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	Light transmission in quasiperiodic multilayers of porous silicon. Journal of Non-Crystalline Solids, 2003, 329, 140-143.	3.1	151
2	Photon Bloch Oscillations in Porous Silicon Optical Superlattices. Physical Review Letters, 2004, 92, 097401.	7.8	127
3	Tailoring the photonic band gap of a porous silicon dielectric mirror. Applied Physics Letters, 2003, 82, 1512-1514.	3.3	117
4	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
5	4-nitrophenol optical sensing with N doped oxidized carbon dots. Journal of Hazardous Materials, 2020, 386, 121643.	12.4	76
6	Doping concentration driven morphological evolution of Fe doped ZnO nanostructures. Journal of Applied Physics, 2014, 116, .	2.5	68
7	Platinum nanoparticle-assembled porous biogenic silica 3D hybrid structures with outstanding 4-nitrophenol degradation performance. Chemical Engineering Journal, 2020, 388, 124237.	12.7	67
8	Functionalization of nanostructured porous silicon microcavities for glucose oxidase detection. Sensors and Actuators B: Chemical, 2008, 135, 27-34.	7.8	63
9	Photoluminescence studies of ZnO/porous silicon nanocomposites. Journal Physics D: Applied Physics, 2007, 40, 3090-3093.	2.8	62
10	Biosensing and Protein Fluorescence Enhancement by Functionalized Porous Silicon Devices. Langmuir, 2008, 24, 13765-13771.	3.5	61
11	Heavy metal ion detection using green precursor derived carbon dots. IScience, 2022, 25, 103816.	4.1	59
12	Porous silicon ZnO/SnO2 structures for CO2 detection. Journal of Alloys and Compounds, 2018, 731, 853-863.	5.5	55
13	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
14	White light emission from chemically synthesized ZnOâ€“porous silicon nanocomposite. Journal Physics D: Applied Physics, 2009, 42, 062002.	2.8	45
15	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
16	Morphological transformations in cobalt doped zinc oxide nanostructures: Effect of doping concentration. Ceramics International, 2016, 42, 5184-5194.	4.8	42
17	Porous silicon/Î±-MoO3 nanohybrid based fast and highly sensitive CO2 gas sensors. Vacuum, 2021, 184, 109983.	3.5	41
18	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

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19	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
20	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
21	Porous Silicon/Photosynthetic Reaction Center Hybrid Nanostructure. Langmuir, 2012, 28, 11866-11873.	3.5	30
22	Omnidirectional photonic bandgaps in porous silicon based mirrors with a Gaussian profile refractive index. Applied Physics Letters, 2008, 93, .	3.3	29
23	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
24	ZnO-porous silicon nanocomposite for possible memristive device fabrication. Nanoscale Research Letters, 2014, 9, 437.	5.7	29
25	Fabrication of porous silicon-based optical sensors using metal-assisted chemical etching. RSC Advances, 2016, 6, 21430-21434.	3.6	28
26	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
27	Unified model for the luminescence and transport data in self-supporting porous silicon. Journal of Applied Physics, 1998, 83, 2235-2240.	2.5	24
28	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
29	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
30	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
31	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
32	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
33	N-doped oxidized carbon dots for methanol sensing in alcoholic beverages. RSC Advances, 2020, 10, 22522-22532.	3.6	23
34	Highly stable, fast responsive Mo2CTx MXene sensors for room temperature carbon dioxide detection. Microporous and Mesoporous Materials, 2022, 336, 111872.	4.4	23
35	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
36	Temperature-dependent infrared ellipsometry of Mo-doped VO2 thin films across the insulator to metal transition. Scientific Reports, 2020, 10, 8555.	3.3	22

