

# Alessandro Fantoni

## List of Publications by Citations

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125  
papers

477  
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11  
h-index

17  
g-index

165  
ext. papers

566  
ext. citations

2.6  
avg, IF

3.05  
L-index

#	Paper	IF	Citations
125	Simulation of hydrogenated amorphous and microcrystalline silicon optoelectronic devices. <i>Mathematics and Computers in Simulation</i> , <b>1999</b> , 49, 381-401	3.3	44
124	Light-Activated Amplification in Si-C Tandem Devices: A Capacitive Active Filter Model. <i>IEEE Sensors Journal</i> , <b>2012</b> , 12, 1755-1762	4	29
123	Influence of the intrinsic layer characteristics on a-Si:H p-i-n solar cell performance analysed by means of a computer simulation. <i>Solar Energy Materials and Solar Cells</i> , <b>2002</b> , 73, 151-162	6.4	28
122	Self-biasing effect in colour sensitive photodiodes based on double p-i-n a-SiC:H heterojunctions. <i>Vacuum</i> , <b>2008</b> , 82, 1512-1516	3.7	26
121	Image capture devices based on p-i-n silicon carbides for biometric applications. <i>Journal of Non-Crystalline Solids</i> , <b>2002</b> , 299-302, 1245-1249	3.9	21
120	A two-dimensional numerical simulation of a non-uniformly illuminated amorphous silicon solar cell. <i>Journal Physics D: Applied Physics</i> , <b>1996</b> , 29, 3154-3159	3	18
119	Wide spectral response in a-Si:H photodiodes. <i>Thin Solid Films</i> , <b>1997</b> , 296, 164-167	2.2	16
118	Pinp-i-n and pinp-i-n multilayer devices with voltage controlled optical readout. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2009</b> , 9, 4022-7	1.3	15
117	Optical multiplexer for short range communications. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2009</b> , 41, 1082-1085	3	13
116	Tailoring defects on amorphous silicon pin devices. <i>Journal of Non-Crystalline Solids</i> , <b>1993</b> , 164-166, 671-674	3.4	13
115	Image and color sensitive detector based on double p-i-n/p-i-n a-SiC:H photodiode. <i>Materials Research Society Symposia Proceedings</i> , <b>2005</b> , 862, 1341		12
114	Bias sensitive multispectral structures for imaging applications. <i>Thin Solid Films</i> , <b>2007</b> , 515, 7566-7570	2.2	11
113	Stacked n-i-p-n-i-p Heterojunctions for Image Recognition. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 762, 18131		11
112	Influence of the band offset on the performance of photodevices based on the c-Si/a-Si:H heterostructure. <i>Thin Solid Films</i> , <b>2001</b> , 383, 314-317	2.2	10
111	A new CLSP Sensor for Image Recognition and Color Separation. <i>Materials Research Society Symposia Proceedings</i> , <b>2002</b> , 715, 431		10
110	Modelling Heteroface of P.I.N Solar Cells for Improving Stability. <i>Materials Research Society Symposia Proceedings</i> , <b>1994</b> , 336, 711		10
109	Inhomogeneous transport in microcrystalline p-i-n devices. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , <b>2000</b> , 80, 755-764		9

