



The supervisory board of the Kestcells Project announces the Seminar EMPA-03:

“Time-resolved photoluminescence spectroscopy of thin film solar cells”

Dates: 8th of December, 2014.

Place: Meeting room SH 521, Empa, Ueberlandstrasse 129, CH-8600 Dübendorf

Summary: Time-resolved luminescence (TRL) is a non-destructive, non-invasive, and contactless characterization method for studying carrier dynamics in semiconductor layers and thin film homostructures. The luminescence decay time in general equals the minority carrier lifetime only for a homogeneous and time-independent carrier lifetime. Using analytical equations the carrier lifetime can be extracted from the TRL transients and the samples can be characterized by excitation dependent measurements in the open circuit case. Some effects found in luminescence experiments, like a decrease of the decay time with an increasing excitation, a maximum in the decay time due to saturated bulk-defects and curved luminescence transients due to high injections or sample inhomogeneities can be explained.

Program

Time	Subject	Speaker
14:00-14:30	Examples of TRPL measurements for CIGS	Fabian Pianezzi (Empa)
14:30-15:00	Examples of TRPL measurements for CZTS	Bengamin Bissig (Empa)
15:00-16:30	Interpretation of TRPL measurements from a theoretical point of view	Matthias Maiberg (Halle University)