

LAMINAR FORCED CONVECTIVE MASS TRANSFER OF NANOFLUIDS IN A CIRCULAR TUBE

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SUMMARY: Mass transfer coefficient of nanofluid in a circular tube was investigated experimentally. Nanofluid contains $\gamma\text{-Al}_2\text{O}_3$ nanoparticles in potassium ferri-ferrocyanide and sodium hydroxide aqueous solution as base fluid. The mass transfer experiments were carried out by using the electrochemical limiting current technique. Measurements showed that mass transfer coefficient enhancement for 0.01% nanofluid, is about 14.59% at $\text{Re}=1260$ compared with the base solution. The mass transfer coefficients decreased with increasing in the volume concentration of nanoparticles between 0.015% and 0.025%.