

Bert Hecht

List of Publications by Year in descending order

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162
papers

15,623
citations

61687

45
h-index

31191

106
g-index

182
all docs

182
docs citations

182
times ranked

14513
citing authors

#	ARTICLE	IF	CITATIONS
1	Color-Switchable Subwavelength Organic Light-Emitting Antennas. Nano Letters, 2022, 22, 1032-1038.	4.5	4
2	Atomically Smooth Single-Crystalline Platform for Low-Loss Plasmonic Nanocavities. Nano Letters, 2022, 22, 1786-1794.	4.5	13
3	Light-driven microdrones. Nature Nanotechnology, 2022, 17, 477-484.	15.6	36
4	Nanoscale Electrical Excitation of Distinct Modes in Plasmonic Waveguides. Nano Letters, 2021, 21, 4225-4230.	4.5	9
5	Driving plasmonic nanoantennas at perfect impedance matching using generalized coherent perfect absorption. Nanophotonics, 2021, 10, 1879-1887.	2.9	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.	1.5	13
7	Near-infrared nanospectroscopy using a low-noise supercontinuum source. APL Photonics, 2021, 6, .	3.0	18
8	Single quantum emitter Dicke enhancement. Physical Review Research, 2021, 3, .	1.3	4
9	Electrically-driven Yagi-Uda antennas for light. Nature Communications, 2020, 11, 115.	5.8	81
10	Mono-crystalline gold platelets: a high-quality platform for surface plasmon polaritons. Nanophotonics, 2020, 9, 509-522.	2.9	21
11	Evidence of Cascaded Third-Harmonic Generation in Noncentrosymmetric Gold Nanoantennas. Nano Letters, 2019, 19, 7013-7020.	4.5	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.	0.1	1
13	Nonclassical Optical Properties of Mesoscopic Gold. Physical Review Letters, 2019, 122, 246802.	2.9	10
14	Spatial Variations in Femtosecond Field Dynamics within a Plasmonic Nanoresonator Mode. Nano Letters, 2019, 19, 4651-4658.	4.5	14
15	Reversible Mapping and Sorting the Spin of Photons on the Nanoscale: A Spin-Optical Nanodevice. Nano Letters, 2019, 19, 3364-3369.	4.5	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.	0.6	23
17	Near-field strong coupling of single quantum dots. Science Advances, 2018, 4, eaar4906.	4.7	175
18	Gap-mode-assisted light-induced switching of sub-wavelength magnetic domains. Journal of Applied Physics, 2018, 123, 143102.	1.1	0

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19	Controlled Growth of High-Aspect-Ratio Single-Crystalline Gold Platelets. <i>Crystal Growth and Design</i> , 2018, 18, 1297-1302.	1.4	42
20	Limits of Kirchhoff's Laws in Plasmonics. <i>Scientific Reports</i> , 2018, 8, 1921.	1.6	2
21	Parallel mapping of optical near-field interactions by molecular motor-driven quantum dots. <i>Nature Nanotechnology</i> , 2018, 13, 691-695.	15.6	16
22	High-Q, low-mode-volume and multiresonant plasmonic nanoslit cavities fabricated by helium ion milling. <i>Nanoscale</i> , 2018, 10, 17148-17155.	2.8	22
23	Directed emission by electrically-driven optical antennas. , 2018, , .		4
24	Interference in edge-scattering from monocrystalline gold flakes [Invited]. <i>Optical Materials Express</i> , 2018, 8, 3688.	1.6	18
25	On-Chip Single-Plasmon Nanocircuit Driven by a Self-Assembled Quantum Dot. <i>Nano Letters</i> , 2017, 17, 4291-4296.	4.5	30
26	Three-dimensional photonic confinement in imprinted liquid crystalline pillar microcavities. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	6
27	Transmission of Plasmons through a Nanowire. <i>ACS Photonics</i> , 2017, 4, 1615-1620.	3.2	11
28	Cavity-assisted ultrafast long-range periodic energy transfer between plasmonic nanoantennas. <i>Light: Science and Applications</i> , 2017, 6, e171111-e171111.	7.7	33
29	Mode Matching for Optical Antennas. <i>Physical Review Letters</i> , 2017, 119, 217401.	2.9	13
30	Plasmonic nanoantenna design and fabrication based on evolutionary optimization. <i>Optics Express</i> , 2017, 25, 10828.	1.7	21
31	Grazing-incidence optical magnetic recording with super-resolution. <i>Beilstein Journal of Nanotechnology</i> , 2017, 8, 28-37.	1.5	4
32	Two-photon polymerization setup enables experimental mapping and correction of spherical aberrations for improved macroscopic structure fabrication. <i>Optics Letters</i> , 2016, 41, 4269.	1.7	12
33	Investigation of the nonlinear refractive index of single-crystalline thin gold films and plasmonic nanostructures. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	1.1	4
34	Polarization dependence of plasmonic near-field enhanced photoemission from cross antennas. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	1.1	5
35	Normal-Incidence PEEM Imaging of Propagating Modes in a Plasmonic Nanocircuit. <i>Nano Letters</i> , 2016, 16, 6832-6837.	4.5	28
36	Electromechanically Tunable Suspended Optical Nanoantenna. <i>Nano Letters</i> , 2016, 16, 2680-2685.	4.5	18