108	Controlling the Lateral Photoeffect in a-Si:H Heterojunction Structures: The Influence of the Band Offset Analysed Through A Numerical Simulation. <i>Materials Research Society Symposia Proceedings</i> , <b>2001</b> , 664, 25111		9
107	Voltage controlled amorphous Si/SiC photodiodes and phototransistors as wavelength selective devices: Theoretical and electrical approaches. <i>Materials Research Society Symposia Proceedings</i> , <b>2009</b> , 1153, 1		8
106	An amorphous SiC/Si image photodetector with voltage-selectable spectral response. <i>Thin Solid Films</i> , <b>2006</b> , 511-512, 167-171	2.2	8
105	On the a-Si:H film growth: the role of the powder formation. <i>Journal of Non-Crystalline Solids</i> , <b>1996</b> , 198-200, 1207-1211	3.9	8
104	Optoelectronic characterization of a-SiC:H stacked devices. <i>Journal of Non-Crystalline Solids</i> , <b>2004</b> , 338-340, 345-348	3.9	7
103	Image and color recognition using amorphous silicon p-i-n photodiodes. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 123-124, 326-330	3.9	7
102	SiC Multilayer Structures as Light Controlled Photonic Active Filters. <i>Plasmonics</i> , <b>2013</b> , 8, 63-70	2.4	6
101	Large area double p-i-n heterostructure for signal multiplexing and demultiplexing in the visible range. <i>Thin Solid Films</i> , <b>2009</b> , 517, 6435-6439	2.2	5
100	Bidimensional Numerical Analysis of A $\mu$ -Si:H P-I-N Photodiode under Local Illumination. <i>Materials Research Society Symposia Proceedings</i> , <b>1997</b> , 467, 765		5
99	LSP image sensors based on SiC heterostructures. <i>Applied Surface Science</i> , <b>2001</b> , 184, 471-476	6.7	5
98	Dependence of the Lateral Photoeffect in a-Si:H P-I-N Structures on the Material Characteristics Studied by Means of a Numerical Simulation. <i>Materials Research Society Symposia Proceedings</i> , <b>2002</b> , 715, 771		5
97	Three Transducers Embedded into One Single SiC Photodetector: LSP Direct Image Sensor, Optical Amplifier and Demux Device <b>2011</b> ,		4
96	Optically addressed read/write device based on tandem heterostructure. <i>Journal of Non-Crystalline Solids</i> , <b>2004</b> , 338-340, 754-757	3.9	4
95	A Simulation Study of Surface Plasmons in Metallic Nanoparticles: Dependence on the Properties of an Embedding a-Si:H Matrix. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2018</b> , 215, 1700487	1.6	4
94	Analysis of metallic nanoparticles embedded in thin film semiconductors for optoelectronic applications. <i>Optical and Quantum Electronics</i> , <b>2018</b> , 50, 1	2.4	4
93	FDTD simulation of amorphous silicon waveguides for microphotronics applications <b>2017</b> ,		3
92	Semiconductor device as optical demultiplexer for short range optical communications. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2011</b> , 11, 5318-22	1.3	3
91	Multilayer architectures based on a-SiC:H material: tunable wavelength filters in optical processing devices. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2011</b> , 11, 5299-304	1.3	3

90	Spectral response characterization of a-Si:H-based MIS-type photosensors. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2008</b> , 5, 3410-3413		3
89	a-SiC:H/a-Si:H tandem photodiodes: a numerical simulation. <i>Sensors and Actuators A: Physical</i> , <b>2004</b> , 113, 324-328	3.9	3
88	Sensor element for a metal-insulator-semiconductor camera system (MISCam). <i>Sensors and Actuators A: Physical</i> , <b>2004</b> , 115, 331-335	3.9	3
87	A two terminal optical signal and image processing p <sup>+</sup> i/n/p <sup>+</sup> image and colour sensor. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 123-124, 331-336	3.9	3
86	VIS/NIR detector based on $\mu$ -Si:H p <sup>+</sup> i/n structures. <i>Thin Solid Films</i> , <b>2000</b> , 364, 204-208	2.2	3
85	Transport properties in microcrystalline silicon solar cells under AM1.5 illumination analysed by two-dimensional numerical simulation. <i>Solid-State Electronics</i> , <b>1999</b> , 43, 1709-1714	1.7	3
84	Hydrogenated Amorphous Silicon Speed Sensor Based on the Flying Spot Technique. <i>Materials Research Society Symposia Proceedings</i> , <b>1995</b> , 377, 839		3
83	Plasmonic properties of gold nanospheres coupled to reduced graphene oxide for biosensing applications * <b>2019</b> ,		2
82	A model for the refractive index of amorphous silicon for FDTD simulation of photonics waveguides <b>2017</b> ,		2
81	Logic functions based on optical bias controlled SiC tandem devices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2014</b> , 11, 211-216		2
80	Integrated photonic filters based on SiC multilayer structures. <i>Applied Surface Science</i> , <b>2013</b> , 275, 185-192	2.7	2
79	Capacitive effects in pinpin photodiodes. <i>Microelectronic Engineering</i> , <b>2013</b> , 108, 195-199	2.5	2
78	FDTD Simulation of Light Propagation Inside a-Si:H Structures. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1245, 1		2
77	SiC multilayer photonic structures with self optical bias amplification. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1426, 229-235		2
76	Optical processing devices based on a-SiC:H multilayer architectures. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2010</b> , 7, NA-NA		2
75	Multilayered a-SiC:H device for Wavelength-Division (de)Multiplexing applications in the visible spectrum. <i>Materials Research Society Symposia Proceedings</i> , <b>2008</b> , 1066, 1		2
74	Optical confinement and colour separation in a double colour laser scanned photodiode (D/CLSP). <i>Sensors and Actuators A: Physical</i> , <b>2004</b> , 114, 219-223	3.9	2
73	Bias controlled spectral sensitivity in a-SiC:H p <sup>+</sup> i/n devices. <i>Thin Solid Films</i> , <b>2003</b> , 427, 196-200	2.2	2

