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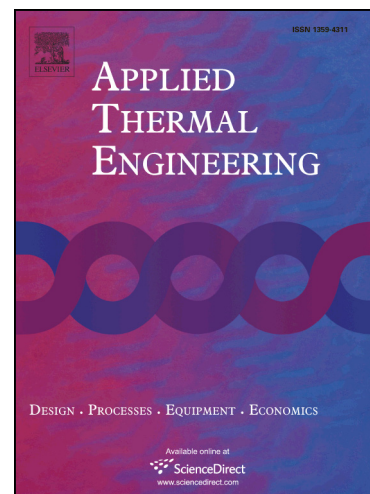
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The real-time study of solar thermoelectric generator

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ABSTRACT: Due to the energy and environment crisis, the solar thermoelectric generation technology has got more attention for its high reliability, compact size and light weight. At present, the researches of solar thermoelectric generator are focused on mathematical models building and experimental devices development. To simplify the research and predict the daily performance of a practical flat-panel solar thermoelectric generator under real condition, this paper proposes a real-time simulation model. A way to optimize the simulation model is provided as well. An experiment is designed to validate and modify the real-time simulation model. Then, the experimental validated and modified real-time simulation model is performed to study the performance of solar thermoelectric generator. To optimize the daily performance of solar thermoelectric generator under real meteorological conditions, the daily power generation and daily power generation efficiency are discussed, and approaches obtaining the optimal daily performance are proposed. Meanwhile sensitivity analysis of operating conditions was conducted in this study. For the solar thermoelectric generator studied in this paper, results showed that the daily power

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