

Publications

**31st European Photovoltaic Solar Energy Conference and Exhibition,
September 14-18, 2015 • Hamburg, Germany**

Fraunhofer Institute for Solar Energy Systems ISE

Division Solar Cells – Development and Characterization
Division PV Production Technology and Quality Assurance
Division Materials – Solar Cells and Technology
Division Photovoltaic Modules, Systems and Reliability

Heidenhofstrasse 2
79110 Freiburg
Germany

Alonso-Alvarez_4CV.3.46

D. Alonso-Álvarez, D. Lackner, S.P. Philipps, A.W. Bett, N. Ekins-Daukes

Photoluminescence-Based Current-Voltage Characterisation of Individual Subcells in Multi-Junction Devices

Benick_2CO.4.4

J. Benick, J. Bartsch, U. Jäger, M. Kamp, B. Steinhauser, A. Brand, R. Müller, S. Gutscher, M. Hermle, S.W. Glunz

Implanted and Co-Annealed Bifacial n-Type PERT Solar Cells Metallized by Co-Plating - the CoCo Cell

Datas_4CP.2.1

A. Datas, A.B. Cristóbal, G. Sala, I. Antón, J.C. Minano, P. Benitez, C. Algora, A.W. Bett, D. Lackner, M. Niemeyer, S. Philipps, G. Siefer, N. Ekins-Daukes, F. Roca, C. Cancro, L. Luque-Heredia, W. Warmuth, M. Baudrid, Y. Okada, M. Sugiyama, Y. Hishikawa, T. Takamoto, K. Araki, A. Fukuyama, K. Nishioka, H. Suzuki, N. Kuze, Y. Moriyasu, T. Kita, A. Kotagiri, N. Kojima, A. Marti, M. Yamaguchi, A. Luque
NGCPV: A New Generation of Concentrator Photovoltaic Cells, Modules and Systems (A Final Review)

Demant_2DO.16.6

M. Demant, S. Rein, J. Haunschild, T. Strauch, J. Broisch, H. Höffler, S. Wasmer, K. Sunder, O. Anspach, T. Brox

Inline Quality Rating of Multi-Crystalline Wafers Based on Photoluminescence Images

Dürr_5CV.2.24

I. Dürr, J. Walter, A. Kraft, K.-A. Weiß, U. Eitner, M. Volk, Ch. Ebert

Mechanical and Chemical Characterization of Solder Joints after Accelerated Ageing Tests

Dürr_5DO.10.2

J. Bierbaum, I. Dürr, S. Hoffmann, D. Philipp, K.-A. Weiß

Silver-Grid Corrosion: Identification of Critical Environmental Stresses, Corrosion Products and Influences of the Back Sheet

Glunz_2BP.1.1

S.W. Glunz, F. Feldmann, A. Richter, M. Bivour, C. Reichel, H. Steinkemper, J. Benick, M. Hermle

The Irresistible Charm of a Simple Current Flow Pattern – Approaching 25% with a Solar Cell Featuring a Full-Area Back Contact

Graf_2CO.2.6

M. Graf, D. Eberlein, H. Nagel, J. Nekarda, R. Böhme, A. Streek, R. Preu

Foil Metallization Process for PERC Solar Cells towards Industrial Feasibility

Jäger_2CO.3.1

U. Jäger, B. Steinhauser, J. Benick, E. Chong, J. Lam, R. Steeman, H. Rostan, J. Nekarda, M. Hermle

Industrial n-Type PERL Cells with Screen Printed Front Side Electrodes Approaching 21% Efficiency

Janz_2BO.1.5

S. Janz, N. Milenkovic, M. Drießen, S. Reber

n-Type and p-Type Silicon Foils Fabricated in a Quasi-Inline Epi Reactor with Bulk Lifetimes Exceeding 500 μ s

Klimm_5CV.2.22

E. Klimm, T. Kaltenbach, D. Philipp, M. Masche, K.-A. Weiß, M. Köhl

Soiling and Abrasion Testing of Surfaces for Solar Energy Systems Adapted to Extreme Climatic Conditions

Klimm_5CV.2.6

E. Klimm, F. Vogt, A. Piekarczyk, A. Ballion, K.-A. Weiß, M. Köhl

FEM-Simulation of Water Vapor Ingress into Glass-Glass-Modules with Polymeric Edge Sealant and a New Experimental Set Up for Permeation Tests for Sealing Material

Köhl_5DO.10.1

M. Köhl, A. Ballion, Y.-H. Lee, H.-S. Wu, K. Scott, S. Glick, P. Hacke, H. J. Koo

Round Robin Testing of Various Back-Sheets for PV-Modules with Different Ultra-Violet Radiation Sources and Sample Temperatures

