

Yurii A Vlasov

List of Publications by Year in descending order

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papers

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183
docs citations

183
times ranked

9701
citing authors

#	ARTICLE	IF	CITATIONS
1	Droplet Microfluidics with MALDI-MS Detection: The Effects of Oil Phases in GABA Analysis. ACS Measurement Science Au, 2021, 1, 147-156.	4.4	16
2	Droplet-assisted electrospray phase separation using an integrated silicon microfluidic platform. Lab on A Chip, 2021, 22, 40-46.	6.0	9
3	Picoliter Droplet Generation for Fast Monitoring the Brain Chemistry with Scaled Silicon Nanodialysis Probe. , 2019, , .		2
4	Demonstration of Error-Free 32-Gb/s Operation From Monolithic CMOS Nanophotonic Transmitters. IEEE Photonics Technology Letters, 2016, 28, 1410-1413.	2.5	25
5	A Novel Approach to Photonic Packaging Leveraging Existing High-Throughput Microelectronic Facilities. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 455-466.	2.9	77
6	Silicon integrated nanophotonics: from fundamental science to manufacturable technology (Presentation Video). , 2015, , .		1
7	Automated, self-aligned assembly of 12 fibers per nanophotonic chip with standard microelectronics assembly tooling. , 2015, , .		18
8	Demonstration of a High Extinction Ratio Monolithic CMOS Integrated Nanophotonic Transmitter and 16 Gb/s Optical Link. IEEE Journal of Selected Topics in Quantum Electronics, 2015, 21, 212-222.	2.9	34
9	Optical Demonstration of a Compliant Polymer Interface between Standard Fibers and Nanophotonic Waveguides. , 2015, , .		17
10	Photonic Packaging in High-Throughput Microelectronic Assembly Lines for Cost-Efficiency and Scalability. , 2015, , .		5
11	Demonstration of Error Free Operation Up To 32 Gb/s From a CMOS Integrated Monolithic Nano-Photonic Transmitter. , 2015, , .		4
12	Neural coding in barrel cortex during whisker-guided locomotion. ELife, 2015, 4, .	6.0	93
13	Binary phase-shift keying by coupling modulation of microrings. Optics Express, 2014, 22, 20252.	3.4	13
14	Assembly of mechanically compliant interfaces between optical fibers and nanophotonic chips. , 2014, , .		25
15	Monolithic Silicon Integration of Scaled Photonic Switch Fabrics, CMOS Logic, and Device Driver Circuits. Journal of Lightwave Technology, 2014, 32, 743-751.	4.6	154
16	Breaking the Conventional Limitations of Microrings. , 2014, , .		1
17	A 16-channel monolithic silicon nanophotonic receiver. , 2013, , .		0
18	Coupling modulation of microrings at rates beyond the linewidth limit. Optics Express, 2013, 21, 9722.	3.4	118

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19	Cascaded Mach-Zehnder wavelength filters in silicon photonics for low loss and flat pass-band WDM (de-)multiplexing. Optics Express, 2013, 21, 11652.	3.4	367
20	Redesigning active and passive microring resonators. , 2013, , .		0
21	Monolithically Integrated Silicon Nanophotonics Receiver in 90nm CMOS Technology Node. , 2013, , .		15
22	Mid-Infrared Silicon Photonics. , 2013, , .		2
23	Four- and Eight-Port Photonic Switches Monolithically Integrated with Digital CMOS Logic and Driver Circuits. , 2013, , .		10
24	Coupling-modulated microrings for DPSK modulation. , 2013, , .		1
25	Dense CMOS-Photonics Integration in sub-100nm Technology Node. , 2013, , .		0
26	Monolithically Integrated Photonic Switches Driven by Digital CMOS. , 2013, , .		3
27	Four- and Eight-Port Photonic Switches Monolithically Integrated with Digital CMOS Logic and Driver Circuits. , 2013, , .		5
28	High-speed receiver based on waveguide germanium photodetector wire-bonded to 90nm SOI CMOS amplifier. Optics Express, 2012, 20, 18145.	3.4	88
29	A 25 Gbps silicon microring modulator based on an interleaved junction. Optics Express, 2012, 20, 26411.	3.4	153
30	Optimized light-matter interaction and defect hole placement in photonic crystal cavity sensors. Optics Letters, 2012, 37, 2850.	3.3	14
31	28 Gb/s Silicon Microring Modulation Beyond the Linewidth Limit by Coupling Modulation. , 2012, , .		8
32	Monolithic integration of silicon nanophotonics with CMOS. , 2012, , .		10
33	Heralded single photons from a silicon nanophotonic chip. , 2012, , .		0
34	An optically pumped nanophotonic InP/InGaAlAs optical amplifier integrated on a SOI waveguide circuit. Optical and Quantum Electronics, 2012, 44, 513-519.	3.3	6
35	A 90nm CMOS integrated Nano-Photonics technology for 25Gbps WDM optical communications applications. , 2012, , .		75
36	250 Gbps 10-channel WDM silicon photonics receiver. , 2012, , .		5