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37	Single-crystalline gold microplates grown on substrates by solution-phase synthesis. <i>Crystal Research and Technology</i> , 2015, 50, 595-602.	0.6	34
38	Elektrisch betriebene Nano-Antenne erzeugt Licht. <i>Physik in Unserer Zeit</i> , 2015, 46, 267-268.	0.0	0
39	Mode matching in multiresonant plasmonic nanoantennas for enhanced second harmonic generation. <i>Nature Nanotechnology</i> , 2015, 10, 412-417.	15.6	421
40	Silica-gold bilayer-based transfer of focused ion beam-fabricated nanostructures. <i>Nanoscale</i> , 2015, 7, 16427-16433.	2.8	5
41	Compensation of spherical aberration influences for two-photon polymerization patterning of large 3D scaffolds. <i>Applied Physics A: Materials Science and Processing</i> , 2015, 121, 187-191.	1.1	8
42	Robustness of plasmonic angular momentum confinement in cross resonant optical antennas. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	11
43	Nanoscale Confinement of All-Optical Magnetic Switching in TbFeCo - Competition with Nanoscale Heterogeneity. <i>Nano Letters</i> , 2015, 15, 6862-6868.	4.5	126
44	Electrically driven optical antennas. <i>Nature Photonics</i> , 2015, 9, 582-586.	15.6	236
45	Emission Engineering in Germanium Nanoresonators. <i>ACS Photonics</i> , 2015, 2, 53-59.	3.2	27
46	Shaping and spatiotemporal characterization of sub-10-fs pulses focused by a high-NA objective. <i>Optics Express</i> , 2014, 22, 31496.	1.7	15
47	Remote detection of single emitters via optical waveguides. <i>Physical Review A</i> , 2014, 89, .	1.0	8
48	Coherent Control of Plasmon Propagation in a Nanocircuit. <i>Physical Review Applied</i> , 2014, 1, .	1.5	51
49	Multimode Plasmon Excitation and In-Situ Analysis in Top-Down Fabricated Nanocircuits. <i>Physical Review Letters</i> , 2013, 111, 183901.	2.9	42
50	Dynamics of two-photon photoluminescence in gold nanostructures. <i>Proceedings of SPIE</i> , 2012, , .	0.8	0
51	Spectral-interference microscopy for characterization of functional plasmonic elements. <i>Optics Express</i> , 2012, 20, 14632.	1.7	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.	4.5	78
59	Atomic-Scale Confinement of Resonant Optical Fields. Nano Letters, 2012, 12, 5504-5509.	4.5	129
60	Dynamics of Four-Photon Photoluminescence in Gold Nanoantennas. Nano Letters, 2012, 12, 2941-2947.	4.5	81
61	Evolutionary Optimization of Optical Antennas. Physical Review Letters, 2012, 109, 127701.	2.9	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.	6.6	28
63	Nanoantennas for visible and infrared radiation. Reports on Progress in Physics, 2012, 75, 024402.	8.1	736
64	Electrically Connected Resonant Optical Antennas. Nano Letters, 2012, 12, 3915-3919.	4.5	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.	2.1	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.	3.2	28
70	Subwavelength broadband splitters and switches for femtosecond plasmonic signals. Optics Express, 2010, 18, 11810.	1.7	31
71	Atomically flat single-crystalline gold nanostructures for plasmonic nanocircuitry. Nature Communications, 2010, 1, 150.	5.8	374
72	Mode Imaging and Selection in Strongly Coupled Nanoantennas. Nano Letters, 2010, 10, 2105-2110.	4.5	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.	0.4	16
74	Cross Resonant Optical Antenna. Physical Review Letters, 2009, 102, 256801.	2.9	179
75	Impedance Matching and Emission Properties of Nanoantennas in an Optical Nanocircuit. Nano Letters, 2009, 9, 1897-1902.	4.5	211
76	Near-field polarization shaping by a near-resonant plasmonic cross antenna. Physical Review B, 2009, 80, .	1.1	91
77	Deterministic spatiotemporal control of optical fields in nanoantennas and plasmonic circuits. Physical Review B, 2009, 79, .	1.1	62
78	Dependence of the two-photon photoluminescence yield of gold nanostructures on the laser pulse duration. Physical Review B, 2009, 80, .	1.1	87
79	Detection of Transient Events in the Presence of Background Noise. Journal of Physical Chemistry B, 2008, 112, 7140-7144.	1.2	7
80	A simple method for producing flattened atomic force microscopy tips. Review of Scientific Instruments, 2008, 79, 016103.	0.6	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.	1.3	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.	0.2	15
87	Fast determination of saturation intensity and maximum emission rate by single-emitter imaging. Optics Express, 2006, 14, 9350.	1.7	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.	0.3	25

