

Alexander A D Debus

List of Publications by Year in descending order

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Version: 2024-02-01

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 | Multioctave high-dynamic range optical spectrometer for single-pulse, longitudinal characterization of ultrashort electron bunches. <i>Physical Review Accelerators and Beams</i> , 2022, 25, . | 1.6 | 6 |
| 2 | Metrics and Design of an Instruction Roofline Model for AMD GPUs. <i>ACM Transactions on Parallel Computing</i> , 2022, 9, 1-14. | 1.4 | 5 |
| 3 | Challenges Porting a C++ Template-Metaprogramming Abstraction Layer to Directive-Based Offloading. <i>Lecture Notes in Computer Science</i> , 2022, , 92-111. | 1.3 | 3 |
| 4 | Evaluating GPU Programming Models for the LUMI Supercomputer. <i>Lecture Notes in Computer Science</i> , 2022, , 79-101. | 1.3 | 4 |
| 5 | 2020 roadmap on plasma accelerators. <i>New Journal of Physics</i> , 2021, 23, 031101. | 2.9 | 89 |
| 6 | Demonstration of a compact plasma accelerator powered by laser-accelerated electron beams. <i>Nature Communications</i> , 2021, 12, 2895. | 12.8 | 31 |
| 7 | Observability of Coulomb-assisted quantum vacuum birefringence. <i>Physical Review D</i> , 2021, 104, . | 4.7 | 9 |
| 8 | Restoring betatron phase coherence in a beam-loaded laser-wakefield accelerator. <i>Physical Review Accelerators and Beams</i> , 2021, 24, . | 1.6 | 4 |
| 9 | Gas-dynamic density downramp injection in a beam-driven plasma wakefield accelerator. <i>Physical Review Research</i> , 2021, 3, . | 3.6 | 11 |
| 10 | Coherent Optical Signatures of Electron Microbunching in Laser-Driven Plasma Accelerators. <i>Physical Review Letters</i> , 2020, 125, 014801. | 7.8 | 15 |
| 11 | Design study for a compact laser-driven source for medical x-ray fluorescence imaging. <i>Physical Review Accelerators and Beams</i> , 2020, 23, . | 1.6 | 12 |
| 12 | Probing ultrafast magnetic-field generation by current filamentation instability in femtosecond relativistic laser-matter interactions. <i>Physical Review Research</i> , 2020, 2, . | 3.6 | 19 |
| 13 | Hybrid LWFA–PWFA staging as a beam energy and brightness transformer: conceptual design and simulations. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180175. | 3.4 | 11 |
| 14 | Circumventing the Dephasing and Depletion Limits of Laser-Wakefield Acceleration. <i>Physical Review X</i> , 2019, 9, . | 8.9 | 38 |
| 15 | Building an Optical Free-Electron Laser in the Traveling-Wave Thomson-Scattering Geometry. <i>Frontiers in Physics</i> , 2019, 6, . | 2.1 | 11 |
| 16 | Direct Observation of Plasma Waves and Dynamics Induced by Laser-Accelerated Electron Beams. <i>Physical Review X</i> , 2019, 9, . | 8.9 | 19 |
| 17 | Realizing quantum free-electron lasers: a critical analysis of experimental challenges and theoretical limits. <i>Physica Scripta</i> , 2019, 94, 074001. | 2.5 | 13 |
| 18 | Improved performance of laser wakefield acceleration by tailored self-truncated ionization injection. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 044015. | 2.1 | 16 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 19 | Quantitatively consistent computation of coherent and incoherent radiation in particle-in-cell codes – 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 |
| 20 | Making spectral shape measurements in inverse Compton scattering a tool for advanced diagnostic applications. Scientific Reports, 2018, 8, 1398. | 3.3 | 34 |
| 21 | Observations of Coherent Optical Transition Radiation Interference Fringes Generated by Laser Plasma Accelerator Electron Beamlets. , 2018, , . | | 0 |
| 22 | Advanced Methods for Temporal Reconstruction of Modulated Electron Bunches. , 2018, , . | | 0 |
| 23 | Diagnostics for plasma-based electron accelerators. Reviews of Modern Physics, 2018, 90, . | 45.6 | 107 |
| 24 | 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 |
| 25 | First results with the novel petawatt laser acceleration facility in Dresden. Journal of Physics: Conference Series, 2017, 874, 012028. | 0.4 | 68 |
| 26 | Demonstration of a beam loaded nanocoulomb-class laser wakefield accelerator. Nature Communications, 2017, 8, 487. | 12.8 | 124 |
| 27 | Brilliant and efficient optical free-electron lasers with traveling-wave Thomson-Scattering. AIP Conference Proceedings, 2016, , . | 0.4 | 3 |
| 28 | Bright X-ray pulse generation by laser Thomson-backscattering and traveling wave optical undulators. , 2014, , . | | 1 |
| 29 | Optical free-electron lasers with Traveling-Wave Thomson-Scattering. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 234011. | 1.5 | 28 |
| 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 | 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 |
| 32 | High Resolution Energy-Angle Correlation Measurement of Hard X Rays from Laser-Thomson Backscattering. Physical Review Letters, 2013, 111, 114803. | 7.8 | 68 |
| 33 | Operation of a picosecond narrow-bandwidth Laser – Thomson-backscattering X-ray source. Nuclear Instruments & Methods in Physics Research B, 2013, 309, 214-217. | 1.4 | 9 |
| 34 | Radiative signatures of the relativistic Kelvin-Helmholtz instability. , 2013, , . | | 57 |
| 35 | KlugeetAal.Reply:. Physical Review Letters, 2013, 111, 219502. | 7.8 | 2 |
| 36 | Electron Temperature Scaling in Laser Interaction with Solids. Physical Review Letters, 2011, 107, 205003. | 7.8 | 91 |

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|----|--|------|-----------|
| 37 | Diode-pumped chirped pulse amplification to the TW level using Yb:CaF ₂ . , 2010, , . | | 0 |
| 38 | Traveling-wave Thomson scattering and optical undulators for high-yield EUV and X-ray sources. Applied Physics B: Lasers and Optics, 2010, 100, 61-76. | 2.2 | 46 |
| 39 | Electron Bunch Length Measurements from Laser-Accelerated Electrons Using Single-Shot THz Time-Domain Interferometry. Physical Review Letters, 2010, 104, 084802. | 7.8 | 66 |
| 40 | PIConGPU: A Fully Relativistic Particle-in-Cell Code for a GPU Cluster. IEEE Transactions on Plasma Science, 2010, 38, 2831-2839. | 1.3 | 129 |
| 41 | Linear and non-linear Thomson-scattering x-ray sources driven by conventionally and laser plasma accelerated electrons. Proceedings of SPIE, 2009, , . | 0.8 | 16 |
| 42 | 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 |
| 43 | A compact synchrotron radiation source driven by a laser-plasma wakefield accelerator. Nature Physics, 2008, 4, 130-133. | 16.7 | 313 |
| 44 | Synchrotron Radiation From Laser-Accelerated Monoenergetic Electrons. IEEE Transactions on Plasma Science, 2008, 36, 1773-1781. | 1.3 | 4 |
| 45 | Synchrotron radiation from laser-accelerated monoenergetic electron beams. , 2008, , . | | 0 |
| 46 | Radiography with a Terawatt Laser Source. , 2006, , . | | 0 |
| 47 | Femtosecond Pump-Probe Diagnostics of Preformed Plasma Channels. AIP Conference Proceedings, 2004, , . | 0.4 | 0 |
| 48 | Femtosecond Pump-Probe Diagnostics of Preformed Plasma Channels. , 0, , . | | 0 |