+06	3.59E-01	8.30E+11	1.64E-03	8.13E+06	3.51E-01
7.95E+06	3.57E-01	8.31E+11	1.63E-03	8.14E+06	3.49E-01
7.96E+06	3.54E-01	8.32E+11	1.62E-03	8.15E+06	3.46E-01
7.97E+06	3.52E-01	8.33E+11	1.61E-03	8.17E+06	3.44E-01
7.98E+06	3.50E-01	8.34E+11	1.60E-03	8.18E+06	3.42E-01
7.99E+06	3.48E-01	8.35E+11	1.59E-03	8.19E+06	3.40E-01
8.00E+06	3.46E-01	8.36E+11	1.58E-03	8.20E+06	3.38E-01
8.01E+06	3.44E-01	8.38E+11	1.57E-03	8.21E+06	3.36E-01
8.02E+06	3.42E-01	8.38E+11	1.56E-03	8.21E+06	3.34E-01
8.03E+06	3.40E-01	8.39E+11	1.55E-03	8.23E+06	3.32E-01
8.04E+06	3.38E-01	8.41E+11	1.54E-03	8.24E+06	3.30E-01
8.04E+06	3.36E-01	8.42E+11	1.53E-03	8.25E+06	3.28E-01
8.05E+06	3.33E-01	8.43E+11	1.52E-03	8.26E+06	3.25E-01
8.06E+06	3.31E-01	8.44E+11	1.51E-03	8.27E+06	3.24E-01
8.07E+06	3.29E-01	8.45E+11	1.50E-03	8.28E+06	3.22E-01
8.08E+06	3.27E-01	8.46E+11	1.49E-03	8.29E+06	3.20E-01
8.09E+06	3.25E-01	8.47E+11	1.48E-03	8.30E+06	3.18E-01
8.10E+06	3.23E-01	8.48E+11	1.47E-03	8.31E+06	3.15E-01
8.11E+06	3.21E-01	8.49E+11	1.46E-03	8.32E+06	3.13E-01
8.12E+06	3.19E-01	8.50E+11	1.45E-03	8.33E+06	3.11E-01
8.13E+06	3.16E-01	8.52E+11	1.44E-03	8.34E+06	3.09E-01
8.14E+06	3.14E-01	8.52E+11	1.44E-03	8.35E+06	3.08E-01
8.15E+06	3.12E-01	8.53E+11	1.43E-03	8.36E+06	3.06E-01

8.16E+06	3.10E-01	8.55E+11	1.42E-03	8.37E+06	3.04E-01
8.16E+06	3.09E-01	8.56E+11	1.41E-03	8.39E+06	3.02E-01
8.17E+06	3.07E-01	8.57E+11	1.40E-03	8.40E+06	3.00E-01
8.18E+06	3.05E-01	8.57E+11	1.40E-03	8.40E+06	3.00E-01
8.19E+06	3.03E-01	8.59E+11	1.39E-03	8.41E+06	2.98E-01
8.20E+06	3.01E-01	8.60E+11	1.38E-03	8.43E+06	2.96E-01
8.21E+06	2.99E-01	8.61E+11	1.37E-03	8.44E+06	2.93E-01
8.22E+06	2.97E-01	8.63E+11	1.36E-03	8.46E+06	2.91E-01
8.23E+06	2.94E-01	8.64E+11	1.35E-03	8.47E+06	2.89E-01
8.24E+06	2.92E-01	8.66E+11	1.34E-03	8.48E+06	2.87E-01
8.26E+06	2.90E-01	8.66E+11	1.34E-03	8.49E+06	2.87E-01
8.26E+06	2.90E-01	8.67E+11	1.33E-03	8.50E+06	2.84E-01
8.27E+06	2.88E-01	8.69E+11	1.32E-03	8.51E+06	2.82E-01
8.28E+06	2.85E-01	8.70E+11	1.31E-03	8.53E+06	2.80E-01
8.29E+06	2.83E-01	8.71E+11	1.30E-03	8.54E+06	2.78E-01
8.30E+06	2.81E-01	8.72E+11	1.30E-03	8.54E+06	2.78E-01
8.31E+06	2.80E-01	8.73E+11	1.29E-03	8.56E+06	2.75E-01
8.32E+06	2.78E-01	8.75E+11	1.28E-03	8.57E+06	2.73E-01
8.33E+06	2.76E-01	8.76E+11	1.27E-03	8.58E+06	2.71E-01
8.34E+06	2.73E-01	8.78E+11	1.26E-03	8.60E+06	2.69E-01
8.35E+06	2.71E-01	8.79E+11	1.25E-03	8.62E+06	2.67E-01
8.36E+06	2.69E-01	8.79E+11	1.24E-03	8.62E+06	2.66E-01
8.37E+06	2.67E-01	8.81E+11	1.23E-03	8.63E+06	2.64E-01
8.38E+06	2.65E-01	8.82E+11	1.22E-03	8.64E+06	2.62E-01
8.39E+06	2.63E-01	8.83E+11	1.21E-03	8.66E+06	2.60E-01
8.41E+06	2.61E-01	8.85E+11	1.20E-03	8.67E+06	2.58E-01
8.42E+06	2.59E-01	8.86E+11	1.20E-03	8.68E+06	2.56E-01
8.43E+06	2.57E-01	8.87E+11	1.19E-03	8.69E+06	2.54E-01
8.43E+06	2.57E-01	8.89E+11	1.18E-03	8.71E+06	2.52E-01
8.44E+06	2.55E-01	8.90E+11	1.17E-03	8.72E+06	2.50E-01
8.45E+06	2.52E-01	8.91E+11	1.16E-03	8.74E+06	2.48E-01
8.46E+06	2.50E-01	8.93E+11	1.15E-03	8.75E+06	2.46E-01
8.48E+06	2.48E-01	8.94E+11	1.14E-03	8.76E+06	2.44E-01
8.49E+06	2.46E-01	8.96E+11	1.13E-03	8.78E+06	2.42E-01
8.50E+06	2.44E-01	8.96E+11	1.13E-03	8.78E+06	2.41E-01
8.51E+06	2.42E-01	8.97E+11	1.12E-03	8.79E+06	2.39E-01
8.52E+06	2.40E-01	8.98E+11	1.11E-03	8.80E+06	2.37E-01
8.54E+06	2.38E-01	9.00E+11	1.10E-03	8.82E+06	2.34E-01
8.55E+06	2.36E-01	9.02E+11	1.09E-03	8.83E+06	2.32E-01
8.56E+06	2.34E-01	9.03E+11	1.08E-03	8.85E+06	2.30E-01
8.57E+06	2.32E-01	9.04E+11	1.07E-03	8.85E+06	2.29E-01
8.58E+06	2.30E-01	9.05E+11	1.06E-03	8.87E+06	2.27E-01
8.60E+06	2.28E-01	9.07E+11	1.05E-03	8.88E+06	2.25E-01
8.61E+06	2.26E-01	9.07E+11	1.04E-03	8.89E+06	2.24E-01
8.62E+06	2.24E-01	9.09E+11	1.03E-03	8.91E+06	2.21E-01

8.64E+06	2.22E-01	9.09E+11	1.03E-03	8.91E+06	2.21E-01
8.65E+06	2.19E-01	9.11E+11	1.02E-03	8.92E+06	2.19E-01
8.66E+06	2.17E-01	9.12E+11	1.01E-03	8.94E+06	2.17E-01
8.67E+06	2.17E-01	9.14E+11	1.00E-03	8.96E+06	2.15E-01
8.68E+06	2.15E-01	9.16E+11	9.93E-04	8.98E+06	2.13E-01
8.70E+06	2.12E-01	9.19E+11	9.83E-04	9.01E+06	2.10E-01
8.71E+06	2.10E-01	9.20E+11	9.79E-04	9.02E+06	2.10E-01
8.73E+06	2.08E-01	9.23E+11	9.69E-04	9.05E+06	2.07E-01
8.74E+06	2.06E-01	9.24E+11	9.65E-04	9.06E+06	2.07E-01
8.76E+06	2.04E-01	9.27E+11	9.57E-04	9.09E+06	2.05E-01
8.78E+06	2.02E-01	9.29E+11	9.53E-04	9.11E+06	2.04E-01
8.78E+06	2.01E-01	9.40E+11	9.43E-04	9.21E+06	2.02E-01
8.79E+06	1.99E-01	9.53E+11	9.33E-04	9.34E+06	2.00E-01
8.80E+06	1.97E-01	9.54E+11	9.33E-04	9.35E+06	2.00E-01
8.82E+06	1.95E-01	9.65E+11	9.23E-04	9.45E+06	1.98E-01
8.84E+06	1.93E-01	9.66E+11	9.20E-04	9.47E+06	1.97E-01
8.84E+06	1.92E-01	9.66E+11	9.10E-04	9.46E+06	1.95E-01
8.86E+06	1.90E-01	9.65E+11	9.00E-04	9.46E+06	1.93E-01
8.88E+06	1.87E-01	9.65E+11	8.94E-04	9.46E+06	1.91E-01
8.88E+06	1.87E-01	9.64E+11	8.84E-04	9.45E+06	1.89E-01
8.90E+06	1.84E-01	9.63E+11	8.74E-04	9.44E+06	1.87E-01
8.91E+06	1.82E-01	9.63E+11	8.69E-04	9.44E+06	1.86E-01
8.92E+06	1.81E-01	9.62E+11	8.59E-04	9.43E+06	1.84E-01
8.93E+06	1.79E-01	9.61E+11	8.49E-04	9.42E+06	1.82E-01
8.95E+06	1.77E-01	9.61E+11	8.48E-04	9.42E+06	1.82E-01
8.97E+06	1.75E-01	9.60E+11	8.38E-04	9.41E+06	1.79E-01
8.97E+06	1.75E-01	9.58E+11	8.28E-04	9.39E+06	1.77E-01
8.98E+06	1.73E-01	9.56E+11	8.18E-04	9.37E+06	1.75E-01
9.01E+06	1.70E-01	9.55E+11	8.10E-04	9.35E+06	1.73E-01
9.01E+06	1.70E-01	9.52E+11	8.00E-04	9.33E+06	1.71E-01
9.03E+06	1.68E-01	9.49E+11	7.90E-04	9.30E+06	1.69E-01
9.05E+06	1.67E-01	9.47E+11	7.82E-04	9.28E+06	1.67E-01
9.07E+06	1.65E-01	9.44E+11	7.72E-04	9.25E+06	1.65E-01
9.10E+06	1.63E-01	9.41E+11	7.62E-04	9.22E+06	1.63E-01
9.14E+06	1.61E-01	9.38E+11	7.52E-04	9.19E+06	1.61E-01
9.18E+06	1.60E-01	9.34E+11	7.42E-04	9.16E+06	1.59E-01
9.21E+06	1.59E-01	9.32E+11	7.36E-04	9.14E+06	1.58E-01
9.32E+06	1.57E-01	9.29E+11	7.26E-04	9.10E+06	1.56E-01
9.37E+06	1.55E-01	9.25E+11	7.16E-04	9.07E+06	1.53E-01
9.39E+06	1.54E-01	9.21E+11	7.06E-04	9.03E+06	1.51E-01
9.40E+06	1.54E-01	9.18E+11	6.98E-04	9.00E+06	1.49E-01
9.38E+06	1.52E-01	9.16E+11	6.93E-04	8.98E+06	1.48E-01
9.36E+06	1.50E-01	9.12E+11	6.83E-04	8.94E+06	1.46E-01
9.32E+06	1.48E-01	9.08E+11	6.73E-04	8.90E+06	1.44E-01
9.32E+06	1.47E-01	9.05E+11	6.67E-04	8.87E+06	1.43E-01

9.28E+06	1.45E-01	9.03E+11	6.62E-04	8.85E+06	1.42E-01
9.24E+06	1.43E-01	9.00E+11	6.57E-04	8.82E+06	1.41E-01
9.21E+06	1.42E-01	8.96E+11	6.48E-04	8.78E+06	1.39E-01
9.17E+06	1.41E-01	8.92E+11	6.40E-04	8.74E+06	1.37E-01
9.12E+06	1.39E-01	8.90E+11	6.35E-04	8.72E+06	1.36E-01
9.02E+06	1.38E-01	8.86E+11	6.30E-04	8.69E+06	1.35E-01
8.98E+06	1.37E-01	8.82E+11	6.25E-04	8.65E+06	1.34E-01
8.84E+06	1.35E-01	8.75E+11	6.16E-04	8.57E+06	1.32E-01
8.70E+06	1.33E-01	8.67E+11	6.10E-04	8.50E+06	1.31E-01
8.56E+06	1.31E-01	8.60E+11	6.03E-04	8.43E+06	1.29E-01
8.42E+06	1.28E-01	8.51E+11	5.97E-04	8.34E+06	1.28E-01
8.28E+06	1.26E-01	8.41E+11	5.90E-04	8.25E+06	1.26E-01
8.14E+06	1.24E-01	8.27E+11	5.80E-04	8.11E+06	1.24E-01
8.00E+06	1.22E-01	8.13E+11	5.70E-04	7.97E+06	1.22E-01
7.86E+06	1.20E-01	7.99E+11	5.60E-04	7.83E+06	1.20E-01
7.72E+06	1.18E-01	7.84E+11	5.50E-04	7.69E+06	1.18E-01
7.58E+06	1.16E-01	7.70E+11	5.40E-04	7.55E+06	1.16E-01
7.44E+06	1.13E-01	7.56E+11	5.30E-04	7.41E+06	1.13E-01
7.30E+06	1.11E-01	7.42E+11	5.20E-04	7.27E+06	1.11E-01
7.16E+06	1.09E-01	7.27E+11	5.10E-04	7.13E+06	1.09E-01
7.02E+06	1.07E-01	7.13E+11	5.00E-04	6.99E+06	1.07E-01
6.88E+06	1.05E-01	6.99E+11	4.90E-04	6.85E+06	1.05E-01
6.74E+06	1.03E-01	6.85E+11	4.80E-04	6.71E+06	1.03E-01
6.60E+06	1.01E-01	6.70E+11	4.70E-04	6.57E+06	1.01E-01
6.46E+06	9.85E-02	6.56E+11	4.60E-04	6.43E+06	9.85E-02
6.32E+06	9.64E-02	6.42E+11	4.50E-04	6.29E+06	9.64E-02
6.18E+06	9.42E-02	6.28E+11	4.40E-04	6.15E+06	9.42E-02
6.04E+06	9.21E-02	6.13E+11	4.30E-04	6.01E+06	9.21E-02
5.89E+06	8.99E-02	5.99E+11	4.20E-04	5.87E+06	8.99E-02
5.75E+06	8.78E-02	5.85E+11	4.10E-04	5.73E+06	8.78E-02
5.61E+06	8.57E-02	5.71E+11	4.00E-04	5.59E+06	8.57E-02
5.47E+06	8.35E-02	5.56E+11	3.90E-04	5.45E+06	8.35E-02
5.33E+06	8.14E-02	5.42E+11	3.80E-04	5.31E+06	8.14E-02
5.19E+06	7.92E-02	5.28E+11	3.70E-04	5.17E+06	7.92E-02
5.05E+06	7.71E-02	5.13E+11	3.60E-04	5.03E+06	7.71E-02
4.91E+06	7.49E-02	4.99E+11	3.50E-04	4.89E+06	7.49E-02
4.77E+06	7.28E-02	4.85E+11	3.40E-04	4.75E+06	7.28E-02
4.63E+06	7.07E-02	4.71E+11	3.30E-04	4.61E+06	7.07E-02
4.49E+06	6.85E-02	4.56E+11	3.20E-04	4.47E+06	6.85E-02
4.35E+06	6.64E-02	4.42E+11	3.10E-04	4.33E+06	6.64E-02
4.21E+06	6.42E-02	4.28E+11	3.00E-04	4.19E+06	6.42E-02
4.07E+06	6.21E-02	4.14E+11	2.90E-04	4.05E+06	6.21E-02
3.93E+06	6.00E-02	3.99E+11	2.80E-04	3.91E+06	6.00E-02
3.79E+06	5.78E-02	3.85E+11	2.70E-04	3.77E+06	5.78E-02
3.65E+06	5.57E-02	3.71E+11	2.60E-04	3.63E+06	5.57E-02

3.51E+06	5.35E-02	3.57E+11	2.50E-04	3.49E+06	5.35E-02
3.37E+06	5.14E-02	3.42E+11	2.40E-04	3.35E+06	5.14E-02
3.23E+06	4.93E-02	3.28E+11	2.30E-04	3.21E+06	4.93E-02
3.09E+06	4.71E-02	3.14E+11	2.20E-04	3.08E+06	4.71E-02
2.95E+06	4.50E-02	3.00E+11	2.10E-04	2.94E+06	4.50E-02
2.81E+06	4.28E-02	2.85E+11	2.00E-04	2.79E+06	4.28E-02
2.67E+06	4.07E-02	2.71E+11	1.90E-04	2.66E+06	4.07E-02
2.53E+06	3.85E-02	2.57E+11	1.80E-04	2.52E+06	3.85E-02
2.39E+06	3.64E-02	2.43E+11	1.70E-04	2.38E+06	3.64E-02
2.25E+06	3.43E-02	2.28E+11	1.60E-04	2.24E+06	3.43E-02
2.11E+06	3.21E-02	2.14E+11	1.50E-04	2.10E+06	3.21E-02
1.96E+06	3.00E-02	2.00E+11	1.40E-04	1.96E+06	3.00E-02
1.82E+06	2.78E-02	1.85E+11	1.30E-04	1.82E+06	2.78E-02
1.68E+06	2.57E-02	1.71E+11	1.20E-04	1.68E+06	2.57E-02
1.54E+06	2.36E-02	1.57E+11	1.10E-04	1.54E+06	2.36E-02
1.40E+06	2.14E-02	1.43E+11	1.00E-04	1.40E+06	2.14E-02
1.26E+06	1.93E-02	1.28E+11	9.00E-05	1.26E+06	1.93E-02
1.12E+06	1.71E-02	1.14E+11	8.00E-05	1.12E+06	1.71E-02
9.83E+05	1.50E-02	9.98E+10	7.00E-05	9.78E+05	1.50E-02
8.42E+05	1.28E-02	8.56E+10	6.00E-05	8.39E+05	1.28E-02
7.02E+05	1.07E-02	7.13E+10	5.00E-05	6.99E+05	1.07E-02
5.61E+05	8.57E-03	5.71E+10	4.00E-05	5.59E+05	8.57E-03
4.21E+05	6.42E-03	4.28E+10	3.00E-05	4.19E+05	6.42E-03
2.81E+05	4.28E-03	2.85E+10	2.00E-05	2.79E+05	4.28E-03
1.40E+05	2.14E-03	1.43E+10	1.00E-05	1.40E+05	2.14E-03
1.26E+05	1.93E-03	1.28E+10	9.00E-06	1.26E+05	1.93E-03
1.12E+05	1.71E-03	1.14E+10	8.00E-06	1.12E+05	1.71E-03
9.83E+04	1.50E-03	9.98E+09	7.00E-06	9.78E+04	1.50E-03
8.42E+04	1.28E-03	8.56E+09	6.00E-06	8.39E+04	1.28E-03
7.02E+04	1.07E-03	7.13E+09	5.00E-06	6.99E+04	1.07E-03
5.62E+04	8.57E-04	5.71E+09	4.00E-06	5.59E+04	8.57E-04
4.21E+04	6.42E-04	4.28E+09	3.00E-06	4.19E+04	6.42E-04
2.81E+04	4.28E-04	2.85E+09	2.00E-06	2.80E+04	4.28E-04
1.40E+04	2.14E-04	1.43E+09	1.00E-06	1.40E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.40E+04	-2.14E-04	-1.43E+09	-1.00E-06	-1.40E+04	-2.14E-04
-2.81E+04	-4.28E-04	-2.85E+09	-2.00E-06	-2.80E+04	-4.28E-04
-4.21E+04	-6.42E-04	-4.28E+09	-3.00E-06	-4.19E+04	-6.42E-04
-5.62E+04	-8.57E-04	-5.70E+09	-4.00E-06	-5.59E+04	-8.57E-04
-7.02E+04	-1.07E-03	-7.13E+09	-5.00E-06	-6.99E+04	-1.07E-03
-8.42E+04	-1.28E-03	-8.56E+09	-6.00E-06	-8.38E+04	-1.28E-03
-9.83E+04	-1.50E-03	-9.98E+09	-7.00E-06	-9.78E+04	-1.50E-03
-1.12E+05	-1.71E-03	-1.14E+10	-8.00E-06	-1.12E+05	-1.71E-03
-1.26E+05	-1.93E-03	-1.28E+10	-9.00E-06	-1.26E+05	-1.93E-03
-1.40E+05	-2.14E-03	-1.43E+10	-1.00E-05	-1.40E+05	-2.14E-03

-2.81E+05	-4.28E-03	-2.85E+10	-2.00E-05	-2.79E+05	-4.28E-03
-4.21E+05	-6.42E-03	-4.28E+10	-3.00E-05	-4.19E+05	-6.42E-03
-5.61E+05	-8.57E-03	-5.70E+10	-4.00E-05	-5.59E+05	-8.57E-03
-7.02E+05	-1.07E-02	-7.13E+10	-5.00E-05	-6.99E+05	-1.07E-02
-8.42E+05	-1.28E-02	-8.56E+10	-6.00E-05	-8.38E+05	-1.28E-02
-9.83E+05	-1.50E-02	-9.98E+10	-7.00E-05	-9.78E+05	-1.50E-02
-1.12E+06	-1.71E-02	-1.14E+11	-8.00E-05	-1.12E+06	-1.71E-02
-1.26E+06	-1.93E-02	-1.28E+11	-9.00E-05	-1.26E+06	-1.93E-02
-1.40E+06	-2.14E-02	-1.43E+11	-1.00E-04	-1.40E+06	-2.14E-02
-1.54E+06	-2.36E-02	-1.57E+11	-1.10E-04	-1.54E+06	-2.36E-02
-1.68E+06	-2.57E-02	-1.71E+11	-1.20E-04	-1.68E+06	-2.57E-02
-1.82E+06	-2.78E-02	-1.85E+11	-1.30E-04	-1.82E+06	-2.78E-02
-1.96E+06	-3.00E-02	-2.00E+11	-1.40E-04	-1.96E+06	-3.00E-02
-2.11E+06	-3.21E-02	-2.14E+11	-1.50E-04	-2.10E+06	-3.21E-02
-2.25E+06	-3.43E-02	-2.28E+11	-1.60E-04	-2.24E+06	-3.43E-02
-2.39E+06	-3.64E-02	-2.42E+11	-1.70E-04	-2.38E+06	-3.64E-02
-2.53E+06	-3.85E-02	-2.57E+11	-1.80E-04	-2.51E+06	-3.85E-02
-2.67E+06	-4.07E-02	-2.71E+11	-1.90E-04	-2.65E+06	-4.07E-02
-2.81E+06	-4.28E-02	-2.85E+11	-2.00E-04	-2.79E+06	-4.28E-02
-2.95E+06	-4.50E-02	-2.99E+11	-2.10E-04	-2.93E+06	-4.50E-02
-3.09E+06	-4.71E-02	-3.14E+11	-2.20E-04	-3.07E+06	-4.71E-02
-3.23E+06	-4.93E-02	-3.28E+11	-2.30E-04	-3.21E+06	-4.93E-02
-3.37E+06	-5.14E-02	-3.42E+11	-2.40E-04	-3.35E+06	-5.14E-02
-3.51E+06	-5.35E-02	-3.56E+11	-2.50E-04	-3.49E+06	-5.35E-02
-3.65E+06	-5.57E-02	-3.71E+11	-2.60E-04	-3.63E+06	-5.57E-02
-3.79E+06	-5.78E-02	-3.85E+11	-2.70E-04	-3.77E+06	-5.78E-02
-3.93E+06	-6.00E-02	-3.99E+11	-2.80E-04	-3.91E+06	-6.00E-02
-4.07E+06	-6.21E-02	-4.14E+11	-2.90E-04	-4.05E+06	-6.21E-02
-4.21E+06	-6.42E-02	-4.28E+11	-3.00E-04	-4.19E+06	-6.42E-02
-4.35E+06	-6.64E-02	-4.42E+11	-3.10E-04	-4.33E+06	-6.64E-02
-4.49E+06	-6.85E-02	-4.56E+11	-3.20E-04	-4.47E+06	-6.85E-02
-4.63E+06	-7.07E-02	-4.71E+11	-3.30E-04	-4.61E+06	-7.07E-02
-4.77E+06	-7.28E-02	-4.85E+11	-3.40E-04	-4.75E+06	-7.28E-02
-4.91E+06	-7.49E-02	-4.99E+11	-3.50E-04	-4.89E+06	-7.49E-02
-5.05E+06	-7.71E-02	-5.13E+11	-3.60E-04	-5.03E+06	-7.71E-02
-5.19E+06	-7.92E-02	-5.28E+11	-3.70E-04	-5.17E+06	-7.92E-02
-5.33E+06	-8.14E-02	-5.42E+11	-3.80E-04	-5.31E+06	-8.14E-02
-5.47E+06	-8.35E-02	-5.56E+11	-3.90E-04	-5.45E+06	-8.35E-02
-5.61E+06	-8.57E-02	-5.70E+11	-4.00E-04	-5.59E+06	-8.57E-02
-5.75E+06	-8.78E-02	-5.85E+11	-4.10E-04	-5.73E+06	-8.78E-02
-5.89E+06	-8.99E-02	-5.99E+11	-4.20E-04	-5.87E+06	-8.99E-02
-6.03E+06	-9.21E-02	-6.13E+11	-4.30E-04	-6.01E+06	-9.21E-02
-6.17E+06	-9.42E-02	-6.27E+11	-4.40E-04	-6.15E+06	-9.42E-02
-6.32E+06	-9.64E-02	-6.42E+11	-4.50E-04	-6.29E+06	-9.64E-02
-6.46E+06	-9.85E-02	-6.56E+11	-4.60E-04	-6.43E+06	-9.85E-02

