

The efficiency of adding wire mesh in the heat pipe is increased by 1.3 % (Hu et al., 2016). ... Thermal power measurement of the novel evacuated tube solar collector and conventional solar collector during simultaneous operation. Measurement 88 (2016), 153-164. Google Scholar. Shafieian and Khiadani, 2020.

The parabolic trough solar collector (PTSC) technology is one of the most reliable technologies in the field of solar thermal. It is mainly used for power generation (e.g., generating steam, which needs high temperatures) and other technological purposes. The collectors receive direct solar radiation from the

In typical solar thermal collectors, the solar absorber panel is structurally fixed and coated by a layer of solar selective absorbing coating only on the sun-facing side while leaving the other side untreated and untapped [33], [34]. ... insulation thickness and ambient temperature have a vital influence on the RC performance. Afterwards, Hu ...

Solar collectors are significantly influenced by weather conditions, leading to a mismatch between thermal energy production and demand. To mitigate this issue, U-tube solar collectors integrated with phase change material (PCM) were investigated to store excess solar energy and regulate the temperature of collectors. ... G. Hu, X. Ning, M ...

Mingke HU, Marie Sklodowska-Curie Individual Fellow | Cited by 2,645 | of University of Nottingham, Nottingham (Notts) | Read 94 publications | Contact Mingke HU ... Solar thermal collectors are ...

[7]Jing-hu Gong, et al. Straight-through all-glass evacuated tube solar collector for low and medium temperature applications. Solar Energy 201 (2020): 935-943. (SCI??,TOP,??16?) [8]Jing-hu Gong, et al. Numerical study on the ...

The multi-objective optimum design of stationary compound parabolic concentrator (CPC) solar collectors is considered. The clear day solar beam radiation and diffuse radiation at the location of the solar collector are estimated. Three objectives are considered in the optimization problem formulation: maximization of the annual average incident solar energy, ...

Highlights A natural circulation parabolic trough solar collector system is designed and applied to generate mid-temperature steam. Field experiments are performed to analyze heat transfer characteristics of the system. Experiments results show that the system can generate mid-temperature steam of a pressure up to 0.75 MPa. The thermal efficiency is found to be ...

In typical solar thermal collectors, the solar absorber panel is structurally fixed and coated by a layer of solar selective absorbing coating only on the sun-facing side while leaving the other side untreated and untapped

[33], [34]. Therefore, if taking advantage of the anti-sunward surface of a solar absorber panel by covering it with a layer of radiative cooling ...

Solar Energy Materials and Solar Cells, 2022, 235: 111457. Mingke Hu, Bin Zhao, S. Suhendri, Jingyu Cao, Qiliang Wang, Saffa Riffat, Ronggui Yang, Yuehong Su*, Gang Pei*, Experimental study on a hybrid solar photothermic and radiative cooling collector equipped with a rotatable absorber/emitter plate, Applied Energy, Volume 306, Part B, 2022 ...

9. Flat Plate Collector Flat Plate Collectors -consist of a thin metal box with insulated sides and back, a glass or plastic cover (the glazing) and a dark colour absorber. The ...

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