

Adaptive Phase Change Materials and Thermo Fluids with Solar Applications

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ABSTRACT:

Using thermo fluid solutions in combination with solar films and suspended nanoparticles a picture window can be produced that captures the energy of the sun in order to perform work within a structure. By absorbing UV light and holding its energy with a solution that has a high specific heat these thermo fluids can be used to transport energy to other areas of the structure. Using the refractive index and UV blocking films (or sprays) light can be enhanced as it passes through the window, reflecting back only the UV spectrum through the thermo fluid at considerably high rate. This window will outperform the argon windows widely used today in regards to efficiency as well as provide a clear picture window that the thermo gel windows of the past could not.

Keywords: UV spectrum, thermo fluids, refractive index, UV blocking films

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