Outline Korespondensi "Fluids"

- 1. Submission Received (Senin, 14 Desember 2020)
- 2. Assistant Editor Assigned (Senin, 14 Desember 2020)
- 3. One review report (Rabu, 23 Desember 2020)
- 4. Major revision (Kamis, 31 Desember 2020)
- 5. Resubmitted in the revised form (Jumat, 8 Jan 2021)
- 6. Accepted for Publication (Rabu, 13 Januari 2021)
- 7. Final Proofreading Before Publication within 1 Day (Sabtu, 16 Januari 2021)

Order Article Reprints Investigation of the Tribological Performance of Heterogeneous Slip/No-Slip Journal Bearing Considering Thermo-Hydrodynamic Effects by Mohammad Tauviqirrahman ^{1,*} www.caesarendra.3co https://www.caesarendra.3co <a a="" href="https://www.caesarendra.3co" www.caesarendra.3co<=""> <a href="https://www.caesarendra.3co <a href=" https:="" th="" ww<=""><th></th><th></th><th>K 7</th><th>_</th>			K 7	_
Investigation of the Tribological Performance of Heterogeneous Slip/No-Slip Journal Bearing Considering Thermo-Hydrodynamic Effects Sin Description of the Tribology and Considering Thermo-Hydrodynamic Effects by Mohammad Tauviqirrahman ^{1,*} □, ② M. Fadhli Affit ¹ □, ③ P. Paryanto ^{1,2} □, ③ J. Jamari ¹ □ ¹ □ and ③ Wahyu Caesarendra ³ □ ¹ Image: Considering Design and Tribology, Department of Mechanical Engineering, Faculty of Engineering, Diponegoro University, Jl. Prof. Soedharto SH, Tembalang, Semarang 50275, Indonesia Image: Constitute for Factory Automation and Production Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058 Erlangen, Germany Image: Constitute for Integrated Technologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei Image: Constitute for Construction Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058 Erlangen, Germany Image: Construction Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058 Erlangen, Germany ³ Faculty of Integrated Technologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei Image: Construction Systems (FAPS), Friedrich-Alexander-Universität Erlangen, Co	Open Access Editor's Choice /	Order Article Reprints	\$	Altmetric
 ¹ Laboratory for Engineering Design and Tribology, Department of Mechanical Engineering, Faculty of Engineering, Diponegoro University, Jl. Prof. Soedharto SH, Tembalang, Semarang 50275, Indonesia ² Institute for Factory Automation and Production Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058 Erlangen, Germany ³ Faculty of Integrated Technologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei [*] Author to whom correspondence should be addressed. 	Investigation of the Considering Therm	Tribological Performance of Heterogeneous Slip/No-Slip Journal Bearing io-Hydrodynamic Effects		Share
 ² Institute for Factory Automation and Production Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058 Erlangen, Germany ³ Faculty of Integrated Technologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei * Author to whom correspondence should be addressed. 	 Laboratory for Engineering I Soedbarto SH. Tembalang 	Design and Tribology, Department of Mechanical Engineering, Faculty of Engineering, Diponegoro University, Jl. Prof.		Help
 ³ Faculty of Integrated Technologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei * Author to whom correspondence should be addressed. Fluids 2021, 6(2), 48; https://doi.org/10.3390/fluids6020048 	² Institute for Factory Automa Erlangen, Germany	tion and Production Systems (FAPS), Friedrich-Alexander-Universität Erlangen-Nürnberg, Egerlandstr. 7–9, 91058		Cite
Fluids 2021, 6(2), 48; https://doi.org/10.3390/fluids6020048	³ Faculty of Integrated Techno	ologies, Universiti Brunei Darussalam, Bandar Seri Begawan BE1410, Brunei Jence should be addressed.		Discuss in SciProfiles
	* Author to whom correspond			



1. [Fluids] Manuscript ID: fluids-1055932 - Submission Received Senin, 14 Desember 2020



[Fluids] Manuscript ID: fluids-1055932 - Submission Received mohammad.tauviqirrahman/Email Masuk

Editorial Office fluids@mdpi.com

Kepada: Mohammad Tauviqirrahman

Cc:M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra

Sen, 14 Des 2020 jam 10.04

Dear Dr. Tauviqirrahman,

Thank you very much for uploading the following manuscript to the MDPI submission system. One of our editors will be in touch with you soon.

