

# K-J Tielrooij

## List of Publications by Year in descending order

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Version: 2024-02-01

72  
papers

6,818  
citations

87723

38  
h-index

149479

56  
g-index

73  
all docs

73  
docs citations

73  
times ranked

8688  
citing authors

#	ARTICLE	IF	CITATIONS
1	Driven coherent oscillations of a single electron spin in a quantum dot. <i>Nature</i> , 2006, 442, 766-771.	13.7	1,207
2	Cooperativity in Ion Hydration. <i>Science</i> , 2010, 328, 1006-1009.	6.0	562
3	Photoexcitation cascade and multiple hot-carrier generation in graphene. <i>Nature Physics</i> , 2013, 9, 248-252.	6.5	512
4	Picosecond photoresponse in van der Waals heterostructures. <i>Nature Nanotechnology</i> , 2016, 11, 42-46.	15.6	493
5	Extremely efficient terahertz high-harmonic generation in graphene by hot Dirac fermions. <i>Nature</i> , 2018, 561, 507-511.	13.7	365
6	Assessment of carrier-multiplication efficiency in bulk PbSe and PbS. <i>Nature Physics</i> , 2009, 5, 811-814.	6.5	245
7	Generation of photovoltage in graphene on a femtosecond timescale through efficient carrier heating. <i>Nature Nanotechnology</i> , 2015, 10, 437-443.	15.6	210
8	Universal Distance-Scaling of Nonradiative Energy Transfer to Graphene. <i>Nano Letters</i> , 2013, 13, 2030-2035.	4.5	197
9	Photo-thermionic effect in vertical graphene heterostructures. <i>Nature Communications</i> , 2016, 7, 12174.	5.8	179
10	Dielectric Relaxation Dynamics of Water in Model Membranes Probed by Terahertz Spectroscopy. <i>Biophysical Journal</i> , 2009, 97, 2484-2492.	0.2	166
11	Thermodynamic picture of ultrafast charge transport in graphene. <i>Nature Communications</i> , 2015, 6, 7655.	5.8	147
12	Fast and Sensitive Terahertz Detection Using an Antenna-Integrated Graphene pn Junction. <i>Nano Letters</i> , 2019, 19, 2765-2773.	4.5	144
13	Out-of-plane heat transfer in van der Waals stacks through electron-phonon hyperbolic phonon coupling. <i>Nature Nanotechnology</i> , 2018, 13, 41-46.	15.6	128
14	Complex Formation in Aqueous Trimethylamine- <i>N</i> -oxide (TMAO) Solutions. <i>Journal of Physical Chemistry B</i> , 2012, 116, 4783-4795.	1.2	127
15	Influence of Concentration and Temperature on the Dynamics of Water in the Hydrophobic Hydration Shell of Tetramethylurea. <i>Journal of the American Chemical Society</i> , 2010, 132, 15671-15678.	6.6	124
16	Experimental Signature of Phonon-Mediated Spin Relaxation in a Two-Electron Quantum Dot. <i>Physical Review Letters</i> , 2007, 98, 126601.	2.9	112
17	Anisotropic Water Reorientation around Ions. <i>Journal of Physical Chemistry B</i> , 2011, 115, 12638-12647.	1.2	108
18	Electrical control of optical emitter relaxation pathways enabled by graphene. <i>Nature Physics</i> , 2015, 11, 281-287.	6.5	99

#	ARTICLE	IF	CITATIONS
19	Competing Ultrafast Energy Relaxation Pathways in Photoexcited Graphene. <i>Nano Letters</i> , 2014, 14, 5839-5845.	4.5	97
20	Terahertz Nonlinear Optics of Graphene: From Saturable Absorption to High-Order Harmonics Generation. <i>Advanced Optical Materials</i> , 2020, 8, 1900771.	3.6	97
21	The ultrafast dynamics and conductivity of photoexcited graphene at different Fermi energies. <i>Science Advances</i> , 2018, 4, eaar5313.	4.7	95
22	Strong temperature dependence of water reorientation in hydrophobic hydration shells. <i>Journal of Chemical Physics</i> , 2009, 130, 214511.	1.2	92
23	Structure Dynamics of the Proton in Liquid Water Probed with Terahertz Time-Domain Spectroscopy. <i>Physical Review Letters</i> , 2009, 102, 198303.	2.9	91
24	Decoupling the effects of defects on efficiency and stability through phosphonates in stable halide perovskite solar cells. <i>Joule</i> , 2021, 5, 1246-1266.	11.7	91
25	Photoexcited carrier dynamics and impact-excitation cascade in graphene. <i>Physical Review B</i> , 2013, 87, .	1.1	79
26	Nano-imaging of intersubband transitions in van der Waals quantum wells. <i>Nature Nanotechnology</i> , 2018, 13, 1035-1041.	15.6	75
27	Hot carriers in graphene – fundamentals and applications. <i>Nanoscale</i> , 2021, 13, 8376-8411.	2.8	75
28	Hot-carrier photocurrent effects at graphene-metal interfaces. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 164207.	0.7	71
29	Grating-Graphene Metamaterial as a Platform for Terahertz Nonlinear Photonics. <i>ACS Nano</i> , 2021, 15, 1145-1154.	7.3	69
30	Phonon-Mediated Mid-Infrared Photoresponse of Graphene. <i>Nano Letters</i> , 2014, 14, 6374-6381.	4.5	64
31	Long-lived charge separation following pump-wavelength-dependent ultrafast charge transfer in graphene/WS <sub>2</sub> heterostructures. <i>Science Advances</i> , 2021, 7, .	4.7	60
32	Femtosecond study of the effects of ions and hydrophobes on the dynamics of water. <i>Faraday Discussions</i> , 2013, 160, 171-189.	1.6	55
33	Reorientation of HDO in liquid H <sub>2</sub> O at different temperatures: Comparison of first and second order correlation functions. <i>Chemical Physics Letters</i> , 2009, 471, 71-74.	1.2	54
34	Plasmonic antenna coupling to hyperbolic phonon-polaritons for sensitive and fast mid-infrared photodetection with graphene. <i>Nature Communications</i> , 2020, 11, 4872.	5.8	53
35	Electrical tunability of terahertz nonlinearity in graphene. <i>Science Advances</i> , 2021, 7, .	4.7	52
36	Effect of Confinement on Proton-Transfer Reactions in Water Nanopools. <i>ChemPhysChem</i> , 2009, 10, 245-251.	1.0	47

