

**PHYSICAL COLLOQUIUM
INVITATION**

Monday, 22.01.2018, 4.15 p.m., W2-1-148

speaks

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about

Development of Kesterite CZTSe Solar Cells

- From Fundamentals to Record Efficiencies -

Kesterite solar cells of the type $\text{Cu}_2\text{ZnSnSe}_4$ (CZTSe) are in the focus of interest for they are supposed to overcome the drawbacks of the currently existing thin film solar cell technologies, which are scarcity and toxicity of some applied elements. However, the processing of CZTSe absorbers turns out to be challenging due to a narrow existence region of the pure CZTSe phase and the formation of accompanying secondary phases. After a period of fast increasing efficiencies the current world record for this material class has plateaued now for several years. In this talk the kesterite research activities of the LCP/EHF group at the University of Oldenburg will be summarized and the latest results will be presented. While starting to work on the characterization and understanding of several fundamental aspects of the material as such, we have developed a facile and resilient process to fabricate highly efficient kesterite solar cells, which are currently approaching the region of the existing world record. The latest results will be shown and compared with reports from literature, strategies for further improvement steps will be discussed.

All interested persons are cordially invited.

Sgd. Prof. Dr. Matthias Wollenhaupt