

Bert Hecht

List of Publications by Year in descending order

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162
papers

15,623
citations

53789
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27402
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182
all docs

182
docs citations

182
times ranked

12558
citing authors

#	ARTICLE	IF	CITATIONS
1	Color-Switchable Subwavelength Organic Light-Emitting Antennas. Nano Letters, 2022, 22, 1032-1038.	9.1	4
2	Atomically Smooth Single-Crystalline Platform for Low-Loss Plasmonic Nanocavities. Nano Letters, 2022, 22, 1786-1794.	9.1	13
3	Light-driven microdrones. Nature Nanotechnology, 2022, 17, 477-484.	31.5	36
4	Nanoscale Electrical Excitation of Distinct Modes in Plasmonic Waveguides. Nano Letters, 2021, 21, 4225-4230.	9.1	9
5	Driving plasmonic nanoantennas at perfect impedance matching using generalized coherent perfect absorption. Nanophotonics, 2021, 10, 1879-1887.	6.0	7
6	The patterning toolbox FIB-o-mat: Exploiting the full potential of focused helium ions for nanofabrication. Beilstein Journal of Nanotechnology, 2021, 12, 304-318.	2.8	13
7	Near-infrared nanospectroscopy using a low-noise supercontinuum source. APL Photonics, 2021, 6, .	5.7	18
8	Single quantum emitter Dicke enhancement. Physical Review Research, 2021, 3, .	3.6	4
9	Electrically-driven Yagi-Uda antennas for light. Nature Communications, 2020, 11, 115.	12.8	81
10	Mono-crystalline gold platelets: a high-quality platform for surface plasmon polaritons. Nanophotonics, 2020, 9, 509-522.	6.0	21
11	Evidence of Cascaded Third-Harmonic Generation in Noncentrosymmetric Gold Nanoantennas. Nano Letters, 2019, 19, 7013-7020.	9.1	23
12	Time-resolved photoemission electron microscopy of a plasmonic slit resonator using 1 MHz, 25 fs, UV-to-NIR-tunable pulses. EPJ Web of Conferences, 2019, 205, 08002.	0.3	1
13	Nonclassical Optical Properties of Mesoscopic Gold. Physical Review Letters, 2019, 122, 246802.	7.8	10
14	Spatial Variations in Femtosecond Field Dynamics within a Plasmonic Nanoresonator Mode. Nano Letters, 2019, 19, 4651-4658.	9.1	14
15	Reversible Mapping and Sorting the Spin of Photons on the Nanoscale: A Spin-Optical Nanodevice. Nano Letters, 2019, 19, 3364-3369.	9.1	20
16	Space- and time-resolved UV-to-NIR surface spectroscopy and 2D nanoscopy at 1 MHz repetition rate. Review of Scientific Instruments, 2019, 90, 113103.	1.3	23
17	Near-field strong coupling of single quantum dots. Science Advances, 2018, 4, eaar4906.	10.3	175
18	Gap-mode-assisted light-induced switching of sub-wavelength magnetic domains. Journal of Applied Physics, 2018, 123, 143102.	2.5	0

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19	Controlled Growth of High-Aspect-Ratio Single-Crystalline Gold Platelets. Crystal Growth and Design, 2018, 18, 1297-1302.	3.0	42
20	Limits of Kirchhoff's Laws in Plasmonics. Scientific Reports, 2018, 8, 1921.	3.3	2
21	Parallel mapping of optical near-field interactions by molecular motor-driven quantum dots. Nature Nanotechnology, 2018, 13, 691-695.	31.5	16
22	High-Q, low-mode-volume and multiresonant plasmonic nanoslit cavities fabricated by helium ion milling. Nanoscale, 2018, 10, 17148-17155.	5.6	22
23	Directed emission by electrically-driven optical antennas. , 2018, , .		4
24	Interference in edge-scattering from monocrystalline gold flakes [Invited]. Optical Materials Express, 2018, 8, 3688.	3.0	18
25	On-Chip Single-Plasmon Nanocircuit Driven by a Self-Assembled Quantum Dot. Nano Letters, 2017, 17, 4291-4296.	9.1	30
26	Three-dimensional photonic confinement in imprinted liquid crystalline pillar microcavities. Applied Physics Letters, 2017, 110, .	3.3	6
27	Transmission of Plasmons through a Nanowire. ACS Photonics, 2017, 4, 1615-1620.	6.6	11
28	Cavity-assisted ultrafast long-range periodic energy transfer between plasmonic nanoantennas. Light: Science and Applications, 2017, 6, e17111-e17111.	16.6	33
29	Mode Matching for Optical Antennas. Physical Review Letters, 2017, 119, 217401.	7.8	13
30	Plasmonic nanoantenna design and fabrication based on evolutionary optimization. Optics Express, 2017, 25, 10828.	3.4	21
31	Grazing-incidence optical magnetic recording with super-resolution. Beilstein Journal of Nanotechnology, 2017, 8, 28-37.	2.8	4
32	Two-photon polymerization setup enables experimental mapping and correction of spherical aberrations for improved macroscopic structure fabrication. Optics Letters, 2016, 41, 4269.	3.3	12
33	Investigation of the nonlinear refractive index of single-crystalline thin gold films and plasmonic nanostructures. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	4
34	Polarization dependence of plasmonic near-field enhanced photoemission from cross antennas. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	5
35	Normal-Incidence PEEM Imaging of Propagating Modes in a Plasmonic Nanocircuit. Nano Letters, 2016, 16, 6832-6837.	9.1	28
36	Electromechanically Tunable Suspended Optical Nanoantenna. Nano Letters, 2016, 16, 2680-2685.	9.1	18

