

Bachelor Thesis/ Master Thesis Colourful Inkjet Printed Perovskite Solar Cells



Motivation

Perovskite solar cells (PSC) are currently the most promising alternative to conventional silicon solar cells. With view to a future commercialization of the technology, scalable fabrication processes such inkjet-printing have to be optimized. To attend the demands of a steadily growing market of building integrated photovoltaic (BIPV) concepts of colorization have to be proved and evaluated for PSC.

Task

Within the scope of this thesis, fully functional and at least partially inkjet-printed PSC are to be processed based on state-of-the-art scientific results. For the solar cell different routes of colorization have to be investigated and implemented for the devices. The colorized PSC are then optically and electrically characterized and compared with efficiency-optimized PSC. The work is mainly of practical nature and takes place in an excellently equipped clean room and additional labs. A large number of characterization devices are available. Parts of the work will take place in Heidelberg at the innovationLab.

Prerequisite

Prerequisite for the work is pleasure and skill in independent experimental work, team spirit as well as interest in new topics and approaches. Good English and/or German language skills are required. Basic knowledge in the field of semiconductor physics and photovoltaics is advantageous but not essential.

Research Field

Experimental

Studies

Electrical Engineering
Physics

Start

From now on

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