

Hans A Bechtel

List of Publications by Year in descending order

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58
papers

4,713
citations

257450

24
h-index

149698

56
g-index

58
all docs

58
docs citations

58
times ranked

6597
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrahigh-Quality Infrared Polaritonic Resonators Based on Bottom-Up-Synthesized van der Waals Nanoribbons. <i>ACS Nano</i> , 2022, 16, 3027-3035.	14.6	20
2	In situ infrared nanospectroscopy of the local processes at the Li/polymer electrolyte interface. <i>Nature Communications</i> , 2022, 13, 1398.	12.8	28
3	Nano-FTIR Investigation of the CM Chondrite Allan Hills 83100. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	2
4	Tunable intraband optical conductivity and polarization-dependent epsilon-near-zero behavior in black phosphorus. <i>Science Advances</i> , 2021, 7, .	10.3	40
5	Effect of sample anisotropy on scanning near-field optical microscope images. <i>Journal of Applied Physics</i> , 2021, 129, .	2.5	3
6	Sub-diffractive cavity modes of terahertz hyperbolic phonon polaritons in tin oxide. <i>Nature Communications</i> , 2021, 12, 1995.	12.8	26
7	Hybridized Radial and Edge Coupled 3D Plasmon Modes in Self-Assembled Graphene Nanocylinders. <i>Small</i> , 2021, 17, e2100079.	10.0	8
8	Exploring few and single layer CrPS ₄ with near-field infrared spectroscopy. <i>2D Materials</i> , 2021, 8, 035020.	4.4	10
9	Probing subwavelength in-plane anisotropy with antenna-assisted infrared nano-spectroscopy. <i>Nature Communications</i> , 2021, 12, 2649.	12.8	9
10	Probing nanoparticle substrate interactions with synchrotron infrared nanospectroscopy: Coupling gold nanorod Fabry-Pérot resonances with SiO_2 and hBN phonons. <i>Physical Review B</i> , 2021, 104, .	3.2	3
11	Hybrid Machine Learning for Scanning Near-Field Optical Spectroscopy. <i>ACS Photonics</i> , 2021, 8, 2987-2996.	6.6	22
12	Discovery of davemaolite, CaSiO_3 -perovskite, as a mineral from the lower mantle. <i>Science</i> , 2021, 374, 891-894.	12.6	39
13	Probing Polaritons in 2D Materials with Synchrotron Infrared Nanospectroscopy. <i>Advanced Optical Materials</i> , 2020, 8, 1901091.	7.3	26
14	Symmetry crossover in layered MPS complexes via near-field infrared spectroscopy. <i>Physical Review B</i> , 2020, 102, .	3.2	16
15	Ultrathin Free-Standing Oxide Membranes for Electron and Photon Spectroscopy Studies of Solid-Gas and Solid-Liquid Interfaces. <i>Nano Letters</i> , 2020, 20, 6364-6371.	9.1	24
16	THz Near-Field Imaging of Extreme Subwavelength Metal Structures. <i>ACS Photonics</i> , 2020, 7, 687-694.	6.6	58
17	Synchrotron infrared nano-spectroscopy and -imaging. <i>Surface Science Reports</i> , 2020, 75, 100493.	7.2	40
18	Vibrational exciton nanoimaging of phases and domains in porphyrin nanocrystals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 7030-7037.	7.1	11

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19	Plasmonic nanoarcs: a versatile platform with tunable localized surface plasmon resonances in octave intervals. <i>Optics Express</i> , 2020, 28, 30889.	3.4	2
20	Infrared Nanospectroscopy at the Graphene-Electrolyte Interface. <i>Nano Letters</i> , 2019, 19, 5388-5393.	9.1	55
21	Near-field infrared spectroscopy of monolayer MnPS_3 . <i>Physical Review B</i> , 2019, 100, .	3.2	15
22	Ultrastructural and SINS analysis of the cell wall integrity response of <i>Aspergillus nidulans</i> to the absence of galactofuranose. <i>Analyst</i> , 2019, 144, 928-934.	3.5	7
23	Infrared nano-spectroscopy of ferroelastic domain walls in hybrid improper ferroelectric $\text{Ca}_3\text{Ti}_2\text{O}_7$. <i>Nature Communications</i> , 2019, 10, 5235.	12.8	18
24	Ultrabroadband infrared near-field spectroscopy and imaging of local resonators in percolative gold films. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2019, 36, 3315.	2.1	3
25	Nanospectroscopic imaging of vibrational excitons as a molecular ruler. , 2019, , .		0
26	Cross-Scale Molecular Analysis of Chemical Heterogeneity in Shale Rocks. <i>Scientific Reports</i> , 2018, 8, 2552.	3.3	25
27	Nanoimaging of Electronic Heterogeneity in Bi_2Se_3 and Sb_2Te_3 Nanocrystals. <i>Advanced Electronic Materials</i> , 2018, 4, 1700377.	5.1	16
28	Far Infrared Synchrotron Near-Field Nanoimaging and Nanospectroscopy. <i>ACS Photonics</i> , 2018, 5, 2773-2779.	6.6	78
29	Nanoimaging and Control of Molecular Vibrations through Electromagnetically Induced Scattering Reaching the Strong Coupling Regime. <i>ACS Photonics</i> , 2018, 5, 3594-3600.	6.6	46
30	High-spatial-resolution mapping of catalytic reactions on single particles. <i>Nature</i> , 2017, 541, 511-515.	27.8	183
31	Field Effect Optoelectronic Modulation of Quantum-Confined Carriers in Black Phosphorus. <i>Nano Letters</i> , 2017, 17, 78-84.	9.1	89
32	Controlling phase separation in vanadium dioxide thin films via substrate engineering. <i>Physical Review B</i> , 2017, 96, .	3.2	13
33	Near-field spectroscopic investigation of dual-band heavy fermion metamaterials. <i>Nature Communications</i> , 2017, 8, 2262.	12.8	24
34	Direct observation of narrow mid-infrared plasmon linewidths of single metal oxide nanocrystals. <i>Nature Communications</i> , 2016, 7, 11583.	12.8	78
35	Infrared vibrational nanocrystallography and nanoimaging. <i>Science Advances</i> , 2016, 2, e1601006.	10.3	55
36	Nanoscale probing of electron-regulated structural transitions in silk proteins by near-field IR imaging and nano-spectroscopy. <i>Nature Communications</i> , 2016, 7, 13079.	12.8	78