-6.60E+06	-1.01E-01	-6.70E+11	-4.70E-04	-6.57E+06	-1.01E-01
-6.74E+06	-1.03E-01	-6.84E+11	-4.80E-04	-6.71E+06	-1.03E-01
-6.88E+06	-1.05E-01	-6.99E+11	-4.90E-04	-6.85E+06	-1.05E-01
-7.02E+06	-1.07E-01	-7.13E+11	-5.00E-04	-6.99E+06	-1.07E-01
-7.16E+06	-1.09E-01	-7.27E+11	-5.10E-04	-7.12E+06	-1.09E-01
-7.30E+06	-1.11E-01	-7.41E+11	-5.20E-04	-7.26E+06	-1.11E-01
-7.44E+06	-1.13E-01	-7.56E+11	-5.30E-04	-7.40E+06	-1.13E-01
-7.58E+06	-1.16E-01	-7.70E+11	-5.40E-04	-7.54E+06	-1.16E-01
-7.72E+06	-1.18E-01	-7.84E+11	-5.50E-04	-7.68E+06	-1.18E-01
-7.86E+06	-1.20E-01	-7.91E+11	-5.55E-04	-7.75E+06	-1.19E-01
-8.00E+06	-1.22E-01	-8.04E+11	-5.65E-04	-7.88E+06	-1.21E-01
-8.14E+06	-1.24E-01	-8.14E+11	-5.73E-04	-7.98E+06	-1.23E-01
-8.28E+06	-1.26E-01	-8.20E+11	-5.78E-04	-8.04E+06	-1.24E-01
-8.39E+06	-1.28E-01	-8.26E+11	-5.84E-04	-8.09E+06	-1.25E-01
-8.53E+06	-1.30E-01	-8.30E+11	-5.90E-04	-8.13E+06	-1.26E-01
-8.64E+06	-1.32E-01	-8.33E+11	-5.95E-04	-8.16E+06	-1.27E-01
-8.72E+06	-1.34E-01	-8.35E+11	-6.01E-04	-8.18E+06	-1.29E-01
-8.77E+06	-1.35E-01	-8.35E+11	-6.05E-04	-8.18E+06	-1.30E-01
-8.82E+06	-1.36E-01	-8.35E+11	-6.15E-04	-8.18E+06	-1.32E-01
-8.87E+06	-1.37E-01	-8.35E+11	-6.21E-04	-8.18E+06	-1.33E-01
-8.90E+06	-1.39E-01	-8.35E+11	-6.25E-04	-8.18E+06	-1.34E-01
-8.92E+06	-1.40E-01	-8.35E+11	-6.30E-04	-8.18E+06	-1.35E-01
-8.93E+06	-1.41E-01	-8.34E+11	-6.37E-04	-8.18E+06	-1.36E-01
-8.95E+06	-1.43E-01	-8.34E+11	-6.41E-04	-8.17E+06	-1.37E-01
-8.96E+06	-1.44E-01	-8.33E+11	-6.46E-04	-8.17E+06	-1.38E-01
-8.97E+06	-1.46E-01	-8.32E+11	-6.51E-04	-8.16E+06	-1.39E-01
-8.97E+06	-1.47E-01	-8.29E+11	-6.61E-04	-8.13E+06	-1.41E-01
-8.97E+06	-1.48E-01	-8.24E+11	-6.71E-04	-8.08E+06	-1.44E-01
-8.98E+06	-1.49E-01	-8.16E+11	-6.81E-04	-8.00E+06	-1.46E-01
-8.97E+06	-1.50E-01	-8.14E+11	-6.83E-04	-7.97E+06	-1.46E-01
-8.97E+06	-1.51E-01	-8.00E+11	-6.92E-04	-7.84E+06	-1.48E-01
-8.96E+06	-1.53E-01	-7.82E+11	-7.02E-04	-7.66E+06	-1.50E-01
-8.92E+06	-1.55E-01	-7.73E+11	-7.08E-04	-7.57E+06	-1.51E-01
-8.87E+06	-1.57E-01	-7.58E+11	-7.18E-04	-7.43E+06	-1.54E-01
-8.78E+06	-1.59E-01	-7.57E+11	-7.18E-04	-7.42E+06	-1.54E-01
-8.76E+06	-1.60E-01	-7.46E+11	-7.28E-04	-7.31E+06	-1.56E-01
-8.62E+06	-1.62E-01	-7.37E+11	-7.37E-04	-7.22E+06	-1.58E-01
-8.59E+06	-1.62E-01	-7.30E+11	-7.47E-04	-7.15E+06	-1.60E-01
-8.44E+06	-1.64E-01	-7.27E+11	-7.52E-04	-7.12E+06	-1.61E-01
-8.35E+06	-1.66E-01	-7.20E+11	-7.62E-04	-7.06E+06	-1.63E-01
-8.25E+06	-1.68E-01	-7.15E+11	-7.72E-04	-7.00E+06	-1.65E-01
-8.20E+06	-1.69E-01	-7.13E+11	-7.75E-04	-6.99E+06	-1.66E-01
-8.12E+06	-1.71E-01	-7.08E+11	-7.85E-04	-6.94E+06	-1.68E-01
-8.06E+06	-1.73E-01	-7.03E+11	-7.95E-04	-6.89E+06	-1.70E-01
-8.06E+06	-1.74E-01	-6.99E+11	-8.05E-04	-6.85E+06	-1.72E-01

-8.00E+06	-1.76E-01	-6.98E+11	-8.07E-04	-6.84E+06	-1.73E-01
-7.95E+06	-1.78E-01	-6.93E+11	-8.17E-04	-6.79E+06	-1.75E-01
-7.95E+06	-1.78E-01	-6.92E+11	-8.20E-04	-6.78E+06	-1.76E-01
-7.91E+06	-1.80E-01	-6.88E+11	-8.30E-04	-6.74E+06	-1.78E-01
-7.87E+06	-1.82E-01	-6.84E+11	-8.40E-04	-6.70E+06	-1.80E-01
-7.85E+06	-1.83E-01	-6.80E+11	-8.50E-04	-6.66E+06	-1.82E-01
-7.81E+06	-1.85E-01	-6.77E+11	-8.59E-04	-6.63E+06	-1.84E-01
-7.77E+06	-1.87E-01	-6.73E+11	-8.69E-04	-6.60E+06	-1.86E-01
-7.74E+06	-1.89E-01	-6.73E+11	-8.70E-04	-6.59E+06	-1.86E-01
-7.70E+06	-1.91E-01	-6.69E+11	-8.80E-04	-6.56E+06	-1.88E-01
-7.68E+06	-1.93E-01	-6.66E+11	-8.90E-04	-6.53E+06	-1.91E-01
-7.65E+06	-1.95E-01	-6.63E+11	-9.00E-04	-6.49E+06	-1.93E-01
-7.62E+06	-1.97E-01	-6.59E+11	-9.10E-04	-6.46E+06	-1.95E-01
-7.59E+06	-1.99E-01	-6.56E+11	-9.20E-04	-6.43E+06	-1.97E-01
-7.55E+06	-2.01E-01	-6.56E+11	-9.21E-04	-6.43E+06	-1.97E-01
-7.52E+06	-2.03E-01	-6.53E+11	-9.31E-04	-6.40E+06	-1.99E-01
-7.50E+06	-2.05E-01	-6.52E+11	-9.34E-04	-6.39E+06	-2.00E-01
-7.49E+06	-2.06E-01	-6.49E+11	-9.44E-04	-6.36E+06	-2.02E-01
-7.45E+06	-2.08E-01	-6.46E+11	-9.54E-04	-6.33E+06	-2.04E-01
-7.42E+06	-2.10E-01	-6.43E+11	-9.64E-04	-6.30E+06	-2.06E-01
-7.39E+06	-2.12E-01	-6.40E+11	-9.74E-04	-6.27E+06	-2.09E-01
-7.36E+06	-2.15E-01	-6.37E+11	-9.84E-04	-6.24E+06	-2.11E-01
-7.34E+06	-2.17E-01	-6.34E+11	-9.94E-04	-6.21E+06	-2.13E-01
-7.31E+06	-2.19E-01	-6.32E+11	-1.00E-03	-6.20E+06	-2.14E-01
-7.28E+06	-2.21E-01	-6.29E+11	-1.01E-03	-6.17E+06	-2.16E-01
-7.28E+06	-2.21E-01	-6.26E+11	-1.02E-03	-6.14E+06	-2.18E-01
-7.26E+06	-2.23E-01	-6.23E+11	-1.03E-03	-6.11E+06	-2.21E-01
-7.23E+06	-2.25E-01	-6.20E+11	-1.04E-03	-6.08E+06	-2.23E-01
-7.21E+06	-2.27E-01	-6.18E+11	-1.05E-03	-6.05E+06	-2.25E-01
-7.18E+06	-2.29E-01	-6.15E+11	-1.06E-03	-6.03E+06	-2.27E-01
-7.15E+06	-2.31E-01	-6.12E+11	-1.07E-03	-6.00E+06	-2.29E-01
-7.12E+06	-2.33E-01	-6.11E+11	-1.08E-03	-5.99E+06	-2.30E-01
-7.10E+06	-2.36E-01	-6.09E+11	-1.08E-03	-5.97E+06	-2.32E-01
-7.08E+06	-2.38E-01	-6.06E+11	-1.09E-03	-5.94E+06	-2.34E-01
-7.06E+06	-2.39E-01	-6.04E+11	-1.10E-03	-5.91E+06	-2.36E-01
-7.04E+06	-2.41E-01	-6.01E+11	-1.11E-03	-5.89E+06	-2.39E-01
-7.03E+06	-2.42E-01	-5.98E+11	-1.12E-03	-5.86E+06	-2.41E-01
-7.01E+06	-2.44E-01	-5.96E+11	-1.13E-03	-5.84E+06	-2.43E-01
-6.98E+06	-2.46E-01	-5.93E+11	-1.14E-03	-5.81E+06	-2.45E-01
-6.95E+06	-2.48E-01	-5.91E+11	-1.15E-03	-5.79E+06	-2.47E-01
-6.93E+06	-2.50E-01	-5.88E+11	-1.16E-03	-5.77E+06	-2.49E-01
-6.90E+06	-2.52E-01	-5.88E+11	-1.16E-03	-5.77E+06	-2.49E-01
-6.88E+06	-2.54E-01	-5.86E+11	-1.17E-03	-5.74E+06	-2.51E-01
-6.86E+06	-2.57E-01	-5.84E+11	-1.18E-03	-5.73E+06	-2.53E-01
-6.84E+06	-2.58E-01	-5.82E+11	-1.19E-03	-5.70E+06	-2.55E-01

-6.82E+06	-2.60E-01	-5.80E+11	-1.20E-03	-5.68E+06	-2.57E-01
-6.79E+06	-2.62E-01	-5.77E+11	-1.21E-03	-5.66E+06	-2.59E-01
-6.77E+06	-2.64E-01	-5.75E+11	-1.22E-03	-5.63E+06	-2.61E-01
-6.74E+06	-2.66E-01	-5.73E+11	-1.23E-03	-5.61E+06	-2.63E-01
-6.72E+06	-2.69E-01	-5.70E+11	-1.24E-03	-5.59E+06	-2.66E-01
-6.70E+06	-2.71E-01	-5.68E+11	-1.25E-03	-5.57E+06	-2.68E-01
-6.67E+06	-2.73E-01	-5.66E+11	-1.26E-03	-5.55E+06	-2.70E-01
-6.65E+06	-2.75E-01	-5.66E+11	-1.26E-03	-5.54E+06	-2.70E-01
-6.63E+06	-2.77E-01	-5.64E+11	-1.27E-03	-5.52E+06	-2.72E-01
-6.61E+06	-2.79E-01	-5.62E+11	-1.28E-03	-5.50E+06	-2.75E-01
-6.60E+06	-2.80E-01	-5.59E+11	-1.29E-03	-5.48E+06	-2.77E-01
-6.58E+06	-2.82E-01	-5.57E+11	-1.30E-03	-5.46E+06	-2.79E-01
-6.56E+06	-2.84E-01	-5.56E+11	-1.31E-03	-5.45E+06	-2.80E-01
-6.54E+06	-2.86E-01	-5.54E+11	-1.32E-03	-5.43E+06	-2.82E-01
-6.51E+06	-2.88E-01	-5.52E+11	-1.33E-03	-5.41E+06	-2.84E-01
-6.49E+06	-2.90E-01	-5.50E+11	-1.34E-03	-5.39E+06	-2.87E-01
-6.47E+06	-2.93E-01	-5.48E+11	-1.35E-03	-5.37E+06	-2.89E-01
-6.45E+06	-2.95E-01	-5.46E+11	-1.36E-03	-5.35E+06	-2.91E-01
-6.43E+06	-2.97E-01	-5.44E+11	-1.37E-03	-5.33E+06	-2.93E-01
-6.41E+06	-2.99E-01	-5.42E+11	-1.38E-03	-5.31E+06	-2.95E-01
-6.39E+06	-3.01E-01	-5.41E+11	-1.39E-03	-5.30E+06	-2.97E-01
-6.37E+06	-3.03E-01	-5.39E+11	-1.40E-03	-5.28E+06	-2.99E-01
-6.36E+06	-3.04E-01	-5.37E+11	-1.41E-03	-5.26E+06	-3.01E-01
-6.34E+06	-3.06E-01	-5.35E+11	-1.42E-03	-5.24E+06	-3.03E-01
-6.32E+06	-3.08E-01	-5.33E+11	-1.43E-03	-5.23E+06	-3.05E-01
-6.30E+06	-3.10E-01	-5.32E+11	-1.44E-03	-5.21E+06	-3.07E-01
-6.28E+06	-3.13E-01	-5.30E+11	-1.45E-03	-5.19E+06	-3.10E-01
-6.26E+06	-3.15E-01	-5.28E+11	-1.46E-03	-5.18E+06	-3.12E-01
-6.24E+06	-3.17E-01	-5.27E+11	-1.47E-03	-5.16E+06	-3.14E-01
-6.24E+06	-3.18E-01	-5.25E+11	-1.48E-03	-5.14E+06	-3.16E-01
-6.22E+06	-3.20E-01	-5.25E+11	-1.48E-03	-5.14E+06	-3.16E-01
-6.20E+06	-3.22E-01	-5.23E+11	-1.49E-03	-5.12E+06	-3.19E-01
-6.18E+06	-3.24E-01	-5.21E+11	-1.50E-03	-5.11E+06	-3.21E-01
-6.17E+06	-3.26E-01	-5.20E+11	-1.51E-03	-5.09E+06	-3.23E-01
-6.15E+06	-3.28E-01	-5.18E+11	-1.52E-03	-5.08E+06	-3.25E-01
-6.13E+06	-3.30E-01	-5.16E+11	-1.53E-03	-5.06E+06	-3.27E-01
-6.11E+06	-3.33E-01	-5.15E+11	-1.54E-03	-5.04E+06	-3.29E-01
-6.10E+06	-3.34E-01	-5.15E+11	-1.54E-03	-5.04E+06	-3.30E-01
-6.08E+06	-3.37E-01	-5.13E+11	-1.55E-03	-5.03E+06	-3.32E-01
-6.06E+06	-3.39E-01	-5.11E+11	-1.56E-03	-5.01E+06	-3.34E-01
-6.04E+06	-3.41E-01	-5.10E+11	-1.57E-03	-5.00E+06	-3.36E-01
-6.03E+06	-3.43E-01	-5.08E+11	-1.58E-03	-4.98E+06	-3.38E-01
-6.01E+06	-3.45E-01	-5.07E+11	-1.59E-03	-4.97E+06	-3.40E-01
-5.99E+06	-3.47E-01	-5.05E+11	-1.60E-03	-4.95E+06	-3.42E-01
-5.98E+06	-3.49E-01	-5.04E+11	-1.61E-03	-4.94E+06	-3.45E-01

-5.96E+06	-3.52E-01	-5.02E+11	-1.62E-03	-4.92E+06	-3.47E-01
-5.94E+06	-3.54E-01	-5.01E+11	-1.63E-03	-4.91E+06	-3.49E-01
-5.93E+06	-3.56E-01	-5.00E+11	-1.64E-03	-4.90E+06	-3.51E-01
-5.91E+06	-3.58E-01	-4.98E+11	-1.65E-03	-4.88E+06	-3.53E-01
-5.91E+06	-3.59E-01	-4.97E+11	-1.66E-03	-4.87E+06	-3.55E-01
-5.89E+06	-3.61E-01	-4.96E+11	-1.66E-03	-4.86E+06	-3.56E-01
-5.88E+06	-3.63E-01	-4.95E+11	-1.67E-03	-4.85E+06	-3.58E-01
-5.86E+06	-3.65E-01	-4.94E+11	-1.68E-03	-4.84E+06	-3.60E-01
-5.85E+06	-3.67E-01	-4.92E+11	-1.69E-03	-4.82E+06	-3.62E-01
-5.83E+06	-3.69E-01	-4.91E+11	-1.70E-03	-4.81E+06	-3.64E-01
-5.82E+06	-3.72E-01	-4.90E+11	-1.71E-03	-4.80E+06	-3.67E-01
-5.81E+06	-3.72E-01	-4.88E+11	-1.72E-03	-4.79E+06	-3.69E-01
-5.80E+06	-3.74E-01	-4.87E+11	-1.73E-03	-4.77E+06	-3.71E-01
-5.78E+06	-3.76E-01	-4.86E+11	-1.74E-03	-4.76E+06	-3.73E-01
-5.77E+06	-3.78E-01	-4.85E+11	-1.75E-03	-4.75E+06	-3.75E-01
-5.75E+06	-3.81E-01	-4.83E+11	-1.76E-03	-4.74E+06	-3.77E-01
-5.74E+06	-3.83E-01	-4.82E+11	-1.77E-03	-4.72E+06	-3.79E-01
-5.72E+06	-3.85E-01	-4.81E+11	-1.78E-03	-4.71E+06	-3.81E-01
-5.71E+06	-3.87E-01	-4.79E+11	-1.79E-03	-4.70E+06	-3.84E-01
-5.69E+06	-3.89E-01	-4.78E+11	-1.80E-03	-4.69E+06	-3.86E-01
-5.68E+06	-3.91E-01	-4.77E+11	-1.81E-03	-4.67E+06	-3.88E-01
-5.67E+06	-3.93E-01	-4.76E+11	-1.82E-03	-4.66E+06	-3.90E-01
-5.65E+06	-3.96E-01	-4.75E+11	-1.83E-03	-4.65E+06	-3.92E-01
-5.64E+06	-3.98E-01	-4.74E+11	-1.84E-03	-4.64E+06	-3.94E-01
-5.63E+06	-4.00E-01	-4.72E+11	-1.85E-03	-4.63E+06	-3.96E-01
-5.62E+06	-4.02E-01	-4.71E+11	-1.86E-03	-4.62E+06	-3.99E-01
-5.61E+06	-4.03E-01	-4.70E+11	-1.87E-03	-4.61E+06	-4.01E-01
-5.59E+06	-4.06E-01	-4.69E+11	-1.88E-03	-4.60E+06	-4.03E-01
-5.58E+06	-4.08E-01	-4.68E+11	-1.89E-03	-4.59E+06	-4.05E-01
-5.57E+06	-4.10E-01	-4.67E+11	-1.90E-03	-4.58E+06	-4.07E-01
-5.55E+06	-4.12E-01	-4.66E+11	-1.91E-03	-4.57E+06	-4.09E-01
-5.54E+06	-4.14E-01	-4.65E+11	-1.92E-03	-4.56E+06	-4.11E-01
-5.53E+06	-4.16E-01	-4.64E+11	-1.93E-03	-4.55E+06	-4.13E-01
-5.52E+06	-4.18E-01	-4.63E+11	-1.94E-03	-4.53E+06	-4.15E-01
-5.50E+06	-4.20E-01	-4.62E+11	-1.95E-03	-4.52E+06	-4.18E-01
-5.49E+06	-4.22E-01	-4.61E+11	-1.96E-03	-4.51E+06	-4.20E-01
-5.48E+06	-4.25E-01	-4.60E+11	-1.97E-03	-4.50E+06	-4.22E-01
-5.47E+06	-4.27E-01	-4.59E+11	-1.98E-03	-4.50E+06	-4.24E-01
-5.45E+06	-4.29E-01	-4.58E+11	-1.99E-03	-4.48E+06	-4.26E-01
-5.44E+06	-4.31E-01	-4.57E+11	-2.00E-03	-4.47E+06	-4.28E-01
-5.43E+06	-4.33E-01	-4.55E+11	-2.01E-03	-4.46E+06	-4.30E-01
-5.42E+06	-4.35E-01	-4.54E+11	-2.02E-03	-4.45E+06	-4.32E-01
-5.40E+06	-4.37E-01	-4.53E+11	-2.03E-03	-4.44E+06	-4.34E-01
-5.39E+06	-4.40E-01	-4.52E+11	-2.04E-03	-4.43E+06	-4.37E-01
-5.38E+06	-4.42E-01	-4.51E+11	-2.05E-03	-4.42E+06	-4.39E-01

-5.37E+06	-4.44E-01	-4.50E+11	-2.06E-03	-4.41E+06	-4.41E-01
-5.36E+06	-4.46E-01	-4.49E+11	-2.07E-03	-4.40E+06	-4.43E-01
-5.35E+06	-4.48E-01	-4.48E+11	-2.08E-03	-4.39E+06	-4.45E-01
-5.34E+06	-4.50E-01	-4.47E+11	-2.09E-03	-4.38E+06	-4.47E-01
-5.33E+06	-4.52E-01	-4.46E+11	-2.10E-03	-4.37E+06	-4.49E-01
-5.32E+06	-4.55E-01	-4.45E+11	-2.11E-03	-4.36E+06	-4.52E-01
-5.30E+06	-4.57E-01	-4.44E+11	-2.12E-03	-4.36E+06	-4.54E-01
-5.29E+06	-4.59E-01	-4.44E+11	-2.13E-03	-4.35E+06	-4.56E-01
-5.29E+06	-4.61E-01	-4.43E+11	-2.14E-03	-4.34E+06	-4.58E-01
-5.28E+06	-4.63E-01	-4.42E+11	-2.15E-03	-4.33E+06	-4.60E-01
-5.26E+06	-4.65E-01	-4.41E+11	-2.16E-03	-4.32E+06	-4.62E-01
-5.25E+06	-4.67E-01	-4.40E+11	-2.17E-03	-4.31E+06	-4.64E-01
-5.24E+06	-4.70E-01	-4.39E+11	-2.18E-03	-4.30E+06	-4.67E-01
-5.23E+06	-4.72E-01	-4.38E+11	-2.19E-03	-4.30E+06	-4.69E-01
-5.22E+06	-4.74E-01	-4.37E+11	-2.20E-03	-4.29E+06	-4.71E-01
-5.21E+06	-4.76E-01	-4.37E+11	-2.21E-03	-4.28E+06	-4.73E-01
-5.20E+06	-4.78E-01	-4.36E+11	-2.22E-03	-4.27E+06	-4.75E-01
-5.19E+06	-4.80E-01	-4.35E+11	-2.23E-03	-4.26E+06	-4.77E-01
-5.18E+06	-4.82E-01	-4.34E+11	-2.24E-03	-4.26E+06	-4.79E-01
-5.17E+06	-4.84E-01	-4.33E+11	-2.25E-03	-4.25E+06	-4.81E-01
-5.16E+06	-4.86E-01	-4.33E+11	-2.26E-03	-4.24E+06	-4.83E-01
-5.15E+06	-4.88E-01	-4.32E+11	-2.27E-03	-4.23E+06	-4.85E-01
-5.14E+06	-4.91E-01	-4.31E+11	-2.28E-03	-4.22E+06	-4.87E-01
-5.13E+06	-4.93E-01	-4.30E+11	-2.29E-03	-4.21E+06	-4.90E-01
-5.12E+06	-4.95E-01	-4.29E+11	-2.30E-03	-4.21E+06	-4.92E-01
-5.11E+06	-4.97E-01	-4.29E+11	-2.31E-03	-4.20E+06	-4.94E-01
-5.10E+06	-4.99E-01	-4.28E+11	-2.31E-03	-4.20E+06	-4.94E-01
-5.09E+06	-5.01E-01	-4.28E+11	-2.32E-03	-4.19E+06	-4.96E-01
-5.08E+06	-5.03E-01	-4.27E+11	-2.33E-03	-4.18E+06	-4.99E-01
-5.07E+06	-5.06E-01	-4.26E+11	-2.34E-03	-4.17E+06	-5.01E-01
-5.06E+06	-5.08E-01	-4.25E+11	-2.35E-03	-4.17E+06	-5.02E-01
-5.06E+06	-5.10E-01	-4.25E+11	-2.36E-03	-4.16E+06	-5.04E-01
-5.05E+06	-5.12E-01	-4.24E+11	-2.37E-03	-4.15E+06	-5.06E-01
-5.04E+06	-5.14E-01	-4.23E+11	-2.38E-03	-4.14E+06	-5.09E-01
-5.03E+06	-5.16E-01	-4.22E+11	-2.39E-03	-4.13E+06	-5.11E-01
-5.02E+06	-5.18E-01	-4.21E+11	-2.40E-03	-4.13E+06	-5.13E-01
-5.01E+06	-5.21E-01	-4.20E+11	-2.41E-03	-4.12E+06	-5.15E-01
-5.00E+06	-5.23E-01	-4.19E+11	-2.42E-03	-4.11E+06	-5.17E-01
-5.00E+06	-5.25E-01	-4.19E+11	-2.43E-03	-4.10E+06	-5.19E-01
-4.99E+06	-5.27E-01	-4.18E+11	-2.44E-03	-4.09E+06	-5.21E-01
-4.98E+06	-5.29E-01	-4.17E+11	-2.45E-03	-4.09E+06	-5.24E-01
-4.97E+06	-5.31E-01	-4.16E+11	-2.46E-03	-4.08E+06	-5.26E-01
-4.96E+06	-5.33E-01	-4.16E+11	-2.47E-03	-4.07E+06	-5.28E-01
-4.96E+06	-5.36E-01	-4.15E+11	-2.48E-03	-4.06E+06	-5.30E-01
-4.95E+06	-5.37E-01	-4.14E+11	-2.49E-03	-4.06E+06	-5.32E-01

