Hubert J Krenner

List of Publications by Year
in descending order

93 papers	2,720 citations	201575 27 h-index	189801 50 g-index
97 all docs	97 docs citations	97 times ranked	2804 citing authors

#	Article	IF	Citations
1	Direct Observation of Controlled Coupling in an Individual Quantum Dot Molecule. Physical Review Letters, 2005, 94, 057402.	2.9	339
2	The 2019 surface acoustic waves roadmap. Journal Physics D: Applied Physics, 2019, 52, 353001.	1.3	236
3	Dynamic modulation of photonic crystal nanocavities using gigahertz acoustic phonons. Nature Photonics, 2011, 5, 605-609.	15.6	140
4	Manipulation of the spontaneous emission dynamics of quantum dots in two-dimensional photonic crystals. Physical Review B, 2005, 71, .	1.1	129
5	Optically Probing Spin and Charge Interactions in a Tunable Artificial Molecule. Physical Review Letters, 2006, 97, 076403.	2.9	104
6	Scalable fabrication of a hybrid field-effect and acousto-electric device by direct growth of monolayer MoS2/LiNbO3. Nature Communications, 2015, 6, 8593.	5.8	91
7	Recent advances in exciton-based quantum information processing in quantum dot nanostructures. New Journal of Physics, 2005, 7, 184-184.	1.2	87
8	Electrical Control of Interdot Electron Tunneling in a Double InGaAs Quantum-Dot Nanostructure. Physical Review Letters, 2012, 108, 197402.	2.9	78
9	Growth, Structural, and Optical Properties of Self-Assembled (In,Ga)As Quantum Posts on GaAs. Nano Letters, 2007, 7, 802-806.	4.5	72
10	Alloy Fluctuations Act as Quantum Dot-like Emitters in GaAs-AlGaAs Coreâ€“Shell Nanowires. ACS Nano, 2015, 9, 8335-8343.	7.3	65
11	Fourier synthesis of radiofrequency nanomechanical pulses with different shapes. Nature Nanotechnology, 2015, 10, 512-516.	15.6	65
12	Dynamic Acoustic Control of Individual Optically Active Quantum Dot-like Emission Centers in Heterostructure Nanowires. Nano Letters, 2014, 14, 2256-2264.	4.5	64
13	Quantification of energy losses in organic solar cells from temperature-dependent device characteristics. Physical Review B, 2013, 88, .	1.1	62
14	Directional and Dynamic Modulation of the Optical Emission of an Individual GaAs Nanowire Using Surface Acoustic Waves. Nano Letters, 2011, 11, 1512-1517.	4.5	56
15	Dynamic acousto-optic control of a strongly coupled photonic molecule. Nature Communications, 2015, 6, 8540.	5.8	50
16	Enhanced Sequential Carrier Capture into Individual Quantum Dots and Quantum Posts Controlled by Surface Acoustic Waves. Nano Letters, 2010, 10, 3399-3407.	4.5	48
17	A Semiconductor Exciton Memory Cell Based on a Single Quantum Nanostructure. Nano Letters, 2008, 8, 1750-1755.	4.5	45
18	Direct observation of acoustic phonon mediated relaxation between coupled exciton states in a single quantum dot molecule. Physical Review B, 2006, 74, .	1.1	41

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19	Acoustically regulated carrier injection into a single optically active quantum dot. Physical Review B, 2013, 88, .	1.1	41
20	Interfacing quantum emitters with propagating surface acoustic waves. Journal Physics D: Applied Physics, 2018, 51, 373001.	1.3	41
21	High-fidelity optical preparation and coherent Larmor precession of a single hole in an (In,Ga)As quantum dot molecule. Physical Review B, 2012, 85, .	1.1	36
22	Entanglement creation in a quantum-dotâ€“nanocavity system by Fourier-synthesized acoustic pulses. Physical Review A, 2014, 89, .	1.0	36
23	Ultrafast Photodetection in the Quantum Wells of Single AlGaAs/GaAs-Based Nanowires. Nano Letters, 2015, 15, 6869-6874.	4.5	35
24	Surface acoustic wave regulated single photon emission from a coupled quantum dotâ€“nanocavity system. Applied Physics Letters, 2016, 109, .	1.5	33
25	Quantitative excited state spectroscopy of a single InGaAs quantum dot molecule through multi-million-atom electronic structure calculations. Nanotechnology, 2011, 22, 315709.	1.3	28
26	Surface acoustic wave mediated coupling of free-space radiation into surface plasmon polaritons on plain metal films. Physical Review B, 2010, 82, .	1.1	27
27	Multi-harmonic quantum dot optomechanics in fused LiNbO₃â€“(Al)GaAs hybrids. Journal Physics D: Applied Physics, 2017, 50, 43LT01.	1.3	27
28	Direct observation of dynamic surface acoustic wave controlled carrier injection into single quantum posts using phase-resolved optical spectroscopy. Applied Physics Letters, 2011, 98, .	1.5	26
29	The Native Material Limit of Electron and Hole Mobilities in Semiconductor Nanowires. ACS Nano, 2016, 10, 4942-4953.	7.3	26
30	Optically imprinted reconfigurable photonic elements in a VO2 nanocomposite. Applied Physics Letters, 2014, 105, .	1.5	25
31	Coulomb Mediated Hybridization of Excitons in Coupled Quantum Dots. Physical Review Letters, 2016, 116, 077401.	2.9	25
32	Optomechanical wave mixing by a single quantum dot. Optica, 2021, 8, 291.	4.8	24
33	Spin-preserving ultrafast carrier capture and relaxation in InGaAs quantum dots. Applied Physics Letters, 2005, 87, 153113.	1.5	23
34	Electrical control of the excitonâ€“biexciton splitting in self-assembled InGaAs quantum dots. Nanotechnology, 2011, 22, 325202.	1.3	23
35	Independent dynamic acousto-mechanical and electrostatic control of individual quantum dots in a LiNbO3-GaAs hybrid. Applied Physics Letters, 2015, 106, .	1.5	23
36	Radio frequency occupancy state control of a single nanowire quantum dot. Journal Physics D: Applied Physics, 2014, 47, 394011.	1.3	22