Journal name: Fluids Manuscript ID: fluids-1055932 Type of manuscript: Article Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif, P Paryanto, J Jamari, Wahyu Caesarendra Received: 14 December 2020 E-mails: mohammad.tauviqirrahman@ft.undip.ac.id, fadhliafifm@gmail.com, paryanto@gmail.com, j.jamari@gmail.com, wahyu.caesarendra@ubd.edu.bn Submitted to section: Mathematical and Computational Fluid Mechanics, https://www.mdpi.com/journal/fluids/special issues/computing fluids

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Kind regards,

Fluids Editorial Office St. Alban-Anlage 66, 4052 Basel, Switzerland E-Mail: <u>fluids@mdpi.com</u> Tel. +41 61 683 77 34 Fax: +41 61 302 89 18

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2. [Fluids] Manuscript ID: fluids-1055932 - Assistant Editor Assigned

Senin, 14 Desember 2020



Paula-Iuliana Andone andone@mdpi.com

Kepada: Mohammad Tauviqirrahman

Cc:Paula-Iuliana Andone,M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra,Fluids Editorial Office

Sen, 14 Des jam 12.20

Dear Dr. Tauviqirrahman,

Your manuscript has been assigned to Paula-Iuliana Andone for further processing who will act as a point of contact for any questions related to your paper.

Journal: Fluids Manuscript ID: fluids-1055932 Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif , P Paryanto , J Jamari , Wahyu Caesarendra

Received: 14 December 2020 E-mails: <u>mohammad.tauviqirrahman@ft.undip.ac.id</u>, <u>fadhliafifm@gmail.com</u>, <u>paryanto@gmail.com</u>, <u>j.jamari@gmail.com</u>, <u>wahyu.caesarendra@ubd.edu.bn</u>

You can find it here: https://susy.mdpi.com/user/manuscripts/review_info/73ff0586037e2a24e91ad5568a88c756

Best regards, Ms. Paula-Iuliana Andone Assistant Editor MDPI OPEN ACCESS PUBLISHING ROMANIA SRL Str Avram Iancu 454, Floresti, Cluj, Romania www.mdpi.com

3. One review report – 23 Desember 2020



3. [Fluids] Manuscript ID: fluids-1055932 - One review report

Inbox

-

Paula Andone Dec 23, 2020, 3:21 PM (4 days ago)

to me, fluids, fadhliafifm, paryanto, j.jamari, wahyu.caesarendra

Dear Dr. Tauviqirrahman,

Glad to contact you.

We have just received one review report for your manuscript, please find it in attachment. At this stage, you are free to make revisions on your manuscript if you would like to, it will speed up the process.

We are still waiting for the other review report and we will contact you once we receive enough review reports.

If you have any questions, please feel free to contact us. We look forward to hearing from you.

Kind regards,

Ms. Paula-Iuliana Andone Assistant Editor MDPI OPEN ACCESS PUBLISHING ROMANIA SRL Str Avram Iancu 454, Floresti, Cluj, Romania www.mdpi.com

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Attachments area

4. Major revision – 31 Desember 2020



[Fluids] Manuscript ID: fluids-1055932 - Major Revisions mohammad.tauviqirrahman/Email Masuk

Fluids Editorial Office <fluids@mdpi.com> Kepada:Mohammad Tauviqirrahman Cc:M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra,Fluids Editorial Office Kam, 31 Des jam 14.51 Dear Dr. Tauviqirrahman,

Thank you for submitting the following manuscript to Fluids:

Manuscript ID: fluids-1055932 Type of manuscript: Article Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif, P Paryanto, J Jamari, Wahyu Caesarendra Received: 14 December 2020 E-mails: mohammad.tauviqirrahman@ft.undip.ac.id, fadhliafifm@gmail.com, paryanto@gmail.com, j.jamari@gmail.com, wahyu.caesarendra@ubd.edu.bn Submitted to section: Mathematical and Computational Fluid Mechanics, https://www.mdpi.com/journal/fluids/sections/Mathematical_Computational_Fluid_Mechanics Scientific Computing in Fluids https://www.mdpi.com/journal/fluids/special_issues/computing_fluids

It has been reviewed by experts in the field and we request that you make major revisions before it is processed further. Please find your manuscript and the review reports at the following link: https://susy.mdpi.com/user/manuscripts/resubmit/73ff0586037e2a24e91ad5568a88c756

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If the reviewers have suggested that your manuscript should undergo extensive English editing, please have the English in the manuscript thoroughly checked and edited for language and form.

