

Rohit P Prasankumar

List of Publications by Year in descending order

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97
papers

2,598
citations

172457

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197818

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104
all docs

104
docs citations

104
times ranked

4650
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced Photosusceptibility near T_c for the Light-Induced Insulator-to-Metal Phase Transition in Vanadium Dioxide. Physical Review Letters, 2007, 99, 226401.	7.8	203
2	Optical spectroscopy of the Weyl semimetal TaAs. Physical Review B, 2016, 93, .	3.2	146
3	Enhanced third harmonic generation from the epsilon-near-zero modes of ultrathin films. Applied Physics Letters, 2015, 106, .	3.3	126
4	Hall effect in the extremely large magnetoresistance semimetal WTe ₂ . Applied Physics Letters, 2015, 107, .	3.3	124
5	Ultrafast Phase Transition via Catastrophic Phonon Collapse Driven by Plasmonic Hot-Electron Injection. Nano Letters, 2014, 14, 1127-1133.	9.1	123
6	Subpicosecond Optical Switching with a Negative Index Metamaterial. Nano Letters, 2009, 9, 3565-3569.	9.1	115
7	Conducting Interface in Oxide Homojunction: Understanding of Superior Properties in Black TiO ₂ . Nano Letters, 2016, 16, 5751-5755.	9.1	92
8	Ultrafast carrier dynamics and radiative recombination in multiferroic BiFeO ₃ . Applied Physics Letters, 2012, 100, .	3.3	77
9	Tracking Ultrafast Photocurrents in the Weyl Semimetal TaAs Using THz Emission Spectroscopy. Physical Review Letters, 2019, 122, 197401.	7.8	76
10	Ultrafast carrier dynamics in semiconductor nanowires. Physica Status Solidi (B): Basic Research, 2009, 246, 1973-1995.	1.5	71
11	Time-resolved terahertz dynamics in thin films of the topological insulator Bi ₂ Se ₃ . Applied Physics Letters, 2015, 106, .	3.3	61
12	Impact of interfacial polymer morphology on photoexcitation dynamics and device performance in P3HT/ZnO heterojunctions. Journal of Materials Chemistry, 2009, 19, 4609.	6.7	58
13	Ultrafast carrier dynamics in the large-magnetoresistance material WTe ₂ . Physical Review B, 2015, 92, .	11.2	58
14	Temperature-tunable Fano resonance induced by strong coupling between Weyl fermions and phonons in TaAs. Nature Communications, 2017, 8, 14933.	12.8	57
15	Carrier dynamics in self-assembled ErAs nanoislands embedded in GaAs measured by optical-pump terahertz-probe spectroscopy. Applied Physics Letters, 2005, 86, 201107.	3.3	56
16	Nanoscale Artificial Plasmonic Lattice in Self-Assembled Vertically Aligned Nitride-Metal Hybrid Metamaterials. Advanced Science, 2018, 5, 1800416.	11.2	56
17	Ultrafast Electron and Hole Dynamics in Germanium Nanowires. Nano Letters, 2008, 8, 1619-1624.	9.1	55
18	Mapping Carrier Diffusion in Single Silicon Core-Shell Nanowires with Ultrafast Optical Microscopy. Nano Letters, 2012, 12, 6334-6338.	9.1	43

