**Abstract:**

The aim of the present article is to present numerical solutions of power-law nanofluid on mixed convection with influence of double dispersion effect in presence of non-Darcy porous medium. The flow model represented by governing highly non-linear partial differential equations using the similarity variables. We obtain the required similarity equations which is solved numerically by shooting technique (via Runge-Kutta and Newton’s Method). The obtained results for velocity , temperature  and nanoparticle volume fraction  profiles for varying values of thermal dispersion (), solutal dispersion (), buoyancy ratio (), modified darcy (), power law index () and mixed convection () parameters have shown graphically and the local heat and mass transfer coefficients have shown in table. The obtained results found in good consent in comparison of previously published results.