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37	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
38	Light propagation in polytype Thueâ€“Morse structures made of porous silicon. Photonics and Nanostructures - Fundamentals and Applications, 2005, 3, 155-161.	2.0	21
39	Synthesis of nanocrystalline Î± - Zn2SiO4 at ZnOâ€“porous silicon interface: Phase transition study. Solid State Communications, 2011, 151, 701-703.	1.9	20
40	White metal-like omnidirectional mirror from porous silicon dielectric multilayers. Applied Physics Letters, 2012, 101, .	3.3	20
41	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
42	Photoelectrochemical characterization of porous Si. International Journal of Hydrogen Energy, 2003, 28, 629-632.	7.1	19
43	Noise mediated regularity of porous silicon nanostructures. Applied Physics Letters, 2009, 94, .	3.3	19
44	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
45	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
46	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
47	Porous silicon photonic devices using pulsed anodic etching of lightly doped silicon. Journal Physics D: Applied Physics, 2009, 42, 145101.	2.8	17
48	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
49	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
50	Electron transport in porous silicon. Thin Solid Films, 1998, 312, 254-258.	1.8	15
51	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
52	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
53	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
54	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

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55	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
56	Green synthesis of S-doped rod shaped anatase TiO2 microstructures. Materials Letters, 2016, 183, 211-214.	2.6	15
57	FILTERS, MIRRORS AND MICROCAVITIES FROM POROUS SILICON. International Journal of Modern Physics B, 2006, 20, 99-110.	2.0	14
58	Light-harvesting bio-nanomaterial using porous silicon and photosynthetic reaction center. Nanoscale Research Letters, 2012, 7, 400.	5.7	14
59	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
60	Sol-gel synthesis for stable green emission in samarium doped borosilicate glasses. Ceramics International, 2019, 45, 24052-24059.	4.8	14
61	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
62	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
63	A wide band porous silicon omnidirectional mirror for the near infrared range. Journal of Applied Physics, 2020, 127, .	2.5	13
64	Porous Si-SiO2 based UV Microcavities. Scientific Reports, 2020, 10, 2220.	3.3	13
65	Architectures from Aligned Nanotubes Using Controlled Micropatterning of Silicon Substrates and Electrochemical Methods. Small, 2007, 3, 1157-1163.	10.0	12
66	Engineered Adhesion Peptides for Improved Silicon Adsorption. Langmuir, 2015, 31, 11868-11874.	3.5	12
67	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
68	Three-dimensional spatial resolution of the nonlinear photoemission from biofunctionalized porous silicon microcavity. Applied Physics Letters, 2009, 94, 223313.	3.3	11
69	Nucleation of Sub-Micrometer Protein Crystals in Square-Shaped Macroporous Silicon Structures. Crystal Growth and Design, 2015, 15, 2801-2808.	3.0	11
70	Room Temperature Crystallization of Hydroxyapatite in Porous Silicon Structures. Nanoscale Research Letters, 2016, 11, 497.	5.7	11
71	Propagation of light in quasi-regular dielectric heterostructures with delta-like layers. Microelectronics Journal, 2005, 36, 413-415.	2.0	10
72	Omnidirectional photonic bangap in dielectric mirrors: a comparative study. Journal Physics D: Applied Physics, 2012, 45, 015102.	2.8	10

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73	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
74	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
75	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
76	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
77	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
78	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
79	Controlling the optical properties of composite multilayered photonic structures: effect of superposition. Optics Express, 2013, 21, 17324.	3.4	9
80	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
81	Fluorescence and Spectroscopic Properties of Yb3+-Doped Phosphate Glasses. Physics Procedia, 2012, 29, 109-113.	1.2	8
82	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
83	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
84	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
85	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
86	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
87	Memristive devices from porous silicon â€“ ZnO/VO2 nanocomposites. Superlattices and Microstructures, 2015, 88, 198-203.	3.1	7
88	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
89	Colorimetric metal ion (II) Sensors Based on imine boronic esters functionalized with pyridine. Dyes and Pigments, 2021, 186, 108991.	3.7	7
90	Optical Properties of Non-Periodic Dielectric Systems Made of Nanostructured Porous Silicon. Journal of Nano Research, 0, 5, 69-78.	0.8	6