Do not hesitate to contact us if you have any questions regarding the revision of your manuscript or if you need more time. We look forward to hearing from you soon.

Taking this opportunity, we would like to thank you for all your support to our journal, and wish you a healthy and happy new year!

Kind regards, Ms. Linghua Ding Assistant Editor E-Mail: <u>linghua.ding@mdpi.com</u>

--MDPI Branch Office, Wuhan Fluids Editorial Office E-Mail: <u>fluids@mdpi.com</u> <u>http://www.mdpi.com/journal/fluids/</u>

MDPI St. Alban-Anlage 66, 4052 Basel, Switzerland

Reviewer 1

Compared to the classical (no-slip) pattern, the heterogeneous slip/no-slip bearing shows very effective in producing more hydrodynamic pressure. The maximum hydrodynamic pressure and load capacity increase significantly. However, some problems should be answered.

- 1. How is the slip length adjusted by coating or by texturing?
- 2. How does the slip affect the load capacity in the range of rotating speed from low to high?
- 3. Slip could increase maximum pressure. Could the increase of pressure induce cavitation erosion?
- 4. The y-axis unit should be K not oC in Figs. 9, and 18.
- 5. In Fig.8, pls add the influence of more rotating speeds excepting 3000 rpm.

Reviewer 2

The authors describe a numerical study of the influence of slip conditions in journal bearings and the resulting temperature distribution. In particular, they consider the influence of cavitation with a complex model. The paper is interesting and well written. However, from my point of view, there are 2 major points which, in my opinion, require further argumentation.

- 1) The study is purely numerical. Due to the fact that the model includes considerable assumptions on slip and cavitation, whose validity for this problem does not seem to be proven, the results are rather vague. I don't find this problematic, but the authors make no statement about whether or how these effects might be validated by measurement in the future. There is also no outlook section at all.
- 2) The parameters set are hardly explained and justified. The most significant is the chosen eccentricity of 0.6. The resulting forces are relatively small and therefore possibly not representative for all journal bearings. I understand that for a comparison of the numerical effects the same epsilon is chosen for both systems, but in reality an epsilon would occur for a given force. Here it would be interesting to see how large the actual differences in temperature development would be for the same forces. This also raises the question of what is the origin of the values in lines 154-157. What is the motivation for exactly these values? What lubricant does it represent?

I have also some minor points:

- 1) Eq. (4) (between lines 149 and 150): As far as I can see, the left side is a vector, the right side is a scalar.
- 2) Eq. (7): (between lines 161 and 162) Which μ is used here? The temperature dependent or the μ at 40°C?
- 3) lines 168/169: What does it mean that "regarding the optimal lubrication performance, the slip length 100µm is used"? Is there a physical reason for this?
- 4) The enumeration of the Equations is not consistent. Eq.(4) to Eq.(7) occur twice.

- 5) In Eq. (5) (between lines 190 and 191): the second term on the left should be squared, I suppose.
- 6) Eq. (5) and Eq (6) (between lines 190 and 192): Please use Rbl in the notation instead of Rb (as it appears in the nomenclature).
- 7) lines 198-200: Where do these values come from? What is their evidence?
- 8) line 214: I suppose, it should read theta=theta_0 instead of theta=0_o
- 9) Figures 7, 10, 12, 14 and 16 are not referenced in the text. Please add some describing sentences.
- 10) line 384/385: I would be careful to write that "It is proven that the increased load carrying capacity...can be achieved...". In fact, the numerical results indicate that....

