

# Joseph G Tischler

## List of Publications by Year in descending order

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120  
papers

4,344  
citations

172457

29  
h-index

114465

63  
g-index

125  
all docs

125  
docs citations

125  
times ranked

4998  
citing authors

#	ARTICLE	IF	CITATIONS
1	Cu <sub>2-x</sub> S/PbS Core/Shell Nanocrystals with Improved Chemical Stability. Chemistry of Materials, 2021, 33, 6685-6691.	6.7	1
2	Natural hyperbolicity in bulk calcite. Journal of Applied Physics, 2021, 130, .	2.5	3
3	Enhanced Infrared Photodiodes Based on PbS/PbCl <sub>x</sub> Core/Shell Nanocrystals. ACS Applied Materials & Interfaces, 2021, 13, 58916-58926.	8.0	2
4	Ultrafast Active Tuning of the Berreman Mode. ACS Photonics, 2020, 7, 279-287.	6.6	14
5	Binary Superlattices of Infrared Plasmonic and Excitonic Nanocrystals. ACS Applied Materials & Interfaces, 2020, 12, 24271-24280.	8.0	8
6	Plasmonic nanoarcs: a versatile platform with tunable localized surface plasmon resonances in octave intervals. Optics Express, 2020, 28, 30889.	3.4	2
7	Controlling dissolution of PbTe nanoparticles in organic solvents during liquid cell transmission electron microscopy. Nanoscale, 2019, 11, 14573-14580.	5.6	10
8	Rapid Bimolecular and Defect-Assisted Carrier Recombination in Hexagonal Boron Nitride. Journal of Physical Chemistry C, 2019, 123, 14689-14695.	3.1	2
9	Controlling the Infrared Dielectric Function through Atomic-Scale Heterostructures. ACS Nano, 2019, 13, 6730-6741.	14.6	33
10	Giant magneto-optical Kerr enhancement from films on SiC due to the optical properties of the substrate. Physical Review B, 2019, 99, .	3.2	4
11	Intrinsic Gap States in Semiconductors with Inverted Band Structure: Comparison of SnTe vs PbTe Nanocrystals. Journal of Physical Chemistry C, 2019, 123, 11974-11981.	3.1	2
12	Hybrid longitudinal-transverse phonon polaritons. Nature Communications, 2019, 10, 1682.	12.8	46
13	Effects of a Lead Chloride Shell on Lead Sulfide Quantum Dots. Journal of Physical Chemistry Letters, 2019, 10, 1914-1918.	4.6	14
14	3D-printed infrared metamaterials. , 2019, , .		0
15	Active tuning of surface phonon polariton resonances via carrier photoinjection. Nature Photonics, 2018, 12, 50-56.	31.4	102
16	Ultralow-loss polaritons in isotopically pure boron nitride. Nature Materials, 2018, 17, 134-139.	27.5	291
17	Implementation of plasmonic band structure to understand polariton hybridization within metamaterials. Optics Express, 2018, 26, 29363.	3.4	4
18	Strong Coupling Effects Between IR-Inactive Zone Folded LO Phonon and Localized Surface Phonon Polariton Modes in SiC Nanopillars. NATO Science for Peace and Security Series B: Physics and Biophysics, 2018, , 417-418.	0.3	0

