

CONFERENCE PROGRAMME

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(i) = invited

MONDAY, 21 September 2009

VISUAL PRESENTATIONS 3AV.1**Thin Film Crystalline Silicon Solar Cells and Wafer Equivalents**

- 3AV.1.1** P. Dogan, T. Sontheimer, C. Becker, S. Gall & B. Rech
Helmholtz Centre Berlin for Materials and Energy, Germany
U. Schubert, T. Young, M. Keevers & R.J. Egan
CSG Solar, Botany, Australia
J. Schneider
CSG Solar, Bitterfeld-Wolfen, Germany
5.7% Solid Phase Crystallized Poly-Si Thin Film Mini-Modules on Glass: Combining PECVD Grown Emitter with Absorber Layer Grown by High-Rate Electron-Beam Evaporation
- 3AV.1.2** M. Werner & C. Hagendorf
Fraunhofer CSP, Halle, Germany
U. Schubert
CSG Solar, Botany, Australia
J. Schneider
CSG Solar, Bitterfeld-Wolfen, Germany
Thin Film Morphology, Growth and Defect Structure of e-Beam Deposited Silicon on Glass
- 3AV.1.3** Y. Tao, S. Varlamov, C.-Y. Tsao & Z. Ouyang
University of NSW, Sydney, Australia
Comparative Solid-Phase Crystallisation of Si Thin-Films on Glass Deposited by Electron-Beam Evaporation and Plasma-Enhanced CVD
- 3AV.1.4** J.M. Westra & M. Zeman
Delft University of Technology, The Netherlands
V. Vavrunikova & P. Sutta
West Bohemia University, Plzen, Czech Republic
T. Sontheimer & S. Gall
Helmholtz Centre Berlin for Materials and Energy, Germany
Crystallization Process of Amorphous Silicon Films on Glass Monitored by In-Situ XRD
- 3AV.1.5** K. Sharma, A. Illiberi, A. Branca, M. Creatore & M.C.M. van de Sanden
Eindhoven University of Technology, The Netherlands
On the Relation between the Amorphous Silicon Microstructure and the Grain Size of Solid Phase Crystallized Polycrystalline Films

- 3AV.1.6** G. Sarau
IPHT, Jena, Germany
M. Becker & S. Christiansen
Max-Planck-Institut, Halle, Germany
J. Schneider
CSG Solar, Bitterfeld-Wolfen, Germany
J. Michler
EMPA, Thun, Switzerland
Intrinsic and Extrinsic Residual Stresses in Polycrystalline Silicon Thin Film Solar Cells on Glass
- 3AV.1.7** H. Straube, O. Breitenstein & J.-M. Wagner
Max-Planck-Institut, Halle, Germany
Lock-in Thermography on Crystalline Silicon on Glass (CSG) Thin Film Modules: Influence of Peltier Contributions
- 3AV.1.8** A. Panckow
CSG Solar, Bitterfeld-Wolfen, Germany
U. Meissner
MKS Instruments, Dresden, Germany
Chamber Clean and Process Optimization by Using an RGA Based Process Monitor on a Silicon Deposition PECVD Equipment
- 3AV.1.9** D. Amkreutz & J. Müller
Hamburg University of Technology, Germany
E. Conrad, B. Gorka, J. Haschke & M. Schmidt
Helmholtz Centre Berlin for Materials and Energy, Germany
Optical and Electrical Properties of Electron Beam Crystallised Thin Film Silicon Solar Cells on Glass Substrates
- 3AV.1.10** K. Ohdaira, H. Takemoto, K. Shiba, T. Nishikawa, K. Koyama & H. Matsumura
JAIST, Ishikawa, Japan
Superior Potential of Flash-Lamp-Crystallized Poly-Si Films for Application to Thin-Film Poly-Si Solar Cells
- 3AV.1.11** R.H. Buitrago, J.A. Schmidt, N. Budini, P. Rinaldi & R. Arce
INTEC, Santa Fe, Argentina
Solid Phase Silicon Epitaxy on Large Grained Polycrystalline Seed Layers
- 3AV.1.12** T. Quinn, H.S. Reehal & G. Ekanayake
London South Bank University, United Kingdom
G. Hirst
Rutherford Appleton Laboratory, Didcot, United Kingdom
Hybrid Excimer Laser and Aluminium Induced Crystallisation of Silicon Thin Films
- 3AV.1.13** G. Andrá, A. Gawlik, J. Plentz, E. Ose & F. Falk
IPHT, Jena, Germany
Laser Crystallized Silicon Layers for Multicrystalline Thin-Film Solar Cells
- 3AV.1.14** K. von Maydell
EWE Research Center - Next Energy, Oldenburg, Germany
K. Lips & N.H. Nickel
Helmholtz Centre Berlin for Materials and Energy, Germany
Electronic Density of States of Polycrystalline Silicon