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91	Single-Molecule Spectroscopy of Uniaxially Oriented Terrylene in Polyethylene. <i>ChemPhysChem</i> , 2006, 7, 261-265.	1.0	9
92	Resorcin[4]arene Cavitand-Based Molecular Switches. <i>Advanced Functional Materials</i> , 2006, 16, 147-156.	7.8	92
93	Aperture scanning near-field optical microscopy and spectroscopy of single terrylene molecules at 1.8 K. <i>Nanotechnology</i> , 2006, 17, 1547-1550.	1.3	5
94	Glue-free tuning fork shear-force microscope. <i>Review of Scientific Instruments</i> , 2006, 77, 016105.	0.6	12
95	Stark-shift microscopy of single emitters. <i>Applied Physics Letters</i> , 2006, 89, 023106.	1.5	3
96	Absorption and fluorescence of single molecules. <i>Journal of Chemical Physics</i> , 2006, 125, 154710.	1.2	10
97	Excitation and superfocusing of surface plasmon polaritons on a silver-coated optical fiber tip. <i>Optics Communications</i> , 2005, 253, 118-124.	1.0	121
98	Kinetics of the Initial Steps of G Protein-Coupled Receptor-Mediated Cellular Signaling Revealed by Single-Molecule Imaging. <i>ChemPhysChem</i> , 2005, 6, 1633-1640.	1.0	35
99	Single Quantum Dot Coupled to a Scanning Optical Antenna: A Tunable Superemitter. <i>Physical Review Letters</i> , 2005, 95, 017402.	2.9	555
100	Resonant Optical Antennas. <i>Science</i> , 2005, 308, 1607-1609.	6.0	1,988
101	Nano-optics with single quantum systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2004, 362, 881-899.	1.6	8
102	Single dye molecules in an oxygen-depleted environment as photostable organic triggered single-photon sources. <i>Applied Physics Letters</i> , 2004, 84, 1665-1667.	1.5	26
103	Synthesis and Conformational Switching of Partially and Differentially Bridged Resorcin[4]arenes Bearing Fluorescent Dye Labels. Preliminary Communication. <i>Helvetica Chimica Acta</i> , 2003, 86, 2149-2155.	1.0	48
104	Single-molecule near-field optical energy transfer microscopy with dielectric tips. <i>Journal of Microscopy</i> , 2003, 209, 249-253.	0.8	11
105	Fabricating Arrays of Single Protein Molecules on Glass Using Microcontact Printing. <i>Journal of Physical Chemistry B</i> , 2003, 107, 703-711.	1.2	196
106	Three-dimensional optical polarization tomography of single molecules. <i>Journal of Chemical Physics</i> , 2003, 118, 9824-9829.	1.2	49
107	A cryogenic scanning near-field optical microscope with shear-force gapwidth control. <i>Review of Scientific Instruments</i> , 2002, 73, 2937-2941.	0.6	7
108	Single-molecule near-field optical energy transfer microscopy. <i>Applied Physics Letters</i> , 2002, 81, 2118-2120.	1.5	50