5. Resubmitted in the revised form – 8 Jan 2021





[Fluids] Manuscript ID: fluids-1055932 - Manuscript Resubmitted mohammad.tauviqirrahman/Email Masuk

Submission System submission@mdpi.com

Kepada: Mohammad Tauviqirrahman

Cc:M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra

Jum, 8 Jan jam 10.02

Dear Dr. Tauviqirrahman,

Thank you very much for resubmitting the modified version of the following manuscript:

Manuscript ID: fluids-1055932 Type of manuscript: Article Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif, P Paryanto, J Jamari, Wahyu Caesarendra Received: 14 December 2020 E-mails: mohammad.tauviqirrahman@ft.undip.ac.id, fadhliafifm@gmail.com, paryanto@gmail.com, j.jamari@gmail.com, wahyu.caesarendra@ubd.edu.bn Submitted to section: Mathematical and Computational Fluid Mechanics, https://www.mdpi.com/journal/fluids/sections/Mathematical_Computational_Fluid_Mechanics Scientific Computing in Fluids https://www.mdpi.com/journal/fluids/special_issues/computing_fluids https://susy.mdpi.com/user/manuscripts/review_info/73ff0586037e2a24e91ad5568a88c756

A member of the editorial office will be in touch with you soon regarding progress of the manuscript.

Kind regards,

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6. Accepted for Publication – 13 Januari 2021



[Fluids] Manuscript ID: fluids-1055932 - Accepted for Publication mohammad.tauviqirrahman/Email Masuk

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Fluids Editorial Office fluids@mdpi.com

Kepada: Mohammad Tauviqirrahman

Cc:M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra,Fluids Editorial Office

Kam, 14 Jan jam 12.59

Dear Dr. Tauviqirrahman,

We are pleased to inform you that the following paper has been officially accepted for publication:

Manuscript ID: fluids-1055932 Type of manuscript: Article Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif, P Paryanto, J Jamari, Wahyu Caesarendra Received: 14 December 2020 E-mails: mohammad.tauviqirrahman@ft.undip.ac.id, fadhliafifm@gmail.com, paryanto@gmail.com, j.jamari@gmail.com, wahyu.caesarendra@ubd.edu.bn Submitted to section: Mathematical and Computational Fluid Mechanics, https://www.mdpi.com/journal/fluids/sections/Mathematical_Computational_Fluid_Mechanics Scientific Computing in Fluids https://www.mdpi.com/journal/fluids/special_issues/computing_fluids https://www.mdpi.com/journal/fluids/special_issues/computing_fluids

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7. Final Proofreading Before Publication within 1 Day – 16 Januari 2021



[Fluids] Manuscript ID: fluids-1055932 - Final Proofreading Before Publication within 1 Day mohammad.tauviqirrahman/Email Masuk

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Fluids Editorial Office fluids@mdpi.com

Kepada: Mohammad Tauviqirrahman

Cc:M Fadhli Afif,P Paryanto,J Jamari,Wahyu Caesarendra,Fluids Editorial Office

Sab, 16 Jan jam 13.54

Dear Dr. Tauviqirrahman,

We invite you to proofread your manuscript to ensure that this is the final version that can be published and confirm that you will require no further changes from hereon:

Manuscript ID: fluids-1055932 Type of manuscript: Article Title: Investigation of the tribological performance of heterogeneous slip/no-slip journal bearing considering thermohydrodynamic effects Authors: Mohammad Tauviqirrahman *, M Fadhli Afif, P Paryanto, J Jamari, Wahyu Caesarendra Received: 14 December 2020 E-mails: mohammad.tauviqirrahman@ft.undip.ac.id, fadhliafifm@gmail.com, paryanto@gmail.com, j.jamari@gmail.com, wahyu.caesarendra@ubd.edu.bn Submitted to section: Mathematical and Computational Fluid Mechanics, https://www.mdpi.com/journal/fluids/sections/Mathematical_Computational_Fluid_Mechanics Scientific Computing in Fluids https://www.mdpi.com/journal/fluids/special_issues/computing_fluids

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Kind regards,

Ms. Afra Liu, M.Sc. Assistant Editor E-Mail: <u>afra.liu@mdpi.com</u>

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