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19	Synthesis and Characterization of PbS/ZnS Core/Shell Nanocrystals. <i>Chemistry of Materials</i> , 2018, 30, 4112-4123.	6.7	20
20	Energy Level Alignment of Molybdenum Oxide on Colloidal Lead Sulfide (PbS) Thin Films for Optoelectronic Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 24981-24986.	8.0	3
21	Symmetry Breaking and Active Fano Resonance Tuning in Dolmen Nanostructures. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2018, , 407-408.	0.3	0
22	High-Order Multipole Resonances in Cuboidal Surface Phonon Polariton Nanoresonators. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2017, , 501-502.	0.3	0
23	Effect of occupation of the excited states and phonon broadening on the determination of the hot carrier temperature from continuous wave photoluminescence in InGaAsP quantum well absorbers. <i>Progress in Photovoltaics: Research and Applications</i> , 2017, 25, 782-790.	8.1	27
24	The effect of an InP cap layer on the photoluminescence of an In <sub>x</sub> Ga <sub>1-x</sub> As <sub>1-y</sub> P <sub>y</sub> /In <sub>z</sub> Al <sub>1-z</sub> As quantum well heterostructure. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	9
25	The effect and nature of N-H complexes in the control of the dominant photoluminescence transitions in UV-hydrogenated GaInNAs. <i>RSC Advances</i> , 2017, 7, 25353-25361.	3.6	10
26	Low-Loss Phonon Polaritons in Nanostructured Dielectrics. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2017, , 511-512.	0.3	0
27	Imaging of Anomalous Internal Reflections of Hyperbolic Phonon-Polaritons in Hexagonal Boron Nitride. <i>Nano Letters</i> , 2016, 16, 3858-3865.	9.1	106
28	Aspect-ratio driven evolution of high-order resonant modes and near-field distributions in localized surface phonon polariton nanostructures. <i>Scientific Reports</i> , 2016, 6, 32959.	3.3	25
29	Fabrication of Fully Solution Processed Inorganic Nanocrystal Photovoltaic Devices. <i>Journal of Visualized Experiments</i> , 2016, , .	0.3	1
30	Role of epsilon-near-zero substrates in the optical response of plasmonic antennas. <i>Optica</i> , 2016, 3, 339.	9.3	162
31	Atomic-scale photonic hybrids for mid-infrared and terahertz nanophotonics. <i>Nature Nanotechnology</i> , 2016, 11, 9-15.	31.5	136
32	Molecular beam epitaxy of InAlAsSb for the top cell in high-efficiency InP-based lattice-matched triple-junction solar cells. , 2015, , .		2
33	Dark current reduction and bandgap-voltage offset in solution-processed nanocrystal solar cells. , 2015, , .		0
34	Rapid thermal annealing of InAlAsSb lattice-matched to InP for top cell applications. , 2015, , .		3
35	Hot-carrier effects in type II heterostructures. , 2015, , .		3
36	Resonant quantum efficiency enhancement of midwave infrared InBn photodetectors using one-dimensional plasmonic gratings. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	24

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37	Safer salts for CdTe nanocrystal solution processed solar cells: the dual roles of ligand exchange and grain growth. <i>Journal of Materials Chemistry A</i> , 2015, 3, 13057-13065.	10.3	16
38	Probing hyperbolic polaritons. <i>Nature Photonics</i> , 2015, 9, 638-640.	31.4	11
39	Spatially indirect radiative recombination in InAlAsSb grown lattice-matched to InP by molecular beam epitaxy. <i>Journal of Applied Physics</i> , 2015, 117, 215704.	2.5	29
40	Synthesis and Optical Properties of PbSe Nanorods with Controlled Diameter and Length. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3360-3364.	4.6	12
41	Characterization, modeling and analysis of InAlAsSb Schottky barrier solar cells grown on InP. , 2014, , .		1
42	Photoluminescence lineshape and dynamics of localized excitonic transitions in InAsP epitaxial layers. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	18
43	Enhanced Hot-Carrier Effects in InAlAs/InGaAs Quantum Wells. <i>IEEE Journal of Photovoltaics</i> , 2014, 4, 1526-1531.	2.5	38
44	The effects of electric field on InGaAs quantum well i-region placement in InAlGaAs solar cells. , 2014, , .		0
45	Modeling, design and experimental results for high efficiency multi-junction solar cells lattice matched to InP. <i>Proceedings of SPIE</i> , 2014, , .	0.8	6
46	An extended hardness limit in bulk nanoceramics. <i>Acta Materialia</i> , 2014, 69, 9-16.	7.9	153
47	Vapor deposition of organic-inorganic hybrid perovskite thin-films for photovoltaic applications. , 2014, , .		5
48	Sub-diffractive volume-confined polaritons in the natural hyperbolic material hexagonal boron nitride. <i>Nature Communications</i> , 2014, 5, 5221.	12.8	686
49	Improved theoretical model of InN optical properties. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2014, 11, 581-584.	0.8	0
50	Impact of Nanocrystal Spray Deposition on Inorganic Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 7902-7909.	8.0	21
51	Anisotropic Absorption in PbSe Nanorods. <i>ACS Nano</i> , 2014, 8, 581-590.	14.6	29
52	Step graded buffer for (110) InSb quantum wells grown by molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 2014, 404, 122-129.	1.5	2
53	Bulk properties of InN films determined by experiments and theory. <i>Journal of Crystal Growth</i> , 2014, 403, 124-127.	1.5	5
54	Sintered CdTe Nanocrystal Thin Films: Determination of Optical Constants and Application in Novel Inverted Heterojunction Solar Cells. <i>IEEE Nanotechnology Magazine</i> , 2014, 13, 551-556.	2.0	19

