Thermal performance optimization of a flat plate solar air heater using genetic algorithm

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Abstract

Thermal performance of solar air heater is low and different techniques are adopted to increase the performance of solar air heaters, such as: fins, artificial roughness etc. In this paper an attempt has been done to optimize the thermal performance of flat plate solar air heater by considering the different system and operating parameters to obtain maximum thermal performance. Thermal performance is obtained for different Reynolds number, emissivity of the plate, tilt angle and number of glass plates by using genetic algorithm.