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Special Issue Reprint

Research on Solar Collector

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The use of concentrated solar technologies has grown significantly worldwide in the last decade but the research and development of this renewable energy technology still needs to be advanced to guarantee its competitiveness with other energy sources. Challenges remain with reducing costs, optimizing the systems design, and increasing the performance and durability of the systems. This Special Issue on research on solar collectors presents some recent developments and studies on tracking-solar collectors for medium- to high-temperature applications, both line- and point-focus systems, conceived for the supply of heat in industrial processes, to provide thermal energy to a power block for electricity production, or even to combine heat and electricity generation in a solar collector unit (CPV/T). The articles included in this Special Issue cover theoretical or practical issues on geometrics optics, thermal-hydraulic modelling, and performance analysis, focusing on the following topics:

- Solar towers: heliostat fields analysis and optimization
- Solar towers: heat transfer media studies
- Parabolic troughs: evacuated solar receivers analysis and thermal-hydraulic modelling
- Fresnel reflectors: geometrics optics and manufacturing issues
- Fresnel lens in CPV
- Energy losses in solar collectors systems



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