StÃ©phane Collin

List of Publications by Year
in descending order

155	3,870	126858	133188
papers	citations	33 h-index	59 g-index

155	155	155	4313
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Cathodoluminescence mapping of electron concentration in MBE-grown GaAs:Te nanowires. Nanotechnology, 2022, 33, 185704.	1.3	2
2	Industrially Compatible Fabrication Process of Perovskite-Based Mini-Modules Coupling Sequential Slot-Die Coating and Chemical Bath Deposition. ACS Applied Materials & Interfaces, 2022, 14, 11636-11644.	4.0	15
3	Iterative method for optical modelling of perovskite-based tandem solar cells. Optics Express, 2022, 30, 9604.	1.7	4
4	Porous Nitride Light-Emitting Diodes. ACS Photonics, 2022, 9, 1256-1263.	3.2	5
5	Preferential sublimation along threading dislocations in InGaN/GaN single quantum well for improved photoluminescence. Journal of Applied Physics, 2022, 132, 035302.	1.1	1
6	Quantitative Assessment of Carrier Density by Cathodoluminescence. I. GaAs Thin Films and Modeling. Physical Review Applied, 2021, 15, .	1.5	6
7	Quantitative Assessment of Carrier Density by Cathodoluminescence. II. GaAs Nanowires. Physical Review Applied, 2021, 15, .	1.5	4
8	Exceeding 200â€‰ns Lifetimes in Polycrystalline CdTe Solar Cells. Solar Rrl, 2021, 5, 2100173.	3.1	10
9	Imaging <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">CdCl</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> defect passivation and formation in polycrystalline CdTe films by cathodoluminescence. Physical Review Materials, 2021, 5, .	0.9	5
10	Toward a highly efficient large surface Perovskite Silicon 4-Terminal tandem module. , 2021, , .		0
11	Oneâ€Step Slotâ€Die Coating Deposition of Wideâ€Bandgap Perovskite Absorber for Highly Efficient Solar Cells. Solar Rrl, 2021, 5, 2100391.	3.1	10
12	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
13	Correlated optical and electrical analyses of inhomogeneous core/shell InGaN/GaN nanowire light emitting diodes. Nanotechnology, 2021, 32, 105202.	1.3	6
14	Investigation of the effect of the doping order in GaN nanowire pâ€“n junctions grown by molecular-beam epitaxy. Nanotechnology, 2021, 32, 085705.	1.3	7
15	Reflective Back Contacts for Ultrathin Cu(In,Ga)Se2-Based Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 250-254.	1.5	15
16	Nanoscale electrical analyses of axial-junction GaAsP nanowires for solar cell applications. Nanotechnology, 2020, 31, 145708.	1.3	14
17	Erbium-doped yttria-stabilised zirconia thin films grown by pulsed laser deposition for photonic applications. Thin Solid Films, 2020, 693, 137706.	0.8	2
18	Erbium-Doped Yttria-Stabilized Zirconia Thin Layers for Photonic Applications. IEEE Journal of Quantum Electronics, 2020, 56, 1-7.	1.0	7

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19	Identification of surface and volume hot-carrier thermalization mechanisms in ultrathin GaAs layers. Journal of Applied Physics, 2020, 128, 193102.	1.1	17
20	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
21	Progress and prospects for ultrathin solar cells. Nature Energy, 2020, 5, 959-972.	19.8	168
22	Influence of surface passivation on the electrical properties of pâ€“iâ€“n GaAsP nanowires. Applied Physics Letters, 2020, 117, 123104.	1.5	4
23	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
24	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
25	1.73 eV AlGaAs/InGaP heterojunction solar cell grown by MBE with 18.7% efficiency. Progress in Photovoltaics: Research and Applications, 2020, 28, 393-402.	4.4	6
26	Fabrication and optical characterization of ultrathin III-V transferred heterostructures for hot-carrier absorbers. , 2020, , .		2
27	Optical analysis and optimizations of semi-transparent triple cation perovskite solar cells for tandem applications. , 2020, , .		8
28	Backside light management of 4-terminal bifacial perovskite/silicon tandem PV modules evaluated under realistic conditions. Optics Express, 2020, 28, 37487.	1.7	9
29	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
30	A hot-carrier assisted InAs/AlGaAs quantum-dot intermediate-band solar cell. Semiconductor Science and Technology, 2019, 34, 084001.	1.0	4
31	Nanoplasmonics-enhanced label-free imaging of endothelial cell monolayer integrity. Biosensors and Bioelectronics, 2019, 141, 111478.	5.3	5
32	Detailed balance calculations for hot-carrier solar cells: coupling high absorptivity with low thermalization through light trapping. EPJ Photovoltaics, 2019, 10, 1.	0.8	4
33	Evidence and control of unintentional As-rich shells in GaAs_{1â€“x}P _x nanowires. Nanotechnology, 2019, 30, 294003.	1.3	4
34	Correlated optical and structural analyses of individual GaAsP/GaP coreâ€“shell nanowires. Nanotechnology, 2019, 30, 304001.	1.3	7
35	Investigation of GaN nanowires containing AlN/GaN multiple quantum discs by EBIC and CL techniques. Nanotechnology, 2019, 30, 214006.	1.3	5
36	Elaboration of III-V top cell for tandem cell with Silicon. , 2019, , .		1

