Jai Prakash

List of Publications by Year
in descending order

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78 papers	2,949 citations	126907 33 h-index	175258 52 g-index
78 all docs	78 docs citations	78 times ranked	2927 citing authors

#	Article	IF	Citations
1	Noble metals-TiO2 nanocomposites: From fundamental mechanisms to photocatalysis, surface enhanced Raman scattering and antibacterial applications. Applied Materials Today, 2018, 11, 82-135.	4.3	231
2	Rational design of multifunctional air electrodes for rechargeable Znâ€“Air batteries: Recent progress and future perspectives. Energy Storage Materials, 2019, 21, 253-286.	18.0	171
3	Dual Functional Ta-Doped Electrospun TiO₂ Nanofibers with Enhanced Photocatalysis and SERS Detection for Organic Compounds. ACS Applied Materials & Interfaces, 2017, 9, 28495-28507.	8.0	158
4	Design and engineering of high-performance photocatalytic systems based on metal oxideâ€“grapheneâ€“noble metal nanocomposites. Molecular Systems Design and Engineering, 2017, 2, 422-439.	3.4	92
5	Noble metal nanoparticles embedding into polymeric materials: From fundamentals to applications. Advances in Colloid and Interface Science, 2015, 226, 187-202.	14.7	89
6	Synthesis, characterization and multifunctional properties of plasmonic Agâ€“TiO₂nanocomposites. Nanotechnology, 2016, 27, 355707.	2.6	84
7	Photocatalytic TiO2 nanomaterials as potential antimicrobial and antiviral agents: Scope against blocking the SARS-COV-2 spread. Micro and Nano Engineering, 2022, 14, 100100.	2.9	77
8	Engineering metal oxide semiconductor nanostructures for enhanced charge transfer: fundamentals and emerging SERS applications. Journal of Materials Chemistry C, 2021, 10, 73-95.	5.5	72
9	Nitrogen-doping processes of graphene by a versatile plasma-based method. Carbon, 2014, 73, 216-224.	10.3	71
10	Engineering of transition metal dichalcogenide-based 2D nanomaterials through doping for environmental applications. Molecular Systems Design and Engineering, 2019, 4, 804-827.	3.4	71
11	Novel rare earth metalâ€“doped one-dimensional TiO2 nanostructures: Fundamentals and multifunctional applications. Materials Today Sustainability, 2021, 13, 100066.	4.1	66
12	Plasmonic resonance of Ag nanoclusters diffused in soda-lime glasses. Physical Chemistry Chemical Physics, 2015, 17, 8596-8603.	2.8	65
13	Hydrothermal synthesis of TiO2 nanorods: formation chemistry, growth mechanism, and tailoring of surface properties for photocatalytic activities. Materials Today Chemistry, 2021, 20, 100428.	3.5	65
14	Opacity and plasmonic properties of Ag embedded glass based metamaterials. RSC Advances, 2015, 5, 12555-12562.	3.6	64
15	Band gap tailoring of cauliflower-shaped CuO nanostructures by Zn doping for antibacterial applications. Journal of Alloys and Compounds, 2020, 832, 154968.	5.5	64
16	Spectroscopic Identification of an Fe^{III} Center, not Fe^{IV}, in the Crystalline Scâ€“Oâ€“Fe Adduct Derived from [Fe^{IV}(O)(TMC)]²⁺. Journal of the American Chemical Society, 2015, 137, 3478-3481.	13.7	60
17	Embedded plasmonic nanostructures: synthesis, fundamental aspects and their surface enhanced Raman scattering applications. International Reviews in Physical Chemistry, 2016, 35, 353-398.	2.3	58
18	Role of silver doping on the defects related photoluminescence and antibacterial behaviour of zinc oxide nanoparticles. Colloids and Surfaces B: Biointerfaces, 2017, 159, 191-199.	5.0	58