- 3AV.1.15** L.S. Chao
National Cheng Kung University, Tainan, Taiwan
Y.R. Chen & C.M. Yeh
Industrial Technology Research Institute, Hsinchu, Taiwan
Simulation and Experiment Analysis in Excimer-Laser Crystallization of a-Si Film
- 3AV.1.16** G. Ambrosone & U. Coscia
University of Naples "Federico II", Italy
D.K. Basa
Utkal University, Bhubaneswar, India
P. Rava
Elettrovava, Venaria, Italy
Study on the Crystallization Process of Silicon Rich a-Si_{1-x}C_x:H Films
- 3AV.1.17** I.T. Martin, C.W. Teplin, K. Alberi, D.L. Young, K.M. Jones, M.R. Romero, H.M. Branz & P. Stradins
NREL, Golden, USA
Silicon Epitaxy by Hot-Wire Chemical Vapor Deposition at Glass Compatible Temperatures: Growth Model and Process Control
- 3AV.1.18** T. Mori, A. Goto, H. Kakiuchi, K. Yasutake & H. Ohmi
University of Osaka, Japan
Photo-Electrical Property of the Poly-Si Film Prepared by Atmospheric-Pressure Plasma Enhanced Chemical Transport
- 3AV.1.19** H. Ohmi, D. Kamada, H. Kakiuchi & K. Yasutake
University of Osaka, Japan
Elimination Property of Metal-Impurities from MG-Si by Atmospheric-Pressure Plasma Enhanced Chemical Transport
- 3AV.1.20** P. Pathi & A. Slaoui
InESS-CNRS/UdS, Strasbourg, France
N. Baclet & C. Ducros
LITEN/DTNM/LTS, Grenoble, France
P. L. Reydet
IMPHY Alloys, Nièvre, France
Investigations of Efficient Barrier Layer on Metal Foils for Flexible Thin Film Solar Cells
- 3AV.1.21** D. Madi, A. Focsa, S. Roques & A. Slaoui
InESS-CNRS/UdS, Strasbourg, France
B. Birouk
University of Jijel, Algeria
MW-ECR Plasma Hydrogenation of Fine-Grained Polycrystalline Silicon Solar Cells
- 3AV.1.22** H.G. Svavarsson
University of Reykjavik, Iceland
D. M. Danielsson & J.T. Gudmundsson
University of Iceland, Reykjavik, Iceland
The Effect of Hydrogenation on Minority Carrier Lifetime in Silicon Thin Films Grown on Low Grade Silicon Substrate