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37	Radiation Hardness of Ultra-thin GaAs Solar Cells with Rear-side Silver Mirror. , 2019, , .		0
38	AlGaAs/InGaP MBE-grown heterostructures for 1.73eV Solar Cells With 18.7% Efficiency. , 2019, , .		2
39	Epitaxial Lift-Off of Ultrathin Heterostructures for Hot-Carrier Solar Cell Applications. , 2019, , .		0
40	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
41	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
42	Nanoscale Electrical Characterization of Organized GaAsP Nanowires for Photovoltaic Energy Harvesting. , 2019, , .		0
43	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
44	Optoelectrical modeling of solar cells based on c-Si/a-Si:H nanowire array: focus on the electrical transport in between the nanowires. Nanotechnology, 2018, 29, 255401.	1.3	1
45	New limits for light-trapping with multi-resonant absorption. , 2018, , .		3
46	Cathodoluminescence Characterization of Semiconductor Doping at the Nanoscale. , 2018, , .		0
47	Advanced Light Trapping for Hot-Carrier Solar Cells. , 2018, , .		3
48	Luminescence methodology to determine grain-boundary, grain-interior, and surface recombination in thin-film solar cells. Journal of Applied Physics, 2018, 124, .	1.1	25
49	Nanoscale Analyses Applied to Nanowire Devices. Semiconductors and Semimetals, 2018, , 231-319.	0.4	1
50	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
51	Full 3D opto-electronic simulation tool for nanotextured solar cells (Conference Presentation). , 2017, , .		0
52	Interface dipole and band bending in the hybrid <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>p</mml:mi><mml:mo>â^'</mml:mo><mml:mi>n</mml:mi> heterojunction <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mo</mml:mi><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo>/</mml:mo><mml:mi>GaN</mml:mi><mml:mrow><mml:mo><</mml:mo> Physical Review B, 2017, 96, .	1.1	57
53	Determination of n-Type Doping Level in Single GaAs Nanowires by Cathodoluminescence. Nano Letters, 2017, 17, 6667-6675.	4.5	35
54	In situpassivation of GaAsP nanowires. Nanotechnology, 2017, 28, 495707.	1.3	27