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37	Single-crystalline gold microplates grown on substrates by solution-phase synthesis. Crystal Research and Technology, 2015, 50, 595-602.	1.3	34
38	Elektrisch betriebene Nano-Antenne erzeugt Licht. Physik in Unserer Zeit, 2015, 46, 267-268.	0.0	0
39	Mode matching in multiresonant plasmonic nanoantennas for enhanced second harmonic generation. Nature Nanotechnology, 2015, 10, 412-417.	31.5	421
40	Silica-gold bilayer-based transfer of focused ion beam-fabricated nanostructures. Nanoscale, 2015, 7, 16427-16433.	5.6	5
41	Compensation of spherical aberration influences for two-photon polymerization patterning of large 3D scaffolds. Applied Physics A: Materials Science and Processing, 2015, 121, 187-191.	2.3	8
42	Robustness of plasmonic angular momentum confinement in cross resonant optical antennas. Applied Physics Letters, 2015, 106, .	3.3	11
43	Nanoscale Confinement of All-Optical Magnetic Switching in TbFeCo - Competition with Nanoscale Heterogeneity. Nano Letters, 2015, 15, 6862-6868.	9.1	126
44	Electrically driven optical antennas. Nature Photonics, 2015, 9, 582-586.	31.4	236
45	Emission Engineering in Germanium Nanoresonators. ACS Photonics, 2015, 2, 53-59.	6.6	27
46	Shaping and spatiotemporal characterization of sub-10-fs pulses focused by a high-NA objective. Optics Express, 2014, 22, 31496.	3.4	15
47	Remote detection of single emitters via optical waveguides. Physical Review A, 2014, 89, .	2.5	8
48	Coherent Control of Plasmon Propagation in a Nanocircuit. Physical Review Applied, 2014, 1, .	3.8	51
49	Multimode Plasmon Excitation and In-Situ Analysis in Top-Down Fabricated Nanocircuits. Physical Review Letters, 2013, 111, 183901.	7.8	42
50	Dynamics of two-photon photoluminescence in gold nanostructures. Proceedings of SPIE, 2012, , .	0.8	0
51	Spectral-interference microscopy for characterization of functional plasmonic elements. Optics Express, 2012, 20, 14632.	3.4	8
52	Propagation and focusing of optical fields. , 2012, , 45-85.		4
53	Resolution and localization. , 2012, , 86-130.		1
54	Quantum emitters. , 2012, , 282-312.		1

