

# Mario Tucci

## List of Publications by Year in descending order

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105  
papers

1,675  
citations

361413

20  
h-index

315739

38  
g-index

107  
all docs

107  
docs citations

107  
times ranked

2015  
citing authors

#	ARTICLE	IF	CITATIONS
1	Heterojunction solar cell with 2% efficiency based on a Cu <sub>2</sub> O substrate. Applied Physics Letters, 2006, 88, 163502.	3.3	498
2	Mechanically Stacked, Two-Terminal Graphene-Based Perovskite/Silicon Tandem Solar Cell with Efficiency over 26%. Joule, 2020, 4, 865-881.	24.0	125
3	17% efficiency heterostructure solar cell based on p-type crystalline silicon. Journal of Non-Crystalline Solids, 2004, 338-340, 663-667.	3.1	50
4	Inorganic photovoltaics – Planar and nanostructured devices. Progress in Materials Science, 2016, 82, 294-404.	32.8	50
5	Comparison of amorphous/crystalline heterojunction solar cells based on n- and p-type crystalline silicon. Thin Solid Films, 2004, 451-452, 355-360.	1.8	38
6	Electrical Properties of ITO/Crystalline-Silicon Contact at Different Deposition Temperatures. IEEE Electron Device Letters, 2012, 33, 327-329.	3.9	33
7	Fabrication of monolithic CZTS/Si tandem cells by development of the intermediate connection. Solar Energy, 2019, 190, 414-419.	6.1	33
8	Amorphous silicon/silicon carbide photodiodes with excellent sensitivity and selectivity in the vacuum ultraviolet spectrum. Applied Physics Letters, 1995, 67, 335-337.	3.3	31
9	Preparation of microcrystalline silicon-carbon films. Solar Energy Materials and Solar Cells, 2005, 87, 433-444.	6.2	30
10	Influence of oxygen on the sputtering of aluminum oxide for the surface passivation of crystalline silicon. Solar Energy Materials and Solar Cells, 2011, 95, 69-72.	6.2	30
11	Detailed Study of Amorphous Silicon Ultraviolet Sensor With Chromium Silicide Window Layer. IEEE Transactions on Electron Devices, 2008, 55, 452-456.	3.0	29
12	Characterization of intrinsic a-Si:H in p-i-n devices by capacitance measurements: Theory and experiments. Journal of Applied Physics, 1994, 76, 3534-3541.	2.5	27
13	Investigation of the damage as induced by 1.7MeV protons in an amorphous/crystalline silicon heterojunction solar cell. Solar Energy Materials and Solar Cells, 2004, 83, 435-446.	6.2	26
14	Characterization of SiN <sub>x</sub> /a-Si:H crystalline silicon surface passivation under UV light exposure. Thin Solid Films, 2007, 515, 7625-7628.	1.8	25
15	Aluminum-silicon Interdiffusion in Screen Printed Metal Contacts for Silicon based Solar Cells Applications. Energy Procedia, 2013, 43, 100-110.	1.8	24
16	Laser fired back contact for silicon solar cells. Thin Solid Films, 2008, 516, 6767-6770.	1.8	23
17	Characterization of chromium silicide thin layer formed on amorphous silicon films. Journal of Non-Crystalline Solids, 2008, 354, 2171-2175.	3.1	23
18	Back contacted a-Si:H/c-Si heterostructure solar cells. Journal of Non-Crystalline Solids, 2008, 354, 2386-2391.	3.1	22