-4.94E+06	-5.39E-01	-4.13E+11	-2.50E-03	-4.05E+06	-5.34E-01
-4.93E+06	-5.42E-01	-4.13E+11	-2.51E-03	-4.04E+06	-5.36E-01
-4.93E+06	-5.44E-01	-4.12E+11	-2.52E-03	-4.04E+06	-5.39E-01
-4.92E+06	-5.46E-01	-4.11E+11	-2.53E-03	-4.03E+06	-5.41E-01
-4.91E+06	-5.48E-01	-4.11E+11	-2.54E-03	-4.02E+06	-5.43E-01
-4.90E+06	-5.50E-01	-4.10E+11	-2.55E-03	-4.02E+06	-5.45E-01
-4.89E+06	-5.52E-01	-4.09E+11	-2.56E-03	-4.01E+06	-5.47E-01
-4.89E+06	-5.54E-01	-4.09E+11	-2.57E-03	-4.00E+06	-5.49E-01
-4.88E+06	-5.57E-01	-4.08E+11	-2.58E-03	-4.00E+06	-5.51E-01
-4.88E+06	-5.57E-01	-4.07E+11	-2.59E-03	-3.99E+06	-5.54E-01
-4.87E+06	-5.59E-01	-4.07E+11	-2.60E-03	-3.98E+06	-5.56E-01
-4.86E+06	-5.61E-01	-4.06E+11	-2.61E-03	-3.98E+06	-5.58E-01
-4.85E+06	-5.63E-01	-4.05E+11	-2.62E-03	-3.97E+06	-5.60E-01
-4.85E+06	-5.65E-01	-4.05E+11	-2.63E-03	-3.97E+06	-5.62E-01
-4.84E+06	-5.67E-01	-4.04E+11	-2.64E-03	-3.96E+06	-5.64E-01
-4.83E+06	-5.70E-01	-4.03E+11	-2.65E-03	-3.95E+06	-5.66E-01
-4.82E+06	-5.72E-01	-4.03E+11	-2.66E-03	-3.95E+06	-5.69E-01
-4.81E+06	-5.74E-01	-4.02E+11	-2.67E-03	-3.94E+06	-5.71E-01
-4.80E+06	-5.76E-01	-4.02E+11	-2.68E-03	-3.93E+06	-5.73E-01

70% kandas

	4670	9.80E-06	1.00E-06
Momen	**Rotasi**	**Momen**	**Curvature**
6.38E+11	2.70E-03	6.26E+06	5.78E-01
6.39E+11	2.69E-03	6.26E+06	5.76E-01
6.40E+11	2.68E-03	6.27E+06	5.73E-01
6.40E+11	2.67E-03	6.27E+06	5.71E-01
6.41E+11	2.66E-03	6.28E+06	5.69E-01
6.41E+11	2.65E-03	6.29E+06	5.67E-01
6.42E+11	2.64E-03	6.29E+06	5.65E-01
6.43E+11	2.63E-03	6.30E+06	5.63E-01
6.43E+11	2.62E-03	6.30E+06	5.61E-01
6.44E+11	2.61E-03	6.31E+06	5.58E-01
6.45E+11	2.60E-03	6.32E+06	5.56E-01
6.45E+11	2.59E-03	6.32E+06	5.54E-01
6.46E+11	2.58E-03	6.33E+06	5.52E-01
6.47E+11	2.57E-03	6.34E+06	5.50E-01
6.47E+11	2.56E-03	6.34E+06	5.48E-01
6.48E+11	2.55E-03	6.35E+06	5.46E-01
6.49E+11	2.54E-03	6.36E+06	5.43E-01
6.49E+11	2.53E-03	6.36E+06	5.41E-01
6.50E+11	2.52E-03	6.37E+06	5.39E-01
6.51E+11	2.51E-03	6.38E+06	5.37E-01
6.51E+11	2.50E-03	6.38E+06	5.35E-01
6.52E+11	2.49E-03	6.39E+06	5.33E-01
6.53E+11	2.48E-03	6.40E+06	5.31E-01
6.54E+11	2.47E-03	6.41E+06	5.28E-01
6.54E+11	2.46E-03	6.41E+06	5.26E-01
6.55E+11	2.45E-03	6.42E+06	5.24E-01
6.56E+11	2.44E-03	6.43E+06	5.22E-01
6.57E+11	2.43E-03	6.44E+06	5.20E-01
6.58E+11	2.42E-03	6.44E+06	5.18E-01
6.58E+11	2.41E-03	6.45E+06	5.16E-01
6.59E+11	2.40E-03	6.46E+06	5.13E-01
6.60E+11	2.39E-03	6.46E+06	5.12E-01
6.60E+11	2.38E-03	6.47E+06	5.09E-01
6.61E+11	2.37E-03	6.48E+06	5.07E-01
6.62E+11	2.36E-03	6.48E+06	5.05E-01
6.62E+11	2.35E-03	6.49E+06	5.03E-01
6.63E+11	2.34E-03	6.50E+06	5.01E-01
6.64E+11	2.33E-03	6.51E+06	4.99E-01
6.65E+11	2.32E-03	6.51E+06	4.97E-01
6.65E+11	2.31E-03	6.52E+06	4.94E-01

6.66E+11	2.30E-03	6.53E+06	4.92E-01
6.67E+11	2.29E-03	6.53E+06	4.90E-01
6.67E+11	2.29E-03	6.54E+06	4.89E-01
6.68E+11	2.28E-03	6.54E+06	4.87E-01
6.68E+11	2.27E-03	6.55E+06	4.85E-01
6.69E+11	2.26E-03	6.56E+06	4.83E-01
6.70E+11	2.25E-03	6.56E+06	4.81E-01
6.71E+11	2.24E-03	6.57E+06	4.79E-01
6.71E+11	2.23E-03	6.58E+06	4.76E-01
6.72E+11	2.22E-03	6.59E+06	4.74E-01
6.73E+11	2.21E-03	6.59E+06	4.72E-01
6.74E+11	2.20E-03	6.60E+06	4.70E-01
6.74E+11	2.19E-03	6.61E+06	4.68E-01
6.75E+11	2.18E-03	6.62E+06	4.66E-01
6.76E+11	2.17E-03	6.62E+06	4.64E-01
6.77E+11	2.16E-03	6.63E+06	4.61E-01
6.77E+11	2.15E-03	6.64E+06	4.59E-01
6.78E+11	2.14E-03	6.65E+06	4.57E-01
6.79E+11	2.13E-03	6.65E+06	4.55E-01
6.80E+11	2.12E-03	6.66E+06	4.53E-01
6.81E+11	2.11E-03	6.67E+06	4.51E-01
6.81E+11	2.10E-03	6.68E+06	4.49E-01
6.82E+11	2.09E-03	6.68E+06	4.47E-01
6.83E+11	2.08E-03	6.69E+06	4.45E-01
6.84E+11	2.07E-03	6.70E+06	4.43E-01
6.84E+11	2.06E-03	6.71E+06	4.40E-01
6.85E+11	2.05E-03	6.71E+06	4.38E-01
6.86E+11	2.04E-03	6.72E+06	4.36E-01
6.87E+11	2.03E-03	6.73E+06	4.34E-01
6.87E+11	2.02E-03	6.74E+06	4.32E-01
6.88E+11	2.01E-03	6.74E+06	4.30E-01
6.89E+11	2.00E-03	6.75E+06	4.28E-01
6.90E+11	1.99E-03	6.76E+06	4.25E-01
6.90E+11	1.98E-03	6.76E+06	4.23E-01
6.91E+11	1.97E-03	6.77E+06	4.21E-01
6.92E+11	1.96E-03	6.78E+06	4.19E-01
6.92E+11	1.95E-03	6.78E+06	4.18E-01
6.93E+11	1.94E-03	6.79E+06	4.16E-01
6.94E+11	1.93E-03	6.80E+06	4.14E-01
6.95E+11	1.92E-03	6.81E+06	4.12E-01
6.96E+11	1.91E-03	6.82E+06	4.10E-01
6.97E+11	1.90E-03	6.83E+06	4.07E-01
6.97E+11	1.89E-03	6.83E+06	4.05E-01
6.98E+11	1.88E-03	6.84E+06	4.03E-01
6.99E+11	1.87E-03	6.85E+06	4.01E-01

7.00E+11	1.86E-03	6.86E+06	3.99E-01
7.01E+11	1.85E-03	6.87E+06	3.97E-01
7.02E+11	1.84E-03	6.88E+06	3.95E-01
7.02E+11	1.83E-03	6.88E+06	3.93E-01
7.03E+11	1.82E-03	6.89E+06	3.90E-01
7.04E+11	1.81E-03	6.90E+06	3.88E-01
7.05E+11	1.80E-03	6.91E+06	3.86E-01
7.06E+11	1.79E-03	6.91E+06	3.84E-01
7.06E+11	1.78E-03	6.92E+06	3.82E-01
7.07E+11	1.77E-03	6.93E+06	3.80E-01
7.08E+11	1.76E-03	6.94E+06	3.78E-01
7.09E+11	1.75E-03	6.95E+06	3.75E-01
7.10E+11	1.74E-03	6.96E+06	3.73E-01
7.11E+11	1.73E-03	6.96E+06	3.71E-01
7.12E+11	1.72E-03	6.97E+06	3.69E-01
7.12E+11	1.72E-03	6.98E+06	3.69E-01
7.13E+11	1.71E-03	6.98E+06	3.66E-01
7.14E+11	1.70E-03	6.99E+06	3.64E-01
7.15E+11	1.69E-03	7.00E+06	3.62E-01
7.16E+11	1.68E-03	7.01E+06	3.60E-01
7.17E+11	1.67E-03	7.02E+06	3.58E-01
7.17E+11	1.66E-03	7.03E+06	3.56E-01
7.18E+11	1.65E-03	7.04E+06	3.54E-01
7.19E+11	1.64E-03	7.04E+06	3.52E-01
7.20E+11	1.63E-03	7.05E+06	3.50E-01
7.20E+11	1.62E-03	7.06E+06	3.48E-01
7.21E+11	1.61E-03	7.07E+06	3.46E-01
7.22E+11	1.60E-03	7.08E+06	3.43E-01
7.23E+11	1.59E-03	7.09E+06	3.41E-01
7.24E+11	1.58E-03	7.09E+06	3.39E-01
7.25E+11	1.57E-03	7.10E+06	3.37E-01
7.26E+11	1.56E-03	7.11E+06	3.35E-01
7.27E+11	1.55E-03	7.12E+06	3.33E-01
7.28E+11	1.54E-03	7.13E+06	3.31E-01
7.29E+11	1.53E-03	7.14E+06	3.28E-01
7.29E+11	1.53E-03	7.14E+06	3.28E-01
7.30E+11	1.52E-03	7.15E+06	3.26E-01
7.31E+11	1.51E-03	7.16E+06	3.24E-01
7.32E+11	1.50E-03	7.17E+06	3.22E-01
7.33E+11	1.49E-03	7.18E+06	3.20E-01
7.33E+11	1.49E-03	7.18E+06	3.19E-01
7.34E+11	1.48E-03	7.19E+06	3.17E-01
7.35E+11	1.47E-03	7.20E+06	3.15E-01
7.36E+11	1.46E-03	7.21E+06	3.13E-01
7.37E+11	1.45E-03	7.22E+06	3.11E-01

7.37E+11	1.44E-03	7.23E+06	3.09E-01
7.38E+11	1.43E-03	7.24E+06	3.06E-01
7.39E+11	1.42E-03	7.25E+06	3.04E-01
7.41E+11	1.41E-03	7.26E+06	3.02E-01
7.42E+11	1.40E-03	7.27E+06	3.00E-01
7.43E+11	1.39E-03	7.28E+06	2.98E-01
7.43E+11	1.38E-03	7.28E+06	2.96E-01
7.44E+11	1.37E-03	7.30E+06	2.94E-01
7.45E+11	1.36E-03	7.30E+06	2.92E-01
7.46E+11	1.35E-03	7.31E+06	2.90E-01
7.47E+11	1.35E-03	7.32E+06	2.88E-01
7.48E+11	1.34E-03	7.33E+06	2.86E-01
7.49E+11	1.33E-03	7.34E+06	2.85E-01
7.49E+11	1.32E-03	7.34E+06	2.82E-01
7.50E+11	1.31E-03	7.35E+06	2.80E-01
7.51E+11	1.30E-03	7.36E+06	2.78E-01
7.52E+11	1.29E-03	7.37E+06	2.76E-01
7.54E+11	1.28E-03	7.38E+06	2.74E-01
7.55E+11	1.27E-03	7.39E+06	2.72E-01
7.56E+11	1.26E-03	7.40E+06	2.70E-01
7.56E+11	1.26E-03	7.41E+06	2.69E-01
7.57E+11	1.25E-03	7.42E+06	2.67E-01
7.58E+11	1.24E-03	7.43E+06	2.65E-01
7.59E+11	1.23E-03	7.44E+06	2.63E-01
7.60E+11	1.22E-03	7.44E+06	2.61E-01
7.61E+11	1.21E-03	7.45E+06	2.59E-01
7.61E+11	1.20E-03	7.46E+06	2.57E-01
7.62E+11	1.19E-03	7.47E+06	2.54E-01
7.64E+11	1.18E-03	7.48E+06	2.52E-01
7.65E+11	1.17E-03	7.49E+06	2.50E-01
7.66E+11	1.16E-03	7.50E+06	2.48E-01
7.67E+11	1.15E-03	7.52E+06	2.46E-01
7.68E+11	1.14E-03	7.53E+06	2.44E-01
7.69E+11	1.13E-03	7.54E+06	2.42E-01
7.70E+11	1.12E-03	7.54E+06	2.40E-01
7.71E+11	1.11E-03	7.55E+06	2.38E-01
7.72E+11	1.10E-03	7.56E+06	2.36E-01
7.73E+11	1.09E-03	7.57E+06	2.34E-01
7.74E+11	1.08E-03	7.58E+06	2.32E-01
7.75E+11	1.07E-03	7.59E+06	2.30E-01
7.76E+11	1.06E-03	7.61E+06	2.28E-01
7.77E+11	1.05E-03	7.62E+06	2.26E-01
7.78E+11	1.04E-03	7.63E+06	2.24E-01
7.79E+11	1.04E-03	7.63E+06	2.23E-01
7.80E+11	1.03E-03	7.64E+06	2.21E-01

7.81E+11	1.02E-03	7.65E+06	2.19E-01
7.82E+11	1.01E-03	7.66E+06	2.16E-01
7.83E+11	1.00E-03	7.67E+06	2.14E-01
7.83E+11	1.00E-03	7.68E+06	2.14E-01
7.84E+11	9.90E-04	7.69E+06	2.12E-01
7.85E+11	9.80E-04	7.70E+06	2.10E-01
7.86E+11	9.70E-04	7.71E+06	2.08E-01
7.87E+11	9.60E-04	7.71E+06	2.06E-01
7.88E+11	9.50E-04	7.72E+06	2.04E-01
7.89E+11	9.40E-04	7.74E+06	2.01E-01
7.91E+11	9.30E-04	7.75E+06	1.99E-01
7.91E+11	9.26E-04	7.75E+06	1.98E-01
7.92E+11	9.16E-04	7.76E+06	1.96E-01
7.93E+11	9.06E-04	7.77E+06	1.94E-01
7.94E+11	8.99E-04	7.78E+06	1.93E-01
7.95E+11	8.89E-04	7.79E+06	1.90E-01
7.96E+11	8.79E-04	7.80E+06	1.88E-01
7.97E+11	8.69E-04	7.81E+06	1.86E-01
7.97E+11	8.68E-04	7.81E+06	1.86E-01
7.98E+11	8.58E-04	7.82E+06	1.84E-01
7.99E+11	8.48E-04	7.83E+06	1.81E-01
8.00E+11	8.45E-04	7.84E+06	1.81E-01
8.00E+11	8.35E-04	7.84E+06	1.79E-01
8.01E+11	8.25E-04	7.85E+06	1.77E-01
8.02E+11	8.15E-04	7.86E+06	1.75E-01
8.03E+11	8.09E-04	7.87E+06	1.73E-01
8.04E+11	7.99E-04	7.88E+06	1.71E-01
8.04E+11	7.96E-04	7.88E+06	1.70E-01
8.05E+11	7.86E-04	7.88E+06	1.68E-01
8.06E+11	7.76E-04	7.89E+06	1.66E-01
8.06E+11	7.74E-04	7.89E+06	1.66E-01
8.06E+11	7.64E-04	7.90E+06	1.64E-01
8.07E+11	7.54E-04	7.90E+06	1.61E-01
8.07E+11	7.45E-04	7.91E+06	1.60E-01
8.09E+11	7.35E-04	7.93E+06	1.57E-01
8.10E+11	7.25E-04	7.94E+06	1.55E-01
8.10E+11	7.24E-04	7.94E+06	1.55E-01
8.12E+11	7.14E-04	7.96E+06	1.53E-01
8.14E+11	7.07E-04	7.98E+06	1.51E-01
8.18E+11	6.97E-04	8.02E+06	1.49E-01
8.20E+11	6.93E-04	8.03E+06	1.48E-01
8.23E+11	6.88E-04	8.06E+06	1.47E-01
8.28E+11	6.79E-04	8.12E+06	1.45E-01
8.29E+11	6.78E-04	8.12E+06	1.45E-01
8.30E+11	6.68E-04	8.13E+06	1.43E-01

8.30E+11	6.66E-04	8.13E+06	1.43E-01
8.26E+11	6.56E-04	8.10E+06	1.41E-01
8.26E+11	6.55E-04	8.09E+06	1.40E-01
8.20E+11	6.45E-04	8.04E+06	1.38E-01
8.15E+11	6.36E-04	7.98E+06	1.36E-01
8.10E+11	6.28E-04	7.94E+06	1.34E-01
8.07E+11	6.22E-04	7.90E+06	1.33E-01
8.02E+11	6.16E-04	7.86E+06	1.32E-01
8.01E+11	6.15E-04	7.84E+06	1.32E-01
7.88E+11	6.05E-04	7.72E+06	1.29E-01
7.82E+11	6.00E-04	7.66E+06	1.28E-01
7.69E+11	5.90E-04	7.54E+06	1.26E-01
7.56E+11	5.80E-04	7.41E+06	1.24E-01
7.43E+11	5.70E-04	7.28E+06	1.22E-01
7.30E+11	5.60E-04	7.16E+06	1.20E-01
7.17E+11	5.50E-04	7.03E+06	1.18E-01
7.04E+11	5.40E-04	6.90E+06	1.16E-01
6.91E+11	5.30E-04	6.77E+06	1.13E-01
6.78E+11	5.20E-04	6.65E+06	1.11E-01
6.65E+11	5.10E-04	6.52E+06	1.09E-01
6.52E+11	5.00E-04	6.39E+06	1.07E-01
6.39E+11	4.90E-04	6.26E+06	1.05E-01
6.26E+11	4.80E-04	6.13E+06	1.03E-01
6.13E+11	4.70E-04	6.01E+06	1.01E-01
6.00E+11	4.60E-04	5.88E+06	9.85E-02
5.87E+11	4.50E-04	5.75E+06	9.64E-02
5.74E+11	4.40E-04	5.62E+06	9.42E-02
5.61E+11	4.30E-04	5.50E+06	9.21E-02
5.48E+11	4.20E-04	5.37E+06	8.99E-02
5.35E+11	4.10E-04	5.24E+06	8.78E-02
5.22E+11	4.00E-04	5.11E+06	8.57E-02
5.09E+11	3.90E-04	4.98E+06	8.35E-02
4.96E+11	3.80E-04	4.86E+06	8.14E-02
4.83E+11	3.70E-04	4.73E+06	7.92E-02
4.70E+11	3.60E-04	4.60E+06	7.71E-02
4.56E+11	3.50E-04	4.47E+06	7.49E-02
4.43E+11	3.40E-04	4.35E+06	7.28E-02
4.30E+11	3.30E-04	4.22E+06	7.07E-02
4.17E+11	3.20E-04	4.09E+06	6.85E-02
4.04E+11	3.10E-04	3.96E+06	6.64E-02
3.91E+11	3.00E-04	3.83E+06	6.42E-02
3.78E+11	2.90E-04	3.71E+06	6.21E-02
3.65E+11	2.80E-04	3.58E+06	6.00E-02
3.52E+11	2.70E-04	3.45E+06	5.78E-02
3.39E+11	2.60E-04	3.32E+06	5.57E-02

3.26E+11	2.50E-04	3.19E+06	5.35E-02
3.13E+11	2.40E-04	3.07E+06	5.14E-02
3.00E+11	2.30E-04	2.94E+06	4.93E-02
2.87E+11	2.20E-04	2.81E+06	4.71E-02
2.74E+11	2.10E-04	2.68E+06	4.50E-02
2.61E+11	2.00E-04	2.56E+06	4.28E-02
2.48E+11	1.90E-04	2.43E+06	4.07E-02
2.35E+11	1.80E-04	2.30E+06	3.85E-02
2.22E+11	1.70E-04	2.17E+06	3.64E-02
2.09E+11	1.60E-04	2.05E+06	3.43E-02
1.96E+11	1.50E-04	1.92E+06	3.21E-02
1.83E+11	1.40E-04	1.79E+06	3.00E-02
1.70E+11	1.30E-04	1.66E+06	2.78E-02
1.57E+11	1.20E-04	1.53E+06	2.57E-02
1.44E+11	1.10E-04	1.41E+06	2.36E-02
1.30E+11	1.00E-04	1.28E+06	2.14E-02
1.17E+11	9.00E-05	1.15E+06	1.93E-02
1.04E+11	8.00E-05	1.02E+06	1.71E-02
9.13E+10	7.00E-05	8.95E+05	1.50E-02
7.83E+10	6.00E-05	7.67E+05	1.28E-02
6.52E+10	5.00E-05	6.39E+05	1.07E-02
5.22E+10	4.00E-05	5.11E+05	8.57E-03
3.91E+10	3.00E-05	3.83E+05	6.42E-03
2.61E+10	2.00E-05	2.56E+05	4.28E-03
1.30E+10	1.00E-05	1.28E+05	2.14E-03
1.17E+10	9.00E-06	1.15E+05	1.93E-03
1.04E+10	8.00E-06	1.02E+05	1.71E-03
9.13E+09	7.00E-06	8.95E+04	1.50E-03
7.83E+09	6.00E-06	7.67E+04	1.28E-03
6.52E+09	5.00E-06	6.39E+04	1.07E-03
5.22E+09	4.00E-06	5.11E+04	8.57E-04
3.91E+09	3.00E-06	3.83E+04	6.42E-04
2.61E+09	2.00E-06	2.56E+04	4.28E-04
1.31E+09	1.00E-06	1.28E+04	2.14E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00
-1.31E+09	-1.00E-06	-1.28E+04	-2.14E-04
-2.61E+09	-2.00E-06	-2.56E+04	-4.28E-04
-3.91E+09	-3.00E-06	-3.84E+04	-6.42E-04
-5.22E+09	-4.00E-06	-5.11E+04	-8.57E-04
-6.52E+09	-5.00E-06	-6.39E+04	-1.07E-03
-7.83E+09	-6.00E-06	-7.67E+04	-1.28E-03
-9.13E+09	-7.00E-06	-8.95E+04	-1.50E-03
-1.04E+10	-8.00E-06	-1.02E+05	-1.71E-03
-1.17E+10	-9.00E-06	-1.15E+05	-1.93E-03
-1.30E+10	-1.00E-05	-1.28E+05	-2.14E-03

