Charles W Teplin

List of Publications by Year
in descending order

45 papers	960 citations	430874 18 h-index	434195 31 g-index
45 all docs	45 docs citations	45 times ranked	962 citing authors

#	Article	IF	Citations
1	Comparison of thin epitaxial film silicon photovoltaics fabricated on monocrystalline and polycrystalline seed layers on glass. Progress in Photovoltaics: Research and Applications, 2015, 23, 909-917.	8.1	9
2	Device Physics of Heteroepitaxial Film c-Si Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 230-235.	2.5	8
3	600 mV epitaxial crystal silicon solar cells grown on seeded glass. , 2013, , .		4
4	Improved 750 °C epitaxial crystal silicon solar cells through impurity reduction. , 2013, , .		1
5	Device physics of heteroepitaxial film c-Si heterojunction solar cells. , 2013, , .		0
6	Towards Low-cost >15% Efficient Film c-Si Solar Cells: Progress & Challenges. , 2012, , .		3
7	Dislocation-limited open circuit voltage in film crystal silicon solar cells. Applied Physics Letters, 2012, 101, 123510.	3.3	6
8	Device physics of heteroepitaxial film c-Si heterojunction solar cells. , 2012, , .		1
9	Measurement of electric-field induced second harmonic generation in hydrogenated amorphous silicon. Applied Physics Letters, 2012, 101, 161604.	3.3	6
10	Hydrogenation of dislocation-limited heteroepitaxial silicon solar cells. , 2012, , .		1
11	Heteroepitaxial film silicon solar cell grown on Ni-W foils. Energy and Environmental Science, 2012, 5, 6052.	30.8	40
12	Pyramidal light trapping and hydrogen passivation for high-efficiency heteroepitaxial (100) crystal silicon solar cells. Energy and Environmental Science, 2012, 5, 8193.	30.8	21
13	Biaxially-textured photovoltaic film crystal silicon on ion beam assisted deposition CaF2 seed layers on glass. Energy and Environmental Science, 2012, 5, 6905.	30.8	30
14	Heteroepitaxial film crystal silicon on Al2O3: new route to inexpensive crystal silicon photovoltaics. Energy and Environmental Science, 2011, 4, 3346.	30.8	33
15	High rate hot-wire chemical vapor deposition of silicon thin films using a stable TaC covered graphite filament. Thin Solid Films, 2011, 519, 4585-4588.	1.8	14
16	Hot-wire chemical vapor deposition of epitaxial film crystal silicon for photovoltaics. Thin Solid Films, 2011, 519, 4545-4550.	1.8	38
17	Epitaxial crystal silicon absorber layers and solar cells grown at 1.8 microns per minute. , 2011, , .		8
18	Junction transport in epitaxial film silicon heterojunction solar cells. , 2011, , .		3

#	Article	IF	Citations
19	Material quality requirements for efficient epitaxial film silicon solar cells. Applied Physics Letters, 2010, 96, 073502.	3.3	43
20	Mechanisms controlling the phase and dislocation density in epitaxial silicon films grown from silane below 800â€‰Â°C. Applied Physics Letters, 2010, 96, .	3.3	23
21	Physics and chemistry of hot-wire chemical vapor deposition from silane: Measuring and modeling the silicon epitaxy deposition rate. Journal of Applied Physics, 2010, 107, 054906.	2.5	12
22	Photovoltaic device characterization with optical second harmonic generation. , 2010, , .		1
23	Photovoltaic-quality silicon epitaxy by hot-wire CVD at glasscompatible temperatures. , 2009, , .		0
24	Epitaxial film silicon solar cells fabricated by hot wire chemical vapor deposition below 750°C. , 2009, , .		0
25	Phase evolution in nanocrystalline silicon films: Hydrogen dilution and the cone kinetics model. Philosophical Magazine, 2009, 89, 2461-2468.	1.6	1
26	Doping of high-quality epitaxial silicon grown by hot-wire chemical vapor deposition near 700ÂÂ°C. Thin Solid Films, 2009, 517, 3496-3498.	1.8	21
27	The Remarkable Thermal Stability of Amorphous Inâ€Znâ€O Transparent Conductors. Advanced Functional Materials, 2008, 18, 3169-3178.	14.9	155
28	Recent advances in hot-wire CVD R&D at NREL: From 18% silicon heterojunction cells to silicon epitaxy at glass-compatible temperatures. Thin Solid Films, 2008, 516, 743-746.	1.8	20
29	Cone Kinetics Model: Insights into the Morphologies of Mixed-phase Silicon Film Growth. Materials Research Society Symposia Proceedings, 2008, 1066, 1.	0.1	0
30	Hot-Wire Chemical Vapor Deposition Epitaxy on Polycrystalline Silicon Seeds on Glass. Materials Research Society Symposia Proceedings, 2007, 989, 16.	0.1	5
31	Comparative Study of Hot-Wire Chemical Vapor Deposition onto (100) Si Near 600Â°C: Epitaxial and Polycrystalline Silicon Films. Materials Research Society Symposia Proceedings, 2007, 989, 12.	0.1	0
32	A new approach to thin film crystal silicon on glass: Biaxially-textured silicon on foreign template layers. Journal of Non-Crystalline Solids, 2006, 352, 984-988.	3.1	64
33	Significant improvement in silicon chemical vapor deposition epitaxy above the surface dehydrogenation temperature. Journal of Applied Physics, 2006, 100, 093520.	2.5	29
34	Low-temperature silicon homoepitaxy by hot-wire chemical vapor deposition with a Ta filament. Journal of Crystal Growth, 2006, 287, 414-418.	1.5	26
35	Physics of Solid-Phase Epitaxy of Hydrogenated Amorphous Silicon for Thin Film Si Photovoltaics. Materials Research Society Symposia Proceedings, 2006, 910, 5.	0.1	2
36	Breakdown physics of low-temperature silicon epitaxy grown from silane radicals. Physical Review B, 2006, 74, .	3.2	19

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37	Material structure and metastability of hydrogenated nanocrystalline silicon solar cells. Applied Physics Letters, 2006, 88, 263507.	3.3	67
38	Roughness, impurities and strain in low-temperature epitaxial silicon films grown by tantalum filament hot-wire chemical vapor deposition. Materials Research Society Symposia Proceedings, 2006, 910, 1.	0.1	2
39	The electrical, optical and structural properties of InxZn1âˆ'xOy(0 ï¼xï¼ 1) thin films by combinatorial techniques. Measurement Science and Technology, 2005, 16, 90-94.	2.6	57
40	Silicon homoepitaxy using tantalum-filament hot-wire chemical vapor deposition. Materials Research Society Symposia Proceedings, 2005, 862, 231.	0.1	5
41	Monitoring and modeling silicon homoepitaxy breakdown with real-time spectroscopic ellipsometry. Journal of Applied Physics, 2005, 97, 103536.	2.5	36
42	Optical surface second harmonic measurements of isotropic thin-film metals: Gold, silver, copper, aluminum, and tantalum. Journal of Applied Physics, 2004, 96, 3626-3634.	2.5	116
43	Combinatorial Growth and Analysis of the Transparent Conducting Oxide ZnO/In(IZO). Macromolecular Rapid Communications, 2004, 25, 344-347.	3.9	17
44	Experimental example of isotropic surface second-harmonic generation: dc-sputtered air-exposed aluminum thin films. Physical Review B, 2002, 65, .	3.2	12
45	Simultaneous measurement of the surface and bulk magnetization in thin magnetic films. Journal of Applied Physics, 2001, 89, 7168-7170.	2.5	1