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37	Multiharmonic Frequency-Chirped Transducers for Surface-Acoustic-Wave Optomechanics. Physical Review Applied, 2018, 9, .	1.5	22
38	Quantum Dot Optomechanics in Suspended Nanophononic Strings. Advanced Quantum Technologies, 2020, 3, 1900102.	1.8	20
39	Thermochromic modulation of surface plasmon polaritons in vanadium dioxide nanocomposites. Optics Express, 2016, 24, 17321.	1.7	19
40	A hybrid (Al)GaAs-LiNbO3 surface acoustic wave resonator for cavity quantum dot optomechanics. Applied Physics Letters, 2020, 117, .	1.5	18
41	Excited state quantum couplings and optical switching of an artificial molecule. Physical Review B, 2011, 84, .	1.1	17
42	Nonlinear optical response of a single self-assembled InGaAs quantum dot: A femtojoule pump-probe experiment. Applied Physics Letters, 2006, 88, 203110.	1.5	16
43	Surface acoustic wave controlled charge dynamics in a thin InGaAs quantum well. JETP Letters, 2012, 95, 575-580.	0.4	16
44	Collective Lipid Bilayer Dynamics Excited by Surface Acoustic Waves. Physical Review Letters, 2014, 113, 118102.	2.9	16
45	Growth and optical properties of self-assembled InGaAs quantum posts. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1785-1789.	1.3	15
46	Probing ultrafast carrier tunneling dynamics in individual quantum dots and molecules. Annalen Der Physik, 2013, 525, 49-58.	0.9	15
47	Combined electrical transport and capacitance spectroscopy of a MoS2-LiNbO3 field effect transistor. Applied Physics Letters, 2017, 110, .	1.5	14
48	Real-Time Electron and Hole Transport Dynamics in Halide Perovskite Nanowires. Nano Letters, 2019, 19, 8701-8707.	4.5	14
49	Breakdown of Corner States and Carrier Localization by Monolayer Fluctuations in Radial Nanowire Quantum Wells. Nano Letters, 2019, 19, 3336-3343.	4.5	14
50	Ultrafast electron cycloids driven by the transverse spin of a surface acoustic wave. Science Advances, 2021, 7, .	4.7	14
51	Ion beam synthesis of nanothermochromic diffraction gratings with giant switching contrast at telecom wavelengths. Applied Physics Letters, 2012, 100, .	1.5	13
52	Surface acoustic wave mediated carrier injection into individual quantum post nano emitters. Nanotechnology, 2012, 23, 285201.	1.3	13
53	Quantum posts with tailored structural, electronic and optical properties for optoelectronic and quantum electronic device applications. Solid State Communications, 2009, 149, 1386-1394.	0.9	12
54	Noninvasive probing of persistent conductivity in high quality ZnCdSe/ZnSe quantum wells using surface acoustic waves. Journal of Applied Physics, 2010, 107, 093717.	1.1	12

