Charles Cornet

List of Publications by Year
in descending order

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108	1,352	304368	414034
papers	citations	22 h-index	32 g-index

112	112	112	1062
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Incidence and outcomes of emergent cardiac surgery during transfemoral transcatheter aortic valve implantation (TAVI): insights from the European Registry on Emergent Cardiac Surgery during TAVI (EuRECS-TAVI). European Heart Journal, 2018, 39, 676-684.	1.0	91
2	Electronic and optical properties ofInAsâˆ•InPquantum dots on InP(100) andInP(311)Bsubstrates: Theory and experiment. Physical Review B, 2006, 74, .	1.1	67
3	Analysis of the Double Laser Emission Occurring in 1.55-$mu{hbox {m}}$ InAsâ€“InP (113)B Quantum-Dot Lasers. IEEE Journal of Quantum Electronics, 2007, 43, 810-816.	1.0	62
4	Evaluation of InGaPN and GaAsPN materials lattice-matched to Si for multi-junction solar cells. Journal of Applied Physics, 2013, 113, .	1.1	46
5	Universal description of III-V/Si epitaxial growth processes. Physical Review Materials, 2018, 2, .	0.9	43
6	Room temperature operation of GaAsP(N)/GaP(N) quantum well based light-emitting diodes: Effect of the incorporation of nitrogen. Applied Physics Letters, 2011, 98, 251110.	1.5	40
7	Defects limitation in epitaxial GaP on bistepped Si surface using UHVCVDâ€“MBE growth cluster. Journal of Crystal Growth, 2013, 380, 157-162.	0.7	37
8	X-ray study of antiphase domains and their stability in MBE grown GaP on Si. Journal of Crystal Growth, 2011, 323, 409-412.	0.7	34
9	Electronic, optical, and structural properties of (In,Ga)As/GaP quantum dots. Physical Review B, 2012, 86, .	1.1	32
10	Quantitative investigations of optical absorption in InAsâˆ•InP(311)B quantum dots emitting at 1.55Î¼m wavelength. Applied Physics Letters, 2004, 85, 5685-5687.	1.5	31
11	Approach to wetting-layer-assisted lateral coupling ofInAsâˆ•InPquantum dots. Physical Review B, 2005, 72, .	1.1	31
12	Structural and optical analyses of GaP/Si and (GaAsPN/GaPN)/GaP/Si nanolayers for integrated photonics on silicon. Journal of Applied Physics, 2012, 112, 053521.	1.1	30
13	Thermodynamic evolution of antiphase boundaries in GaP/Si epilayers evidenced by advanced X-ray scattering. Applied Surface Science, 2012, 258, 2808-2815.	3.1	29
14	Atomistic calculations of Ga(NAsP)/GaP(N) quantum wells on silicon substrate: Band structure and optical gain. Applied Physics Letters, 2012, 100, 111901.	1.5	27
15	Design of a lattice-matched IIIâ€“Vâ€“N/Si photovoltaic tandem cell monolithically integrated on silicon substrate. Optical and Quantum Electronics, 2014, 46, 1397-1403.	1.5	26
16	Computational analysis of hybrid perovskite on silicon 2-T tandem solar cells based on a Si tunnel junction. Optical and Quantum Electronics, 2018, 50, 1.	1.5	26
17	Impact of the capping layers on lateral confinement in InAsâˆ•InP quantum dots for 1.55Î¼m laser applications studied by magnetophotoluminescence. Applied Physics Letters, 2005, 87, 233111.	1.5	25
18	Correlations between electrical and optical properties in lattice-matched GaAsPN/GaP solar cells. Solar Energy Materials and Solar Cells, 2016, 147, 53-60.	3.0	25

