

# Twan Bearda

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7398722/publications.pdf>

Version: 2024-02-01

75  
papers

754  
citations

759055

12  
h-index

610775

24  
g-index

79  
all docs

79  
docs citations

79  
times ranked

976  
citing authors

#	ARTICLE	IF	CITATIONS
1	All-Dielectric Antenna Wavelength Router with Bidirectional Scattering of Visible Light. Nano Letters, 2016, 16, 4396-4403.	4.5	93
2	Crystalline thin-film silicon solar cells: where crystalline quality meets thin-film processing. Progress in Photovoltaics: Research and Applications, 2012, 20, 770-784.	4.4	74
3	Optical bandgap of ultra-thin amorphous silicon films deposited on crystalline silicon by PECVD. AIP Advances, 2014, 4, .	0.6	41
4	Passivating electron-selective contacts for silicon solar cells based on an $\text{Si:H/TiO}_2$ stack and a low work function metal. Progress in Photovoltaics: Research and Applications, 2018, 26, 835-845.	4.4	40
5	Kerfless layer-transfer of thin epitaxial silicon foils using novel multiple layer porous silicon stacks with near 100% detachment yield and large minority carrier diffusion lengths. Solar Energy Materials and Solar Cells, 2015, 135, 113-123.	3.0	39
6	Passivation of a Metal Contact with a Tunneling Layer. Energy Procedia, 2012, 21, 75-83.	1.8	31
7	Development of a-Si:H/c-Si heterojunctions for the i2-module concept: Low-temperature passivation and emitter formation on wafers bonded to glass. Solar Energy Materials and Solar Cells, 2013, 113, 52-60.	3.0	22
8	Structural, hydrogen bonding and in situ studies of the effect of hydrogen dilution on the passivation by amorphous silicon of n-type crystalline ( $1 \times 10^{20}$ ) silicon surfaces. Journal Physics D: Applied Physics, 2015, 48, 415301.	1.3	21
9	Silicon heterojunction interdigitated back-contact solar cells bonded to glass with efficiency $>21\%$ . Solar Energy Materials and Solar Cells, 2017, 165, 82-87.	3.0	21
10	Simple emitter patterning of silicon heterojunction interdigitated back-contact solar cells using damage-free laser ablation. Solar Energy Materials and Solar Cells, 2018, 186, 78-83.	3.0	18
11	Ultra high amorphous silicon passivation quality of crystalline silicon surface using in-situ post-deposition treatments. Physica Status Solidi - Rapid Research Letters, 2015, 9, 53-56.	1.2	15
12	Dry Passivation Process for Silicon Heterojunction Solar Cells Using Hydrogen Plasma Treatment Followed by <i>In Situ</i> a-Si:H Deposition. IEEE Journal of Photovoltaics, 2018, 8, 1539-1545.	1.5	15
13	Determination of metallic contaminants on Ge wafers using direct- and droplet sandwich etch-total reflection X-ray fluorescence spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2003, 58, 2093-2104.	1.5	13
14	Influence of gasification on the performance of a 1MHz nozzle system in megasonic cleaning. Microelectronic Engineering, 2010, 87, 1512-1515.	1.1	13
15	The Effect of Backside Particles on Substrate Topography. Japanese Journal of Applied Physics, 2005, 44, 7409-7413.	0.8	12
16	Investigation of Physical Cleaning Process Window by Atomic Force Microscope. ECS Transactions, 2009, 25, 203-210.	0.3	12
17	High-quality epitaxial foils, obtained by a layer transfer process, for integration in back-contacted solar cells processed on glass. , 2012, , .		12
18	Heterojunction Interdigitated Back-Contact Solar Cells Fabricated on Wafer Bonded to Glass. IEEE Journal of Photovoltaics, 2014, 4, 807-813.	1.5	12

