

A V Arefiev

List of Publications by Year in descending order

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Version: 2024-02-01

105
papers

2,626
citations

159585

30
h-index

214800

47
g-index

106
all docs

106
docs citations

106
times ranked

1498
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced Multi-MeV Photon Emission by a Laser-Driven Electron Beam in a Self-Generated Magnetic Field. <i>Physical Review Letters</i> , 2016, 116, 185003.	7.8	150
2	Ultrashort Pulsed Neutron Source. <i>Physical Review Letters</i> , 2014, 113, 184801.	7.8	123
3	Magnetohydrodynamic scenario of plasma detachment in a magnetic nozzle. <i>Physics of Plasmas</i> , 2005, 12, 043504.	1.9	112
4	Generating "Superponderomotive" Electrons due to a Non-Wake-Field Interaction between a Laser Pulse and a Longitudinal Electric Field. <i>Physical Review Letters</i> , 2013, 111, 065002.	7.8	103
5	Theoretical components of the VASIMR plasma propulsion concept. <i>Physics of Plasmas</i> , 2004, 11, 2942-2949.	1.9	100
6	Parametric Amplification of Laser-Driven Electron Acceleration in Underdense Plasma. <i>Physical Review Letters</i> , 2012, 108, 145004.	7.8	96
7	Beyond the ponderomotive limit: Direct laser acceleration of relativistic electrons in sub-critical plasmas. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	94
8	Relativistic plasma physics in supercritical fields. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	81
9	Nonlinear physics of laser-irradiated microclusters. <i>Physics of Plasmas</i> , 2005, 12, 056706.	1.9	67
10	Compact tunable Compton x-ray source from laser-plasma accelerator and plasma mirror. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	67
11	Enhancement of laser-driven electron acceleration in an ion channel. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	62
12	Novel aspects of direct laser acceleration of relativistic electrons. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	62
13	Ambipolar acceleration of ions in a magnetic nozzle. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	60
14	Radially Localized Helicon Modes in Nonuniform Plasma. <i>Physical Review Letters</i> , 2000, 84, 3863-3866.	7.8	58
15	Laser-driven strong magnetostatic fields with applications to charged beam transport and magnetized high energy-density physics. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	58
16	Enhanced proton acceleration in an applied longitudinal magnetic field. <i>New Journal of Physics</i> , 2016, 18, 105011.	2.9	50
17	Resonant power absorption in helicon plasma sources. <i>Physics of Plasmas</i> , 2006, 13, 123507.	1.9	46
18	Generation of Superponderomotive Electrons in Multipicosecond Interactions of Kilojoule Laser Beams with Solid-Density Plasmas. <i>Physical Review Letters</i> , 2016, 116, 155001.	7.8	46

