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C.A. Partner 11:  
Dr. Konstantinos Fostiropoulos  
**Hahn-Meitner-Institut Berlin**

## **Interfaces and structures in small molecules organic solar cells**

K. Fostiropoulos, B. Johnev, M. Vogel, M. Rusu, S. Wiesner, J. Gasiorowski, T. Mete, I. Bochukov, Chr. Breyer, W. Tress, M. Lux-Steiner

*Department SE2, Hahn-Meitner-Institut Berlin, Glienicker Strasse 100, 14109 Berlin, Germany  
contact: [fostiropoulos@hmi.de](mailto:fostiropoulos@hmi.de), tel. +49-30-8062 2719*

### Abstract

The Hahn-Meitner Institute Berlin works in the field of organic solar cells (OSC) since 2001. Device development as well as fundamental research on ultra-thin organic layer systems consisting of small molecules has been attended. We investigate bi-layer and bulk hetero-junction OSC using metal phthalocyanines as donor and fullerenes as acceptor materials. We apply vacuum thermal evaporation methods. Moreover the organic vapour phase deposition (OVPD) technology has been adapted for the industrial fabrication of OSC modules. For the optimization of the device architecture we develop an optical and electrical simulation tool. Focus of our fundamental research has been the chemical engineering of interfaces between inorganic transparent conductive oxides (TCO) and organic absorber layers. A second focus concerns the nano-morphology as well as the structure profile of molecular donor-acceptor layer systems.