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55	Dynamics of photoexcited carriers and spins in InAsP ternary alloys. Applied Physics Letters, 2013, 102, 222102.	3.3	10
56	Low-Loss, Extreme Subdiffraction Photon Confinement via Silicon Carbide Localized Surface Phonon Polariton Resonators. Nano Letters, 2013, 13, 3690-3697.	9.1	259
57	Inorganic Photovoltaic Devices Fabricated Using Nanocrystal Spray Deposition. ACS Applied Materials & Interfaces, 2013, 5, 8828-8832.	8.0	16
58	Magneto-optical fingerprints of distinct graphene multilayers using the giant infrared Kerr effect. Scientific Reports, 2013, 3, 3143.	3.3	20
59	Control of PbSe Nanorod Aspect Ratio by Limiting Phosphine Hydrolysis. Journal of the American Chemical Society, 2013, 135, 15071-15076.	13.7	26
60	Enhanced Open-Circuit Voltage of PbS Nanocrystal Quantum Dot Solar Cells. Scientific Reports, 2013, 3, 2225.	3.3	88
61	Solution-deposited CdTe nanocrystal thin-films for heterojunction solar cells. , 2013, , .		2
62	Towards high efficiency multi-junction solar cells grown on InP Substrates. , 2013, , .		7
63	Modeling and analysis of high-performance, multicolored anti-reflection coatings for solar cells. Optics Express, 2013, 21, A585.	3.4	22
64	Drift-diffusion modeling of InP-based triple junction solar cells. Proceedings of SPIE, 2013, , .	0.8	12
65	Electrical Measurement Under Atmospheric Conditions of PbSe Nanocrystal Thin Films Passivated by Remote Plasma Atomic Layer Deposition of Al <sub>2</sub> O <sub>3</sub> . IEEE Nanotechnology Magazine, 2013, 12, 146-151.	2.0	2
66	Optical properties of Si-doped and Be-doped InAlAs lattice-matched to InP grown by molecular beam epitaxy. Journal of Applied Physics, 2013, 114, .	2.5	16
67	Modeling and analysis of multicolored anti-reflection coatings with high transmittance for different solar cell materials. , 2013, , .		0
68	Improved bandgap-voltage offset in InGaAs/InAlGaAs quantum well solar cells. , 2013, , .		2
69	Structural and electronic characteristics of Cu(In,Ga)Se <sub>2</sub> thin films sputtered from quaternary targets. , 2012, , .		4
70	Multiple exciton generation in PbSe nanorods. , 2012, , .		4
71	Effect of Ligand Structure on the Optical and Electronic Properties of Nanocrystalline PbSe Films. Journal of Physical Chemistry C, 2012, 116, 6031-6037.	3.1	18
72	Solution processing of CdTe nanocrystals for thin-film solar cells. , 2012, , .		5

