

Bachelor/Master's thesis:

“Setup of a test bench and characterisation of a photovoltaic driven electrolyser for hydrogen generation”

Fields of study: Chemical and Electrical engineering, Renewable energy studies, or equivalent

The PVcomB develops photovoltaic and related technologies in cooperation with industry. PVcomB ensures innovative technology transfer through industry-oriented research projects as well as the education and training of skilled renewable energy professionals. Within the Institute the PV to Fuels Technology Group focuses on developing new device concepts for integrating photovoltaic devices with electrolysers for the purpose of generating fuels such as hydrogen.

Research Focus

Dynamic loading conditions contribute to degradation and lower the expected performance of photovoltaic driven electrolysis for hydrogen generation. Therefore, it is crucial to identify the extent to which an electrolyser degrades when directly connected to a photovoltaic module, without active DC voltage control and conditioning, under outdoor conditions and in controlled laboratory conditions.

Tasks

- Perform long term measurement and analyse the response of the devices to dynamic load changes by using e.g. electrochemical analysis methods and by tracking other performance parameters
- Support the upgrading and automation of a (outdoor and indoor) measurement and testing system for integrated photovoltaic- electrolytic modules
- Analyse and document the experimental results

Requirements:

- Outstanding academic records in courses such as electrochemistry, photovoltaics or energy technology
- A keen interest in complementing and your academic knowledge with application oriented research
- Experience with using Labview is desirable
- Very good spoken and written English
- High level of team spirit, commitment and a high degree of self initiative

Contact information:

Please send your application (Cover letter, CV and certificates as .pdf with max. 10 MB) to:

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