Peer Fischer

List of Publications by Year
in descending order

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139 papers	10,097 citations	66343 42 h-index	34986 98 g-index
148 all docs	148 docs citations	148 times ranked	9275 citing authors

#	Article	IF	Citations
1	Controlled Propulsion of Artificial Magnetic Nanostructured Propellers. Nano Letters, 2009, 9, 2243-2245.	9.1	1,118
2	The grand challenges of Science Robotics. Science Robotics, 2018, 3, .	17.6	787
3	Structured light enables biomimetic swimming and versatile locomotion of photoresponsive softÂmicrorobots. Nature Materials, 2016, 15, 647-653.	27.5	757
4	Holograms for acoustics. Nature, 2016, 537, 518-522.	27.8	571
5	Bioinspired microrobots. Nature Reviews Materials, 2018, 3, 113-124.	48.7	472
6	Hybrid nanocolloids with programmed three-dimensional shape and material composition. Nature Materials, 2013, 12, 802-807.	27.5	432
7	A swarm of slippery micropropellers penetrates the vitreous body of the eye. Science Advances, 2018, 4, eaat4388.	10.3	402
8	Swimming by reciprocal motion at low Reynolds number. Nature Communications, 2014, 5, 5119.	12.8	349
9	Nanopropellers and Their Actuation in Complex Viscoelastic Media. ACS Nano, 2014, 8, 8794-8801.	14.6	286
10	Self-Propelling Nanomotors in the Presence of Strong Brownian Forces. Nano Letters, 2014, 14, 2407-2412.	9.1	257
11	Enzymatically active biomimetic micropropellers for the penetration of mucin gels. Science Advances, 2015, 1, e1500501.	10.3	254
12	Magnetically actuated propulsion at low Reynolds numbers: towards nanoscale control. Nanoscale, 2011, 3, 557-563.	5.6	250
13	Nonâ€Equilibrium Assembly of Lightâ€Activated Colloidal Mixtures. Advanced Materials, 2017, 29, 1701328.	21.0	216
14	Nonlinear optical spectroscopy of chiral molecules. Chirality, 2005, 17, 421-437.	2.6	213
15	Dispersion and shape engineered plasmonic nanosensors. Nature Communications, 2016, 7, 11331.	12.8	154
16	Soft 3D-Printed Phantom of the Human Kidney with Collecting System. Annals of Biomedical Engineering, 2017, 45, 963-972.	2.5	127
17	Acoustic Holographic Cell Patterning in a Biocompatible Hydrogel. Advanced Materials, 2020, 32, e1904181.	21.0	127
18	Magnetic Propulsion of Microswimmers with DNA-Based Flagellar Bundles. Nano Letters, 2016, 16, 906-910.	9.1	122

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19	Three-Wave Mixing in Chiral Liquids. Physical Review Letters, 2000, 85, 4253-4256.	7.8	115
20	Chiral Colloidal Molecules And Observation of The Propeller Effect. Journal of the American Chemical Society, 2013, 135, 12353-12359.	13.7	107
21	Nanohelices by shadow growth. Nanoscale, 2014, 6, 9457-9466.	5.6	105
22	Acoustic Fabrication via the Assembly and Fusion of Particles. Advanced Materials, 2018, 30, 1704507.	21.0	103
23	Photogravitactic Microswimmers. Advanced Functional Materials, 2018, 28, 1706660.	14.9	96
24	Lightâ€€Controlled Micromotors and Soft Microrobots. Advanced Optical Materials, 2019, 7, 1900370.	7.3	91
25	Ultrasound-Responsive Systems as Components for Smart Materials. Chemical Reviews, 2022, 122, 5165-5208.	47.7	89
26	Biocompatible Magnetic Microâ€•and Nanodevices: Fabrication of FePt Nanopropellers and Cell Transfection. Advanced Materials, 2020, 32, e2001114.	21.0	86
27	Chiral Molecules Split Light: Reflection and Refraction in a Chiral Liquid. Physical Review Letters, 2006, 97, 173002.	7.8	83
28	Chemotaxis of Active Janus Nanoparticles. Nano Letters, 2018, 18, 5345-5349.	9.1	83
29	Chiral Plasmonic Hydrogen Sensors. Small, 2018, 14, 1702990.	10.0	76
30	Magnesium plasmonics for UV applications and chiral sensing. Chemical Communications, 2016, 52, 12179-12182.	4.1	72
31	Chiral Nanomagnets. ACS Photonics, 2014, 1, 1231-1236.	6.6	70
32	Surface roughness-induced speed increase for active Janus micromotors. Chemical Communications, 2015, 51, 8660-8663.	4.1	68
33	Diffusion Measurements of Swimming Enzymes with Fluorescence Correlation Spectroscopy. Accounts of Chemical Research, 2018, 51, 1911-1920.	15.6	67
34	Progress in robotics for combating infectious diseases. Science Robotics, 2021, 6, .	17.6	67
35	Weak value amplified optical activity measurements. Optics Express, 2011, 19, 16508.	3.4	66
36	Negative Refraction at Optical Frequencies in Nonmagnetic Two-Component Molecular Media. Physical Review Letters, 2005, 95, 067402.	7.8	65

