

KORESPONDENSI IJMERR 2023

Judul: On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis

Submission of 19889-1 Article



Participants [Edit](#)

Ms. Haylee Lin (haylee)

Rustan Tarakka (rustantarakka)

Messages

Note	From
<p>Dear Sir/Madam</p> <p>The editor(s) of the International Journal of Mechanical Engineering and Robotics Research</p> <p>Herewith, We submit our paper titled "On the aerodynamics of rear of vehicle model with active control by blowing: computational and experimental analysis" authored by Rustan Tarakka, Nasaruddin Salam, Andi Amijoyo Mochtar, Wawan Rauf, and Muhammad Ihsan, to be considered in the International Journal of Mechanical Engineering and Robotics Research.</p> <p>I hope that the paper has a chance to be accepted and to be published subsequently in the esteemed journal and therefore can give contributions to our field. Thank you very much for your kind attention.</p> <p>Sincerely yours,</p> <p>Dr. Rustan Tarakka Dept. of Mechanical Engineering Hasanuddin University</p>	<p>rustantarakka</p> <p>2022-07-10 03:28 AM</p>



Participants

Ms. Ashley Zhang (ashley)

Rustan Tarakka (rustantarakka)

Messages

Note

From

Dear Rustan Tarakka:

Thank you for submitting your manuscript "On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis" to International Journal of Mechanical Engineering and Robotics Research.

Submission URL:

<http://ojs.ejournal.net/index.php/ijmerr/authorDashboard/submission/6078>

Before further processing, please confirm that your submission meets the requirements below:

1. **Publication fee:** you support open access publishing, which allows unlimited access to your published paper, and that you will pay the Article Processing Charge (450 USD, <http://www.ijmerr.com/index.php?m=content&c=index&a=lists&catid=13>), please note that the APC only applies if your paper was accepted after standard peer-review.
2. The submitted paper has not been copyrighted, published, or accepted for publication elsewhere.
3. The submitted paper contains no proprietary material unprotected by patent or patent application.
4. The submitted paper contains no plagiarism/copying and fraudulent data.

If your submission meets the above items, please confirm on the submission system in "Pre-Review Discussions" and leave a message to editors.

Thank you in advance for your cooperation. We look forward to hearing from you.

Ms. Ashley Zhang/Handing Editor
ashley.zhang@ejournal.net

ashley
2022-07-11 11:07
AM

[ijmerr] Manuscript ID: IJMERR-6078 - Editor Decision - Major Revisions

2022-08-08 03:39 PM

Dear Rustan Tarakka, Salam Nasaruddin, Andi Amijoyo Mochtar, Wawan Rauf, Muhammad Ihsan:

Thank you for submitting your manuscript "On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis" to International Journal of Mechanical Engineering and Robotics Research.

The editorial team had assessed your submission and feel that it has potential for publication, so we would like to invite you to make major revisions for further review.

You can find your manuscript at the following link:

<http://ojs.ejournal.net/index.php/ijmerr/authorDashboard/submission/6078>

Important notice: Please revise the manuscript according to the reviewers' comments and upload the revised file **within one month**. **The revisions should be clearly highlighted**, for example using the "Track Changes" function in Microsoft Word, so that changes are easily visible to the editors and reviewers. Please provide a cover letter to explain point-by-point the details of the revisions in the manuscript and **your responses** to the reviewers' comments. (download [author response template](#))

As the reviewer have suggested that your manuscript should **undergo extensive English editing**, please address this during revision. We suggest that you have your manuscript checked by a native English-speaking colleague or use a professional English editing service.

Instruction for uploading the revised version can be found at <https://docs.pkp.sfu.ca/learning-ojs/en/authoring>.

Do not hesitate to contact us if you have any questions regarding the revision of your manuscript.

Ms. Ashley Zhang/Handling Editor
ashley.zhang@ejournal.net

Reviewer A:

Comments to Authors

The authors performed a numerical and experimental research on drag reduction using active control by blowing jets into the flow field. Active flow control is a cutting-edge technology widely studied in aerodynamic drag reduction for automotive vehicle in last decades. Three levels of jet velocity were investigated to determine the influence of the jets on the aerodynamic drag. Pressure recovery was obtained through this control method.

Major issues:

*1. The model that the authors studied is a 35° Ahmed body. This model was introduced by Ahmed SR and widely used in academic research. The critical slant angles correspond to different separations behind the model. However, the authors flipped the orientation of the model by 180°, which eliminates this characteristic. There are neither previous researches to support this alteration, nor any reasons given in this article.