#	ARTICLE	IF	CITATIONS
19	Application of NiOx thin films as p-type emitter layer in heterojunction solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 1006-1010.	0.8	21
20	Doped SiO x emitter layer in amorphous/crystalline silicon heterojunction solar cell. Applied Physics A: Materials Science and Processing, 2014, 115, 705-712.	2.3	20
21	Potentials of mixed-phase doped layers in p-type Si heterojunction solar cells with ZnO:Al. Solar Energy Materials and Solar Cells, 2017, 169, 113-121.	6.2	20
22	Ruthenium phthalocyanine thin films for photovoltaic applications. Thin Solid Films, 2004, 451-452, 33-36.	1.8	19
23	Metastability of SiNx/a-Si:H crystalline silicon surface passivation for PV application. Thin Solid Films, 2008, 516, 6939-6942.	1.8	18
24	Efficiency improvement and full characterization of dye-sensitized solar cells with MWCNT/anatase Schottky junctions. Journal of Power Sources, 2012, 204, 249-256.	7.8	18
25	Optimization of n-doping in n-type a-Si:H/p-type textured c-Si heterojunction for photovoltaic applications. Solar Energy Materials and Solar Cells, 1999, 57, 249-257.	6.2	16
26	Silicon heterojunction solar cells toward higher fill factor. Progress in Photovoltaics: Research and Applications, 2020, 28, 307-320.	8.1	16
27	CF4/O2 dry etching of textured crystalline silicon surface in a-Si:H/c-Si heterojunction for photovoltaic applications. Solar Energy Materials and Solar Cells, 2001, 69, 175-185.	6.2	15
28	Bias enhanced sensitivity in amorphous/porous silicon heterojunction gas sensors. Journal of Non-Crystalline Solids, 2004, 338-340, 776-779.	3.1	15
29	Si quantum dots for solar cell fabrication. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 66-69.	3.5	15
30	Improving the stability of amorphous silicon ultraviolet sensors. Thin Solid Films, 2007, 515, 7517-7521.	1.8	14
31	Back contact formation for p-type based a-Si:H/c-Si heterojunction solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 932-935.	0.8	14
32	Integrated Optoelectronic Device for Detection of Fluorescent Molecules. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 1337-1344.	4.0	14
33	Transparent hole-collecting and buffer layers for heterojunction solar cells based on n-type-doped silicon. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	14
34	B <sup>12</sup> and E <sup>12</sup> enhanced H <sup>12</sup> eterostructure with I <sup>12</sup> N <sup>12</sup> terDigitated contact " BEHIND - solar cell. , 2008, , .		13
35	Hydrogen Plasma and Thermal Annealing Treatments on a-Si:H Thin Film for c-Si Surface Passivation. Energy Procedia, 2014, 60, 102-108.	1.8	13
36	Electroplated contacts and porous silicon for silicon based solar cells applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 194, 78-85.	3.5	13

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37	New Selective Processing Technique for Solar Cells. Energy Procedia, 2013, 43, 54-65.	1.8	12
38	Highly textured multi-crystalline silicon surface obtained by dry etching multi-step process. Solar Energy Materials and Solar Cells, 2013, 116, 283-290.	6.2	11
39	Metastability effect in solar blind UV amorphous silicon carbide photodetector. Journal of Non-Crystalline Solids, 1998, 227-230, 1316-1320.	3.1	10
40	Study of capacitance in hydrogenated amorphous silicon phototransistors for imaging arrays. Journal of Non-Crystalline Solids, 2004, 338-340, 780-783.	3.1	10
41	Power Forecasting of a Photovoltaic Plant Located in ENEA Casaccia Research Center. Energies, 2021, 14, 707.	3.1	10
42	Amorphous silicon UV photodetectors with rejection of the visible spectrum. Journal of Non-Crystalline Solids, 1996, 198-200, 1198-1201.	3.1	9
43	Investigation of amorphous silicon compensated materials over a wide range of dopant concentrations. Thin Solid Films, 1997, 303, 269-272.	1.8	9
44	Bragg reflector and laser fired back contact in a-Si:H/c-Si heterostructure solar cell. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 48-52.	3.5	9
45	Built-in Enhancement in a-Si:H Solar Cell by Chromium Silicide Layer. IEEE Electron Device Letters, 2010, 31, 689-691.	3.9	9
46	Metastability of a-SiOx:H thin films for c-Si surface passivation. Applied Surface Science, 2017, 392, 430-440.	6.1	9
47	Variable spectral response photodetector based on crystalline/amorphous silicon heterostructure. Journal of Non-Crystalline Solids, 1996, 198-200, 1189-1192.	3.1	8
48	Amorphous silicon balanced photodiode for detection of ultraviolet radiation. Sensors and Actuators A: Physical, 2009, 153, 1-4.	4.1	8
49	Contact Formation on a-Si:H/c-Si Heterostructure Solar Cells. Engineering Materials, 2012, , 331-375.	0.6	8
50	Advances in screen printing metallization for a-Si:H/c-Si heterojunction solar cells. , 2014, , .		8
51	Interaction of phosphorus and boron in compensated amorphous silicon films. Journal of Non-Crystalline Solids, 1998, 227-230, 380-384.	3.1	7
52	Characterisation and modelling of a two terminal visible/infrared photodetector based on amorphous/crystalline silicon heterostructure. Sensors and Actuators A: Physical, 2001, 88, 139-145.	4.1	7
53	Innovative design of amorphous/crystalline silicon heterojunction solar cell. Thin Solid Films, 2008, 516, 6771-6774.	1.8	7
54	Amorphous silicon optical spectrum analyzer for the visible range. Journal of Non-Crystalline Solids, 1996, 198-200, 1172-1175.	3.1	6

