Laboratory for Chalcogenide Photovoltaics

CARL VON OSSIETZKY universität OLDENBURG

Universität Oldenburg
Institut für Physik
Abteilung Energie- und Halbleiterforschung

The *Laboratory for Chalkogenide Photovoltaics* (LCP) within the department of *Energy and Semiconductor Research* (EHF) at the Institute of Physics of the Carl von Ossietzky University of Oldenburg offers a

PhD Student Position

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Impact of carrier lifetime on the efficiency of thin film solar cells

(Research Assistant, TV-L E13, 50%, ID: TRPL-3b)

in the field of physics and material science for the period of 3 years, starting at the earliest possible date.

The Laboratory for Chalcogenide Photovoltaics is a young group of about 15 researchers which is primarily concerned with material-scientific issues related to the application of chalcogenide semiconductors (chalcopyrites, kesterites) in thin-film solar cells and commercial solar panels. Our research work specializes in the field of application-oriented basic research and aims at an enhanced physical understanding of the considered semiconductor materials and related devices.

Aims and main topics of your work:

- Measurement and simulation (TCAD) of time-resolved transient photoluminescence (TRPL) on CIGS absorber material
- Identifiying the influence of various relevant mechanisms on the TRPL signal (bulk recombination, CdS buffer layer, interface recombination)
- Correlation between TRPL time constants and solar cell performance
- Assistance in the supervision of students

Required qualifications:

- University master (or diploma) degree above average in experimental physics or a closely related subject
- Profound knowledge of semiconductor physics
- Programming experience

Beneficial **prior knowledge** or experience:

- Chalcopyrite photovoltaics
- Model simulation of semiconductors (e.g. with Sentaurus TCAD, SCAPS, MATLAB)
- Semiconductor spectroscopy or other optical measurement techniques

We offer:

- Professional working environment on a high scientific level and well equipped laboratories
- Friendly, international and inspiring team with flat hierarchical structures
- Participation in international workshops, conferences and publication of results
- Participation in the „PhD Program Renewable Energy“ of the graduate school „Science and Technology“

The University of Oldenburg is dedicated to increase the percentage of female employees in the field of science. Therefore, female candidates are strongly encouraged to apply. According to § 21, 3 NHG female applicants are to be preferentially considered in case of equal qualification. Applicants with disabilities will be preferentially considered in case of equal qualification.

Please send your application including the usual documents (CV, graduation results, job references etc.) — preferably by e-mail as a single pdf-file — by 16th October 2017 to:

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