Andrea Cattoni

List of Publications by Year
in descending order

87 papers	1,903 citations	304368 22 h-index	264894 42 g-index
88 all docs	88 docs citations	88 times ranked	2946 citing authors

#	Article	IF	Citations
1	Blockâ€Copolymers Enable Direct Reduction and Structuration of Noble Metalâ€Based Films. Small, 2022, 18, e2104204.	5.2	2
2	Cathodoluminescence mapping of electron concentration in MBE-grown GaAs:Te nanowires. Nanotechnology, 2022, 33, 185704.	1.3	2
3	Deep X-ray lithography on â€œsolâ€“gelâ€•processed noble metal mesoarchitectured films. Nanoscale, 2022, 14, 1706-1712.	2.8	0
4	Quantitative Assessment of Carrier Density by Cathodoluminescence. I. GaAs Thin Films and Modeling. Physical Review Applied, 2021, 15, .	1.5	6
5	Replacing Metals with Oxides in Metal-Assisted Chemical Etching Enables Direct Fabrication of Silicon Nanowires by Solution Processing. Nano Letters, 2021, 21, 2310-2317.	4.5	14
6	Quantitative Assessment of Carrier Density by Cathodoluminescence. II. GaAs Nanowires. Physical Review Applied, 2021, 15, .	1.5	4
7	Dynamics of Droplet Consumption in Vaporâ€“Liquidâ€“Solid IIIâ€“V Nanowire Growth. Crystal Growth and Design, 2021, 21, 4647-4655.	1.4	6
8	Interface engineering of ultrathin Cu(In,Ga)Se₂ solar cells on reflective back contacts. Progress in Photovoltaics: Research and Applications, 2021, 29, 212-221.	4.4	21
9	Reflective Back Contacts for Ultrathin Cu(In,Ga)Se2-Based Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 250-254.	1.5	15
10	Nanoscale electrical analyses of axial-junction GaAsP nanowires for solar cell applications. Nanotechnology, 2020, 31, 145708.	1.3	14
11	Optimization of Back Contact Grid Size in Al₂O₃-Rear-Passivated Ultrathin CIGS PV Cells by 2-D Simulations. IEEE Journal of Photovoltaics, 2020, 10, 1908-1917.	1.5	24
12	Progress and prospects for ultrathin solar cells. Nature Energy, 2020, 5, 959-972.	19.8	168
13	Stable and high yield growth of GaP and In_{0.2}Ga_{0.8}As nanowire arrays using In as a catalyst. Nanoscale, 2020, 12, 18240-18248.	2.8	6
14	Investigation of the spatial distribution of hot carriers in quantum-well structures via hyperspectral luminescence imaging. Journal of Applied Physics, 2020, 128, .	1.1	11
15	Following in Situ the Degradation of Mesoporous Silica in Biorelevant Conditions: At Last, a Good Comprehension of the Structure Influence. ACS Applied Materials & Interfaces, 2020, 12, 13598-13612.	4.0	25
16	Metasurface-based total internal reflection microscopy. Biomedical Optics Express, 2020, 11, 1967.	1.5	7
17	Les cellules solaires ultrafines. Photoniques, 2020, , 44-48.	0.0	1
18	A 19.9%-efficient ultrathin solar cell based on a 205-nm-thick GaAs absorber and a silver nanostructured back mirror. Nature Energy, 2019, 4, 761-767.	19.8	136

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19	A hot-carrier assisted InAs/AlGaAs quantum-dot intermediate-band solar cell. Semiconductor Science and Technology, 2019, 34, 084001.	1.0	4
20	Nanoplasmonics-enhanced label-free imaging of endothelial cell monolayer integrity. Biosensors and Bioelectronics, 2019, 141, 111478.	5.3	5
21	Evidence and control of unintentional As-rich shells in GaAs_{1â€“x}P _x nanowires. Nanotechnology, 2019, 30, 294003.	1.3	4
22	Radiation Hardness of Ultra-thin GaAs Solar Cells with Rear-side Silver Mirror. , 2019, , .		0
23	Epitaxial Lift-Off of Ultrathin Heterostructures for Hot-Carrier Solar Cell Applications. , 2019, , .		0
24	Development of reflective back contacts for high-efficiency ultrathin Cu(In,Ga)Se2 solar cells. Thin Solid Films, 2019, 672, 1-6.	0.8	22
25	Growth optimization and characterization of regular arrays of GaAs/AlGaAs core/shell nanowires for tandem solar cells on silicon. Nanotechnology, 2019, 30, 084005.	1.3	16
26	Light absorption enhancement in ultra-thin layers for hot-carrier solar cells: first developments towards the experimental demonstration of an enhanced hot-carrier effect with light trapping. , 2019, , .		0
27	Experimental investigation of performances enhancement in hot carrier solar cells: improvements and perspectives (Conference Presentation). , 2019, , .		0
28	Axial junction GaAsP nanowires for solar cells applications (Conference Presentation). , 2019, , .		1
29	Nanoscale Electrical Characterization of Organized GaAsP Nanowires for Photovoltaic Energy Harvesting. , 2019, , .		0
30	Sub-10 nm electron and helium ion beam lithography using a recently developed alumina resist. Microelectronic Engineering, 2018, 193, 18-22.	1.1	29
31	Material challenges for solar cells in the twenty-first century: directions in emerging technologies. Science and Technology of Advanced Materials, 2018, 19, 336-369.	2.8	162
32	Measuring and Modeling the Growth Dynamics of Self-Catalyzed GaP Nanowire Arrays. Nano Letters, 2018, 18, 701-708.	4.5	55
33	Nanoimprint stamps with ultra-high resolution: Optimal fabrication techniques. Microelectronic Engineering, 2018, 190, 73-78.	1.1	7
34	Dynamic Shaping of Femtoliter Dew Droplets. ACS Nano, 2018, 12, 3243-3252.	7.3	17
35	Environment-controlled solâ€“gel soft-NIL processing for optimized titania, alumina, silica and yttria-zirconia imprinting at sub-micron dimensions. Nanoscale, 2018, 10, 1420-1431.	2.8	24
36	Cathodoluminescence Characterization of Semiconductor Doping at the Nanoscale. , 2018, , .		0

