



TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik Physikalisches Kolloquium



Mittwoch, 22.01.2020, um 11:15 Uhr

Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude,
Raum 2/N013

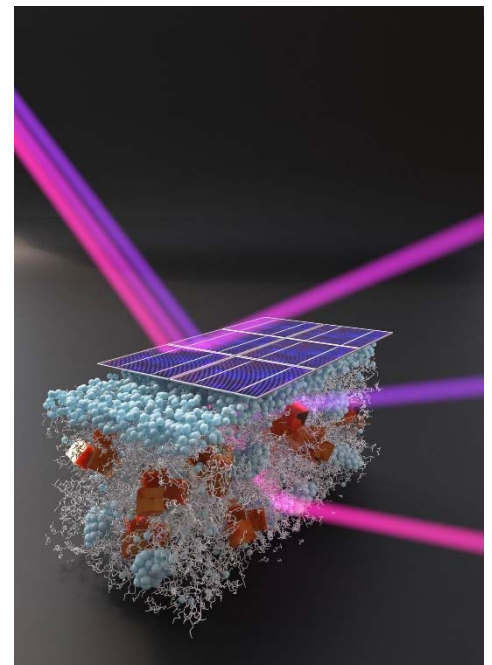
Prof. Dr. Peter Müller-Buschbaum

Technische Universität München, Physik-Department,
Lehrstuhl für Funktionelle Materialien

Polymer and hybrid nanostructures for applications in organic solar cells investigated with advanced scattering techniques

Organic solar cells are an interesting alternative to conventional silicon based solar cells as they feature new possibilities introduced by using a different class of materials namely polymers. Instead of expensive ultra-high vacuum technologies, fabrication can be done at room temperature, using wet chemical processing, and thereby enabling usage of methods such as roll-to-roll printing. Consequently, the production of organic solar cells has the potential to become very cheap and easy. Moreover, the use of polymers allows for flexible solar cells and lightweight devices, which will be usable in a very different fashion as compared to the immobile silicon solar panels. In addition, the energy payback times of organic solar cells are significantly shorter as compared to the today's silicon solar cells. However, despite all these significant advantages of organic solar cells, still fundamental knowledge is very limited.

In particular, it is challenging to detect the complex morphologies, which are necessary to have high efficiency organic solar cells. The combination of grazing incidence small- and wide-angle x-ray and neutron scattering (GISAXS, GISANS and GIWAXS) allows for overcoming these challenges. Selected examples will be shown to illustrate the possibilities arising from using the advanced scattering techniques.



Alle Zuhörer sind ab 11:00 zu Kaffee und Tee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt:
Prof. Dr. Carsten Deibel, Tel. 0371 531 34878

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