

Thomas Mueller

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

98
papers

14,083
citations

35
h-index

118
g-index

119
ext. papers

16,507
ext. citations

10.1
avg, IF

6.9
L-index

#	Paper	IF	Citations
98	Photodetectors based on graphene, other two-dimensional materials and hybrid systems. <i>Nature Nanotechnology</i> , 2014 , 9, 780-93	28.7	2318
97	Ultrafast graphene photodetector. <i>Nature Nanotechnology</i> , 2009 , 4, 839-43	28.7	2309
96	Graphene photodetectors for high-speed optical communications. <i>Nature Photonics</i> , 2010 , 4, 297-301	33.9	1782
95	Solar-energy conversion and light emission in an atomic monolayer p-n diode. <i>Nature Nanotechnology</i> , 2014 , 9, 257-61	28.7	981
94	Photovoltaic effect in an electrically tunable van der Waals heterojunction. <i>Nano Letters</i> , 2014 , 14, 4785-915	11.5	759
93	Microcavity-integrated graphene photodetector. <i>Nano Letters</i> , 2012 , 12, 2773-7	11.5	623
92	CMOS-compatible graphene photodetector covering all optical communication bands. <i>Nature Photonics</i> , 2013 , 7, 892-896	33.9	531
91	Photocurrent imaging and efficient photon detection in a graphene transistor. <i>Nano Letters</i> , 2009 , 9, 1039-44	11.5	486
90	Black Phosphorus Mid-Infrared Photodetectors with High Gain. <i>Nano Letters</i> , 2016 , 16, 4648-55	11.5	476
89	Mechanisms of photoconductivity in atomically thin MoS ₂ . <i>Nano Letters</i> , 2014 , 14, 6165-70	11.5	443
88	Role of contacts in graphene transistors: A scanning photocurrent study. <i>Physical Review B</i> , 2009 , 79,	3.3	319
87	Exciton physics and device application of two-dimensional transition metal dichalcogenide semiconductors. <i>Npj 2D Materials and Applications</i> , 2018 , 2,	8.8	267
86	Ultrafast machine vision with 2D material neural network image sensors. <i>Nature</i> , 2020 , 579, 62-66	50.4	226
85	A microprocessor based on a two-dimensional semiconductor. <i>Nature Communications</i> , 2017 , 8, 14948	17.4	200
84	Intrinsic response time of graphene photodetectors. <i>Nano Letters</i> , 2011 , 11, 2804-8	11.5	196
83	Atomically thin p-n junctions based on two-dimensional materials. <i>Chemical Society Reviews</i> , 2018 , 47, 3339-3358	58.5	158
82	Efficient narrow-band light emission from a single carbon nanotube p-n diode. <i>Nature Nanotechnology</i> , 2010 , 5, 27-31	28.7	155

81	Controlled Generation of a p-n Junction in a Waveguide Integrated Graphene Photodetector. <i>Nano Letters</i> , 2016 , 16, 7107-7112	11.5	119
80	The role of charge trapping in MoS ₂ /SiO ₂ and MoS ₂ /hBN field-effect transistors. <i>2D Materials</i> , 2016 , 3, 035004	5.9	117
79	Ultrafast intraband spectroscopy of electron capture and relaxation in InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 2003 , 83, 3572-3574	3.4	90
78	Insulators for 2D nanoelectronics: the gap to bridge. <i>Nature Communications</i> , 2020 , 11, 3385	17.4	85
77	Optical imaging of strain in two-dimensional crystals. <i>Nature Communications</i> , 2018 , 9, 516	17.4	81
76	Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. <i>Applied Sciences (Switzerland)</i> , 2016 , 6, 78	2.6	74
75	Ultrathin calcium fluoride insulators for two-dimensional field-effect transistors. <i>Nature Electronics</i> , 2019 , 2, 230-235	28.4	68
74	Device physics of van der Waals heterojunction solar cells. <i>Npj 2D Materials and Applications</i> , 2018 , 2,	8.8	65
73	Low-voltage 2D materials-based printed field-effect transistors for integrated digital and analog electronics on paper. <i>Nature Communications</i> , 2020 , 11, 3566	17.4	61
72	High quality passivation for heterojunction solar cells by hydrogenated amorphous silicon suboxide films. <i>Applied Physics Letters</i> , 2008 , 92, 033504	3.4	57
71	Second harmonic generation in strained transition metal dichalcogenide monolayers: MoS ₂ , MoSe ₂ , WS ₂ , and WSe ₂ . <i>APL Photonics</i> , 2019 , 4, 034404	5.2	56
70	The performance limits of hexagonal boron nitride as an insulator for scaled CMOS devices based on two-dimensional materials. <i>Nature Electronics</i> , 2021 , 4, 98-108	28.4	53
69	Longest terrestrial migrations and movements around the world. <i>Scientific Reports</i> , 2019 , 9, 15333	4.9	52
68	Electroluminescence from multi-particle exciton complexes in transition metal dichalcogenide semiconductors. <i>Nature Communications</i> , 2019 , 10, 1709	17.4	48
67	Graphene Photodetector Integrated on a Photonic Crystal Defect Waveguide. <i>ACS Photonics</i> , 2018 , 5, 4758-4763	6.3	46
66	Localized Intervalley Defect Excitons as Single-Photon Emitters in WSe ₂ . <i>Physical Review Letters</i> , 2019 , 123, 146401	7.4	44
65	Photovoltaics in Van der Waals Heterostructures. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2017 , 23, 106-116	3.8	44
64	Silver nanoisland enhanced Raman interaction in graphene. <i>Applied Physics Letters</i> , 2012 , 101, 153113	3.4	40

