Wolfhard Beyer

List of Publications by Citations

67 papers	2,278 citations	23 h-index	47 g-index
70 ext. papers	2,407 ext. citations	3.1 avg, IF	4.87 L-index

#	Paper	IF	Citations
67	Transparent conducting oxide films for thin film silicon photovoltaics. *Thin Solid Films*, **2007**, 516, 147-154	1.2	201
66	Determination of the hydrogen diffusion coefficient in hydrogenated amorphous silicon from hydrogen effusion experiments. *Journal of Applied Physics*, **1982**, 53, 8745-8750	2.5	191
65	Reinterpretation of the silicon-hydrogen stretch frequencies in amorphous silicon. *Solid State Communications*, **1983**, 48, 585-587	1.6	183
64	The role of hydrogen in a-Si:H results of evolution and annealing studies. *Journal of Non-Crystalline Solids*, **1983**, 59-60, 161-168	3.9	165
63	Hydrogen induced passivation of Si interfaces by Al2O3 films and SiO2/Al2O3 stacks. *Applied Physics Letters*, **2010**, 97, 152106	3.4	143
62	Hydrogen effusion: a probe for surface desorption and diffusion. *Physica B: Condensed Matter*, **1991**, 170, 105-114	2.8	120
61	Influence of annealing and Al2O3 properties on the hydrogen-induced passivation of the Si/SiO2 interface. *Journal of Applied Physics*, **2012**, 111, 093713	2.5	112
60	Diffusion and evolution of hydrogen in hydrogenated amorphous and microcrystalline silicon. *Solar Energy Materials and Solar Cells*, **2003**, 78, 235-267	6.4	104
59	Fermi energy dependence of surface desorption and diffusion of hydrogen in a-Si:H. *Journal of Non-Crystalline Solids*, **1989**, 114, 217-219	3.9	65
58	Effect of boron-doping on the hydrogen evolution from a-Si:H films. *Solid State Communications*, **1981**, 39, 375-379	1.6	64
57	Structutral and electrical properties of silicon-based amorphous alloys. *Journal of Non-Crystalline Solids*, **1987**, 97-98, 1027-1034	3.9	62
56	Hydrogen stability in amorphous germanium films. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1991**, 63, 269-279		61
55	Incorporation and thermal stability of hydrogen in amorphous silicon and germanium. *Journal of Non-Crystalline Solids*, **1996**, 198-200, 40-45	3.9	52
54	Direct Experimental Evidence for Molecular Hydrogen in Amorphous Si: H. *Physical Review Letters*, **1984**, 52, 549-552	7.4	52
53	Interfaces in a-Si: H solar cell structures. *Solar Energy Materials and Solar Cells*, **1997**, 48, 351-363	6.4	43
52	Kinetic model for desorption of hydrogen from amorphous hydrogenated silicon. *Physical Review B*, **1990**, 42, 9000-9008	3.3	43
51	Absorption Strengths of Si-H Vibrational Modes in Hydrogenated Silicon. *Materials Research Society Symposia Proceedings*, **1998**, 507, 601		42