- 3AV.1.23** Ö. Tüzün, S. Chatterjee & A. Slaoui
InESS-CNRS/UdS, Strasbourg, France
Y. Qiu, S. Venkatachalam, I. Gordon, G. Beaucarne & J. Poortmans
IMEC, Leuven, Belgium
C. Maurice
Ecole des Mines de Saint Etienne, France
Crystallographic Analysis and Solar Cells of Polysilicon Films Formed by Aluminium Induced Crystallization
- 3AV.1.24** I. Gordon, Y. Qiu, D. Van Gestel, S. Venkatachalam, G. Beaucarne & J. Poortmans
IMEC, Leuven, Belgium
Thin-Film Polycrystalline-Silicon Solar Cells Based on Aluminium-Induced Crystallization and Thermal CVD
- 3AV.1.25** T. Kunz, I. Burkert, N. Gawehns & R. Auer
ZAE Bayern, Erlangen, Germany
Optical Properties of Crystalline Silicon Thin-Film Solar Cells on Ceramic Substrates
- 3AV.1.26** J. Hampel, E. Schmich, F. Boldt & S. Reber
Fraunhofer ISE, Freiburg, Germany
N. Wiehl & J.V. Kratz
Johannes Gutenberg University, Mainz, Germany
Gettering of Metallurgical Grade Silicon by HCl Gas
- 3AV.1.27** S. Reber, M. Arnold, D. Pocza & N. Schillinger
Fraunhofer ISE, Freiburg, Germany
ConCVD and ProConCVD: Development of High-Throughput CVD Tools on the Way To Low-Cost Silicon Epitaxy
- 3AV.1.28** N. Brinkmann, E.J. Mitchell & S. Reber
Fraunhofer ISE, Freiburg, Germany
Epitaxy-Through-Holes Process for Epitaxy Wrap-Through Solar Cells
- 3AV.1.29** E. Schmich
SCHOTT Solar, Alzenau, Germany
F. Kiefer, M. Hörteis, M. Alemán, S.W. Glunz & S. Reber
Fraunhofer ISE, Freiburg, Germany
Emitter Epitaxy for Crystalline Silicon Thin Film Solar Cells with New Contact Methods
- 3AV.1.30** S. Lindekugel, M. Künle, E.J. Mitchell, S. Janz & S. Reber
Fraunhofer ISE, Freiburg, Germany
Enhanced Optical Confinement and Improved Solar Cell Processing for Crystalline Silicon Thin Film Solar Cells
- 3AV.1.31** M. Drießen, E. Schmich & S. Reber
Fraunhofer ISE, Freiburg, Germany
Optical Confinement for Thin-Film Solar Cells by Gaseous HCl Etching
- 3AV.1.32** I. Kuzma Filipek, K. Van Nieuwenhuysen, M. Récaman-Payo, J. Van Hoeymissen, G. Beaucarne, J. Poortmans & R. Mertens
IMEC, Leuven, Belgium
Rear Junction Epitaxial Thin Film Solar Cells with Diffused Front Surface Field and Porous Silicon Back Reflectors

- 3AV.1.33** M.Y. Ghannam
University of Kuwait, Safat, Kuwait
M.M. Hassan
Cairo, Egypt
J. Poortmans
IMEC, Leuven, Belgium
Impact of Vacancy Diffusion on Horizontal Pore Channeling in Porous Silicon with Macropores during Annealing at a Constant High Temperature
- 3AV.1.34** O. Tobail, M. Reuter & J.H. Werner
University of Stuttgart, Germany
Origin of the Open Circuit Voltage Limit for Transfer Solar Cells
- 3AV.1.35** B. Grancic, J.M. Westra & M. Zeman
Delft University of Technology, The Netherlands
Efficiency Limits of Thin-Film c-Si Solar Cells on Glass
- 3AV.1.36** Y. Park, A. Kaminski, A. Fave & M. Lemiti
INSA, Villeurbanne, France
A. Slaoui
InESS-CNRS/UdS, Strasbourg, France
Interdigitated Thin Film Si Solar Cell on Glass
- 3AV.1.37** J. Gjessing & E.S. Marstein
Institute for Energy Technology, Kjeller, Norway
A. Sudbo
University of Oslo, Kjeller, Norway
Modelling of Light Trapping in Thin Silicon Solar Cells With Back-Side Dielectric Diffraction Grating
- 3AV.1.38** Z. Ouyang, O. Kunz, P. Campbell, S. Varlamov, S. Pillai & M.A. Green
University of NSW, Sydney, Australia
F. Beck & K.R. Catchpole
The Australian National University, Canberra, Australia
Enhanced Photocurrent in Evaporated Solid-Phase-Crystallised Poly-Si Thin-Film Solar Cells Using Rear Surface Plasmons
- 3AV.1.39** C. Secouard, S. Parola, C. Ducros & N. Baclet
CEA, Grenoble, France
Silicon Thin Films Deposited by High Rate Electron Beam Evaporation: Comparison between Classical and Nanoaggregate Assisted Solid Phase Crystallization
- 3AV.1.41** J. Sarnecki, G. Gawlik, M. Teodorczyk, R. Kozlowski, D. Lipinski & A. Brzozowski
Institute of Electronic Materials Technology, Warsaw, Poland
O. Jeremiasz
ABRAXAS, Wodzislaw, Poland
Edge-Illuminated Epitaxial Silicon Solar Cells
- 3AV.1.42** M. Grau, D. Bangis & A. Straboni
S'TILE, Poitiers, France
S. Lindekugel, S. Janz & S. Reber
Fraunhofer ISE, Freiburg, Germany
High Voc CSiTF Solar Cells through Recrystallised Wafer Equivalent Applied to Sintered Silicon