#	ARTICLE	IF	CITATIONS
19	Charge Transport after Hard Breakdown in Gate Oxides. Japanese Journal of Applied Physics, 2002, 41, 2431-2436.	0.8	11
20	Post Ion-Implant Photoresist Removal via Wet Chemical Cleans Combined with Physical Force Pretreatments. ECS Transactions, 2007, 11, 219-226.	0.3	11
21	Removal of Nano-Particles by Aerosol Spray: Effect of Droplet Size and Velocity on Cleaning Performance. Solid State Phenomena, 0, 145-146, 31-34.	0.3	11
22	Silicone oxidation for a-Si:H passivation of wafers bonded to glass. Physica Status Solidi - Rapid Research Letters, 2014, 8, 395-398.	1.2	11
23	Plasma-silicone interaction during a-Si:H deposition on solar cell wafers bonded to glass. Solar Energy Materials and Solar Cells, 2014, 124, 48-54.	3.0	11
24	18% Efficiency IBC Cell With Rear-Surface Processed on Quartz. IEEE Journal of Photovoltaics, 2013, 3, 684-689.	1.5	10
25	Thermal, Structural and Electrical Study of the Effect of Annealing on the Passivation by Amorphous Silicon of n-type Crystalline (100) Silicon Surfaces. Energy Procedia, 2014, 55, 818-826.	1.8	10
26	Contact resistivity reduction on lowly-doped n-type Si using a low work function metal and a thin TiOX interfacial layer for doping-free Si solar cells. Energy Procedia, 2017, 124, 842-850.	1.8	10
27	Observation of critical gate oxide thickness for substrate-defect related oxide failure. Applied Physics Letters, 1999, 75, 1255-1257.	1.5	9
28	Advanced cleaning for the growth of ultrathin gate oxide. Microelectronic Engineering, 1999, 48, 199-206.	1.1	8
29	Damage Clustering and Damage-Size Distributions After Megasonic Cleaning. ECS Transactions, 2007, 11, 87-93.	0.3	8
30	Solar Cells from Epitaxial Foils: An Epifoil Epiphany. Energy Procedia, 2015, 77, 871-880.	1.8	8
31	Process simplifications in large area hybrid silicon heterojunction solar cells. Solar Energy Materials and Solar Cells, 2015, 142, 66-74.	3.0	8
32	Freestanding and supported processing of sub-70 $\mu\text{m}$ kerfless epitaxial Si and thinned Cz/FZ Si foils into solar cells: An overview of recent progress and challenges. Solar Energy Materials and Solar Cells, 2019, 203, 110108.	3.0	8
33	Improved Surface Cleaning by <i>In Situ</i> Hydrogen Plasma for Amorphous/Crystalline Silicon Heterojunction Solar Cells. Solid State Phenomena, 2012, 195, 321-323.	0.3	7
34	Process-Induced Degradation of $\text{SiO}_2$ and $\text{Si}_3\text{N}_4$ Passivation Layers for Photovoltaic Applications. IEEE Journal of Photovoltaics, 2014, 4, 1197-1203.	1.5	7
35	Thin Epitaxial Silicon Foils Using Porous-Silicon-Based Lift-Off for Photovoltaic Application. MRS Advances, 2016, 1, 3235-3246.	0.5	7
36	Resistance and passivation of metal contacts using n-type amorphous Si for Si solar cells. Journal of Applied Physics, 2014, 115, .	1.1	6

#	ARTICLE	IF	CITATIONS
37	Behaviour of Metallic Contaminants during Mos Processing. Solid State Phenomena, 1998, 65-66, 11-14.	0.3	5
38	Breakdown and Recovery of Thin Gate Oxides. Japanese Journal of Applied Physics, 2000, 39, L582-L584.	0.8	5
39	Particle Removal and Damage Thresholds from Particle Removal and Damage Formation Frequency for High-Velocity-Aerosol Cleaning. ECS Transactions, 2009, 25, 211-217.	0.3	5
40	Surface Passivation for Si Solar Cells: A Combination of Advanced Surface Cleaning and Thermal Atomic Layer Deposition of Al <sub>2</sub> O <sub>3</sub> . Solid State Phenomena, 2012, 187, 357-361.	0.3	5
41	Module-level cell processing of silicon heterojunction interdigitated back-contacted (SHJ-IBC) solar cells with efficiencies above 22%: Towards all-dry processing. , 2016, , .		5
42	In-situ optical emission spectroscopy diagnostic of plasma ignition impact on crystalline silicon passivation by a-Si:H films. Superlattices and Microstructures, 2016, 96, 253-258.	1.4	5
43	Post-dicing particle control for 3D stacked IC integration flows. , 2009, , .		4
44	Influence of substrate potential on a-Si:H passivation of Si foils bonded to glass. Thin Solid Films, 2015, 579, 9-13.	0.8	4
45	Wet chemical treatment of boron doped emitters on n-type (100) c-Si prior to amorphous silicon passivation. Applied Surface Science, 2015, 328, 140-145.	3.1	4
46	Laser Assisted Patterning of a-Si:H: Detailed Investigation of Laser Damage. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700125.	1.2	4
47	Overview of Wafer Contamination and Defectivity. , 2018, , 87-149.		4
48	Fabrication and Characterization of Artificial Crystal Originated Particles. Japanese Journal of Applied Physics, 1999, 38, L1509-L1511.	0.8	3
49	Study of the Dynamics of Local Particle Removal Efficiencies Using Localized Haze Maps. Solid State Phenomena, 2007, 134, 233-236.	0.3	3
50	Particle Removal from Micrometer-Sized Trenches Using High-Velocity-Aerosol Cleaning and Comparison with Megasonic Tank Cleaning. ECS Transactions, 2007, 11, 55-60.	0.3	3
51	A Detailed Study of Semiconductor Wafer Drying. , 2008, , 795-854.		3
52	Cleaning and Damage Performance of Single Wafer Cleaning Tools using Physical Removal Forces. ECS Transactions, 2009, 25, 311-317.	0.3	3
53	Stripping of Ion Implanted Photoresist by CO <sub>2</sub> ; Cryogenic Pre-Treatment Followed by Wet Cleaning. Solid State Phenomena, 0, 145-146, 289-292.	0.3	3
54	Particle Removal Efficiency and Damage Analysis on Silicon Wafers after Megasonic Cleaning in Solvents. Journal of Adhesion Science and Technology, 2009, 23, 1709-1721.	1.4	3