-2.61E+10	-2.00E-05	-2.56E+05	-4.28E-03
-3.91E+10	-3.00E-05	-3.83E+05	-6.42E-03
-5.22E+10	-4.00E-05	-5.11E+05	-8.57E-03
-6.52E+10	-5.00E-05	-6.39E+05	-1.07E-02
-7.83E+10	-6.00E-05	-7.67E+05	-1.28E-02
-9.13E+10	-7.00E-05	-8.95E+05	-1.50E-02
-1.04E+11	-8.00E-05	-1.02E+06	-1.71E-02
-1.17E+11	-9.00E-05	-1.15E+06	-1.93E-02
-1.30E+11	-1.00E-04	-1.28E+06	-2.14E-02
-1.44E+11	-1.10E-04	-1.41E+06	-2.36E-02
-1.57E+11	-1.20E-04	-1.53E+06	-2.57E-02
-1.70E+11	-1.30E-04	-1.66E+06	-2.78E-02
-1.83E+11	-1.40E-04	-1.79E+06	-3.00E-02
-1.96E+11	-1.50E-04	-1.92E+06	-3.21E-02
-2.09E+11	-1.60E-04	-2.05E+06	-3.43E-02
-2.22E+11	-1.70E-04	-2.17E+06	-3.64E-02
-2.35E+11	-1.80E-04	-2.30E+06	-3.85E-02
-2.48E+11	-1.90E-04	-2.43E+06	-4.07E-02
-2.61E+11	-2.00E-04	-2.56E+06	-4.28E-02
-2.74E+11	-2.10E-04	-2.68E+06	-4.50E-02
-2.87E+11	-2.20E-04	-2.81E+06	-4.71E-02
-3.00E+11	-2.30E-04	-2.94E+06	-4.93E-02
-3.13E+11	-2.40E-04	-3.07E+06	-5.14E-02
-3.26E+11	-2.50E-04	-3.20E+06	-5.35E-02
-3.39E+11	-2.60E-04	-3.32E+06	-5.57E-02
-3.52E+11	-2.70E-04	-3.45E+06	-5.78E-02
-3.65E+11	-2.80E-04	-3.58E+06	-6.00E-02
-3.78E+11	-2.90E-04	-3.71E+06	-6.21E-02
-3.91E+11	-3.00E-04	-3.83E+06	-6.42E-02
-4.04E+11	-3.10E-04	-3.96E+06	-6.64E-02
-4.17E+11	-3.20E-04	-4.09E+06	-6.85E-02
-4.30E+11	-3.30E-04	-4.22E+06	-7.07E-02
-4.43E+11	-3.40E-04	-4.35E+06	-7.28E-02
-4.57E+11	-3.50E-04	-4.47E+06	-7.49E-02
-4.70E+11	-3.60E-04	-4.60E+06	-7.71E-02
-4.83E+11	-3.70E-04	-4.73E+06	-7.92E-02
-4.96E+11	-3.80E-04	-4.86E+06	-8.14E-02
-5.09E+11	-3.90E-04	-4.98E+06	-8.35E-02
-5.22E+11	-4.00E-04	-5.11E+06	-8.57E-02
-5.35E+11	-4.10E-04	-5.24E+06	-8.78E-02
-5.48E+11	-4.20E-04	-5.37E+06	-8.99E-02
-5.61E+11	-4.30E-04	-5.50E+06	-9.21E-02
-5.74E+11	-4.40E-04	-5.62E+06	-9.42E-02
-5.87E+11	-4.50E-04	-5.75E+06	-9.64E-02
-6.00E+11	-4.60E-04	-5.88E+06	-9.85E-02

-6.13E+11	-4.70E-04	-6.01E+06	-1.01E-01
-6.26E+11	-4.80E-04	-6.13E+06	-1.03E-01
-6.39E+11	-4.90E-04	-6.26E+06	-1.05E-01
-6.52E+11	-5.00E-04	-6.39E+06	-1.07E-01
-6.65E+11	-5.10E-04	-6.52E+06	-1.09E-01
-6.78E+11	-5.20E-04	-6.65E+06	-1.11E-01
-6.91E+11	-5.30E-04	-6.77E+06	-1.13E-01
-7.04E+11	-5.40E-04	-6.90E+06	-1.16E-01
-7.17E+11	-5.50E-04	-7.03E+06	-1.18E-01
-7.30E+11	-5.60E-04	-7.16E+06	-1.20E-01
-7.43E+11	-5.70E-04	-7.28E+06	-1.22E-01
-7.56E+11	-5.80E-04	-7.41E+06	-1.24E-01
-7.69E+11	-5.90E-04	-7.54E+06	-1.26E-01
-7.82E+11	-6.00E-04	-7.67E+06	-1.28E-01
-7.95E+11	-6.10E-04	-7.79E+06	-1.31E-01
-8.04E+11	-6.17E-04	-7.88E+06	-1.32E-01
-8.15E+11	-6.25E-04	-7.99E+06	-1.34E-01
-8.19E+11	-6.31E-04	-8.03E+06	-1.35E-01
-8.25E+11	-6.40E-04	-8.08E+06	-1.37E-01
-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.32E+11	-6.50E-04	-8.15E+06	-1.39E-01
-8.37E+11	-6.58E-04	-8.21E+06	-1.41E-01
-8.41E+11	-6.64E-04	-8.24E+06	-1.42E-01
-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.47E+11	-6.74E-04	-8.30E+06	-1.44E-01
-8.51E+11	-6.83E-04	-8.34E+06	-1.46E-01
-8.56E+11	-6.92E-04	-8.38E+06	-1.48E-01
-8.59E+11	-7.02E-04	-8.42E+06	-1.50E-01
-8.63E+11	-7.12E-04	-8.45E+06	-1.53E-01
-8.63E+11	-7.13E-04	-8.46E+06	-1.53E-01
-8.65E+11	-7.20E-04	-8.48E+06	-1.54E-01
-8.66E+11	-7.27E-04	-8.49E+06	-1.56E-01
-8.67E+11	-7.33E-04	-8.49E+06	-1.57E-01
-8.67E+11	-7.43E-04	-8.49E+06	-1.59E-01
-8.67E+11	-7.53E-04	-8.49E+06	-1.61E-01
-8.67E+11	-7.61E-04	-8.49E+06	-1.63E-01
-8.67E+11	-7.68E-04	-8.49E+06	-1.64E-01
-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.66E+11	-7.78E-04	-8.49E+06	-1.67E-01
-8.66E+11	-7.85E-04	-8.48E+06	-1.68E-01
-8.65E+11	-7.92E-04	-8.48E+06	-1.69E-01
-8.64E+11	-7.99E-04	-8.47E+06	-1.71E-01
-8.62E+11	-8.06E-04	-8.45E+06	-1.73E-01
-8.60E+11	-8.15E-04	-8.42E+06	-1.74E-01
-8.56E+11	-8.22E-04	-8.38E+06	-1.76E-01

-8.48E+11	-8.32E-04	-8.31E+06	-1.78E-01
-8.37E+11	-8.42E-04	-8.20E+06	-1.80E-01
-8.31E+11	-8.47E-04	-8.14E+06	-1.81E-01
-8.16E+11	-8.57E-04	-7.99E+06	-1.84E-01
-8.11E+11	-8.61E-04	-7.95E+06	-1.84E-01
-7.98E+11	-8.71E-04	-7.82E+06	-1.86E-01
-7.93E+11	-8.77E-04	-7.77E+06	-1.88E-01
-7.85E+11	-8.87E-04	-7.69E+06	-1.90E-01
-7.79E+11	-8.97E-04	-7.63E+06	-1.92E-01
-7.78E+11	-8.98E-04	-7.63E+06	-1.92E-01
-7.73E+11	-9.08E-04	-7.58E+06	-1.94E-01
-7.69E+11	-9.18E-04	-7.54E+06	-1.97E-01
-7.68E+11	-9.22E-04	-7.52E+06	-1.97E-01
-7.63E+11	-9.32E-04	-7.48E+06	-1.99E-01
-7.60E+11	-9.42E-04	-7.44E+06	-2.02E-01
-7.57E+11	-9.50E-04	-7.41E+06	-2.03E-01
-7.53E+11	-9.60E-04	-7.38E+06	-2.06E-01
-7.50E+11	-9.70E-04	-7.35E+06	-2.08E-01
-7.48E+11	-9.77E-04	-7.33E+06	-2.09E-01
-7.45E+11	-9.87E-04	-7.30E+06	-2.11E-01
-7.42E+11	-9.95E-04	-7.27E+06	-2.13E-01
-7.39E+11	-1.01E-03	-7.24E+06	-2.15E-01
-7.36E+11	-1.02E-03	-7.21E+06	-2.17E-01
-7.33E+11	-1.03E-03	-7.19E+06	-2.19E-01
-7.33E+11	-1.03E-03	-7.18E+06	-2.20E-01
-7.30E+11	-1.04E-03	-7.16E+06	-2.22E-01
-7.28E+11	-1.05E-03	-7.13E+06	-2.24E-01
-7.25E+11	-1.06E-03	-7.11E+06	-2.26E-01
-7.22E+11	-1.07E-03	-7.08E+06	-2.28E-01
-7.20E+11	-1.08E-03	-7.05E+06	-2.30E-01
-7.17E+11	-1.09E-03	-7.02E+06	-2.33E-01
-7.14E+11	-1.10E-03	-7.00E+06	-2.35E-01
-7.12E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.11E+11	-1.11E-03	-6.97E+06	-2.37E-01
-7.09E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.08E+11	-1.12E-03	-6.94E+06	-2.40E-01
-7.07E+11	-1.13E-03	-6.92E+06	-2.41E-01
-7.04E+11	-1.14E-03	-6.90E+06	-2.43E-01
-7.01E+11	-1.15E-03	-6.87E+06	-2.46E-01
-6.99E+11	-1.16E-03	-6.85E+06	-2.48E-01
-6.96E+11	-1.17E-03	-6.82E+06	-2.50E-01
-6.94E+11	-1.18E-03	-6.80E+06	-2.52E-01
-6.92E+11	-1.19E-03	-6.78E+06	-2.54E-01
-6.89E+11	-1.20E-03	-6.76E+06	-2.56E-01
-6.89E+11	-1.20E-03	-6.75E+06	-2.57E-01

-6.87E+11	-1.21E-03	-6.73E+06	-2.59E-01
-6.85E+11	-1.22E-03	-6.72E+06	-2.60E-01
-6.84E+11	-1.22E-03	-6.70E+06	-2.62E-01
-6.81E+11	-1.23E-03	-6.67E+06	-2.64E-01
-6.79E+11	-1.24E-03	-6.65E+06	-2.66E-01
-6.76E+11	-1.25E-03	-6.63E+06	-2.68E-01
-6.74E+11	-1.26E-03	-6.61E+06	-2.70E-01
-6.72E+11	-1.27E-03	-6.58E+06	-2.73E-01
-6.70E+11	-1.28E-03	-6.56E+06	-2.75E-01
-6.68E+11	-1.29E-03	-6.54E+06	-2.77E-01
-6.66E+11	-1.30E-03	-6.52E+06	-2.79E-01
-6.64E+11	-1.31E-03	-6.50E+06	-2.81E-01
-6.63E+11	-1.32E-03	-6.50E+06	-2.82E-01
-6.61E+11	-1.33E-03	-6.48E+06	-2.84E-01
-6.59E+11	-1.34E-03	-6.46E+06	-2.86E-01
-6.57E+11	-1.35E-03	-6.43E+06	-2.88E-01
-6.54E+11	-1.36E-03	-6.41E+06	-2.90E-01
-6.52E+11	-1.37E-03	-6.39E+06	-2.92E-01
-6.50E+11	-1.38E-03	-6.37E+06	-2.94E-01
-6.48E+11	-1.39E-03	-6.35E+06	-2.97E-01
-6.46E+11	-1.40E-03	-6.33E+06	-2.99E-01
-6.44E+11	-1.41E-03	-6.31E+06	-3.01E-01
-6.42E+11	-1.42E-03	-6.29E+06	-3.03E-01
-6.42E+11	-1.42E-03	-6.29E+06	-3.04E-01
-6.40E+11	-1.43E-03	-6.27E+06	-3.06E-01
-6.39E+11	-1.43E-03	-6.26E+06	-3.07E-01
-6.37E+11	-1.44E-03	-6.24E+06	-3.09E-01
-6.35E+11	-1.45E-03	-6.22E+06	-3.11E-01
-6.33E+11	-1.46E-03	-6.21E+06	-3.13E-01
-6.31E+11	-1.47E-03	-6.19E+06	-3.15E-01
-6.31E+11	-1.48E-03	-6.18E+06	-3.16E-01
-6.29E+11	-1.49E-03	-6.16E+06	-3.18E-01
-6.27E+11	-1.50E-03	-6.14E+06	-3.20E-01
-6.25E+11	-1.51E-03	-6.12E+06	-3.22E-01
-6.23E+11	-1.52E-03	-6.11E+06	-3.24E-01
-6.21E+11	-1.53E-03	-6.09E+06	-3.27E-01
-6.20E+11	-1.54E-03	-6.07E+06	-3.29E-01
-6.18E+11	-1.55E-03	-6.05E+06	-3.31E-01
-6.16E+11	-1.56E-03	-6.04E+06	-3.33E-01
-6.15E+11	-1.57E-03	-6.02E+06	-3.35E-01
-6.14E+11	-1.57E-03	-6.02E+06	-3.36E-01
-6.12E+11	-1.58E-03	-6.00E+06	-3.38E-01
-6.10E+11	-1.59E-03	-5.98E+06	-3.40E-01
-6.09E+11	-1.60E-03	-5.96E+06	-3.42E-01
-6.07E+11	-1.61E-03	-5.95E+06	-3.45E-01

-6.05E+11	-1.62E-03	-5.93E+06	-3.47E-01
-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-6.03E+11	-1.63E-03	-5.91E+06	-3.49E-01
-6.02E+11	-1.64E-03	-5.90E+06	-3.51E-01
-6.00E+11	-1.65E-03	-5.88E+06	-3.53E-01
-5.98E+11	-1.66E-03	-5.86E+06	-3.55E-01
-5.97E+11	-1.67E-03	-5.85E+06	-3.57E-01
-5.95E+11	-1.68E-03	-5.83E+06	-3.60E-01
-5.94E+11	-1.69E-03	-5.82E+06	-3.62E-01
-5.92E+11	-1.70E-03	-5.80E+06	-3.64E-01
-5.91E+11	-1.71E-03	-5.79E+06	-3.66E-01
-5.89E+11	-1.72E-03	-5.77E+06	-3.68E-01
-5.88E+11	-1.73E-03	-5.77E+06	-3.69E-01
-5.87E+11	-1.74E-03	-5.75E+06	-3.72E-01
-5.85E+11	-1.75E-03	-5.74E+06	-3.74E-01
-5.84E+11	-1.76E-03	-5.72E+06	-3.76E-01
-5.82E+11	-1.77E-03	-5.71E+06	-3.78E-01
-5.81E+11	-1.78E-03	-5.69E+06	-3.80E-01
-5.79E+11	-1.79E-03	-5.68E+06	-3.82E-01
-5.78E+11	-1.80E-03	-5.66E+06	-3.84E-01
-5.76E+11	-1.81E-03	-5.65E+06	-3.87E-01
-5.75E+11	-1.82E-03	-5.64E+06	-3.89E-01
-5.74E+11	-1.83E-03	-5.62E+06	-3.91E-01
-5.73E+11	-1.83E-03	-5.61E+06	-3.93E-01
-5.71E+11	-1.84E-03	-5.60E+06	-3.95E-01
-5.70E+11	-1.85E-03	-5.59E+06	-3.97E-01
-5.69E+11	-1.86E-03	-5.57E+06	-3.99E-01
-5.67E+11	-1.87E-03	-5.56E+06	-4.01E-01
-5.66E+11	-1.88E-03	-5.55E+06	-4.03E-01
-5.65E+11	-1.89E-03	-5.53E+06	-4.05E-01
-5.63E+11	-1.90E-03	-5.52E+06	-4.07E-01
-5.62E+11	-1.91E-03	-5.51E+06	-4.10E-01
-5.61E+11	-1.92E-03	-5.50E+06	-4.12E-01
-5.61E+11	-1.93E-03	-5.49E+06	-4.12E-01
-5.59E+11	-1.94E-03	-5.48E+06	-4.14E-01
-5.58E+11	-1.95E-03	-5.47E+06	-4.16E-01
-5.57E+11	-1.96E-03	-5.45E+06	-4.19E-01
-5.55E+11	-1.97E-03	-5.44E+06	-4.21E-01
-5.54E+11	-1.98E-03	-5.43E+06	-4.23E-01
-5.53E+11	-1.99E-03	-5.42E+06	-4.25E-01
-5.51E+11	-2.00E-03	-5.40E+06	-4.27E-01
-5.50E+11	-2.01E-03	-5.39E+06	-4.29E-01
-5.49E+11	-2.02E-03	-5.38E+06	-4.31E-01
-5.48E+11	-2.03E-03	-5.37E+06	-4.34E-01
-5.47E+11	-2.04E-03	-5.36E+06	-4.36E-01

-5.46E+11	-2.05E-03	-5.35E+06	-4.38E-01
-5.44E+11	-2.06E-03	-5.34E+06	-4.40E-01
-5.43E+11	-2.07E-03	-5.32E+06	-4.42E-01
-5.42E+11	-2.08E-03	-5.31E+06	-4.44E-01
-5.41E+11	-2.09E-03	-5.30E+06	-4.46E-01
-5.40E+11	-2.10E-03	-5.29E+06	-4.49E-01
-5.39E+11	-2.11E-03	-5.28E+06	-4.51E-01
-5.38E+11	-2.12E-03	-5.27E+06	-4.53E-01
-5.37E+11	-2.13E-03	-5.26E+06	-4.55E-01
-5.36E+11	-2.14E-03	-5.25E+06	-4.57E-01
-5.35E+11	-2.15E-03	-5.24E+06	-4.59E-01
-5.34E+11	-2.16E-03	-5.23E+06	-4.61E-01
-5.32E+11	-2.17E-03	-5.22E+06	-4.64E-01
-5.31E+11	-2.18E-03	-5.21E+06	-4.66E-01
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-5.28E+11	-2.21E-03	-5.17E+06	-4.72E-01
-5.27E+11	-2.22E-03	-5.16E+06	-4.75E-01
-5.26E+11	-2.23E-03	-5.15E+06	-4.77E-01
-5.25E+11	-2.24E-03	-5.14E+06	-4.79E-01
-5.24E+11	-2.25E-03	-5.13E+06	-4.81E-01
-5.23E+11	-2.26E-03	-5.12E+06	-4.83E-01
-5.21E+11	-2.27E-03	-5.11E+06	-4.85E-01
-5.20E+11	-2.28E-03	-5.10E+06	-4.87E-01
-5.19E+11	-2.29E-03	-5.09E+06	-4.90E-01
-5.19E+11	-2.30E-03	-5.08E+06	-4.92E-01
-5.18E+11	-2.31E-03	-5.07E+06	-4.94E-01
-5.17E+11	-2.32E-03	-5.06E+06	-4.96E-01
-5.16E+11	-2.33E-03	-5.05E+06	-4.98E-01
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-5.14E+11	-2.35E-03	-5.04E+06	-5.02E-01
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-5.11E+11	-2.38E-03	-5.01E+06	-5.09E-01
-5.10E+11	-2.39E-03	-5.00E+06	-5.11E-01
-5.10E+11	-2.40E-03	-4.99E+06	-5.13E-01
-5.09E+11	-2.41E-03	-4.99E+06	-5.15E-01
-5.08E+11	-2.42E-03	-4.98E+06	-5.17E-01
-5.08E+11	-2.42E-03	-4.98E+06	-5.18E-01
-5.07E+11	-2.43E-03	-4.97E+06	-5.20E-01
-5.06E+11	-2.44E-03	-4.96E+06	-5.22E-01
-5.05E+11	-2.45E-03	-4.95E+06	-5.24E-01
-5.04E+11	-2.46E-03	-4.94E+06	-5.26E-01
-5.03E+11	-2.47E-03	-4.93E+06	-5.28E-01

-5.02E+11	-2.48E-03	-4.92E+06	-5.30E-01
-5.02E+11	-2.49E-03	-4.92E+06	-5.33E-01
-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-5.01E+11	-2.50E-03	-4.91E+06	-5.35E-01
-5.00E+11	-2.51E-03	-4.90E+06	-5.37E-01
-4.99E+11	-2.52E-03	-4.89E+06	-5.39E-01
-4.98E+11	-2.53E-03	-4.88E+06	-5.41E-01
-4.97E+11	-2.54E-03	-4.87E+06	-5.43E-01
-4.96E+11	-2.55E-03	-4.86E+06	-5.46E-01
-4.95E+11	-2.56E-03	-4.85E+06	-5.48E-01
-4.95E+11	-2.57E-03	-4.85E+06	-5.50E-01
-4.94E+11	-2.58E-03	-4.84E+06	-5.52E-01
-4.93E+11	-2.59E-03	-4.83E+06	-5.54E-01
-4.92E+11	-2.60E-03	-4.82E+06	-5.56E-01
-4.91E+11	-2.61E-03	-4.81E+06	-5.58E-01
-4.91E+11	-2.62E-03	-4.81E+06	-5.61E-01
-4.90E+11	-2.63E-03	-4.80E+06	-5.63E-01
-4.89E+11	-2.64E-03	-4.79E+06	-5.65E-01
-4.88E+11	-2.65E-03	-4.78E+06	-5.67E-01

Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

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Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Introduction

Grounding and collision damages may occur on ship when it operates at sea. The grounding and collision accidents of liquid cargo such as crude oil carriers effect the ship structure becomes damage and the oil spills makes the ocean environment polluted. In conjunction with this, the design of ship structure must be considered as one of the functional requirement for structural safety.

The investigations of ship damage due to grounding and collision have been conducted by some research. The mechanics of grounding on relatively plane slopes were analyzed with emphasis on evaluation of the overall forces on the ship hull girder was presented by Pedersen [1]. To get at much insight as possible into the mechanics of ship grounding, simplifications to the problem were sought such that analytical solutions could be derived. The same assumption as that used in the method of Wierzbicki and Thomas for a separated curved surface was employed by Zhang [2], in which the material rolls up into two curved surfaces behind the wedge tip. Damage to ship bottom in grounding accident is quite complex. So, a semi empirical method was proposed for determining bottom damage resistance in grounding scenario. Finally, simple expression, expressed in terms of the ship's principal particulars, for determining damage resistance and damage extent in ship grounding were presented. An investigation of the longitudinal strength of damaged ship hulls for a broad spectrum of collision and grounding accidents was reported by Wang [3]. Both the hull girder section modulus and hull girder ultimate strength were calculated. The aim is to obtain simple relations to assess residual hull girder strength, which may be used as handy and reliable tools to help make timely decisions in the event of an emergency. Muis Alie, M.Z [4] analyzed the residual

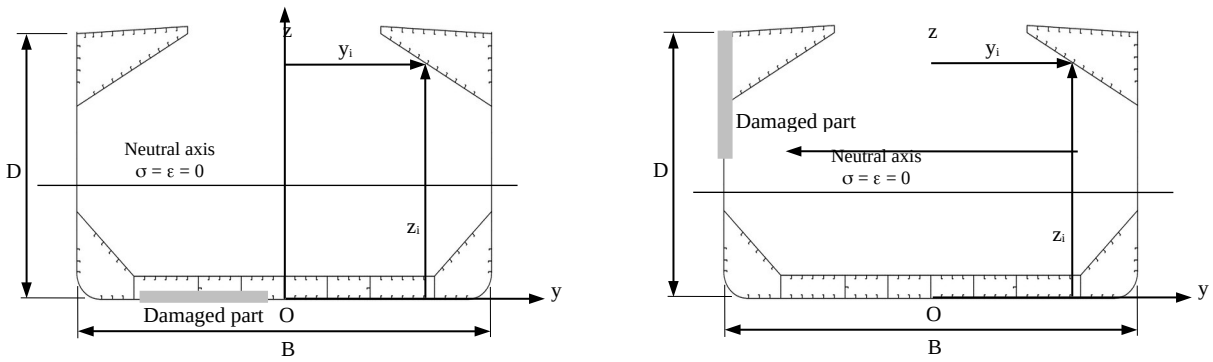
strength of asymmetrically damaged ship hull girder under longitudinal bending. Beam finite element method was used for the assessment of residual strength of two single hull bulk carriers and a three-cargo hold model of a single-side Panamax Bulk Carrier in hogging and sagging conditions. A fast and reasonably accurate method for exploring the collapse of hull girder in the damage condition was developed by Paik [5]. Location and amount of collision and grounding damage were defined based on the ABS safe hull guide. To characterize residual strength, an elastic section modulus based residual strength index and an ultimate bending strength based residual strength index were defined. As an illustrative example, these indices were obtained for the hull girder collapse of a hypothetical Panamax class bulk carrier after collision and grounding.

