SÃ©bastien Sauvage

List of Publications by Year
in descending order

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110 papers	3,809 citations	109321 35 h-index	133252 59 g-index
110 all docs	110 docs citations	110 times ranked	2516 citing authors

#	Article	IF	Citations
1	Band structure and optical gain of tensile-strained germanium based on a 30 band kâ‹…p formalism. Journal of Applied Physics, 2010, 107, .	2.5	197
2	Enhancement of second-harmonic generation in a one-dimensional semiconductor photonic band gap. Applied Physics Letters, 2001, 78, 3021-3023.	3.3	161
3	Ultra-low-threshold continuous-wave and pulsed lasing in tensile-strained GeSn alloys. Nature Photonics, 2020, 14, 375-382.	31.4	145
4	Intraband absorption in n-doped InAs/GaAs quantum dots. Applied Physics Letters, 1997, 71, 2785-2787.	3.3	142
5	Third-harmonic generation in InAs/GaAs self-assembled quantum dots. Physical Review B, 1999, 59, 9830-9833.	3.2	140
6	Long-wavelength (â‰ˆ15.5â€‰Î¼m) unipolar semiconductor laser in GaAs quantum wells. Applied Physics Letters, 1997, 71, 3619-3621.	3.3	134
7	Control of direct band gap emission of bulk germanium by mechanical tensile strain. Applied Physics Letters, 2010, 96, .	3.3	129
8	Long Polaron Lifetime in InAs/GaAs Self-Assembled Quantum Dots. Physical Review Letters, 2002, 88, 177402.	7.8	119
9	Infrared spectroscopy of intraband transitions in self-organized InAs/GaAs quantum dots. Journal of Applied Physics, 1997, 82, 3396-3401.	2.5	99
10	In-plane polarized intraband absorption in InAs/GaAs self-assembled quantum dots. Physical Review B, 1998, 58, 10562-10567.	3.2	83
11	Optical gain in single tensile-strained germanium photonic wire. Optics Express, 2011, 19, 17925.	3.4	83
12	Intraband absorption in Ge/Si self-assembled quantum dots. Applied Physics Letters, 1999, 74, 401-403.	3.3	79
13	Midinfrared absorption and photocurrent spectroscopy of InAs/GaAs self-assembled quantum dots. Applied Physics Letters, 2001, 78, 2327-2329.	3.3	78
14	Recent advances in germanium emission [Invited]. Photonics Research, 2013, 1, 102.	7.0	76
15	Tensile-strained germanium microdisks. Applied Physics Letters, 2013, 102, 221112.	3.3	75
16	Infrared second-order optical susceptibility in InAs/GaAs self-assembled quantum dots. Physical Review B, 2000, 61, 5562-5570.	3.2	74
17	Band-edge alignment ofSiGeâˆ•Siquantum wells andSiGeâˆ•Siself-assembled islands. Physical Review B, 2006, 73, .	3.2	73
18	Near-infrared waveguide photodetector with Ge/Si self-assembled quantum dots. Applied Physics Letters, 2002, 80, 509-511.	3.3	72

