

Title: Thermally localized multistage solar still

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With high freshwater production and extreme salt endurance, our device significantly reduces the water production cost, paving a pathway toward the practical adoption of passive solar ...

Thermally localized solar-driven water evaporation (SWE) in recent years has increasingly been developed due to the potential of cost-efficient freshwater production from small ...

Here, authors developed an asymmetric tapered multistage solar still that optimizes mass transfer equilibrium, achieving ultrahigh water production and efficiency.

In particular, recent progress combining interfacial solar heating and vaporization enthalpy recycling through a capillary-fed multistage architecture, known as the thermally-localized...

This work elucidates the fundamental limit of the solar-to-vapor conversion process and provides useful design guideline for existing passive solar thermal desalination technologies.

In this work, a thermally-localized multistage solar still was developed, achieving ultra-high efficiency. The prototype device collected over 75% of vaporized water through condensation and ...

Integrating solar-powered hybrid systems that couple photovoltaic electricity generation with passive steam-based desalination offers a promising solution. Although thermally localized multi ...

We developed a comprehensive model to understand the heat and mass transfer during solar vapor generation and optimize the performance of a thermally-localized multistage solar still.

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