

# Alexander Horn

## List of Publications by Year in descending order

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66  
papers

1,007  
citations

516710

16  
h-index

477307

29  
g-index

67  
all docs

67  
docs citations

67  
times ranked

704  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron dynamics in fused silica after strong field laser excitation detected by spectroscopic imaging pump-probe ellipsometry. <i>Physical Review B</i> , 2022, 106, .	3.2	2
2	Spatial Conductivity Distribution in Thin PEDOT:PSS Films after Laser Microannealing. <i>ACS Applied Electronic Materials</i> , 2021, 3, 2825-2831.	4.3	6
3	Laser induced crystallization of Coâ€Feâ€B films. <i>Scientific Reports</i> , 2021, 11, 14104.	3.3	2
4	Local Optical Properties in CVD-Grown Monolayer WS <sub>2</sub> Flakes. <i>Journal of Physical Chemistry C</i> , 2021, 125, 16059-16065.	3.1	21
5	X-ray generation by laser ablation using MHz to GHz pulse bursts. <i>Journal of Laser Applications</i> , 2021, 33, .	1.7	16
6	Study on X-ray Emission Using Ultrashort Pulsed Lasers in Materials Processing. <i>Materials</i> , 2021, 14, 4537.	2.9	16
7	Fluence-Dependent Transient Reflectance of Stainless Steel Investigated by Ultrafast Imaging Pumpâ€Probe Reflectometry. <i>Journal of Physical Chemistry C</i> , 2021, 125, 17363-17371.	3.1	8
8	Topological transition from deeply sub- to near-wavelength ripples during multi-shot mid-IR femtosecond laser exposure of a silicon surface. <i>Optical Materials Express</i> , 2021, 11, 1.	3.0	9
9	Improved Hole Extraction Selectivity of Polymer Solar Cells by Combining PEDOT:PSS with WO <sub>3</sub> . <i>Energy Technology</i> , 2021, 9, 2100474.	3.8	10
10	Experimental and Theoretical Determination of the Effective Penetration Depth of Ultrafast Laser Radiation in Stainless Steel. <i>Lasers in Manufacturing and Materials Processing</i> , 2020, 7, 478-495.	2.2	12
11	Linear and Nonlinear Excitation of P3HT Induced by Spectral-Shaped Ultrafast Mid-IR Laser Radiation. <i>Journal of Physical Chemistry C</i> , 2020, 124, 13618-13626.	3.1	2
12	Hydrodynamic modeling and time-resolved imaging reflectometry of the ultrafast laser-induced ablation of a thin gold film. <i>Optics and Lasers in Engineering</i> , 2020, 129, 106067.	3.8	14
13	Surface Modifications of Poly(methyl methacrylate) Induced by Controlled Electronic and Molecular Vibrational Excitation Applying Ultrafast Mid-IR Laser Radiation. <i>Journal of Physical Chemistry C</i> , 2019, 123, 20210-20220.	3.1	8
14	Exchange bias and diffusion processes in laser annealed CoFeB/IrMn thin films. <i>Journal of Magnetism and Magnetic Materials</i> , 2019, 489, 165390.	2.3	9
15	Femtosecond-time-resolved imaging of the dielectric function of ZnO in the visible to near-IR spectral range. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	10
16	Case study on the dynamics of ultrafast laser heating and ablation of gold thin films by ultrafast pump-probe reflectometry and ellipsometry. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	2.3	13
17	Investigations on the modification of PMMA by ultrafast laser radiation from the UV to the mid-IR spectral range. <i>Optics and Lasers in Engineering</i> , 2018, 111, 130-134.	3.8	6
18	Solving the logarithmic Monge-Ampère equation with a RK4-algorithm for beam shaping purposes of femtosecond laser beams with spatial light modulators. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
19	Generation of nano-voids inside polylactide using femtosecond laser radiation. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	2.3	6
20	Case study on the ultrafast laser ablation of thin aluminum films: dependence on laser parameters and film thickness. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	15
21	Simulation of the spherical aberration of focused laser radiation in transparent materials: comparison of different simulation approaches. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	3
22	Investigation on the Ablation of thin Metal Films with Femtosecond to Picosecond-pulsed Laser Radiation. Physics Procedia, 2016, 83, 93-103.	1.2	19
23	Thermodynamic Investigations on the Laser Ablation Rate of Silicon over Five Fluence Decades. Physics Procedia, 2013, 41, 640-649.	1.2	5
24	Laser induced quasi-periodical microstructures with external field modulation for efficiency gain in photovoltaics. CIRP Annals - Manufacturing Technology, 2013, 62, 207-210.	3.6	3
25	Coherent Control of Colloidal Semiconductor Nanocrystals. Journal of Physical Chemistry C, 2013, 117, 11780-11790.	3.1	11
26	High-throughput process parallelization for laser surface modification on Si-solar cells: determination of the process window. Proceedings of SPIE, 2012, , .	0.8	11
27	Laser-Surface-Treatment for Photovoltaic Applications. Physics Procedia, 2012, 39, 709-716.	1.2	7
28	Temporal femtosecond pulse tailoring for nanoscale laser processing of wide-bandgap materials. Proceedings of SPIE, 2010, , .	0.8	12
29	Time-resolved White-light Interferometry for Ultrafast Metrology. , 2010, , .		0
30	Femtosecond Pulse Tailoring For Nanoscale Laser Processing Of Wide-Bandgap Materials: Temporal Asymmetric Pulses Versus Frequency Sweeps. , 2010, , .		1
31	Development of a time-resolved white-light interference microscope for optical phase measurements during fs-laser material processing. Applied Physics A: Materials Science and Processing, 2010, 101, 231-235.	2.3	4
32	Use of femtosecond laser-induced breakdown spectroscopy (fs-LIBS) for micro-crack analysis on the surface. Engineering Fracture Mechanics, 2010, 77, 1874-1883.	4.3	25
33	Melt dynamics of aluminum irradiated with ultrafast laser radiation at large intensities. Journal of Applied Physics, 2009, 106, 013513.	2.5	18
34	Control of Ionization Processes in High Band Gap Materials. Journal of Laser Micro Nanoengineering, 2009, 4, 144-151.	0.1	18
35	Time-resolved investigations of plasma and melt ejections in metals by pump-probe shadowgraphy. Applied Physics A: Materials Science and Processing, 2008, 92, 917-920.	2.3	24
36	Investigations on ultrafast welding of glass-glass and glass-silicon. Applied Physics A: Materials Science and Processing, 2008, 93, 171-175.	2.3	48

