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Resumen

[MALEQUE, Kh. A.](http://www.scielo.org.ar/cgi-bin/wxis.exe/iah/?IsisScript=iah/iah.xis&base=article%5Edlibrary&format=iso.pft&lang=e&nextAction=lnk&indexSearch=AU&exprSearch=MALEQUE,+KH.+A.).**Dufour and Soret effects on unsteady MHD convective heat and mass transfer flow due to a rotating disk.***Lat. Am. appl. res.* [online]. 2010, vol.40, n.2, pp.105-111. ISSN 1851-8796.

An unsteady three dimensional MHD convective heat and mass transfer flow in an incompressible fluid due to a rotating disk is studied by taking into account the Dufour and Soret effects. The system of axial symmetric non-linear partial differential equations governing the unsteady flow, heat and mass transfer is written in cylindrical polar coordinates and reduced to nonlinear ordinary differential equations by similarity transformations. The resulting system of ordinary nonlinear differential equations is then solved numerically by a shooting method using Range-Kutta six order integration scheme. The flow, temperature and concentration fields are affected by the magnetic interaction parameter M, Rotational parameter R, Soret Number S0 and Dufour number Df respectively. The results of the numerical solution are presented graphically in the form of velocity, temperature and concentration profiles. The results for the wall flow, temperature and concentration gradients obtained are presented in tabular form for various values of the parameters M, R, S0 and Df.

**Palabras clave :**Dufour and Soret Effects; MHD Flow; Rotating Disk.