

Effects of suction and injection on a moving plate in a nanofluid: alumina-water

ABSTRACT

An analysis is performed to study the heat transfer characteristics of steady two-dimensional boundary layer flow past a moving permeable flat plate in an alumina-water nanofluid. The effects of uniform suction and injection on the flow field and heat transfer characteristics are numerically studied by employing an implicit finite difference method. It is found that dual solutions exist when the plate and the free stream move in the opposite directions. The results indicate that suction delays the boundary layer separation, while injection accelerates it.

Keyword: Dual solution; Moving plate; Nanofluid; Suction/injection