



Internship– Solar receiver testing at KTH Solar High-Flux Simulator

BACKGROUND

In many countries of the world, the electricity production is currently shifting to become more sustainable through the use of renewable technologies. The Concentrating Solar Power (CSP) technology is a strong candidate to supply part of the electricity share in the future scenario. However, the technology has not been broadly developed yet, having each of the parts of the system a great potential of improvement.

Among others, the CSP group at KTH operates a high-flux solar simulator which is capable of recreating in a controlled manner the sun irradiance conditions to test and develop more efficient and resistant components. In January, an experimental campaign is starting to improve the performance of solar receiver for Dish-Stirling systems.



KTH High-Flux Solar Laboratory



Cleanergy's Dish-Stirling system

PROJECT DESCRIPTION

The work proposed consists of an active participation in the test of different solar cavity receivers for the Dish-Stirling system of the Swedish company Cleanergy. Thus, the work will be related with the design, installation, test and data post-processing of the experiments to be conducted.

Based on the results of the measurements, the real commercial solar system will be improved to become more competitive.

SPECIFIC TASKS

- T1-** Get to know the lab, its functioning and control systems.
- T2-** Design new components for the tests such as holding structures and light shields.
- T3-** Assist in the solution development and installation of lab components.
- T4-** Assist to design the measurement system for the test rig.
- T5-** Lab view programming for efficient data acquisition
- T6-** Data post-processing and result evaluation
- T7-** Contribute to the future receiver design
- T8-** Write final report

LOCATION AND DURATION OF THE PROJECT

The project is to be performed at the Department of Energy Technology at KTH Stockholm Campus preferably beginning in January 2017. It is estimated that it will last up to six months.

Contact/Supervision

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