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19	Epitaxial thin films of topological insulator Bi ₂ Te ₃ with two-dimensional weak anti-localization effect grown by pulsed laser deposition. <i>Thin Solid Films</i> , 2012, 520, 6459-6462.	1.8	42
20	Carrier dynamics in InGaAs with embedded ErAs nanoislands. <i>Applied Physics Letters</i> , 2008, 93, 121108.	3.3	37
21	On Photo-Induced Phenomena in Complex Materials: Probing Quasiparticle Dynamics using Infrared and Far-Infrared Pulses. <i>Journal of the Physical Society of Japan</i> , 2006, 75, 011006.	1.6	36
22	Transient GaAs Plasmonic Metasurfaces at Terahertz Frequencies. <i>ACS Photonics</i> , 2017, 4, 15-21.	6.6	36
23	Intraband conductivity response in graphene observed using ultrafast infrared-pump visible-probe spectroscopy. <i>Physical Review B</i> , 2012, 86, .	3.2	35
24	Ultrafast Optical Microscopy of Single Monolayer Molybdenum Disulfide Flakes. <i>Scientific Reports</i> , 2016, 6, 21601.	3.3	35
25	Understanding ultrafast carrier dynamics in single quasi-one-dimensional Si nanowires. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	34
26	Measurement of Two Low-Temperature Energy Gaps in the Electronic Structure of Antiferromagnetic USb_2 Using Ultrafast Optical Spectroscopy. <i>Physical Review Letters</i> , 2013, 111, 057402.	7.8	34
27	Ultrafast nonlinear optical spectroscopy of a dual-band negative index metamaterial all-optical switching device. <i>Optics Express</i> , 2011, 19, 3973.	3.4	32
28	The influence of defect states on non-equilibrium carrier dynamics in GaN nanowires. <i>Semiconductor Science and Technology</i> , 2010, 25, 024017.	2.0	31
29	Using ultrashort optical pulses to couple ferroelectric and ferromagnetic order in an oxide heterostructure. <i>Nature Communications</i> , 2014, 5, 5832.	12.8	30
30	Ultrafast Carrier Capture and Auger Recombination in Single GaN/InGaN Multiple Quantum Well Nanowires. <i>ACS Photonics</i> , 2016, 3, 2237-2242.	6.6	27
31	High Entropy Oxide Relaxor Ferroelectrics. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 11962-11970.	8.0	26
32	Open-Circuit Voltage Improvement in Hybrid ZnO/Polymer Photovoltaic Devices With Oxide Engineering. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2010, 16, 1587-1594.	2.9	25
33	Coexistence of coupled magnetic phases in epitaxial TbMnO ₃ films revealed by ultrafast optical spectroscopy. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	24
34	Competing Interface and Bulk Effect-Driven Magnetoelectric Coupling in Vertically Aligned Nanocomposites. <i>Advanced Science</i> , 2019, 6, 1901000.	11.2	22
35	Role of weak interlayer coupling in ultrafast exciton-exciton annihilation in two-dimensional rhenium dichalcogenides. <i>Physical Review B</i> , 2020, 101, .	3.2	21
36	Phase inhomogeneities in the charge-orbital-ordered manganite $Nd_{0.5}Sr_{2.0}$ through polaron dynamics. <i>Physical Review B</i> , 2007, 76, .	3.2	20