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37	Silicon Photonic Switches Hybrid-Integrated With CMOS Drivers. IEEE Journal of Solid-State Circuits, 2012, 47, 345-354.	5.4	149
38	Silicon CMOS-integrated nano-photonics for computer and data communications beyond 100G. , 2012, 50, s67-s72.		283
39	40Gbps Optical Receiver Based on Germanium Waveguide Photodetector Hybrid-Integrated with 90nm CMOS Amplifier. , 2012, , .		0
40	Grating couplers as optical probe pads in a standard CMOS process. , 2011, , .		2
41	Monolithic integration of CMOS and nanophotonic devices for massively parallel optical interconnects in supercomputers. , 2011, , .		1
42	Multichannel High-Bandwidth Coupling of Ultradense Silicon Photonic Waveguide Array to Standard-Pitch Fiber Array. Journal of Lightwave Technology, 2011, 29, 475-482.	4.6	67
43	Demonstration of a Digital CMOS Driver Codesigned and Integrated With a Broadband Silicon Photonic Switch. Journal of Lightwave Technology, 2011, 29, 1136-1142.	4.6	22
44	Non-Blocking 4x4 Electro-Optic Silicon Switch for On-Chip Photonic Networks. Optics Express, 2011, 19, 47.	3.4	160
45	Self-phase modulation and nonlinear loss in silicon nanophotonic wires near the mid-infrared two-photon absorption edge. Optics Express, 2011, 19, 7778.	3.4	47
46	Drive-noise-tolerant broadband silicon electro-optic switch. Optics Express, 2011, 19, 11568.	3.4	17
47	CMOS integrated silicon nanophotonics for future exascale systems. , 2011, , .		0
48	CMOS Integrated Nanophotonics for future computing systems. , 2011, , .		2
49	Four-Wave-Mixing Gain and All-optical Signal Processing in Silicon Nanowires. , 2011, , .		0
50	Statistics of photon transport in hundreds of coupled resonators. , 2011, , .		0
51	Optimization of Defect Hole Placement in Resonant Cavities. , 2011, , .		0
52	Generation of a telecom-to-mid-infrared spanning supercontinuum using silicon-on-insulator wire waveguides. , 2011, , .		3
53	Optical technologies for data communication in large parallel systems. Journal of Instrumentation, 2011, 6, C01012-C01012.	1.2	16
54	Correlations between light at spectrally distant wavelengths in coupled microring resonator waveguides. , 2011, , .		0

