

Accepted Manuscript

Numerical simulation of natural convection heat transfer in a trapezoidal enclosure filled with nanoparticles

Sheikha M. Al-Weheibi , M.M. Rahman , M.S. Alam , K. Vajravelu

PII: S0020-7403(17)31134-7
DOI: [10.1016/j.ijmecsci.2017.08.005](https://doi.org/10.1016/j.ijmecsci.2017.08.005)
Reference: MS 3825



To appear in: *International Journal of Mechanical Sciences*

Received date: 28 April 2017
Revised date: 3 August 2017
Accepted date: 8 August 2017

Please cite this article as: Sheikha M. Al-Weheibi , M.M. Rahman , M.S. Alam , K. Vajravelu , Numerical simulation of natural convection heat transfer in a trapezoidal enclosure filled with nanoparticles, *International Journal of Mechanical Sciences* (2017), doi: [10.1016/j.ijmecsci.2017.08.005](https://doi.org/10.1016/j.ijmecsci.2017.08.005)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- Convective heat transfer in nanofluid is investigated in a trapezoidal enclosure.
- Strong buoyancy force helps the solutions to reach in steady state faster.
- Blade shape nanoparticle provides higher rate of heat transfer.
- Aspect ratio and volume fraction intensifies the heat transfer rate.
- Critical aspect ratio for higher heat transfer rate depends on the Rayleigh number.
- Cobalt-Engine oil nanofluid gives higher average Nusselt number.

Download English Version:

<https://daneshyari.com/en/article/5015886>

Download Persian Version:

<https://daneshyari.com/article/5015886>

[Daneshyari.com](https://daneshyari.com)