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91	Dual layer ZnO configuration over nanostructured porous silicon substrate for enhanced memristive switching. Superlattices and Microstructures, 2016, 100, 89-96.	3.1	6
92	Optimization of wide-band quasi-omnidirectional 1-D photonic structures. Optical Materials, 2021, 117, 111202.	3.6	6
93	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
94	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
95	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
96	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
97	Development and Characterization of Porous Silicon (a Review). Solid State Phenomena, 1997, 55, 71-76.	0.3	4
98	Effect of the electric field on the luminescence of self-supporting porous silicon. Physica Status Solidi A, 2003, 197, 345-349.	1.7	4
99	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
100	Self-affinity study of nanostructured porous siliconâ€“crystalline silicon interfaces. Applied Surface Science, 2009, 256, 645-649.	6.1	4
101	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
102	Optical characterization of porous silicon monolayers decorated with hydrogel microspheres. Nanoscale Research Letters, 2014, 9, 425.	5.7	4
103	Chirped dual periodic structures for photonic Bloch oscillations and Zener tunneling. Optics Express, 2015, 23, 16500.	3.4	4
104	Flexible fluorescent films based on quantum dots (QDs) and natural rubber. Journal of Applied Polymer Science, 2017, 134, 45459.	2.6	4
105	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
106	Porous silicon pillar structures/photosynthetic reaction centre protein hybrid for bioelectronic applications. Photochemical and Photobiological Sciences, 2022, 21, 13-22.	2.9	4
107	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
108	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

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109	Labyrinth patterns of zinc oxide on porous silicon substrate. Superlattices and Microstructures, 2014, 67, 72-81.	3.1	3
110	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
111	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
112	CO2 sensing performance enhanced by Pt-catalyzed SnO2/porous-silicon hybrid structures. Sensors International, 2022, 3, 100165.	8.4	3
113	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
114	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
115	Optical characterization of porous silicon microcavities for glucose oxidase biosensing. Proceedings of SPIE, 2008, , .	0.8	2
116	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
117	Noise assisted pattern fabrication. Applied Physics Letters, 2018, 112, 161601.	3.3	2
118	Stable calculation of optical properties of large non-periodic dissipative multilayered systems. Superlattices and Microstructures, 2020, 145, 106629.	3.1	2
119	Porous Silicon Photonic Crystals. , 2014, , 805-814.		2
120	Tunable Upconversion Emission from Oil-based Carbon Nanodots. Materials Letters, 2022, , 131640.	2.6	2
121	Reversible charging effects on optical properties of porous silicon. Solid State Communications, 2001, 120, 21-24.	1.9	1
122	Porous Silicon Multilayers and Superlattices. , 2014, , 153-162.		1
123	Porous silicon functionalization for possible arsenic adsorption. Nanoscale Research Letters, 2014, 9, 508.	5.7	1
124	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
125	Porous Silicon Multilayers and Superlattices. , 2014, , 1-9.		1
126	Spectral barcodes by superposition of quasiperiodic refractive index profiles. Optics Express, 2015, 23, 8272.	3.4	1

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127	Photoluminescent coupled multiple microcavity structures made of porous silicon. Materials Research Society Symposia Proceedings, 2004, 832, 140.	0.1	0
128	Characterization of porous silicon using Terahertz differential time-domain spectroscopy. , 2007, , .		0
129	Photoluminescent Photonic Devices from Nanostructured Porous Silicon Fabricated Using Lightly Doped Silicon. Journal of Nano Research, 2009, 4, 11-17.	0.8	0
130	Intimate effects of surface functionalization of porous silicon microcavities on biosensing performance. Proceedings of SPIE, 2011, , .	0.8	0
131	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
132	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
133	Porous Silicon Photonic Crystals. , 2014, , 1-10.		0
134	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
135	Enhanced photocatalytic performance and reusability of N-doped carbon dots/zinc oxide hybrid nanostructures. Nanotechnology, 2021, 32, 385703.	2.6	0
136	Porous Silicon Photonic Crystals. , 2018, , 1201-1210.		0
137	Porous Silicon Multilayers and Superlattices. , 2018, , 167-176.		0
138	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