Reviewer Journal

Journal of Thermal Engineering (JTEN)

H-INDEX 11

Scopus Q3: 0.24

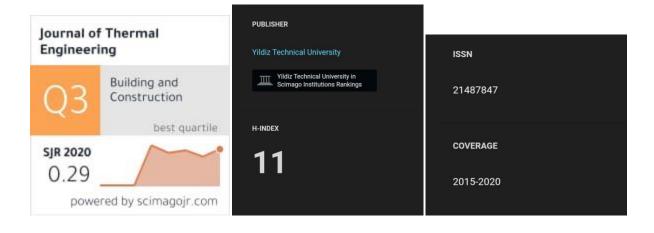
CiteScore: 2020 1.5

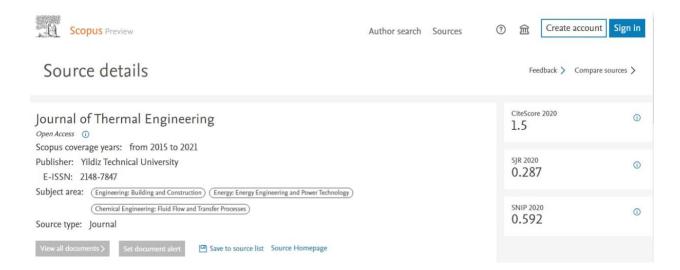
SJR 2020: 0.287

SNIP 2020: 0.592

Web Journal: https://jten.yildiz.edu.tr/article/520

ISSN: 2148-7847 (03 July 2014)



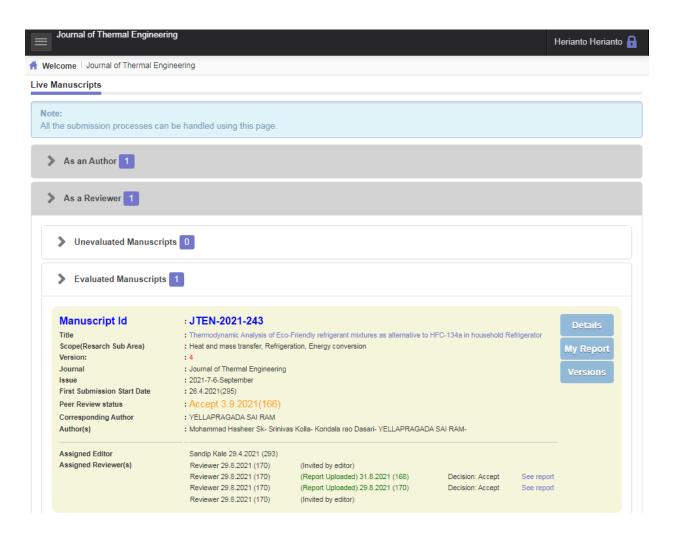


Cover Journal:



Paper ID: JTEN-2021-243

Judul Paper yang di Review: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a in household Refrigerator



International Information and

International Journal of Heat and Technology

Vol. 39, No. 5, October, 2021, pp. 1567-1574

Journal homepage: http://iieta.org/journals/ijht

Thermodynamic Analysis of Eco-Friendly Refrigerant Mixtures as an Alternative to HFC-134a in Household Refrigerator



Mohammad Hasheer Shaik*, Srinivas Kolla, Tara Chand Vadlamudi, Bala Prasad Katuru, Ravindra Kommineni

Department of Mechanical Engineering, R.V.R. & J.C. College of Engineering (A), Guntur, Andhra Pradesh 522019, India

Corresponding Author Email: hasheer.mohammad@gmail.com

https://doi.org/10.18280/ijht.390519

Received: 26 August 2019 **Accepted:** 2 July 2021

Keywords:

eco-friendly refrigerants-AC5, R440A and R430A, household refrigerator, liquid suction heat exchanger

