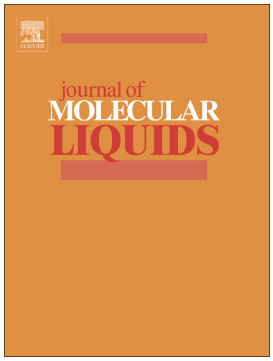

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Rizwan Ul Haq, Irfan Rashid, Z.H. Khan

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Effects of aligned magnetic field and CNTs in two different base fluids over a moving slip surface

Rizwan Ul Haq[1,], Irfan Rashid[2], Z. H. Khan[3]*

[1]Department of Electrical Engineering, Bahria University, Islamabad, Pakistan

[2]Department of mathematics, Capital university of Science and Technology, Islamabad 44000, Pakistan

[3]Department of Mathematical, University of Malakand, Dir (Lower), KPK, Pakistan

Abstract: In this article, combine effects of the inclined magnetic field and velocity slip conditions are analyzed for nanofluid flow over a moving over a flat surface. Two different kind of Carbon nanotubes are also incorporated within the base fluid, namely: Single wall carbon nanotubes (SWCNTs) and multiple wall carbon nanotubes (MWCNTs). Rheological characteristics of CNTs-Water and CNTs-Kerosene are studied under the influence of inclined applied magnetic field between $0 \leq \gamma \leq \pi/2$. Close form solutions are obtained for both momentum and energy equation in the form of hypergeometric function. The core objective of aligned angle magnetic field is to use the governing magnetic intensity on the nanofluid and to extend the appraisals of aligned angle of the magnetic field produce to upgrade the local skin friction and decline the local Nusselt number. Significant consequences of inclined magnetic field with rest of the physical parameters including Hartmann number, velocity slip and solid volume fraction nanoparticles are presented and analyzed via numerical and graphical illustrations. It is found that SWCNTs-kerosene depicts the high friction and heat transfer rate at the surface as compare to the rest of the mixtures.

Keywords: Carbon nanotubes, aligned magnetic field, moving surface, exact solution.

[*] *Corresponding Address: Rizwan Ul Haq (ideal_riz@hotmail.com , r.haq.qau@gmail.com)*