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55	20Gbps Receiver Based on Germanium Photodetector Hybrid-Integrated with 90nm CMOS Amplifier. , 2011, , .		1
56	A 3.9ns 8.9mW 4×4 silicon photonic switch hybrid integrated with CMOS driver. , 2011, , .		4
57	Ultra-dense monolithic integration of optical and electrical functions on silicon for optical interconnects. , 2011, , .		0
58	Nonlinear silicon nanophotonics for mid-infrared applications. , 2011, , .		1
59	CMOS Integrated Nanophotonics for Future Computing Systems. , 2011, , .		0
60	CMOS Integrated Nanophotonics – Enabling Technology for Exascale Computing Systems. , 2011, , .		19
61	Silicon Electro-Optic 4×4 Non-Blocking Switch Array for On-Chip Photonic Networks. , 2011, , .		2
62	Controlled Coupling in Silicon Microrings for High-Speed, High Extinction Ratio, and Low-Chirp Modulation. , 2011, , .		1
63	20Gbps Receiver Based on Germanium Photodetector Hybrid-Integrated with 90nm CMOS Amplifier. , 2011, , .		6
64	Low-Power 30 Gbps Silicon Microring Modulator. , 2011, , .		7
65	CMOS Integrated Silicon Nanophotonics: An Enabling Technology for Exascale Computing. , 2011, , .		2
66	Controlled Coupling in Silicon Microrings for High-Speed, High Extinction Ratio, and Low-Chirp Modulation. , 2011, , .		2
67	Intra- and Inter-band Four-wave Mixing in Silicon Coupled Resonator Optical Waveguides. , 2011, , .		0
68	CMOS Integrated Silicon Nanophotonics for Exascale Computing. , 2011, , .		0
69	20Gbps Receiver Based on Germanium Photodetector Hybrid-Integrated with 90nm CMOS Amplifier. , 2011, , .		0
70	Controlled Coupling in Silicon Microrings for High-Speed, High Extinction Ratio, and Low-Chirp Modulation. , 2011, , .		3
71	Mid-Infrared Broadband Modulation Instability and 50 dB Raman Assisted Parametric Gain in Silicon Photonic Wires. , 2011, , .		1
72	Hybrid-Integrated Germanium Photodetector and CMOS Receiver Operating at 15 Gb/s. , 2011, , .		0

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73	235-ring Coupled-Resonator Optical Waveguides. , 2010, , .		4
74	Waveguide-Integrated Low-Noise Germanium Avalanche Photodetector with 6dB Sensitivity Improvement. , 2010, , .		0
75	Experimental and Theoretical Demonstration of Wavelength Conversion of 10 Gb/s RZ-OOK in a Si nanowire via XPM. , 2010, , .		0
76	CMOS-Integrated Optical Receivers for On-Chip Interconnects. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 1376-1385.	2.9	82
77	All-Optical Format Conversion of NRZ-OOK to RZ-OOK in a Silicon Nanowire Utilizing Either XPM or FWM and Resulting in a Receiver Sensitivity Gain of ~ 2.5 dB. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 234-249.	2.9	40
78	All-Optical Wavelength Conversion of 10 Gb/s RZ-OOK Data in a Silicon Nanowire via Cross-Phase Modulation: Experiment and Theoretical Investigation. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 1448-1459.	2.9	18
79	Introduction to the Issue on Enabling Technologies for Digital Optical Communication Systems. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 1048-1050.	2.9	0
80	Reinventing germanium avalanche photodetector for nanophotonic on-chip optical interconnects. Nature, 2010, 464, 80-84.	27.8	500
81	Mid-infrared optical parametric amplifier using silicon nanophotonic waveguides. Nature Photonics, 2010, 4, 557-560.	31.4	377
82	Ultra-Broadband, Low-Power, $2\lambda-2$ Electro-Optic Switch using Sub-Micron Silicon Waveguides. , 2010, , .		1
83	Deterministic tuning of slow-light in photonic-crystal waveguides through the C and L bands by atomic layer deposition. Applied Physics Letters, 2010, 96, .	3.3	15
84	High-gain Si-chip optical parametric mixing beyond two-photon absorption. , 2010, , .		0
85	Mid-infrared nonlinear optics in silicon photonic wire waveguides. , 2010, , .		2
86	(Invited) Integration of Germanium Avalanche Photodetectors on Silicon for On-Chip Optical Interconnects. ECS Transactions, 2010, 33, 749-756.	0.5	0
87	Photonic Crystal Defects with Increased Surface Area for Improved Refractive Index Sensing. , 2010, , .		5
88	CMOS-Integrated Low-Noise Germanium Waveguide Avalanche Photodetector Operating at 40Gbps. , 2010, , .		1
89	CMOS-integrated high-speed MSM germanium waveguide photodetector. Optics Express, 2010, 18, 4986.	3.4	171
90	Statistics of light transport in 235-ring silicon coupled-resonator optical waveguides. Optics Express, 2010, 18, 26505.	3.4	74

