

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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49
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104
all docs

104
docs citations

104
times ranked

4650
citing authors

#	ARTICLE	IF	CITATIONS
1	Photocurrent-driven transient symmetry breaking in the Weyl semimetal TaAs. <i>Nature Materials</i> , 2022, 21, 62-66.	27.5	20
2	High Entropy Oxide Relaxor Ferroelectrics. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 11962-11970.	8.0	26
3	Direct Observation of Coherent Longitudinal and Shear Acoustic Phonons in TaAs Using Ultrafast X-Ray Diffraction. <i>Physical Review Letters</i> , 2022, 128, 155301.	7.8	7
4	Ultrafast signatures of spin and orbital order in the antiferromagnetic Mott insulator Sr ₂ CrO ₄ . , 2021, , .		0
5	Shaking up topology with light. <i>Nature Materials</i> , 2021, 20, 283-284.	27.5	2
6	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
7	Strain dependence of Auger recombination in 3 $\hat{\text{a}}\%<i>\hat{1}/4</i>$ m GaInAsSb/GaSb type-I active regions. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	3
8	Induced ferroelectric phases in SrTiO ₃ by a nanocomposite approach. <i>Nanoscale</i> , 2020, 12, 18193-18199.	5.6	15
9	Hot Carrier Cooling and Recombination Dynamics of Chlorine-Doped Hybrid Perovskite Single Crystals. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 8430-8436.	4.6	11
10	Ultrafast relaxation dynamics in bimetallic plasmonic catalysts. <i>Nanoscale</i> , 2020, 12, 10284-10291.	5.6	16
11	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
12	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
13	Competing Interface and Bulk Effect-Driven Magnetoelectric Coupling in Vertically Aligned Nanocomposites. <i>Advanced Science</i> , 2019, 6, 1901000.	11.2	22
14	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
15	Advances in terahertz solid-state physics and devices. <i>Journal of Applied Physics</i> , 2019, 126, .	2.5	18
16	Tracking Ultrafast Photocurrents in the Weyl Semimetal TaAs Using THz Emission Spectroscopy. <i>Physical Review Letters</i> , 2019, 122, 197401.	7.8	76
17	Observation of the circular photogalvanic effect in the Weyl semimetal TaAs using THz emission spectroscopy. , 2019, , .		0
18	Nanoscale Artificial Plasmonic Lattice in Self-Assembled Vertically Aligned Nitride-Metal Hybrid Metamaterials. <i>Advanced Science</i> , 2018, 5, 1800416.	11.2	56

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19	Using ultrashort terahertz pulses to directly probe spin dynamics in insulating antiferromagnets. Journal Physics D: Applied Physics, 2018, 51, 194003.	2.8	8
20	Surface Passivation and Carrier Collection in {110}, {100} and Circular Si Microwire Solar Cells. Advanced Energy Materials, 2018, 8, 1802154.	19.5	5
21	Temperature-tunable Fano resonance induced by strong coupling between Weyl fermions and phonons in TaAs. Nature Communications, 2017, 8, 14933.	12.8	57
22	Transient GaAs Plasmonic Metasurfaces at Terahertz Frequencies. ACS Photonics, 2017, 4, 15-21.	6.6	36
23	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
24	Probing and controlling terahertz-driven structural dynamics with surface sensitivity. Optica, 2017, 4, 383.	9.3	20
25	Polarization-dependent surface-bulk scattering in the Weyl semimetal NbAs. , 2017, , .		0
26	Crystallographic Orientation-Dependent Dynamics in Individual Silicon Nanowires. , 2017, , .		0
27	Ultrafast Carrier Dynamics in Individual GaN/InGaN Multiple Quantum Well Nanowires. , 2016, , .		0
28	Ultrafast Optical Microscopy of Single Monolayer Molybdenum Disulfide Flakes. Scientific Reports, 2016, 6, 21601.	3.3	35
29	Directly probing spin dynamics in insulating antiferromagnets using ultrashort terahertz pulses. Physical Review B, 2016, 94, .	3.2	8
30	Conducting Interface in Oxide Homojunction: Understanding of Superior Properties in Black TiO ₂ . Nano Letters, 2016, 16, 5751-5755.	9.1	92
31	Probing ultrafast spin dynamics through a magnon resonance in the antiferromagnetic multiferroic HoMnO_3 . Physical Review B, 2016, 94, .	3.2	16
32	Optical spectroscopy of the Weyl semimetal TaAs. Physical Review B, 2016, 93, .	3.2	146
33	Ultrafast Carrier Capture and Auger Recombination in Single GaN/InGaN Multiple Quantum Well Nanowires. ACS Photonics, 2016, 3, 2237-2242.	6.6	27
34	Heterogeneous nucleation and growth dynamics in the light-induced phase transition in vanadium dioxide. Journal of Physics Condensed Matter, 2016, 28, 125603.	1.8	18
35	Nonlinear phonon dynamics in Bi ₂ Se ₃ driven by intense THz pulses and probed with optical second harmonic generation. , 2016, , .		0
36	Dynamic evolution of a two-dimensional electron gas in a magnetic field after optical photoexcitation. , 2016, , .		0