*2. In previous researches, such as Mathieu Roumeas et al (Drag reduction by flow separation control on a car after body) and Wang Bingxin et al (Active flow control on the 25° Ahmed body using a new unsteady jet), it's found that the velocity of the jets (U/U_0) or the momentum coefficient (C_μ) should reach a certain level ($U/U_0=0.4-0.6$) to obtain a drag reduction of approximately 12%. In this article, the authors claimed that they obtained a reduction of 12.187% with a ratio of $U/U_0=0.09$. The accuracy of the results is questionable.

3. The explanation of the numerical model should be specified: the turbulent model used to calculate the flow field (RANS or LES), the mesh size and number, et al.

4. In the experiment setup (fig 5), a vacuum pump was used to obtain control flow. However, the vacuum pump was supposed to create suction jet instead of blowing jet. Meanwhile, the model seemed to be suspended in the middle of the test section. Whether or not the ground clearance was considered and this setup was aligned with the numerical configuration.

5. The background reviews in Introduction seemed to be not thorough or comprehensive. More studies could be cited.

Minor issues:

1. Check the spelling mistake, e.g. Page 2 "deifned", "appertures".

2. The format of the tables should be unified.

3. The flow field structures (fig 6) should also be demonstrated in 2D planes for better understanding the changes in the flow.

Reviewer B:

Comments to Authors

At the outset I would like to say that paper is very well written and streamline the need to minimize the fuel related pollution. It is good to see the experimental work is supplemented by computational result. This paper is a good effort towards controlling the flow separation by placing active control device. However, there are some points which need to be clarified as follows.

1. In second last para C_μ is not explained what it is. Kindly give the definition of this coefficient.
2. In the first para of second section at first authors mentions blowing velocity and then suction velocity. In my understanding suction should be changed to blowing.

Apart from these some points need to be included to assist in understanding of paper.

1. State whether the flow is turbulent and if yes which turbulence model are used.
 2. Mesh details must be included also perform mesh independence study.
 3. Justify the domain size. May refer a published paper where comparable domain size was chosen for same problem.
 4. In results and discussion flow field should be presented on mid section with clearly showing separation point and wake length. The separation point location and wake length can be correlated with drag.
 5. On the numerical framework, the authors should mention the type of turbulence model that they used. Also, they need to mention if they conducted sensitivity studies on the spatial and temporal grids. The introduction part should be enhanced. There are recent studies on the exact same topic that should be discussed briefly.
-

Reviewer C:

Comments to Authors

This paper analyzed the effect of the application of active blowing control on the aerodynamics of rear part of a 1:6 scaled Ahmed body. Sentences are quite long and complicated, and the structure of many sentences is incorrect, which does not support the understanding of the paper. In addition, there are typos like "apertures" and extra punctuations. Some major issues are as follows:

1. The quality of the figures is very low and should be improved.
 2. The difference of the production of pressure between the front and rear walls generates the pressure resistance, hence the sentence "Reduction of pressure an increase in drag on the vehicle" is confusing.
 3. Sentence "The magnitude of the aerodynamic drag force, and their stability" is confusing. In addition, the citation of reference [3] is to explain the "opposing movement", which is opposite to the sentence above.
 4. Sentence "The rate of the flow separation triggering the backward pull phenomenon". The increase/decrease of the rate should be described clearly.
 5. The meaning of C_{μ} should be explained.
 6. The depth of the apertures should be described.
 7. The main subject of this paper is "blowing active control", but there are two "suction" that showed up in different sentences, which is confusing.
 8. The mark of the model's length is "l" as described in this paper, so the "L" in Figure 3 is confusing. In addition, the boundary condition of the four side walls should be represented in Figure 3.
 9. Clear description of meshing parameters is needed. Figure 4 is not enough to reveal the details of meshing. Besides, there may be an extra line between the picture and the words below.
 10. The numerical simulation method is not described in detail, such as the turbulence model, solution format, discrete term, etc.
 11. There are two "6(c)" in one sentence.
 12. There are many mistakes in Figure 6.
 - (1) The size and position of the vehicle in four pics are different.
 - (2) The color maps of four pics aren't the same.
 - (3) Lacking of coordinate in Fig 6(c) and (d).
 - (4) Four pics are far from enough to describe the generation of vortices and the influence of blowing at different speeds on the production and development of vortices.
 - (5) The title of Fig 6(d) is incorrect.
 13. Table 2 is incorrect. the C_p of $z/w=0$ and $z/w=1/4$ are the same, and the "Rate" is not defined.
 14. English of the manuscript is very poor. In the present form, the manuscript may not be evaluation properly. Thus, the manuscript should be evaluated after improving the English.
-

Participants [Edit](#)

Ms. Ashley Zhang (ashley)

Rustan Tarakka (rustantarakka)

Messages

Note

From

Dear Ms. Ashley Zhang

rustantarakka

Journal Editor of IJMERR (International Journal of Mechanical Engineering and Robotics Research)

2022-09-07 11:45

AM

ashley.zhang@ejournal.net

We have revised our paper "On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis" authored by Rustan Tarakka, Nasaruddin Salam, Andi Amijoyo Mochtar, Wawan Rauf, Muhammad Ihsan, to be considered in the International Journal of Mechanical Engineering and Robotics Research, based on reviewer's comments. All the reviewer's comment are adressed in Comment field in the manuscript.

