

LITERATURE SURVEY

Photovoltaics literature survey (no. 91)

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To help keep readers up-to-date in the field, each issue of *Progress in Photovoltaics* will contain a list of recently published journal articles most relevant to its aims and scope. This list is drawn from an extremely wide range of journals, including *IEEE Transactions on Electron Devices*, *Journal of Applied Physics*, *Applied Physics Letters*, *Progress in Photovoltaics* and *Solar Energy Materials and Solar Cells*. To assist the reader, the list is separated into broad categories, but please note that these classifications are by no means strict. Also note that inclusion in the list is not an endorsement of a paper's quality. If you have any suggestions, please email Santosh Shrestha at s.shrestha@unsw.edu.au.

1. FUNDAMENTALS, NEW APPROACHES, AND REVIEWS

Green MA. Analytical expressions for spectral composition of band photoluminescence from silicon wafers and bricks. *Applied Physics Letters* 2011; 99(13): 131112.

Zhang XD, Zheng XX, Xu SZ, et al. Micromorph tandem solar cells: optimization of the microcrystalline silicon bottom cell in a single chamber system. *Chinese Physics B* 2011; 20(10): 108801.

Hallam BB, Wenham SS, Sugianto AA, et al. Record large-area p-type CZ production cell efficiency of 19.3% based on LDSE technology. *IEEE Journal of Photovoltaics* 2011; 1(1): 43–48.

Kiefer F, Ulzhofer C, Brendemuhl T, et al. High efficiency N-type emitter-wrap-through silicon solar cells. *IEEE Journal of Photovoltaics* 2011; 1(1): 49–53.

Zeng Z, Yang H, Zhao R. Study on small signal stability of microgrids: a review and a new approach. *Renewable and Sustainable Energy Reviews* 2011; 15(9): 4818–4828.

2. GENERAL CHARACTERISATION TECHNIQUES AND MODELLING

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Bertoni MI, Fenning DP, Rinio M, et al. Nanoprobe X-ray fluorescence characterization of defects in large-area solar cells. *Energy & Environmental Science* 2011; 4(10): 4252–4257.

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Kanevce A, Gessert TA. Optimizing CdTe solar cell performance: impact of variations in minority-carrier lifetime and carrier density profile. *IEEE Journal of Photovoltaics* 2011; 1(1): 99–103.

Wong J, Green MA. Perturbation theory for solar cell efficiency i-basic principles. *IEEE Transactions on Electron Devices* 2011; 58(11): 4011–4015.

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Li JV, Nardes AM, Liang ZQ, et al. Simultaneous measurement of carrier density and mobility of organic semiconductors using capacitance techniques. *Organic Electronics* 2011; 12(11): 1879–1885.

3. CRYSTALLINE SILICON—BULK CELLS AND TECHNOLOGY

Green MA. Ag requirements for silicon wafer-based solar cells. *Progress in Photovoltaics: Research and Applications* 2011; 19(8):911–916.

Pletzer TM, Stegemann EFR, Windgassen H, et al. Gettering in multicrystalline silicon wafers with screen-printed emitters. *Progress in Photovoltaics: Research and Applications* 2011; 19(8):946–953.

Kang MH, Ryu K, Upadhyaya A, et al. Optimization of SiN AR coating for Si solar cells and modules through quantitative assessment of optical and efficiency loss mechanism. *Progress in Photovoltaics: Research and Applications* 2011; 19(8):983–990.

Coletti G, Bronsveld PCP, Hahn G, et al. Impact of metal contamination in silicon solar cells. *Advanced Functional Materials* 2011; 21(5): 879–890.

Ben Jaballah A, Moumni B, Dhamrin M, et al. Large enhancement of the effective lifetime of n-type multicrystalline silicon by two step spin-on phosphorus diffusion and SiO₂ passivation. *Applied Physics Letters* 2011; 99(12): 122103.

Gatz S, Dullweber T, Brendel R. Evaluation of series resistance losses in screen-printed solar cells with local rear contacts. *IEEE Journal of Photovoltaics* 2011; 1(1): 37–42.

Jiun-Hong L, Upadhyaya A, Ramanathan S, et al. High-efficiency large-area rear passivated silicon solar cells with local Al-BSF and screen-printed contacts. *IEEE Journal of Photovoltaics* 2011; 1(1): 16–21.

Rauer M, Schmiga C, Woehl R, et al. Investigation of aluminum-alloyed local contacts for rear surface-passivated silicon solar cells. *IEEE Journal of Photovoltaics* 2011; 1(1): 22–28.

Rougieux FE, Forster M, Macdonald D, et al. Recombination activity and impact of the boron-oxygen-related defect in compensated N-Type silicon. *IEEE Journal of Photovoltaics* 2011; 1(1): 54–58.