72	Enhanced short wavelength response in laser-scanned-photodiode image sensor using an a-SiC:H/a-Si:H tandem structure. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 123-124, 343-348	3.9	2
71	Visible-infrared spectral response of microcrystalline hydrogenated silicon hetero-junctions. <i>Vacuum</i> , <b>1999</b> , 52, 121-124	3.7	2
70	Transport properties of $\mu$ -Si:H analyzed by means of numerical simulation. <i>Thin Solid Films</i> , <b>1999</b> , 337, 109-112	2.2	2
69	Anisotropic Transport in Microcrystalline P-I-N Devices. <i>Materials Research Society Symposia Proceedings</i> , <b>1999</b> , 557, 549		2
68	Simulation and Analysis of Surface Plasmon Resonance Based Sensor. <i>IFIP Advances in Information and Communication Technology</i> , <b>2018</b> , 252-261	0.5	1
67	Reconfigurable SiC Embedded Photonic Structures with Self Optical Bias Control. <i>Plasmonics</i> , <b>2013</b> , 8, 45-51	2.4	1
66	SiC pinpin photonic filters for linking the visible spectrum to the telecom gap. <i>Microelectronic Engineering</i> , <b>2014</b> , 126, 179-183	2.5	1
65	DEMUX devices based on a-SiC:H. <i>Sensors and Actuators A: Physical</i> , <b>2012</b> , 186, 143-147	3.9	1
64	Photo-sensing devices using a-Si based materials. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2011</b> , 8, 1079-1082		1
63	Modeling a-SiC:H tandem pinpin and pinip photodiodes for color sensor application. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2009</b> , 9, 4028-33	1.3	1
62	Novel device for implementation of WDM in the visible spectrum. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1438, 55		1
61	Modelling a $\mu$ -Si:H p-i-n device under non-uniform illumination. <i>Thin Solid Films</i> , <b>1997</b> , 296, 110-113	2.2	1
60	Analysis and simulation of a-Si:H/a-SiC:H PINIP structures for color image detection. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2008</b> , 205, 2069-2074	1.6	1
59	Preliminary Results on Large Area X-ray a-SiC:H Multilayer Detectors with Optically Addressed Readout. <i>Materials Research Society Symposia Proceedings</i> , <b>2007</b> , 989, 2		1
58	Light filtering in a-SiC:H multilayers stacked devices using the LSP technique. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1809-1812	3.9	1
57	Spice model for a laser scanned photodiode tricolor image sensor. <i>Journal of Non-Crystalline Solids</i> , <b>2006</b> , 352, 1813-1817	3.9	1
56	Colour filtering in a-SiC:H based p-i-n-p-i-n cells: A trade-off between bias polarity and absorption regions. <i>Sensors and Actuators A: Physical</i> , <b>2006</b> , 132, 218-223	3.9	1
55	Stacked a-SiC:H Optical Transducers: the Influence of the Sensing Material. <i>Materials Science Forum</i> , <b>2004</b> , 455-456, 81-85	0.4	1

