



UNIVERSITÄT
LEIPZIG

Fakultät für Physik und
Geowissenschaften

Prof. Dr. C. Schnohr
Prof. Dr. J. Vollmer

Physics Colloquium

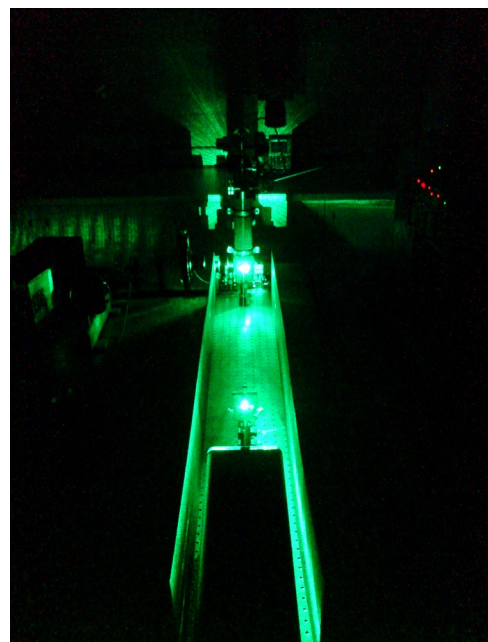
Tuesday, 8 December 2020 at 17:15

Prof. Dr. Susanne Siebentritt

Universität Luxembourg

What can we learn from photoluminescence about the efficiency of solar cells?

The importance of solar cells for electricity generation is increasing. In 2019 45% of the newly installed power capacity worldwide was from solar cells. Most of these installations are based on Si wafers. However, thin film solar cells have the additional advantage of a lower carbon footprint. Many semi-conducting materials are under investigation for thin film solar cells. The best efficiencies have been obtained with halide perovskites, chalcopyrites and CdTe. To further develop these and other materials it is essential to understand the interaction between the semiconductor properties of the absorber and the final performance of the solar cell. Important properties, like bulk and interface recombination or electronic defects can be determined by measuring the photoluminescence spectra of the absorber. I will show how the recent advances in chalcopyrite solar cells can be understood using photoluminescence.



Online Colloquium broadcasted by BigBlueButton at

<https://meet.uni-leipzig.de/b/sch-hib-xbr-tdm>

