

Thermal Diffusivity of Silver Metallic Nanoparticles in Clay Matrix

ABSTRACT

In this work, we have applied thermal lens (TL) technique to measure thermal diffusivity of clay suspensions containing metallic silver nanoparticles (Ag-NPs) prepared by chemical reduction method in different concentration. This study carried out with diode laser (wavelength 514 nm, power 80mW) as the excitation source and intensity stabilized He-Ne laser as a probe beam. The results show that thermal diffusivity of fluid increases when Ag-NPs concentrations increase.

Keyword: Silver nanoparticle; Nanofluids; Thermal lens; Thermal diffusivity.