HALL EFFECTS ON UNSTEADY MHD THREE DIMENSIONAL FLOW OF ELECTRICALLY CONDUCTING MAXWELL FLUID THROUGH A POROUS MEDIUM IN A PARALLEL PLATE CHANNEL WITH EFFECT OF INCLIEND MAGNETIC FIELD

L. SREEKALA[1], M. VEERAKRISHNA[2], L. HARIKRISHNA[3] AND E. KESAVAREDDY[4]

[1]Assistant Professor, Department of Mathematics, CRIT, Anantapur, Andhra Pradesh, India
[2]Department of Mathematics, Rayalaseema University, Kurnool, Andhra Pradesh, India
[3]Assistant Professor, Department of Mathematics, AITS, Kadapa, Andhra Pradesh, India
[4]Professor, Department of Mathematics, JNTU, Anantapur, Andhra Pradesh, India

Abstract

In this paper, we investigate effects of hall currents on the unsteady flow of incompressible electrically conducting Maxwell fluid through a porous medium in a parallel plate channel, the perturbations in the flow are created by a prescribed pressure gradient along the plates. The governing equations are solved using Laplace transform method and have been discussed in detail. The final steady state velocity and shear stresses have been evaluated analytically and their behavior is computationally discussed for different variations in the governing parameters.