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73	Simulation of novel InAlAsSb solar cells. Proceedings of SPIE, 2012, , .	0.8	34
74	Synthesis of PbSe nanowires: the impact of alkylphosphonic acid addition. Journal of Materials Chemistry, 2011, 21, 2616.	6.7	8
75	Size and Temperature Dependence of Band-Edge Excitons in PbSe Nanowires. Journal of Physical Chemistry Letters, 2011, 2, 527-531.	4.6	20
76	Enhanced Multiple Exciton Generation in Quasi-One-Dimensional Semiconductors. Nano Letters, 2011, 11, 3476-3481.	9.1	132
77	Design of an achievable, all lattice-matched multijunction solar cell using InGaAlAsSb. , 2011, , .		24
78	Shallow-Etch Mesa Isolation of Graded-Bandgap $\text{In}_x\text{Ga}_{1-x}\text{As}$ Structured Type-II Superlattice Photodiodes. Journal of Electronic Materials, 2010, 39, 1070-1079.	2.2	35
79	Radiation Damage in Type-II Superlattice Infrared Detectors. Journal of Electronic Materials, 2010, 39, 852-856.	2.2	11
80	Band-edge excitons in PbSe nanocrystals and nanorods. Physical Review B, 2010, 82, .	3.2	32
81	Three-Dimensional Control of Self-Assembled Quantum Dot Configurations. ACS Nano, 2010, 4, 3877-3882.	14.6	32
82	GaN single crystals of different habit grown from solution at near atmospheric pressure. Journal of Crystal Growth, 2010, 312, 2551-2557.	1.5	6
83	Molecular beam epitaxial growth effects on type-II antimonide lasers and photodiodes. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, C3G8-C3G12.	1.2	11
84	Controlling dark current in type-II superlattice photodiodes. Infrared Physics and Technology, 2009, 52, 326-334.	2.9	33
85	Comparison of Epitaxial Graphene on Si-face and C-face 4H SiC Formed by Ultrahigh Vacuum and RF Furnace Production. Nano Letters, 2009, 9, 2605-2609.	9.1	140
86	Seeded growth of GaN single crystals from solution at near atmospheric pressure. Journal of Crystal Growth, 2008, 310, 3934-3940.	1.5	20
87	Semi-insulating GaN substrates for high-frequency device fabrication. Journal of Crystal Growth, 2008, 310, 3968-3972.	1.5	38
88	In Situ Irradiation and Measurement of Triple Junction Solar Cells at Low Intensity, Low Temperature (LILT) Conditions. IEEE Transactions on Nuclear Science, 2008, 55, 3502-3507.	2.0	14
89	Internal transitions of quasi-two-dimensional charged magnetoexcitons in the presence of purposely introduced weak lateral potential energy variations. Physical Review B, 2007, 75, .	3.2	2
90	Passivation of W-structured type-II superlattice long-wave infrared photodiodes. , 2007, 6542, 51.		10