ABSTRACT

Nowadays, research has been focused on refrigerants from Hydrofluorocarbons (HFCs), which are not harmful to the ozone layer. Because of replacing refrigerants from chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs). HFCs are used in many applications, including refrigerants, aerosols, solvents, and blowing agents for insulating foams. However, some HFCs have relatively high global warming potential (GWP) and are subject to further examination due to growing concerns about global climate change. The present work's main objective is to select eco-friendly refrigerants from AC5, R430A and R440A, combining two or more refrigerants from HC, HFC and HFO groups as a direct substitute HFC-134a in a household refrigerator. The performance of the domestic refrigerator with liquid suction heat exchanger (LSHX) was compared in terms of compressor discharge temperature, coefficient of performance (COP), volumetric cooling capacity (VCC), and power consumption of a compressor. It was found that the average COP of R440A and R430A was higher by approximately 2.5% and 1.47% than HFC-134a. However, the COP of AC5 was 6.1% lower than that of HFC-134a. The VCC of R430A is almost equal to HFC-134a. The results also show that AC5, R440A and R430A consume less power than HFC-134a. The compressor outlet temperature with R440A, AC5 provide higher values than HFC-134a, which affects the compressor life. The best overall performance was achieved with the refrigerant R430A in the household refrigerator and suggested an alternative to HFC134a, which also has a very low GWP from the environmental safety perspective.

1. INTRODUCTION

Environmental pollution is aggravated by the excessive use of refrigerators and air conditioners worldwide, along with automobiles. The ozone layer is damaged by releasing refrigerants containing chlorine into the atmosphere. Due to this, dangerous ultraviolet radiations are coming to the surface of the earth. As a result, the earth's surface temperature is increasing rapidly, leading to weather change. The effect of these greenhouse gases can be expressed in terms of GWP. In the last 30 years, CFCs and HFCs are widely used in refrigerators and air conditioners. However, ODP and GWP values are very high for these refrigerants, which cause environmental pollution. According to Montreal protocol, chlorofluorocarbons and HCFC are entirely prohibited in the air conditioning and refrigeration sector due to this higher ODP value. Therefore, in place of these refrigerants, HFC refrigerants are introduced, but the main problem with these refrigerants is that they have a higher GWP value. Therefore, these should be banned in the coming years based on the Kyoto Protocol. Therefore, R134a has to be phased out by 2021. In addition, most of the developing countries are drastically reducing their HFC production and consumption. Therefore, there is a greater demand for an adequate replacement for HFC-134a to adapt to existing and new systems.

Hoe et al. [1] experimented with R600a, which is a substitute to the R12 in a household refrigerator. They analyzed theoretically with the help of software REFPROP,

and then performed a series of tests with this refrigerant substitute to R134a in a fridge. Jung et al. [2] conducted an experiment with a mixture of HC290 / HC600a (60:40 by mass) as a direct substitute for R12 in a refrigerator and concluded that COP and power efficiency improved by 2.5 and 3.8%. Fatouh and Kafafy [3] studied the performance of the household refrigerator that works with the refrigerant mixture (consist of HC290 / HC600 / HC600a in the ratio 60:20:20 by mass) a substitute to HFC-134a. It has been reported that the power consumption of compressor operating with an LPG blend was 5.1% lower than HFC-134a with 7.5% higher COP. Garland and Hadfield [4] studied the environmental impact of the R600a natural refrigerant installed in the hermetic compressor of the household refrigerator. The results showed that the R600a is superior to the R134a, with the compressor having its 15-year cycle.

Dalkilic and Wongwises [5] conducted a theoretical analysis on the refrigerator using various alternative refrigerants and refrigerant mixtures as an alternative to R12 and R22. They concluded that HFC and HC refrigerants could be used as alternatives to the above refrigerants from that theoretical analysis. Naushad et al. [6] had conducted an energy and exergy analysis of R1234yf, R1234ze (E) and R134a in a domestic refrigeration system. Finally, they concluded that HFO-1234yf could be used as a good substitute for HFC-134a at a higher value of the evaporator temperature, and R1234ze (E) can be used as a suitable replacement after specific modification. Rastietal [7] conducted an experiment

JTEN-2021-65: Reviewer Invitation

From: Journal of Thermal Engineering (dalkilic@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Monday, February 22, 2021, 02:40 PM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : **JTEN-2021-65**

Title: Five Different Distributions and Metaheuristics to Model Wind Speed Distribution

We have received the manuscript for possible publication in the "Journal of Thermal Engineering". As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more information about the journal, please click; [View].