Li ZG, Liang L, Ionkin AS, et al. Microstructural comparison of silicon solar cells' front-side Ag contact and the evolution of current conduction mechanisms. *Journal of Applied Physics* 2011; 110(7): 074304.

Gao F, Li ZG, Lewittes ME, et al. Light-induced plating of screen-printed multi-crystalline silicon solar cells. *Journal of the Electrochemical Society* 2011; 158(11): B1300–B1305.

4. THIN FILM, AMORPHOUS AND MICRO/NANO-CRYSTALLINE SILICON, HETEROJUNCTION CELLS

Ouyan Zg, Zhao X, Varlamov S, et al. Nanoparticle-enhanced light trapping in thin-film silicon solar cells. *Progress in Photovoltaics: Research and Applications* 2011; 19(8):917–926.

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Amkreutz D, Müller J, Schmidt M, *et al.* Electron-beam crystallized large grained silicon solar cell on glass substrate. *Progress in Photovoltaics: Research and Applications* 2011; **19**(8):937–945.

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Cruz-Campa JL, Nielson GN, Resnick PJ, *et al.* Ultrathin flexible crystalline silicon: microsystems-enabled photovoltaics. *IEEE Journal of Photovoltaics* 2011; **1**(1): 3–8.

Nam CY, Wu Q, Su D, *et al.* Nanostructured electrodes for organic bulk heterojunction solar cells: model study using carbon nanotube dispersed polythiophene-fullerene blend devices. *Journal of Applied Physics* 2011; **110**(6): 064307.

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Lili Y, Yimin X, Junjie T. Efficient optical absorption in thin-film solar cells. *Optics Express* 2011; **19**(19): 1165–1174.

Chu T-Y, Tsang S-W, Zhou J, *et al.* High-efficiency inverted solar cells based on a low bandgap polymer with excellent air stability. *Solar Energy Materials and Solar Cells* 2012; **96**(0): 155–159.

5. ORGANIC AND HYBRID CELLS

Jong Soo K, Ji Hwang L, Jong Hwan P, *et al.* High-efficiency organic solar cells based on preformed poly(3-hexylthiophene) nanowires. *Advanced Functional Materials* 2011; **21**(3): 480–486.

Altazin S, Clerc R, Gwoziecki R, *et al.* Analytical modeling of organic solar cells and photodiodes. *Applied Physics Letters* 2011; **99**(14): 143301.

Wu ZW, Song T, Jin YZ, *et al.* High performance solar cell based on ultra-thin poly(3-hexylthiophene): fullerene film without thermal and solvent annealing. *Applied Physics Letters* 2011; **99**(14): 143306.

Yang B, Cox J, Yuan YB, *et al.* Increased efficiency of low band gap polymer solar cells at elevated temperature and its origins. *Applied Physics Letters* 2011; **99**(13): 133302.

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Swathi SK, Ranjith K, Kumar P, *et al.* Novel thiophene derivative hybrid composite solar cells. *Solar Energy Materials and Solar Cells* 2012; **96**(0): 101–107.

Zhong M, Yang D, Zhang J, *et al.* Improving the performance of CdS/P3HT hybrid inverted solar cells by interfacial modification. *Solar Energy Materials and Solar Cells* 2012; **96**(0): 160–165.

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7. CIS, CIGS, CDTE AND II-VI CELLS

Hersh PA, Curtis CJ, Van Hest MFAM, *et al.* Inkjet printed metallizations for Cu(In_{1-x}Ga_x)Se₂ photovoltaic cells. *Progress in Photovoltaics: Research and Applications* 2011; **19**(8):973–976.

Bai ZZ, Yang J, Wang DL. Thin film CdTe solar cells with an absorber layer thickness in micro- and sub-micrometer scale. *Applied Physics Letters* 2011; **99**(14): 143502.

Faraj MG, Ibrahim K, Salhin A. Investigation of CIGS solar cells on polyethylene terephthalate substrates. *International Journal of Polymeric Materials* 2011; **60**(10): 817–824.

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8. III–V, QUANTUM WELL, SPACE, CONCENTRATOR AND THERMOPHOTOVOLTAIC CELLS

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9. TERRESTRIAL MODULES, BOS COMPONENTS, BUILDING INTEGRATED, SYSTEMS AND APPLICATIONS

- Kurtz S, Whitfield K, Tamizhmani G, *et al.* Evaluation of high-temperature exposure of photovoltaic modules. *Progress in Photovoltaics: Research and Applications* 2011; **19**(8):954–965.
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- Kyriakarakos G, Dounis AI, Rozakis S, *et al.* Polygeneration microgrids: a viable solution in remote areas for supplying power, potable water and hydrogen as transportation fuel. *Applied Energy* 2011; **88**(12): 4517–4526.
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10. POLICY, ECONOMICS, EDUCATION, HEALTH, ENVIRONMENT AND THE SOLAR RESOURCE

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