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55	Light Trapping in Ultrathin CIGS Solar Cells with Nanostructured Back Mirrors. IEEE Journal of Photovoltaics, 2017, 7, 1433-1441.	1.5	54
56	Ultrathin Cu(In,Ga)Se2 based solar cells. Thin Solid Films, 2017, 633, 55-60.	0.8	39
57	Cathodoluminescence mapping for the determination of n-type doping in single GaAs nanowires. , 2017, , .		0
58	Near-field Studies of Thermal Radiation and Local Density of States. , 2017, , .		0
59	Decoupling grain-boundary, grain-interior, and surface recombination with cathodoluminescence. , 2017, , .		0
60	Multiresonant light trapping in ultra-thin GaAs and CIGS solar cells. , 2017, , .		2
61	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
62	200nm-Thick GaAs solar cells with a nanostructured silver mirror. , 2016, , .		6
63	Multi-resonant Absorption for Ultrathin Solar Cells. , 2016, , .		0
64	Multi-resonant light trapping in ultrathin CIGS solar cells. , 2016, , .		1
65	Infrared spectroscopy of molecules with nanorod arrays: a numerical study. Optics Letters, 2016, 41, 1744.	1.7	1
66	Influence of a Boron Precursor on the Growth and Optoelectronic Properties of Electrodeposited Zinc Oxide Thin Film. ACS Applied Materials & Interfaces, 2016, 8, 12298-12306.	4.0	3
67	Method for enhanced infrared spectroscopy of molecules with nanorod arrays. , 2016, , .		0
68	Ultrathin Epitaxial Silicon Solar Cells with Inverted Nanopyramid Arrays for Efficient Light Trapping. Nano Letters, 2016, 16, 5358-5364.	4.5	78
69	Time-Resolved Photoluminescence in Gold Nanoantennas. ACS Photonics, 2016, 3, 1489-1493.	3.2	9
70	Ultrasensitive Characterization of Mechanical Oscillations and Plasmon Energy Shift in Gold Nanorods. ACS Nano, 2016, 10, 2251-2258.	7.3	27
71	Characterization of plasmonic nanoantennas by Holographic Microscopy and Scanning Near-field Microscopy. Optics Communications, 2016, 359, 455-459.	1.0	4
72	Electrodeposition of ZnO window layer for an all-atmospheric fabrication process of chalcogenide solar cell. Scientific Reports, 2015, 5, 8961.	1.6	50

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73	Multi-resonant light trapping: New paradigm, new limits. , 2015, , .		1
74	Ultrathin nanostructured c-Si solar cells by low temperature and scalable processes. , 2015, , .		0
75	Ultrathin GaAs solar cells with a nanostructured back mirror. , 2015, , .		4
76	Ultrathin GaAs Solar Cells With a Silver Back Mirror. IEEE Journal of Photovoltaics, 2015, 5, 565-570.	1.5	74
77	Extraordinary optical extinctions through dual metallic gratings. Optics Letters, 2015, 40, 661.	1.7	12
78	Mapping the Radiative and the Apparent Nonradiative Local Density of States in the Near Field of a Metallic Nanoantenna. ACS Photonics, 2015, 2, 189-193.	3.2	35
79	Cu(In,Ga)Se 2 mesa diodes for the study of edge recombination. Thin Solid Films, 2015, 582, 258-262.	0.8	15
80	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
81	Characterization of Cu(In,Ga)Se$_{2}$ Electrodeposited and Co-Evaporated Devices by Means of Concentrated Illumination. IEEE Journal of Photovoltaics, 2014, 4, 693-696.	1.5	4
82	Fluorescent Scanning Near-Field Probe Maps the Radiative and Non-Radiative Local Density of Optical States at the Nanometer Scale. , 2014, , .		0
83	Four-fold MQWs absorption enhancement in a 430 nm thick InGaAs/GaAsP MQWs solar cell. , 2014, , .		0
84	Nanostructure arrays in free-space: optical properties and applications. Reports on Progress in Physics, 2014, 77, 126402.	8.1	126
85	An innovative concentrator system based on Cu(In,Ga)Se<inf>2</inf> microcells. , 2014, , .		0
86	Metal Nanogrid for Broadband Multiresonant Light-Harvesting in Ultrathin GaAs Layers. ACS Photonics, 2014, 1, 878-884.	3.2	90
87	Cu(In,Ga)Se2mesa microdiodes: study of edge recombination and behaviour under concentrated sunlight. , 2014, , .		0
88	Analysis of propellant combustion with real-time multispectral infrared camera. Proceedings of SPIE, 2013, , .	0.8	0
89	Towards high-efficiency ultra-thin solar cells with nanopatterned metallic front contact. , 2013, , .		4
90	Low-temperature SiGe PECVD epitaxy: From wafer equivalent to ultra-thin crystalline solar cells on inexpensive substrates. , 2013, , .		0