54	Tuning the spectral distribution of p-i-n a-SiC:H devices for colour detection. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 120, 88-93	3.9	1
53	Spectral Sensitivity and Color Selectivity in Multilayer Stacked Devices. <i>Materials Research Society Symposia Proceedings</i> , <b>2005</b> , 862, 921		1
52	Photocurrent in Microcrystalline Hydrogenated Silicon P-I-N Devices. <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 507, 193		1
51	Simulation of localized surface plasmon in metallic nanoparticles embedded in amorphous silicon <b>2017</b> ,		1
50	Indoor positioning and intuitive advertising using visible light communication <b>2019</b> ,		1
49	Bi-directional VLC LED-assisted navigation system for large indoor environments <b>2019</b> ,		1
48	A simulation analysis for dimensioning of an amorphous silicon planar waveguide structure suitable to be used as a surface plasmon resonance biosensor <b>2019</b> ,		1
47	Measurement of Photo Capacitance in Amorphous Silicon Photodiodes. <i>IFIP Advances in Information and Communication Technology</i> , <b>2013</b> , 547-554	0.5	1
46	Lithographic Mask Defects Analysis on an MMI 3 dB Splitter. <i>Photonics</i> , <b>2019</b> , 6, 118	2.2	1
45	Characterization of Plasmonic Effects in AuNP+rGO Composite as a Sensing Layer for a Low-cost Lab-on-chip Biosensor <b>2019</b> ,		1
44	Local Surface Plasmon Resonance of metallic nanoparticles embedded in amorphous silicon. <i>Ciência &amp; Tecnologia Dos Materiais</i> , <b>2017</b> , 29, e146-e150		0
43	Computer simulation study about the dependence of amorphous silicon photonic waveguides efficiency on the material quality. <i>EPJ Applied Physics</i> , <b>2020</b> , 90, 30502	1.1	0
42	Simulation of an Early Warning Fire System. <i>IFIP Advances in Information and Communication Technology</i> , <b>2019</b> , 305-317	0.5	
41	VIS/NIR wavelength selector based on a multilayer p-i-n/pin a-SiC:H optical filter. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2015</b> , 12, 1387-1392		
40	Add/drop filters based on SiC technology for optical interconnects. <i>IOP Conference Series: Materials Science and Engineering</i> , <b>2014</b> , 56, 012008	0.4	
39	Detection of change in fluorescence between reactive cyan and the yellow fluorophores using a-SiC:H multilayer transducers. <i>Journal of Nanoscience and Nanotechnology</i> , <b>2011</b> , 11, 8657-62	1.3	
38	Light-triggered silicon-carbon p-i-npin devices with self amplification. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2011</b> , 8, 1083-1086		
37	Reviewing Photo-sensing Devices Using a-SiC Based Materials. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1245, 1		

- 36 a-SiC:H Based Devices as Optical Demultiplexers. *Materials Research Society Symposia Proceedings*, **2010**, 1246, 1
- 35 Light-triggered Silicon-carbon Piñpin Devices for Optical Communications: Theoretical and Electrical Approaches. *Materials Research Society Symposia Proceedings*, **2010**, 1245, 1
- 34 Fine Tuning of the Spectral Sensitivity in a-SiC:H Stacked p-iñ Graded Cells. *Materials Research Society Symposia Proceedings*, **2009**, 1153, 1
- 33 Optical Processing Devices for Optical Communications: Multilayered a-SiC:H Architectures. *Materials Research Society Symposia Proceedings*, **2009**, 1153, 1
- 32 a-Si:H pñ structures with extreme i-layer thickness. *Thin Solid Films*, **2009**, 517, 6426-6429 2.2
- 31 Optical bias controlled amplification in tandem Si-C pinpin devices. *Materials Research Society Symposia Proceedings*, **2011**, 1321, 417
- 30 Photocurrent and spectral response analysis of a-SiC:H pinip and pinpin photodiodes. *Journal of Nanoscience and Nanotechnology*, **2009**, 9, 4254-8 1.3
- 29 Non-selective optical wavelength-division multiplexing devices based on a-SiC:H multilayer heterostuctures. *Materials Research Society Symposia Proceedings*, **2008**, 1076, 1
- 28 Improvement in pinpin Device Architectures for Imaging Applications. *Materials Research Society Symposia Proceedings*, **2008**, 1066, 1
- 27 Light Filtering Properties in a-SiC:H Multilayer Structures: A SPICE model. *Materials Research Society Symposia Proceedings*, **2006**, 910, 1
- 26 Band Gap Engineering and Electrical Field Tailoring for Voltage Controlled Spectral Sensitivity. *Materials Research Society Symposia Proceedings*, **2006**, 910, 2
- 25 Photocurrent Profile in a-SiC:H Monolithic Tandem Pinpin and Pinip Photodiodes. *Materials Research Society Symposia Proceedings*, **2007**, 989, 12
- 24 a-SiC:H/a-Si:H tandem structure analysis for RGB color recognition in LSP devices. *Journal of Non-Crystalline Solids*, **2006**, 352, 1805-1808 3.9
- 23 Bias sensitive spectral sensitivity in double a-SiC:H pin structures. *Superlattices and Microstructures*, **2006**, 40, 619-625 2.8
- 22 Fine-tuning of the spectral collection efficiency in multilayer junctions. *Thin Solid Films*, **2006**, 511-512, 84-88 2.2
- 21 A real-time optical signal and image processing p-i-n/p-i-n device. *Materials Research Society Symposia Proceedings*, **2004**, 808, 257
- 20 High Sensitive Image Sensors Based on a Tandem Laser Scanned Photodiode. *Materials Science Forum*, **2004**, 455-456, 91-95 0.4
- 19 Large area single and stacked p-i-n photodiodes as a color image sensors. *Materials Research Society Symposia Proceedings*, **2004**, 815, 100



