Alexander A D Debus

List of Publications by Year
in descending order

48 papers	1,530 citations	516710 16 h-index	315739 38 g-index
50 all docs	50 docs citations	50 times ranked	1422 citing authors

#	Article	IF	Citations
1	A compact synchrotron radiation source driven by a laser-plasma wakefield accelerator. Nature Physics, 2008, 4, 130-133.	16.7	313
2	PIConGPU: A Fully Relativistic Particle-in-Cell Code for a GPU Cluster. IEEE Transactions on Plasma Science, 2010, 38, 2831-2839.	1.3	129
3	Demonstration of a beam loaded nanocoulomb-class laser wakefield accelerator. Nature Communications, 2017, 8, 487.	12.8	124
4	Diagnostics for plasma-based electron accelerators. Reviews of Modern Physics, 2018, 90, .	45.6	107
5	Electron Temperature Scaling in Laser Interaction with Solids. Physical Review Letters, 2011, 107, 205003.	7.8	91
6	2020 roadmap on plasma accelerators. New Journal of Physics, 2021, 23, 031101.	2.9	89
7	High Resolution Energy-Angle Correlation Measurement of Hard X Rays from Laser-Thomson Backscattering. Physical Review Letters, 2013, 111, 114803.	7.8	68
8	First results with the novel petawatt laser acceleration facility in Dresden. Journal of Physics: Conference Series, 2017, 874, 012028.	0.4	68
9	Electron Bunch Length Measurements from Laser-Accelerated Electrons Using Single-Shot THz Time-Domain Interferometry. Physical Review Letters, 2010, 104, 084802.	7.8	66
10	Radiative signatures of the relativistic Kelvin-Helmholtz instability. , 2013, , .		57
11	Traveling-wave Thomson scattering and optical undulators forÂhigh-yield EUV and X-ray sources. Applied Physics B: Lasers and Optics, 2010, 100, 61-76.	2.2	46
12	Circumventing the Dephasing and Depletion Limits of Laser-Wakefield Acceleration. Physical Review X, 2019, 9, .	8.9	38
13	Making spectral shape measurements in inverse Compton scattering a tool for advanced diagnostic applications. Scientific Reports, 2018, 8, 1398.	3.3	34
14	Demonstration of a compact plasma accelerator powered by laser-accelerated electron beams. Nature Communications, 2021, 12, 2895.	12.8	31
15	Optical free-electron lasers with Traveling-Wave Thomson-Scattering. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 234011.	1.5	28
16	Direct Observation of Plasma Waves and Dynamics Induced by Laser-Accelerated Electron Beams. Physical Review X, 2019, 9, .	8.9	19
17	Probing ultrafast magnetic-field generation by current filamentation instability in femtosecond relativistic laser-matter interactions. Physical Review Research, 2020, 2, .	3.6	19
18	Linear and non-linear Thomson-scattering x-ray sources driven by conventionally and laser plasma accelerated electrons. Proceedings of SPIE, 2009, , .	0.8	16

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19	A method of determining narrow energy spread electron beams from a laser plasma wakefield accelerator using undulator radiation. Physics of Plasmas, 2009, 16, 093102.	1.9	16
20	Improved performance of laser wakefield acceleration by tailored self-truncated ionization injection. Plasma Physics and Controlled Fusion, 2018, 60, 044015.	2.1	16
21	Coherent Optical Signatures of Electron Microbunching in Laser-Driven Plasma Accelerators. Physical Review Letters, 2020, 125, 014801.	7.8	15
22	How to test and verify radiation diagnostics simulations within particle-in-cell frameworks. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 740, 250-256.	1.6	14
23	Realizing quantum free-electron lasers: a critical analysis of experimental challenges and theoretical limits. Physica Scripta, 2019, 94, 074001.	2.5	13
24	Design study for a compact laser-driven source for medical x-ray fluorescence imaging. Physical Review Accelerators and Beams, 2020, 23, .	1.6	12
25	Hybrid LWFAâ€“PWFA staging as a beam energy and brightness transformer: conceptual design and simulations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180175.	3.4	11
26	Building an Optical Free-Electron Laser in the Traveling-Wave Thomson-Scattering Geometry. Frontiers in Physics, 2019, 6, .	2.1	11
27	Gas-dynamic density downramp injection in a beam-driven plasma wakefield accelerator. Physical Review Research, 2021, 3, .	3.6	11
28	Operation of a picosecond narrow-bandwidth Laserâ€“Thomson-backscattering X-ray source. Nuclear Instruments & Methods in Physics Research B, 2013, 309, 214-217.	1.4	9
29	Observability of Coulomb-assisted quantum vacuum birefringence. Physical Review D, 2021, 104, .	4.7	9
30	Wave optical description of the Traveling-Wave Thomson-Scattering optical undulator field and its application to the TWTS-FEL. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 740, 147-152.	1.6	8
31	Identifying the linear phase of the relativistic Kelvin-Helmholtz instability and measuring its growth rate via radiation. Physical Review E, 2017, 96, 013316.	2.1	6
32	Multioctave high-dynamic range optical spectrometer for single-pulse, longitudinal characterization of ultrashort electron bunches. Physical Review Accelerators and Beams, 2022, 25, .	1.6	6
33	Metrics and Design of an Instruction Roofline Model for AMD GPUs. ACM Transactions on Parallel Computing, 2022, 9, 1-14.	1.4	5
34	Synchrotron Radiation From Laser-Accelerated Monoenergetic Electrons. IEEE Transactions on Plasma Science, 2008, 36, 1773-1781.	1.3	4
35	Quantitatively consistent computation of coherent and incoherent radiation in particle-in-cell codesâ€”A general form factor formalism for macro-particles. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 909, 419-422.	1.6	4
36	Restoring betatron phase coherence in a beam-loaded laser-wakefield accelerator. Physical Review Accelerators and Beams, 2021, 24, .	1.6	4

#	Article	IF	Citations
37	Evaluating GPU Programming Models forÂtheÂLUMI Supercomputer. Lecture Notes in Computer Science, 2022, , 79-101.	1.3	4
38	Brilliant and efficient optical free-electron lasers with traveling-wave Thomson-Scattering. AIP Conference Proceedings, 2016, , .	0.4	3
39	Challenges Porting a C++ Template-Metaprogramming Abstraction Layer to Directive-Based Offloading. Lecture Notes in Computer Science, 2022, , 92-111.	1.3	3
40	KlugeetÂal.Reply:. Physical Review Letters, 2013, 111, 219502.	7.8	2
41	Bright X-ray pulse generation by laser Thomson-backscattering and traveling wave optical undulators. , 2014, , .		1
42	Femtosecond Pump-Probe Diagnostics of Preformed Plasma Channels. AIP Conference Proceedings, 2004, , .	0.4	0
43	Femtosecond Pump-Probe Diagnostics of Preformed Plasma Channels. , 0, , .		0
44	Radiography with a Terawatt Laser γ-Source. , 2006, , .		0
45	Synchrotron radiation from laser-accelerated monoenergetic electron beams. , 2008, , .		0
46	Diode-pumped chirped pulse amplification to the TW level using Yb:CaF[sub 2]. , 2010, , .		0
47	Observations of Coherent Optical Transition Radiation Interference Fringes Generated by Laser Plasma Accelerator Electron Beamlets. , 2018, , .		0
48	Advanced Methods for Temporal Reconstruction of Modulated Electron Bunches. , 2018, , .		0