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91	Photonic crystal slab sensor with enhanced surface area. Optics Express, 2010, 18, 27930.	3.4	153
92	Integrated NiSi waveguide heaters for CMOS-compatible silicon thermo-optic devices. Optics Letters, 2010, 35, 1013.	3.3	69
93	Tunable Wavelength Conversion by XPM in a Silicon Nanowire, and the Potential for XPM-Multicasting. Journal of Lightwave Technology, 2010, 28, 2499-2511.	4.6	26
94	Waveguide-integrated Germanium avalanche photodetector for low-noise and high-speed operation. , 2010, , .		0
95	Silicon nanophotonic mid-infrared optical parametric amplifier with 25 dB gain. , 2010, , .		0
96	Demonstrations of an air-slot photonic crystal nanocavity with ultrasmall mode volumes for enhanced light-matter interactions. , 2009, , .		0
97	Silicon integrated nanophotonics for on-chip optical interconnects. , 2009, , .		0
98	CMOS-Integrated 40GHz Germanium Waveguide Photodetector for On-chip Optical Interconnects. , 2009, , .		21
99	Silicon-nitride surface passivation of submicrometer silicon waveguides for low-power optical switches. Optics Letters, 2009, 34, 1534.	3.3	18
100	Conversion of 10 Gb/s NRZ-OOK to RZ-OOK utilizing XPM in a Si nanowire. Optics Express, 2009, 17, 12987.	3.4	30
101	Design of a digital, ultra-broadband electro-optic switch for reconfigurable optical networks-on-chip. Optics Express, 2009, 17, 23793.	3.4	67
102	Low-power, $2\lambda-2$ silicon electro-optic switch with 110-nm bandwidth for broadband reconfigurable optical networks. Optics Express, 2009, 17, 24020.	3.4	249
103	Engineering nonlinearities in nanoscale optical systems: physics and applications in dispersion-engineered silicon nanophotonic wires. Advances in Optics and Photonics, 2009, 1, 162.	25.5	221
104	Silicon-on-Insulator Echelle Grating WDM Demultiplexers With Two Stigmatic Points. IEEE Photonics Technology Letters, 2009, 21, 1743-1745.	2.5	69
105	Integration of nanophotonic devices for on-chip optical interconnects. , 2009, , .		0
106	Silicon photonic WDM devices: simulation, design, and implementation. , 2009, , .		5
107	Mid-infrared pulse dynamics in Si nanophotonic wires near the two-photon absorption edge. , 2009, , .		3
108	Digital deterministic control of slow light in photonic crystal waveguide membranes through atomic layer deposition. , 2009, , .		0

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109	Silicon-Nitride Surface Passivation of Sub-Micron Silicon Waveguides for Low-Power Optical Switches. , 2009, , .		0
110	CMOS-Integrated Small-Capacitance Germanium Waveguide Photodetector for Optical Interconnects. , 2009, , .		2
111	High-throughput silicon nanophotonic wavelength-insensitive switch for on-chip optical networks. Nature Photonics, 2008, 2, 242-246.	31.4	420
112	Ultrahigh-Bandwidth Silicon Photonic Nanowire Waveguides for On-Chip Networks. IEEE Photonics Technology Letters, 2008, 20, 398-400.	2.5	128
113	Conformal dielectric overlayers for engineering dispersion and effective nonlinearity of silicon nanophotonic wires. Optics Letters, 2008, 33, 2889.	3.3	68
114	Nonlinear-Optical Phase Control in Dispersion-Engineered Si Photonic Wires. Optics Express, 2008, 16, 1280.	3.4	93
115	Supercontinuum generation in silicon photonic wires. , 2008, , .		5
116	Echelle grating WDM (de-)multiplexers in SOI technology, based on a design with two stigmatic points. Proceedings of SPIE, 2008, , .	0.8	17
117	Silicon integrated nanophotonics for on-chip optical interconnects. , 2008, , .		0
118	Nonlinear optics in Si wires on an SOI platform. , 2008, , .		0
119	High-Throughput Silicon Nanophotonic Deflection Switch for On-Chip Optical Networks. , 2008, , .		5
120	Broadband digital optical switches based on a SOI Mach-Zehnder lattice. , 2008, , .		0
121	Silicon photonics for next generation computing systems. , 2008, , .		49
122	Broadband ultra-compact nanophotonic optical modulators and switches. , 2008, , .		0
123	Silicon micro-resonators for on-chip optical networks. , 2008, , .		6
124	Silicon photonic wire circuits for on-chip optical interconnects. Proceedings of SPIE, 2008, , .	0.8	1
125	Slow-Light in Photonic-Crystal Waveguides and Cavities. , 2008, , .		0
126	Dispersion engineering in silicon photonic wires using thin Si3N4 conformal dielectric coating. , 2008, , .		0