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37	Spatial ultrasound modulation by digitally controlling microbubble arrays. Nature Communications, 2020, 11, 4537.	12.8	61
38	Active Nanorheology with Plasmonics. Nano Letters, 2016, 16, 4887-4894.	9.1	57
39	Optical and Thermophoretic Control of Janus Nanopen Injection into Living Cells. Nano Letters, 2018, 18, 7935-7941.	9.1	54
40	Wireless powering of e -swimmers. Scientific Reports, 2014, 4, 6705.	3.3	50
41	Strong Rotational Anisotropies Affect Nonlinear Chiral Metamaterials. Advanced Materials, 2017, 29, 1605110.	21.0	50
42	Acoustic Hologram Enhanced Phased Arrays for Ultrasonic Particle Manipulation. Physical Review Applied, 2019, 12, .	3.8	49
43	Large Area Patterning of Nanoparticles and Nanostructures: Current Status and Future Prospects. ACS Nano, 2021, 15, 5861-5875.	14.6	46
44	Chemical micromotors self-assemble and self-propel by spontaneous symmetry breaking. Chemical Communications, 2018, 54, 11933-11936.	4.1	44
45	Quantum-Cascade Laser-Based Vibrational Circular Dichroism. Journal of the American Chemical Society, 2011, 133, 5704-5707.	13.7	41
46	Auxetic metamaterial simplifies soft robot design. , 2016, , .		39
47	Swelling and shrinking behaviour of photoresponsive phosphonium-based ionogel microstructures. Sensors and Actuators B: Chemical, 2014, 194, 105-113.	7.8	38
48	Arrays of Plasmonic Nanoparticle Dimers with Defined Nanogap Spacers. ACS Nano, 2019, 13, 11453-11459.	14.6	38
49	Absolute Asymmetric Reduction Based on the Relative Orientation of Achiral Reactants. Angewandte Chemie - International Edition, 2009, 48, 6857-6860.	13.8	37
50	Ab initio investigation of the sum-frequency hyperpolarizability of small chiral molecules. Chemical Physics Letters, 2000, 331, 83-88.	2.6	36
51	Spectrally Selective and Highly Sensitive UV Photodetection with UVâ€A,C Band Specific Polarity Switching in Silver Plasmonic Nanoparticle Enhanced Gallium Oxide Thinâ€Film. Advanced Optical Materials, 2020, 8, 2000212.	7.3	35
52	Nanodiamonds That Swim. Advanced Materials, 2017, 29, 1701024.	21.0	34
53	Pattern formation and collective effects in populations of magnetic microswimmers. Journal Physics D: Applied Physics, 2017, 50, 11LT03.	2.8	34
54	Absolute diffusion measurements of active enzyme solutions by NMR. Journal of Chemical Physics, 2019, 150, 124201.	3.0	34