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19	Allâ€Around SiN Stressor for High and Homogeneous Tensile Strain in Germanium Microdisk Cavities. Advanced Optical Materials, 2015, 3, 353-358.	7.3	72
20	Electroluminescence of Ge/Si self-assembled quantum dots grown by chemical vapor deposition. Applied Physics Letters, 2000, 77, 1822.	3.3	65
21	Infrared photodetection with semiconductor self-assembled quantum dots. Comptes Rendus Physique, 2003, 4, 1133-1154.	0.9	61
22	High quality tensile-strained n-doped germanium thin films grown on InGaAs buffer layers by metal-organic chemical vapor deposition. Applied Physics Letters, 2011, 98, .	3.3	58
23	Phase-matched second harmonic generation with on-chip GaN-on-Si microdisks. Scientific Reports, 2016, 6, 34191.	3.3	58
24	Midinfrared photoconductivity of Ge/Si self-assembled quantum dots. Applied Physics Letters, 2000, 77, 3224-3226.	3.3	57
25	Second-harmonic generation resonant withs-ptransition in InAs/GaAs self-assembled quantum dots. Physical Review B, 2001, 63, .	3.2	56
26	Control of tensile strain in germanium waveguides through silicon nitride layers. Applied Physics Letters, 2012, 100, 201104.	3.3	54
27	Direct Band Gap Germanium Microdisks Obtained with Silicon Nitride Stressor Layers. ACS Photonics, 2016, 3, 443-448.	6.6	54
28	Optical recombination from excited states in Ge/Si self-assembled quantum dots. Physical Review B, 2001, 64, .	3.2	51
29	Temperature dependence of intersublevel absorption in InAs/GaAs self-assembled quantum dots. Applied Physics Letters, 2002, 80, 4620-4622.	3.3	51
30	Direct and indirect band gap room temperature electroluminescence of Ge diodes. Journal of Applied Physics, 2010, 108, 023105.	2.5	51
31	Saturation of intraband absorption and electron relaxation time in n-doped InAs/GaAs self-assembled quantum dots. Applied Physics Letters, 1998, 73, 3818-3821.	3.3	48
32	Intersubband stimulated emission in GaAs/AlGaAs quantum wells: Pump-probe experiments using a two-color free-electron laser. Applied Physics Letters, 1997, 70, 3197-3199.	3.3	47
33	Germanium microlasers on metallic pedestals. APL Photonics, 2018, 3, .	5.7	46
34	Ultraweak-Absorption Microscopy of a Single Semiconductor Quantum Dot in the Midinfrared Range. Physical Review Letters, 2007, 99, 217404.	7.8	44
35	Reduced Lasing Thresholds in GeSn Microdisk Cavities with Defect Management of the Optically Active Region. ACS Photonics, 2020, 7, 2713-2722.	6.6	42
36	Investigation of mid-infrared intersubband stimulated gain under optical pumping in GaAs/AlGaAs quantum wells. Journal of Applied Physics, 1998, 83, 2920-2926.	2.5	35

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37	Near-infrared gallium nitride two-dimensional photonic crystal platform on silicon. Applied Physics Letters, 2014, 105, .	3.3	33
38	Comparison between 6-band and 14-bandkâ‹…pformalisms in SiGe/Si heterostructures. Physical Review B, 2003, 68, .	3.2	32
39	Blue Microlasers Integrated on a Photonic Platform on Silicon. ACS Photonics, 2018, 5, 3643-3648.	6.6	32
40	Midinfrared second-harmonic generation in p-type InAs/GaAs self-assembled quantum dots. Applied Physics Letters, 1999, 75, 835-837.	3.3	30
41	The Strong Confinement Regime in HgTe Two-Dimensional Nanoplatelets. Journal of Physical Chemistry C, 2020, 124, 23460-23468.	3.1	29
42	Midinfrared absorption measured at a Î»/400 resolution with an atomic force microscope. Optics Express, 2009, 17, 10887.	3.4	28
43	Metal organic vapor phase epitaxy of InAsP/InP(001) quantum dots for 1.55Î¼m applications: Growth, structural, and optical properties. Journal of Applied Physics, 2008, 104, 043504.	2.5	27
44	Siliconâ€“onâ€“insulator waveguide photodetector with Ge/Si self-assembled islands. Journal of Applied Physics, 2002, 92, 1858-1861.	2.5	25
45	Ge/Si self-assembled quantum dots grown on Si(001) in an industrial high-pressure chemical vapor deposition reactor. Journal of Applied Physics, 1999, 86, 1145-1148.	2.5	23
46	Resonant second harmonic generation in a gallium nitride two-dimensional photonic crystal on silicon. Applied Physics Letters, 2015, 106, .	3.3	23
47	Near-infrared III-nitride-on-silicon nanophotonic platform with microdisk resonators. Optics Express, 2016, 24, 9602.	3.4	23
48	Strong 1.3â€“1.5 Î¼m luminescence from Ge/Si self-assembled islands in highly confining microcavities on silicon on insulator. Journal of Applied Physics, 2004, 96, 997-1000.	2.5	22
49	Homogeneous broadening of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>S</mml:mi></mml:mrow></mml:math>to<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>P</mml:mi></mml:mrow></mml:math>transition in InGaAs/GaAs quantum dots measured by infrared absorption imaging with nanoscale resolution. Physical Review B, 2011, 83, .	3.2	22
50	Light emission from strained germanium. Nature Photonics, 2013, 7, 162-162.	31.4	22
51	Mid-infrared intersublevel absorption of vertically electronically coupled InAs quantum dots. Applied Physics Letters, 2005, 87, 173113.	3.3	21
52	Tensile-strained germanium microdisk electroluminescence. Optics Express, 2015, 23, 6722.	3.4	20
53	Tensile-strained germanium microdisks with circular Bragg reflectors. Applied Physics Letters, 2016, 108, .	3.3	20
54	III-nitride on silicon electrically injected microrings for nanophotonic circuits. Optics Express, 2019, 27, 11800.	3.4	20