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91	Cu(In, Ga)Se2 microcells: High efficiency and low material consumption. Journal of Renewable and Sustainable Energy, 2013, 5, .	0.8	31
92	Broadband and Efficient Diffraction. Advanced Optical Materials, 2013, 1, 489-493.	3.6	31
93	Quality factor of 3D Metal-Insulator-Metal nanoresonators. , 2013, , .		2
94	Metalâ€“dielectric bi-atomic structure for angular-tolerant spectral filtering. Optics Letters, 2013, 38, 425.	1.7	29
95	Multi-resonant absorption in ultra-thin silicon solar cells with metallic nanowires. Optics Express, 2013, 21, A372.	1.7	39
96	Towards a full characterization of a plasmonic nanostructure with a fluorescent near-field probe. Optics Express, 2013, 21, 11536.	1.7	30
97	Infrared spectral filters based on guided-mode resonance with subwavelength structures. , 2013, , .		0
98	Broadband light-trapping in ultra-thin nano-structured solar cells. Proceedings of SPIE, 2013, , .	0.8	9
99	Thin film microcells for concentrated applications. , 2013, , .		0
100	Physics of Cu(In,Ga)Se₂microcells under ultrahigh illumination intensities. Proceedings of SPIE, 2013, , .	0.8	1
101	Nanopatterned front contact for broadband absorption in ultra-thin amorphous silicon solar cells. Applied Physics Letters, 2012, 101, 163901.	1.5	46
102	Ultrasmall metal-insulator-metal nanoresonators: impact of slow-wave effects on the quality factor. Optics Express, 2012, 20, 16880.	1.7	81
103	Free-standing guided-mode resonance band-pass filters: from 1D to 2D structures. Optics Express, 2012, 20, 13082.	1.7	49
104	Spectral filtering with subwavelength gratings: overview and latest advances. Proceedings of SPIE, 2012, , .	0.8	3
105	Cu(In,Ga)Se2 photovoltaic microcells for high efficiency with reduced material usage. Proceedings of SPIE, 2012, , .	0.8	2
106	Hot Carrier Solar Cells: Controlling Thermalization in Ultrathin Devices. IEEE Journal of Photovoltaics, 2012, 2, 506-511.	1.5	19
107	Optical Extinction in a Single Layer of Nanorods. Physical Review Letters, 2012, 109, 143903.	2.9	56
108	Infrared spectral filtering based on guided-mode resonance structure. Proceedings of SPIE, 2012, , .	0.8	1

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109	Toward high efficiency ultra-thin CIGSe based solar cells using light management techniques. , 2012, , .		4
110	Plasmonic enhancement of up-conversion in ultrathin layers. Proceedings of SPIE, 2012, , .	0.8	3
111	Coherent thermal infrared emission by two-dimensional silicon carbide gratings. Physical Review B, 2012, 86, .	1.1	82
112	Digital Heterodyne Holography Reveals the Non-Quasi-Static Scattering Behaviour of Transversally Coupled Nanodisk Pairs. International Journal of Optics, 2012, 2012, 1-8.	0.6	2
113	Towards ultrathin copper indium gallium diselenide solar cells: proof of concept study by chemical etching and gold back contact engineering. Progress in Photovoltaics: Research and Applications, 2012, 20, 582-587.	4.4	71
114	Heterodyne digital holography study of plasmonic nanoantennas. , 2012, , .		0
115	Resistive and thermal scale effects for Cu(In, Ga)Se2 polycrystalline thin film microcells under concentration. Energy and Environmental Science, 2011, 4, 4972.	15.6	41
116	Î»³/1000 Plasmonic Nanocavities for Biosensing Fabricated by Soft UV Nanoimprint Lithography. Nano Letters, 2011, 11, 3557-3563.	4.5	210
117	Physics of Cu(In, Ga)Se<inf>2</inf> solar cells in high injection regime. , 2011, , .		1
118	Infrared plasmonic detectors. Proceedings of SPIE, 2011, , .	0.8	1
119	Microscale solar cells for high concentration on polycrystalline Cu(In,Ga)Se2 thin films. Applied Physics Letters, 2011, 98, .	1.5	41
120	Harvesting light at the nanoscale by GaAs-gold nanowire arrays. Optics Express, 2011, 19, 17293.	1.7	15
121	Imaging the three-dimensional scattering pattern of plasmonic nanodisk chains by digital heterodyne holography. Optics Letters, 2011, 36, 849.	1.7	15
122	Guided mode resonance in subwavelength metallodielectric free-standing grating for bandpass filtering. Optics Letters, 2011, 36, 3054.	1.7	78
123	Nearly total optical extinction in arrays of non-resonant nanorods. Proceedings of SPIE, 2011, , .	0.8	0
124	Nearly Perfect Fano Transmission Resonances through Nanoslits Drilled in a Metallic Membrane. Physical Review Letters, 2010, 104, 027401.	2.9	106
125	Free-standing subwavelength metallic gratings for snapshot multispectral imaging. Applied Physics Letters, 2010, 96, 221104.	1.5	52
126	Plasmon dispersion diagram and localization effects in a three-cavity commensurate grating. Optics Express, 2010, 18, 14913.	1.7	10

