Solar power plant cooling cycle

Following our previous work on scalable radiative cooling films and a kW-scale radiative cooling system, we explore the potential of consumptive water use reduction in recirculating wet ...

Here, a high temperature solar cooling system is coupled with a conventional combined cycle, in order to pre-cool gas turbine inlet air in order to enhance system efficiency and electrical ...

For this, we develop a physics-based simulation of the cooling properties of an air-cooled heat exchanger. The simulator is able to construct a dry cooling system satisfying a wide variety of...

Concentrated solar power (CSP) plants offer sustainable energy with the benefit of day-to-night energy storage. The recent development of the supercritical car-bon dioxide (sCO2) Brayton cycle made ...

Hybrid cooling refers to cooling cycles incorporating a combination of the cooling technologies coupled together in either a serial or parallel fashion to improve overall system performance, increase ...

Comparison of direct and indirect natural draft dry cooling tower cooling of the sCO 2 Brayton cycle for concentrated solar power plants. Applied Thermal Engineering, 130, 1070-1080. Kroger, D. G. ...

Concentrated Solar Power (CSP) plants rely on efficient cooling systems to maintain thermal efficiency and stable electricity generation. However, conventional wet cooling is highly water ...

In the current study, a novel trigeneration system was presented to utilize the SPT for combined power generation, heating, and cooling. The trigeneration system consists a helium ...

Currently, the steam Rankine cycle is the most widespread and commercially available option, usually coupled to a para-bolic trough solar field. However, other configurations have been implemented in ...

In the first place, power block configurations based on conventional thermodynamic cycles--Rankine, Brayton, and combined Brayton-Rankine--are described. The achievements and ...

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