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19	Room temperature photoluminescence of high density (In,Ga)As/GaP quantum dots. Applied Physics Letters, 2011, 99, .	1.5	24
20	Time-resolved pump probe of 1.55Î¼m InAsâˆ•InP quantum dots under high resonant excitation. Applied Physics Letters, 2006, 88, 171502.	1.5	23
21	Density Functional Theory Simulations of Semiconductors for Photovoltaic Applications: Hybrid Organic-Inorganic Perovskites and III/V Heterostructures. International Journal of Photoenergy, 2014, 2014, 1-11.	1.4	23
22	Optical absorption and thermal conductivity of GaAsPN absorbers grown on GaP in view of their use in multijunction solar cells. Solar Energy Materials and Solar Cells, 2015, 141, 291-298.	3.0	23
23	Zinc-blende group III-V/group IV epitaxy: Importance of the miscut. Physical Review Materials, 2020, 4, .	0.9	23
24	A Stressâ€Free and Textured GaP Template on Silicon for Solar Water Splitting. Advanced Functional Materials, 2018, 28, 1801585.	7.8	22
25	Semianalytical evaluation of linear and nonlinear piezoelectric potentials for quantum nanostructures with axial symmetry. Applied Physics Letters, 2007, 91, 122112.	1.5	21
26	InAsSbâˆ•InP quantum dots for midwave infrared emitters: A theoretical study. Journal of Applied Physics, 2005, 98, 126105.	1.1	20
27	Increase of charge-carrier redistribution efficiency in a laterally organized superlattice of coupled quantum dots. Physical Review B, 2006, 74, .	1.1	20
28	Antiphase domain tailoring for combination of modal and 4Â¯ -quasi-phase matching in gallium phosphide microdisks. Optics Express, 2016, 24, 14608.	1.7	20
29	Abrupt GaP/Si hetero-interface using bistepped Si buffer. Applied Physics Letters, 2015, 107, .	1.5	19
30	First step to Si photonics: synthesis of quantum dot lightâ€emitters on GaP substrate by MBE. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2207-2211.	0.8	18
31	Implication of dopaminergic modulation in operant reward learning and the induction of compulsive-like feeding behavior in Aplysia. Learning and Memory, 2013, 20, 318-327.	0.5	18
32	Crystal Phase Control during Epitaxial Hybridization of IIIâ€V Semiconductors with Silicon. Advanced Electronic Materials, 2022, 8, 2100777.	2.6	18
33	Theoretical study of optical properties of anti phase domains in GaP. Journal of Applied Physics, 2014, 115, .	1.1	17
34	InAs(Sb)/InP(100) quantum dots for mid-infrared emitters: observation of 2.35 Âµm photoluminescence. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3920-3923.	0.8	16
35	Nitrogenâ€“phosphorus competition in the molecular beam epitaxy of GaPN. Journal of Crystal Growth, 2013, 377, 17-21.	0.7	16
36	Quantitative evaluation of microtwins and antiphase defects in GaP/Si nanolayers for a IIIâ€“V photonics platform on silicon using a laboratory X-ray diffraction setup. Journal of Applied Crystallography, 2015, 48, 702-710.	1.9	16

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37	Nitrogen-related intermediate band in P-rich GaNxPyAs1â^'xâ^'y alloys. Scientific Reports, 2017, 7, 15703.	1.6	16
38	Semianalytical model for simulation of electronic properties of narrow-gap strained semiconductor quantum nanostructures. Physical Review B, 2008, 77, .	1.1	15
39	Preferential incorporation of substitutional nitrogen near the atomic step edges in diluted nitride alloys. Applied Physics Letters, 2012, 101, .	1.5	14
40	Photoelectrochemical water oxidation of GaP_{1â^'x}Sb_x with a direct band gap of 1.65 eV for full spectrum solar energy harvesting. Sustainable Energy and Fuels, 2019, 3, 1720-1729.	2.5	14
41	Theoretical study of highly strained InAs material from first-principles modelling: application to an ideal QD. Journal Physics D: Applied Physics, 2008, 41, 165505.	1.3	13
42	Epitaxial IIIâ€“V/Si Vertical Heterostructures with Hybrid 2Dâ€Semimetal/Semiconductor Ambipolar and Photoactive Properties. Advanced Science, 2022, 9, e2101661.	5.6	13
43	Strain-induced fundamental optical transition in (In,Ga)As/GaP quantum dots. Applied Physics Letters, 2014, 104, 011908.	1.5	12
44	InAsSb/InGaAs quantum nanostructures on InP (100) substrate: observation of 2.35 Âµm photoluminescence. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 524-527.	0.8	10
45	Electronic wave functions and optical transitions in (In,Ga)As/GaP quantum dots. Physical Review B, 2016, 94, .	1.1	10
46	Monolithic Integration of Diluted-Nitride IIIâ€“V-N Compounds on Silicon Substrates: Toward the IIIâ€“V/Si Concentrated Photovoltaics. Energy Harvesting and Systems, 2014, 1, .	1.7	9
47	Second harmonic generation in gallium phosphide microdisks on silicon: from strict $ar{4}$ to random quasi-phase matching. Semiconductor Science and Technology, 2017, 32, 065004.	1.0	9
48	Structural and optical properties of AlGaP confinement layers and InGaAs quantum dot light emitters onto GaP substrate: Towards photonics on silicon applications. Thin Solid Films, 2013, 541, 87-91.	0.8	8
49	Synchrotron X-ray diffraction analysis for quantitative defect evaluation in GaP/Si nanolayers. Thin Solid Films, 2013, 541, 36-40.	0.8	8
50	Dielectric properties of hybrid perovskites and drift-diffusion modeling of perovskite cells. Proceedings of SPIE, 2016, , .	0.8	8
51	Shape transition in InAs nanostructures formed by Stranski-Krastanow growth mode on InP (001) substrate. Applied Physics Letters, 2019, 114, .	1.5	8
52	Strong Electronâ€“Phonon Interaction in 2D Vertical Homovalent IIIâ€“V Singularities. ACS Nano, 2020, 14, 13127-13136.	7.3	8
53	Stability of the intermediate band energy position upon temperature changes in GaNP and GaNPAs. Solar Energy Materials and Solar Cells, 2019, 196, 131-137.	3.0	7
54	A theoretical model for quantum nanostructures electronic wave functions, magnetic field effects. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 28, 514-518.	1.3	6