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127	Design and fabrication of an ultra-compact silicon on insulator demultiplexer based on arrayed waveguide gratings. , 2008, , .		0
128	Dispersion engineering of silicon nanophotonic wires using a thin film cladding. , 2008, , .		1
129	Ultra-compact reconfigurable silicon optical devices using micron-scale localized thermal heating. , 2007, , .		9
130	Demonstration of 300 Gbps Error-Free Transmission of WDM Data Stream in Silicon Photonic Wires. , 2007, , .		5
131	Ultra-compact wavelength division multiplexing devices using silicon photonic wires for on-chip interconnects. , 2007, , .		2
132	Ultrahigh-Bandwidth WDM Signal Integrity in Silicon-on-Insulator Nanowire Waveguides. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
133	Ultra-compact silicon WDM optical filters with flat - top response for on-chip optical interconnects. , 2007, , .		7
134	Silicon modulator based on anti-crossing between paired amplitude and phase tunable microring resonators. , 2007, , .		1
135	Cross-phase modulation-induced spectral and temporal effects on co-propagating femtosecond pulses in silicon photonic wires. Optics Express, 2007, 15, 1135.	3.4	107
136	Ultra-compact high order ring resonator filters using submicron silicon photonic wires for on-chip optical interconnects. Optics Express, 2007, 15, 11934.	3.4	399
137	Supercontinuum generation in silicon photonic wires. Optics Express, 2007, 15, 15242.	3.4	180
138	Ultra-compact, low RF power, 10 Gb/s silicon Mach-Zehnder modulator. Optics Express, 2007, 15, 17106.	3.4	677
139	Optical modulation using anti-crossing between paired amplitude and phase resonators. Optics Express, 2007, 15, 17264.	3.4	38
140	High-order dispersion in photonic crystal waveguides. Optics Express, 2007, 15, 17562.	3.4	15
141	Determination of Third-Order Dispersion Coefficient and Observation of Soliton Radiation in Si-Wire Waveguides. , 2007, , .		0
142	Ultracompact optical buffers on a silicon chip. Nature Photonics, 2007, 1, 65-71.	31.4	1,083
143	Coupled resonator optical waveguides based on silicon-on-insulator photonic wires. Applied Physics Letters, 2006, 89, 041122.	3.3	90
144	Coupling into the slow light mode in slab-type photonic crystal waveguides. Optics Letters, 2006, 31, 50.	3.3	143

