Vivechana Agarwal

List of Publications by Year
in descending order

138	2,522	236925 25	254184 43
papers	citations	h-index	g-index

138	138	138	2371
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Porous silicon pillar structures/photosynthetic reaction centre protein hybrid for bioelectronic applications. Photochemical and Photobiological Sciences, 2022, 21, 13-22.	2.9	4
2	Tunable Upconversion Emission from Oil-based Carbon Nanodots. Materials Letters, 2022, , 131640.	2.6	2
3	Heavy metal ion detection using green precursor derived carbon dots. IScience, 2022, 25, 103816.	4.1	59
4	CO2 sensing performance enhanced by Pt-catalyzed SnO2/porous-silicon hybrid structures. Sensors International, 2022, 3, 100165.	8.4	3
5	Orange-reddish photoluminescence enhancement and wollastonite nanocrystals formation induced by CaO in Sm3+-doped calcium sodium borosilicate glasses. Ceramics International, 2022, 48, 14537-14549.	4.8	12
6	Highly stable, fast responsive Mo2CTx MXene sensors for room temperature carbon dioxide detection. Microporous and Mesoporous Materials, 2022, 336, 111872.	4.4	23
7	Synthesis of Î± and Î³ phase of aluminium oxide nanoparticles for the photocatalytic degradation of methylene blue under sunlight: A comparative study. Materials Letters, 2022, 317, 132085.	2.6	8
8	The identification of byproducts from the catalytic reduction reaction of 4-nitrophenol to 4-aminophenol: A systematic spectroscopic study. Journal of Environmental Management, 2022, 316, 115292.	7.8	17
9	Avocado seeds derived carbon dots for highly sensitive Cu (II)/Cr (VI) detection and copper (II) removal via flocculation. Chemical Engineering Journal, 2022, 446, 137171.	12.7	22
10	Green fabrication of 2D platinum superstructures and their high catalytic activity for mitigation of organic pollutants. Catalysis Today, 2021, 360, 185-193.	4.4	17
11	Porous silicon/Î±-MoO3 nanohybrid based fast and highly sensitive CO2 gas sensors. Vacuum, 2021, 184, 109983.	3.5	41
12	Colorimetric metal ion (II) Sensors Based on imine boronic esters functionalized with pyridine. Dyes and Pigments, 2021, 186, 108991.	3.7	7
13	Analytical model for the current density in the electrochemical synthesis of porous silicon structures with a lateral gradient. Optical Materials, 2021, 113, 110859.	3.6	3
14	Nanomaterial-aided seed regeneration in the global warming scenario: multiwalled carbon nanotubes, gold nanoparticles and heat-aged maize seeds. Applied Nanoscience (Switzerland), 2021, 11, 1531-1547.	3.1	4
15	Enhanced photocatalytic performance and reusability of N-doped carbon dots/zinc oxide hybrid nanostructures. Nanotechnology, 2021, 32, 385703.	2.6	0
16	Simple one step synthesis of dual-emissive heteroatom doped carbon dots for acetone sensing in commercial products and Cr (VI) reduction. Chemical Engineering Journal, 2021, 414, 128830.	12.7	34
17	Optimization of wide-band quasi-omnidirectional 1-D photonic structures. Optical Materials, 2021, 117, 111202.	3.6	6
18	Fluorescent films based on PVDF doped with carbon dots for evaluation of UVA protection of sunscreens and fabrication of cool white LEDs. RSC Advances, 2021, 11, 32604-32614.	3.6	6

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19	Integration of Nitrogen-Doped Graphene Oxide Dots with Au Nanoparticles for Enhanced Electrocatalytic Hydrogen Evolution. ACS Applied Nano Materials, 2021, 4, 11513-11525.	5.0	10
20	4-nitrophenol optical sensing with N doped oxidized carbon dots. Journal of Hazardous Materials, 2020, 386, 121643.	12.4	76
21	Platinum nanoparticle-assembled porous biogenic silica 3D hybrid structures with outstanding 4-nitrophenol degradation performance. Chemical Engineering Journal, 2020, 388, 124237.	12.7	67