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37	RÃ1e et limitations de la plasmonique pour le photovoltaÃ¯que solaire. Photoniques, 2018, , 25-25.	0.0	0
38	Multi-resonant light trapping in ultra-thin solar cells (Conference Presentation). , 2018, , .		1
39	Ethanolâ€“water co-condensation into hydrophobic mesoporous thin films: example of a photonic ethanol vapor sensor in humid environment. Journal of Sol-Gel Science and Technology, 2017, 81, 95-104.	1.1	6
40	Biosensing on a Chip: Study of Plasmonic Nanostructures Integrated in Microfluidic Devices. NATO Science for Peace and Security Series B: Physics and Biophysics, 2017, , 491-492.	0.2	1
41	Determination of n-Type Doping Level in Single GaAs Nanowires by Cathodoluminescence. Nano Letters, 2017, 17, 6667-6675.	4.5	35
42	Light Trapping in Ultrathin CIGS Solar Cells with Nanostructured Back Mirrors. IEEE Journal of Photovoltaics, 2017, 7, 1433-1441.	1.5	54
43	Ultrathin Cu(In,Ga)Se2 based solar cells. Thin Solid Films, 2017, 633, 55-60.	0.8	39
44	Cathodoluminescence mapping for the determination of n-type doping in single GaAs nanowires. , 2017, , .		0
45	Multiresonant light trapping in ultra-thin GaAs and CIGS solar cells. , 2017, , .		2
46	III-V Nanowires on Silicon: a possible route to Si-based tandem solar cells. , 2017, , .		0
47	Ultrathin PECVD epitaxial Si solar cells on glass via low-temperature transfer process. Progress in Photovoltaics: Research and Applications, 2016, 24, 1075-1084.	4.4	32
48	200nm-Thick GaAs solar cells with a nanostructured silver mirror. , 2016, , .		6
49	Comparative study of patterned TiO<inf>2</inf> and Al<inf>2</inf>O<inf>3</inf> layers as passivated back-contact for ultra-thin Cu(In,) Tj ETQq1 1 0.784314 rgBT /Ov		
50	Multi-resonant light trapping in ultrathin CIGS solar cells. , 2016, , .		1
51	Nanoimprinted, Submicrometric, MOFâ€Based 2D Photonic Structures: Toward Easy Selective Vapors Sensing by a Smartphone Camera. Advanced Functional Materials, 2016, 26, 81-90.	7.8	85
52	Large area graphene nanomesh: an artificial platform for edge-electrochemical biosensing at the sub-attomolar level. Nanoscale, 2016, 8, 15479-15485.	2.8	28
53	Ultrathin Epitaxial Silicon Solar Cells with Inverted Nanopyramid Arrays for Efficient Light Trapping. Nano Letters, 2016, 16, 5358-5364.	4.5	78
54	Time-Resolved Photoluminescence in Gold Nanoantennas. ACS Photonics, 2016, 3, 1489-1493.	3.2	9

