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A Novel Comparison Scheme for Thermal Conductivity Enhancement of Heat Transfer

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Abstract : With the amazing development of nanoscience's and the discovery of the unique properties of nanometric materials, the ideas of scientists and researchers headed to take advantage of this progress in various fields, and one of the most important of these areas is the field of heat transfer and benefit from it in saving energy used for heat transfer, so nanometric materials were used to improve the properties of heat transfer fluids and increase the efficiency of the liquid. In this paper, we will compare two types of heat transfer fluid, one industrial type (the base fluid is a mix of ethylene glycol and deionized water) and another natural oils(the base fluid is a mix of jatropha oil and expired olive oil), explaining the method of preparing each of them, starting from the method of preparing CNT, collecting and sorting jatropha seeds, and the most appropriate method for extracting oil from them, and characterization the both of two fluids and when to use both.

Keywords : nanoscience, heat transfer, thermal conductivity, jatropha oil
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