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Enhancement of Solar Energy Storage by Nanofluid-Glass Impurities Mixture

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Abstract : Recent advancements in nanotechnology have originated the new emerging heat transfer fluids called nanofluids. Nanofluids are prepared by dispersing and stably suspending nanometer sized solid particles in conventional heat transfer fluids. Past researches have shown that a very small amount of suspending nano-particles have the potential to enhance the thermo physical, transport, and radiative properties of the base fluid. At this research adding very small quantities of nano particle (TiO2) to pure water with different weights percent ranged 0.1, 0.2, 0.3, and 0.4 wt.%, we found that the best weight percent is 0.2 that gave more heat absorbed. Then adding glass impurities ranged 10, 20, and 30 wt. Percentage to the nano-fluid in order to enhance the absorbed heat so energy storage. The best glass weights percent is 0.3.

Keywords : energy storage, enhancement absorbed heat, glass impurities, solar energy
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