Erik Brundermann

List of Publications by Citations

73 papers	1,912 citations	22 h-index	42 g-index
89 ext. papers	2,248 ext. citations	3.9 avg, IF	4.39 L-index

#	Paper	IF	Citations
73	Solute-induced retardation of water dynamics probed directly by terahertz spectroscopy. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 12301-6	11.5	329
72	Long-range influence of carbohydrates on the solvation dynamics of water--answers from terahertz absorption measurements and molecular modeling simulations. *Journal of the American Chemical Society*, **2008**, 130, 5773-9	16.4	216
71	Solvation dynamics of model peptides probed by terahertz spectroscopy. Observation of the onset of collective network motions. *Journal of the American Chemical Society*, **2009**, 131, 3752-5	16.4	94
70	Terahertz Techniques. *Springer Series in Optical Sciences*, **2012**,	0.5	87
69	Confocal Raman microspectroscopy as an analytical tool to assess the mitochondrial status in human spermatozoa. *Analyst, The*, **2010**, 135, 1370-4	5	64
68	Four-wave mixing and direct terahertz emission with two-color semiconductor lasers. *Applied Physics Letters*, **2004**, 84, 3585-3587	3.4	63
67	Communications: Polarity fluctuations of the protic ionic liquid ethylammonium nitrate in the terahertz regime. *Journal of Chemical Physics*, **2010**, 132, 101101	3.9	58
66	New p-Ge THz laser spectrometer for the study of solutions: THz absorption spectroscopy of water. *Review of Scientific Instruments*, **2005**, 76, 063110	1.7	52
65	Graphene multilayer as nanosized optical strain gauge for polymer surface relief gratings. *Nano Letters*, **2014**, 14, 5754-60	11.5	47
64	High duty cycle and continuous terahertz emission from germanium. *Applied Physics Letters*, **2000**, 76, 2991-2993	3.4	47
63	Setup of a scanning near field infrared microscope (SNIM): imaging of sub-surface nano-structures in gallium-doped silicon. *Physical Chemistry Chemical Physics*, **2006**, 8, 753-8	3.6	46
62	Generalized KramersKronig receiver for coherent terahertz communications. *Nature Photonics*, **2020**, 14, 601-606	33.9	46
61	Terahertz time-domain spectroscopy as a new tool for the characterization of dust forming plasmas. *Plasma Sources Science and Technology*, **2006**, 15, 72-77	3.5	36
60	Turn-key compact high temperature terahertz quantum cascade lasers: imaging and room temperature detection. *Optics Express*, **2006**, 14, 1829-41	3.3	35
59	Nanoscale depth resolution in scanning near-field infrared microscopy. *Optics Express*, **2008**, 16, 7453-9	3.3	33
58	Chemical Imaging of Microstructured Self-Assembled Monolayers with Nanometer Resolution. *Journal of Physical Chemistry C*, **2007**, 111, 8166-8171	3.8	30
57	Double acceptor doped Ge: A new medium for inter-valence-band lasers. *Applied Physics Letters*, **1996**, 68, 3075-3077	3.4	28