VISUAL PRESENTATIONS 3AV.2**Amorphous and Microcrystalline Silicon Solar Cells**

- 3AV.2.1** M. Volkmar
Hüttinger Elektronik, Freiburg, Germany
Improving a-Si/ μ -Si Thin Film Solar Cell Coatings by New Power Supplies
- 3AV.2.2** I. Van de Putte, N. Carvalho & W. De Bosscher
Bekaert Advanced Coatings, Deinze, Belgium
The Rotating Cylindrical Magnetron Concept in the Photovoltaic Solar Cell Market
- 3AV.2.3** C.M. Yeh, Y.C. Yeh, Y.R. Chen & C.N. Li
Industrial Technology Research Institute, Hsinchu, Taiwan
Laser-Shaped Transparent Conductive Oxide Layers for Thin-Film Solar Cell
- 3AV.2.4** X.D. Zhang, H. Zhang, C.C. Wei, J. Sun, G.F. Hou, S.Z. Xiong, X.H. Geng & Y. Zhao
University of Nankai, Tianjin, China
Analysis of Heating Effect on the Deposition of High Rate Microcrystalline Silicon
- 3AV.2.5** A. Bielawny, J. Üpping, P. Miclea & P. Wehrspohn
Martin Luther University, Halle, Germany
C. Rockstuhl & F. Lederer
Friedrich Schiller University, Jena, Germany
M. Peters
University of Freiburg, Germany
L. Steidl & R. Zentel
Johannes Gutenberg University, Mainz, Germany
S. Lee & M. Knez
Max-Planck-Institut, Halle, Germany
A. Lambertz & R. Carius
Forschungszentrum Jülich, Germany
3D Photonic Crystal Intermediate Reflector for Micromorph Thin-Film Tandem Solar Cell
- 3AV.2.6** C.N. Li, N.C. Hsu, C.F. Huang & C.M. Yeh
Industrial Technology Research Institute, Hsinchu, Taiwan
Optimization of Micromorph Tandem Cells with Microcrystalline Silicon-Oxide Based Intermediate Layer
- 3AV.2.7** Y. Zhao, X.D. Zhang, H.Z. Ren, C.C. Wei, H. Ge, S.Z. Xu, X.H. Geng & S.Z. Xiong
University of Nankai, Tianjin, China
Development of Microcrystalline Silicon Thin Film Solar Cells by VHF Technique on 0.7m² Size Glass Substrates
- 3AV.2.8** X. Han, G. Hou, X. Zhang, G. Li, C. Wei, Z. Dai, X. Chen, J. Zhang, Y. Zhao & X. Geng
University of Nankai, Tianjin, China
Two Effective Approaches for Improvement of High Rate Growth μ -Si:H Solar Cell Performance

- 3AV.2.9** P. Lippens
Umicore Thin Film Products, Olen, Belgium
C. Murez
Umicore Thin Film Products, Balzers, Liechtenstein
Rotary Ceramic Targets for TCO Sputter Deposition in TF-PV Manufacturing: a Cost Effective and Qualitative Solution
- 3AV.2.11** T. Chen, A. Lambertz, R. Carius & F. Finger
Forschungszentrum Jülich, Germany
Y. Huang
Baoding Tianwei Solarfilms, China
D. Yang
Zhejiang University, Hangzhou, China
The Anti-Reflection Effect of Microcrystalline Silicon Carbide Window Layers in High Efficiency Silicon Thin Film Solar Cells
- 3AV.2.12** M. Junghähnel, B. Heimke, U. Hartung & T. Kopte
Fraunhofer FEP, Dresden, Germany
Large Area Sputtering of Niobium Doped Titania (TNO) Used as Transparent Electrode for Solar Cells
- 3AV.2.14** B. Heimke, R. Nyderle, M. Junghähnel, U. Hartung & T. Kopte
Fraunhofer FEP, Dresden, Germany
U. Krause
Advanced Energy Industries, Dresden, Germany
J. Braun
Advanced Energy Industries, Filderstadt, Germany
RF Superimposed Pulsed DC Sputtering of Transparent Conductive Oxides (TCO) for Solar Cell Applications
- 3AV.2.15** B. Seigeot & M. Puech
Alcatel Vacuum Technology France, Annecy, France
Safe Pumping Solutions of Dusty Plasma for Thin Film Photovoltaic Applications
- 3AV.2.17** M. Sistem, D. Tavianini & R.G. Ridgeway
Air Products & Chemicals, Allentown, USA
The Choice of Cleaning Gas for PECVD Chambers: Improving Cost of Ownership and Minimising Environmental Impact
- 3AV.2.19** C. Strobel, T. Zimmermann, M. Albert & J. Bartha
Dresden University of Technology, Germany
J. Kuske
FAP, Dresden, Germany
Amorphous and Microcrystalline Silicon p-i-n Solar Cells on Flexible Polymer Substrates Deposited by an Inline VHF-PECVD Deposition System
- 3AV.2.20** Y.Y. Pan
Industrial Technology Research Institute, Hsinchu, Taiwan
T.C. Peter Wei
Chung Yuan Christian University, Chung Li, Taiwan
Optical Emission Spectroscopic Study of Microcrystalline Silicon Thin Films Deposited by 80MHz PECVD Equipment