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55	Standing surface acoustic waves in LiNbO3 studied by time resolved X-ray diffraction at Petra III. AIP Advances, 2013, 3, 072127.	0.6	12
56	Radio Frequency Electromechanical Control over a Surface Plasmon Polariton Coupler. ACS Photonics, 2014, 1, 91-95.	3.2	12
57	Resonance-fluorescence spectral dynamics of an acoustically modulated quantum dot. Physical Review Research, 2021, 3, .	1.3	12
58	Time-resolved coherent X-ray diffraction imaging of surface acoustic waves. Journal of Applied Crystallography, 2014, 47, 1596-1605.	1.9	12
59	Investigation of cavity modes and direct observation of Purcell enhancement in 2D photonic crystal defect microcavities. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 351-355.	1.3	10
60	Scalable and Transfer-Free Fabrication of MoS2/SiO2 Hybrid Nanophotonic Cavity Arrays with Quality Factors Exceeding 4000. Scientific Reports, 2017, 7, 7251.	1.6	10
61	Two-color Femtosecond Spectroscopy of Blue-Shifted InAs/AlGaAs Quantum Dots. Physica Status Solidi (B): Basic Research, 2002, 233, 401-407.	0.7	7
62	Cascaded exciton emission of an individual strain-induced quantum dot. Applied Physics Letters, 2009, 95, 083122.	1.5	7
63	Ultrasonically assisted deposition of colloidal crystals. Applied Physics Letters, 2014, 105, 031113.	1.5	7
64	Site-Selective Ion Beam Synthesis and Optical Properties of Individual CdSe Nanocrystal Quantum Dots in a SiO₂ Matrix. ACS Applied Materials & Interfaces, 2014, 6, 1339-1344.	4.0	7
65	Physics and applications of self-assembled quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2131-2159.	0.8	6
66	A frequency-tunable nanomembrane mechanical oscillator with embedded quantum dots. Applied Physics Letters, 2019, 115, .	1.5	6
67	Controlling exciton decay dynamics in semiconducting single-walled carbon nanotubes by surface acoustic waves. Chemical Physics, 2013, 413, 39-44.	0.9	4
68	High-Dimensional Acousto-optoelectric Correlation Spectroscopy Reveals Coupled Carrier Dynamics in Polytypic Nanowires. Physical Review Applied, 2021, 16, .	1.5	3
69	Sub-nanosecond acousto-electric carrier redistribution dynamics and transport in polytypic GaAs nanowires. Nanotechnology, 2021, 32, .	1.3	3
70	Photon scattering from a quantum acoustically modulated two-level system. AVS Quantum Science, 2022, 4, .	1.8	3
71	Nonequilibrium carrier dynamics in self-assembled InGaAs quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 2217-2223.	0.7	2
72	Vertical quantum wire realized with double cleaved-edge overgrowth. Applied Physics Letters, 2006, 89, 032102.	1.5	2

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73	Near-infrared saturable and reverse saturable absorption of ion beam synthesized VO₂ nanocrystals. Optical Materials Express, 2020, 10, 1630.	1.6	2
74	Recent progress towards acoustically mediated carrier injection into individual nanostructures for single photon generation. Proceedings of SPIE, 2010, , .	0.8	1
75	Surface acoustic wave controlled carrier injection into selfâ€assembled quantum dots and quantum posts. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 407-410.	0.8	1
76	Handy nanoquakes. Nature Materials, 2022, 21, 499-501.	13.3	1
77	Nonlinear optical microscopy of a single self-assembled InGaAs quantum dot. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 4009-4012.	0.8	0
78	Optical Properties of Quantum Dots and Quantum Posts. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
79	High-frequency tuning of photonic crystal defect cavity modes using surface acoustic waves. Proceedings of SPIE, 2010, , .	0.8	0
80	Probing ultrafast charge and spin dynamics in a quantum dot molecule. , 2012, , .		0
81	Acousto-mechanical tuning of photonic crystal nanocavity modes. , 2013, , .		0
82	Surface acoustic wave-driven carrier dynamics as a contact-less probe for mobilities of photogenerated carriers in undoped nanowires. , 2013, , .		0
83	Time domain investigation of radio frequency acousto-mechanical tuning of photonic crystal nanocavity modes. , 2013, , .		0
84	Nanothermochromic diffraction gratings with giant switching contrast based on the metal-insulator transition of vanadium dioxide. Proceedings of SPIE, 2013, , .	0.8	0
85	Optical Preparation of Stable Supercooled VO_2 Nanocrystals: A Route Towards Reconfigurable Photonic Devices for Telecom Wavelengths. , 2014, , .		0
86	Active Plasmonics with Surface Acoustic Waves: Dynamic Electro-Mechanical Control over a Surface Plasmon Polariton Launcher. , 2014, , .		0
87	Large-area grown MoS<inf>2</inf> and its integration in geometrically tunable photonic crystal cavities. , 2017, , .		0
88	Integration of Single Quantum Dots in Suspended Phononic Waveguides. , 2019, , .		0
89	Probing Charge and Spin Excitations in Quantum Dots and Molecules. , 2005, , .		0
90	Nonlinear Optical Microscopy of a Single Self-assembled InGaAs Quantum Dot. , 2006, , .		0

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91	Recent progress on the scalable fabrication of hybrid polymer/SiO2 nanophotonic cavity arrays with an encapsulated MoS2 film. , 2018, , .		0
92	Integrated quantum dot optomechanics. , 2020, , .		0
93	Picosecond Spin-Preserving Carrier Capture in InGaAs/GaAs Quantum Dots. , 2006, , 41-44.		0