22	A wide band porous silicon omnidirectional mirror for the near infrared range. Journal of Applied Physics, 2020, 127, .	2.5	13
23	Temperature-dependent infrared ellipsometry of Mo-doped VO2 thin films across the insulator to metal transition. Scientific Reports, 2020, 10, 8555.	3.3	22
24	N-doped oxidized carbon dots for methanol sensing in alcoholic beverages. RSC Advances, 2020, 10, 22522-22532.	3.6	23
25	Stable calculation of optical properties of large non-periodic dissipative multilayered systems. Superlattices and Microstructures, 2020, 145, 106629.	3.1	2
26	One-step hydrothermal preparation of highly stable N doped oxidized carbon dots for toxic organic pollutants sensing and bioimaging. Chemical Engineering Journal, 2020, 401, 126097.	12.7	50
27	Porous Si-SiO2 based UV Microcavities. Scientific Reports, 2020, 10, 2220.	3.3	13
28	Nitrogen-Doped Carbon Dots Induced Enhancement in CO2 Sensing Response From ZnOâ€“Porous Silicon Hybrid Structure. Frontiers in Chemistry, 2020, 8, 291.	3.6	18
29	Efecto de la temperatura de recocido en la morfologÃa de estructuras hibridas de ZnO/silicio cristalino y poroso. PÃ„DI BoletÃn CientÃfico De Ciencias BÃ¡sicas E IngenierÃas Del ICBI, 2020, 7, 74-77.	0.0	0
30	Modeling of the optical response of two-dimensional hexagonal periodicity photonic structures with cylindrical inclusions with randomly rough surfaces that include dispersive LHM. Journal of Physics: Conference Series, 2019, 1221, 012015.	0.4	0
31	Sol-gel synthesis for stable green emission in samarium doped borosilicate glasses. Ceramics International, 2019, 45, 24052-24059.	4.8	14
32	Nitrogen-Doped Graphene Oxide Dots-Based â€œTurn-OFFâ€•H₂O₂, Au(III), and â€œTurn-OFFâ€“ONâ€•Hg(II) Sensors as Logic Gates and Molecular Keypad Locks. ACS Omega, 2019, 4, 10702-10713.	3.5	24
33	Persea americanaseed extract mediated gold nanoparticles for mercury(<scp>ii</scp>)/iron(<scp>iii</scp>) sensing, 4-nitrophenol reduction, and organic dye degradation. RSC Advances, 2019, 9, 39834-39842.	3.6	23
34	Biogenic porous silica and silicon sourced from Mexican Giant Horsetail (Equisetum myriochaetum) and their application as supports for enzyme immobilization. Colloids and Surfaces B: Biointerfaces, 2018, 166, 195-202.	5.0	22
35	Reflectivity of 1D photonic crystals: A comparison of computational schemes with experimental results. International Journal of Modern Physics B, 2018, 32, 1850136.	2.0	9
36	Noise assisted pattern fabrication. Applied Physics Letters, 2018, 112, 161601.	3.3	2

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37	Porous silicon ZnO/SnO2 structures for CO2 detection. Journal of Alloys and Compounds, 2018, 731, 853-863.	5.5	55
38	Porous silicon microcavities redefine colorimetric ELISA sensitivity for ultrasensitive detection of autoimmune antibodies. Sensors and Actuators B: Chemical, 2018, 272, 211-218.	7.8	19
39	Size controlled green synthesis of gold nanoparticles using Coffea arabica seed extract and their catalytic performance in 4-nitrophenol reduction. RSC Advances, 2018, 8, 24819-24826.	3.6	89
40	Fabrication of ordered tubular porous silicon structures by colloidal lithography and metal assisted chemical etching: SERS performance of 2D porous silicon structures. Applied Surface Science, 2018, 462, 783-790.	6.1	20
41	Porous Silicon Photonic Crystals. , 2018, , 1201-1210.		0
42	Porous Silicon Multilayers and Superlattices. , 2018, , 167-176.		0
43	Formation of different micro-morphologies from VO 2 and ZnO crystallization using macro-porous silicon substrates. Journal of Physics and Chemistry of Solids, 2017, 104, 21-31.	4.0	7
44	Porous silicon pillar and bilayer structure as a nucleation center for the formation of aligned vanadium pentoxide nanorods. Ceramics International, 2017, 43, 8023-8030.	4.8	8
