1093-35-142 **Fathi M Allan*** (f.allan@uaeu.ac.ae), Department of Mathematical Sciences, United Arab Emirates University, Al AIn, United Arab Emirates. *Heat transfer characteristics of nano fluid flow over a stationary flat plate under wall suction/blowing.*

The flow properties and heat transfer characteristics of water base-copper nano-fluid flow over a stationary at plate under wall suction/blowing is considered. A similarity transformation is employed to transform the Naveir-Stokes equations and the energy equations into a set of nonlinear ordinary differential equations. A detailed study of the effects of the two parameters, nanoparticle volume fraction and wall suction, on the different physical properties of the flow is carried out.

The variation of the velocity profile, the temperature profile, the hydraulic and thermal boundary layer thickness, the local skin friction coefficient and the local Nusselt number with the change of the nanoparticle volume fraction and wall suction is presented. The numerical results thus obtained show that the hydraulic boundary layer thickness decreases linearly as the wall suction factor increases. While it decreases nonlinearly as the nanoparticle volume fraction increases. It also indicates that the thermal boundary layer thickness is inversely proportional to the wall suction factor; meanwhile, it is directly proportional to the nanoparticle volume fraction. (Received August 09, 2013)