We hope that the revision could fulfill what the reviewers want. Thank you very much. Thank you very much for your kind attention.

Sincerely yours,

Corresponding author

Dr. Rustan Tarakka
Dept. of Mechanical Engineering
Hasanuddin University

 rustantarakka, 6078-Manuscript (PDF)-19889-1-2-20220710 - Revised#1.docx

[ijmerr] Manuscript ID: IJMERR-6078 - Editor Decision - Accepted for Publication

2022-09-21 04:11 PM

Dear Rustan Tarakka, Salam Nasaruddin, Andi Amijoyo Mochtar, Wawan Rauf, Muhammad Ihsan,

We are pleased to inform you that the following paper has been officially accepted for publication in International Journal of Mechanical Engineering and Robotics Research.

Manuscript ID: IJMERR-6078

Title: On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis

Submission URL: <http://ojs.ejournal.net/index.php/ijmerr/authorDashboard/submission/6078>

Your paper will be charged for publishing (450 USD), and the detailed payment information can be found at the end of this email. **If the payment is ready, please send us the payment screenshot and order ID for the record.**

Once the payment is confirmed, We will make the final preparation, and then return the edited manuscript to you for your approval.

Please feel free to email us with any questions.

Ms. Ashley Zhang/Handling Editor
ashley.zhang@ejournal.net

Please proceed with the payment at the following link (No handling fees)

Payment link: <http://confsys.iconf.org/online-payment/18130>

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Please make sure you have VISA or Mastered Card Credit Card before clicking this link, and you should also calculate the right amount and pay.

The following information is necessary.

Full Name*:

Email*:

Event Acronym*: IJMERR

Event URL*: <http://www.ijmerr.com/>

Acceptance/Paper ID*: IJMERR-6078

Paper Title*: On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis

**Participants** [Edit](#)

Ms. Ashley Zhang (ashley)

Rustan Tarakka (rustantarakka)

Messages

Note

From

Dear Ms. Ashley Zhang, Handling editor of IJMERR

rustantarakka

Thank you for accepting our paper in IJMERR.

2022-09-27 11:09

We have completed the payment for our article ID-IJMERR-6078 On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis. Order ID 20220927-18130-104709159591, amounted USD 450.

AM

payment link <http://confsys.iconf.org/index.php/Payment/show/orderid/20220927-18130-104709159591.html>

Attached is the screenshot of our payment

Sincerely yours,

Dr. Rustan Tarakka

Payment info	
Order ID	20220927-18130-104709159591
Full Name	Rustan Tarakka
Email	rustan.tarakka@yahoo.com
Event acronym	IJMERR
Event url	http://www.ijmerr.com/
Acceptance/Paper ID	IJMERR-6078
Paper title	On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis
Total	450.00 USD

Payment Success



Participants

Ms. Ashley Zhang (ashley)

Rustan Tarakka (rustantarakka)

Messages

Note	From
<p>Dear Rustan Tarakka,</p> <p>Many thanks for your support of open access publishing in International Journal of Mechanical Engineering and Robotics Research. And I will contact you in the coming three days for the final proofreading.</p> <p>Please find below the APC payment confirmation for the following article:</p> <p>Payment of Invoice: IJMERR-6078 Title: On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis Amount Received: 450 USD Order ID: 20220927-18130-104709159591</p> <p>This is the confirmation of APC payment. No need to reply to this email.</p> <p>Ms. Ashley Zhang/Handling Editor ashley.zhang@ejournal.net</p>	<p>ashley 2022-09-27 03:31 PM</p>



Participants

Ms. Haylee Lin ([haylee](#))

Ms. Ashley Zhang ([ashley](#))

Rustan Tarakka ([rustantarakka](#))

Messages

Note

From

Dear Authors,

[ashley](#)

We invite you to proofread your manuscript prior to publication:

2022-10-14 03:06

PM

Title: On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis

Submission URL:

<http://ejournal.net/index.php/ijmerr/authorDashboard/submission/6078>

Please read the following instructions carefully before proofreading:

(1) Download the manuscript from the above link (copyediting menu-copyedited) and upload the final proofed version within **five days**.

(2) Please use Microsoft Word's built-in track changes function to highlight any changes you make or send a comprehensive list of changes in a separate document. Note that this is the "last chance" to make textual changes to the manuscript.