Lindekugel_2CO.4.5

S. Lindekugel, T. Rachow, N. Milenkovic, A. Richter, B. Steinhauser, J. Benick, S. Janz, S. Reber

Emitters Grown by Rapid Vapour-Phase Direct Doping for High Efficiency Solar Cells

Lorenz_2AV.3.10

A. Lorenz, A. Kraft, C. Gredy, A. Filipovic, S. Binder, K. Krüger, J. Bartsch, F. Clement, D. Biro, R. Preu, H. Reinecke

Comprehensive Comparison of Different Fine Line Printing Technologies Addressing the Seed and Plate Approach with Ni-Cu-Plating

Meiners_3DV.2.2

B.-M. Meiners, S. Holinski, P. Schäfer, S. Hohage, D. Borchert

Sputter Damage to Amorphous Silicon Layers for Heterojunction Solar Cells

Mittag_1CO.11.4

M. Mittag, I. Haedrich, T. Neff, S. Hoffmann, U. Eitner, H. Wirth

"TPedge": Qualification of a Gas-Filled, Encapsulation-Free Glass-Glass Photovoltaic Module

Mundus_2DO.4.6

M. Mundus, M. Kumar Dasa, X. Wang, J. Hohl-Ebinger, W. Warta

Spectrally Shaped Supercontinuum for Advanced Solar Cell Characterization

Nagel_5CO.16.4

H. Nagel, M. Glatthaar, S.W. Glunz

Quantitative Assessment of the Local Leakage Current in PV Modules for Degradation Prediction

Philipp_5CO.13.1

J. Bierbaum, D. Philipp, S. Stecklum, I. Dürr, K.-A. Weiß

Investigation on Snail Track Formation, Degradation Mechanisms and Raman Spectroscopic Examination of the Corrosion Products

Pospischil_2CO.2.1

M. Pospischil, M. Klawitter, M. Kuchler, C. Rodriguez, A. Padilla, R. Efinger, F. Clement, D. Biro, H. Gentischer, M. König, M. Hörteis, L. Wende, A. Mette, R. Preu

Progress on Industrial Solar Cell Front Side Metallization by Parallel Dispensing Technology

Reise_5CO.14.6

C. Reise, D. Dirnberger

Realistic Yield Expectations for Bifacial PV Systems – an Assessment of Announced, Predicted and Observed Benefits

Rendler_1CO.11.2

L.C. Rendler, J. Walter, T. Geipel, M. Volk, C. Ebert, U. Eitner

Modelling and Verification of Mechanical Stress Induced by Soldering of Wires for Multi Busbar Interconnection

Riepe_2 BO.2.1

S. Riepe, P. Krenckel, J. Benick & F. Schindler

Development of Multicrystalline Silicon for 20 % Efficient n-Type Solar Cells

Rodriguez_2CV.4.27

C. Rodriguez, M. Pospischil, A. Padilla, M. Klawitter, M. Kuchler, R. Efinger, T. Fellmeth, M. Padilla, T. Geipel, F. Clement, D. Biro, A. Brand, M. Linse, H. Gentischer, M. König, M. Hörteis, L. Wende, O. Doll

Analysis and Performance of Dispensed and Screen Printed Front Side Contacts at Cell and Module Level

Stecklum_5CV.2.31

S. Stecklum, D. Philipp, C. Völker, C. Eckerle

In-Situ Monitoring of Solar PV Modules during Accelerated Aging Tests by Means of Measuring the Dark IV Curve

Wasmer_2DO.3.4

S. Wasmer, J. Greulich, H. Höffler, J. Haunschild, M. Demant, S. Rein

Investigating the Impact of Parameter and Process Variations on Multicrystalline Silicon PERC Cell Efficiency

Werner_2AV.2.5

S. Werner, E. Lohmüller, U. Belledin, A. H. G. Vlooswijk, R. C. G. Naber, S. Mack, A. Wolf

Optimization of BBr₃ Diffusion Processes for n-Type Silicon Solar Cells

Wöhrle_2DO.4.2

N. Wöhrle, E. Lohmüller, S. Werner, J. Greulich

Development, Characterization and Modelling of Doping Profile, Contact Resistance and Metal Spiking in Diffused and Screen-Printed Boron Emitters

Wolf_2CO.4.1

A. Wolf, A. Kimmerle, S. Werner, S. Maier, U. Belledin, S. Meier, D. Biro

Status and Perspective of Emitter Formation by POCl₃-Diffusion