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37	Non-interferometric transient quantitative phase microscopy for ultrafast engineering. Applied Physics A: Materials Science and Processing, 2008, 93, 165-169.	2.3	4
38	Investigation of increased drilling speed by online high-speed photography. Optics and Lasers in Engineering, 2008, 46, 705-710.	3.8	32
39	Dynamical detection of optical phase changes during micro-welding of glass with ultra-short laser radiation. Measurement Science and Technology, 2008, 19, 015302.	2.6	15
40	In situ measurement of plasma and shock wave properties inside laser-drilled metal holes. Measurement Science and Technology, 2008, 19, 105703.	2.6	16
41	Investigations of the ultrafast laser induced melt dynamics by means of transient quantitative phase microscopy (TQPm). , 2008, , .		0
42	Joining of thin glass with semiconductors by ultra-fast high-repetition laser welding. , 2008, , .		2
43	Investigations on Melting and Welding of Glass by Ultra-short Laser Radiation. Journal of Laser Micro Nanoengineering, 2008, 3, 114-118.	0.1	16
44	Si-K $\alpha$ radiation generated by the interaction of femtosecond laser radiation with silicon. Journal of Physics: Conference Series, 2007, 59, 159-163.	0.4	3
45	Fusion Welding of Glass Using Femtosecond Laser Pulses with High-repetition Rates. Journal of Laser Micro Nanoengineering, 2007, 2, 57-63.	0.1	105
46	Local Melting of Glass Material and Its Application to Direct Fusion Welding by Ps-laser Pulses. Journal of Laser Micro Nanoengineering, 2007, 2, 7-14.	0.1	89
47	Subwavelength ripple formation induced by tightly focused femtosecond laser radiation. Applied Surface Science, 2006, 252, 8576-8579.	6.1	113
48	Observation of melt ejection in metals up to 1 $\mu$ s after femtosecond laser irradiation by a novel pump-probe photography setup. , 2006, 6261, 101.		5
49	Ultra-fast Diagnostics of Laser-induced Melting of Matter in ns to $\mu$ s Time-scales. Journal of Laser Micro Nanoengineering, 2006, 1, 264-268.	0.1	15
50	Electron excitation in glasses followed by time- and space-measuring tools. Applied Surface Science, 2005, 248, 66-70.	6.1	9
51	Approximate model for laser trepanning with microsecond Nd:YAG laser radiation. Applied Physics A: Materials Science and Processing, 2004, 79, 1157-1159.	2.3	4
52	Ultrafast time-resolved photography of femtosecond laser induced modifications in BK7 glass and fused silica. Applied Physics A: Materials Science and Processing, 2004, 79, 923-925.	2.3	29
53	Formation of subwavelength-laser-induced periodic surface structures by tightly focused femtosecond laser radiation. , 2004, , .		12
54	Electron excitation in glasses and sapphire followed by time- and space-measuring tools. , 2004, , .		2

#	ARTICLE	IF	CITATIONS
55	Ultrafast pump and probe investigations on the interaction of femtosecond laser pulses with glass. , 2003, 4948, 393.		9
56	Theoretical analysis of second harmonic characteristics generated by KTiOPO 4 crystal. , 2003, , .		2
57	UV laser radiation-induced modifications and microstructuring of glass. , 2002, 4637, 258.		8
58	<title>Nd:YAG laser micromachining of SiC precision structures for MEMS</title>. , 2001, 4407, 109.		7
59	Manufacturing of Precise SiC Components by Nd:YAG Laser Radiation. Solid State Phenomena, 2001, 80-81, 441-446.	0.3	4
60	Electron beam-physical vapor deposition - thermal barrier coatings on laser drilled surfaces for transpiration cooling. Surface and Coatings Technology, 2000, 133-134, 49-53.	4.8	8
61	Three dimensional microfabrication in ceramics by solid state lasers. Applied Physics A: Materials Science and Processing, 1999, 69, S855-S858.	2.3	20
62	Fundamental investigations of micromachining by nano- and picosecond laser radiation. Applied Surface Science, 1998, 127-129, 885-891.	6.1	74
63	Processing ceramics by laser radiation. , 1998, 3274, 36.		0
64	<title>Micromachining of metals and ceramics by nano- and picosecond laser radiation</title>. , 1997, , .		6
65	Micromachining of hard materials by nano- and picosecond laser radiation: Fundamentals and applications. , 1997, , .		1
66	Drilling of ceramics and polymers by diode pumped solid state lasers. , 1997, , .		1