

Alex Friedman

List of Publications by Year in descending order

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48
papers

892
citations

567281

15
h-index

477307

29
g-index

48
all docs

48
docs citations

48
times ranked

473
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct implicit large time-step particle simulation of plasmas. Journal of Computational Physics, 1983, 51, 107-138.	3.8	148
2	Three-dimensional particle simulation of heavy-ion fusion beams*. Physics of Fluids B, 1992, 4, 2203-2210.	1.7	141
3	The WARP Code: Modeling High Intensity Ion Beams. AIP Conference Proceedings, 2005, , .	0.4	71
4	Three-dimensional simulations of high current beams in induction accelerators with WARP3d. Fusion Engineering and Design, 1996, 32-33, 193-200.	1.9	62
5	A second-order implicit particle mover with adjustable damping. Journal of Computational Physics, 1990, 90, 292-312.	3.8	51
6	Computational Methods in the Warp Code Framework for Kinetic Simulations of Particle Beams and Plasmas. IEEE Transactions on Plasma Science, 2014, 42, 1321-1334.	1.3	46
7	Thermo-optic properties of silicon-rich silicon nitride for on-chip applications. Optics Express, 2020, 28, 24951.	3.4	30
8	Long-time behaviour of numerically computed orbits: Small and intermediate timestep analysis of one-dimensional systems. Journal of Computational Physics, 1991, 93, 189-223.	3.8	28
9	Time-Step Considerations in Particle Simulation Algorithms for Coulomb Collisions in Plasmas. IEEE Transactions on Plasma Science, 2010, 38, 2394-2406.	1.3	25
10	Simulation of heavy ion beams with a semi-Lagrangian Vlasov solver. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 464, 470-476.	1.6	20
11	Numerically induced stochasticity. Journal of Computational Physics, 1991, 93, 171-188.	3.8	19
12	Short intense ion pulses for materials and warm dense matter research. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 800, 98-103.	1.6	19
13	Absolute Measurement of Electron-Cloud Density in a Positively Charged Particle Beam. Physical Review Letters, 2006, 97, 054801.	7.8	18
14	Simulation studies of transverse resonance effects in space-charge-dominated beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 415, 455-459.	1.6	17
15	Noiseless Vlasov-Poisson simulations with linearly transformed particles. Journal of Computational Physics, 2014, 275, 236-256.	3.8	17
16	Beam simulations for IRE and driver status and strategy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 464, 653-661.	1.6	16
17	Smoothing and spatial grid effects in implicit particle simulation. Journal of Computational Physics, 1984, 56, 51-64.	3.8	15
18	Cold phase fluid model of the longitudinal dynamics of space-charge-dominated beams. Physics of Plasmas, 2003, 10, 855-861.	1.9	15

#	ARTICLE	IF	CITATIONS
19	Energy amplification and beam bunching in a pulse line ion accelerator. Physical Review Special Topics: Accelerators and Beams, 2006, 9, .	1.8	13
20	Beam energy scaling of ion-induced electron yield from K ⁺ impact on stainless steel. Physical Review Special Topics: Accelerators and Beams, 2006, 9, .	1.8	12
21	Effect of Multiple Scattering on the Compton Recoil Current Generated in an EMP, Revisited. IEEE Transactions on Nuclear Science, 2015, 62, 1695-1706.	2.0	11
22	Simulation of intense beams for Heavy Ion Fusion. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 160-170.	1.6	10
23	Research and development toward heavy ion driven inertial fusion energy. Physical Review Special Topics: Accelerators and Beams, 2013, 16, .	1.8	10
24	On the observation of dispersion in tunable second-order nonlinearities of silicon-rich nitride thin films. APL Photonics, 2019, 4, 036101.	5.7	8
25	Strong ion ring equilibria formed by injection and intrinsic stochasticity of orbits. Journal of Computational Physics, 1981, 44, 104-133.	3.8	7
26	Effects of errors in velocity tilt on maximum longitudinal compression during neutralized drift compression of intense beam pulses: I. general description. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 678, 48-63.	1.6	7
27	Optimizing beam transport in rapidly compressing beams on the neutralized drift compression experiment-II. Matter and Radiation at Extremes, 2018, 3, 78-84.	3.9	7
28	The longitudinal wall impedance instability in a heavy-ion fusion driver. Journal of Applied Physics, 1997, 81, 3398-3409.	2.5	6
29	A Non-Mechanical Multi-Wavelength Integrated Photonic Beam Steering System. Journal of Lightwave Technology, 2021, 39, 4201-4208.	4.6	6
30	Demonstration of the DC-Kerr effect in silicon-rich nitride. Optics Letters, 2021, 46, 4236.	3.3	6
31	On numerical energy conservation for an implicit particle-in-cell method coupled with a binary Monte-Carlo algorithm for Coulomb collisions. Journal of Computational Physics, 2022, 456, 111030.	3.8	6
32	Overview of theory and simulations in the Heavy Ion Fusion Science Virtual National Laboratory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 577, 37-44.	1.6	5
33	Effects of errors in velocity tilt on maximum longitudinal compression during neutralized drift compression of intense beam pulses: II. Analysis of experimental data of the Neutralized Drift Compression eXperiment-I (NDCX-I). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 678, 39-47.	1.6	5
34	Multiple beam induction accelerators for heavy ion fusion. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 733, 193-199.	1.6	4
35	The ILSE experimental program. Il Nuovo Cimento A, 1993, 106, 1631-1636.	0.2	3
36	Sheet beam model for intense space charge: Application to Debye screening and the distribution of particle oscillation frequencies in a thermal equilibrium beam. Physical Review Special Topics: Accelerators and Beams, 2011, 14, .	1.8	3

#	ARTICLE	IF	CITATIONS
37	Arc-based smoothing of ion beam intensity on targets. Physics of Plasmas, 2012, 19, 063111.	1.9	2
38	Modeling warm dense matter experiments using the 3D ALE-AMR code and the move toward exascale computing. EPJ Web of Conferences, 2013, 59, 09006.	0.3	2
39	Surface tension models for a multi-material ALE code with AMR. Computers and Fluids, 2017, 151, 91-101.	2.5	1
40	Development of 3D simulations for heavy-ion fusion beam transport and compression problems. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1989, 278, 186-190.	1.6	0
41	Absolute measurement of electron cloud density. , 2007, , .		0
42	Electron cloud measurements in heavy-ion driver for HEDP and inertial fusion energy. Nuclear Instruments & Methods in Physics Research B, 2007, 261, 980-985.	1.4	0
43	Corrections to "Time-Step Considerations in Particle Simulation Algorithms for Coulomb Collisions in Plasmas" [Sep 10 2394-2406]. IEEE Transactions on Plasma Science, 2011, 39, 624-624.	1.3	0
44	Differential acceleration in the final beam lines of a Heavy Ion Fusion driver. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 733, 153-157.	1.6	0
45	Numerical Modeling of Complex Targets for High-Energy- Density Experiments with Ion Beams and other Drivers. Journal of Physics: Conference Series, 2016, 688, 012053.	0.4	0
46	First energy loss measurements of intense pulsed ion beams in matter using a Thomson parabola at NDCX-II. , 2018, , .		0
47	Computer Simulations of Plasmas and Beams: A View from Multiple Angles. , 2018, , .		0
48	Electro-Optic Switching in Silicon-Rich Nitride. , 2021, , .		0