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91	Recent progress in W- structured type-II superlattice photodiodes. , 2007, , .		12
92	Molecular beam epitaxy growth of antimonide type-II $\text{In}_{1-x}\text{Sb}_x$ -high-power interband cascade lasers and long-wavelength infrared photodiodes. Journal of Vacuum Science & Technology B, 2007, 25, 991.	1.3	17
93	Controlling interfacial disorder and strain of W-structured type-II superlattices using $\text{As}_2$ flux. Journal of Crystal Growth, 2007, 303, 515-519.	1.5	7
94	Properties of Fe-doped semi-insulating GaN substrates for high-frequency device fabrication. Journal of Crystal Growth, 2007, 305, 403-407.	1.5	13
95	Antimonide Type-II $\text{In}_{1-x}\text{Sb}_x$ -Photodiodes with Long-Wave Infrared R O A Comparable to HgCdTe. Journal of Electronic Materials, 2007, 36, 852-856.	2.2	39
96	Recent progress by mid-IR antimonide type-II "W" interband cascade lasers and LWIR detectors. , 2006, , .		0
97	High quantum efficiency long-wave infrared photodiodes using W- structured type-II superlattices. , 2006, 6127, 195.		2
98	W-structured type-II superlattice long-wave infrared photodiodes with high quantum efficiency. Applied Physics Letters, 2006, 89, 053519.	3.3	110
99	Optical characterization of $\text{In}_{0.27}\text{Ga}_{0.73}\text{Sb}$ and $\text{In}_x\text{Al}_{1-x}\text{As}_y\text{Sb}_{1-y}$ epitaxial layers for development of 6.2- $\mu\text{m}$ -based heterojunction bipolar transistors. Journal of Vacuum Science & Technology B, 2006, 24, 1604.	1.3	7
100	Determination of conduction band offsets in type-II $\text{In}_{0.27}\text{Ga}_{0.73}\text{Sb}/\text{In}_x\text{Al}_{1-x}\text{As}_y\text{Sb}_{1-y}$ heterostructures grown by molecular beam epitaxy. Physical Review B, 2006, 74, .	3.2	5
101	Graded band gap for dark-current suppression in long-wave infrared W-structured type-II superlattice photodiodes. Applied Physics Letters, 2006, 89, 121114.	3.3	139
102	W-structured type-II superlattice-based long- and very long wavelength infrared photodiodes. , 2005, , .		26
103	Optically detected resonance spectroscopy of interface fluctuation quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 158-162.	2.7	2
104	Dual band LWIR/VLWIR type-II superlattice photodiodes. , 2005, , .		20
105	Optical Pumping of the Electronic and Nuclear Spin of Single Charge-Tunable Quantum Dots. Physical Review Letters, 2005, 94, 047402.	7.8	287
106	Binding energies of positive and negative trions: From quantum wells to quantum dots. Physical Review B, 2005, 72, .	3.2	86
107	Anharmonic decay of phonons in strain-free wurtzite AlN. Applied Physics Letters, 2004, 85, 1943-1945.	3.3	28
108	Polarized electrons, trions, and nuclei in charged quantum dots. Physica Status Solidi (B): Basic Research, 2003, 238, 266-272.	1.5	5

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109	Properties of Bulk AlN grown by thermodecomposition of AlCl <sub>3</sub> ·xNH <sub>3</sub> . Applied Physics Letters, 2003, 83, 2584-2586.	3.3	23
110	Optical orientation and the Hanle effect of neutral and negatively charged excitons in GaAs/Al <sub>x</sub> Ga <sub>1-x</sub> As quantum wells. Physical Review B, 2002, 66, .	3.2	54
111	Heterostructure interface effects on the far-infrared magneto-optical spectra of InAs/GaSb quantum wells. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 186-189.	2.7	5
112	Fine structure of trions and excitons in single GaAs quantum dots. Physical Review B, 2002, 66, .	3.2	120
113	Structural and optical properties of thick freestanding GaN templates. Journal of Crystal Growth, 2001, 231, 322-328.	1.5	43
114	Resonant donor defect as a cause of compensation in p-type ZnSe: Photoluminescence studies under hydrostatic pressure. Physical Review B, 2001, 63, .	3.2	6
115	Far-Infrared Spectroscopy of Quasi-2D Impurity States in Semiconductor Nanostructures Under High Hydrostatic Pressure. , 2001, , 303-319.		0
116	Hydrostatic pressure dependence of negative-donor-ion singlet and singlet-like bound magnetoplasmon transitions in doped GaAs/AlGaAs quantum wells. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 177-181.	2.7	4
117	Pressure Tuning of Many-Electron Impurity Interactions in Confined Semiconductor Structures. Physica Status Solidi (B): Basic Research, 1999, 211, 131-136.	1.5	7
118	Pressure Tuning of Competing Charged and Neutral Exciton States in Quasi-2D Semiconductor Structures. Physica Status Solidi (B): Basic Research, 1999, 215, 263-267.	1.5	9
119	Full-spectrum optically detected resonance (ODR) spectroscopy of GaAs/AlGaAs quantum wells. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 39-43.	2.7	11
120	Pressure Dependence of the Electron Effective Mass in GaAs up to the 1s(Γ <sub>6</sub> )-1s(X) Crossover. Physica Status Solidi (B): Basic Research, 1996, 198, 41-47.	1.5	5