

AEE INTEC

AEE – Institute for Sustainable Technologies (AEE INTEC) is an independent research association which was founded in 1988. Currently over 60 employees from 8 different nations are working at AEE INTEC. Furthermore, the institute regularly awards dissertations, master theses and internships. The activities of AEE INTEC include:

- fundamental as well as applied research
- national and international R&D projects
- cooperation with universities, technical colleges, other research facilities and industry

The three major departments of AEE INTEC are “Thermal Energy Technologies and Hybrid Systems”, “Buildings and Renovation” as well as “Industrial Processes and Energy Systems”.

Research Project

The Master Thesis is embedded in an ongoing re-search project of AEE INTEC dealing with **quality assessment of large solar thermal plants**.

The project focuses on the development of methods for thermal **power and energy proofs** and in-situ collector tests for large collector arrays.

This Master Thesis deals with the radiation modeling for large collector arrays, one of the key aspects for feeding operational data into state of the art mathematical models.

Outline of the Master Thesis

- Literature study about existing approaches, taking into account also large PV fields
- **Develop algorithms** to calculate the incoming radiation for large collector arrays under realistic boundary conditions
- Large collector arrays consist of several rows, with each row shading and masking the row behind
- **Implement these algorithms in MATLAB**, based on a provided MATLAB data analysis tool
- **Validate** the algorithms by means of real operational data

We expect...

- Course of study in the field of natural sciences or engineering
- Experience with solar thermal installations is an advantage
- MATLAB experience
- Engaged, independent and solution-focused working skills

We offer...

- Salaried position with a master-thesis embedded in a current research-project
- Supervision by experienced researchers, highly qualified technical support
- Starting now, lasting for 6 months

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