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55	Exciton and biexciton binding and vertical Stark effect in a model lens-shaped quantum box: Application to InAs/InP quantum dots. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 344, 457-462.	0.9	6
56	GaAsPN-based PIN solar cells MBE-grown on GaP substrates: toward the III-V/Si tandem solar cell. Proceedings of SPIE, 2015, , .	0.8	6
57	Loss assessment in random crystal polarity gallium phosphide microdisks grown on silicon. Optics Letters, 2020, 45, 4646.	1.7	6
58	Studies of PLD-grown ZnO and MBE-grown GaP mosaic thin films by x-ray scattering methods: beyond the restrictive Ï‰ rocking curve linewidth as a figure-of-merit. Proceedings of SPIE, 2011, , .	0.8	5
59	GaP/Si-Based Photovoltaic Devices Grown by Molecular Beam Epitaxy. , 2018, , 637-648.		5
60	Sputtered hydrogenated amorphous silicon thin films for distributed Bragg reflectors and long wavelength vertical cavity surface emitting lasers applications. Thin Solid Films, 2011, 519, 6178-6182.	0.8	4
61	Theoretical and experimental studies of (In,Ga)As/GaP quantum dots. Nanoscale Research Letters, 2012, 7, 643.	3.1	4
62	Assessment of GaPSb/Si tandem material association properties for photoelectrochemical cells. Solar Energy Materials and Solar Cells, 2021, 221, 110888.	3.0	4
63	Low Threshold 1550-nm Emitting QD Optically Pumped VCSEL. IEEE Photonics Technology Letters, 2021, 33, 69-72.	1.3	4
64	Gallium phosphide on insulator photonics enabled by micro-transfer printing. , 2020, , .		4
65	Atomic Calculations Applied to Semiconductor Hetero Structures. AIP Conference Proceedings, 2007, , .	0.3	3
66	Light emitting diodes on silicon substrates: preliminary results. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2212-2216.	0.8	3
67	Quantitative study of microtwins in GaP/Si thin film and GaAsPN quantum wells grown on silicon substrates. Journal of Crystal Growth, 2013, 378, 25-28.	0.7	3
68	Raman investigation of GaPâ€“Si interfaces grown by molecular beam epitaxy. Thin Solid Films, 2013, 541, 72-75.	0.8	3
69	Multijunction photovoltavics: integrating IIIâ€“V semiconductor heterostructures on silicon. SPIE Newsroom, 2015, , .	0.1	3
70	Thermal Management of Monolithic Versus Heterogeneous Lasers Integrated on Silicon. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 35-42.	1.9	3
71	MBE growth and doping of AlGaP. Journal of Crystal Growth, 2017, 466, 6-15.	0.7	3
72	Effects of nitrogen incorporation and thermal annealing on the optical and spin properties of GaPN dilute nitride alloys. Journal of Alloys and Compounds, 2020, 814, 152233.	2.8	3