- 3AV.2.22** T. Merdzhanova, J. Woerdenweber, R. Schmitz, A. Mück, U. Zastrow, L. Nießen, A. Gordijn & U. Rau
Forschungszentrum Jülich, Germany
W. Beyer & H. Stiebig
Malibu, Bielefeld, Germany
Hydrogenated Amorphous Silicon Thin-Film Solar Cells Deposited at High Base Pressure and their Light-Soaking Stability
- 3AV.2.23** H.J. Yang, C.F. Huang & J.F. Wen
Industrial Technology Research Institute, Hsinchu, Taiwan
A Novel TCO Design for Microcrystalline/Tandem Silicon Thin Film Solar Cell
- 3AV.2.24** H.J. Yang, C.F. Huang & Y.C Wang
Industrial Technology Research Institute, Hsinchu, Taiwan
Optimization the Electrical and Optical Properties of DC-Pulse Magnetron Sputtered AZOY Films
- 3AV.2.25** K. Häfner, H. Morgner, J.P. Heinß & C. Metzner
Fraunhofer FEP, Dresden, Germany
High Rate Electron Beam Evaporation of Amorphous Silicon
- 3AV.2.26** J.S. Cho, Y.J. Kim, J.C. Lee, S.H. Park, J.S. Song & K. H. Yoon
Korea Institute of Energy Research, Daejeon, Republic of Korea
Material Properties of rf Sputtered ZnO:Al Thin Films as a Front Electrode of Amorphous Silicon Thin Film Solar Cells
- 3AV.2.27** K. Luczak
University of Murdoch, Australia
W. Grzesiak
Institute of Electron Technology, Krakow, Poland
Annealing of Triple Junction Amorphous Silicon Solar Modules at the Working Site
- 3AV.2.28** H.J. Yang, C.L. Wu & N.C. Hsu
Industrial Technology Research Institute, Hsinchu, Taiwan
The Effect of AZOY and GZO on Silicon Thin Film Solar Cell
- 3AV.2.29** G. Yilmaz, E. Turan & M. Günes
University of Mugla, Turkey
V. Smirnov & F. Finger
Forschungszentrum Jülich, Germany
R. Brüggemann
Carl von Ossietzky University, Oldenburg, Germany
Instability Effects in Dark and Photoconductivity of Undoped Hydrogenated Microcrystalline Silicon Thin Films for Large Area Solar Cells
- 3AV.2.30** E. Turan, G. Yilmaz & M. Günes
University of Mugla, Turkey
F. Finger
Forschungszentrum Jülich, Germany
Staebler-Wronski Effect in Undoped Hydrogenated Amorphous Silicon-Germanium Alloy Thin Films Investigated by Temperature Dependent Photoconductivity