Thank you very much for your kind cooperation in advance.

Sincerely yours,

Asst. Prof. Dr. Ali Celen
Editor, Journal of Thermal Engineering

JTEN-2021-65: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (dalkilic@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Sunday, February 28, 2021, 12:09 AM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-65. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

Asst. Prof. Dr. Ali Celen Editor Journal of Thermal Engineering

Re: JTEN-2021-65: Removal of Reviewer

From: 1 Yahoo Security® (herianto_upn_ina@yahoo.com)

To: dalkilic@yildiz.edu.tr

Date: Thursday, March 11, 2021, 08:45 PM GMT+7

Dear Editor: Asst. Prof. Dr. Ali Celen

I apologize, the manuscript is in the final process for review. If permitted by you, tomorrow morning I will send you the corrections of this manuscript review. Because, today is a National Holiday in Indonesia, we celebrate Moslem holy day.

Thank you for your understanding and cooperation.

Your sincerely, Regards,

Assoc. Prof. Dr. Herianto

Sent from Yahoo Mail for iPhone

On Thursday, March 11, 2021, 4:55 PM, Journal of Thermal Engineering <dalkilic@yildiz.edu.tr> wrote:

Title: Five Different Distributions and Metaheuristics to Model Wind Speed Distribution

Manuscript Id: JTEN-2021-65 Authors: Mohammed Wadi Article Type: Research Article

Dear Assoc. Prof. Dr. Herianto Herianto,

You were invited to review a manuscript submitted to our journal a short time ago, but we have not received your reply yet. Because of production and time restrictions, we must now proceed with evaluating this manuscript **without your input**. Thank you for your past efforts on behalf of the journal. I hope that we may have the privilege of using your services in the future when the timing is more convenient.

Yours sincerely,

Regards,

Journal of Thermal Engineering

[View]

Edior: Asst. Prof. Dr. Ali Celen

Fw: JTEN-2021-65: Removal of Reviewer

From: 1 Yahoo Security® (herianto_upn_ina@yahoo.com)

To: herianto_upn_ina@yahoo.com; pdeshinta@ymail.com

Date: Friday, March 12, 2021, 05:56 AM GMT+7

---- Forwarded Message -----

From: ①Yahoo Security® herianto_upn_ina@yahoo.com
To: Journal of Thermal Engineering dalkilic@yildiz.edu.tr

Sent: Thursday, March 11, 2021, 05:45:56 AM PST **Subject:** Re: JTEN-2021-65: Removal of Reviewer

Dear Editor: Asst. Prof. Dr. Ali Celen

I apologize, the manuscript is in the final process for review. If permitted by you, tomorrow morning I will send you the corrections of this manuscript review. Because, today is a National Holiday in Indonesia, we celebrate Moslem holy day.

Thank you for your understanding and cooperation.

Your sincerely, Regards,

Assoc. Prof. Dr. Herianto

Sent from Yahoo Mail for iPhone

On Thursday, March 11, 2021, 4:55 PM, Journal of Thermal Engineering <dalkilic@yildiz.edu.tr> wrote:

Title: Five Different Distributions and Metaheuristics to Model Wind Speed Distribution

Manuscript Id: JTEN-2021-65 Authors: Mohammed Wadi Article Type: Research Article

Dear Assoc. Prof. Dr. Herianto Herianto,

You were invited to review a manuscript submitted to our journal a short time ago, but we have not received your reply yet. Because of production and time restrictions, we must now proceed with evaluating this manuscript **without your input**. Thank you for your past efforts on behalf of the journal. I hope that we may have the privilege of using your services in the future when the timing is more convenient.