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55	Effect of increasing thickness on tensile-strained germanium grown on InGaAs buffer layers. Journal of Applied Physics, 2013, 113, 183508.	2.5	19
56	Resonant excitation of intraband absorption in InAs/GaAs self-assembled quantum dots. Journal of Applied Physics, 1998, 84, 4356-4362.	2.5	18
57	Effect of Pressure on Interband and Intraband Transition of Mercury Chalcogenide Quantum Dots. Journal of Physical Chemistry C, 2019, 123, 13122-13130.	3.1	18
58	Room temperature infrared intersubband photoluminescence in GaAs quantum wells. Applied Physics Letters, 1997, 70, 1345-1347.	3.3	17
59	Midinfrared unipolar photoluminescence in InAs/GaAs self-assembled quantum dots. Physical Review B, 1999, 60, 15589-15592.	3.2	17
60	Dephasing of intersublevel polarizations in InAs/GaAs self-assembled quantum dots. Physical Review B, 2002, 66, .	3.2	17
61	Intersublevel polaron laser with InAsâˆ•GaAs self-assembled quantum dots. Applied Physics Letters, 2006, 88, 063106.	3.3	16
62	Quality factor control of Si-based two-dimensional photonic crystals with a Bragg mirror. Applied Physics Letters, 2006, 88, 091122.	3.3	16
63	Germanium-based nanophotonic devices: Two-dimensional photonic crystals and cavities. Thin Solid Films, 2008, 517, 121-124.	1.8	15
64	Mott transition in Cr-doped V 2 O 3 studied by ultrafast reflectivity: Electron correlation effects on the transient response. Europhysics Letters, 2010, 92, 37007.	2.0	15
65	Surface-sensitive diamond photonic crystals for high-performance gas detection. Optics Letters, 2016, 41, 4360.	3.3	15
66	Silicon-on-insulator and SiGe waveguide photodetectors with Ge/Si self-assembled islands. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 523-527.	2.7	14
67	Intersublevel transitions in self-assembled quantum dots. Comptes Rendus Physique, 2008, 9, 840-849.	0.9	14
68	A passive all-optical semiconductor device for level amplitude stabilization based on fast saturable absorber. Applied Physics Letters, 2008, 92, 111107.	3.3	14
69	Aluminum nitride photonic crystals and microdiscs for ultra-violet nanophotonics. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2014, 5, 023001.	1.5	14
70	Imaging of Photonic Crystal Localized Modes through Third-Harmonic Generation. ACS Photonics, 2016, 3, 1240-1247.	6.6	14
71	Aspects of Ge/Si self-assembled quantum dots. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 89, 36-44.	3.5	13
72	Intersubband photoluminescence of GaAs quantum wells under selective interband excitation. Applied Physics Letters, 1997, 71, 1183-1185.	3.3	12

