Ultrasonic Characterization of Nanofluids

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Abstract

Nanotechnology is a most important and growing area in science. Nanostructures are known to exhibit novel and improved material properties. Nanofluids are important because they can be used in numerous applications involving heat transfer and other applications such as in detergency. Colloids which are also Nanofluids have been used in the biomedical field for a long time, and their use will continue to grow. Nanofluids have also been demonstrated for use as smart fluids. Nanofluids employed in experimental research have to be well characterized with respect to particle size, size distribution, shape and clustering so as to render the results most widely applicable. Once the science and engineering of Nanofluids are fully understood and their full potential researched, they can be reproduced on a large scale and used in many applications. The term nanotechnology has also been used more broadly to refer to techniques that produce or measure features less than 100 nanometers in size; this meaning embraces advanced micro fabrication and metrology. In this paper, the characterization of copper nanofluid using ultrasonic technique is presented. The frequency and temperature variation of nanofluid is also reported in this paper.

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