

A note on new exact solutions for some unsteady flows of brinkman-type fluids over a plane wall

Abstract

Flows of a Brinkman fluid due to a plane boundary moving in its plane are studied using Laplace transform. The solutions that have been obtained for the velocity are presented in simple forms in terms of the complementary error function $\operatorname{erfc}(\cdot)$. They satisfy all imposed initial and boundary conditions and can easily be reduced to the similar solutions for Newtonian fluids.