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19	Progress in tailoring perovskite based solar cells through compositional engineering: Materials properties, photovoltaic performance and critical issues. Materials Today Energy, 2018, 9, 440-486.	4.7	58
20	Optical and surface enhanced Raman scattering properties of Au nanoparticles embedded in and located on a carbonaceous matrix. Physical Chemistry Chemical Physics, 2016, 18, 2468-2480.	2.8	55
21	Rational Design of Novel Catalysts with Atomic Layer Deposition for the Reduction of Carbon Dioxide. Advanced Energy Materials, 2019, 9, 1900889.	19.5	53
22	Phosphor Polymer Nanocomposite: ZnO:Tb³⁺ Embedded Polystyrene Nanocomposite Thin Films for Solid-State Lighting Applications. ACS Applied Nano Materials, 2018, 1, 977-988.	5.0	51
23	Synthesis of Au nanoparticles at the surface and embedded in carbonaceous matrix by 150â€‰keV Ar ion irradiation. Journal Physics D: Applied Physics, 2011, 44, 125302.	2.8	49
24	Swift heavy ion irradiation induced modification of the microstructure of NiO thin films. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 1613-1617.	1.4	48
25	TiO2 nanoflower photocatalysts: Synthesis, modifications and applications in wastewater treatment for removal of emerging organic pollutants. Environmental Research, 2022, 212, 113550.	7.5	47
26	Surface roughness and power spectral density study of SHI irradiated ultra-thin gold films. Applied Surface Science, 2009, 256, 558-561.	6.1	46
27	Chemical vapour deposition of graphene: layer control, the transfer process, characterisation, and related applications. International Reviews in Physical Chemistry, 2019, 38, 149-199.	2.3	46
28	Iron (II) phthalocyanine/N-doped graphene: A highly efficient non-precious metal catalyst for oxygen reduction. International Journal of Hydrogen Energy, 2019, 44, 18103-18114.	7.1	44
29	An insight into the green synthesis of SiO2 nanostructures as a novel adsorbent for removal of toxic water pollutants. Environmental Research, 2022, 212, 113328.	7.5	38
30	Emerging applications of atomic layer deposition for the rational design of novel nanostructures for surface-enhanced Raman scattering. Journal of Materials Chemistry C, 2019, 7, 1447-1471.	5.5	37
31	Fundamentals and applications of recyclable SERS substrates. International Reviews in Physical Chemistry, 2019, 38, 201-242.	2.3	36
32	Optical limiting applications of resonating plasmonic Au nanoparticles in a dielectric glass medium. Nanotechnology, 2021, 32, 345709.	2.6	35
33	Structural phase transformation in ZnS nanocrystalline thin films by swift heavy ion irradiation. Solid State Communications, 2010, 150, 1158-1161.	1.9	34
34	Role of surface and subsurface defects in MgO thin film: XANES and magnetic investigations. Superlattices and Microstructures, 2015, 77, 313-324.	3.1	34
35	Plasmonic and nonlinear optical behavior of nanostructures in glass matrix for photonics application. Materials Research Bulletin, 2020, 125, 110799.	5.2	34
36	Upside Down! Crystallographic and Spectroscopic Characterization of an [Fe^{IV}(O_{syn})(TMC)]²⁺ Complex. Inorganic Chemistry, 2015, 54, 11055-11057.	4.0	33

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37	Fabrication and characterization of nitrogen doped p-ZnO on n-Si heterojunctions. Sensors and Actuators A: Physical, 2016, 247, 475-481.	4.1	33
38	Multi-metallic catalysts for the electroreduction of carbon dioxide: Recent advances and perspectives. Renewable and Sustainable Energy Reviews, 2022, 155, 111922.	16.4	32
39	Ion beam induced interface mixing of Ni on PTFE bilayer system studied by quadrupole mass analysis and electron spectroscopy for chemical analysis. Vacuum, 2010, 84, 1275-1279.	3.5	28
40	Phenomenological understanding of dewetting and embedding of noble metal nanoparticles in thin films induced by ion irradiation. Materials Chemistry and Physics, 2014, 147, 920-924.	4.0	28
41	Oxoiron(IV) Complex of the Ethylene-Bridged Dialkylcyclam Ligand Me₂EBC. Inorganic Chemistry, 2015, 54, 7828-7839.	4.0	28
42	Novel polypyrrole-graphene oxide-gold nanocomposite for high performance hydrogen peroxide sensing application. Sensors and Actuators A: Physical, 2021, 328, 112769.	4.1	28
43	Study Of Surface Morphology And Grain Size Of Irradiated MgO Thin Films. Advanced Materials Letters, 2012, 3, 112-117.	0.6	28
44	Design and engineering of graphene nanostructures as independent solar-driven photocatalysts for emerging applications in the field of energy and environment. Molecular Systems Design and Engineering, 2022, 7, 213-238.	3.4	26
45	A facile synthesis of novel polyaniline/graphene nanocomposite thin films for enzyme-free electrochemical sensing of hydrogen peroxide. Molecular Systems Design and Engineering, 2022, 7, 158-170.	3.4	24
46	Surface functionalization of bamboo leave mediated synthesized SiO2 nanoparticles: Study of adsorption mechanism, isotherms and enhanced adsorption capacity for removal of Cr (VI) from aqueous solution. Environmental Research, 2022, 214, 113761.	7.5	24
47	Electrochemical Sensor Based on Nanodiamonds and Manioc Starch for Detection of Tetracycline. Journal of Sensors, 2021, 2021, 1-10.	1.1	22
48	Study of Tunable Plasmonic, Photoluminscence, and Nonlinear Optical Behavior of Ag Nanoclusters Embedded in a Glass Matrix for Multifunctional Applications. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800768.	1.8	21
49	A novel and facile green synthesis of SiO2 nanoparticles for removal of toxic water pollutants. Applied Nanoscience (Switzerland), 2023, 13, 735-747.	3.1	21
50	Swift heavy ion irradiation induced modification of structure and surface morphology of BiFeO3 thin film. Bulletin of Materials Science, 2013, 36, 813-818.	1.7	17
51	Hydrothermal synthesis and Ta doping of TiO2 nanorods: Effect of soaking time and doping on optical and charge transfer properties for enhanced SERS activity. Materials Chemistry and Physics, 2022, 278, 125642.	4.0	17
52	High-energy ion induced physical and surface modifications in antimony sulphide thin films. Current Applied Physics, 2010, 10, 1112-1116.	2.4	16
53	Study on synthesis of magnetic nanocomposite (Ni-Teflon) by swift heavy ion beam mixing. Advanced Materials Letters, 2012, 2, 71-75.	0.6	14
54	Surface evolution of titanium oxide thin film with swift heavy ion irradiation. Radiation Effects and Defects in Solids, 2011, 166, 571-577.	1.2	12

