**Rotating flow over a shrinking sheet in nanofluid using buongiorno model and thermophysical properties of nanoliquids**

ABSTRACT

The rotating flow over a shrinking sheet in nanofluid using Buongiorno model and thermophysical properties of nanoliquids is studied. Water is selected as a base fluid and copper (Cu), alumina ($Al_2O_3$) and titania ($TiO_2$) are chosen as nanoparticles. The governing partial differential equations are transformed into a set of ordinary differential equations by using a similarity transformations. These transformed equations are then been solved numerically using a shooting method. The velocity, temperature and nanoparticle concentration profiles as well as skin friction coefficient, local Nusselt number and local Sherwood number are presented graphically and analyzed. The flow and heat transfer characteristics are discussed depending on the effects of pertinent parameters such as nanoparticle volume fraction, rotation, suction, thermophoresis and Brownian motion. The results obtained indicate that the dual solutions exist in a certain range of the pertinent parameters.

**Keyword:** Boundary layer flow; Dual solutions; Nanofluids; Rotating flow; Shrinking sheet