- 3AV.2.31** A.J.M. Van Erven & H. Borg
OM&T B.V., Eindhoven, The Netherlands
R. Arya
Moser Baer Photo Voltaic, Greater Noida, India
Periodic Texturing of Thin Film Silicon Solar Cell Superstrates
- 3AV.2.32** M. Bliss, C.J. Hibberd, Y. Qiu, T. R. Betts & R. Gottschalg
University of Loughborough, United Kingdom
Automated Characterisation of Multi-Junction Thin Film Silicon Solar Cells
- 3AV.2.34** A. Zindel, M. Poppeller & M. Stecher
OC Oerlikon Solar, Trübbach, Switzerland
Efficiency and Cost Reduction Potential of Oerlikon Solar LPCVD ZnO TCO in Thin Film Si Module Technology
- 3AV.2.35** M. Zeman, O. Isabella, B. Vet, B. Grancic & S. Solntsev
Delft University of Technology, The Netherlands
Optical and Electrical Simulations of Advanced Silicon Based Solar Cell Devices
- 3AV.2.36** P.A. Losio, O. Caglar, H. Knauss, J. Sutterlueti & O. Kluth
OC Oerlikon Solar, Trübbach, Switzerland
Mapping Quantum Efficiency Measurements: a Tool for Large Area Module Optimization
- 3AV.2.37** K. Tao, D. Zhang, Y. Sun, L. Wang, J. Zhao, Y. Xue, Y. Jiang, H.K. Cai, Y. Sui & J. Wang
University of Nankai, Tianjin, China
Enhanced Light Trapping in a-Si:H Thin Film Solar Cells Deposited on Polyimide Substrate
- 3AV.2.38** C. Rockstuhl, S. Fahr & F. Lederer
Friedrich-Schiller University of Jena, Germany
Optimized Surface Profiles for Thin Film aSi:H Solar Cells
- 3AV.2.39** J. Glatz-Reichenbach & K. Peter
ISC Konstanz, Germany
J. Kopecki, A. Schulz & M. Walker
University of Stuttgart, Germany
S. Laure
Dr. Laure Plasma Technology, Stuttgart, Germany
Application of High Efficiency Plasma Technology for Large Area and Thin Film a-Si / μ c-Si Solar Cells
- 3AV.2.40** S. Nicolay, S. Fay & C. Ballif
EPFL, Neuchâtel, Switzerland
Growth Model of LPCVD ZnO for Solar Cell Applications
- 3AV.2.41** S. Sorge & C. Gatzlaff
Signet Solar, Mochau, Germany
Monitoring Equipment for Uniformity Measurement of Inline Flasher for 2.2 by 2.6m² TF-Module Production
- 3AV.2.42** J. Löffler, L.A. Wipliez, M.A. de Keijzer, J. Bosman & W. J. Soppe
ECN, Petten, The Netherlands
Depth-Selective Laser Ablation for Monolithic Series Interconnection of Flexible Thin-Film Silicon Solar Cells

- 3AV.2.43** Y. Lee, Y. Kim, K. Yoon, H. Choi, S. Lee & J. Yi
University of Sungkyunkwan, Suwon, Republic of Korea
Instability Mechanisms for Undoped Hydrogenated Amorphous Silicon Layer with Different SiH₄:H₂ Gas Ratio
- 3AV.2.44** H. Natsuhara, S. Ando, N. Yoshida & S. Nonomura
Gifu University, Japan
T. Kojima
Daido Steel, Nagoya, Japan
Preparation of SnO₂ Thin Films at Low Temperatures by Hot-Wire CVD Method
- 3AV.2.45** A.J. Flikweert, D. Weigand, T. Kilper, W. Appenzeller, W. Beyer & A. Gordijn
Forschungszentrum Jülich, Germany
T. Zimmermann, C. Strobel & M. Albert
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J. Palme, K. Schade, J. Hartung & K. Dybek
Von Ardenne Anlagentechnik, Dresden, Germany
O. Steinke & F. Stahr
FAP Dresden, Germany
Inline Deposition System for Thin-Film Silicon Solar Cells
- 3AV.2.46** J. Navarro, M. Murillo, M. Ezquer, J. Bengoechea, A. Turumbay, M.J. Rodriguez & A. Lagunas
CENER, Navarra, Spain
Characterization of ZnO:Al Films Deposited by RF and DC Magnetron Sputtering. A Comparative Study
- 3AV.2.47** O. Kluth, L. Schmid, H. Goldbach, M. Keller, M. Gossila, W. Burkhardt, J. Cashmore, S. Bakehe, B. Mereu, T. Mates, T. Roschek & J. Henz
OC Oerlikon Solar, Trübbach, Switzerland
S. Benagli, D. Borrello, U. Kroll & J. Meier
Oerlikon Solar-Lab, Neuchâtel, Switzerland
Up-Scaling of High Throughput a-Si Solar Cell Design on ZnO to 1.4m² Modules
- 3AV.2.48** W. Frammelsberger, P. Lechner, W. Psyk, R. Geyer, R. Lechner, S. Dandl, M. Berginski, J. Reuner, A. Haslauer & H. Maurus
SCHOTT Solar Thin Film, Putzbrunn, Germany
D. Lundszen
SCHOTT Solar Thin Film, Jena, Germany
U. Weber, V. Hagemann, O. Sohr & S. Bauer
SCHOTT, Mainz, Germany
Status of the Development of Micromorph Cells and Modules
- 3AV.2.49** S. Esposito, P. Delli Veneri, L. V. Mercaldo, I. Usatii & C. Privato
ENEA, Portici, Italy
A Novel Interlayer Design for Micromorph Tandem Silicon Solar Cells
- 3AV.2.50** M. Brinza, J.K. Rath & R.E.I. Schropp
University of Utrecht, The Netherlands
Thin Film Silicon n-i-p Solar Cells with High Open Circuit Voltage Deposited on Low-Cost Plastic Substrates
- 3AV.2.51** K. Astawa, T.R. Betts & R. Gottschalg
University of Loughborough, United Kingdom
Long Term Performance Variation of Amorphous Silicon Solar Cells due to Different Operating Temperatures