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37	Probing and controlling terahertz-driven structural dynamics with surface sensitivity. <i>Optica</i> , 2017, 4, 383.	9.3	20
38	Broadband, Integrated, Micron-Scale, All-Optical Si ₃ N ₄ /VO ₂ Modulators with pJ Switching Energy. <i>ACS Photonics</i> , 2019, 6, 2734-2740.	6.6	20
39	Photocurrent-driven transient symmetry breaking in the Weyl semimetal TaAs. <i>Nature Materials</i> , 2022, 21, 62-66.	27.5	20
40	Ultrafast carrier dynamics in an InAs/InGaAs quantum dots-in-a-well heterostructure. <i>Optics Express</i> , 2008, 16, 1165.	3.4	19
41	Probing Ultrafast Carrier Dynamics in Silicon Nanowires. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011, 17, 889-895.	2.9	19
42	Heterogeneous nucleation and growth dynamics in the light-induced phase transition in vanadium dioxide. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 125603.	1.8	18
43	Advances in terahertz solid-state physics and devices. <i>Journal of Applied Physics</i> , 2019, 126, . Photoinduced stabilization and enhancement of the ferroelectric polarization in Ba _{0.1} Sr _{0.9} TiO ₃	2.5	18
44	Spin-dependent polaron formation dynamics in Ba _{0.1} Sr _{0.9} TiO ₃	3.2	17
45	Spin-dependent polaron formation dynamics in Y _{0.25} MnO ₂ by femtosecond pump-probe spectroscopy. <i>Physical Review B</i> , 2015, 91, .	3.2	16
46	Probing ultrafast spin dynamics through a magnon resonance in the antiferromagnetic multiferroic HoMnO ₃ . <i>Physical Review B</i> , 2016, 94, .	3.2	16
47	Ultrafast relaxation dynamics in bimetallic plasmonic catalysts. <i>Nanoscale</i> , 2020, 12, 10284-10291.	5.6	16
48	Self-starting mode locking in a Cr:forsterite laser by use of non-epitaxially-grown semiconductor-doped silica films. <i>Optics Letters</i> , 2002, 27, 1564.	3.3	15
49	High-speed femtosecond pump probe spectroscopy with a smart pixel detector array. <i>Optics Letters</i> , 2003, 28, 1588.	3.3	15
50	Probing the Interplay between Quantum Charge Fluctuations and Magnetic Ordering in LuFe ₂ O ₄ . <i>Scientific Reports</i> , 2013, 3, 2654.	3.3	15
51	Induced ferroelectric phases in SrTiO ₃ by a nanocomposite approach. <i>Nanoscale</i> , 2020, 12, 18193-18199.	5.6	15
52	A graphene-based magnetoplasmonic metasurface for actively tunable transmission and polarization rotation at terahertz frequencies. <i>Applied Physics Letters</i> , 2020, 116, 221107.	3.3	15
53	Ultrafast optical wide field microscopy. <i>Optics Express</i> , 2013, 21, 8763.	3.4	14
54	Manipulation of Exciton Dynamics in Single-Layer WSe ₂ Using a Toroidal Dielectric Metasurface. <i>Nano Letters</i> , 2021, 21, 9930-9938.	9.1	14

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55	Ultrafast Spectroscopy of the Uranium(IV) and Thorium(IV) Bis(ketimide) Complexes (C ₅ Me ₅) ₂ An[\hat{a} ˆN \hat{a} •C(Ph)(CH ₂ Ph)] ₂ (An = Th, U). Journal of Physical Chemistry A, 2008, 112, 7840-7847.	2.5	13
56	Coupled Charge-Spin Dynamics of the Magnetoresistive PyrochloreTi ₂ Mn ₂ O ₇ Probed Using Ultrafast Midinfrared Spectroscopy. Physical Review Letters, 2005, 95, 267404.	7.8	12
57	Theory of ultrafast quasiparticle dynamics in high-temperature superconductors: The dependence on pump fluence. Physical Review B, 2012, 85, .	3.2	11
58	Polaronic Transport Induced by Competing Interfacial Magnetic Order in a $\langle \text{La} \rangle_{0.7} \langle \text{Mn} \rangle_{0.3}$ Perovskite. Physical Review X, 2014, 4, .	8.9	11
59	Space-and-time-resolved spectroscopy of single GaN nanowires. Applied Physics Letters, 2015, 106, .	3.3	11
60	Hot Carrier Cooling and Recombination Dynamics of Chlorine-Doped Hybrid Perovskite Single Crystals. Journal of Physical Chemistry Letters, 2020, 11, 8430-8436.	4.6	11
61	The influence of radial heterostructuring on carrier dynamics in gallium nitride nanowires. Applied Physics Letters, 2012, 101, .	3.3	10
62	Magnetoelastoelectric coupling in core-shell nanoparticles enabling directional and mode-selective magnetic control of THz beam propagation. Nanoscale, 2017, 9, 13052-13059.	5.6	9
63	Terahertz magneto-optical spectroscopy of a two-dimensional hole gas. Applied Physics Letters, 2015, 106, 031902.	3.3	8
64	Directly probing spin dynamics in insulating antiferromagnets using ultrashort terahertz pulses. Physical Review B, 2016, 94, .	3.2	8
65	Using ultrashort terahertz pulses to directly probe spin dynamics in insulating antiferromagnets. Journal Physics D: Applied Physics, 2018, 51, 194003.	2.8	8
66	Direct Observation of Coherent Longitudinal and Shear Acoustic Phonons in TaAs Using Ultrafast X-Ray Diffraction. Physical Review Letters, 2022, 128, 155301.	7.8	7
67	Surface Passivation and Carrier Collection in {110}, {100} and Circular Si Microwire Solar Cells. Advanced Energy Materials, 2018, 8, 1802154.	19.5	5
68	Density-dependent carrier dynamics in a quantum dots-in-a-well heterostructure. Applied Physics Letters, 2010, 96, .	3.3	4
69	III-nitride nanowires: novel materials for solid-state lighting. , 2011, , .		4
70	(Invited) III-Nitride Nanowires: Emerging Materials for Lighting and Energy Applications. ECS Transactions, 2011, 35, 3-11.	0.5	4
71	Strain dependence of Auger recombination in $\langle 111 \rangle$ GaInAsSb/GaSb type-I active regions. Applied Physics Letters, 2020, 116, .	3.3	3
72	Polarization anisotropy of transient carrier dynamics in single Si nanowires. , 2011, , .		2

