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# PHASE-LAG EFFECTS IN A MAGNETO-THERMOELASTIC MEDIUM WITH DIFFUSION

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**ABSTRACT**

*In the present article, we have studied the dual phase lag effects in a homogeneous, isotropic, thermally and perfectly conducting elastic medium with diffusion theory. By employing normal mode analysis, the analytical expressions for the displacement components, concentration, stresses and temperature field are obtained in the physical domain. These expressions are calculated numerically for a copper-like material and depicted graphically to observe the effects of phase lags, frequency and time. The phenomenon of a finite speed of propagation is observed graphically for each field. Some particular cases of interest have been deduced from the present investigation.*