45	Noise induced regularity of porous silicon nanostructures electrochemically etched in the presence of a sub-threshold periodic signal. Journal of Applied Physics, 2017, 122, 124904.	2.5	5
46	Flexible fluorescent films based on quantum dots (QDs) and natural rubber. Journal of Applied Polymer Science, 2017, 134, 45459.	2.6	4
47	Room Temperature Crystallization of Hydroxyapatite in Porous Silicon Structures. Nanoscale Research Letters, 2016, 11, 497.	5.7	11
48	Enhancement of Peroxidase Stability Against Oxidative Self-Inactivation by Co-immobilization with a Redox-Active Protein in Mesoporous Silicon and Silica Microparticles. Nanoscale Research Letters, 2016, 11, 417.	5.7	14
49	Dual layer ZnO configuration over nanostructured porous silicon substrate for enhanced memristive switching. Superlattices and Microstructures, 2016, 100, 89-96.	3.1	6
50	Sputtering temperature dependent growth kinetics and CO2 sensing properties of ZnO deposited over porous silicon. Superlattices and Microstructures, 2016, 98, 8-17.	3.1	15
51	Green synthesis of S-doped rod shaped anatase TiO2 microstructures. Materials Letters, 2016, 183, 211-214.	2.6	15
52	Fabrication of porous silicon-based optical sensors using metal-assisted chemical etching. RSC Advances, 2016, 6, 21430-21434.	3.6	28
53	Morphological transformations in cobalt doped zinc oxide nanostructures: Effect of doping concentration. Ceramics International, 2016, 42, 5184-5194.	4.8	42
54	Porous silicon-VO2 based hybrids as possible optical temperature sensor: Wavelength-dependent optical switching from visible to near-infrared range. Journal of Applied Physics, 2015, 118, .	2.5	24

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55	Nucleation of Sub-Micrometer Protein Crystals in Square-Shaped Macroporous Silicon Structures. Crystal Growth and Design, 2015, 15, 2801-2808.	3.0	11
56	Spectral barcodes by superposition of quasiperiodic refractive index profiles. Optics Express, 2015, 23, 8272.	3.4	1
57	Chirped dual periodic structures for photonic Bloch oscillations and Zener tunneling. Optics Express, 2015, 23, 16500.	3.4	4
58	Engineered Adhesion Peptides for Improved Silicon Adsorption. Langmuir, 2015, 31, 11868-11874.	3.5	12
59	Memristive devices from porous silicon â€“ ZnO/VO2 nanocomposites. Superlattices and Microstructures, 2015, 88, 198-203.	3.1	7
60	A Heterojunction Based on Macro-porous Silicon and Zinc Oxide for Solar Cell Application. Journal of New Materials for Electrochemical Systems, 2015, 18, 225-230.	0.6	6
61	Formation and characterization of porous siliconâ€“samarium/gadolinium nanocomposites: effect of substrate oxidation and biosynthesis process. Applied Physics A: Materials Science and Processing, 2014, 117, 2265-2273.	2.3	3
62	Porous Silicon Multilayers and Superlattices. , 2014, , 153-162.		1
63	Porous silicon functionalization for possible arsenic adsorption. Nanoscale Research Letters, 2014, 9, 508.	5.7	1
64	Doping concentration driven morphological evolution of Fe doped ZnO nanostructures. Journal of Applied Physics, 2014, 116, .	2.5	68
65	Photonic Bloch Oscillations and Zener Tunneling in Dual-Periodical Multilayers Made of Porous Silicon: Effect of Angle of Incidence. Journal of Nano Research, 2014, 28, 83-90.	0.8	1
66	Controlled morphology and optical properties of n-type porous silicon: effect of magnetic field and electrode-assisted LEF. Nanoscale Research Letters, 2014, 9, 512.	5.7	8
67	Formation of photoluminescent n-type macroporous silicon: Effect of magnetic field and lateral electric potential. Physica B: Condensed Matter, 2014, 453, 34-39.	2.7	3