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55	Amorphous/crystalline silicon two terminal photodetector. Solid-State Electronics, 2000, 44, 1315-1320.	1.4	6
56	Stability of silicon based homojunction and heterojunction solar cells under space conditions. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 134, 263-268.	3.5	6
57	TCO Optimization in Si Heterojunction Solar Cells on p-type Wafers with n-SiOx Emitter. Energy Procedia, 2015, 84, 134-140.	1.8	6
58	Selective contacts and fill factor limitations in heterojunction solar cells. Progress in Photovoltaics: Research and Applications, 2021, 29, 876-884.	8.1	6
59	Modifications of c-Si/a-Si:H/indium tin oxide heterostructures upon thermal annealing. Journal of Applied Physics, 2001, 90, 6505-6512.	2.5	5
60	Innovative window layer for amorphous silicon/amorphous silicon carbide UV sensor. Journal of Non-Crystalline Solids, 2006, 352, 1818-1821.	3.1	5
61	Dry texturing of mc-Si wafers. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 903-906.	0.8	4
62	Porous silicon solar cells. , 2015, , .		4
63	Electroplated Nickel/Tin Solder Pads for Rear Metallization of Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 404-411.	2.5	4
64	Amorphous silicon p-n on p crystalline silicon photodetector in the visible and near infrared spectrum. Journal of Non-Crystalline Solids, 2000, 266-269, 1218-1222.	3.1	3
65	Experimental realization of field effect a-Si:H solar cells. Thin Solid Films, 2003, 427, 166-170.	1.8	3
66	SiNx/a-SiCx:H passivation layers for p- and n-type crystalline silicon wafers. Thin Solid Films, 2008, 516, 1569-1573.	1.8	3
67	Plasma dry etching for selective emitter formation in crystalline silicon based solar cell. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	3
68	Surface photovoltage as a tool to monitor the effect of hydrogen treatment on a-Si:H/c-Si heterojunction. , 2013, , .		3
69	Monitoring of photodegradation and recovery of a-Si : H p-i-n solar cells by capacitance measurements. Physica Scripta, 1994, 49, 724-729.	2.5	2
70	Low pinch-off voltage amorphous silicon junction field-effect transistor: experiment and simulation. IEEE Transactions on Electron Devices, 2003, 50, 1559-1561.	3.0	2
71	On the fabrication and characterization of amorphous silicon ultra-violet sensor array. Thin Solid Films, 2009, 517, 6422-6425.	1.8	2
72	Silicon Based Photovoltaic Cells For Concentration Research And Development Progress In Laser Grooved Buried Contact Cell Technology. , 2011, , .		2