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55	Isotropic second-order nonlinear optical susceptibilities. Physical Review A, 2001, 64, .	2.5	33
56	Grapheneâ€“silver hybrid devices for sensitive photodetection in the ultraviolet. Nanoscale, 2018, 10, 7685-7693.	5.6	32
57	Self-Assembled Phage-Based Colloids for High Localized Enzymatic Activity. ACS Nano, 2019, 13, 5810-5815.	14.6	32
58	Active colloidal propulsion over a crystalline surface. New Journal of Physics, 2017, 19, 125010.	2.9	29
59	Science for robotics and robotics for science. Science Robotics, 2016, 1, .	17.6	27
60	Role of symmetry in driven propulsion at low Reynolds number. Physical Review E, 2018, 98, .	2.1	27
61	Chemical Nanomotors at the Gram Scale Form a Dense Active Optorheological Medium. Advanced Materials, 2019, 31, e1807382.	21.0	27
62	Microchannels with Self-Pumping Walls. ACS Nano, 2020, 14, 13673-13680.	14.6	26
63	Comment on â€œBoosted molecular mobility during common chemical reactionsâ€• Science, 2021, 371, .	12.6	26
64	A High-Fidelity Phantom for the Simulation and Quantitative Evaluation of Transurethral Resection of the Prostate. Annals of Biomedical Engineering, 2020, 48, 437-446.	2.5	25
65	Sign of the refractive index in a gain medium with negative permittivity and permeability. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 45.	2.1	21
66	Observation of the Faraday effect via beam deflection in a longitudinal magnetic field. Physical Review A, 2007, 76, .	2.5	21
67	Wireless Acoustic-Surface Actuators for Miniaturized Endoscopes. ACS Applied Materials & Interfaces, 2017, 9, 42536-42543.	8.0	21
68	Chiroptical spectroscopy of a freely diffusing single nanoparticle. Nature Communications, 2020, 11, 4513.	12.8	21
69	Capture of 2D Microparticle Arrays via a UVâ€Triggered Thiolâ€yne â€œClickâ€•Reaction. Advanced Materials, 2016, 28, 9846-9850.	21.0	20
70	Corrosionâ€Protected Hybrid Nanoparticles. Advanced Science, 2017, 4, 1700234.	11.2	20
71	Active Acoustic Surfaces Enable the Propulsion of a Wireless Robot. Advanced Materials Interfaces, 2017, 4, 1700933.	3.7	18
72	Intelligent Nano/Micromotors: Using Free Energy To Fabricate Organized Systems Driven Far from Equilibrium. Accounts of Chemical Research, 2018, 51, 2979-2979.	15.6	18

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73	Nanomotors. European Physical Journal: Special Topics, 2016, 225, 2241-2254.	2.6	17
74	Optical Activity in Thirdâ€Harmonic Rayleigh Scattering: A New Route for Measuring Chirality. Laser and Photonics Reviews, 2021, 15, 2100235.	8.7	17
75	Indirect absorption spectroscopy using quantum cascade lasers: mid-infrared refractometry and photothermal spectroscopy. Optics Express, 2013, 21, 25643.	3.4	16
76	Light- and magnetically actuated FePt microswimmers. European Physical Journal E, 2021, 44, 74.	1.6	16
77	Ring-resonator-based frequency-domain optical activity measurements of a chiral liquid. Optics Letters, 2006, 31, 453.	3.3	15
78	Shape control in wafer-based aperiodic 3D nanostructures. Nanotechnology, 2014, 25, 235302.	2.6	15
79	Dynamic Inclusion Complexes of Metal Nanoparticles Inside Nanocups. Angewandte Chemie - International Edition, 2015, 54, 6730-6734.	13.8	15
80	On-chip enzymatic microbiofuel cell-powered integrated circuits. Lab on A Chip, 2017, 17, 1761-1768.	6.0	15
81	Circular differential double diffraction in chiral media. Optics Letters, 2007, 32, 1836.	3.3	14
82	Selectable Nanopattern Arrays for Nanolithographic Imprint and Etchâ€Mask Applications. Advanced Science, 2015, 2, 1500016.	11.2	14
83	New materials for next-generation robots. Science Robotics, 2018, 3, .	17.6	14
84	Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly. Advanced Materials, 2020, 32, e2003439.	21.0	14
85	Investigating photoresponsivity of graphene-silver hybrid nanomaterials in the ultraviolet. Journal of Chemical Physics, 2020, 152, 044709.	3.0	14
86	Uphill production of dihydrogen by enzymatic oxidation of glucose without an external energy source. Nature Communications, 2018, 9, 3229.	12.8	13
87	Dynamic Acoustic Levitator Based On Subwavelength Aperture Control. Advanced Science, 2021, 8, e2100888.	11.2	13
88	Following Molecular Mobility during Chemical Reactions: No Evidence for Active Propulsion. Journal of the American Chemical Society, 2021, 143, 20884-20890.	13.7	13
89	Tiny robots make big advances. Science Robotics, 2021, 6, .	17.6	12
90	Plasmonic Nanostructure Engineering with Shadow Growth. Advanced Materials, 2023, 35, e2107917.	21.0	12

