

















free convection heat and mass transfer of MHD non-Newtonian fluid flow through a porous medium. Journal of the Egyptian Mathematical Society 20: 139-151. <a href="https://doi.org/10.1016/j.joems.2012.08.013">https://doi.org/10.1016/j.joems.2012.08.013</a>	$x^*, y^*$	Dimensional coordinates along and normal to the plate
[14] Ara A, Khan NA, Khan H, Sultan F. (2014). Radiation effects on boundary layer flow of an Eyring-Powell fluid over an exindent potentially shrinking sheet. Ain Shams Engineering Journal 5: 1337-1342. <a href="https://doi.org/10.1016/j.asej.2014.06.002">https://doi.org/10.1016/j.asej.2014.06.002</a>	$u^*, v^*$	Dimensional velocities in $x^*$ and $y^*$ directions
[15] Hayat T, Asad S, Mustafa M, Alsaedi A. (2014). Radiation effects on the flow of Powell Eyring fluid past an unsteady inclined stretching sheet with non-uniform Heat Source/Sink. PLOS ONE 9(7): e103214. <a href="https://doi.org/10.1371/journal.pone.0103214">https://doi.org/10.1371/journal.pone.0103214</a>	$g$	gravitational acceleration
[16] Darji RM, Timol MG. (2013). Group-theoretic similarity analysis for natural convection boundary layer flow of a class of non-newtonian fluids. International Journal of Advanced Scientific and Technical Research 3(1): 54-69.	$k$	permeability
[17] Gbadeyan JA, Dada MS. (2013). On the Influence of radiation radiation and heat transfer on an unsteady MHD Non-Newtonian fluid flow with slip in a porous medium. Journal of Mathematical Research 5(3): 40-49. <a href="http://dx.doi.org/10.5539/jmr.v5n3p40">http://dx.doi.org/10.5539/jmr.v5n3p40</a>	$u$	Velocity in the x direction
[18] Oyelami FH, Dada MS. (2016). Unsteady magnetohydrodynamic flow of some non-Newtonian fluids with slip in a porous channel. International Journal of Heat and Technology 36(2): 709-713. <a href="https://doi.org/10.18280/ijht.360237">https://doi.org/10.18280/ijht.360237</a>	$v$	Velocity in the y direction
[19] Parmar A., Jain S. (2018). MHD Powell-Eyring fluid flow with non-linear radiation and variable thermal conductivity over a permeable cylinder. International Journal of Heat and Technology 36(1): 56-64. <a href="https://doi.org/10.18280/ijht">https://doi.org/10.18280/ijht</a>	$N$	Thermal radiation parameter
[20] Modest MF. (1993). Radiation heat transfer. Mac Graw-Hill, New York.	$P^*$	Dimensional pressure
[21] Rapits A, Perdikis C. (2004). Unsteady flow through a highly porous medium in the presence of radiation. Transport Porous Media 57(2): 171-179. <a href="https://doi.org/10.1023/B:TIPM.0000038262.65594.e8">https://doi.org/10.1023/B:TIPM.0000038262.65594.e8</a>	$P$	Dimensionless fluid pressure
	$T^*$	Dimensional temperature of fluid
	$T$	Dimensionless temperature of fluid
	$C^*$	Dimensional concentration of fluid
	$C$	Non-dimensional concentration of fluid
	$A, F$	Eyring-Powell parameters
	$B_0$	Applied magnetic field
	$C_p$	specific heat at constant pressure
	$D_a$	Darcy number
	$E_c$	Eckert number
	$G_r$	Thermal Grashof number
	$P_r$	Prandtl number
	$q_r$	radiative heat flux
	$R_e$	Reynolds number
	$T_w$	Temperature of the plate
	$C_w$	Concentration of the plate

### Greek alphabets

$\rho$	density
$\sigma$	Stefan-Boltzmann constant
$a, c$	characteristic of Eyring-Powell model
$\mu$	Viscosity
$\tau_{xy}$	stress tensor
$\beta_T$ and $\beta_C$	thermal volumetric coefficient and concentration volumetric coefficient

### NOMENCLATURE

$t^*$	Dimensional time
$t$	Non-dimensional time