In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1. The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as

$$\varepsilon_i(y_i, z_i) = \varepsilon_0 + y_i \varphi_H + z_i \varphi_V \tag{1}$$



(a) Grounding (b) Collision

Fig. 1 Damages on the ship cross section

Where ε_0, φ_H and φ_V are the axial strain at the origin O, horizontal curvature and vertical curvature respectively. The y and z are the coordinates with the origin at the bottom keel are defined according to Fig. 1. The relationship between axial stress and axial strain to calculate the individual element can be expressed by the following equation,

$$\sigma = f_i(\varepsilon) \tag{2}$$

Where $f_i(0)=0$. The axial force P, the vertical bending moment M_V and the horizontal bending moment M_H can be obtained by using the formulas,

$$\begin{aligned} P &= \sum_{i=1}^{N} \sigma_i A_i \simeq 0 \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i y_i \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i x_i \end{aligned} \tag{3}$$

Those values are obtained by integrating the axial stress over the intact part of the cross section. Where N is the number of intact elements and A_i is a cross section of individual element. The tangential stiffness obtained as a slope of the average stress-average strain relationship of the individual element by D_i as shown in Fig. 2, the relationship of axial stress and strain can be expressed as

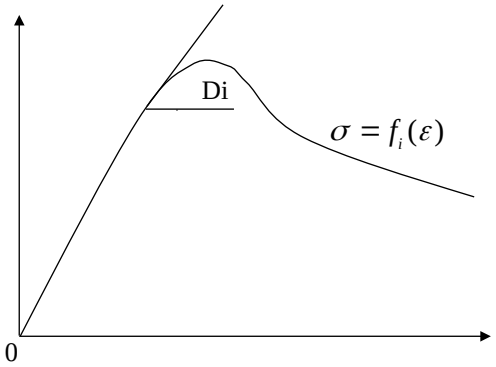


Fig. 2 Average stress-average strain relationship of an element

$$\Delta\sigma = D_i \Delta\varepsilon \left(D_i = \frac{df_i}{d\varepsilon} \right) \tag{4}$$

By performing Eqs. 1 and 4, the axial load, vertical curvature and horizontal curvature from Eq. 3 can be written into the matrix form as follow,

$$\begin{Bmatrix} \Delta P = 0 \\ \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} \overline{D}_{AA} & \overline{D}_{AH} & \overline{D}_{AV} \\ \overline{D}_{HA} & \overline{D}_{HH} & \overline{D}_{HV} \\ \overline{D}_{VA} & \overline{D}_{VH} & \overline{D}_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varepsilon_0 \\ \Delta\varphi_H \\ \Delta\varphi_V \end{Bmatrix} \tag{5}$$

The axial force ΔP from Eq. 5 may be rearranged in the form

$$\begin{aligned}\Delta P &= \overline{D}_{AA}\,\Delta\varepsilon_0 + \overline{D}_{AH}\,\Delta\varphi_H + \overline{D}_{AV}\,\Delta\varphi_V \\ &= \sum_{i=1}^{N} D_i\left(\Delta\varepsilon_0 + y_i\,\Delta\varphi_H + z_i\,\Delta\varphi_V\right)A_i \\ &= \sum_{i=1}^{N} D_i\left[\Delta\varepsilon_G + (y_i - y_G)\,\Delta\varphi_H + (z_i - z_G)\,\Delta\varphi_V\right]A_i\end{aligned} \tag{6}$$

where

$$\Delta\varepsilon_G = \Delta\varepsilon_0 + y_G\,\Delta\varphi_H + z_G)\,\Delta\varphi_V \tag{7}$$

y_G and z_G are given by,

$$\begin{aligned}y_G &= \frac{\left(\sum_{i=1}^{N} y_i\ D_i\ A_i\right)}{\left(\sum_{i=1}^{N} D_i\ A_i\right)} \\ z_G &= \frac{\left(\sum_{i=1}^{N} z_i\ D_i\ A_i\right)}{\left(\sum_{i=1}^{N} D_i\ A_i\right)}\end{aligned} \tag{8}$$

The Eq. 5 can be written by assuming that under pure longitudinal bending $\Delta P = 0$, therefore,

$$\begin{Bmatrix}\Delta P = 0 \\ \Delta M_H \\ \Delta M_V\end{Bmatrix} = \begin{bmatrix}\overline{D}_{AA} & 0 & 0 \\ 0 & \overline{D}_{HH} & \overline{D}_{HV} \\ 0 & \overline{D}_{VH} & \overline{D}_{VV}\end{bmatrix}\begin{Bmatrix}\Delta\varepsilon_G \\ \Delta\varphi_H \\ \Delta\varphi_V\end{Bmatrix} \tag{9}$$

where

$$\begin{aligned}D_{AA} &= \sum_{i=1}^{N} D_i A_i \qquad & D_{HV} = D_{VH} &= \sum_{i=1}^{N} D_i (y_i - y_G)(z_i - z_G)\,A_i \\ D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2\,A_i \qquad & D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2\,A_i\end{aligned} \tag{10}$$

Using the Eq. 10, the relationship of the biaxial bending moments and curvatures can be given by the following formula,

$$\begin{Bmatrix}\Delta M_H \\ \Delta M_V\end{Bmatrix} = \begin{bmatrix}D_{HH} & D_{HV} \\ D_{VH} & D_{VV}\end{bmatrix}\begin{Bmatrix}\Delta\varphi_H \\ \Delta\varphi_V\end{Bmatrix} \tag{11}$$

The bending moment-curvature relationship, Eq. 11 can be applied to the ship hull girder strength by the following loading and/or constraint conditions. The first is the hull girder under pure vertical bending moment

$$\begin{Bmatrix} 0 \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varphi_H \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{12}$$

Where the superscript ′0′ indicates a prescribed value, and the solutions are

$$\begin{aligned} \Delta\varphi_H &= -\frac{D_{HV}}{D_{HH}} \Delta\varphi_V^0 \\ \Delta M_V &= \left(D_{VV} - \frac{D_{VH}\ D_{HV}}{D_{HH}} \right) \Delta\varphi_V^0 \end{aligned} \tag{13}$$

The second is the hull girder under vertical bending moment with horizontal curvature constrained

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} 0 \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{14}$$

And the solutions are

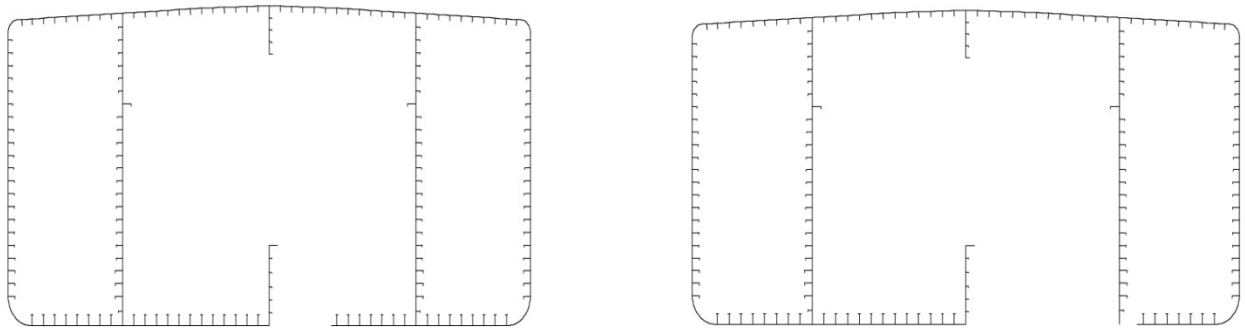
$$\begin{aligned} \Delta M_H &= D_{HV}\ \Delta\varphi_V^0 \\ \Delta M_V &= D_{VV}\ \Delta\varphi_V^0 \end{aligned} \tag{16}$$

Method of Analysis

Collapse analysis of the ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken for the assessment of the collapse analysis. The ship breadth and high are 42000 mm and 20300 mm, respectively. The grounding damage is assumed to be asymmetric position of the cross section. The transversal damage extent is chosen 10% and 70% of the ship's breadth. For the case of collision damage, the transversal damage extent is B/16, while the vertical damage extent is set up to be 10% and 70%, respectively. The longitudinal damage extent is one-frame space for grounding and collision damages. The analysis procedures of the collapse analysis of VLCC tanker for grounding and collision damages are summarized as follow,

1. Subdivide the cross-section into elements consists of stiffener and attached plating.
2. Derive the average stress-average strain relationship of individual element by considering the influence of buckling and yielding.
3. Derive the tangential axial stiffness of individual element from the average stress-average strain relationship.
4. Calculate the center position of neutral axis y_G and z_G
5. Evaluate the flexural stiffness of the cross section with respect to neutral axis.
6. Calculate the curvature and/or bending moment under specified condition.
7. Calculate the strain in individual element from the curvature, and their stress using the slope of average stress-average strain curve.

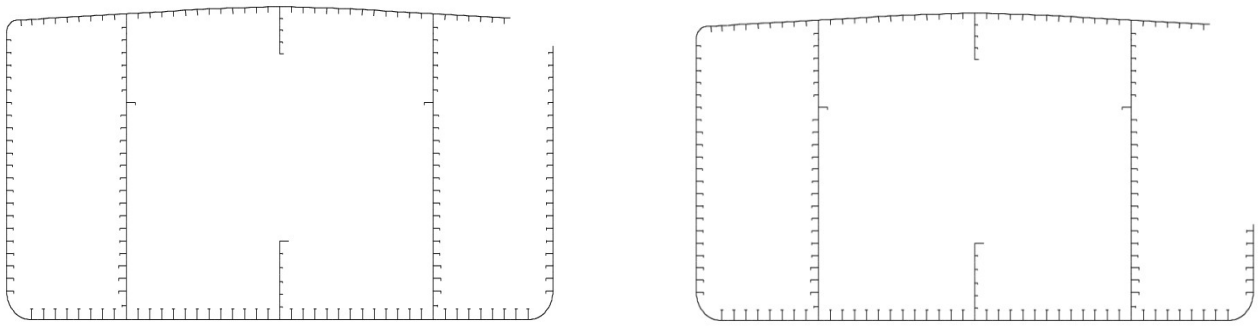
The grounding damages for 10% and 70% of VLCC tanker are presented in the Fig. 3 as follow,



(a) 10 % damage (b) 70% damage

Fig. 3 Grounding damage of VLCC Tanker

While the collision damages for 10% and 70% of VLCC tanker are presented in the Fig. 4 as follow,

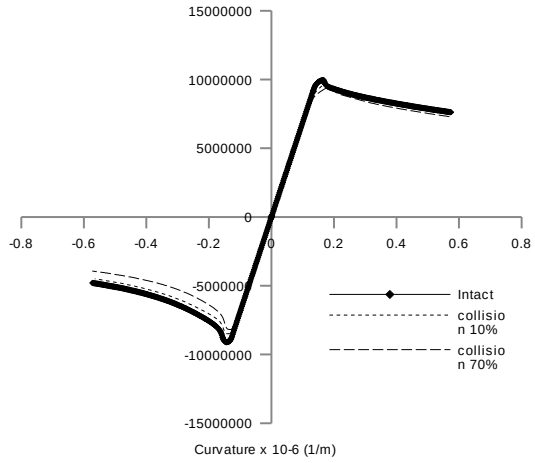


(a) 10 % damage (b) 70% damage

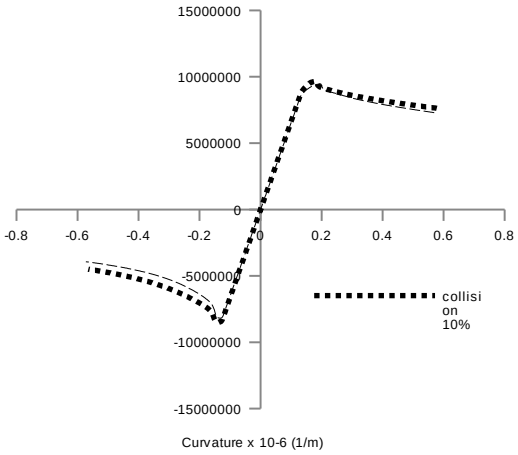
Fig. 4 Collision damage of VLCC Tanker

Results and Discussion

Collapse analysis of ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken as the object of the analysis and subjected to longitudinal bending moment by taking the hogging and sagging condition into account. The ultimate strength for 10% and 70% of grounding damages are summarized as follow,



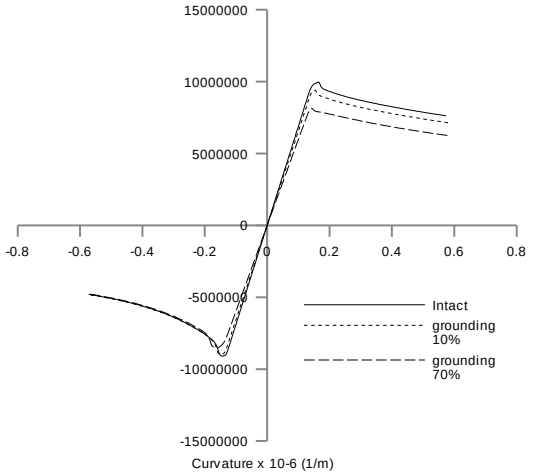
(a) Intact and damages



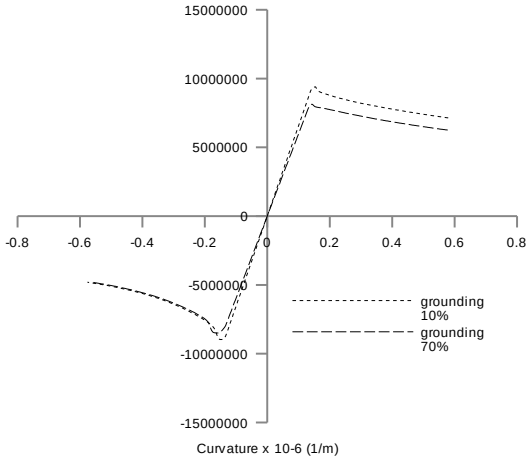
(b) Damages only

Fig. 5 Moment-curvature relationship

Fig. 5 shows the comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% collision damages. It is clear that the ultimate strength decreases not only hogging but also sagging conditions, when those compare to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression. This is because there is transversal damage extent of B/16 at the deck part.



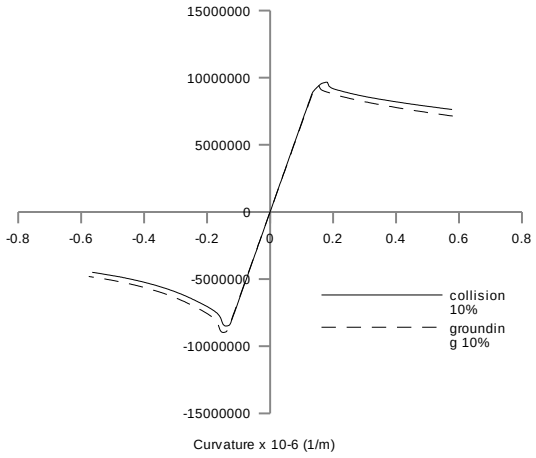
(a) Intact and damages

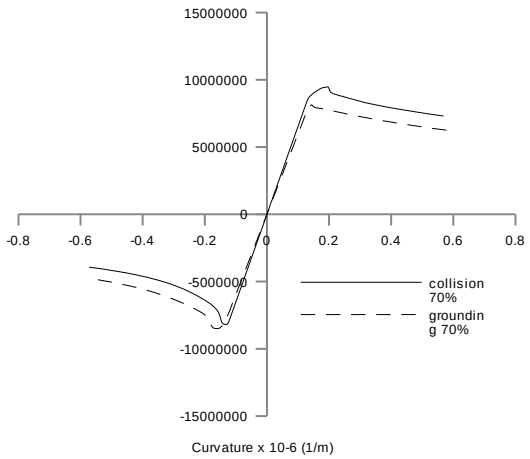


(b) Damages only

Fig. 6 Moment-curvature relationship

The comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% grounding damages are shown in Fig. 6. When the grounding damage is considered, the significant different of the collapse behavior takes place on the hogging condition. It is known well that under hogging condition, bottom part is under compression and deck is under tension. In this regard, some of the elements at the bottom part lost their rigidity due to grounding damage. This is also due to the asymmetric position of the damage.





(a) 10% damages (b) 70% damages

Fig. 7 Moment-curvature relationship

The moment-curvature relationship obtained by analytical solution for 10% damage and 70% damages under hogging and sagging condition subjected to grounding and collision damages. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmetric position of the bottom part. Similarly with the 70% damage both hogging and sagging condition.

Conclusion

Collapse analysis of ship hull girder with grounding and collision damages have been conducted using the Smith's method. The following conclusion of the collapse analysis of a VLCC of tanker are summarized:

1. It is clear that the ultimate strength decreases not only hogging but also sagging conditions when those are compared to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression.
2. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmeric position of the bottom part.

References

[1] Pedersen, P.T, Ship Grounding and Hull-Girder Strength, J. Marine Structures. 7 (1994) 1-29.

[2] Zhang, S, Plate Tearing and Bottom Damage in Ship Grounding, J. Marine Structures. 15 (2002) 101-117.

[3] Wang, G., Chen, Y., Zhang, H and Peng, H, Longitudinal Strength of Ships with Accidental Damages, J. Marine Structures. 15 (2002) 119-138.

[4] Muis Alie, M.Z, Residual Strength Analysis of Asymmetrically Damaged Ship Hull Girder Using Beam Finite Element Method, Makara J. of Technology. 20 (2016) 7-12.

[5] Paik, J.K., Thayamballi, A.K and Yang, S,H, Residual Strength Assessment of Ships after Collision and Grounding, J. Marine Technology. 35 (1998) 38-54.

Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

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Keywords: VLCC, cross section, longitudinal bending, damages

Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Introduction

Grounding and collision damages may occur on ship when it operates at sea. The grounding and collision accidents of liquid cargo such as crude oil carriers cause the ship structure becomes damage and the oil spills makes the ocean environment polluted. In conjunction with this, the design of ship structure must be considered as one of the functional requirement for structural safety.

The investigations of ship damage due to grounding and collision have been conducted by some research. The mechanics of grounding on relatively plane slopes were analyzed with emphasis on evaluation of the overall forces on the ship hull girder was presented by Pedersen [1]. Those presentations were divided into three parts. Firstly, a mathematical analysis model would be presented for estimation of the contact pressure between grounded ship and the sea bottom. These ground contact forces were compared to the forces, which would crush the forward bottom of the ship. In the second part, the sectional area forces and bending moment due to grounding would be determined and compared to the ultimate-hull-girder sectional forces. Finally, model experiments and full-scale controlled grounding experiments were briefly described which have served to validate the mathematical model and used to determine appropriate frictional coefficients. To get at much insight as possible into the mechanics of ship grounding, simplifications to the problem were sought such that analytical solutions could be derived. The same assumption as that used in the method of Wierzbicki and Thomas for a separated curved surface was employed by Zhang [2], in which the material rolls up into two curved surfaces behind the wedge tip. Also, the material in front of the wedge tip. By assuming a plastic deformation in front of the wedge tip, analytical

formulae for plate-cutting force and absorbed energy are obtained with a character that the critical rupture strain of the material enters the solution. Damage to ship bottom in grounding accident is quite complex. So, a semi empirical method was proposed for determining bottom damage resistance in grounding scenario. Finally, simple expression, expressed in terms of the ship's principal particulars, for determining damage resistance and damage extent in ship grounding were presented. An investigation of the longitudinal strength of damaged ship hulls for a broad spectrum of collision and grounding accidents was reported by Wang [3]. Both the hull girder section modulus and hull girder ultimate strength were calculated. The aim is to obtain simple relations to assess residual hull girder strength, which may be used as handy and reliable tools to help make timely decisions in the event of an emergency. Theoretical analyses were presented and analytical formulae were derived. Typical designs of 67 commercial ships, including 21 double hull tankers, 18 bulk carriers, 22 single hull tankers and six container carriers, which have lost portions of bottom shell plating and side shell plating, were analyzed to obtain such simple equations for predicting residual strength of damaged ships. A VLCC designed according to the CSR for Tankers (IACS, 2010) was chosen as a target to calculate the residual strength [4]. Probability levels of 10%, 30%, 50% and 70% were taken into account for defining the extent of the damage. The residual longitudinal strengths were presented for all possible heeling angles with 15% increments from sagging to hogging conditions. Muis Alie, M.Z [5], analyzed the residual strength of asymmetrically damaged ship hull girder under longitudinal bending. Beam finite element method was used for the assessment of residual strength of two single hull bulk carriers and a three-cargo hold model of a single-side Panamax Bulk Carrier in hogging and sagging conditions. A fast and reasonably accurate method for exploring the collapse of hull girder in the damage condition was developed by Paik [6]. Location and amount of collision and grounding damage were defined based on the ABS safe hull guide. The risk of hull collapse was explored by comparing the applied extreme bending moment and ultimate hull girder strength, which were both estimated by using simplified design oriented methods or formulas. To characterize residual strength, an elastic section modulus based residual strength index and an ultimate bending strength based residual strength index were defined. As an illustrative example, these indices were obtained for the hull girder collapse of a hypothetical Panamax class bulk carrier after collision and grounding.

In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1 The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as

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[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, J. Sci. Commun. 163 (2000) 51-59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, The Elements of Style, third ed., Macmillan, New York, 1979.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 1999, pp. 281-304.