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73	Ultrafast carrier dynamics and radiative recombination in multiferroic BiFeO ₃ single crystals and thin films. EPJ Web of Conferences, 2013, 41, 03018.	0.3	2
74	Correlation between quantum charge fluctuations and magnetic ordering in multiferroic LuFe ₂ O ₄ . European Physical Journal B, 2014, 87, 1.	1.5	2
75	The influence of charge and magnetic order on polaron and acoustic phonon dynamics in LuFe ₂ O ₄ . Applied Physics Letters, 2015, 107, .	3.3	2
76	Shaking up topology with light. Nature Materials, 2021, 20, 283-284.	27.5	2
77	Ultrafast Relaxation Dynamics in GaN Nanowires. , 2009, , .		0
78	Ultrafast density-and-temperature-dependent carrier dynamics in a quantum dots-in-a-well heterostructure. Proceedings of SPIE, 2011, , .	0.8	0
79	Ultrafast Phase Transition in Vanadium Dioxide Driven by Hot-Electron Injection. EPJ Web of Conferences, 2013, 41, 03026.	0.3	0
80	Ultrafast optical microscopy on single semiconductor nanowires. Proceedings of SPIE, 2014, , .	0.8	0
81	Ultrafast optical manipulation of interfacial magnetoelectric coupling. , 2014, , .		0
82	Ultrafast optical microscopy of single monolayer molybdenum disulfide flakes. , 2014, , .		0
83	Time-resolved THz dynamics in thin films of Bi ₂ Se ₃ . , 2014, , .		0
84	Ultrafast Dynamics of Multiferroic h-LuFeO ₃ . , 2015, , .		0
85	Ultrafast Carrier Dynamics in Individual GaN/InGaN Multiple Quantum Well Nanowires. , 2016, , .		0
86	Ultrafast signatures of spin and orbital order in the antiferromagnetic Mott insulator Sr ₂ CrO ₄ . , 2021, , .		0
87	Ultrafast Polaron Dynamics in Multiferroic LuFe ₂ O ₄ . , 2010, , .		0
88	Non-degenerate Pump-probe Spectroscopy of Single GaN Nanowires. , 2010, , .		0
89	Coupling between antiferromagnetic and superconducting order in an oxide heterostructure revealed using ultrafast optical spectroscopy. , 2013, , .		0
90	Ultrafast optical manipulation of interfacial magnetoelectric coupling. , 2014, , .		0

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91	Third harmonic generation in ultrathin epsilon-near-zero media. , 2015, , .		0
92	Direct Observation of Magnon Dynamics in Multiferroic HoMnO ₃ . , 2015, , .		0
93	Nonlinear phonon dynamics in Bi ₂ Se ₃ driven by intense THz pulses and probed with optical second harmonic generation. , 2016, , .		0
94	Dynamic evolution of a two-dimensional electron gas in a magnetic field after optical photoexcitation. , 2016, , .		0
95	Polarization-dependent surface-bulk scattering in the Weyl semimetal NbAs. , 2017, , .		0
96	Crystallographic Orientation-Dependent Dynamics in Individual Silicon Nanowires. , 2017, , .		0
97	Observation of the circular photogalvanic effect in the Weyl semimetal TaAs using THz emission spectroscopy. , 2019, , .		0