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91	Frequency-domain displacement sensing with a fiber ring-resonator containing a variable gap. Sensors and Actuators A: Physical, 2007, 134, 410-413.	4.1	10
92	Gait Learning for Soft Microrobots Controlled by Light Fields. , 2018, , .		10
93	Vision Statement: Interactive Materialsâ€"Drivers of Future Robotic Systems. Advanced Materials, 2020, 32, e1905953.	21.0	10
94	Amplification of Acoustic Forces Using Microbubble Arrays Enables Manipulation of Centimeter-Scale Objects. Physical Review Letters, 2022, 128, .	7.8	10
95	Active microrheology of the vitreous of the eye applied to nanorobot propulsion. , 2014, , .		8
96	A Hierarchical 3D TiO₂/Ni Nanostructure as an Efficient Holeâ€Extraction and Protection Layer for GaAs Photoanodes. ChemSusChem, 2020, 13, 6028-6036.	6.8	8
97	Comment on â€œUsing NMR to Test Molecular Mobility during a Chemical Reactionâ€. Journal of Physical Chemistry Letters, 2021, 12, 5932-5937.	4.6	8
98	Dynamic Ultrasound Projector Controlled by Light. Advanced Science, 2022, 9, e2104401.	11.2	8
99	Chen, Fischer, and Wise Reply:. Physical Review Letters, 2006, 96, .	7.8	7
100	Chen, Fischer, and Wise Reply:. Physical Review Letters, 2007, 98, .	7.8	7
101	Micro- and nanorobots in Newtonian and biological viscoelastic fluids. , 2017, , 133-162.		7
102	A machine from machines. Nature Physics, 2018, 14, 1072-1073.	16.7	7
103	Characterization of active matter in dense suspensions with heterodyne laser Doppler velocimetry. Colloid and Polymer Science, 2021, 299, 269-280.	2.1	7
104	Combinatorial growth of multinary nanostructured thin functional films. Materials Today, 2021, 50, 89-99.	14.2	7
105	Chirality-Specific Nonlinear Spectroscopies in Isotropic Media. Bulletin of the Chemical Society of Japan, 2002, 75, 1119-1124.	3.2	6
106	Actively coupled cavity ringdown spectroscopy with low-power broadband sources. Optics Express, 2011, 19, 10164.	3.4	6
107	A loop-gap resonator for chirality-sensitive nuclear magneto-electric resonance (NMER). Journal of Chemical Physics, 2016, 145, 104201.	3.0	6
108	Soft Miniaturized Linear Actuators Wirelessly Powered by Rotating Permanent Magnets. , 2018, , .		6