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37	Phase transition in bulk single crystals and thin films of VO_2 by nanoscale infrared spectroscopy and imaging. <i>Physical Review B</i> , 2015, 91, ...	3.2	88
38	Amplitude- and Phase-Resolved Nanospectral Imaging of Phonon Polaritons in Hexagonal Boron Nitride. <i>ACS Photonics</i> , 2015, 2, 790-796.	6.6	115
39	Stardust Interstellar Preliminary Examination X: Impact speeds and directions of interstellar grains on the Stardust dust collector. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1680-1697.	1.6	24
40	Stardust Interstellar Preliminary Examination IX: High-speed interstellar dust analog capture in Stardust flight spare aerogel. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1666-1679.	1.6	19
41	Stardust Interstellar Preliminary Examination XI: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1698-1719.	1.6	16
42	Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1645-1665.	1.6	12
43	Nanoscale infrared spectroscopy as a non-destructive probe of extraterrestrial samples. <i>Nature Communications</i> , 2014, 5, 5445.	12.8	52
44	Stardust Interstellar Preliminary Examination VII: Synchrotron X-ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2- μm microprobe. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1626-1644.	1.6	13
45	Stardust Interstellar Preliminary Examination VI: Quantitative elemental analysis by synchrotron X-ray fluorescence nanoimaging of eight impact features in aerogel. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1612-1625.	1.6	12
46	Stardust Interstellar Preliminary Examination V: XRF analyses of interstellar dust candidates at ESRF ID 13. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1594-1611.	1.6	12
47	Ultrabroadband infrared nanospectroscopic imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 7191-7196.	7.1	252
48	Final reports of the Stardust Interstellar Preliminary Examination. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1720-1733.	1.6	29
49	Accessing the Optical Magnetic Near-Field through Babinet's Principle. <i>ACS Photonics</i> , 2014, 1, 894-899.	6.6	39
50	Stardust Interstellar Preliminary Examination II: Curating the interstellar dust collector, picrokeystones, and sources of impact tracks. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1522-1547.	1.6	18
51	Stardust Interstellar Preliminary Examination III: Infrared spectroscopic analysis of interstellar dust candidates. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1548-1561.	1.6	12
52	Stardust Interstellar Preliminary Examination IV: Scanning transmission X-ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1562-1593.	1.6	18
53	Nano-Chemical Infrared Imaging of Membrane Proteins in Lipid Bilayers. <i>Journal of the American Chemical Society</i> , 2013, 135, 18292-18295.	13.7	99
54	Near- and far-field spectroscopic imaging investigation of resonant square-loop infrared metasurfaces. <i>Optics Express</i> , 2013, 21, 17150.	3.4	17

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55	Surface modifications of comet-exposed aerogel from the Stardust cometary collector. <i>Meteoritics and Planetary Science</i> , 2012, 47, 1336-1346.	1.6	1
56	Graphene plasmonics for tunable terahertz metamaterials. <i>Nature Nanotechnology</i> , 2011, 6, 630-634.	31.5	2,566
57	Synchrotron IR Spectromicroscopy: Chemistry of Living Cells. <i>Analytical Chemistry</i> , 2010, 82, 8757-8765.	6.5	116
58	Ultrabroadband Nanocavity of Hyperbolic Phonon-Polaritons in 1D-Like MoO_3 . <i>ACS Photonics</i> , 0, , .	6.6	13