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109	Continuous real-time measurement of fluorescence lifetimes. <i>Review of Scientific Instruments</i> , 2002, 73, 3122-3124.	0.6	12
110	Optical near-field enhancement at a metal tip probed by a single fluorophore. <i>Applied Physics Letters</i> , 2002, 80, 1652-1654.	1.5	87
111	Orientation dependence of fluorescence lifetimes near an interface. <i>Journal of Chemical Physics</i> , 2002, 117, 9430-9433.	1.2	69
112	Molecular rearrangements observed by single-molecule microscopy. <i>Synthetic Metals</i> , 2001, 124, 113-115.	2.1	2
113	Statistical Analysis of Single-Molecule Colocalization Assays. <i>Analytical Chemistry</i> , 2001, 73, 1100-1105.	3.2	31
114	Probing confined fields with single molecules and vice versa. <i>Journal of Microscopy</i> , 2001, 202, 365-373.	0.8	57
115	Photon statistics in single-molecule fluorescence at room temperature. <i>Journal of Luminescence</i> , 2001, 94-95, 805-809.	1.5	4
116	Tip-induced spectral dynamics of single molecules. <i>Chemical Physics Letters</i> , 2001, 340, 77-82.	1.2	12
117	Phase behavior and anisotropic optical properties of photoluminescent polarizers. <i>Macromolecular Symposia</i> , 2000, 154, 105-116.	0.4	8
118	A sample-scanning confocal optical microscope for cryogenic operation. <i>Review of Scientific Instruments</i> , 2000, 71, 1706-1711.	0.6	15
119	Orientalional Imaging of Single Molecules by Annular Illumination. <i>Physical Review Letters</i> , 2000, 85, 4482-4485.	2.9	346
120	Nonclassical Photon Statistics in Single-Molecule Fluorescence at Room Temperature. <i>Physical Review Letters</i> , 2000, 84, 1148-1151.	2.9	229
121	Scanning near-field optical microscopy with aperture probes: Fundamentals and applications. <i>Journal of Chemical Physics</i> , 2000, 112, 7761-7774.	1.2	684
122	Optical microscopy of single ions and morphological inhomogeneities in Sm-dopedCaF ₂ thin films. <i>Physical Review B</i> , 2000, 62, 11163-11169.	1.1	14
123	Single-Molecule Identification by Spectrally and Time-Resolved Fluorescence Detection. <i>Analytical Chemistry</i> , 2000, 72, 443-447.	3.2	64
124	Single-Molecule Imaging Revealing the Deformation-Induced Formation of a Molecular Polymer Blend. <i>Journal of Physical Chemistry B</i> , 2000, 104, 5221-5224.	1.2	27
125	High-quality near-field optical probes by tube etching. <i>Applied Physics Letters</i> , 1999, 75, 160-162.	1.5	275
126	Implications of high resolution to near-field optical microscopy. <i>Ultramicroscopy</i> , 1998, 71, 341-344.	0.8	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. <i>Molecular Physics</i> , 1998, 95, 1333-1338.	0.8	47
128	Influence of detection conditions on near-field optical imaging. <i>Journal of Applied Physics</i> , 1998, 84, 5873-5882.	1.1	39
129	Interference of locally excited surface plasmons. <i>Journal of Applied Physics</i> , 1997, 81, 1798-1806.	1.1	120
130	Facts and artifacts in near-field optical microscopy. <i>Journal of Applied Physics</i> , 1997, 81, 2492-2498.	1.1	467
131	Local Excitation, Scattering, and Interference of Surface Plasmons. <i>Physical Review Letters</i> , 1996, 77, 1889-1892.	2.9	469
132	Instrumental developments and recent experiments in near-field optical microscopy. <i>Thin Solid Films</i> , 1996, 273, 149-153.	0.8	6
133	Radiation coupling and image formation in scanning near-field optical microscopy. <i>Thin Solid Films</i> , 1996, 273, 161-167.	0.8	30
134	<title>Tunnel near-field optical microscopy (TNOM-2)</title>. , 1995, 2535, 61.		1
135	Combined aperture SNOM/PSTM: best of both worlds?. <i>Ultramicroscopy</i> , 1995, 57, 228-234.	0.8	52
136	Light confinement in scanning near-field optical microscopy. <i>Ultramicroscopy</i> , 1995, 61, 1-9.	0.8	125
137	â€œTunnelâ€near-field optical microscopy: TNOM-2. <i>Ultramicroscopy</i> , 1995, 61, 99-104.	0.8	16
138	Piezoresistive cantilevers as optical sensors for scanning near-field microscopy. <i>Ultramicroscopy</i> , 1995, 61, 127-130.	0.8	14
139	Scanning near-field optical microscopy in Basel, Ruschlikon, and Zurich. <i>Optical Engineering</i> , 1995, 34, 2441.	0.5	18
140	Scanning near-field optical probe with ultrasmall spot size. <i>Optics Letters</i> , 1995, 20, 970.	1.7	265
141	Forbidden light scanning near-field optical microscopy. <i>Journal of Microscopy</i> , 1995, 177, 115-118.	0.8	14
142	Near-Field Optical Spectroscopy of Individual Molecules in Solids. <i>Physical Review Letters</i> , 1994, 73, 2764-2767.	2.9	116
143	Near-field optical measurement of the surface plasmon field. <i>Optics Communications</i> , 1993, 96, 225-228.	1.0	80
144	Nanoscale optical microscopy. , 0, , 134-172.		2