50	Oxygen and nitrogen impurities in microcrystalline silicon deposited under optimized conditions: Influence on material properties and solar cell performance. *Journal of Applied Physics*, **2009**, 105, 074509	2.5	37
49	Infrared absorption in a-SiC:H alloy prepared by d.c. sputtering. *Thin Solid Films*, **2003**, 426, 117-123	2.2	36
48	Influence of ion implantation on electrical properties of amorphous Ge and Si. *Physica Status Solidi A*, **1975**, 30, 231-240		35
47	Atomic layer deposition of high-mobility hydrogen-doped zinc oxide. *Solar Energy Materials and Solar Cells*, **2017**, 173, 111-119	6.4	34
46	Hydrogen Phenomena in Hydrogenated Amorphous Silicon. *Semiconductors and Semimetals*, **1999**, 165-238	3.9	32
45	Solubility and diffusion of hydrogen in hydrogenated crystalline and amorphous silicon. *Journal of Non-Crystalline Solids*, **1998**, 227-230, 880-884	3.9	24
44	Characterization of microstructure in amorphous and microcrystalline Si and related alloys by effusion of implanted helium. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2004**, 1, 1144-1153		22
43	Infrared absorption and hydrogen effusion of hydrogenated amorphous silicon-oxide films. *Journal of Non-Crystalline Solids*, **2000**, 266-269, 845-849	3.9	22
42	Plasma Post-Hydrogenation of Hydrogenated Amorphous Silicon and Germanium. *Materials Research Society Symposia Proceedings*, **1996**, 420, 497		22
41	Diffusion and Effusion of Hydrogen in Microcrystalline Silicon. *Materials Research Society Symposia Proceedings*, **1997**, 467, 343		21
40	Influence of base pressure and atmospheric contaminants on a-Si:H solar cell properties. *Journal of Applied Physics*, **2008**, 104, 094507	2.5	21
39	Voids in hydrogenated amorphous silicon materials. *Journal of Non-Crystalline Solids*, **2012**, 358, 2023-2026	3.9	20
38	New Insights into Processes of Hydrogen Incorporation and Hydrogen Diffusion in Hydrogenated Amorphous Silicon. *Physica Status Solidi A*, **1997**, 159, 53-63		18
37	Silicon surface passivation by transparent conductive zinc oxide. *Journal of Applied Physics*, **2019**, 125, 105305	2.5	17
36	Comparative study of hydrogen stability in hydrogenated amorphous and crystalline silicon. *Journal of Non-Crystalline Solids*, **2000**, 266-269, 206-210	3.9	17
35	Hydrogen diffusion in zinc oxide thin films. *Materials Research Society Symposia Proceedings*, **2009**, 1165, 1		15
34	Long-term stability of hydrogenated amorphous germanium measured by infrared absorption. *Journal of Applied Physics*, **1991**, 70, 4540-4543	2.5	12
33	Hydrogen incorporation, stability, and release effects in thin film silicon. *Physica Status Solidi (A) Applications and Materials Science*, **2016**, 213, 1661-1674	1.6	12

32	Influence of contaminations on the performance of thin-film silicon solar cells prepared after in situ reactor plasma cleaning. *Thin Solid Films*, **2008**, 516, 4639-4644	2.2	11
31	Impurities in thin-film silicon: Influence on material properties and solar cell performance. *Journal of Non-Crystalline Solids*, **2012**, 358, 2171-2178	3.9	10
30	Hydrogen Diffusion and Solubility in A-Si:H. *Materials Research Society Symposia Proceedings*, **1994**, 336, 323		10
29	Microstructure Characterization of Hydrogenated Amorphous Silicon Films by Rare Gas Effusion Studies. *Materials Research Society Symposia Proceedings*, **2001**, 664, 921		9
28	Cross-contamination in single-chamber processes for thin-film silicon solar cells. *Journal of Non-Crystalline Solids*, **2012**, 358, 2183-2186	3.9	8
27	Hydrogen Effusion Experiments **2011**, 449-475		8
26	Concentration Dependence of Hydrogen Diffusion in Hydrogenated Silicon. *Materials Research Society Symposia Proceedings*, **1998**, 507, 679		8
25	Application of Raman spectroscopy for depth-dependent evaluation of the hydrogen concentration of amorphous silicon. *Thin Solid Films*, **2018**, 653, 223-228	2.2	7
24	a-Si:H/□-Si:H solar cells prepared by the single-chamber processes□minimization of phosphorus and boron cross contamination. *Thin Solid Films*, **2013**, 540, 251-255	2.2	7
23	Annealing Effects of Microstructure in Thin-film Silicon Solar Cell Materials Measured by Effusion of Implanted Rare Gas Atoms. *Materials Research Society Symposia Proceedings*, **2011**, 1321, 135		7
22	Microstructure Characterization of Amorphous Silicon-Nitride Films by Effusion Measurements. *Materials Research Society Symposia Proceedings*, **2006**, 910, 5		7
21	Helium effusion, diffusion and precipitation as a probe of microstructure in hydrogenated amorphous silicon. *Journal of Non-Crystalline Solids*, **2002**, 299-302, 254-258	3.9	7
20	Hydrogen Effusion Experiments **2016**, 569-595		6
19	Effect of Annealing on Microstructure in (Doped and Undoped) Hydrogenated Amorphous Silicon Films. *Materials Research Society Symposia Proceedings*, **2014**, 1666, 36		6
18	Microstructure Characterization of Amorphous Silicon Based Alloys by Inert Gas Effusion Studies. *Materials Research Society Symposia Proceedings*, **2000**, 609, 2341		6
17	Post-deposition thermal annealing studies of hydrogenated microcrystalline silicon deposited at 40 □C. *Thin Solid Films*, **2007**, 515, 7495-7498	2.2	5
16	Microstructure Characterization of a-Si Based Alloys by Effusion of Implanted Helium. *Materials Research Society Symposia Proceedings*, **2002**, 715, 511		5
15	Influence of hydrogen concentration on void-related microstructure in low hydrogen amorphous and crystalline silicon materials. *Canadian Journal of Physics*, **2014**, 92, 700-704	1.1	4

