

Publications

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Fraunhofer Institute for Solar Energy Systems ISE

Division Photovoltaics / Power Solutions / Heat and Buildings

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Parisa Aktepe, Raphael Efinger, Nihan Akin Sönmez, Roman Keding

Influence of Dimethyl Sulfoxide Additives on Inkjet-Printed Perovskites Silicon Tandem Solar Cells***Bläsi_3CO.12.4***

Benedikt Bläsi, Lasse Bienkowski, Janina Willmann, Martin Zimmer, Bernd-Uwe Sander, Erdmut Schnabel, Andreas A. Brand, Marc Hofmann, Thomas Kroyer, Jan Nekarda

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Leonhard Böck, Jonas D. De Rose, Tadeo Schweigstill, Jan Benick, Ralph Müller, Julian Weber, Torsten Rößler, Sebastian Birnkammer, Benjamin Grübel, Gerald Siefer, Holger Neuhaus, Frank Dimroth, Florian Clement, Norbert Willenbacher, Oliver Höhn

Module Efficiency of 31.3% with Monolithic III-V//Si Tandem Solar Cells Using Automated Shingling Interconnection

Submitted to Progress in Photovoltaics

Brailovsky_5CP.2.6

Peter Brailovsky, Dilara Subasi, Tobias Dannenberg, Lisbeth Rochlitz, Wolfgang Kramer, Thomas Fluri, Marie Fischer, Theresa Paul, Sina Herceg, Jascha Reich, Tobias Hogen, Sebastian Mack, Daniel Trogus, Baljeet Singh Goraya, Nico Wöhrle, Martin Weber, Sebastian Nold, Sven Kluska

Time-Resolved Circular Energy Flows in TOPCon Solar Cell Production***Brailovsky_5DV.2.17***

Jascha Reich, Kaya Schlößler, Peter Brailovsky, Tobias Dannenberg, Martin Zimmer, Sebastian Nold, Sven-Uwe Geißen

Demonstration of High Purity and Scaling-Free Reclamation of TOPCon Solar Cell Production Rinse Water***Carlos Rendler_3DO.12.1***

Li Carlos Rendler, Leonhard Böck, Torsten Rößler, Alexander Aguilar-Protti, Christian Reichel, Martin Heinrich, Dirk-Holger Neuhaus

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Jonas Eckert, René Haberstroh, Christian Schmiga, Dirk Eberlein, Benjamin Grübel, Damian Brunner, Mathias Kamp, Shiva Ram Kuntamukkula, Thomas Weber, Sven Kluska

Achieving Module Ready Silver-Lean TOPCon Cells with Copper Electroplating

Submitted to PiP

Er-raji_2DO.6.4

Oussama Er-raji, Sandhya Padmaraj, Bhushan P. Kore, Martin Bivour, P.S.C. Schulze, Stefan W. Glunz, Juliane Borchert

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Paul Gebhardt, Suraj Ravindrababu, Daniel Philipp

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Paul Gebhardt, Angelika M. Beinert, Esther Fokuhl, Florian Schindler, Ingrid Haedrich

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Greulich_2AO.2.6

Johannes M. Greulich, Andreas Fell, Oliver Fischer, Cyril Leon, Joel Wytttenbach, Martin C. Schubert, S. Rein
Contactless Determination of the Series Resistance of Tandem Solar Cells - Possibilities and Limitations
Submitted to Solar RRL

Grübel_3CO.12.2

Benjamin Grübel, Derya Güldali, Leonhard Böck, Dirk Eberlein, Stephan Hoffmann, Achim Kraft
Impact of Ag-Diffusion into Sn-Based Solder Alloys during Interconnection on the Reliability of TOPCon Solar Cells and Modules

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Wolfram Kwapil, Parth Sachin Sawant, Benjamin Hammann, Sebastian Mack, Jana-Isabelle Polzin, Florian Schindler, Martin C. Schubert
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Baseline for Edge Passivated TOPCon Shingle Solar Cells and (Matrix) Shingle Solar Modules
Submitted to EPJ Photovoltaics

Mahmoud_2DO.7.

Mohamed A. A. Mahmoud, Tobias Schulz, Juan S. O. Vivas, Oliver Fischer, Adi Prasetyo, Salma Al Khuwaitem, Oussama Er-Raji, Bhushan P. Kore, Stephan Riepe, Ulrike Hatt, Martin Bivour, Martin Hermle, Andreas W. Bett, Stefaan De Wolf, Stefan W. Glunz, Paul Pistor, Juliane Borchert
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Christoph Messmer, Oussama Er-Raji, Oliver Fischer, Andreas Fell, Patricia S.C. Schulze, Martin Bivour, Martin Hermle, Jonas Schoen, Martin C. Schubert, Stefan W. Glunz
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Submitted to Solar RRL

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Oumaima Mhirsirsi, Noah Wengenmeyr, Jonas Bartsch
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Oumaima Mhirsirsi, Noah Wengenmeyr, Jonas Bartsch
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Max Mittag, Pamela Molina, Peter Brailovsky, Sebastian Nold, Holger Neuhaus
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Max Mittag, Alexander Protti, Christian Reichel, Holger Neuhaus

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Max Mittag, Christian Reichel, Holger Neuhaus

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Aksel Kaan Öz, Angelika Beinert, Laura Stevens, Meric Caliskan Arslan, Cansel Düz, Christine Wellens, Martin Heinrich

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Jana-Isabelle Polzin, Silvère Dufour-Robbe, Ivonne Vera Pauta, Jeffrey Dobkowski, Philipp Ehnes, Mathias Bories, Thomas Pernau, Amandine Guissart, Thomas Schütte, Jan-Peter Urbach, Marc Hofmann

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Pascal Romer, Andreas J. Beinert, Jochen Markert, Dennys Koch

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Thomas Schleyerbach, Christoph Messmer, Alexander J. Bett, Johanna Modes, Jonas Schön, Benedikt Bläsi, Martin C. Schubert

Metastability through Ion Migration – Impact of Scan Speed and Temperature on Current-Voltage Curve Measurements

Submitted to Solar RRL

Stevens_2CP.1.4

Laura Stevens, Leonhard Böck, Li Carlos Rendler, Tim Kubera, Kristof Möller, Samuel Brückmann, Hubert Hauser, Janine Brommert, Oliver Gochermann, Marc André Schöler, Sebastian Birnkammer, Najwa Abdel Lati, Oliver Höhn, Gerald Siefer, Alexandra Schmid, Michael Schachtner, Elvira Fehrenbacher, Christian Reichel, Martin Heinrich

Designing and Manufacturing of a 34.21% World-Record Efficiency Non-Concentrating Terrestrial PV Module with Optimized Optics and Shingle Interconnection of III-V Solar Cells

Submitted to Solar RRL

Wörnhör_1CO.1.3

Alexandra Wörnhör, Wilkin Wöhler, Andreas Fell, Ralf Preu, Stefan Rein, Matthias Demant

Physics-informed machine learning for solar cell diagnosis and loss analysis from inline data

Submitted to PiP

Zimmer_2BO.10.4

Melanie Frettlöh, Prabhithkumar Parapuath Subhashkumar, Martin Zimmer

From Lab Scale to Large Wafers: Scaling Spray Coating with DoveTail and OpenFOAM to Optimize Uniformity and Throughput