63	Energetic mapping of oxide traps in MoS 2 field-effect transistors. <i>2D Materials</i> , 2017 , 4, 025108	5.9	35
62	Heterojunction Silicon Wafer Solar Cells using Amorphous Silicon Suboxides for Interface Passivation. <i>Energy Procedia</i> , 2012 , 15, 97-106	2.3	33
61	Thermal Light Emission from Monolayer MoS. <i>Advanced Materials</i> , 2017 , 29, 1701304	24	32
60	Pulse-induced quantum interference of intersubband transitions in coupled quantum wells. <i>Applied Physics Letters</i> , 2004 , 84, 64-66	3.4	31
59	Analogue two-dimensional semiconductor electronics. <i>Nature Electronics</i> , 2020 , 3, 486-491	28.4	31
58	Growth, structure and stability of sputter-deposited MoS thin films. <i>Beilstein Journal of Nanotechnology</i> , 2017 , 8, 1115-1126	3	30
57	Bias-temperature instability in single-layer graphene field-effect transistors. <i>Applied Physics Letters</i> , 2014 , 105, 143507	3.4	29
56	Analysis of intrinsic hydrogenated amorphous silicon passivation layer growth for use in heterojunction silicon wafer solar cells by optical emission spectroscopy. <i>Journal of Applied Physics</i> , 2013 , 113, 234310	2.5	26
55	A Physical Model for the Hysteresis in MoS2 Transistors. <i>IEEE Journal of the Electron Devices Society</i> , 2018 , 6, 972-978	2.3	25
54	Quantitative nanoscale characterization. <i>Materials Today</i> , 2009 , 12, 40-43	21.8	25
53	Intersubband absorption dynamics in coupled quantum wells. <i>Applied Physics Letters</i> , 2001 , 79, 2755-2757	3.4	24
52	Impact of the phosphorus emitter doping profile on metal contact recombination of silicon wafer solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2016 , 147, 171-176	6.4	22
51	Hot-Carrier Degradation and Bias-Temperature Instability in Single-Layer Graphene Field-Effect Transistors: Similarities and Differences. <i>IEEE Transactions on Electron Devices</i> , 2015 , 62, 3876-3881	2.9	20
50	Ultrafast phase-resolved pump-probe measurements on a quantum cascade laser. <i>Applied Physics Letters</i> , 2008 , 93, 151106	3.4	20
49	Deposition temperature independent excellent passivation of highly boron doped silicon emitters by thermal atomic layer deposited Al2O3. <i>Journal of Applied Physics</i> , 2013 , 114, 094505	2.5	17
48	Surface-modified GaAs terahertz plasmon emitter. <i>Applied Physics Letters</i> , 2002 , 81, 871-873	3.4	17
47	Coherent terahertz emission from optically pumped intersubband plasmons in parabolic quantum wells. <i>Applied Physics Letters</i> , 2000 , 76, 3501-3503	3.4	16
46	Reliability of scalable MoS 2 FETs with 2 nm crystalline CaF 2 insulators. <i>2D Materials</i> , 2019 , 6, 045004	5.9	15

