**NOMENCLATURE**

\( u \), \( v \), \( w \) = Radial and velocity of fluid

\( u_p \), \( v_p \) = Velocity of the dust

\( p \) = pressure

\( \gamma \) = Kinematic coefficient of viscosity

\( k \) = Stokes resistance coefficient \((= 6\pi \mu r)\) for spherical Dust particles of radius \( r \).

\( \mu \) = coefficient of viscosity

\( N_o \) = constant number density of the dust particles.

\( \sigma \) = conductivity of fluid

\( m \) = mass of the dust particles

\( t \) = time

\( B_o \) = magnitude of magnetic induction \( B \)

\( I = G = \frac{mN_o}{e} \) mass concentration

\( \rho \) = Density of the fluid

\( \sigma \) = Relaxation time parameter

\( R_e = \frac{\rho h u_0}{\mu} \) Reynolds number

\( S = \frac{v_p}{u_0} \) Suction parameter

\( P_r = \frac{u_p}{k} \) prandtl number

\( H^2 = \frac{\sigma B^2 h^2}{\mu} \) Hartman number

\( Ec = \frac{c^2}{c_p(T_1-T_2)} \) Eckert number

\( \tilde{\alpha}^2 = \frac{h^2\mu}{\eta} \) non-dimensional Couple Stress parameter

\( Q \) = Volumetric flow rate for fluid

\( Q_p \) = Volumetric flow rate for dust particle

\( C \) = Skin friction coefficients for fluid

\( C_p \) = Skin friction coefficients for dust particle
\[ \alpha = \frac{Nd^2q}{\mu_c} \text{ inverse stokes number} \]

\[ \beta = \frac{\mu_p}{\mu} \text{ viscosity ratio} \]

\[ B_e = \sigma\gamma B_o \text{ Hall factor} \]

\[ B_i = \text{ ion slip parameter} \]

\[ \mu_p = \text{ particle-phase velocity} \]

\[ \mu = \text{ the apparent viscosity of fluid} \]

\[ t = \text{ time co-ordinate} \]

\[ \nabla^2 = \text{ Laplacian operator} \]

\[ \eta = \text{ constants associated with couple stress} \]

\[ L_o = \frac{qh^2}{\mu_0 Y_T} \text{ temperature relaxation time parameter} \]

\[ R = \frac{K\mu h^2}{\mu_0} \text{ particle concentration parameter} \]

\[ a = \text{ viscosity variation parameter} \]

\[ \sum = \text{Summation with respect to a specific index} \]