

Performance Evaluation of Thermosiphon Based Solar Water Heater in India

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Abstract : This paper aims to study performance of a thermosiphon solar water heating system with the help of the proposed analytical model. This proposed model predicts the temperature and mass flow rate in a thermosiphon solar water heating system depending on radiation intensity and ambient temperature. The performance of the thermosiphon solar water heating system is evaluated in the Indian context. For this, eight cities in India are selected considering radiation intensity and geographical positions. Predicted performance at various cities reveals the potential for thermosiphon solar water in India.

Keywords : solar water heater, collector outlet temperature, thermosyphon, India

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