

Feasibility study of an innovative drive system for heliostats in solar thermal power plants or for tracked PV systems using a physical demonstrator

There are currently strong efforts, particularly in the USA, to reduce the costs of solar thermal power plants. Since the heliostat field accounts for the majority of these costs and the drives and gears for solar tracking are major cost drivers for the heliostats, ideas and concepts are being sought to reduce these costs.



Fig. 1: Heliostat field in Hami (China); Photo by sbp (schlaich bergemann partner)

Scope of the internship

The scope of this project is to investigate the feasibility of an existing innovative concept for a heliostat based on two swivel axes using a simple physical demonstrator. The aim is to test and evaluate the functionality, performance, efficiency and applicability of this concept under various operating conditions and parameters with the help of experiments and, if necessary, to develop improvements.

Special requirements:

- Study in mechanical engineering or related fields.
- Experience with CAD software (e.g. Creo Parametric).
- Good communication and documentation skills.

Support of a research assistant in the following tasks:

- Designing the demonstrator (CAD model) based on the existing concept.
- Ordering the purchased parts and arranging for the production of the manufactured parts.
- Construction of the demonstrator.

Qualification level: Bachelor student or degree

Programs lines: A2S, BA/MA