[4] R.J. Ong, J.T. Dawley and P.G. Clem: submitted to Journal of Materials Research (2003)

[5] P.G. Clem, M. Rodriguez, J.A. Voigt and C.S. Ashley, U.S. Patent 6,231,666. (2001)

[6] Information on http://www.weld.labs.gov.cn

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Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

Muhammad Zubair Muis Alie[1, a *], Wahyuddin[1,b] ,Syamsul Asri [1,c], Farianto Fachruddin Lage [1,d], Juswan [1,e] and Taufiqur Rachman[1,f]

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Keywords: VLCC, cross section, longitudinal bending, damages

Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

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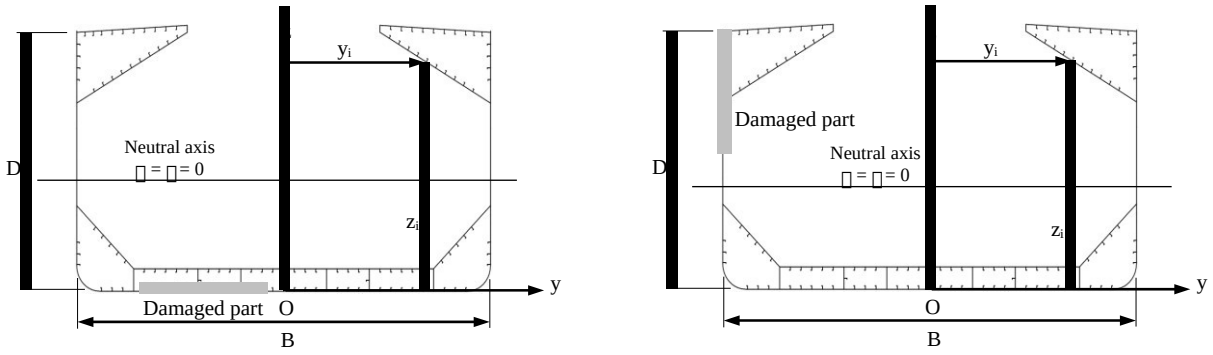
In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1. The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as

$$\varepsilon_i(y_i, z_i) = \varepsilon_0 + y_i\kappa_H + z_i\kappa_V \quad (1)$$



(a) Grounding (b) Collision

Fig. 1 Damages on the ship cross section

Where ε_0, κ_H and κ_V are the axial strain at the origin O, horizontal curvature and vertical curvature respectively. The y and z are the coordinates with the origin at the bottom keel are defined according to Fig. 1. The relationship between axial stress and axial strain to calculate the individual element can be expressed by the following equation,

$$\sigma = f(\varepsilon) \quad (2)$$

Where $f_i(0)=0$. The axial force P , the vertical bending moment M_V and the horizontal bending moment M_H can be obtained by using the formulas,

$$\begin{aligned} P &= \sum_{i=1}^{N} \sigma_i A_i = 0 \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i y_i \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i x_i \end{aligned} \tag{3}$$

Those values are obtained by integrating the axial stress over the intact part of the cross section. Where N is the number of intact elements and A_i is a cross section of individual element. The tangential stiffness obtained as a slope of the average stress-average strain relationship of the individual element by D_i as shown in Fig. 2, the relationship of axial stress and strain can be expressed as

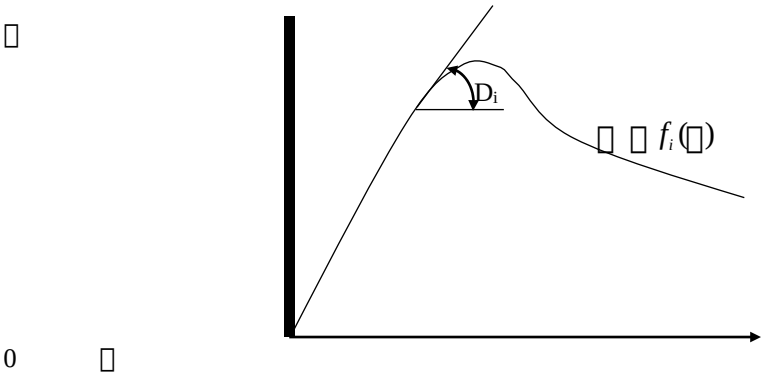


Fig. 2 Average stress-average strain relationship of an element

$$\sigma = D_i \varepsilon = D_i \frac{df_i}{d\varepsilon} \tag{4}$$

By performing Eqs. 1 and 4, the axial load, vertical curvature and horizontal curvature from Eq. 3 can be written into the matrix form as follow,

$$\begin{bmatrix} P \\ M_H \\ M_V \end{bmatrix} = \begin{bmatrix} \bar{D}_{AA} & \bar{D}_{AH} & \bar{D}_{AV} \\ \bar{D}_{HA} & \bar{D}_{HH} & \bar{D}_{HV} \\ \bar{D}_{VA} & \bar{D}_{VH} & \bar{D}_{VV} \end{bmatrix} \begin{bmatrix} \varepsilon_0 \\ \phi_H \\ \phi_V \end{bmatrix} \tag{5}$$

The axial force P from Eq. 5 may be rearranged in the form

$$P = D_{AA}\varepsilon_0 + D_{AH}\kappa_H + D_{AV}\kappa_V$$
$$\sum_{i=1}^{N} D_i = \varepsilon_0 + y_i\kappa_H + z_i\kappa_V A_i \qquad (6)$$
$$\sum_{i=1}^{N} D_i = \varepsilon_G + (y_i - y_G)\kappa_H + (z_i - z_G)\kappa_V A_i$$

where

$$\varepsilon_G = \varepsilon_0 + y_G\kappa_H + z_G)\kappa_V \qquad (7)$$

y_G and z_G are given by,

$$y_G = \frac{\sum_{i=1}^{N} y_i D_i A_i}{\sum_{i=1}^{N} D_i A_i}$$
$$z_G = \frac{\sum_{i=1}^{N} z_i D_i A_i}{\sum_{i=1}^{N} D_i A_i} \qquad (8)$$

The Eq. 5 can be written by assuming that under pure longitudinal bending $P = 0$, therefore,

$$\begin{bmatrix} P \\ M_H \\ M_V \end{bmatrix} = \begin{bmatrix} D_{AA} & 0 & 0 \\ 0 & D_{HH} & D_{HV} \\ 0 & D_{VH} & D_{VV} \end{bmatrix} \begin{bmatrix} \varepsilon_G \\ \kappa_H \\ \kappa_V \end{bmatrix} \qquad (9)$$

where

$$D_{AA} = \sum_{i=1}^{N} D_i A_i \qquad D_{HV} = D_{VH} = \sum_{i=1}^{N} D_i (y_i - y_G)(z_i - z_G) A_i$$
$$D_{HH} = \sum_{i=1}^{N} D_i (y_i - y_G)^2 A_i \qquad (10)$$
$$D_{HH} = \sum_{i=1}^{N} D_i (y_i - y_G)^2 A_i$$

Using the Eq. 10, the relationship of the biaxial bending moments and curvatures can be given by the following formula,

$$\begin{bmatrix} M_H \\ M_V \end{bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{bmatrix} \kappa_H \\ \kappa_V \end{bmatrix} \quad (11)$$

The bending moment-curvature relationship, Eq. 11 can be applied to the ship hull girder strength by the following loading and/or constraint conditions. The first is the hull girder under pure vertical bending moment

$$\begin{bmatrix} 0 \\ M_V^0 \end{bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{bmatrix} \kappa_H \\ \kappa_V^0 \end{bmatrix} \quad (12)$$

Where the superscript "0" indicates a prescribed value, and the solutions are

$$\kappa_H = \frac{-D_{HV}\kappa_V^0}{D_{HH}} \quad (13)$$

$$M_V = \left(D_{VV} - \frac{D_{VH}D_{HV}}{D_{HH}}\right)\kappa_V^0$$

The second is the hull girder under vertical bending moment with horizontal curvature constrained

$$\begin{bmatrix} M_H \\ M_V^0 \end{bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{bmatrix} 0 \\ \kappa_V^0 \end{bmatrix} \quad (14)$$

And the solutions are

$$M_H = D_{HV}\kappa_V^0 \quad (16)$$

$$M_V = D_{VV}\kappa_V^0$$

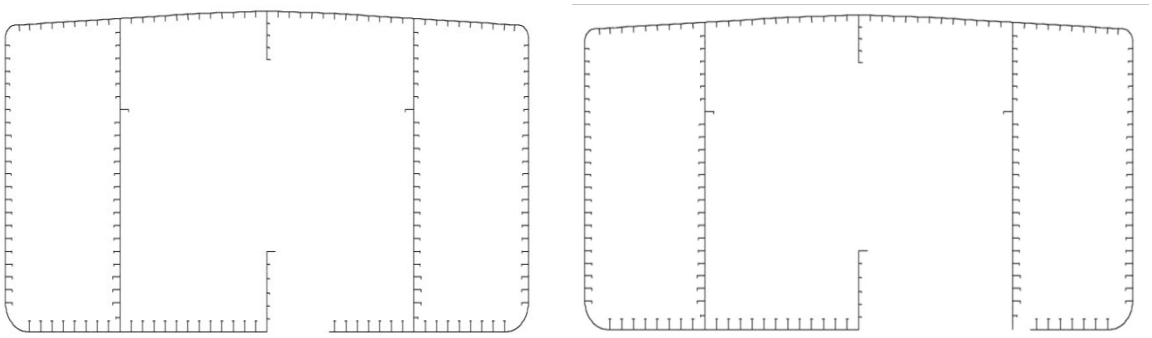
Method of Analysis

Collapse analysis of the ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken for the assessment of the collapse analysis. The ship breadth and high are 42000 mm and 20300 mm, respectively. The grounding damage is assumed to be asymmetric position of the cross section. The transversal damage extent is chosen 10% and 70% of the ship's breadth. For the case of collision damage, the transversal damage extent is B/16, while the vertical damage extent is set up to be 10% and 70%, respectively. The longitudinal damage extent is one-frame space for grounding and collision damages. The analysis

procedures of the collapse analysis of VLCC tanker for grounding and collision damages are summarized as follow,

1. Subdivide the cross-section into elements consists of stiffener and attached plating.
2. Derive the average stress-average strain relationship of individual element by considering the influence of buckling and yielding.
3. Derive the tangential axial stiffness of individual element from the average stress-average strain relationship.
4. Calculate the center position of neutral axis y_G and z_G
5. Evaluate the flexural stiffness of the cross section with respect to neutral axis.
6. Calculate the curvature and/or bending moment under specified condition.
7. Calculate the strain in individual element from the curvature, and their stress using the slope of average stress-average strain curve.

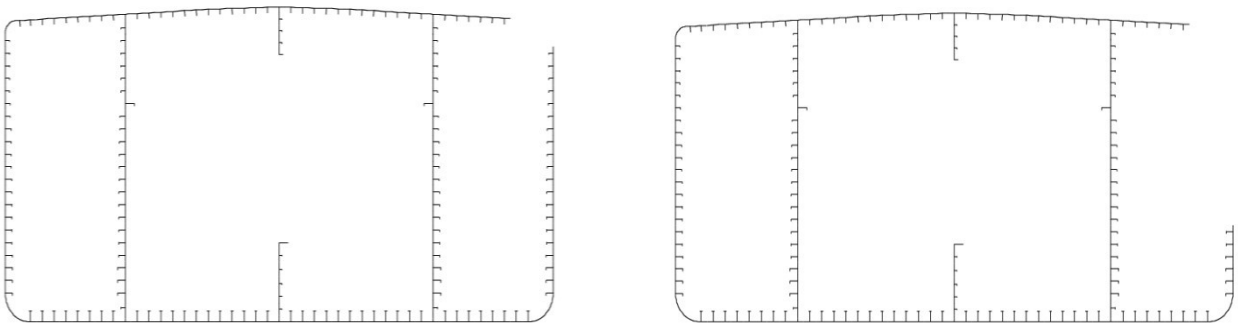
The grounding damages for 10% and 70% of VLCC tanker are presented in the Fig. 3 as follow,



(a) 10 % damage (b) 70% damage

Fig. 3 Grounding damage of VLCC Tanker

While the collision damages for 10% and 70% of VLCC tanker are presented in the Fig. 4 as follow,



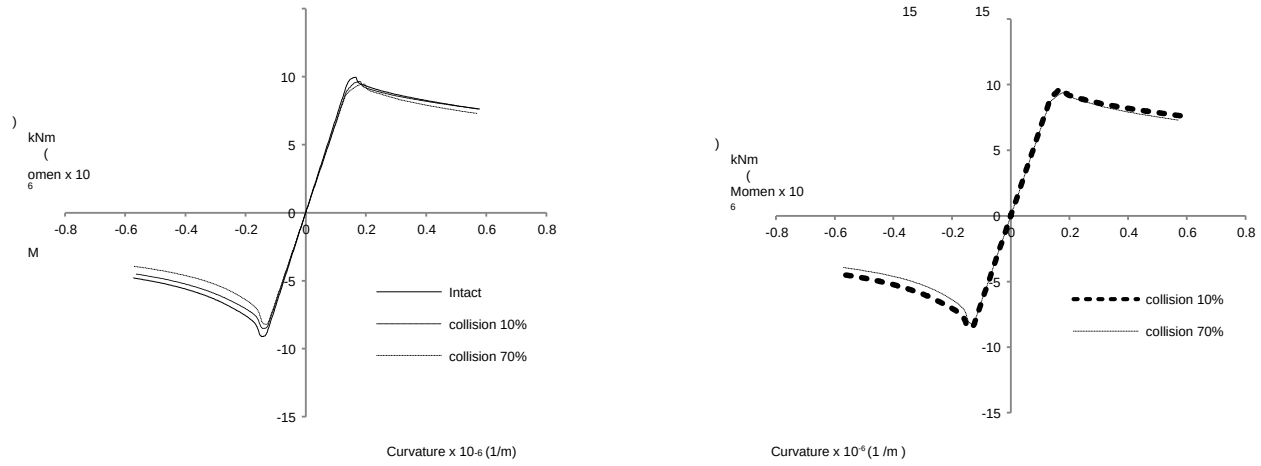
(a) 10 % damage (b) 70% damage

Fig. 4 Collision damage of VLCC Tanker

Results and Discussion

Collapse analysis of ship hull girder with grounding and collision damages are performed using the

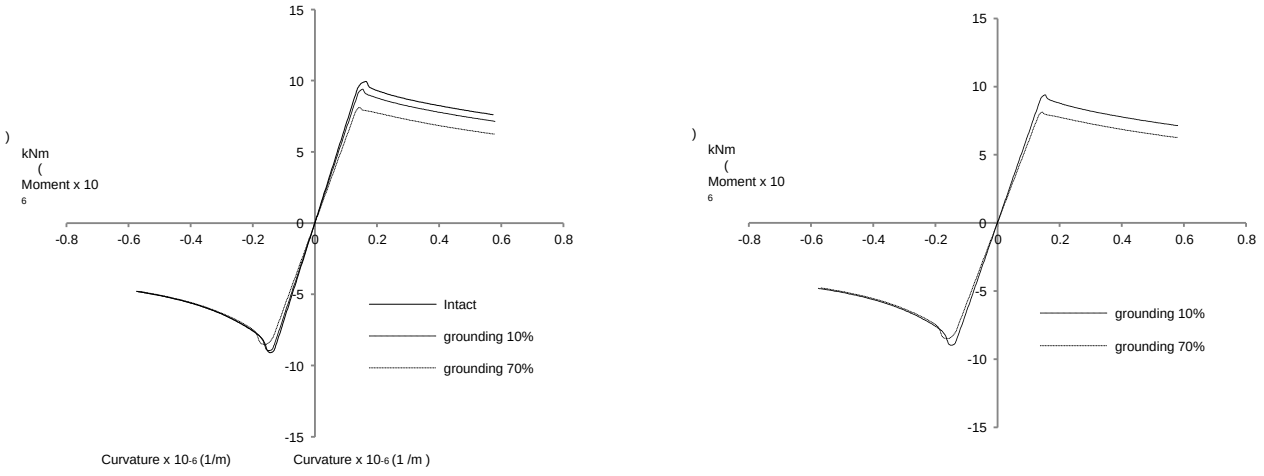
Smith's method. A VLCC of tanker is taken as the object of the analysis and subjected to longitudinal bending moment by taking the hogging and sagging condition into account. The ultimate strength for 10% and 70% of grounding damages are summarized as follow,



(a) Intact and damages (b) Damages only

Fig. 5 Moment-curvature relationship

Fig. 5 shows the comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% collision damages. It is clear that the ultimate strength decreases not only hogging but also sagging conditions, when those compare to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression. This is because there is transversal damage extent of B/16 at the deck part.

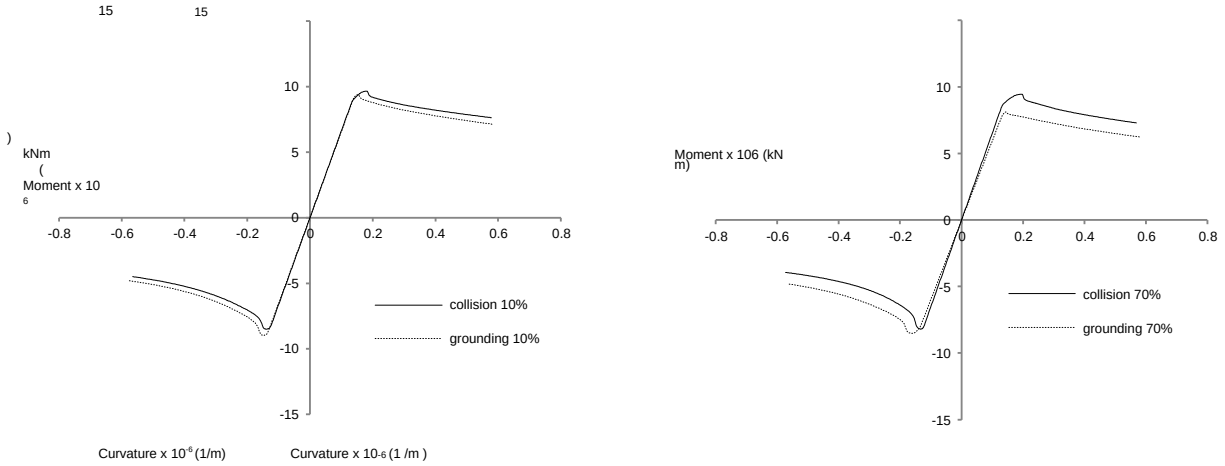


(a) Intact and damages (b) Damages only

Fig. 6 Moment-curvature relationship

The comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% grounding damages are shown in Fig. 6. When the grounding damage is considered, the significant different of the collapse behavior takes place on the hogging condition. It is known well that under

hogging condition, bottom part is under compression and deck is under tension. In this regard, some of the elements at the bottom part lost their rigidity due to grounding damage. This is also due to the asymmetric position of the damage.



(a) 10% damages (b) 70% damages

Fig. 7 Moment-curvature relationship

The moment-curvature relationship obtained by analytical solution for 10% damage and 70% damages under hogging and sagging condition subjected to grounding and collision damages. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmetric position of the bottom part. Similarly with the 70% damage both hogging and sagging condition.

Conclusion

Collapse analysis of ship hull girder with grounding and collision damages have been conducted using the Smith's method. The following conclusion of the collapse analysis of a VLCC ~~of tanker~~ are summarized:

1. It is clear that the ultimate strength decreases not only hogging but also sagging conditions when those are compared to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression.
2. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmetric position of the bottom part.

References

[1] Pedersen, P.T, Ship Grounding and Hull-Girder Strength, J. Marine Structures. 7 (1994) 1-29.

[2] Zhang, S, Plate Tearing and Bottom Damage in Ship Grounding, J. Marine Structures. 15 (2002) 101-117.

[3] Wang, G., Chen, Y., Zhang, H and Peng, H, Longitudinal Strength of Ships with Accidental Damages, J. Marine Structures. 15 (2002) 119-138.

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[5] Paik, J.K., Thayamballi, A.K and Yang, S,H, Residual Strength Assessment of Ships after Collision and Grounding, J. Marine Technology. 35 (1998) 38-54.

Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

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Keywords: VLCC, cross section, longitudinal bending, damages

Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Introduction

Grounding and collision damages may occur on ship when it operates at sea. The grounding and collision accidents of liquid cargo such as crude oil carriers effect the ship structure becomes damage and the oil spills makes the ocean environment polluted. In conjunction with this, the design of ship structure must be considered as one of the functional requirement for structural safety.

The investigations of ship damage due to grounding and collision have been conducted by some research. The mechanics of grounding on relatively plane slopes were analyzed with emphasis on evaluation of the overall forces on the ship hull girder was presented by Pedersen [1]. To get at much insight as possible into the mechanics of ship grounding, simplifications to the problem were sought such that analytical solutions could be derived. The same assumption as that used in the method of Wierzbicki and Thomas for a separated curved surface was employed by Zhang [2], in which the material rolls up into two curved surfaces behind the wedge tip. Damage to ship bottom in grounding accident is quite complex. So, a semi empirical method was proposed for determining bottom damage resistance in grounding scenario. Finally, simple expression, expressed in terms of the ship's principal particulars, for determining damage resistance and damage extent in ship grounding were presented. An investigation of the longitudinal strength of damaged ship hulls for a broad spectrum of collision and grounding accidents was reported by Wang [3]. Both the hull girder section modulus and hull girder ultimate strength were calculated. The aim is to obtain simple relations to assess residual hull girder strength, which may be used as handy and reliable tools to help make timely decisions in the event of an emergency. Muis Alie, M.Z [4] analyzed the residual

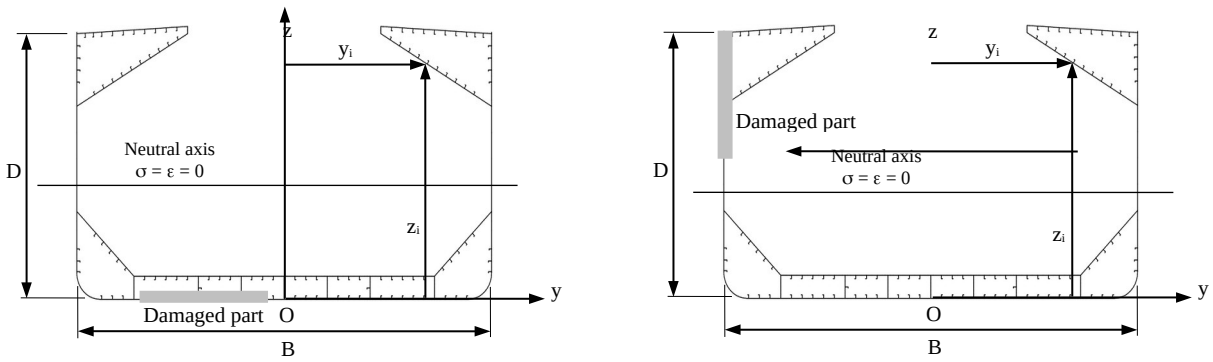
strength of asymmetrically damaged ship hull girder under longitudinal bending. Beam finite element method was used for the assessment of residual strength of two single hull bulk carriers and a three-cargo hold model of a single-side Panamax Bulk Carrier in hogging and sagging conditions. A fast and reasonably accurate method for exploring the collapse of hull girder in the damage condition was developed by Paik [5]. Location and amount of collision and grounding damage were defined based on the ABS safe hull guide. To characterize residual strength, an elastic section modulus based residual strength index and an ultimate bending strength based residual strength index were defined. As an illustrative example, these indices were obtained for the hull girder collapse of a hypothetical Panamax class bulk carrier after collision and grounding.