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55	Dipole emission near planar interfaces. , 2012, , 313-337.		2
56	Surface plasmons. , 2012, , 369-413.		8
57	Optical antennas. , 2012, , 414-447.		3
58	Ultrafast Plasmon Propagation in Nanowires Characterized by Far-Field Spectral Interferometry. Nano Letters, 2012, 12, 45-49.	9.1	78
59	Atomic-Scale Confinement of Resonant Optical Fields. Nano Letters, 2012, 12, 5504-5509.	9.1	129
60	Dynamics of Four-Photon Photoluminescence in Gold Nanoantennas. Nano Letters, 2012, 12, 2941-2947.	9.1	81
61	Evolutionary Optimization of Optical Antennas. Physical Review Letters, 2012, 109, 127701.	7.8	118
62	Circular Dichroism Probed by Two-Photon Fluorescence Microscopy in Enantiopure Chiral Polyfluorene Thin Films. Journal of the American Chemical Society, 2012, 134, 5832-5835.	13.7	28
63	Nanoantennas for visible and infrared radiation. Reports on Progress in Physics, 2012, 75, 024402.	20.1	736
64	Electrically Connected Resonant Optical Antennas. Nano Letters, 2012, 12, 3915-3919.	9.1	76
65	Spontaneous Formation of Left- and Right-Handed Cholesterically Ordered Domains in an Enantiopure Chiral Polyfluorene Film. Journal of Physical Chemistry Letters, 2011, 2, 1359-1362.	4.6	15
66	Tailoring the interaction between matter and polarized light with plasmonic optical antennas. Proceedings of SPIE, 2011, , .	0.8	3
67	Multi-photon Autocorrelation in Gold Nanostructures. , 2011, , .		0
68	Plasmonic Resonators Based on Two-Wire Transmission Lines. , 2010, , .		0
69	Fast Quantitative Single-Molecule Detection at Ultralow Concentrations. Analytical Chemistry, 2010, 82, 6299-6302.	6.5	28
70	Subwavelength broadband splitters and switches for femtosecond plasmonic signals. Optics Express, 2010, 18, 11810.	3.4	31
71	Atomically flat single-crystalline gold nanostructures for plasmonic nanocircuitry. Nature Communications, 2010, 1, 150.	12.8	374
72	Mode Imaging and Selection in Strongly Coupled Nanoantennas. Nano Letters, 2010, 10, 2105-2110.	9.1	136

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73	Two-photon Polymerization as Method for the Fabrication of Large Scale Biomedical Scaffold Applications. Journal of Laser Micro Nanoengineering, 2010, 5, 209-212.	0.1	16
74	Cross Resonant Optical Antenna. Physical Review Letters, 2009, 102, 256801.	7.8	179
75	Impedance Matching and Emission Properties of Nanoantennas in an Optical Nanocircuit. Nano Letters, 2009, 9, 1897-1902.	9.1	211
76	Near-field polarization shaping by a near-resonant plasmonic cross antenna. Physical Review B, 2009, 80, .	3.2	91
77	Deterministic spatiotemporal control of optical fields in nanoantennas and plasmonic circuits. Physical Review B, 2009, 79, .	3.2	62
78	Dependence of the two-photon photoluminescence yield of gold nanostructures on the laser pulse duration. Physical Review B, 2009, 80, .	3.2	87
79	Detection of Transient Events in the Presence of Background Noise. Journal of Physical Chemistry B, 2008, 112, 7140-7144.	2.6	7
80	A simple method for producing flattened atomic force microscopy tips. Review of Scientific Instruments, 2008, 79, 016103.	1.3	5
81	Near-field optics seen as an antenna problem. , 2007, , .		0
82	Bow-tie optical antenna probes for single-emitter scanning near-field optical microscopy. Nanotechnology, 2007, 18, 125506.	2.6	110
83	Propagation and focusing of optical fields. , 2006, , 45-88.		10
84	Dipole emission near planar interfaces. , 2006, , 335-362.		3
85	Forces in confined fields. , 2006, , 419-445.		2
86	Single Hepatitis-B Virus Core Capsid Binding to Individual Nuclear Pore Complexes in HeLa Cells. Biophysical Journal, 2006, 91, 3123-3130.	0.5	15
87	Fast determination of saturation intensity and maximum emission rate by single-emitter imaging. Optics Express, 2006, 14, 9350.	3.4	1
88	Spatial resolution and position accuracy. , 2006, , 89-133.		6
89	Surface plasmons. , 2006, , 378-418.		14
90	Prospects of Resonant Optical Antennas for Nano-Analysis. Chimia, 2006, 60, 765-769.	0.6	25