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55	130MeV Au ion irradiation induced dewetting on In2Te3 thin film. Applied Surface Science, 2012, 258, 8558-8563.	6.1	12
56	PbTe formation by swift heavy ion beam induced interface mixing of Te/PbO bilayer. Nuclear Instruments & Methods in Physics Research B, 2012, 289, 22-27.	1.4	12
57	Improvement of opto-electro-structural properties of nanocrystalline CdS thin films induced by Au9+ ion irradiation. Thin Solid Films, 2017, 626, 117-125.	1.8	11
58	Synthesis Of Ag Nanoparticles On Polymer Surface: 150 KeV Ar Ion Irradiation Of Ag-PVC Bilayer. Advanced Materials Letters, 2013, 4, 408-412.	0.6	11
59	Surface modifications of ultra-thin gold films by swift heavy ion irradiation. Indian Journal of Physics, 2010, 84, 1391-1397.	1.8	10
60	Investigation of swift heavy ion-induced mixing in metal/polymer systems. Radiation Effects and Defects in Solids, 2011, 166, 682-688.	1.2	9
61	Synthesis and studies of carbazole-based donor polymer for organic solar cell applications. Colloid and Polymer Science, 2018, 296, 1193-1203.	2.1	9
62	Facile Conversion of syn â€[Fe IV (O)(TMC)] 2+ into the anti Isomer via Meunier's Oxoâ€“Hydroxo Tautomerism Mechanism. Angewandte Chemie - International Edition, 2019, 58, 1995-1999.	13.8	9
63	Formation of the syn isomer of [Fe^{IV}(O_{anti})(TMC)(NCMe)]²⁺ in the reaction of Lewis acids with the side-on bound peroxo ligand in [Fe^{III}(Î·²-O₂)(TMC)]⁺. Chemical Communications, 2016, 52, 8146-8148.	4.1	8
64	Recent Progress on Novel Agâ€“TiO2 Nanocomposites for Antibacterial Applications. Nanotechnology in the Life Sciences, 2019, , 121-143.	0.6	8
65	Design and chemical engineering of carbazole-based donor small molecules for organic solar cell applications. Journal of Materials Science: Materials in Electronics, 2018, 29, 14842-14851.	2.2	6
66	Unmasking Steps in Intramolecular Aromatic Hydroxylation by a Synthetic Nonheme Oxoiron(IV) Complex. Angewandte Chemie - International Edition, 2021, 60, 20991-20998.	13.8	6
67	Magnetization in MgO based multilayers fabricated by e-beam evaporation. AIP Conference Proceedings, 2012, , .	0.4	5
68	Facile Conversion of syn â€[Fe IV (O)(TMC)] 2+ into the anti Isomer via Meunier's Oxoâ€“Hydroxo Tautomerism Mechanism. Angewandte Chemie, 2019, 131, 2017-2021.	2.0	4
69	Modifications Induced by Swift Heavy Ion Beam of 60 MeV Si⁵⁺ in Poly(3-octylthiophene). Science of Advanced Materials, 2012, 4, 1024-1030.	0.7	4
70	Spectral studies on Ag8+ ions irradiated LAHClÂ·H2O and LAHBrÂ·H2O single crystals. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2011, 79, 884-888.	3.9	3
71	3D Graphene and Its Nanocomposites: From Synthesis to Multifunctional Applications. Carbon Nanostructures, 2019, , 363-388.	0.1	3
72	Interaction of Cu⁺¹ Salt and Polyaniline: Study of Optical Properties. Advanced Science, Engineering and Medicine, 2012, 4, 71-76.	0.3	2

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73	Synthesis of PbTe thermoelectric film by high energy heavy ion beam mixing. , 2011, , .		1
74	Chiral adsorption studied by field emission techniques: the case of alanine on platinum. New Journal of Chemistry, 2017, 41, 6638-6645.	2.8	1
75	Nanoscale Chiral Recognition Using Field Ion and Field Emission Microscopy. Microscopy and Microanalysis, 2017, 23, 626-627.	0.4	1
76	Surface Gold and Silver-Polymer Nanocomposite Self-Standing Films. , 2021, , 199-217.		1
77	Silver Nanostructures, Chemical Synthesis Methods, and Biomedical Applications. Nanotechnology in the Life Sciences, 2020, , 281-303.	0.6	0
78	Unmasking Steps in Intramolecular Aromatic Hydroxylation by a Synthetic Nonheme Oxoiron(IV) Complex. Angewandte Chemie, 2021, 133, 21159-21166.	2.0	0