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145	Transmission of slow light through photonic crystal waveguide bends. Optics Letters, 2006, 31, 745.	3.3	45
146	Group index and group velocity dispersion in silicon-on-insulator photonic wires. Optics Express, 2006, 14, 3853.	3.4	259
147	Mode conversion losses in silicon-on-insulator photonic wire based racetrack resonators. Optics Express, 2006, 14, 3872.	3.4	122
148	Self-phase-modulation in submicron silicon-on-insulator photonic wires. Optics Express, 2006, 14, 5524.	3.4	198
149	Group index and group velocity dispersion in silicon-on-insulator photonic wires: errata. Optics Express, 2006, 14, 6372.	3.4	6
150	Ultrafast-pulse self-phase modulation and third-order dispersion in Si photonic wire-waveguides. Optics Express, 2006, 14, 12380.	3.4	134
151	Fiber on a chip: Nonlinear optics in silicon photonic wires. , 2006, , .		0
152	Ultrafast Optical-pulse Propagation on Si Chips. , 2006, , .		0
153	Active control of slow light on a chip with photonic crystal waveguides. Nature, 2005, 438, 65-69.	27.8	1,219
154	Mapping the optical properties of slab-type two-dimensional photonic crystal waveguides. Physical Review B, 2005, 72, .	3.2	50
155	C-band wavelength conversion in silicon photonic wire waveguides. Optics Express, 2005, 13, 4341.	3.4	212
156	Mode mixing in asymmetric double-trench photonic crystal waveguides. Journal of Applied Physics, 2004, 95, 4538-4544.	2.5	29
157	Introduction. Optics Express, 2004, 12, 1476.	3.4	2
158	Losses in single-mode silicon-on-insulator strip waveguides and bends. Optics Express, 2004, 12, 1622.	3.4	897
159	Raman amplification in ultrasmall silicon-on-insulator wire waveguides. Optics Express, 2004, 12, 3713.	3.4	244
160	Observation of surface states in a truncated photonic crystal slab. Optics Letters, 2004, 29, 2175.	3.3	45
161	Spontaneous Raman scattering in ultrasmall silicon waveguides. Optics Letters, 2004, 29, 2755.	3.3	47
162	Broad bandwidth double-trench waveguides in silicon-on-insulator photonic crystal slabs. , 2004, , .		1

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163	Intrinsic diffraction losses in 2D SOI photonic crystal waveguides. , 2004, , IThL4.		4
164	Spontaneous Raman scattering in a silicon wire waveguide. , 2004, , .		6
165	Ultra-low loss photonic integrated circuit with membrane-type photonic crystal waveguides. Optics Express, 2003, 11, 2927.	3.4	755
166	Quantum Dot Photonic Crystals. Nanostructure Science and Technology, 2003, , 239-260.	0.1	0
167	Chemical Approaches to Three-Dimensional Semiconductor Photonic Crystals. Advanced Materials, 2001, 13, 371-376.	21.0	336
168	On-chip natural assembly of silicon photonic bandgap crystals. Nature, 2001, 414, 289-293.	27.8	1,575
169	Conjugated-Polymer Photonic Crystals. Advanced Materials, 2000, 12, 1176-1180.	21.0	120
170	Single-domain spectroscopy of self-assembled photonic crystals. Applied Physics Letters, 2000, 76, 1627-1629.	3.3	124
171	Manifestation of intrinsic defects in optical properties of self-organized opal photonic crystals. Physical Review E, 2000, 61, 5784-5793.	2.1	246
172	Femtosecond measurements of the time of flight of photons in a three-dimensional photonic crystal. Physical Review E, 1999, 60, 1030-1035.	2.1	60
173	Different regimes of light localization in a disordered photonic crystal. Physical Review B, 1999, 60, 1555-1562.	3.2	142
174	Synthesis of Photonic Crystals for Optical Wavelengths from Semiconductor Quantum Dots. Advanced Materials, 1999, 11, 165-169.	21.0	355
175	Optical gain of CdS quantum dots embedded in 3D photonic crystals. Thin Solid Films, 1998, 318, 93-95.	1.8	12
176	Existence of a photonic pseudogap for visible light in synthetic opals. Physical Review B, 1997, 55, R13357-R13360.	3.2	198
177	Enhancement of optical gain of semiconductors embedded in three-dimensional photonic crystals. Applied Physics Letters, 1997, 71, 1616-1618.	3.3	180
178	Photonic band structure of 3D ordered silica matrices. Superlattices and Microstructures, 1997, 22, 393-397.	3.1	5
179	Photonic band gaps in 3D ordered fcc silica matrices. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 222, 349-353.	2.1	75
180	Optical spectroscopy of opal matrices with CdS embedded in its pores: Quantum confinement and photonic band gap effects. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1995, 17, 1349-1354.	0.4	203