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145	Near-field optical probes. , 0, , 173-224.		2
146	Probeâ€™sample distance control. , 0, , 225-249.		0
147	Fluctuation-induced interactions. , 0, , 446-474.		0
148	Theoretical methods in nano-optics. , 0, , 475-499.		0
149	Light emission and optical interactions in nanoscale environments. , 0, , 250-303.		2
150	Photonic crystals and resonators. , 0, , 363-377.		0
151	Quantum emitters. , 0, , 304-334.		0
152	Nanoscale optical microscopy. , 0, , 131-164.		0
153	Localization of light with near-field probes. , 0, , 165-200.		0
154	Probeâ€™sample distance control. , 0, , 201-223.		0
155	Optical interactions. , 0, , 224-281.		3
156	Photonic crystals, resonators, and cavity optomechanics. , 0, , 338-368.		1
157	Optical forces. , 0, , 448-473.		0
158	Fluctuation-induced interactions. , 0, , 474-499.		1
159	Theoretical methods in nano-optics. , 0, , 500-522.		0
160	Fabrication and optical characterization of nanoantennas. , 0, , 215-233.		0
161	High photo-stability of single molecules in an organic crystal at room temperature observed by scanning confocal optical microscopy. , 0, .		4
162	All-optical switching of magnetic domains moves one step closer to application. SPIE Newsroom, 0, , .	0.1	0