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73	Analysis of optical gain threshold in n-doped and tensile-strained germanium heterostructure diodes. Journal of Applied Physics, 2015, 118, 125704.	2.5	12
74	Photoconductivity of Ge/Si quantum dot photodetectors. Infrared Physics and Technology, 2003, 44, 513-516.	2.9	11
75	Demonstration of critical coupling in an active III-nitride microdisk photonic circuit on silicon. Scientific Reports, 2019, 9, 18095.	3.3	11
76	Ge islands and photonic crystals for Si-based photonics. Optical Materials, 2005, 27, 792-798.	3.6	10
77	Ultrafast resonant terahertz response of excitons in semiconductor quantum dots. Physical Review B, 2008, 77, .	3.2	10
78	Photoluminescence of self-assembled Ge dots grown by ultra-high-vacuum chemical vapor deposition. Thin Solid Films, 1998, 336, 240-243.	1.8	9
79	Ge/Si self-assembled islands integrated in 2D photonic crystals microcavities for realisation of silicon-based light-emitting devices. , 2004, 5450, 369.		9
80	Pumpâ€“probe analysis of polaron decay in InAs/GaAs self-assembled quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 59-62.	2.7	9
81	Thermal emission of midinfrared GaAs photonic crystals. Physical Review B, 2008, 78, .	3.2	9
82	Two-color femtosecond strobe lighting of coherent acoustic phonons emitted by quantum dots. Applied Physics Letters, 2013, 102, 043107.	3.3	8
83	Electromodulation of the interband and intraband absorption of Ge/Si self-assembled islands. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 450-454.	2.7	7
84	Fast decoherence of slowly relaxing polarons in semiconductor InAs quantum dots. Europhysics Letters, 2005, 70, 390-396.	2.0	7
85	Resonant coupling of quantum dot intersublevel transitions with midinfrared photonic crystal modes. Applied Physics Letters, 2009, 95, 041108.	3.3	7
86	Interference effects on bound-to-continuum quantum dot absorption. Journal of Applied Physics, 2010, 107, 083102.	2.5	7
87	Q factor limitation at short wavelength (around 300â€‰nm) in III-nitride-on-silicon photonic crystal cavities. Applied Physics Letters, 2017, 111, 131103.	3.3	7
88	Normal-incidence (001) second-harmonic generation in ordered Ga_05In_05P. Journal of the Optical Society of America B: Optical Physics, 2001, 18, 81.	2.1	6
89	Solving thermal issues in tensile-strained Ge microdisks. Optics Express, 2018, 26, 28376.	3.4	6
90	(Invited) Strain Engineering for Optical Gain in Germanium. ECS Transactions, 2013, 50, 363-370.	0.5	4

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91	Strain engineering in germanium microdisks. , 2014, , .		4
92	Second-harmonic generation in InAs/GaAs self-assembled quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 155-158.	2.7	3
93	Polaron relaxation in InAs/GaAs self-assembled quantum dots. Physica Status Solidi (B): Basic Research, 2003, 238, 254-257.	1.5	3
94	Reliability studies of polycrystalline La-Sr-Co-O/Pb-La-Zr-Ti-O/La-Sr-Co-O capacitors on silicon. Integrated Ferroelectrics, 1996, 12, 53-62.	0.7	2
95	The effects of composition and doping on the response of GeC-Si photodiodes. IEEE Journal of Selected Topics in Quantum Electronics, 1998, 4, 964-969.	2.9	2
96	Effective thermal resistance of a photonic crystal microcavity. Optics Letters, 2014, 39, 458.	3.3	2
97	Increasing the angular sensitivity of two-dimensional photonic crystal based sensors to arbitrary values. Optics Express, 2019, 27, 1578.	3.4	2
98	Electroabsorption spectroscopy of Geâ•Si self-assembled islands. Journal of Applied Physics, 2005, 97, 083525.	2.5	1
99	Two-Dimensional Photonic Crystals Coupled to One-Dimensional Bragg Mirrors. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1534-1538.	2.9	1
100	Nonlinearities in GaAs cavities with high CW input powers enabled by photo-oxidation quenching through ALD encapsulation. Optics Express, 2018, 26, 6400.	3.4	1
101	Long-wavelength (15.5-Î¼m) quantum fountain intersubband laser InGaAs/AlGaAs quantum wells. , 1998, , .		0
102	Non-linear infrared properties of InAs/GaAs self-assembled quantum dots. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2003, 507, 569-571.	1.6	0
103	Pumpâ€“probe analysis of polaron decay in InAs/GaAs self-assembled quantum dots. Semiconductor Science and Technology, 2005, 20, L10-L13.	2.0	0
104	Towards a mid-infrared polaron laser using InAs/GaAs self-assembled quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 3895-3899.	1.5	0
105	Si-based two-dimensional photonic crystals coupled to one-dimensional Bragg mirrors. Journal of Luminescence, 2006, 121, 286-289.	3.1	0
106	Ge/Si self-assembled Islands for Photonics Applications. Materials Research Society Symposia Proceedings, 2006, 958, 1.	0.1	0
107	Twoâ€dimensional photonic crystals for midâ€infrared quantum dot intersublevel emission. Physica Status Solidi (B): Basic Research, 2009, 246, 816-819.	1.5	0
108	Highly-Doped, Highly-Strained Germanium and Schottky Electroluminescent Diodes. ECS Transactions, 2014, 64, 359-364.	0.5	0

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109	High tensile strain transfer into germanium microdisks using all-around strained SiN. , 2014, , .		0
110	Quantum fountain infrared light sources based on intersubband emissions in quantum wells. European Physical Journal Special Topics, 1999, 09, Pr2-161.	0.2	0