

عنوان مقاله:

Investigation on Effect of Nanoparticles Sedimentation on Thermal Conductivity of SiO₂ Nanofluids

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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خلاصه مقاله:

Nanofluid is defined as conventional fluid with suspended particles at nanometer size (normally below 100 nm) in it. These fluids possess great potential for heat transfer enhancement. Some of the main issues related to nanofluids and their preparation are stability, particle sedimentation and clustering. In this study effect of parameters such as base fluid, particle size and concentration on nanofluid stability and effect of particle sedimentation through time from nanofluid preparation on its thermal conductivity have been investigated. For example the amount of thermal conductivity of sample with 3% volume fraction SiO₂ in the base fluid with initial value 0/415 w/m.k is decrease to 0/365 w/m.k. Also results showed that nanofluid thermal conductivity reduction caused by particle sedimentation decrease with increase in particle size and concentration

کلمات کلیدی:

Sedimentation, Nanoparticles, Thermal Conductivity, SiO₂ Nanofluids

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