In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1 The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as

$$\varepsilon_i(y_i, z_i) = \boldsymbol{\varepsilon}_0 + y_i\,\varphi_H + z_i\,\varphi_V \tag{1}$$



(a) Grounding (b) Collision

Fig. 1 Damages on the ship cross section

Where ε_0, φ_H and φ_V are the axial strain at the origin O, horizontal curvature and vertical curvature respectively. The y and z are the coordinates with the origin at the bottom keel are defined according to Fig. 1. The relationship between axial stress and axial strain to calculate the individual element can be expressed by the following equation,

$$\sigma = f_i(\varepsilon) \tag{2}$$

Where $f_i(0)=0$. The axial force P, the vertical bending moment M_V and the horizontal bending moment M_H can be obtained by using the formulas,

$$\begin{aligned} P &= \sum_{i=1}^{N} \sigma_i A_i \simeq 0 \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i y_i \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i x_i \end{aligned} \tag{3}$$

Those values are obtained by integrating the axial stress over the intact part of the cross section. Where N is the number of intact elements and A_i is a cross section of individual element. The tangential stiffeness obtained as a slope of the average stress-average strain relationship of the individual element by D_i as shown in Fig. 2, the relationship of axial stress and strain can be expressed as

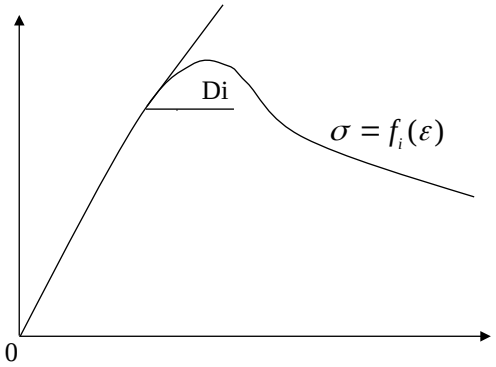


Fig. 2 Average stress-average strain relationship of an element

$$\Delta\sigma = D_i \Delta\varepsilon \left(D_i = \frac{df_i}{d\varepsilon} \right) \tag{4}$$

By performing Eqs. 1 and 4, the axial load, vertical curvature and horizontal curvature from Eq. 3 can be written into the matrix form as follow,

$$\begin{Bmatrix} \Delta P = 0 \\ \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} \overline{D}_{AA} & \overline{D}_{AH} & \overline{D}_{AV} \\ \overline{D}_{HA} & \overline{D}_{HH} & \overline{D}_{HV} \\ \overline{D}_{VA} & \overline{D}_{VH} & \overline{D}_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varepsilon_0 \\ \Delta\varphi_H \\ \Delta\varphi_V \end{Bmatrix} \tag{5}$$

The axial force ΔP from Eq. 5 may be rearranged in the form

$$\begin{aligned}\Delta P &= \overline{D}_{AA}\,\Delta\varepsilon_0 + \overline{D}_{AH}\,\Delta\varphi_H + \overline{D}_{AV}\,\Delta\varphi_V \\ &= \sum_{i=1}^{N} D_i\left(\Delta\varepsilon_0 + y_i\,\Delta\varphi_H + z_i\,\Delta\varphi_V\right)A_i \\ &= \sum_{i=1}^{N} D_i\left[\Delta\varepsilon_G + (y_i - y_G)\,\Delta\varphi_H + (z_i - z_G)\,\Delta\varphi_V\right]A_i\end{aligned} \tag{6}$$

where

$$\Delta\varepsilon_G = \Delta\varepsilon_0 + y_G\,\Delta\varphi_H + z_G)\,\Delta\varphi_V \tag{7}$$

y_G and z_G are given by,

$$\begin{aligned}y_G &= \frac{\left(\sum_{i=1}^{N} y_i\ D_i\ A_i\right)}{\left(\sum_{i=1}^{N} D_i\ A_i\right)} \\ z_G &= \frac{\left(\sum_{i=1}^{N} z_i\ D_i\ A_i\right)}{\left(\sum_{i=1}^{N} D_i\ A_i\right)}\end{aligned} \tag{8}$$

The Eq. 5 can be written by assuming that under pure longitudinal bending $\Delta P = 0$, therefore,

$$\begin{Bmatrix}\Delta P = 0 \\ \Delta M_H \\ \Delta M_V\end{Bmatrix} = \begin{bmatrix}\overline{D}_{AA} & 0 & 0 \\ 0 & \overline{D}_{HH} & \overline{D}_{HV} \\ 0 & \overline{D}_{VH} & \overline{D}_{VV}\end{bmatrix}\begin{Bmatrix}\Delta\varepsilon_G \\ \Delta\varphi_H \\ \Delta\varphi_V\end{Bmatrix} \tag{9}$$

where

$$\begin{aligned}D_{AA} &= \sum_{i=1}^{N} D_i A_i \qquad & D_{HV} = D_{VH} &= \sum_{i=1}^{N} D_i (y_i - y_G)(z_i - z_G)\,A_i \\ D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2\,A_i \qquad & D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2\,A_i\end{aligned} \tag{10}$$

Using the Eq. 10, the relationship of the biaxial bending moments and curvatures can be given by the following formula,

$$\begin{Bmatrix}\Delta M_H \\ \Delta M_V\end{Bmatrix} = \begin{bmatrix}D_{HH} & D_{HV} \\ D_{VH} & D_{VV}\end{bmatrix}\begin{Bmatrix}\Delta\varphi_H \\ \Delta\varphi_V\end{Bmatrix} \tag{11}$$

The bending moment-curvature relationship, Eq. 11 can be applied to the ship hull girder strength by the following loading and/or constraint conditions. The first is the hull girder under pure vertical bending moment

$$\begin{Bmatrix} 0 \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varphi_H \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{12}$$

Where the superscript ′0′ indicates a priscribed value, and the solutions are

$$\begin{aligned} \Delta\varphi_H &= -\frac{D_{HV}}{D_{HH}} \Delta\varphi_V^0 \\ \Delta M_V &= \left(D_{VV} - \frac{D_{VH}\ D_{HV}}{D_{HH}} \right) \Delta\varphi_V^0 \end{aligned} \tag{13}$$

The second is the hull girder under vertical bending moment with horizontal curvature constrained

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} 0 \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{14}$$

And the solutions are

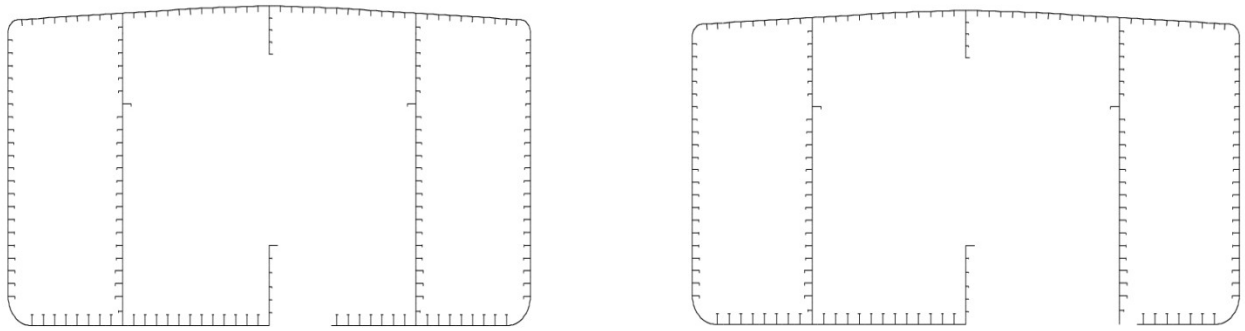
$$\begin{aligned} \Delta M_H &= D_{HV}\ \Delta\varphi_V^0 \\ \Delta M_V &= D_{VV}\ \Delta\varphi_V^0 \end{aligned} \tag{16}$$

Method of Analysis

Collapse analysis of the ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken for the assessment of the collapse analysis. The ship breadth and heingth are 42000 mm and 20300 mm, respectively. The grounding damage is assumed to be asymmetric position of the cross section. The transversal damage extent is chosen 10% and 70% of the ship's breadth. For the case of collision damage, the transversal damage extent is B/16, while the vertical damage extent is set up to be 10% and 70%, respectively. The longitudinal damage extent is one-frame space for grounding and collision damages. The analysis procedures of the collapse analysis of VLCC tanker for grounding and collision damages are summerized as follow,

1. Subdivide the cross-section into elements consists of stifener and attached plating.
2. Derive the average stress-average strain relationship of individual element by considering the influence of buckling and yielding.
3. Derive the tangential axial stiffeness of individual element from the average stress-average strain relationship.
4. Calculate the center position of neutral axis y_G and z_G
5. Evaluate the flexural stiffeness of the cross section with respect to neutral axis.
6. Calculate the curvature and/or bending moment under specified condition.
7. Calculate the strain in individual element from the curvature, and their stress using the slope of average stress-average strain curve.

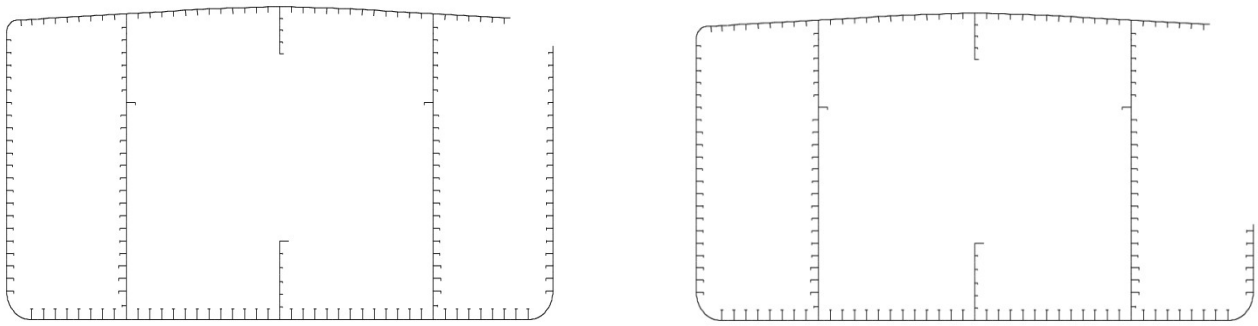
The grounding damages for 10% and 70% of VLCC tanker are presented in the Fig. 3 as follow,



(a) 10 % damage (b) 70% damage

Fig. 3 Grounding damage of VLCC Tanker

While the collision damages for 10% and 70% of VLCC tanker are presented in the Fig. 4 as follow,

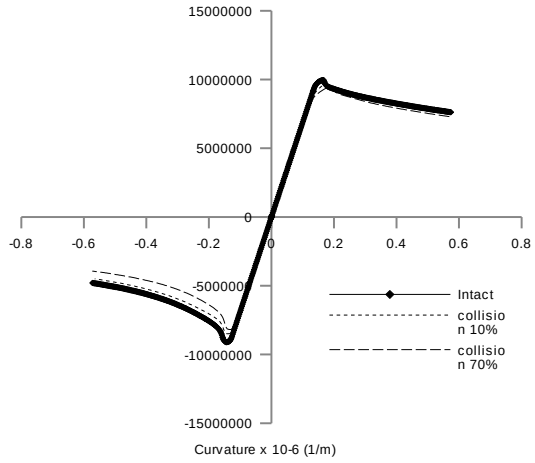


(a) 10 % damage (b) 70% damage

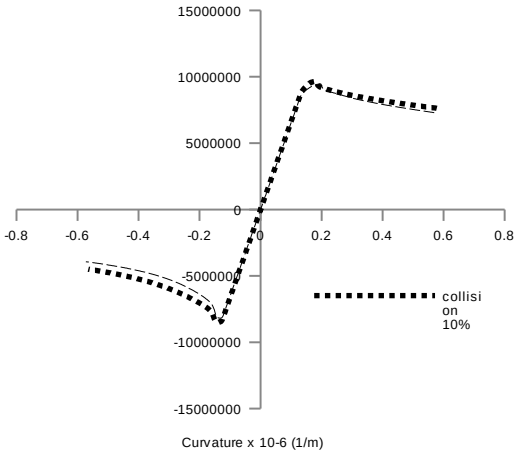
Fig. 4 Collision damage of VLCC Tanker

Result and Discussion

Collapse analysis of ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken as the object of the analysis and subjected to longitudinal bending moment by taking the hogging and sagging condition into account. The ultimate strength for 10% and 70% of grounding damages are summerized as follow,



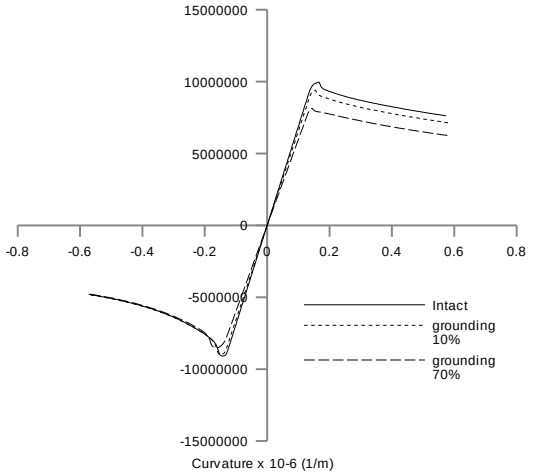
(a) Intact and damages



(b) Damages only

Fig. 5 Moment-curvature relationship

Fig. 5 shows the comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% collision damages. It is clear that the ultimate strength decreases not only hogging but also sagging conditions, when those compare to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression. This is because there is transversal damage extent of B/16 at the deck part.



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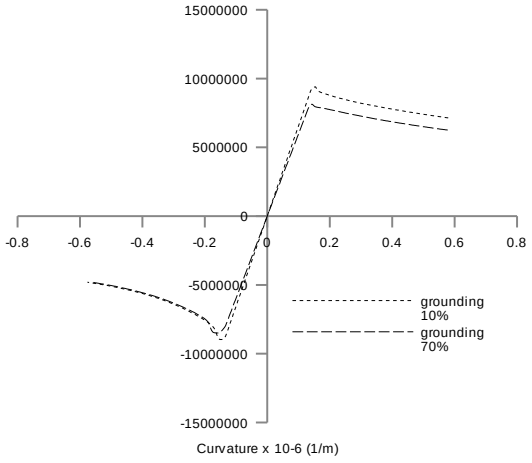

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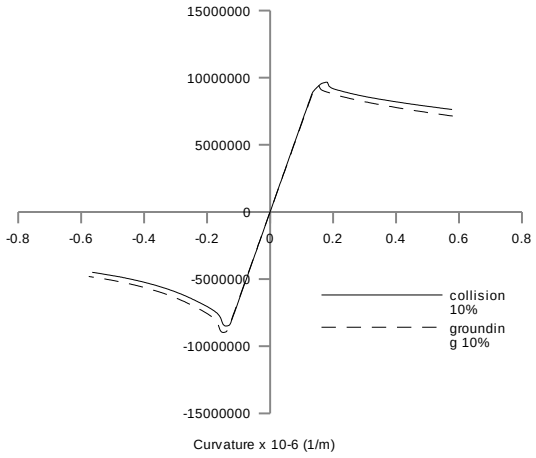

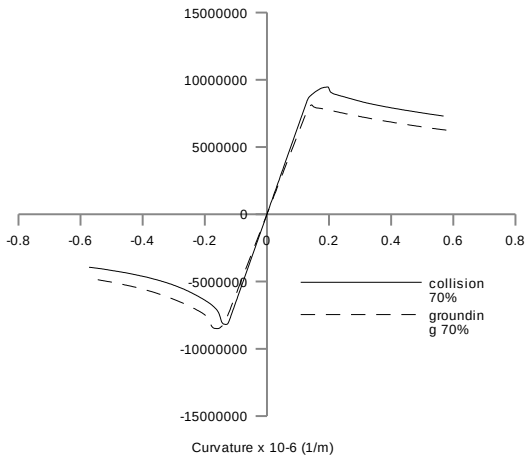

(a) 10% damages (b) 70% damages

Fig. 7 Moment-curvature relationship

The moment-curvature relationship obtained by analytical solution for 10% damage and 70% damages under hogging and sagging condition subjected to grounding and collision damages. It is obserbed that the ultimate strength for the collsion damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmeric position of the bottom part. Similarly with the 70% damage both hogging and sagging condition.

Conclusion

Collapse analysis of ship hull girder with grounding and collision damages have been conducted using the Smith's method. The following conclusion of the collapse analysis of a VLCC of tanker are summerized;

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References

[1] Pedersen, P.T, Ship Grounding and Hull-Girder Strength, J. Marine Structures. 7 (1994) 1-29.

[2] Zhang, S, Plate Tearing and Bottom Damage in Ship Grounding, J. Marine Structures. 15 (2002) 101-117.

[3] Wang, G., Chen, Y., Zhang, H and Peng, H, Longitudinal Strength of Ships with Accidental Damages, J. Marine Structures. 15 (2002) 119-138.

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[5] Paik, J.K., Thayamballi, A.K and Yang, S,H, Residual Strength Assessment of Ships after Collision and Grounding, J. Marine Technology. 35 (1998) 38-54.

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$$c^2 = a^2 + b^2. \quad (1)$$

Literature References

References are cited in the text just by square brackets [1]. (If square brackets are not available, slashes may be used instead, e.g. /2/.) Two or more references at a time may be put in one set of brackets [3,4]. The references are to be numbered in the order in which they are cited in the text and are to be listed at the end of the contribution under a heading *References*, see our example below.

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References

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, J. Sci. Commun. 163 (2000) 51-59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, The Elements of Style, third ed., Macmillan, New York, 1979.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), Introduction to the Electronic Age, E-Publishing Inc., New York, 1999, pp. 281-304.

[4] R.J. Ong, J.T. Dawley and P.G. Clem: submitted to Journal of Materials Research (2003)

[5] P.G. Clem, M. Rodriguez, J.A. Voigt and C.S. Ashley, U.S. Patent 6,231,666. (2001)

[6] Information on http://www.weld.labs.gov.cn

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Author(s)	Muhammad Zubair Muis Alie, Wahyuddin, Syamsul Asri, Farianto Fachruddin Lage, Juswan and Taufiqur Rachman
Name of Presenter	Muhammad Zubair Muis Alie

Affiliation/Department/Firm/Organization/Institute:

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Academic Background:

- Ship and Offshore Structure, Department of Naval Architect and Ocean Engineering

Brief Work Experience/Professional Background:

- Lecturer at Department of Naval Architect and Ocean Engineering

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- Investigation to the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending.

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Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

Muhammad Zubair Muis Alie[1, a *], Wahyuddin[1,b], Syamsul Asri [1,c], Farianto Fachruddin Lage [1,d], Juswan [1,e] and Taufiqur Rachman[1,f]

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Keywords: VLCC, cross section, longitudinal bending, damages

Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Introduction

Grounding and collision damages may occur on ship when it operates at sea. The grounding and collision accidents of liquid cargo such as crude oil carriers cause the ship structure becomes damage and the oil spills makes the ocean environment polluted. In conjunction with this, the design of ship structure must be considered as one of the functional requirement for structural safety.

The investigations of ship damage due to grounding and collision have been conducted by some research. The mechanics of grounding on relatively plane slopes were analyzed with emphasis on evaluation of the overall forces on the ship hull girder was presented by Pedersen [1]. Those presentations were divided into three parts. Firstly, a mathematical analysis model would be presented for estimation of the contact pressure between grounded ship and the sea bottom. These ground contact forces were compared to the forces, which would crush the forward bottom of the ship. In the second part, the sectional area forces and bending moment due to grounding would be determined and compared to the ultimate-hull-girder sectional forces. Finally, model experiments and full-scale controlled grounding experiments were briefly described which have served to validate the mathematical model and used to determine appropriate frictional coefficients. To get at much insight as possible into the mechanics of ship grounding, simplifications to the problem were sought such that analytical solutions could be derived. The same assumption as that used in the method of Wierzbicki and Thomas for a separated curved surface was employed by Zhang [2], in which the material rolls up into two curved surfaces behind the wedge tip. Also, the material in front of the wedge tip. By assuming a plastic deformation in front of the wedge tip, analytical

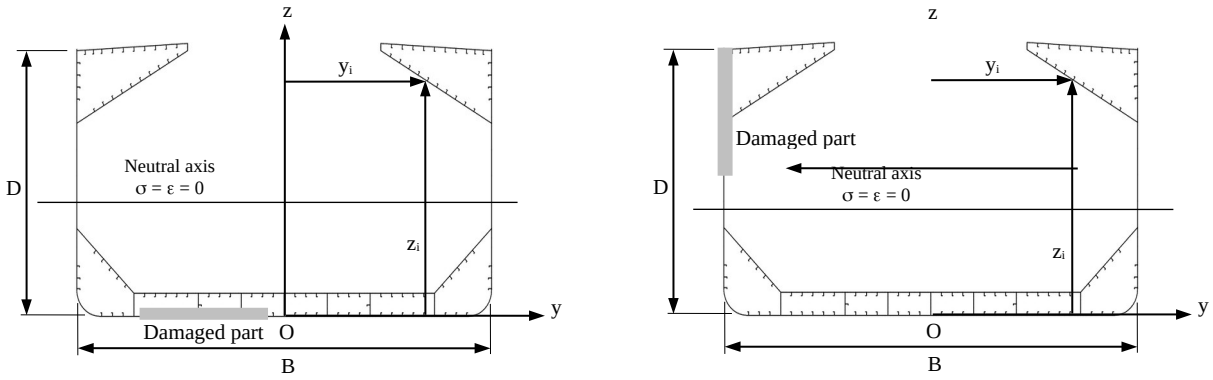
formulae for plate-cutting force and absorbed energy are obtained with a character that the critical rupture strain of the material enters the solution. Damage to ship bottom in grounding accident is quite complex. So, a semi empirical method was proposed for determining bottom damage resistance in grounding scenario. Finally, simple expression, expressed in terms of the ship's principal particulars, for determining damage resistance and damage extent in ship grounding were presented. An investigation of the longitudinal strength of damaged ship hulls for a broad spectrum of collision and grounding accidents was reported by Wang [3]. Both the hull girder section modulus and hull girder ultimate strength were calculated. The aim is to obtain simple relations to assess residual hull girder strength, which may be used as handy and reliable tools to help make timely decisions in the event of an emergency. Theoretical analyses were presented and analytical formulae were derived. Typical designs of 67 commercial ships, including 21 double hull tankers, 18 bulk carriers, 22 single hull tankers and six container carriers, which have lost portions of bottom shell plating and side shell plating, were analyzed to obtain such simple equations for predicting residual strength of damaged ships. A VLCC designed according to the CSR for Tankers (IACS, 2010) was chosen as a target to calculate the residual strength [4]. Probability levels of 10%, 30%, 50% and 70% were taken into account for defining the extent of the damage. The residual longitudinal strengths were presented for all possible heeling angles with 15% increments from sagging to hogging conditions. Muis Alie, M.Z [5], analyzed the residual strength of asymmetrically damaged ship hull girder under longitudinal bending. Beam finite element method was used for the assessment of residual strength of two single hull bulk carriers and a three-cargo hold model of a single-side Panamax Bulk Carrier in hogging and sagging conditions. A fast and reasonably accurate method for exploring the collapse of hull girder in the damage condition was developed by Paik [6]. Location and amount of collision and grounding damage were defined based on the ABS safe hull guide. The risk of hull collapse was explored by comparing the applied extreme bending moment and ultimate hull girder strength, which were both estimated by using simplified design oriented methods or formulas. To characterize residual strength, an elastic section modulus based residual strength index and an ultimate bending strength based residual strength index were defined. As an illustrative example, these indices were obtained for the hull girder collapse of a hypothetical Panamax class bulk carrier after collision and grounding.

In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1 The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as

$$\varepsilon_i(y_i, z_i) = \boldsymbol{\varepsilon}_0 + y_i\, \varphi_H + z_i\, \varphi_V \tag{1}$$



(a) Grounding (b) Collision

Fig. 1 Damages on the ship cross section

Where ε_0, φ_H and φ_V are the axial strain at the origin O, horizontal curvature and vertical curvature respectively. The y and z are the coordinates with the origin at the bottom keel are defined according to Fig. 1. The relationship between axial stress and axial strain to calculate the individual element can be expressed by the following equation,

$$\sigma = f_i(\varepsilon) \tag{2}$$

Where $f_i(0)=0$. The axial force P, the vertical bending moment M_V and the horizontal bending moment M_H can be obtained by using the formulas,

$$\begin{aligned} P &= \sum_{i=1}^{N} \sigma_i A_i \simeq 0 \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i y_i \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i x_i \end{aligned} \tag{3}$$

Those values are obtained by integrating the axial stress over the intact part of the cross section. Where N is the number of intact elements and A_i is a cross section of individual element. The tangential stiffeness obtained as a slope of the average stress-average strain relationship of the individual element by D_i as shown in Fig. 2, the relationship of axial stress and strain can be expressed as

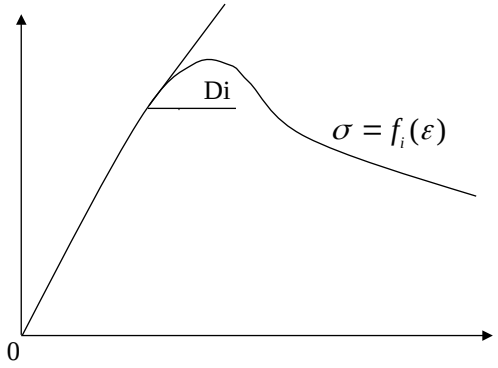


Fig. 2 Average stress-average strain relationship of an element

$$\Delta\sigma = D_i \Delta\varepsilon \left(D_i = \frac{df_i}{d\varepsilon} \right) \tag{4}$$

By performing Eqs. 1 and 4, the axial load, vertical curvature and horizontal curvature from Eq. 3 can be written into the matrix form as follow,

$$\begin{Bmatrix} \Delta P = 0 \\ \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} \overline{D}_{AA} & \overline{D}_{AH} & \overline{D}_{AV} \\ \overline{D}_{HA} & \overline{D}_{HH} & \overline{D}_{HV} \\ \overline{D}_{VA} & \overline{D}_{VH} & \overline{D}_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varepsilon_0 \\ \Delta\varphi_H \\ \Delta\varphi_V \end{Bmatrix} \tag{5}$$

The axial force ΔP from Eq. 5 may be rearranged in the form

$$\begin{aligned} \Delta P &= \overline{D}_{AA} \Delta\varepsilon_0 + \overline{D}_{AH} \Delta\varphi_H + \overline{D}_{AV} \Delta\varphi_V \\ &= \sum_{i=1}^{N} D_i \left(\Delta\varepsilon_0 + y_i \Delta\varphi_H + z_i \Delta\varphi_V \right) A_i \\ &= \sum_{i=1}^{N} D_i \left[\Delta\varepsilon_G + \left(y_i - y_G \right) \Delta\varphi_H + \left(z_i - z_G \right) \Delta\varphi_V \right] A_i \end{aligned} \tag{6}$$

where

$$\Delta\varepsilon_G = \Delta\varepsilon_0 + y_G \Delta\varphi_H + z_G) \Delta\varphi_V \tag{7}$$

y_G and z_G are given by,

$$\begin{aligned} y_G &= \frac{\left(\sum_{i=1}^{N} y_i \, D_i \, A_i \right)}{\left(\sum_{i=1}^{N} D_i \, A_i \right)} \\ z_G &= \frac{\left(\sum_{i=1}^{N} z_i \, D_i \, A_i \right)}{\left(\sum_{i=1}^{N} D_i \, A_i \right)} \end{aligned} \tag{8}$$

The Eq. 5 can be written by assuming that under pure longitudinal bending $\Delta P = 0$, therefore,

$$\begin{Bmatrix} \Delta P = 0 \\ \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} \overline{D}_{AA} & 0 & 0 \\ 0 & \overline{D}_{HH} & \overline{D}_{HV} \\ 0 & \overline{D}_{VH} & \overline{D}_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varepsilon_G \\ \Delta\varphi_H \\ \Delta\varphi_V \end{Bmatrix} \tag{9}$$

where

$$D_{AA}=\sum_{i=1}^{N} D_i A_i \qquad D_{HV}=D_{VH}=\sum_{i=1}^{N} D_i (y_i-y_G)(z_i-z_G) A_i$$
$$D_{HH}=\sum_{i=1}^{N} D_i (y_i-y_G)^2 A_i \qquad D_{HH}=\sum_{i=1}^{N} D_i (y_i-y_G)^2 A_i \tag{10}$$

Using the Eq. 10, the relationship of the biaxial bending moments and curvatures can be given by the following formula,

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varphi_H \\ \Delta\varphi_V \end{Bmatrix} \tag{11}$$

The bending moment-curvature relationship, Eq. 11 can be applied to the ship hull girder strength by the following loading and/or constraint conditions. The first is the hull girder under pure vertical bending moment

$$\begin{Bmatrix} 0 \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varphi_H \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{12}$$

Where the superscript ′0′ indicates a priscribed value, and the solutions are

$$\Delta\varphi_H = -\frac{D_{HV}}{D_{HH}} \Delta\varphi_V^0$$
$$\Delta M_V = \left(D_{VV} - \frac{D_{VH}\, D_{HV}}{D_{HH}} \right) \Delta\varphi_V^0 \tag{13}$$

The second is the hull girder under vertical bending moment with horizontal curvature constrained

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} 0 \\ \Delta\varphi_V^0 \end{Bmatrix} \tag{14}$$

And the solutions are

$$\Delta M_H = D_{HV}\ \Delta\varphi_V^0$$
$$\Delta M_V = D_{VV}\ \Delta\varphi_V^0 \tag{16}$$

Method of Analysis

Collapse analysis of the ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken for the assessment of the collapse analysis. The ship breadth and heingth are 42000 mm and 20300 mm, respectively. The grounding damage is assumed to be asymmetric position of the cross section. The transversal damage extent is chosen 10% and 70% of the ship's breadth. For the case of collision damage, the transversal damage extent is B/16, while the vertical damage extent is set up to be 10% and 70%, respectively. The longitudinal damage extent is one-frame space for grounding and collision damages. The analysis procedures of the collapse analysis of VLCC tanker for grounding and collision damages are summerized as follow,

1. Subdivide the cross-section into elements consists of stifener and attached plating.
2. Derive the average stress-average strain relationship of individual element by considering the influence of buckling and yielding.
3. Derive the tangential axial stiffeness of individual element from the average stress-average strain relationship.
The grounding and collision damages for 10% and 70% of VLCC tanker are presented in the following figures below,

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1 The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution.