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73	Improvement of carriers diffusion length and mobility in annealed GaAsPN materials for intermediate band solar cells. Solar Energy Materials and Solar Cells, 2020, 215, 110622.	3.0	3
74	Epitaxial growth of CIGSe layers on GaP/Si(001) pseudo-substrate for tandem CIGSe/Si solar cells. Solar Energy Materials and Solar Cells, 2021, 233, 111385.	3.0	3
75	InAs/InP quantum dots (QD): from fundamental understanding to coupled QD 1.55 Âµm laser applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 458-461.	0.8	2
76	Anisotropic and inhomogeneous Coulomb screening in the Thomasâ€“Fermi approximation: Application to quantum dotâ€“wetting layer system and Auger relaxation. Physica Status Solidi (B): Basic Research, 2007, 244, 3105-3114.	0.7	2
77	Coherent integration of photonics on silicon through the growth of nanostructures on GaP/Si. , 2012, , .		2
78	Electrical injection in GaP-based laser waveguides and active areas. , 2014, , .		2
79	Effect of the nitrogen incorporation and fast carrier dynamics in (In,Ga)AsN/GaP self-assembled quantum dots. Applied Physics Letters, 2014, 105, 243111.	1.5	2
80	Computational design of high performance hybrid perovskite on silicon 2-T tandem solar cells based on a tunnel junction. , 2017, , .		2
81	Cathodoluminescence hyperspectral analysis of whispering gallery modes in active semiconductor wedge resonators. Optics Letters, 2018, 43, 1766.	1.7	2
82	IIIâ€“V Lasers Bonded on Si. , 2016, , 47-71.		2
83	A study of the strain distribution by scanning X-ray diffraction on GaP/Si for IIIâ€“V monolithic integration on silicon. Journal of Applied Crystallography, 2019, 52, 809-815.	1.9	2
84	Theoretical Description Of The Electronic Coupling Between A Wetting Layer And A QD Superlattice Plane. AIP Conference Proceedings, 2005, , .	0.3	1
85	InAs/InP quantum dots: from single to coupled dots applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 4039-4042.	0.8	1
86	Laser Integration Challenges. , 2016, , 1-29.		1
87	Laser Architectures for On-chip Information Technologies. , 2016, , 105-128.		1
88	Thermal management of monolithic and heterogeneous integrated lasers. , 2016, , .		1
89	Analysis of carriers dynamics and laser emission in 1.55-Î¼m InAs/InP(113)B quantum dot lasers. Proceedings of SPIE, 2010, , .	0.8	1
90	Dual wavelength evanescent coupler for nonlinear GaP-based microdisk resonators. OSA Continuum, 2020, 3, 43.	1.8	1

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91	Radiative and nonradiative recombination processes in GaNP(As) alloys. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2022, 276, 115567.	1.7	1
92	Theory and experiment of InAs/InP quantum dots: from calculations to laser emission. AIP Conference Proceedings, 2007, , .	0.3	0
93	A theoretical and experimental study of Î»>2 Î¼m luminescence of quantum dots on InP substrate. AIP Conference Proceedings, 2007, , .	0.3	0
94	Exciton and biexciton lifetimes in InAs/InP quantum dots emitting at 1.55 Âµm wavelength under resonant excitation. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 454-457.	0.8	0
95	Photocurrent study of InAs/GaInAsP(Q<inf>1.18</inf>) quantum dots. , 2008, , .		0
96	From kÂ·p to atomic calculations applied to semiconductor heterostructures. Journal of Physics: Conference Series, 2008, 107, 012009.	0.3	0
97	Nature of the optical transition in (In,Ga)As(N)/GaP quantum dots (QDs): Effect of QD size, indium composition and nitrogen incorporation. , 2013, , .		0
98	Intrinsic optical confinement for ultrathin InAsN quantum well superlattices. , 2013, , .		0
99	Structural and optical properties of (In,Ga)As/GaP quantum dots and (GaAsPN/GaPN) diluted-nitride nanolayers coherently grown onto GaP and Si substrates for photonics and photovoltaics applications. , 2013, , .		0
100	Composition dependent nature of the fundamental optical transition in (In, Ga)As/GaP quantum dots. , 2014, , .		0
101	Monolithic IIIâ€“V Lasers on Silicon. , 2016, , 73-104.		0
102	Impact of antiphase boundaries on non-linear frequency conversion in GaP/Si microdisks. , 2016, , .		0
103	THz surface phonon polariton generation in GaP photonic waveguide. , 2019, , .		0
104	Carrier Relaxation Dynamics 1.55 Î¼m InAs/InP Quantum Dots Under High Resonant Excitation. AIP Conference Proceedings, 2007, , .	0.3	0
105	Group IV Silicon Lasers. , 2016, , 31-46.		0
106	GaP Template on Si for Solar Water Splitting: Surface Energy Engineering. , 0, , .		0
107	CIGS growth on a GaP/Si(001) platform: towards CIGS/Si tandem solar cells (Conference Presentation). , 2020, , .		0
108	Dual wavelength coupler for second-harmonic generation in gallium phosphide microdisks. , 2020, , .		0