Numerical simulation of Al_2O_3 -Cu-H_2O mixtures hybridization of heat transfer activities of nanofluid material

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We have presented numerically the combined two components of nanoparticles and water in a single phase of convective steady boundary layer flow of heat transfer from a solid flat plate embedded in a metallic hybrid nanofluid medium containing Al2O3-Cu-H2O mixtures. The idea of introducing hybrid nanofluids is to further the enhancement of heat transfer and pressure drop characteristics by the exchange between advantages and disadvantages of individual suspension, attribution of good aspect ratio, improved thermal network and synergistic effect of nanomaterials. The governing model equations are well known and variations are made through changes; e.g. Newtonian, nanofluid mixtures, materials media, as examples, and/or the boundary conditions (surface velocity or temperature, or free stream conditions, or the shape of the boundary). Dimensional analysis is applied to render the governing partial differential equations for mass conservation, motion of momentum and thermal energy, into a system of ordinary differential equations. Results are obtained through numerically for a range of parameters and their effects are discussed. The resultant work, however, may exhibit sufficient originality or critical findings to be of great interest. Appropriate hybridization might enhance the heat transfer activities of nanofluids, however, substantial research work is still required regarding the preparation and stability analysis, characterization as well as applications in order to surpass the challenges.

Biography: M. Ferdows has completed his PhD at the age of 29 years from Tokyo Metropolitan University and postdoctoral studies from Lousiana Tech University. He is the Professor of Applied Mathematics XXXX, at University of Dhaka. He has published more than 237 papers in reputed journals and has been serving as an editorial board member of repute. (Up to 100 words)

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