- 18 Two terminal large area single and double p-i-n devices for image and color recognition. *Materials Research Society Symposia Proceedings*, **2004**, 808, 251
- 17 A non-pixel image reader for continuous image detection based on tandem heterostructures. *Sensors and Actuators A: Physical*, **2004**, 115, 191-195 3.9
- 16 Biometric system based on one single large area a-SiC:H p-i-n photodiode. *Materials Research Society Symposia Proceedings*, **2002**, 722, 1061
- 15 Fine-Tuning of the Spectral Collection Efficiency in a Multilayer Junction Through the LSP Technique. *Materials Research Society Symposia Proceedings*, **2005**, 872, 1
- 14 Photocarrier response time scanner. *Journal of Non-Crystalline Solids*, **2002**, 299-302, 1261-1266 3.9
- 13 Influence of the Grain Boundary Band Offset on Charge Transport Mechanism in Microcrystalline Silicon Analysed by Numerical Simulation. *Materials Research Society Symposia Proceedings*, **2000**, 609, 2721
- 12 A 3-phase model for VIS/NIR  $\alpha$ -Si:H p $\mu$ n detectors. *Sensors and Actuators A: Physical*, **2000**, 85, 175-180 3.9
- 11 A three-path model for visible/near infrared  $\alpha$ -Si:H p $\mu$ n detectors. *Journal of Non-Crystalline Solids*, **2000**, 266-269, 1223-1227 3.9
- 10 Amorphous and microcrystalline silicon p-i-n optical speed sensors based on the flying spot technique. *Journal of Non-Crystalline Solids*, **1996**, 198-200, 1193-1197 3.9
- 9 AD-Layer for Spatial Control of Light Induced Degradation on Pin Devices. *Materials Research Society Symposia Proceedings*, **1994**, 336, 741
- 8 Thin Film Refractive Index and Thickness. *IFIP Advances in Information and Communication Technology*, **2020**, 179-188 0.5
- 7 Analysis of the Bias Dependent Spectral Response of a-SiC:H p-i-n Photodiode. *Materials Research Society Symposia Proceedings*, **2002**, 715, 731
- 6 Finite-difference time-domain analysis of hydrogenated amorphous silicon and aluminum surface plasmon waveguides. *Optical Engineering*, **2018**, 57, 1 1.1
- 5 SiC Multilayer Photonic Structures with Self Optical Bias Amplification. *International Federation for Information Processing*, **2012**, 511-518
- 4 Photonics Active Filters Based on SiC Multilayer Structures: A Two Stage Active Circuit. *International Federation for Information Processing*, **2012**, 503-510
- 3 Simulation in Amorphous Silicon and Amorphous Silicon Carbide Pin Diodes. *IFIP Advances in Information and Communication Technology*, **2014**, 602-609 0.5
- 2 Characterization of AuNPs+rGO as a functionalized layer for LSPR sensors. *Materials Letters: X*, **2020**, 5, 100032 0.5
- 1 Rib Waveguide Plasmonic Sensor for Lab-on-Chip Technology. *IFIP Advances in Information and Communication Technology*, **2022**, 187-196 0.5



