

عنوان مقاله:

Effect of Concentration and Temperature on Viscosity of Titanium Dioxide Nanofluid in Salt- Water as Base Fluid

محل انتشار:

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خلاصه مقاله:

Rapid development in nanotechnology has produced several aspects for the nanotechnologists to look into. Nanofluid is one of the incredible outcomes of such advancement. They are best known for their remarkable change to enhanced heat transfer abilities. Viscosity is an important flow property of fluids that needs the same attention due to its very crucial impact on heat transfer. In the present work, viscosity of TiO₂ nanofluids in saltwater are experimentally investigated to determine their applicability in different temperatures and volume fractions. All measurements have been done over a range of 20–60°C for nanoparticle volumetric concentration of 0.05–0.8%. It was observed that the viscosity of the nanofluid increases with the increasing concentration of TiO₂ in the nanofluid. Usually, typical used carrier fluids are water, organic liquids (ethylene glycol, oil, biological liquids, etc.), and polymer solutions and investigation of the nanofluid properties in salt-water as base fluid has been largely overlooked. This has been motivated us by the use of salt-water in this study.

کلمات کلیدی:

Nanofluid, Viscosity, TiO₂, Salt-water, Volume fraction

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