

Thin Film Solar Cells for Mass Production

Scientists from Chemnitz University of Technology (CUT) develop a process for the production of thin film solar cell, based on silicon – The first results will be presented at the Hanover Fair from 23th to 27th of April 2012

Chemists and physicists at Chemnitz University of Technology are working in collaboration with Saxon companies on the development of a technical revolution in photovoltaics. The aim is to develop a cost-efficient procedure for the production of thin film solar cells. The present production of solar cells, which enable the environmentally friendly, direct transformation of sun energy into electricity, is very expensive. In addition, their efficiency is very low. Prof. Dr. Heinrich Lang, Chair of Inorganic Chemistry at the Department of Chemistry at CUT, points out that “Our research approach is the formation of silicon thin layers from solution”. For this process, new soluble silicon-containing molecules are synthesized. Then these solutions are spray-coated or printed onto flexible substrate materials. The resulting thin layers are converted to silicon thin films by heat treatment or exposure to light.

“By the application of appropriate characterization methods, especially optical spectroscopy, any change in the processes can be made visible and hence the process and production parameters can be controlled” was added by Prof. Dr. Dietrich R. T. Zahn, Chair of Semiconductor Physics at CUT. The scientists envisage producing cost-efficiently photovoltaic-active silicon thin films, which have a competitive edge with established production procedures. The *Bundesministerium für Bildung und Forschung*, the *Sächsische Aufbaubank* and the *Sächsische Staatsministerium für Wissenschaft und Kunst* provide financial support for the basic research of this new technology.

First results will be presented at the Hanover Fair from 23th to 27th April 2012. Here, the scientists plan to meet potential cooperation partners in hall 2, “Forschung für die Zukunft” (Booth C37).

For further information, please, contact Prof. Dr. Heinrich Lang, phone +49 (0)371 531-21210, email heinrich.lang@chemie.tu-chemnitz.de or Prof. Dr. Dietrich R. T. Zahn, phone +49 (0)371 531-33036, email zahn@physik.tu-chemnitz.de.