45	Influence of discharge power and annealing temperature on the properties of indium tin oxide thin films prepared by pulsed-DC magnetron sputtering. <i>Vacuum</i> , 2015 , 121, 187-193	3.7	14
44	Band Nesting in Two-Dimensional Crystals: An Exceptionally Sensitive Probe of Strain. <i>Nano Letters</i> , 2020 , 20, 4242-4248	11.5	14
43	Femtosecond laser ablation of dielectric layers for high-efficiency silicon wafer solar cells. <i>Solar Energy</i> , 2018 , 164, 287-291	6.8	13
42	Plasmon-Plasmon Interactions and Radiative Damping of Graphene Plasmons. <i>ACS Photonics</i> , 2018 , 5, 3459-3465	6.3	11
41	Electric field modulation of thermovoltage in single-layer MoS ₂ . <i>Applied Physics Letters</i> , 2014 , 105, 253103	9.3	10
40	High-responsivity graphene photodetectors integrated on silicon microring resonators. <i>Nature Communications</i> , 2021 , 12, 3733	17.4	10
39	Analysis of nanosecond and femtosecond laser ablation of rear dielectrics of silicon wafer solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2019 , 192, 117-122	6.4	10
38	Nanoscale Thermal Transport in 2D Nanostructures from Cryogenic to Room Temperature. <i>Advanced Electronic Materials</i> , 2019 , 5, 1900331	6.4	9
37	Nano- and microstructuring of graphene using UV-NIL. <i>Nanotechnology</i> , 2012 , 23, 335301	3.4	8
36	Nonvolatile Programmable WSe ₂ Photodetector. <i>Advanced Optical Materials</i> , 2020 , 8, 2000417	8.1	8
35	21% efficient screen-printed n-type silicon wafer solar cells with implanted phosphorus front surface field. <i>Solar Energy Materials and Solar Cells</i> , 2018 , 186, 124-130	6.4	8
34	Differential electroluminescence imaging and the current transport efficiency of silicon wafer solar cells 2014 ,		7
33	Graphene-based fast electronics and optoelectronics 2010 ,		7
32	Ultrafast spectral hole burning spectroscopy of exciton spin flip processes in InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 2006 , 88, 192105	3.4	7
31	Excellent passivation of thin silicon wafers by HF-free hydrogen plasma etching using an industrial ICPECVD tool. <i>Physica Status Solidi - Rapid Research Letters</i> , 2015 , 9, 47-52	2.5	6
30	Investigation of Low-Temperature Hydrogen Plasma-Etching Processes for Silicon Wafer Solar Cell Surface Passivation in an Industrial Inductively Coupled Plasma Deposition Tool. <i>IEEE Journal of Photovoltaics</i> , 2016 , 6, 10-16	3.7	6
29	(Invited) Impact of Gate Dielectrics on the Threshold Voltage in MoS ₂ Transistors. <i>ECS Transactions</i> , 2017 , 80, 203-217	1	5
28	Metal-graphene-metal photodetectors 2013 ,		5

27	Intersubband gain-induced dispersion. <i>Optics Letters</i> , 2009 , 34, 208-10	3	5
26	Exotic transport regime in GaAs: absence of intervalley scattering leading to quasi-ballistic, real-space THz oscillations. <i>Semiconductor Science and Technology</i> , 2004 , 19, S195-S198	1.8	5
25	Intraband relaxation of photoexcited electrons in GaAs/AlGaAs quantum wells and InAs/GaAs self-assembled quantum dots. <i>Semiconductor Science and Technology</i> , 2004 , 19, S287-S289	1.8	4
24	THz collective oscillations of ballistic electrons in wide potential wells: Bridging classical transport with quantum dynamics. <i>Europhysics Letters</i> , 2005 , 70, 534-540	1.6	4
23	Introduction to the issue on graphene optoelectronics. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2014 , 20, 6-8	3.8	3
22	Inkjet-printed low-dimensional materials-based complementary electronic circuits on paper. <i>Npj 2D Materials and Applications</i> , 2021 , 5,	8.8	3
21	Reliability of next-generation field-effect transistors with transition metal dichalcogenides 2018 ,		2
20	Bias-temperature instability in single-layer graphene field-effect transistors: A reliability challenge 2014 ,		2
19	Terahertz Quantum Cascade Devices: From Intersubband Transition to Microcavity Laser. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2008 , 14, 307-314	3.8	2
18	Intersublevel dynamics of semiconductor nanostructures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2004 , 25, 271-279	3	2
17	Terahertz emission from magnetoplasma oscillations in semiconductors 2002 , 4643, 12		2
16	Resonant photocurrent from a single quantum emitter in tungsten diselenide. <i>2D Materials</i> , 2020 , 7, 045021	5.9	2
15	Cavity Enhanced Light-Matter Interaction in a Graphene Photodetector 2019 ,		1
14	Hot-carrier degradation in single-layer double-gated graphene field-effect transistors 2015 ,		1
13	2D materials and heterostructures for applications in optoelectronics 2015 ,		1
12	Graphene-based fast electronics and optoelectronics 2010 ,		1
11	Photocurrent imaging of the potential profiles in a graphene transistor 2008 ,		1
10	Acoustic phonon-assisted damping of Rabi oscillations in InAs quantum dots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2008 , 40, 2013-2015	3	1

9	Few-cycle THZ spectroscopy of semiconductor quantum structures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2001 , 9, 76-83	3	1
8	Tunable graphene plasmons in nanoribbon arrays: the role of interactions. <i>Optical Materials Express</i> , 2021 , 11, 1390	2.6	1
7	1/f Noise Characterization of Bilayer MoS ₂ Field-Effect Transistors on Paper with Inkjet-Printed Contacts and hBN Dielectrics. <i>Advanced Electronic Materials</i> , 2021 , 7, 2100283	6.4	1
6	Sparse pixel image sensor.. <i>Scientific Reports</i> , 2022 , 12, 5650	4.9	1
5	High-Speed Electroluminescence Modulation in Monolayer WS ₂ . <i>Advanced Materials Technologies</i> , 2100965	6.5	0
4	A SPICE Compact Model for Ambipolar 2-D-Material FETs Aiming at Circuit Design. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 3096-3103	2.9	0
3	Graphene: Optoelectronic Devices 180-196		
2	TMDs Optoelectronic Devices 329-343		
1	Direct measurement of intersubband dynamics. <i>Physica B: Condensed Matter</i> , 2002 , 314, 259-262	2.8	