Yours sincerely,

Regards,

Journal of Thermal Engineering

[View]

Edior: Asst. Prof. Dr. Ali Celen

Re: JTEN-2021-65: Removal of Reviewer

From: 1 Yahoo Security® (herianto_upn_ina@yahoo.com)

To: dalkilic@yildiz.edu.tr

Date: Friday, March 12, 2021, 07:37 AM GMT+7

Dear Asst. Prof. Dr. Ali Celen

We tried to open the reviewer file but it changed to turkish, so we sent it via email. Sorry to reply late because the email from you stated that the email reply maximum of 30 days. Here i attach file. Thank you for your coorperation.

Your sicerely, Regards,

Assoc. Prof. Herianto, PhD, M.Eng

On Thursday, March 11, 2021, 04:55:58 PM GMT+7, Journal of Thermal Engineering <dalkilic@yildiz.edu.tr> wrote:

Title: Five Different Distributions and Metaheuristics to Model Wind Speed Distribution

Manuscript Id: JTEN-2021-65 Authors: Mohammed Wadi Article Type: Research Article

Dear Assoc. Prof. Dr. Herianto Herianto,

You were invited to review a manuscript submitted to our journal a short time ago, but we have not received your reply yet. Because of production and time restrictions, we must now proceed with evaluating this manuscript **without your input**. Thank you for your past efforts on behalf of the journal. I hope that we may have the privilege of using your services in the future when the timing is more convenient.

Yours sincerely,

Regards,

Journal of Thermal Engineering

[View]

Edior: Asst. Prof. Dr. Ali Celen



Review Paper Herianto.doc

122kB

max 30 days review.jpeg

56.1kB

JTEN-2021-243: Reviewer Invitation

From: Journal of Thermal Engineering (dalkilic@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Thursday, May 13, 2021, 02:19 AM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : JTEN-2021-243

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a

in household Refrigerator

We have received the manuscript for possible publication in the "Journal of Thermal Engineering". As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more information about the journal, please click; [View].

Thank you very much for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (dalkilic@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Thursday, May 13, 2021, 11:07 AM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-243. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for your review

From: Journal of Thermal Engineering (dalkilic@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Sunday, May 16, 2021, 08:15 AM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : **JTEN-2021-243**

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a in household

Refrigerator

Thank you very much for your review of the above paper.

I very much appreciate your efforts and time spent to review the paper and your comments will be fully considered in the final editorial decision.

Looking forward to your enjoyable association with the "Journal of Thermal Engineering" in the future.

JTEN-2021-243: Reviewer Invitation

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Monday, July 5, 2021, 08:07 PM GMT+7

Dear, Assoc. Prof. Dr. Herianto Herianto

Paper ID: JTEN-2021-243

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a

in household Refrigerator

Version: 2

We have received the **revised** manuscript for possible publication in the **"Journal of Thermal Engineering"**. As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more infomation about the journal, please click; [View].

I thank you very much for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Tuesday, July 6, 2021, 12:44 PM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-243. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for your review

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Tuesday, July 20, 2021, 01:26 PM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : **JTEN-2021-243**

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a in household

Refrigerator

Thank you very much for your review of the above paper.

I very much appreciate your efforts and time spent to review the paper and your comments will be fully considered in the final editorial decision.

Looking forward to your enjoyable association with the "Journal of Thermal Engineering" in the future.

JTEN-2021-243: Reviewer Invitation

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Friday, August 13, 2021, 04:27 AM GMT+7

Dear, Assoc. Prof. Dr. Herianto Herianto

Paper ID: JTEN-2021-243

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a

in household Refrigerator

Version: 3

We have received the **revised** manuscript for possible publication in the **"Journal of Thermal Engineering"**. As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more infomation about the journal, please click; [View].

