

Homepage Nano-SIPPE (Dr. Christiane Becker)

Publications 2004-2011

Peer-reviewed papers

2011

C. Becker, H. Häberlein, G. Schöpe, J. Hüpkes, B. Rech. Contact resistivity measurements of the buried Si-ZnO:Al interface of polycrystalline silicon thin-film solar cells on ZnO:Al. *Thin Solid Films* **520**, 1268 (2011). <http://dx.doi.org/10.1016/j.tsf.2011.04.197>

T. Sontheimer, E. Rudigier-Voigt, M. Bockmeyer, C. Klimm, P. Schubert-Bischoff, **C. Becker**, B. Rech. Large-area fabrication of equidistant free-standing Si Crystals on nanoimprinted glass. *physica status solidi RRL* **5**, 376 (2011). Cover story <http://dx.doi.org/10.1002/pssr.201105437>

T. Sontheimer, S. Scherf, C. Klimm, **C. Becker**, B. Rech. Characterization and control of crystal nucleation in amorphous electron beam evaporated silicon for thin film solar cells. *Journal of Applied Physics* **110**, 063530 (2011). <http://dx.doi.org/10.1063/1.3627373>

C. Becker, T. Sontheimer, S. Steffens, S. Scherf, B. Rech. Polycrystalline silicon thin films by high-rate electronbeam evaporation for photovoltaic applications – Influence of substrate texture and temperature. *Energy Procedia* **10**, 61 (2011). <http://dx.doi.org/10.1016/j.egypro.2011.10.153>

2010

S. Gall, **C. Becker**, K. Y. Lee, T. Sontheimer, B. Rech. Growth of polycrystalline silicon on glass for thin-film solar cells. *Journal of Crystal Growth* **312**, 1277 (2010). <http://dx.doi.org/10.1016/j.jcrysgro.2009.12.065>

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C. Becker, F. Ruske, T. Sontheimer, B. Gorka, U. Bloeck, S. Gall, B. Rech. Microstructure and photovoltaic performance of polycrystalline silicon thin films on temperature-stable ZnO:Al layers. *Journal of Applied Physics* **106**, 084506 (2009). <http://dx.doi.org/10.1063/1.3240343>

T. Sontheimer, **C. Becker**, U. Bloeck, S. Gall, B Rech. Crystallization kinetics in electron-beam evaporated amorphous silicon on ZnO:Al-coated glass for thin film solar cells. *Applied Physics Letters* **95**, 101902 (2009). <http://dx.doi.org/10.1063/1.3222917>

C. Becker, E. Conrad, P. Dogan, F. Fenske, B. Gorka, T. Hänel, K. Y. Lee, B. Rau, F. Ruske, T. Weber, M. Berginski, J. Hüpkes, S. Gall, B. Rech. Solid phase crystallization of amorphous silicon on ZnO:Al for thin film solar cells. *Solar Energy Materials and Solar Cells* **93**, 855 (2009).
<http://dx.doi.org/10.1016/j.solmat.2008.09.059>

S. Gall, **C. Becker**, E. Conrad, P. Dogan, F. Fenske, B. Gorka, K. Y. Lee, B. Rau, F. Ruske, B. Rech. Polycrystalline silicon thin-film solar cells on glass. *Solar Energy Materials and Solar Cells* **93**, 1004 (2009).
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B. Gorka, B. Rau, P. Dogan, **C. Becker**, F. Ruske, S. Gall, B. Rech. Influence of Hydrogen Plasma on the Defect Passivation of Polycrystalline Si Thin Film Solar Cells. *Plasma Processes and Polymers* **6**, S36 (2009). <http://dx.doi.org/10.1002/ppap.200930202>

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K. Y. Lee, **C. Becker**, M. Muske, F. Ruske, S. Gall, B. Rech, M. Berginski, J. Hüpkes. Temperature stability of ZnO:Al film properties for poly-Si thin-film devices. *Applied Physics Letters* **91**, 241911 (2007).
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C. Becker, S. Linden, G. von Freymann, M. Wegener, N. Tetreault, E. Vekris, V. Kitaev, G. A. Ozin. Two-color pump-probe experiments on silicon inverse opals. *Applied Physics Letters* **87**, 091111 (2005).
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S. Wildermuth, P. Krüger, **C. Becker**, M. Brajdic, S. Haupt, A. Kasper, R. Folman, J. Schmiedmayer.
Optimized magneto-optical trap for experiments with ultracold atoms near surfaces. *Physical Review. A*
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