

Polygeneration Solar Thermal System

Authors : S. K. Deb, B. C. Sarma

Abstract : The concentrating solar thermal devices using low cost thin metallic reflector sheet of moderate reflectance can generate heat both at higher temperature for the receiver at it's focus and at moderate temperature through direct solar irradiative heat absorption by the reflector sheet itself. Investigation on well insulated rear surface of the concentrator with glass covers at it's aperture plane for waste heat recovery against the conventional radiative, convective & conductive heat losses for a bench model with a thermal analysis is the prime motivation of this study along with an effort to popularize a compact solar thermal polygeneration system.

Keywords : concentrator, polygeneration, aperture, renewable energy, exergy, solar energy

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