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109	Soft Phantom for the Training of Renal Calculi Diagnostics and Lithotripsy. , 2019, 2019, 3716-3719.		6
110	Fourier-transform photocurrent spectroscopy using a supercontinuum light source. Applied Physics Letters, 2012, 100, 061108.	3.3	5
111	Optical Response of a Chiral Liquid. ACS Symposium Series, 2002, , 119-129.	0.5	4
112	A Magnetic Actuation System for the Active Microrheology in Soft Biomaterials. , 2019, , .		4
113	Toward Maximally Electromagnetically Chiral Scatterers at Optical Frequencies. ACS Photonics, 2022, 9, 1954-1964.	6.6	4
114	Locomotion of light-driven soft microrobots through a hydrogel via local melting. , 2017, , .		3
115	Genetically Modified M13 Bacteriophage Nanonets for Enzyme Catalysis and Recovery. Catalysts, 2019, 9, 723.	3.5	3
116	Acoustofluidic Tweezers for the 3D Manipulation of Microparticles. , 2020, , .		3
117	Magnetic Micro-/Nanopropellers for Biomedicine. , 2022, , 389-411.		3
118	3D nanofabrication on complex seed shapes using glancing angle deposition. , 2014, , .		2
119	3D-printed soft microrobot for swimming in biological fluids. , 2015, 2015, 4922-5.		2
120	Soft continuous microrobots with multiple intrinsic degrees of freedom. , 2016, , .		2
121	Nanodiamonds: Nanodiamonds That Swim (Adv. Mater. 30/2017). Advanced Materials, 2017, 29, .	21.0	2
122	Soft Continuous Surface for Micromanipulation driven by Light-controlled Hydrogels. , 2019, , .		2
123	Panoramic Imaging Assessment of Different Bladder Phantoms â€“ An Evaluation Study. Urology, 2021, 156, e103-e110.	1.0	2
124	Five years of Science Robotics. Science Robotics, 2021, 6, eabn2720.	17.6	2
125	Sum-Frequency Generation at Second Order in Isotropic Chiral Systems: The Microscopic View and the Surprising Fragility of the Signal. ACS Symposium Series, 2002, , 130-144.	0.5	1
126	From Nanohelices to Magnetically Actuated Microdrills: A Universal Platform for Some of the Smallest Untethered Microrobotic Systems for Low Reynolds Number and Biological Environments. Lecture Notes in Computer Science, 2014, , 53-65.	1.3	1

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127	Towards photo-induced swimming: actuation of liquid crystalline elastomer in water. Proceedings of SPIE, 2016, , .	0.8	1
128	Wireless actuator based on ultrasonic bubble streaming. , 2016, , .		1
129	Molybdenum Disulfide: Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly (Adv. Mater. 43/2020). Advanced Materials, 2020, 32, 2070324.	21.0	1
130	Nonlinear Optical Properties of Chiral Liquids. Challenges and Advances in Computational Chemistry and Physics, 2006, , 359-381.	0.6	1
131	NANOSCALE ROBOTIC AGENTS IN BIOLOGICAL FLUIDS AND TISSUES. , 2018, , 19-42.		1
132	Diffusion mechanisms of DNA in agarose gels - NMR Studies and Monte Carlo Simulations. Journal of Chemical Physics, 0, , .	3.0	1
133	Acoustic Micro-Manipulation and Its Biomedical Applications. Engineering, 2023, 24, 13-16.	6.7	1
134	Eine neue Form von Cavity Enhanced Absorption Spectroscopy. TM Technisches Messen, 2012, 79, 10-16.	0.7	0
135	Frontispiece: Dynamic Inclusion Complexes of Metal Nanoparticles Inside Nanocups. Angewandte Chemie - International Edition, 2015, 54, .	13.8	0
136	Akustische Hologramme steuern Partikel. Physik in Unserer Zeit, 2017, 48, 9-10.	0.0	0
137	Acoustic Surfaces: Active Acoustic Surfaces Enable the Propulsion of a Wireless Robot (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overl	3.7	0
138	Hybrid Nanoparticles: Corrosionâ€Protected Hybrid Nanoparticles (Adv. Sci. 12/2017). Advanced Science, 2017, 4, 1770059.	11.2	0
139	Optical Activity at Interfaces. , 2009, , .		0