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127	Optical Nanoantennas For High-Efficient Ultra-Thin Solar Cells. , 2010, , .		1
128	Surface modes on nanostructured metallic surfaces. Physical Review B, 2009, 79, .	1.1	22
129	Tailoring radiative and non-radiative losses of thin nanostructured plasmonic waveguides. Optics Express, 2009, 17, 3490.	1.7	29
130	Toward tunable light propagation and emission in thin nanostructured plasmonic waveguides. Applied Physics Letters, 2008, 92, 041111.	1.5	4
131	Surface plasmon coupling on metallic film perforated by two-dimensional rectangular hole array. Applied Physics Letters, 2008, 92, .	1.5	20
132	Angle-resolved transmission measurements through anisotropic two-dimensional plasmonic crystals. Optics Letters, 2008, 33, 165.	1.7	41
133	Realization of sinusoidal transmittance with subwavelength metallic structures. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 834.	0.9	15
134	Holistic characterization of complex transmittances generated by infrared sub-wavelength gratings. Optics Express, 2008, 16, 7060.	1.7	7
135	Generation and control of hot spots on commensurate metallic gratings. Optics Express, 2008, 16, 19127.	1.7	17
136	Optical wavefront sensor based on sub-wavelength metallic structures. Proceedings of SPIE, 2008, , .	0.8	1
137	Large-area dielectric and metallic freestanding gratings for midinfrared optical filtering applications. Journal of Vacuum Science & Technology B, 2008, 26, 1852-1855.	1.3	17
138	Phase and amplitude interferometric characterization of infrared nanostructured gratings. , 2008, , .		0
139	Drilled dielectric membranes for highly resonant filtering in the infrared. , 2007, , .		0
140	Waveguiding in nanoscale metallic apertures. Optics Express, 2007, 15, 4310.	1.7	156
141	Room-temperature electroluminescence in the mid-infrared (2-3 Î¼m) from bulk chromium-doped ZnSe. Optics Letters, 2006, 31, 3501.	1.7	23
142	Ã‰mission thermique cohÃ©rente par excitation de plasmons de surface sur un Ã©chantillon en tungstÃ¨ne. European Physical Journal Special Topics, 2006, 135, 127-128.	0.2	0
143	Complex transmittance gratings based on subwavelength metallic structures. , 2006, 6195, 376.		3
144	Time-resolved cathodoluminescence of InGaAs/AlGaAs tetrahedral pyramidal quantum structures. Applied Physics B: Lasers and Optics, 2006, 84, 343-350.	1.1	17

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145	Light confinement and absorption in metal-semiconductor-metal nanostructures. , 2005, 5734, 1.		1
146	Probing carrier dynamics in nanostructures by picosecond cathodoluminescence. Nature, 2005, 438, 479-482.	13.7	157
147	Transverse and longitudinal space-charge-induced broadenings of ultrafast electron packets. Journal of Applied Physics, 2005, 98, 094910.	1.1	30
148	High brightness picosecond electron gun. Review of Scientific Instruments, 2005, 76, 085108.	0.6	33
149	Resonant transmission through a metallic film due to coupled modes. Optics Express, 2005, 13, 70.	1.7	99
150	Wollaston prism-like devices based on blazed dielectric subwavelength gratings. Optics Express, 2005, 13, 9941.	1.7	14
151	Highly directional radiation generated by a tungsten thermal source. Optics Letters, 2005, 30, 2623.	1.7	143
152	Acceleration of a Gain-Clamped Semiconductor Optical Amplifier by the Optical Speed-Up at Transparency Scheme. IEEE Photonics Technology Letters, 2004, 16, 1262-1264.	1.3	6
153	Efficient light absorption in metalâ€“semiconductorâ€“metal nanostructures. Applied Physics Letters, 2004, 85, 194-196.	1.5	92
154	Resonant-cavity-enhanced subwavelength metalâ€“semiconductorâ€“metal photodetector. Applied Physics Letters, 2003, 83, 1521-1523.	1.5	60
155	Strong discontinuities in the complex photonic band structure of transmission metallic gratings. Physical Review B, 2001, 63, .	1.1	103