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37	Ultrafast carrier dynamics in the large-magnetoresistance material WTe_2 . Physical Review B, 2015, 92, .	3.3	124
38	Hall effect in the extremely large magnetoresistance semimetal WTe_2 . Applied Physics Letters, 2015, 107, .	3.3	124
39	Spin-dependent polaron formation dynamics in $EuY_{0.75}MnO_3$ by femtosecond pump-probe spectroscopy. Physical Review B, 2015, 91, .	3.3	17
40	Terahertz magneto-optical spectroscopy of a two-dimensional hole gas. Applied Physics Letters, 2015, 106, 031902.	3.3	8
41	Ultrafast Dynamics of Multiferroic $h\text{-LuFeO}_3$. , 2015, , .		0
42	Enhanced third harmonic generation from the epsilon-near-zero modes of ultrathin films. Applied Physics Letters, 2015, 106, .	3.3	126
43	Time-resolved terahertz dynamics in thin films of the topological insulator Bi_2Se_3 . Applied Physics Letters, 2015, 106, .	3.3	61
44	Space-and-time-resolved spectroscopy of single GaN nanowires. Applied Physics Letters, 2015, 106, .	3.3	11
45	The influence of charge and magnetic order on polaron and acoustic phonon dynamics in $LuFe_2O_4$. Applied Physics Letters, 2015, 107, .	3.3	2
46	Third harmonic generation in ultrathin epsilon-near-zero media. , 2015, , .		0
47	Direct Observation of Magnon Dynamics in Multiferroic $HoMnO_3$. , 2015, , .		0
48	Ultrafast optical microscopy on single semiconductor nanowires. Proceedings of SPIE, 2014, , .	0.8	0
49	Ultrafast optical manipulation of interfacial magnetoelectric coupling. , 2014, , .		0
50	Ultrafast optical microscopy of single monolayer molybdenum disulfide flakes. , 2014, , .		0
51	Time-resolved THz dynamics in thin films of Bi_2Se_3 . , 2014, , .		0
52	Using ultrashort optical pulses to couple ferroelectric and ferromagnetic order in an oxide heterostructure. Nature Communications, 2014, 5, 5832.	12.8	30
53	Correlation between quantum charge fluctuations and magnetic ordering in multiferroic $LuFe_2O_4$. European Physical Journal B, 2014, 87, 1.	1.5	2
54	Polaronic Transport Induced by Competing Interfacial Magnetic Order in a $La_{0.7}MnO_3$. Physical Review X, 2014, 4, .	8.9	11

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55	Ultrafast Phase Transition via Catastrophic Phonon Collapse Driven by Plasmonic Hot-Electron Injection. Nano Letters, 2014, 14, 1127-1133.	9.1	123
56	Ultrafast optical manipulation of interfacial magnetoelectric coupling. , 2014, , . Photoinduced stabilization and enhancement of the ferroelectric polarization in Ba		0
57	$\times \text{Sr}$ $\times \text{TiO}$	3.2	17
58	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
59	Ultrafast optical wide field microscopy. Optics Express, 2013, 21, 8763.	3.4	14
60	Probing the Interplay between Quantum Charge Fluctuations and Magnetic Ordering in LuFe ₂ O ₄ . Scientific Reports, 2013, 3, 2654.	3.3	15
61	Measurement of Two Low-Temperature Energy Gaps in the Electronic Structure of Antiferromagnetic USb_2 Using Ultrafast Optical Spectroscopy. Physical Review Letters, 2013, 111, 057402.	7.8	34
62	Ultrafast Phase Transition in Vanadium Dioxide Driven by Hot-Electron Injection. EPJ Web of Conferences, 2013, 41, 03026.	0.3	0
63	Coupling between antiferromagnetic and superconducting order in an oxide heterostructure revealed using ultrafast optical spectroscopy. , 2013, , .		0
64	The influence of radial heterostructuring on carrier dynamics in gallium nitride nanowires. Applied Physics Letters, 2012, 101, .	3.3	10
65	Intraband conductivity response in graphene observed using ultrafast infrared-pump visible-probe spectroscopy. Physical Review B, 2012, 86, .	3.2	35
66	Coexistence of coupled magnetic phases in epitaxial TbMnO ₃ films revealed by ultrafast optical spectroscopy. Applied Physics Letters, 2012, 101, .	3.3	24
67	Theory of ultrafast quasiparticle dynamics in high-temperature superconductors: The dependence on pump fluence. Physical Review B, 2012, 85, .	3.2	11
68	Epitaxial thin films of topological insulator Bi ₂ Te ₃ with two-dimensional weak anti-localization effect grown by pulsed laser deposition. Thin Solid Films, 2012, 520, 6459-6462.	1.8	42
69	Ultrafast carrier dynamics and radiative recombination in multiferroic BiFeO ₃ . Applied Physics Letters, 2012, 100, .	3.3	77
70	Understanding ultrafast carrier dynamics in single quasi-one-dimensional Si nanowires. Applied Physics Letters, 2012, 100, .	3.3	34
71	Mapping Carrier Diffusion in Single Silicon Core-Shell Nanowires with Ultrafast Optical Microscopy. Nano Letters, 2012, 12, 6334-6338.	9.1	43
72	III-nitride nanowires: novel materials for solid-state lighting. , 2011, , .		4