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37	Hot-Carrier Cooling in High-Quality Graphene Is Intrinsically Limited by Optical Phonons. ACS Nano, 2021, 15, 11285-11295.	7.3	43
38	Super-Planckian Electron Cooling in a van der Waals Stack. Physical Review Letters, 2017, 118, 126804.	2.9	38
39	Ultrathin Eu- and Er-Doped $\text{Y}_2\text{O}_3$ Films with Optimized Optical Properties for Quantum Technologies. Journal of Physical Chemistry C, 2019, 123, 13354-13364.	1.5	32
40	Surface-Specific Spectroscopy of Water at a Potentiostatically Controlled Supported Graphene Monolayer. Journal of Physical Chemistry C, 2019, 123, 24031-24038.	1.5	29
41	Reversible Photochemical Control of Doping Levels in Supported Graphene. Journal of Physical Chemistry C, 2017, 121, 4083-4091.	1.5	28
42	Vibrational and orientational dynamics of water in aqueous hydroxide solutions. Journal of Chemical Physics, 2011, 135, 124517.	1.2	23
43	Terahertz signatures of ultrafast Dirac fermion relaxation at the surface of topological insulators. Npj Quantum Materials, 2021, 6, .	1.8	23
44	Fast electrical modulation of strong near-field interactions between erbium emitters and graphene. Nature Communications, 2020, 11, 4094.	5.8	18
45	Terahertz Depolarization Effects in Colloidal $\text{TiO}_2$ Films Reveal Particle Morphology. Journal of Physical Chemistry C, 2014, 118, 1191-1197.	1.5	16
46	Kinetic Ionic Permeation and Interfacial Doping of Supported Graphene. Nano Letters, 2019, 19, 9029-9036.	4.5	16
47	Observation of giant and tunable thermal diffusivity of a Dirac fluid at room temperature. Nature Nanotechnology, 2021, 16, 1195-1200.	15.6	16
48	Probing ultrafast temperature changes of aqueous solutions with coherent terahertz pulses. Optics Letters, 2014, 39, 1717.	1.7	14
49	Thickness-Dependent Elastic Softening of Few-Layer Free-Standing $\text{MoSe}_2$ . Advanced Materials, 2021, 33, 2008614.	11.1	13
50	Electrically Tunable Nonequilibrium Optical Response of Graphene. ACS Nano, 2022, 16, 3613-3624.	7.3	13
51	Unraveling Heat Transport and Dissipation in Suspended $\text{MoSe}_2$ from Bulk to Monolayer. Advanced Materials, 2022, 34, e2108352.	11.1	12
52	TeraHertz Dielectric Relaxation of Biological Water Confined in Model Membranes made of Lyotropic Phospholipids. Molecular Crystals and Liquid Crystals, 2009, 500, 108-117.	0.4	11
53	Vibrational Förster transfer to hydrated protons. Journal of Chemical Physics, 2010, 132, 194504.	1.2	10
54	High fidelity measurement of singlet-triplet state in a quantum dot. Physica Status Solidi (B): Basic Research, 2006, 243, 3855-3858.	0.7	9

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55	Fabrication and characterization of large-area suspended MoSe <sub>2</sub> crystals down to the monolayer. JPhys Materials, 2021, 4, 046001.	1.8	8
56	Highly sensitive, ultrafast photo-thermoelectric graphene THz detector. , 2018, , .		3
57	Ultrafast carrier dynamics in graphene and graphene nanostructures. Terahertz Science & Technology, 2020, 13, 135-148.	0.5	1
58	Time domain terahertz spectroscopy for investigating the dielectric relaxation dynamics of water in model membranes. , 2010, , .		0
59	Nonlinear terahertz conductivity in graphene. , 2013, , .		0
60	Photoexcitation cascade and multiple hot carrier generation in graphene. , 2013, , .		0
61	Hot carrier multiplication in graphene. , 2013, , .		0
62	Terahertz Carrier Dynamics in Graphene and Graphene Nanostructures. , 2014, , .		0
63	Inherent Resistivity of Graphene to Strong THz Fields. , 2014, , .		0
64	Nonlinear THz conductivity in graphene. , 2014, , .		0
65	Graphene opto-electronics and plasmonics for infrared frequencies. , 2015, , .		0
66	Thermodynamic picture of terahertz conduction in graphene. , 2016, , .		0
67	Room-temperature THz High Harmonics Generation in Graphene. , 2018, , .		0
68	Control of Terahertz Nonlinearity in Graphene by Gating. , 2019, , .		0
69	Ionic permeability and interfacial doping of graphene on SiO <sub>2</sub> measured with Terahertz photoconductivity measurements. , 2019, , .		0
70	Hot plasmons make graphene shine. Nature Materials, 2021, 20, 721-722.	13.3	0
71	Control of Energy Relaxation Pathways in Graphene: Carrier-Carrier Scattering vs Phonon Emission. , 2015, , .		0
72	Kinetic Ionic Permeation and Interfacial Doping of Supported Graphene Measured with Terahertz Photoconductivity Measurements. , 2020, , .		0