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Exergy Destructions Analysis of Evacuated Tube Compound Parabolic Concentrator

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Abstract

This research presents a mathematical model using the exergy analysis of evacuated tube compound parabolic concentrator under the meteorological conditions of Jaipur–India. Moreover, the effect of hourly variation of solar radiation intensity and ambient temperature over the exergetic efficiency of evacuated tube compound parabolic concentrator are analyzed. The maximum exergetic efficiency was 12.83%, whereas day-wise efficiency varied from 4.70 to 8.45% on average. The maximum energy and exergy gain recorded are 252.2 and