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Hall effects on unsteady MHD oscillatory free convective flow of second grade fluid through porous medium between two vertical plates
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Abstract
The effects of radiation and Hall current on an unsteady magnetohydrodynamic free convective flow in a vertical channel filled with a porous medium have been studied. We consider an incompressible viscous and electrically conducting incompressible viscous second grade fluid bounded by a loosely packed porous medium. The fluid is driven by an oscillating pressure gradient parallel to the channel plates, and the entire flow field is subjected to a uniform inclined magnetic field of strength Ho inclined at an angle of inclination α with the normal to the boundaries in the transverse xy-plane. The temperature of one of the plates varies periodically, and the temperature difference of the plates is high enough to induce the radiative heat transfer. The effects of various parameters on the velocity profiles, the skin friction, temperature field, rate of heat transfer in terms of their amplitude, and phase angles are shown graphically. © 2018 Author(s).

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