

In the hands of scientists - the power of 10,000 Suns

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Solar research at Paul Scherrer Institut (Switzerland) takes a leap into the future today with the opening of the High-flux Solar Simulator. With this new instrument scientists will be able to carry out experiments under extremely high temperatures, independent of the weather.

The Laboratory for Solar Technology at PSI and the Professorship in Renewable Energy Carriers at ETHZ are jointly conducting research in high-temperature thermo-chemical processes to efficiently transform concentrated solar energy into storable and transportable chemical fuels.

In the new Solar Simulator the light from ten xenon arc lights is reflected on ellipsoidal reflectors and the concentrated energy delivered by this installation can reach power fluxes of 10,000 suns, (1 sun = 1 kW/m²) providing temperatures of up to 2500 degrees Celsius for experiments.

Research will focus on the development of solar reactor technology required for the production of fuels (e.g. hydrogen, zinc and syngas) and for the processing of energy intensive material commodities such as lime and metals.

Source: Paul Scherrer Institut

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