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A solar-thermal cooker using oil for heat transfer

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Abstract :

A solar-thermal cooker was constructed and tested at the Westville Campus of the University of KwaZulu-Natal. The system comprised a half-parabolic collector dish with trapezoidal mirror tiles, and a coiled-pipe receiver connected to a pebble-based storage. The dish tracked the sun using a computer program. Solar radiation was focused onto the receiver by the collector and thermal energy was transported from the receiver to the storage by pumping oil through a closed loop. Two receivers were tested: a flat coil and a concave cup coil. We present results of the tests, in particular the efficiency of energy transfer from collector to storage.

Award :

No

Paper :

Yes

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