56	Uncertainty and Ambiguity in Terahertz Parameter Extraction and Data Analysis. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2011**, 32, 699-715	2.2	27
55	Narrow linewidth intervalence-band emission from germanium terahertz lasers. *Applied Physics Letters*, **2003**, 83, 3-5	3.4	26
54	Terahertz Spectroscopy: System and Sensitivity Considerations. *IEEE Transactions on Terahertz Science and Technology*, **2011**, 1, 321-331	3.4	25
53	Stimulated far-infrared emission from combined cyclotron resonances in germanium. *Physical Review B*, **1997**, 56, 12069-12072	3.3	24
52	Mode fine structure of the p-Ge intervalenceband laser measured by heterodyne mixing spectroscopy with an optically pumped ring gas laser. *Infrared Physics and Technology*, **1995**, 36, 59-69	2.7	23
51	Polarized 3D Raman and nanoscale near-field optical microscopy of optically inscribed surface relief gratings: chromophore orientation in azo-doped polymer films. *Soft Matter*, **2014**, 10, 1544-54	3.6	22
50	Far-infrared multilayer mirrors. *Applied Physics Letters*, **2003**, 83, 4119-4121	3.4	22
49	Detection of Hybridization on Nanografted Oligonucleotides Using Scanning Near-Field Infrared Microscopy. *Journal of Physical Chemistry C*, **2010**, 114, 1306-1311	3.8	21
48	SNIM: Scanning near-field infrared microscopy. *Annual Reports on the Progress of Chemistry Section C*, **2008**, 104, 235		20
47	Unraveling the interactions between cold atmospheric plasma and skin-components with vibrational microspectroscopy. *Biointerphases*, **2015**, 10, 029516	1.8	19
46	A matter of scale: from far-field microscopy to near-field nanoscopy. *Laser and Photonics Reviews*, **2012**, 6, 296-332	8.3	19
45	First operation of a far-infrared p-germanium laser in a standard close-cycle machine at 15 K. *Infrared Physics and Technology*, **1997**, 38, 201-203	2.7	19
44	Widely Tunable Far-Infrared Hot-Hole Semiconductor Lasers **2005**, 279-350		19
43	Thermal effects in widely tunable germanium terahertz lasers. *Applied Physics Letters*, **1998**, 73, 2757-2759	3.4	19
42	Smart polymer surfaces: mapping chemical landscapes on the nanometre scale. *Soft Matter*, **2010**, 6, 3764	3.6	18
41	Scanning near-field IR microscopy of proteins in lipid bilayers. *Physical Chemistry Chemical Physics*, **2011**, 13, 21432-6	3.6	18
40	Novel design concepts of widely tunable germanium terahertz lasers. *Infrared Physics and Technology*, **1999**, 40, 141-151	2.7	18
39	Stimulated far-infrared emission from copper-doped germanium crystals. *Applied Physics Letters*, **1997**, 70, 1659-1661	3.4	16

38	Cold atmospheric-pressure plasma and bacteria: understanding the mode of action using vibrational microspectroscopy. *Journal Physics D: Applied Physics*, **2016**, 49, 374003	3	14
37	Hydrophobic collapse induces changes in the collective protein and hydration low frequency modes. *Chemical Physics Letters*, **2016**, 651, 1-7	2.5	13
36	Similar appearance, different mechanisms: xerosis in HIV, atopic dermatitis and ageing. *Experimental Dermatology*, **2014**, 23, 446-8	4	13
35	Mode-locked operation of the copper-doped germanium terahertz laser. *Applied Physics Letters*, **2000**, 77, 3155-3157	3.4	12
34	Synergistic effects of atmospheric pressure plasma-emitted components on DNA oligomers: a Raman spectroscopic study. *Journal of Biophotonics*, **2015**, 8, 918-24	3.1	11
33	Planar contact geometry for far-infrared germanium lasers. *Applied Physics Letters*, **1999**, 74, 3761-3763	3.4	11
32	110-m THz Wireless Transmission at 100 Gbit/s Using a Kramers-Kronig Schottky Barrier Diode Receiver **2018**,		11
31	Combined THz and Microwave Dielectric Spectroscopy of Intermolecular Interactions in Homologous Protic Ionic Liquids. *IEEE Transactions on Terahertz Science and Technology*, **2011**, 1, 313-320	3.4	10
30	Fast quantification of water in single living cells by near-infrared microscopy. *Analyst, The*, **2004**, 129, 893-6	5	10
29	Terahertz emission of population-inverted hot-holes in single-crystalline silicon. *Applied Physics Letters*, **1998**, 73, 723-725	3.4	10
28	Fast mapping of terahertz bursting thresholds and characteristics at synchrotron light sources. *Physical Review Accelerators and Beams*, **2016**, 19,	1.8	10
27	Frequency-Comb Spectrum of Periodic-Patterned Signals. *Physical Review Letters*, **2016**, 117, 174802	7.4	9
26	Characterization of single diamondlike and polymerlike nanoparticles by midinfrared nanospectroscopy. *Journal of Applied Physics*, **2009**, 105, 064908	2.5	9
25	Confocal Raman Microscopy and AFM Study of the Interface Between the Photosensitive Polymer Layer and Multilayer Graphene. *Soft Materials*, **2014**, 12, S98-S105	1.7	8
24	Observation of mesoscopic effects in Schottky diodes at 300 K when used as mixers at THz frequencies. *Semiconductor Science and Technology*, **1996**, 11, 1328-1332	1.8	8
23	Terahertz cavity-enhanced attenuated total reflection spectroscopy. *Applied Physics Letters*, **2005**, 86, 201116	3.4	8
22	Terahertz spectroscopic techniques for the study of proteins in aqueous solutions **2009**,		7
21	Terahertz Absorption of Chemicals in Water: Ideal and Real Solutions and Mixtures. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2014**, 35, 38-52	2.2	6