(3) All authors must agree to the final version. Check carefully that authors' names and affiliations are correct, and that funding sources are correctly acknowledged. Incorrect author names or affiliations are picked up by indexing databases, such as Scopus, and can be difficult to correct.

Please note: We have edited your latest submission(revision that submitted in september 7). As there are too many column breaks, section breaks, text boxes, tables, etc. in the manuscript, please check the content and paper flow in the edited version carefully to avoid any errors. The manuscript will be regarded as the final copy after your proofreading and it will be sent to the IJMERR office for publication.

Once proofreading is done, please click on the above link to open the submission system, create a new discussion, and upload the final approved version. (copyediting - add discussion - add journal editor as Participants). After proofreading, final production will be carried out. Once a paper has been published online, we will not accept any corrections or changes to the published version. Changes made later will be published separately via a Correction or Addendum.

In case of any questions regarding final proofreading, please don't hesitate to contact me or the journal editor: Ms. Haylee Lin, haylee.lin@ejournal.net.

Ms. Ashley Zhang

ashley.zhang@ejournal.net

Dear Ms. Ashley Zhang

rustantarakka
2022-10-15 10:45
AM

We are sorry for the delay in the preparation of our manuscript. We are still working on the plagiarism check in Turnitin and its revision, and we just achieved 20% similarity. We hope that it will fulfill our internal requirements, as well as the IJMERR standard.

Regarding the proofreading, we use an external party, and it will be completed in at least 7 working days. Therefore we are asking for **an extension of the final submission for 14 days** (two weeks from now).

We hope that this effort can contribute to the quality of our publication.

Sincerely yours,

Dr. Rustan Tarakka

Dear Dr. Rustan Tarakka,

haylee

Fine, we would be glad to grant an extension. Please proof the final version carefully and return back within the extended deadline.

2022-10-19 10:30

AM

By the way, Ms. Ashley Zhang was on maternity leave. If you have any questions regarding this paper, please do not hesitate to contact me (haylee.lin@ejournal.net).

Best,

Ms. Haylee Lin

Journal Editor

Dear Ms. Haylee Lin

Thank you for your kind response.

We hope can complete it within the timeframe

Sincerely yours,

Dr. Rustan Tarakka

rustantarakka

2022-10-20 08:35

AM

Dear Ms. Haylee Lin

rustantarakka
2022-10-29 04:45
PM

Thank you for granting us extended time to submit our paper. We have completed the proofreading as well as the plagiarism check for our paper.

We hereby send you the paper, along with the proofreading certificate. Since the final version is the product of the proofreader, we cannot provide track-changes remarks. The changes are mostly in grammar and layout editing, and no changes in the substance of the manuscript.

Sincerely yours,

Dr. Rustan Tarakka

 [rustantarakka, 6078-Manuscript \(Word\)-24884-1-9-20221029 Final.docx](#)

 [rustantarakka, 6078-Manuscript \(PDF\)-24884-1-9-20221029 Final.pdf](#)

 [rustantarakka, 6078- Certificate of Proofreading.pdf](#)

[ijmerr] Manuscript ID: IJMERR-6078 - Send to Production

2022-10-31 11:08 AM

Dear Rustan Tarakka, Salam Nasaruddin, Andi Amijoyo Mochtar, Wawan Rauf, Muhammad Ihsan:

The editing of your submission, "On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis," is complete. We are now sending it to production. If you have any questions for the publication schedule, please contact the editorial office at ijmerr@vip.163.com.

Submission URL: <http://ojs.ejournal.net/index.php/ijmerr/authorDashboard/submission/6078>

Ms. Haylee Lin
haylee.lin@ejournal.net

--

International Journal of Mechanical Engineering and Robotics Research

Website: <http://www.ijmerr.com/>

Email: ijmerr@vip.163.com



Participants

Ms. Haylee Lin (haylee)

Rustan Tarakka (rustantarakka)

Messages

Note

From

Dear Authors,

We are pleased to inform you that your article "On the Aerodynamics of Rear of Vehicle Model with Active Control by Blowing: Computational and Experimental Analysis" has been published in "International Journal of Mechanical Engineering and Robotics Research" and is available online:

Website link: <http://www.ijmerr.com/index.php?m=content&c=index&a=show&catid=220&id=1843>

Please take a moment to check that everything is correct. You can reply to the journal editorial office (ijmerr@vip.163.com) if there is a problem. Note that at this stage we will not accept further changes to the manuscript text.

Thank you for choosing "International Journal of Mechanical Engineering and Robotics Research" to publish your work, we look forward to receiving further contributions from your research group in the future.

Ms. Haylee Lin
haylee.lin@ejournal.net

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International Journal of Mechanical Engineering and Robotics Research
Website: <http://www.ijmerr.com/>

haylee
2023-03-06 11:40
AM