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Experimental and theoretical performance investigation of asymmetric Photovoltaic /Thermal Hybrid Solar Collectors Connected in Series

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## Highlights

- Five CPC-PVT collectors with a novel asymmetric reflector are examined.
- The collectors are able to produce useful energy throughout the year due to the receiver location.
- The maximum optical efficiency of the collector is observed at 37° incidence angle.
- A mathematical model is developed and its results agree with the experimental data.
- Further theoretical examination shows that a maximum exergetic efficiency occurs in hybrid mode.

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