68	Labyrinth patterns of zinc oxide on porous silicon substrate. Superlattices and Microstructures, 2014, 67, 72-81.	3.1	3
69	Design and optimization of antireflecting coatings from nanostructured porous silicon dielectric multilayers. Solar Energy Materials and Solar Cells, 2014, 123, 144-149.	6.2	15
70	Porous Silicon Multilayers and Superlattices. , 2014, , 1-9.		1
71	Porous Silicon Photonic Crystals. , 2014, , 1-10.		0
72	Optimization of tungsten oxide films electro-deposited on macroporous silicon for gas sensing applications: Effect of annealing temperature. Ceramics International, 2014, 40, 16603-16610.	4.8	10

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73	Optical characterization of porous silicon monolayers decorated with hydrogel microspheres. Nanoscale Research Letters, 2014, 9, 425.	5.7	4
74	ZnO-porous silicon nanocomposite for possible memristive device fabrication. Nanoscale Research Letters, 2014, 9, 437.	5.7	29
75	Porous Silicon Photonic Crystals. , 2014, , 805-814.		2
76	Optical and structural characterization of tungsten oxide electrodeposited on nanostructured porous silicon: Effect of annealing atmosphere and temperature. Journal of Alloys and Compounds, 2013, 581, 596-601.	5.5	9
77	Controlling the optical properties of composite multilayered photonic structures: effect of superposition. Optics Express, 2013, 21, 17324.	3.4	9
78	Effect of magnetic field on the formation of macroporous silicon: structural and optical properties. Materials Research Society Symposia Proceedings, 2013, 1617, 63-68.	0.1	0
79	White metal-like omnidirectional mirror from porous silicon dielectric multilayers. Applied Physics Letters, 2012, 101, .	3.3	20
80	Optical properties of Cantor nanostructures made from porous silicon: A sensing application. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 452-458.	2.0	9
81	White and UV Emission from Swift Ion Irradiation Modified Zinc Oxide-Porous Silicon Nanocomposite through Cathodoluminescence Spectroscopy. Physics Procedia, 2012, 29, 12-17.	1.2	2
82	Fluorescence and Spectroscopic Properties of Yb3+-Doped Phosphate Glasses. Physics Procedia, 2012, 29, 109-113.	1.2	8
83	Development and characterization of nanocomposites with gold nanoparticles embedded in the nanostructured silicon substrate.. Materials Research Society Symposia Proceedings, 2012, 1371, 99.	0.1	0
84	Influence of mesoporous substrate morphology on the structural, optical and electrical properties of RF sputtered ZnO layer deposited over porous silicon nanostructure. Applied Surface Science, 2012, 258, 2283-2288.	6.1	24
85	Cathodoluminescence and photoluminescence of swift ion irradiation modified zinc oxide-porous silicon nanocomposite. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 1476-1481.	3.5	15
86	Modification of optical and electrical properties of zinc oxide-coated porous silicon nanostructures induced by swift heavy ion. Nanoscale Research Letters, 2012, 7, 366.	5.7	23
87	Study of the omnidirectional photonic bandgap for dielectric mirrors based on porous silicon: effect of optical and physical thickness. Nanoscale Research Letters, 2012, 7, 391.	5.7	4
88	Light-harvesting bio-nanomaterial using porous silicon and photosynthetic reaction center. Nanoscale Research Letters, 2012, 7, 400.	5.7	14
89	Demonstration of photon Bloch oscillations and Wannier-Stark ladders in dual-periodical multilayer structures based on porous silicon. Nanoscale Research Letters, 2012, 7, 413.	5.7	13
90	Porous Silicon/Photosynthetic Reaction Center Hybrid Nanostructure. Langmuir, 2012, 28, 11866-11873.	3.5	30

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91	Omnidirectional photonic bangap in dielectric mirrors: a comparative study. Journal Physics D: Applied Physics, 2012, 45, 015102.	2.8	10
