



Influence of surfactant and preparation method on the stability and thermo-physical properties of nanofluids

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Abstract:Statement of the Problem: Nanofluids are a new class of fluids which are engineered by dispersing nanometer-sized particles in basefluids. Nanofluids have been found to possess improved thermo-physical properties like thermal conductivity, viscosity, convective heat transfer coefficients, etc. as compared to the respective base-fluid. Nanofluids are found to have great potential to be used in different applications especially where efficient heat transfer is required. There are some issues in the practical applicability of nanofluids and one of the most important issue is their stability. Stability of nanofluids is a big challenge for its industrialization. So, the main focus of this study is to provide a easy way to prepare CNT nanofluids having long-term stability with enhanced thermal conductivity. Methodology & Materials: For synthesis of CNT nanofluids, multi-walled carbon nanotubes (CNT) and double distilled water were used as nanomaterial and basefluid. Two different surfactants SDBS and GA were used to stabilize hydrophobic CNT in polar basefluid i.e. water.



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