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Collapse Analysis on VLCC Subjected to Longitudinal Bending with Damages

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Keywords: VLCC, cross section, longitudinal bending, damages.

Abstract. The objective of the present study is to analyze the progressive collapse of VLCC hull girder with damages subjected to longitudinal bending. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Introduction

Grounding and collision damages may occur on ship when it operates at sea. The grounding and collision accidents of liquid cargo such as crude oil carriers effect the ship structure becomes damage and the oil spills makes the ocean environment polluted. In conjunction with this, the design of ship structure must be considered as one of the functional requirement for structural safety.

The investigations of ship damage due to grounding and collision have been conducted by some research. The mechanics of grounding on relatively plane slopes were analyzed with emphasis on evaluation of the overall forces on the ship hull girder was presented by Pedersen [1]. To get at much insight as possible into the mechanics of ship grounding, simplifications to the problem were sought such that analytical solutions could be derived. The same assumption as that used in the method of Wierzbicki and Thomas for a separated curved surface was employed by Zhang [2], in which the material rolls up into two curved surfaces behind the wedge tip. Damage to ship bottom in grounding accident is quite complex. So, a semi empirical method was proposed for determining bottom damage resistance in grounding scenario. Finally, simple expression, expressed in terms of the ship's principal particulars, for determining damage resistance and damage extent in ship grounding were presented. An investigation of the longitudinal strength of damaged ship hulls for a broad spectrum of collision and grounding accidents was reported by Wang [3]. Both the hull girder section modulus and hull girder ultimate strength were calculated. The aim is to obtain simple relations to assess residual hull girder strength, which may be used as handy and reliable tools to help make timely decisions in the event of an emergency. Muis Alie, M.Z [4] analyzed the residual strength of asymmetrically damaged ship hull girder under longitudinal bending. Beam finite element method was used for the assessment of residual strength of two single hull bulk carriers and a three-cargo hold model of a single-side Panamax Bulk Carrier in hogging and sagging conditions. A fast and reasonably accurate method for exploring the collapse of hull girder in the damage condition was developed by Paik [5]. Location and amount of collision and grounding damage were defined based on the ABS safe hull guide. To characterize residual strength, an elastic section modulus based residual strength index and an ultimate bending strength based residual strength

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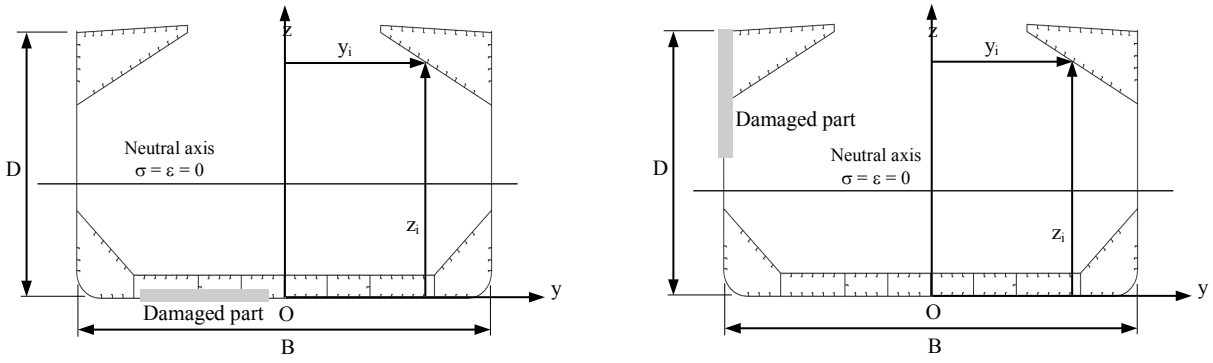
index were defined. As an illustrative example, these indices were obtained for the hull girder collapse of a hypothetical Panamax class bulk carrier after collision and grounding.

In the present study, a VLCC hull girder with damages subjected to longitudinal bending is analyzed. For the simple case, the cross-section is assumed to be remained plane and the vertical bending moment is applied to the cross section. The welding residual stress, initial imperfection, and crack are not considered. The damages scenarios are located at the center part and asymmetric position of the cross section. To analyze the progressive collapse including its behavior of VLCC ship hull, the simply supported is imposed to the cross section and taking the hogging and sagging condition into account. The results obtained for intact and damages condition by the analytical solution is compared and summarized with one another.

Analytical Formulation

Generally, damages due to grounding or collision are assumed to be located at an asymmetric position of a hull girder cross section as shown in Fig.1. The progressive collapse of ship hull girder subjected to longitudinal bending moment due to grounding and collision damages is calculated using some formulations in the analytical solution. Although the grounding or collision damages takes place at the asymmetric position, the cross section is assumed to be remained plane. In conjunction with this, the axial strain at the structural element caused by vertical and horizontal curvature can be expressed as,

$$\varepsilon_i(y_i, z_i) = \varepsilon_0 + y_i \phi_H + z_i \phi_V \tag{1}$$



(a) Grounding (b) Collision

Figure 1. Damages on the ship cross section.

where ε_0, ϕ_H and ϕ_V are the axial strain at the origin O, horizontal curvature and vertical curvature respectively. The y and z are the coordinates with the origin at the bottom keel are defined according to Fig. 1. The relationship between axial stress and axial strain to calculate the individual element can be expressed by the following equation

$$\sigma = f_i(\varepsilon) \tag{2}$$

where $f_i(0) = 0$. The axial force P, the vertical bending moment M_V and the horizontal bending moment M_H can be obtained by using the formulas:

$$\begin{aligned} P &= \sum_{i=1}^{N} \sigma_i A_i \cong 0 \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i y_i \\ M_V &= \sum_{i=1}^{N} \sigma_i A_i x_i \end{aligned} \tag{3}$$

Those values are obtained by integrating the axial stress over the intact part of the cross section. Where N is the number of intact elements and A_i is a cross section of individual element. The tangential stiffness obtained as a slope of the average stress-average strain relationship of the individual element by D_i as shown in Fig. 2, the relationship of axial stress and strain can be expressed as,

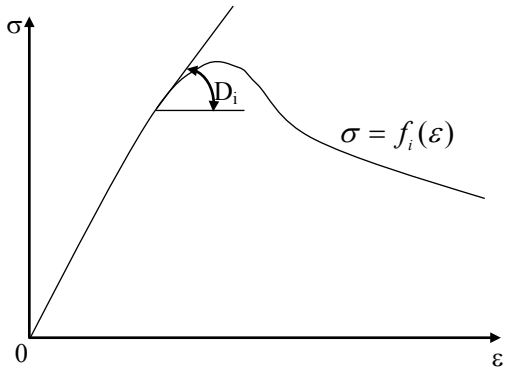


Figure 2. Average stress-average strain relationship of an element.

$$\Delta\sigma = D_i \Delta\varepsilon \left(D_i = \frac{df_i}{d\varepsilon} \right) \tag{4}$$

By performing Eqs. 1 and 4, the axial load, vertical curvature and horizontal curvature from Eq. 3 can be written into the matrix form as follow:

$$\begin{Bmatrix} \Delta P = 0 \\ \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} \overline{D}_{AA} & \overline{D}_{AH} & \overline{D}_{AV} \\ \overline{D}_{HA} & \overline{D}_{HH} & \overline{D}_{HV} \\ \overline{D}_{VA} & \overline{D}_{VH} & \overline{D}_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\varepsilon_0 \\ \Delta\phi_H \\ \Delta\phi_V \end{Bmatrix} \tag{5}$$

The axial force ΔP from Eq. 5 may be rearranged in the form

$$\begin{aligned} \Delta P &= \overline{D}_{AA}\Delta\varepsilon_0 + \overline{D}_{AH}\Delta\phi_H + \overline{D}_{AV}\Delta\phi_V \\ &= \sum_{i=1}^{N} D_i \left(\Delta\varepsilon_0 + y_i \Delta\phi_H + z_i \Delta\phi_V \right) A_i \\ &= \sum_{i=1}^{N} D_i \left\{ \Delta\varepsilon_G + (y_i - y_G)\Delta\phi_H + (z_i - z_G)\Delta\phi_V \right\} A_i \end{aligned} \tag{6}$$

where

$$\Delta\varepsilon_G = \Delta\varepsilon_0 + y_G \Delta\phi_H + z_G)\Delta\phi_V \tag{7}$$

y_G and z_G are given by

$$\begin{aligned} y_G &= \frac{\left(\sum_{i=1}^{N} y_i D_i A_i \right)}{\left(\sum_{i=1}^{N} D_i A_i \right)} \\ z_G &= \frac{\left(\sum_{i=1}^{N} z_i D_i A_i \right)}{\left(\sum_{i=1}^{N} D_i A_i \right)} \end{aligned} \tag{8}$$

The Eq. 5 can be written by assuming that under pure longitudinal bending $\Delta P = 0$, therefore,

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where

$$\begin{aligned} D_{AA} &= \sum_{i=1}^{N} D_i A_i & D_{HV} = D_{VH} &= \sum_{i=1}^{N} D_i (y_i - y_G)(z_i - z_G) A_i \\ D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2 A_i & D_{HH} &= \sum_{i=1}^{N} D_i (y_i - y_G)^2 A_i \end{aligned} \tag{10}$$

Using the Eq. 10, the relationship of the biaxial bending moments and curvatures can be given by the following formula,

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\phi_H \\ \Delta\phi_V \end{Bmatrix} \tag{11}$$

The bending moment-curvature relationship, Eq. 11 can be applied to the ship hull girder strength by the following loading and/or constraint conditions. The first is the hull girder under pure vertical bending moment

$$\begin{Bmatrix} 0 \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} \Delta\phi_H \\ \Delta\phi_V^0 \end{Bmatrix} \tag{12}$$

where the superscript ′0′ indicates a prescribed value, and the solutions are:

$$\begin{aligned} \Delta\phi_H &= -\frac{D_{HV}}{D_{HH}} \Delta\phi_V^0 \\ \Delta M_V &= \left(D_{VV} - \frac{D_{VH} D_{HV}}{D_{HH}} \right) \Delta\phi_V^0 \end{aligned} \tag{13}$$

The second is the hull girder under vertical bending moment with horizontal curvature constrained,

$$\begin{Bmatrix} \Delta M_H \\ \Delta M_V \end{Bmatrix} = \begin{bmatrix} D_{HH} & D_{HV} \\ D_{VH} & D_{VV} \end{bmatrix} \begin{Bmatrix} 0 \\ \Delta\phi_V^0 \end{Bmatrix} \tag{14}$$

and the solutions are:

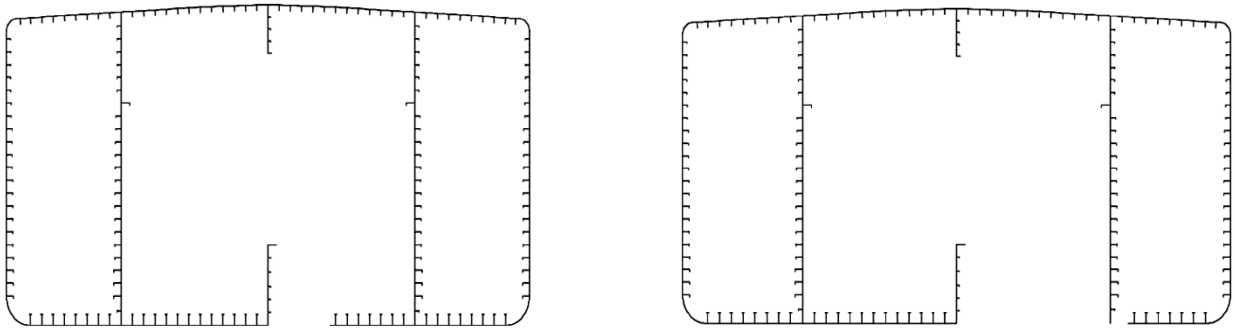
$$\begin{aligned} \Delta M_H &= D_{HV} \Delta\phi_V^0 \\ \Delta M_V &= D_{VV} \Delta\phi_V^0 \end{aligned} \tag{15}$$

Method of Analysis

Collapse analysis of the ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken for the assessment of the collapse analysis. The ship breadth and high are 42000 mm and 20300 mm, respectively. The grounding damage is assumed to be asymmetric position of the cross section. The transversal damage extent is chosen 10% and 70% of the ship's breadth. For the case of collision damage, the transversal damage extent is B/16, while the vertical damage extent is set up to be 10% and 70%, respectively. The longitudinal damage extent is one-frame space for grounding and collision damages. The analysis procedures of the collapse analysis of VLCC tanker for grounding and collision damages are summarized as follows:

1. Subdivide the cross-section into elements consists of stiffener and attached plating.
2. Derive the average stress-average strain relationship of individual element by considering the influence of buckling and yielding.
3. Derive the tangential axial stiffness of individual element from the average stress-average strain relationship.
4. Calculate the center position of neutral axis y_G and z_G
5. Evaluate the flexural stiffness of the cross section with respect to neutral axis.
6. Calculate the curvature and/or bending moment under specified condition.
7. Calculate the strain in individual element from the curvature, and their stress using the slope of average stress-average strain curve.

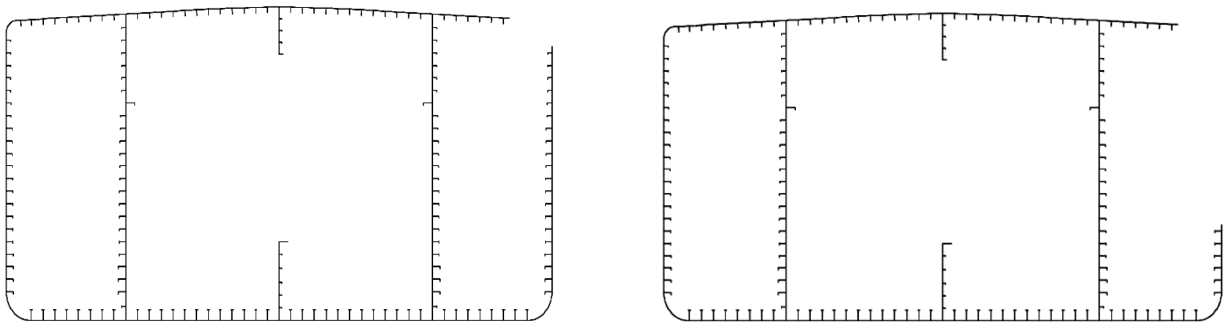
The grounding damages for 10% and 70% of VLCC tanker are presented in the Fig. 3 as follows:



(a) 10 % damage (b) 70% damage

Figure 3. Grounding damage of VLCC Tanker.

while the collision damages for 10% and 70% of VLCC tanker are presented in the Fig. 4 as follows:

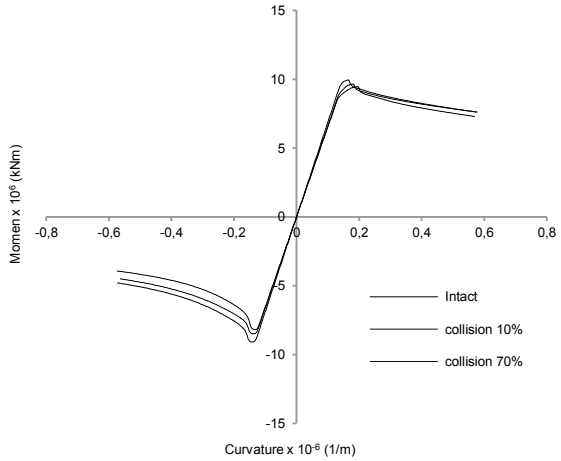


(a) 10 % damage (b) 70% damage

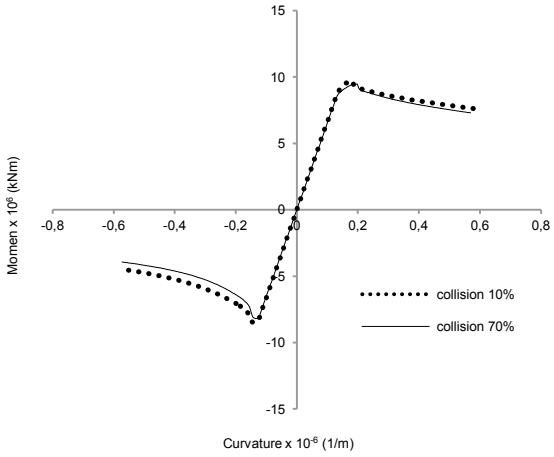
Figure 4. Collision damage of VLCC Tanker.

Results and Discussion

Collapse analysis of ship hull girder with grounding and collision damages are performed using the Smith's method. A VLCC of tanker is taken as the object of the analysis and subjected to longitudinal bending moment by taking the hogging and sagging condition into account. The ultimate strength for 10% and 70% of grounding damages are summarized as follows:



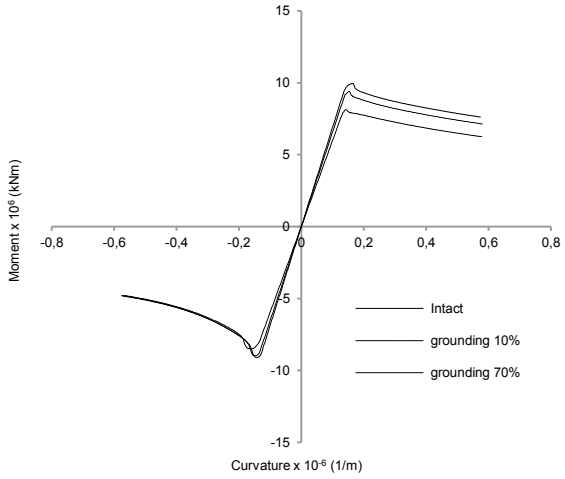
(a) Intact and damages



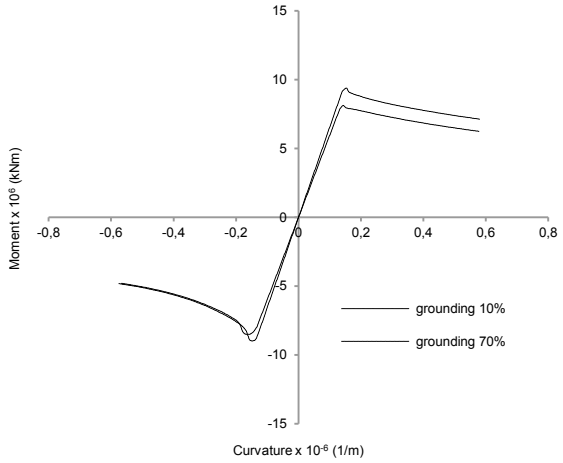
(b) Damages only

Figure 5. Moment-curvature relationship.

Figure 5 shows the comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% collision damages. It is clear that the ultimate strength decreases not only hogging but also sagging conditions, when those compare to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression. This is because there is transversal damage extent of B/16 at the deck part.



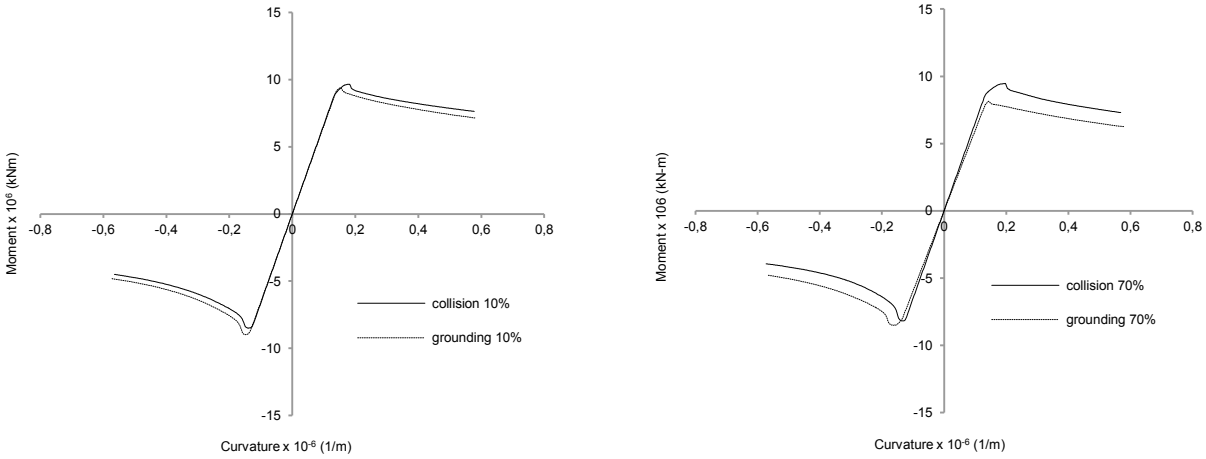
(a) Intact and damages



(b) Damages only

Figure 6. Moment-curvature relationship.

The comparison of the moment-curvature relationship of the ultimate strength for 10% and 70% grounding damages are shown in Fig. 6. When the grounding damage is considered, the significant different of the collapse behavior takes place on the hogging condition. It is known well that under hogging condition, bottom part is under compression and deck is under tension. In this regard, some of the elements at the bottom part lost their rigidity due to grounding damage. This is also due to the asymmetric position of the damage.



(a) 10% damages (b) 70% damages

Figure 7. Moment-curvature relationship.

The moment-curvature relationship obtained by analytical solution for 10% damage and 70% damages under hogging and sagging condition subjected to grounding and collision damages. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmetric position of the bottom part. Similarly with the 70% damage both hogging and sagging condition.

Conclusions

Collapse analysis of ship hull girder with grounding and collision damages have been conducted using the Smith's method. The following conclusion of the collapse analysis of a VLCC of tanker are summarized :

1. It is clear that the ultimate strength decreases not only hogging but also sagging conditions when those are compared to the intact one. The significant influence takes place on the post ultimate strength, particularly when the ship is under compression.
2. It is observed that the ultimate strength for the collision damage is larger than grounding one under hogging condition. This is due to the transversal damage extent at the deck part since the deck part is under hogging condition. On the other hand, grounding gives larger ultimate strength compared to the collision, since grounding located at the asymmeric position of the bottom part.

References

[1] P.T. Pedersen, Ship Grounding and Hull-Girder Strength, *J. Marine Structures* 7 (1994) 1-29.

[2] S. Zhang, Plate Tearing and Bottom Damage in Ship Grounding, *J. Marine Structures* 15 (2002) 101-117.

[3] G. Wang, Y. Chen, H. Zhang and H. Peng, Longitudinal Strength of Ships with Accidental Damages, *J. Marine Structures* 15 (2002) 119-138.

[4] M.Z. Muis Alie, Residual Strength Analysis of Asymmetrically Damaged Ship Hull Girder Using Beam Finite Element Method, *Makara J. of Technology* 20 (2016) 7-12.

[5] J.K. Paik, A.K. Thayamballi and S.H. Yang, Residual Strength Assessment of Ships after Collision and Grounding, *J. Marine Technology* 35 (1998) 38-54.

SETORAN TUNAI

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SETOR TUNAI

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BIAYA : BEBAS BIAYA

BERITA: REG SENTA 2016

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