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91	Single-Molecule Spectroscopy of Uniaxially Oriented Terrylene in Polyethylene. ChemPhysChem, 2006, 7, 261-265.	2.1	9
92	Resorcin[4]arene Cavitand-Based Molecular Switches. Advanced Functional Materials, 2006, 16, 147-156.	14.9	92
93	Aperture scanning near-field optical microscopy and spectroscopy of single terrylene molecules at 1.8 K. Nanotechnology, 2006, 17, 1547-1550.	2.6	5
94	Glue-free tuning fork shear-force microscope. Review of Scientific Instruments, 2006, 77, 016105.	1.3	12
95	Stark-shift microscopy of single emitters. Applied Physics Letters, 2006, 89, 023106.	3.3	3
96	Absorption and fluorescence of single molecules. Journal of Chemical Physics, 2006, 125, 154710.	3.0	10
97	Excitation and superfocusing of surface plasmon polaritons on a silver-coated optical fiber tip. Optics Communications, 2005, 253, 118-124.	2.1	121
98	Kinetics of the Initial Steps of G Protein-Coupled Receptor-Mediated Cellular Signaling Revealed by Single-Molecule Imaging. ChemPhysChem, 2005, 6, 1633-1640.	2.1	35
99	Single Quantum Dot Coupled to a Scanning Optical Antenna: A Tunable Superemitter. Physical Review Letters, 2005, 95, 017402.	7.8	555
100	Resonant Optical Antennas. Science, 2005, 308, 1607-1609.	12.6	1,988
101	Nano-optics with single quantum systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 881-899.	3.4	8
102	Single dye molecules in an oxygen-depleted environment as photostable organic triggered single-photon sources. Applied Physics Letters, 2004, 84, 1665-1667.	3.3	26
103	Synthesis and Conformational Switching of Partially and Differentially Bridged Resorcin[4]arenes Bearing Fluorescent Dye Labels. Preliminary Communication. Helvetica Chimica Acta, 2003, 86, 2149-2155.	1.6	48
104	Single-molecule near-field optical energy transfer microscopy with dielectric tips. Journal of Microscopy, 2003, 209, 249-253.	1.8	11
105	Fabricating Arrays of Single Protein Molecules on Glass Using Microcontact Printing. Journal of Physical Chemistry B, 2003, 107, 703-711.	2.6	196
106	Three-dimensional optical polarization tomography of single molecules. Journal of Chemical Physics, 2003, 118, 9824-9829.	3.0	49
107	A cryogenic scanning near-field optical microscope with shear-force gapwidth control. Review of Scientific Instruments, 2002, 73, 2937-2941.	1.3	7
108	Single-molecule near-field optical energy transfer microscopy. Applied Physics Letters, 2002, 81, 2118-2120.	3.3	50

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109	Continuous real-time measurement of fluorescence lifetimes. Review of Scientific Instruments, 2002, 73, 3122-3124.	1.3	12
110	Optical near-field enhancement at a metal tip probed by a single fluorophore. Applied Physics Letters, 2002, 80, 1652-1654.	3.3	87
111	Orientation dependence of fluorescence lifetimes near an interface. Journal of Chemical Physics, 2002, 117, 9430-9433.	3.0	69
112	Molecular rearrangements observed by single-molecule microscopy. Synthetic Metals, 2001, 124, 113-115.	3.9	2
113	Statistical Analysis of Single-Molecule Colocalization Assays. Analytical Chemistry, 2001, 73, 1100-1105.	6.5	31
114	Probing confined fields with single molecules and vice versa. Journal of Microscopy, 2001, 202, 365-373.	1.8	57
115	Photon statistics in single-molecule fluorescence at room temperature. Journal of Luminescence, 2001, 94-95, 805-809.	3.1	4
116	Tip-induced spectral dynamics of single molecules. Chemical Physics Letters, 2001, 340, 77-82.	2.6	12
117	Phase behavior and anisotropic optical properties of photoluminescent polarizers. Macromolecular Symposia, 2000, 154, 105-116.	0.7	8
118	A sample-scanning confocal optical microscope for cryogenic operation. Review of Scientific Instruments, 2000, 71, 1706-1711.	1.3	15
119	Orientational Imaging of Single Molecules by Annular Illumination. Physical Review Letters, 2000, 85, 4482-4485.	7.8	346
120	Nonclassical Photon Statistics in Single-Molecule Fluorescence at Room Temperature. Physical Review Letters, 2000, 84, 1148-1151.	7.8	229
121	Scanning near-field optical microscopy with aperture probes: Fundamentals and applications. Journal of Chemical Physics, 2000, 112, 7761-7774.	3.0	684
122	Optical microscopy of single ions and morphological inhomogeneities in Sm-doped CaF ₂ thin films. Physical Review B, 2000, 62, 11163-11169.	3.2	14
123	Single-Molecule Identification by Spectrally and Time-Resolved Fluorescence Detection. Analytical Chemistry, 2000, 72, 443-447.	6.5	64
124	Single-Molecule Imaging Revealing the Deformation-Induced Formation of a Molecular Polymer Blend. Journal of Physical Chemistry B, 2000, 104, 5221-5224.	2.6	27
125	High-quality near-field optical probes by tube etching. Applied Physics Letters, 1999, 75, 160-162.	3.3	275
126	Implications of high resolution to near-field optical microscopy. Ultramicroscopy, 1998, 71, 341-344.	1.9	30

