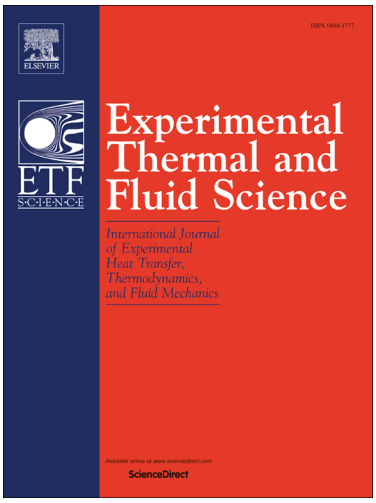

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Experimental investigations of the thermal performance of self-rewetting fluids in internally finned wickless heat pipes

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Abstract

This paper reports the results of an experimental investigation of heat transfer from a wickless finned heat pipe charged with different self-rewetting fluids. The geometry considered for the experiments comprises an evaporator section of length 200mm, condenser section of length 200mm and adiabatic section of length 100 mm. Six constant area fins are placed internally along the length of the condenser. The width of the fin is 5 mm and the thickness is 1mm. Adding internal fins at the condenser wall gives more surface area to the vapor for heat transfer. This gives additional condensation that keeps the evaporator at safe temperatures and extends the dry out condition. Additionally, fins break the condensed liquid film and augment heat transfer.

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