- 3AV.2.52** S. Petri, P. Szych, J.C. Cigal, W. Beyer & H. Stiebig
Malibu, Bielefeld, Germany
P. Stockman
Linde, Murray Hill, USA
R. Rosenberg
Linde, Phoenix, USA
C. Case
BOC, Guildford, United Kingdom
Application of Fluorine Source to Chamber Cleaning in the Thin Film Silicon Solar Cell Fabrication
- 3AV.2.53** T. Abendroth, H. Althues, I. Dani, S. Kaskel & E. Beyer
Fraunhofer IWS, Dresden, Germany
Atmospheric Pressure CVD for Transparent Conductive Oxide Materials
- 3AV.2.54** R. Dewan, D. Madzharov, A. Raykov, M. Marinkovic & D. Knipp
Jacobs University Bremen, Germany
Light Trapping in Thin-Film Silicon Solar Cells for Superstrate and Substrate Configurations
- 3AV.2.55** X. Paquez, N. Herlin-Boime, Y. Leconte, C. Reynaud & O. Sublemontier
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G. Brémond, B. Rézgui & A. Sibai
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P. Gentile
CEA, Grenoble, France
D. Maestre & O. Palais
Paul Cézanne University, Marseille, France
P. Thony
CEA-INES, Le Bourget du lac, France
Silicon Nanocrystals Composites for Photovoltaic Applications
- 3AV.2.56** B.B. van Aken, N.J. Bakker, M. Heijna & W. J. Soppe
ECN, Petten, The Netherlands
D. Reid & I. Baikie
KP Technology, Wick, United Kingdom
Surface (Photo)Voltage Monitoring in Roll-to-Roll Deposition of Thin Film Silicon Solar Cells
- 3AV.2.57** U. Weber & V. Scheumann
SCHOTT, Mainz, Germany
J. Reuner, W. Psyk & M. Berginski
SCHOTT Solar Thin Film, Putzbrunn, Germany
Interaction between Micromorph Solar Cells and the TCO Surface during Laser Patterning of Silicon Layer for Thin-Film PV Modules
- 3AV.2.58** H.H. Wu, C.H. Chen, C.M. Yeh & Y.C. Chen
Industrial Technology Research Institute, Hsinchu, Taiwan
Improvement of Performance in Thin Film Solar Cell by Using Junction Capacitance Methods
- 3AV.2.59** A.R. Ellingboe, S. Linnane & D. O'Farrell
Dublin City University, Ireland
Electron Energy Distribution Function in a Scalable, VHF/UHF, Capacitively Coupled Plasma for TFS-PV Silicon Deposition

- 3AV.2.60** M.H. Rein, J. Mayandi, B.R. Olaisen & A. Holt
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REC Solar, Sandvika, Norway
E. Monakhov
University of Oslo, Norway
Hydrogenated ITO Films and its Properties

VISUAL PRESENTATIONS 4AV.3

PV Modules

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