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73	Localized metal plating on aluminum back side PV cells. , 2014, , .		2
74	Porous silicon technology, a breakthrough for silicon photonics: From packaging to monolithic integration. , 2014, , .		2
75	Temperature effects on sputtered ITO. , 2018, , .		2
76	Optoelectronic System-on-Glass for On-Chip Detection of Fluorescence. Lecture Notes in Electrical Engineering, 2018, , 143-149.	0.4	2
77	Amorphous-Porous Silicon Heterojunction for Gas Sensor Application. Physica Status Solidi A, 2000, 182, 489-493.	1.7	1
78	Amorphous/porous heterojunction on thin microcrystalline silicon. Journal of Non-Crystalline Solids, 2000, 266-269, 1044-1048.	3.1	1
79	Investigation of minority carrier diffusion length in shallow junctions by angle-resolved illumination technique. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2003, 102, 179-183.	3.5	1
80	Amorphous silicon junction field-effect transistor with low pinch-off voltage for analog applications. Journal of Non-Crystalline Solids, 2004, 338-340, 762-765.	3.1	1
81	Siliconâ€™carbon films deposited at low substrate temperature. Journal of Non-Crystalline Solids, 2006, 352, 1371-1375.	3.1	1
82	Characterizations of nanostructured siliconâ€™carbon films deposited on pâ€™layer by PECVD. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 766-769.	0.8	1
83	Annealing effects on aSiNxgrown by PECVD using different gas mixtures. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	1
84	Influence of rf power on the properties of nanostructured siliconâ€™carbon films deposited by PECVD. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 823-826.	0.8	1
85	Evaluation of Hydrogen plasma effect in a-Si:H/c-Si interface by means of Surface Photovoltage measurement and FTIR spectroscopy. , 2014, , .		1
86	A new approach: Low cost masking material and efficient copper metallization for higher efficiency silicon solar cells. , 2015, , .		1
87	Multilayer integrated structure for selective detection of Ochratoxin A. , 2015, , .		1
88	Perovskite and a-Si:H/c-Si tandem solar cell. , 2015, , .		1
89	Laser Treatment to form An Effective Base Contact in a - Si:H/c-Si Heterojunction Solar Cells. Energy Procedia, 2015, 84, 228-235.	1.8	1
90	Titanium oxide films deposited by e-beam evaporation as n-type electrode for solar cell applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 1002-1005.	0.8	1

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91	AMPERE: An European project aimed to decrease the Levelized Cost of Energy with innovative heterojunction bifacial module solution ready for the market.. , 2018, , .		1
92	Transparent WOx window layers for silicon based heterojunction solar cells. , 2019, , .		1
93	Monolithic CZTS/Si tandem cells: development of multilayer structures for the intermediate contact. , 2019, , .		1
94	Laser treatment of amorphous silicon junction field effect transistor channel. Journal of Non-Crystalline Solids, 2002, 299-302, 1326-1329.	3.1	0
95	Label-free DNA analysis system based on Lab-On-Glass technology. , 2008, , .		0
96	Dielectric Bragg back reflecting mirror in a-Si:H / c-Si heterostructure solar cell. , 2008, , .		0
97	Improving the built-in potential of p-i-n amorphous silicon solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	0
98	Characterization of the common mode rejection ratio of amorphous silicon balanced photodiode. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 1164-1167.	0.8	0
99	Heterojunction solar cells on multi- crystalline silicon: surface treatments. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 928-931.	0.8	0
100	Silicon-Based Photovoltaics. Series in Optics and Optoelectronics, 2013, , 749-812.	0.0	0
101	Applications of the green's expression for saturation current vs. bandgap in Si and CIGS solar cells. , 2015, , .		0
102	Relevance Of TCO workfunction in n-silicon oxide emitter - c-Si (p) heterojunction solar cell. , 2015, , .		0
103	Integration of Amorphous Silicon Photosensors with Thin Film Interferential Filter for Biomolecule Detection. Lecture Notes in Electrical Engineering, 2018, , 121-127.	0.4	0
104	Hydrogenated silicon sub-oxide film for an effective and thermal stable silicon surface passivation. , 2018, , .		0
105	Modelling and Validation on Field of EESS Management Strategies in Grid-Connected PV Systems for End Users. , 2019, , .		0