

Registration

2nd Workshop: Impact of mechanical and thermal loads on the long term stability of PV modules

3 February 2015, Institute of Structural Analysis (ISD)
Leibniz Universität Hannover
Hannover, Germany

Contact details

+49 511-762-2236

✉ pvworkshop@isd.uni-hannover.de

Degree, last name, first name

Institute/Company

Department

☎ Telephone

☎ Fax

✉ Email

Website

Address

Postcode

City

Country

Contact

Institute of Structural Analysis (ISD)
Leibniz Universität Hannover
Hannover, Germany
Appelstraße 9A, 30167 Hannover
☎ +49 511.762-3867
☎ +49 511.762-2236
www.isd.uni-hannover.de

Queries concerning your registration, workshop venue and other general aspects, please contact

✉ pvworkshop@isd.uni-hannover.de

Queries concerning the scientific program, please contact

✉ j.reinoso@isd.uni-hannover.de

2nd WORKSHOP

Impact of mechanical and thermal load on the long term stability of PV modules



Institute of Structural Analysis
Leibniz Universität Hannover
Hannover, Germany

In cooperation with:



Institute for Solar Energy Research
Leibniz Universität Hannover, Hamelin, Germany



Date: 3 February 2015
Time: 9:00–17:00
Location: Appelstraße 9A, Room MZ 2
Leibniz Universität Hannover
30167 Hannover, Germany

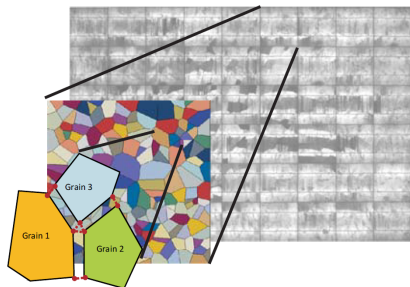
Invitation

The generation of clean energy is a challenge of major concern in the next decades. This is a consequence of the increasing awareness with regard to the necessary transition to sustainable energy supplies. Solar energy is the most abundant resource and can significantly contribute to achieve future energy demands due to its huge potential. Governmental directives and policies have lively promoted the development of low-cost, highly-efficient photovoltaic (PV) technologies towards notable improvements in the solar market in terms of reliability and cost.

PV-generated power covers up to 30% of the momentary electricity demand. One of the principal issues that limit the efficiency of PV modules affecting their power stability concerns with the onset and propagation of cracks in the cells owing to the thermo-mechanical loadings. Within the context of the project "Microcracks: Causes and consequences for the long-term stability of PV-modules" funded by the German Federal Ministry for Education and Research (BMBF) between the Institute for Solar Energy Research Hamelin (ISFH) and the Institute of Structural Analysis (ISD) at Leibniz Universität Hannover, Germany, a thorough analysis of the origins of the initiation and propagation of crack events in solar cells is being performed. This investigation is carried out through collaborative and complementary numerical and experimental techniques.

Continuing with the dissemination program and after the successful first edition organized by ISFH and held in Hamelin (Germany) on 5th November, 2013, ISD hosts the second edition of the workshop entitled "Impact of mechanical and thermal load on the long term stability of PV modules". On behalf of the ISD-ISFH consortium, we are pleased to invite you to participate in this event. This is a great opportunity for joining colleagues in the European context along with discussing new ideas and establishing links for future cooperation.

R.Rolfes, E. Jansen, J. Reinoso
Institute of Structural Analysis (ISD)



Scientific program

- 09:00 Welcome to participants and opening talk**
R. Rolfes, Head of ISD, LUH, Germany
- 09:20 Novel n-type wafer-based silicon solar cell architectures being developed at IMEC**
I. Gordon, Silicon Photov. Group, IMEC, Belgium
- 09:50 CZM for the prediction of inter- and intra-granular cracks in polycrystalline silicon**
J. Remmers, TU Eindhoven, Netherlands
- 10:20 Computational analysis of inter- and trans-granular failure in polycrystalline silicon solar cells**
R. Nabavi, ISD, LUH, Germany
- 10:50 Coffee break**
- 11:30 Interaction between weathering of solar modules and in-laminate strength of solar cells**
S. Dietrich, Fraunhofer CSP Halle, Germany
- 12:00 A fully coupled thermo-hygro-mechanical theory for the analysis of diffusive phenomena in photovoltaic modules**
M. Paggi, IMT Lucca, Italy
- 12:30 Lunch and coffee break**
- 14:00 Micromechanical modeling of brittle polycrystalline films**
S. Mariani, Politecnico Milano, Italy
- 14:30 Measurement of mechanical stress in interconnected silicon solar cells**
J. Käsewiter, ISFH, Emmerthal, Germany
- 15:00 Coffee break**
- 15:40 Technology, manufacturing and reliability aspects of thin film silicon photovoltaics**
C. Gerardi, IMS R&D, PV Team, 3SUN, Italy
- 16:10 Impact of cracks in multicrystalline silicon solar cells on PV module power**
A. Morlier, ISFH, Emmerthal, Germany
- 16:40 Open discussion and closure**

General information

Registration:

Please use the overleaf form. The number of participants is limited (80 people).

Services:

Proceedings, coffee breaks and lunch.

Attendance fee:

The attendance fee is 70 Euro. *Please transfer the fee only after receiving the invoice. The invoice serves also as workshop attendance confirmation.*

Venue:

Location: Appelstrasse 9A, Room MZ 2

Leibniz Universität Hannover, 30167 Hannover, Germany

Transport connections:

- Train: Lines U4 and U5 from Central Railway station Hannover (Hauptbahnhof) to Schneiderberg/Wilhelm Busch-Museum stop.
- Plane: By train S5 from the airport Hannover to Nordstadt Station, Hannover. From there is about 10 min. walking to the venue.

Accommodations:

- Mercure Hotel, Willy-Brandt-Allee3, 30169 Hannover, ☎ (+49)511/80080 📧 (+49)511/8093704 <http://www.mercure.com>
- Hotel Ibis Hannover City, Vahrenwalder Str. 113, 30165 Hannover, ☎ (+49)511/388110 📧 (+49)511/3881333 <http://www.ibishotel.com/>
- Etap Hotel Hannover City, Runde Str. 7, 30161 Hannover, ☎ (+49)511235570 📧 (+49)51123557123 <http://www.etaphotel.com/>

Cancellation:

Till seven days before the workshop the participation in the workshop can be canceled free of charge. If the cancellation is performed later, the complete fee will be charged or an alternate participant can be announced. Please, we kindly invite to communicate the organization about changes in time before the workshop.