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MHD FORCED CONVECTION WITH LAMINAR PULSATING FLOW IN A CHANNEL

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Abstract

In this paper a mathematical model will be analyzed in order to investigate the effect of Magnetohydrodynamics(MHD) on forced convection with laminar pulsating flow in a parallel plate channel. The analytical expression is given for the velocity, temperature and the transient Nusselt number to first order in ϵ by using perturbation technique. It is assumed that the relative amplitude ϵ of the pulsating pressure gradient is small in compared to unity. The case of uniform flux boundary condition is considered in turn. The peclet number assumed to be large so that the axial heat conduction can be neglected. The effect of various parameters entering into the problem can be discussed with the help of graphs.

Key Words : *Magnetohydrodynamics (MHD), Forced convection and Pulsating flow.*

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