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55	Ultrasensitive Characterization of Mechanical Oscillations and Plasmon Energy Shift in Gold Nanorods. ACS Nano, 2016, 10, 2251-2258.	7.3	27
56	Vapor Sensing: Nanoimprinted, Submicrometric, MOFâ€Based 2D Photonic Structures: Toward Easy Selective Vapors Sensing by a Smartphone Camera (Adv. Funct. Mater. 1/2016). Advanced Functional Materials, 2016, 26, 80-80.	7.8	1
57	Improving image contrast in fluorescence microscopy with nanostructured substrates. Optics Express, 2015, 23, 29772.	1.7	3
58	Multi-resonant light trapping: New paradigm, new limits. , 2015, , .		1
59	Ultrathin GaAs solar cells with a nanostructured back mirror. , 2015, , .		4
60	Ultrathin GaAs Solar Cells With a Silver Back Mirror. IEEE Journal of Photovoltaics, 2015, 5, 565-570.	1.5	74
61	Crystallization of Si Templates of Controlled Shape, Size, and Orientation: Toward Micro- and Nanosubstrates. Crystal Growth and Design, 2015, 15, 2102-2109.	1.4	5
62	Absorption enhancement through Fabry-PÃ©rot resonant modes in a 430â€‰nm thick InGaAs/GaAsP multiple quantum wells solar cell. Applied Physics Letters, 2015, 106, .	1.5	33
63	Ultrafast non-thermal response of Plasmonic resonance in Gold Nanoantennas. , 2014, , .		0
64	Four-fold MQWs absorption enhancement in a 430 nm thick InGaAs/GaAsP MQWs solar cell. , 2014, , .		0
65	Structural comparison between MgO/Fe(001) and MgO/Fe(001)â€“p(1Ã—1)O interfaces for magnetic tunneling junctions: An Auger electron diffraction study. Applied Surface Science, 2014, 305, 167-172.	3.1	3
66	Self-assembled titanium calcium oxide nanopatterns as versatile reactive nanomasks for dry etching lithographic transfer with high selectivity. Nanoscale, 2013, 5, 984-990.	2.8	20
67	Broadband light-trapping in ultra-thin nano-structured solar cells. Proceedings of SPIE, 2013, , .	0.8	9
68	Far-Field Optical Control of a Movable Subdiffraction Light Grid. Physical Review Letters, 2012, 109, 187404.	2.9	6
69	Extremely thin planarized grating for sub-diffraction (<100 nm) far-field optical imaging of living cell membranes. Microelectronic Engineering, 2012, 97, 154-156.	1.1	3
70	Single particle demultiplexer based on domain wall conduits. Applied Physics Letters, 2012, 101, 142405.	1.5	29
71	Lâ€™optofluidique, lâ€™optique et la fluidique intÃ©grÃ©e sur puce. Photoniques, 2012, , 39-44.	0.0	0
72	Î»³/1000 Plasmonic Nanocavities for Biosensing Fabricated by Soft UV Nanoimprint Lithography. Nano Letters, 2011, 11, 3557-3563.	4.5	210

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73	Soft UV Nanoimprint Lithography: A Versatile Tool for Nanostructuration at the 20nm Scale. , 2011, , .		9
74	Investigation of the magnetization reversal of a magnetic dot array of Co/Pt multilayers. Journal of Nanoparticle Research, 2011, 13, 5587-5593.	0.8	6
75	Soft UV-NIL at 20nm scale using flexible bi-layer stamp casted on HSQ master mold. Microelectronic Engineering, 2010, 87, 1015-1018.	1.1	45
76	A versatile pattern inversion process based on thermal and soft UV nanoimprint lithography techniques. Microelectronic Engineering, 2010, 87, 899-903.	1.1	15
77	MgO/Fe(001) and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>MgO</mml:mtext><mml:mo>/</mml:mo><mml:mtext>Fe</mml:mtext></mml:mrow><mml for magnetic tu. Physical Review B, 2009, 80, .	1.1	21
78	Ferromagnetism in epitaxial orthorhombic YMnO3 thin films. Journal of Magnetism and Magnetic Materials, 2009, 321, 1719-1722.	1.0	38
79	Impact of O2 exposure on surface crystallinity of clean and Ba terminated Ge(100) surfaces. Applied Surface Science, 2008, 254, 2720-2724.	3.1	4
80	Surface electronic and magnetic properties of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>La</mml:mtext></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mr Physical Review B, 2008, 78, .	1.1	17
81	X-ray photoemission study of the Auâ^•La0.67Sr0.33MnO3 interface formation. Journal of Applied Physics, 2008, 103, .	1.1	9
82	Proximity effects induced by a gold layer on La0.67Sr0.33MnO3 thin films. Applied Physics Letters, 2007, 91, .	1.5	18
83	Oxygen vacancies and induced changes in the electronic and magnetic structures ofLa0.66Sr0.33MnO3: A combinedab initioand photoemission study. Physical Review B, 2007, 75, .	1.1	78
84	Decrease of the Curie temperature in La0.67Sr0.33MnO3 thin films induced by Au capping. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2007, 144, 93-96.	1.7	9
85	Effect of Ba termination layer on chemical and electrical passivation of Ge (100) surfaces. Materials Science in Semiconductor Processing, 2006, 9, 701-705.	1.9	8
86	Overview of Materials for Microfluidic Applications. , 0, , .		7
87	Molecular Microfluidic Bioanalysis: Recent Progress in Preconcentration, Separation, and Detection. , 0, , .		0