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127	High photo-stability of single molecules in an organic crystal at room temperature observed by scanning confocal optical microscopy. Molecular Physics, 1998, 95, 1333-1338.	1.7	47
128	Influence of detection conditions on near-field optical imaging. Journal of Applied Physics, 1998, 84, 5873-5882.	2.5	39
129	High photo-stability of single molecules in an organic crystal at room temperature observed by scanning confocal optical microscopy. Molecular Physics, 1998, 95, 1333-1338.	1.7	4
130	Interference of locally excited surface plasmons. Journal of Applied Physics, 1997, 81, 1798-1806.	2.5	120
131	Facts and artifacts in near-field optical microscopy. Journal of Applied Physics, 1997, 81, 2492-2498.	2.5	467
132	Local Excitation, Scattering, and Interference of Surface Plasmons. Physical Review Letters, 1996, 77, 1889-1892.	7.8	469
133	Instrumental developments and recent experiments in near-field optical microscopy. Thin Solid Films, 1996, 273, 149-153.	1.8	6
134	Radiation coupling and image formation in scanning near-field optical microscopy. Thin Solid Films, 1996, 273, 161-167.	1.8	30
135	<title>Tunnel near-field optical microscopy (TNOM-2)</title>. , 1995, 2535, 61.		1
136	Combined aperture SNOM/PSTM: best of both worlds?. Ultramicroscopy, 1995, 57, 228-234.	1.9	52
137	Light confinement in scanning near-field optical microscopy. Ultramicroscopy, 1995, 61, 1-9.	1.9	125
138	â€œTunnelâ€ near-field optical microscopy: TNOM-2. Ultramicroscopy, 1995, 61, 99-104.	1.9	16
139	Piezoresistive cantilevers as optical sensors for scanning near-field microscopy. Ultramicroscopy, 1995, 61, 127-130.	1.9	14
140	Scanning near-field optical microscopy in Basel, Ruschlikon, and Zurich. Optical Engineering, 1995, 34, 2441.	1.0	18
141	Scanning near-field optical probe with ultrasmall spot size. Optics Letters, 1995, 20, 970.	3.3	265
142	Forbidden light scanning nearâ€field optical microscopy. Journal of Microscopy, 1995, 177, 115-118.	1.8	14
143	Near-Field Optical Spectroscopy of Individual Molecules in Solids. Physical Review Letters, 1994, 73, 2764-2767.	7.8	116
144	Near-field optical measurement of the surface plasmon field. Optics Communications, 1993, 96, 225-228.	2.1	80

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145	Nanoscale optical microscopy. , 0, , 134-172.		2
146	Near-field optical probes. , 0, , 173-224.		2
147	Probeâ€“sample distance control. , 0, , 225-249.		0
148	Fluctuation-induced interactions. , 0, , 446-474.		0
149	Theoretical methods in nano-optics. , 0, , 475-499.		0
150	Light emission and optical interactions in nanoscale environments. , 0, , 250-303.		2
151	Photonic crystals and resonators. , 0, , 363-377.		0
152	Quantum emitters. , 0, , 304-334.		0
153	Nanoscale optical microscopy. , 0, , 131-164.		0
154	Localization of light with near-field probes. , 0, , 165-200.		0
155	Probeâ€“sample distance control. , 0, , 201-223.		0
156	Optical interactions. , 0, , 224-281.		3
157	Photonic crystals, resonators, and cavity optomechanics. , 0, , 338-368.		1
158	Optical forces. , 0, , 448-473.		0
159	Fluctuation-induced interactions. , 0, , 474-499.		1
160	Theoretical methods in nano-optics. , 0, , 500-522.		0
161	Fabrication and optical characterization of nanoantennas. , 0, , 215-233.		0
162	All-optical switching of magnetic domains moves one step closer to application. SPIE Newsroom, 0, , .	0.1	0