92	Intimate effects of surface functionalization of porous silicon microcavities on biosensing performance. Proceedings of SPIE, 2011, , .	0.8	0
93	Matrix metalloproteinase sensing via porous silicon microcavity devices functionalized with human antibodies. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1888-1892.	0.8	7
94	Peptides for the Biofunctionalization of Silicon for Use in Optical Sensing with Porous Silicon Microcavities. Advanced Functional Materials, 2011, 21, 2003-2011.	14.9	43
95	Synthesis of nanocrystalline Î± - Zn2SiO4 at ZnOâ€“porous silicon interface: Phase transition study. Solid State Communications, 2011, 151, 701-703.	1.9	20
96	Effect of interface gradient on the optical properties of multilayered porous silicon photonic structures. Journal Physics D: Applied Physics, 2011, 44, 155102.	2.8	15
97	Noise mediated regularity of porous silicon nanostructures. Applied Physics Letters, 2009, 94, .	3.3	19
98	Three-dimensional spatial resolution of the nonlinear photoemission from biofunctionalized porous silicon microcavity. Applied Physics Letters, 2009, 94, 223313.	3.3	11
99	Enlargement of omnidirectional photonic bandgap in porous silicon dielectric mirrors with a Gaussian profile refractive index. Applied Physics Letters, 2009, 94, 061914.	3.3	30
100	Porous silicon photonic devices using pulsed anodic etching of lightly doped silicon. Journal Physics D: Applied Physics, 2009, 42, 145101.	2.8	17
101	Photoluminescent Photonic Devices from Nanostructured Porous Silicon Fabricated Using Lightly Doped Silicon. Journal of Nano Research, 2009, 4, 11-17.	0.8	0
102	Surface and interface analysis of nanostructured porous silicon layers fabricated at low temperatures from highly doped silicon substrate: application in optical filters. Journal of Porous Materials, 2009, 16, 191-195.	2.6	5
103	Detection and light enhancement of glucose oxidase adsorbed on porous silicon microcavities. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1624-1628.	0.8	15
104	Electronic excitations induced modifications of structural and optical properties of ZnOâ€“porous silicon nanocomposites. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2399-2402.	1.4	25
105	Optical properties of multilayered Period-Doubling and Rudin-Shapiro porous silicon dielectric heterostructures. Photonics and Nanostructures - Fundamentals and Applications, 2009, 7, 63-68.	2.0	29
106	Self-affinity study of nanostructured porous siliconâ€“crystalline silicon interfaces. Applied Surface Science, 2009, 256, 645-649.	6.1	4
107	White light emission from chemically synthesized ZnOâ€“porous silicon nanocomposite. Journal Physics D: Applied Physics, 2009, 42, 062002.	2.8	45
108	Functionalization of nanostructured porous silicon microcavities for glucose oxidase detection. Sensors and Actuators B: Chemical, 2008, 135, 27-34.	7.8	63

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109	Electrochemical polymerization of an aniline-terminated self-assembled monolayer on indium tin oxide electrodes and its effect on polyaniline electrodeposition. Thin Solid Films, 2008, 516, 4793-4802.	1.8	13
110	Biosensing and Protein Fluorescence Enhancement by Functionalized Porous Silicon Devices. Langmuir, 2008, 24, 13765-13771.	3.5	61
111	Omnidirectional photonic bandgaps in porous silicon based mirrors with a Gaussian profile refractive index. Applied Physics Letters, 2008, 93, .	3.3	29
112	Optical characterization of porous silicon microcavities for glucose oxidase biosensing. Proceedings of SPIE, 2008, , .	0.8	2
113	Cantor Dielectric Heterostructures Made of Nanostructured Multilayers of Porous Silicon. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2008, 4, 451-454.	0.4	3