20	Non-invasive chemical assessment of living human spermatozoa. *RSC Advances*, **2015**, 5, 10424-10429	3.7	6
19	Local chemical composition of nanophase-separated polymer brushes. *Physical Chemistry Chemical Physics*, **2011**, 13, 11620-6	3.6	6
18	KAPTURE-2. A picosecond sampling system for individual THz pulses with high repetition rate. *Journal of Instrumentation*, **2017**, 12, C01040-C01040	1	4
17	Combined far- and near-field chemical nanoscope at ANKA-IR2: applications and detection schemes. *Journal of Physics: Conference Series*, **2012**, 359, 012015	0.3	4
16	Introducing cymantrene labels into scattering scanning near-field infrared microscopy. *Analyst, The*, **2012**, 137, 4995-5001	5	3
15	Non-invasive nano-imaging of ion implanted and activated copper in silicon. *Journal of Applied Physics*, **2011**, 110, 024307	2.5	3
14	Continuous bunch-by-bunch spectroscopic investigation of the microbunching instability. *Physical Review Accelerators and Beams*, **2018**, 21,	1.8	3
13	High throughput data streaming of individual longitudinal electron bunch profiles. *Physical Review Accelerators and Beams*, **2019**, 22,	1.8	3
12	Terahertz Imaging. *Springer Series in Optical Sciences*, **2012**, 301-340	0.5	2
11	Synchronous detection of longitudinal and transverse bunch signals at a storage ring. *Physical Review Accelerators and Beams*, **2018**, 21,	1.8	2
10	Fabry□□ot Cavities for the Terahertz Spectral Range Based on High-Reflectivity Multilayer Mirrors. *IEEE Transactions on Terahertz Science and Technology*, **2016**, 6, 563-567	3.4	2
9	From self-organization in relativistic electron bunches to coherent synchrotron light: observation using a photonic time-stretch digitizer. *Scientific Reports*, **2019**, 9, 10391	4.9	1
8	Optical Components. *Springer Series in Optical Sciences*, **2012**, 51-101	0.5	1
7	Chemical microscopy and nanoscopy of bio-materials and living cells **2010**,		1
6	Applications of semiconductor terahertz lasers in biomolecular spectroscopy and imaging **2006**,		1
5	Systematic studies of the microbunching instability at very low bunch charges. *Physical Review Accelerators and Beams*, **2019**, 22,	1.8	1
4	Detectors. *Springer Series in Optical Sciences*, **2012**, 169-245	0.5	0
3	Accelerated Deep Reinforcement Learning for Fast Feedback of Beam Dynamics at KARA. *IEEE Transactions on Nuclear Science*, **2021**, 68, 1794-1800	1.7	0

2 Optical Principles at Terahertz Frequencies. *Springer Series in Optical Sciences*, **2012**, 23-49 0.5

1 Spectroscopic Methods. *Springer Series in Optical Sciences*, **2012**, 247-300 0.5