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73	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
74	Polarization anisotropy of transient carrier dynamics in single Si nanowires. , 2011, , .		2
75	Probing Ultrafast Carrier Dynamics in Silicon Nanowires. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011, 17, 889-895.	2.9	19
76	(Invited) III-Nitride Nanowires: Emerging Materials for Lighting and Energy Applications. <i>ECS Transactions</i> , 2011, 35, 3-11.	0.5	4
77	Ultrafast density-and-temperature-dependent carrier dynamics in a quantum dots-in-a-well heterostructure. <i>Proceedings of SPIE</i> , 2011, , .	0.8	0
78	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
79	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
80	Density-dependent carrier dynamics in a quantum dots-in-a-well heterostructure. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	4
81	Ultrafast Polaron Dynamics in Multiferroic LuFe2O4. , 2010, , .		0
82	Non-degenerate Pump-probe Spectroscopy of Single GaN Nanowires. , 2010, , .		0
83	Ultrafast Relaxation Dynamics in GaN Nanowires. , 2009, , .		0
84	Ultrafast carrier dynamics in semiconductor nanowires. <i>Physica Status Solidi (B): Basic Research</i> , 2009, 246, 1973-1995.	1.5	71
85	Subpicosecond Optical Switching with a Negative Index Metamaterial. <i>Nano Letters</i> , 2009, 9, 3565-3569.	9.1	115
86	Impact of interfacial polymer morphology on photoexcitation dynamics and device performance in P3HT/ZnO heterojunctions. <i>Journal of Materials Chemistry</i> , 2009, 19, 4609.	6.7	58
87	Ultrafast carrier dynamics in an InAs/InGaAs quantum dots-in-a-well heterostructure. <i>Optics Express</i> , 2008, 16, 1165.	3.4	19
88	Ultrafast Electron and Hole Dynamics in Germanium Nanowires. <i>Nano Letters</i> , 2008, 8, 1619-1624.	9.1	55
89	Ultrafast Spectroscopy of the Uranium(IV) and Thorium(IV) Bis(ketimide) Complexes (C5Me5)2An[η^5 -Nä•C(Ph)(CH2Ph)]2 (An = Th, U). <i>Journal of Physical Chemistry A</i> , 2008, 112, 7840-7847.	2.5	13
90	Carrier dynamics in InGaAs with embedded ErAs nanoislands. <i>Applied Physics Letters</i> , 2008, 93, 121108.	3.3	37

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91	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
92	Phase inhomogeneities in the charge-orbital-ordered manganite $Nd_{0.5}Sr$ through polaron dynamics. Physical Review B, 2007, 76, .	3.3	20
93	On Photo-Induced Phenomena in Complex Materials: Probing Quasiparticle Dynamics using Infrared and Far-Infrared Pulses. Journal of the Physical Society of Japan, 2006, 75, 011006.	1.6	36
94	Coupled Charge-Spin Dynamics of the Magnetoresistive Pyrochlore $Tl_2Mn_2O_7$ Probed Using Ultrafast Midinfrared Spectroscopy. Physical Review Letters, 2005, 95, 267404.	7.8	12
95	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
96	High-speed femtosecond pump probe spectroscopy with a smart pixel detector array. Optics Letters, 2003, 28, 1588.	3.3	15
97	Self-starting mode locking in a Cr:forsterite laser by use of non-epitaxially-grown semiconductor-doped silica films. Optics Letters, 2002, 27, 1564.	3.3	15