114	Optical characterization of polytype Fibonacci and Thueâ€“Morse quasiregular dielectric structures made of porous silicon multilayers. Journal Physics D: Applied Physics, 2007, 40, 3203-3211.	2.8	31
115	Photoluminescence studies of ZnO/porous silicon nanocomposites. Journal Physics D: Applied Physics, 2007, 40, 3090-3093.	2.8	62
116	Characterization of porous silicon using Terahertz differential time-domain spectroscopy. , 2007, , .		0
117	Fabrication of UV filters from porous silicon at low temperatures. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1956-1960.	0.8	2
118	Effect of duty cycle and frequency on the morphology of porous silicon formed by alternating square pulse anodic etching. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2039-2043.	0.8	9
119	Conductivity of free-standing porous silicon layers using Terahertz differential time-domain spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2111-2115.	0.8	7
120	Architectures from Aligned Nanotubes Using Controlled Micropatterning of Silicon Substrates and Electrochemical Methods. Small, 2007, 3, 1157-1163.	10.0	12
121	Optical properties of delta poly-type quasiregular dielectric structures made of porous silicon. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 1367-1371.	1.8	4
122	FILTERS, MIRRORS AND MICROCAVITIES FROM POROUS SILICON. International Journal of Modern Physics B, 2006, 20, 99-110.	2.0	14
123	Light propagation in polytype Thueâ€“Morse structures made of porous silicon. Photonics and Nanostructures - Fundamentals and Applications, 2005, 3, 155-161.	2.0	21
124	Propagation of light in quasi-regular dielectric heterostructures with delta-like layers. Microelectronics Journal, 2005, 36, 413-415.	2.0	10
125	Photon Bloch Oscillations in Porous Silicon Optical Superlattices. Physical Review Letters, 2004, 92, 097401.	7.8	127
126	Photoluminescent coupled multiple microcavity structures made of porous silicon. Materials Research Society Symposia Proceedings, 2004, 832, 140.	0.1	0

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127	Photoelectrochemical characterization of porous Si. International Journal of Hydrogen Energy, 2003, 28, 629-632.	7.1	19
128	Effect of the electric field on the luminescence of self-supporting porous silicon. Physica Status Solidi A, 2003, 197, 345-349.	1.7	4
129	Light transmission in quasiperiodic multilayers of porous silicon. Journal of Non-Crystalline Solids, 2003, 329, 140-143.	3.1	151
130	Tailoring the photonic band gap of a porous silicon dielectric mirror. Applied Physics Letters, 2003, 82, 1512-1514.	3.3	117
131	Reversible charging effects on optical properties of porous silicon. Solid State Communications, 2001, 120, 21-24.	1.9	1
132	Analysis of the Shape of PL Spectra and Its Temperature Dependence in Self-Supporting Porous Silicon. Physica Status Solidi A, 2000, 182, 385-388.	1.7	2
133	Analysis of the broadening of photoluminescence spectra in porous silicon as a function of growth parameters. Thin Solid Films, 2000, 358, 196-201.	1.8	9
134	Electron transport in porous silicon. Thin Solid Films, 1998, 312, 254-258.	1.8	15
135	Influence of anodisation time, current density and electrolyte concentration on the photoconductivity spectra of porous silicon. Thin Solid Films, 1998, 315, 281-285.	1.8	17
136	Unified model for the luminescence and transport data in self-supporting porous silicon. Journal of Applied Physics, 1998, 83, 2235-2240.	2.5	24
137	Development and Characterization of Porous Silicon (a Review). Solid State Phenomena, 1997, 55, 71-76.	0.3	4
138	Optical Properties of Non-Periodic Dielectric Systems Made of Nanostructured Porous Silicon. Journal of Nano Research, 0, 5, 69-78.	0.8	6