



Quantum Efficiency Seminar und Colloquium

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Towards nanostructured solar cells

ABSTRACT: The control of the nanomorphology of donor and acceptor materials in organic and inorganic-organic solar cells is one of the important challenges we are facing to improve the solar cell performance. New high resolution methods such as TEM tomography have been recently applied to visualize the composition of photoactive layers enabling a direct correlation between internal film structure and device performance. Pre-structured donor acceptor assemblies and in-situ synthesis of inorganic nanoparticles within the photoactive layer are promising approaches to improve the nanomorphology and the donor-acceptor interface which has been recently demonstrated leading to improved device performance in hybrid solar cells. However, the successful implementation of nanostructuring into organic and hybrid solar cell technologies leading to high efficient devices and providing improved boundary conditions for physical modeling and understanding is still missing. Potential approaches towards nanostructured hybrid solar cells are highlighted and discussed.

Date: Tuesday, November 22nd, 2011 14:15 pm
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