I thank you very much for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Friday, August 13, 2021, 06:12 AM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-243. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for your review

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Friday, August 13, 2021, 07:00 AM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : **JTEN-2021-243**

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a in household

Refrigerator

Thank you very much for your review of the above paper.

I very much appreciate your efforts and time spent to review the paper and your comments will be fully considered in the final editorial decision.

Looking forward to your enjoyable association with the "Journal of Thermal Engineering" in the future.

JTEN-2021-243: Reviewer Invitation

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Sunday, August 29, 2021, 06:23 PM GMT+7

Dear, Assoc. Prof. Dr. Herianto Herianto

Paper ID: JTEN-2021-243

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a

in household Refrigerator

Version: 4

We have received the **revised** manuscript for possible publication in the **"Journal of Thermal Engineering"**. As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more infomation about the journal, please click; [View].

I thank you very much for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Tuesday, August 31, 2021, 06:44 PM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-243. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

JTEN-2021-243: Thank you very much for your review

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Tuesday, August 31, 2021, 07:07 PM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID : **JTEN-2021-243**

Title: Thermodynamic Analysis of Eco-Friendly refrigerant mixtures as alternative to HFC-134a in household

Refrigerator

Thank you very much for your review of the above paper.

I very much appreciate your efforts and time spent to review the paper and your comments will be fully considered in the final editorial decision.

Looking forward to your enjoyable association with the "Journal of Thermal Engineering" in the future.

JTEN-2021-533: Reviewer Invitation

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Thursday, September 9, 2021, 03:22 AM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID: JTEN-2021-533

Title: Numerical Thermal Study of Heat Transfer Enhancement in Laminar-Turbulent Transition

Flow through Absorber Pipe of Parabolic Solar Trough Collector System

We have received the manuscript for possible publication in the "Journal of Thermal Engineering". As I believe it is in your field of expertise, I had the liberty to send you this message to ask for your opinion on its suitability for publication in the journal. Your kind acceptance would be greatly appreciated. Upon your acceptance, a Review link will be prepared for you.

To view the manuscript, please click; [View]

After viewing the paper, please select one of the following;

If you agree to review this paper; [View], If you do NOT agree to review; [View],

Account Info:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

For more information about the journal, please click; [View].

Thank you very much for your kind cooperation in advance.

Sincerely yours,

Assoc. Prof. Dr. Erman Aslan Editor, Journal of Thermal Engineering

JTEN-2021-533: Thank you very much for accepting our invitation to review the paper

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Friday, September 10, 2021, 10:40 AM GMT+7

Dear Assoc. Prof. Dr. Herianto Herianto

Thank you very much for accepting our invitation to review the paper JTEN-2021-533. Please complete the review form hopefully within 30 days and kindly return it to us.

You can quickly evaluate from: [View]

Or you can use your accoun info for evaluation after login to the site:

User Name: herianto_upn_ina@yahoo.com

Password: adityawigas90

I thank you for your kind cooperation in advance.

Sincerely yours,

Assoc. Prof. Dr. Erman Aslan Editor Journal of Thermal Engineering

JTEN-2021-533: Thank you very much for your review

From: Journal of Thermal Engineering (jten@yildiz.edu.tr)

To: herianto_upn_ina@yahoo.com

Date: Saturday, October 2, 2021, 07:43 AM GMT+7

Dear: Assoc. Prof. Dr. Herianto Herianto

Paper ID: JTEN-2021-533

Title: Numerical Thermal Study of Heat Transfer Enhancement in Laminar-Turbulent Transition Flow through

Absorber Pipe of Parabolic Solar Trough Collector System

Thank you very much for your review of the above paper.

I very much appreciate your efforts and time spent to review the paper and your comments will be fully considered in the final editorial decision.

Looking forward to your enjoyable association with the "Journal of Thermal Engineering" in the future.

Assoc. Prof. Dr. Erman Aslan Editor, Journal of Thermal Engineering