#	ARTICLE	IF	CITATIONS
55	Morphology Change of Artificial Crystal Originated Particles, and the Effect on Gate Oxide Integrity. Japanese Journal of Applied Physics, 2000, 39, L841-L843.	0.8	2
56	Metal Contamination on Silicon Surfaces from Solvents. Solid State Phenomena, 2005, 103-104, 269-274.	0.3	2
57	Particle Removal from Si Substrates in Organic Solvents using Megasonic Energy. ECS Transactions, 2007, 11, 101-108.	0.3	2
58	Use of Surface Haze for Evaluation of Photoresist Residue Removal Efficiency. IEEE Transactions on Semiconductor Manufacturing, 2009, 22, 587-591.	1.4	2
59	Electrical and optical simulation of nPERT solar cells with epitaxially grown emitters. Energy Procedia, 2017, 124, 38-46.	1.8	2
60	Gas-Phase Surface Processing Prior to 3.2 nm Gate Oxidation. Solid State Phenomena, 1998, 65-66, 85-88.	0.3	1
61	Wonderful new materials or yield killers? New metrics for metal contamination assessment. Semiconductor Manufacturing, Proceedings of the IEEE International Symposium on, 2006, , .	0.0	1
62	Overview of Wafer Contamination and Defectivity. , 2008, , 93-164.		1
63	A Detailed Study of Semiconductor Wafer Drying. , 2008, , 1067-1136.		1
64	Electrochemical and Analytical Study of the Si Etching Mechanism in HF. ECS Transactions, 2009, 25, 383-389.	0.3	1
65	Impact of Acoustical Reflections on Megasonic Cleaning Performance. ECS Transactions, 2009, 25, 287-294.	0.3	1
66	Optimization of Post-Texturization Cleans for Heterojunction Solar Cells. Solid State Phenomena, 0, 187, 341-344.	0.3	1
67	Integrating surface nanotextures into thin crystalline-Si solar cells: The case of a 1-1¼m-thin nanoimprinted heterojunction cell. , 2016, , .		1
68	RCA and IMEC/SC2 Clean: Metallic Immunity and Gate Oxide Integrity. Materials Research Society Symposia Proceedings, 1997, 477, 225.	0.1	0
69	Local Removal Frequency of Nano Particles in Megasonic Cleaning. ECS Transactions, 2007, 11, 353-360.	0.3	0
70	Damage Cluster Analysis of Patterned Wafers during Solvent Spray Cleaning. ECS Transactions, 2009, 25, 219-225.	0.3	0
71	Role of O<sub>2</sub> radicals on silicone plasma treatments for a-Si:H surface passivation of PV wafers bonded to glass. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1946-1953.	0.8	0
72	Interdigitated back contact silicon solar cells: Diode and resistance investigation at nanoscale using Kelvin Probe Force Microscopy. , 2016, , .		0

#	ARTICLE	IF	CITATIONS
73	All-dielectric nanoantennas for wavelength-controlled directional scattering of visible light (Conference Presentation). , 2016, , .		0
74	Selective deposition of a-Si:H: a proof-of-concept study. , 2018, , .		0
75	Current-Voltage Charactreistics of Gate Oxides after Hard Breakdown. , 2001, , .		0