List of Publications

14	Temperature and hydrogen diffusion length in hydrogenated amorphous silicon films on glass while scanning with a continuous wave laser at 532 nm wavelength. *Journal of Applied Physics*, **2018**, 124, 153103	2.5	4
13	Microstructure Characterization of Amorphous Silicon Films by Effusion Measurements of Implanted Helium. *Materials Research Society Symposia Proceedings*, **2013**, 1536, 175-180		3
12	Microstructure characterization of SiCl4-based microcrystalline silicon films by effusion of implanted helium. *Journal of Non-Crystalline Solids*, **2006**, 352, 1402-1405	3.9	3
11	Adjustable hydrogen atom incorporation into sputter deposited a-SiC. *Thin Solid Films*, **2006**, 515, 464-467	2.2	3
10	Structural and Electronic Properties of SiCl4-based Microcrystalline Silicon Films. *Materials Research Society Symposia Proceedings*, **2004**, 808, 497		3
9	Comparison of Laser and Oven Annealing Effects on Hydrogen and Microstructure in Thin Film Silicon. *Materials Research Society Symposia Proceedings*, **2015**, 1770, 1-6		2
8	Isolated Voids in Amorphous Silicon and Related Materials Measured by Effusion of Implanted Helium. *Materials Research Society Symposia Proceedings*, **2012**, 1426, 341-346		2
7	Doping Dependence of Chlorine Incorporation in SiCl4-based Microcrystalline Silicon Films. *Materials Research Society Symposia Proceedings*, **2005**, 862, 2441		2
6	Diffusion and Solubility of Hydrogen in Amorphous and Microcrystalline Si:H Films. *Materials Research Society Symposia Proceedings*, **2001**, 664, 1311		2
5	Impact of Laser Treatment on Hydrogenated Amorphous Silicon Properties. *Advanced Engineering Materials*, **2020**, 22, 1901437	3.5	1
4	Microstructure Effects in Amorphous and Microcrystalline Ge:H Films. *Materials Research Society Symposia Proceedings*, **2010**, 1245, 1		1
3	Microstructure Effects in Hot-wire Deposited Undoped Microcrystalline Silicon Films. *Materials Research Society Symposia Proceedings*, **2008**, 1066, 1		1
2	Raman spectroscopic analysis of the effect of annealing on hydrogen concentration and microstructure of thick hot wire grown a-Si:H films aimed as precursor layers for crystallized thin film silicon. *Thin Solid Films*, **2020**, 714, 138353	2.2	
1	Investigation of Thermal Stability Effects of Thick Hydrogenated Amorphous Silicon Precursor Layers for Liquid-Phase Crystallized Silicon. *Physica Status Solidi (A) Applications and Materials Science*, **2021**, 218, 2000435	1.6	