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19	Universal scalings for laser acceleration of electrons in ion channels. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	45
20	Power Scaling for Collimated γ -Ray Beams Generated by Structured Laser-Irradiated Targets and Its Application to Two-Photon Pair Production. <i>Physical Review Applied</i> , 2020, 13, .	3.8	45
21	Harmonic generation in clusters. <i>Physics of Plasmas</i> , 2004, 11, 3349-3359.	1.9	44
22	Temporal resolution criterion for correctly simulating relativistic electron motion in a high-intensity laser field. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	44
23	Relativistic Plasma Polarizer: Impact of Temperature Anisotropy on Relativistic Transparency. <i>Physical Review Letters</i> , 2015, 115, 025002.	7.8	43
24	Leveraging extreme laser-driven magnetic fields for gamma-ray generation and pair production. <i>Plasma Physics and Controlled Fusion</i> , 2018, 60, 054006.	2.1	43
25	Laser-to-hot-electron conversion limitations in relativistic laser matter interactions due to multi-picosecond dynamics. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	39
26	Magnetic nozzle and plasma detachment model for a steady-state flow. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	35
27	The unexpected role of evolving longitudinal electric fields in generating energetic electrons in relativistically transparent plasmas. <i>New Journal of Physics</i> , 2018, 20, 093024.	2.9	33
28	Dominance of γ - γ electron-positron pair creation in a plasma driven by high-intensity lasers. <i>Communications Physics</i> , 2021, 4, .	5.3	32
29	Single-pass ion cyclotron resonance absorption. <i>Physics of Plasmas</i> , 2001, 8, 907-915.	1.9	30
30	The effect of superluminal phase velocity on electron acceleration in a powerful electromagnetic wave. <i>Physics of Plasmas</i> , 2015, 22, 083114.	1.9	30
31	Generation of megatesla magnetic fields by intense-laser-driven microtube implosions. <i>Scientific Reports</i> , 2020, 10, 16653.	3.3	30
32	Measurements and modeling of radio frequency field structures in a helicon plasma. <i>Physics of Plasmas</i> , 2011, 18, 013501.	1.9	29
33	Direct laser acceleration of electrons assisted by strong laser-driven azimuthal plasma magnetic fields. <i>Physical Review E</i> , 2020, 102, 013206.	2.1	27
34	Collisionless plasma expansion into vacuum: Two new twists on an old problem. <i>Physics of Plasmas</i> , 2009, 16, 055707.	1.9	25
35	Investigation of laser pulse length and pre-plasma scale length impact on hot electron generation on OMEGA-EP. <i>New Journal of Physics</i> , 2017, 19, 023008.	2.9	25
36	Electron response in laser-irradiated microclusters. <i>Plasma Physics Reports</i> , 2003, 29, 593-597.	0.9	24

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37	Characterization of cluster/monomer ratio in pulsed supersonic gas jets. Applied Physics Letters, 2012, 100, 064101.	3.3	22
38	Towards the optimisation of direct laser acceleration. New Journal of Physics, 2021, 23, 023031.	2.9	22
39	Non-Maxwellian electron distributions resulting from direct laser acceleration in near-critical plasmas. Matter and Radiation at Extremes, 2016, 1, 82-87.	3.9	21
40	Spontaneous emergence of non-planar electron orbits during direct laser acceleration by a linearly polarized laser pulse. Physics of Plasmas, 2016, 23, .	1.9	19
41	Generation of Ultrarelativistic Monoenergetic Electron Bunches via a Synergistic Interaction of Longitudinal Electric and Magnetic Fields of a Twisted Laser. Physical Review Letters, 2021, 126, 234801.	7.8	19
42	Nonlinear parametric resonance of relativistic electrons with a linearly polarized laser pulse in a plasma channel. Physics of Plasmas, 2017, 24, .	1.9	18
43	Radiation reaction as an energy enhancement mechanism for laser-irradiated electrons in a strong plasma magnetic field. Scientific Reports, 2019, 9, 17181.	3.3	18
44	Direct laser acceleration of electrons in the plasma bubble by tightly focused laser pulses. Physics of Plasmas, 2019, 26, .	1.9	17
45	Structured targets for detection of Megatesla-level magnetic fields through Faraday rotation of XFEL beams. Physics of Plasmas, 2019, 26, 013105.	1.9	17
46	Ionization injection of highly-charged copper ions for laser driven acceleration from ultra-thin foils. Scientific Reports, 2019, 9, 666.	3.3	16
47	Highly collimated electron acceleration by longitudinal laser fields in a hollow-core target. Plasma Physics and Controlled Fusion, 2019, 61, 035012.	2.1	16
48	A single-laser scheme for observation of linear Breit-Wheeler electron-positron pair creation. New Journal of Physics, 2021, 23, 115005.	2.9	16
49	Size distribution and mass fraction of microclusters in laser-irradiated plasmas. High Energy Density Physics, 2010, 6, 121-127.	1.5	15
50	Spatio-temporal profiling of cluster mass fraction in a pulsed supersonic gas jet by frequency-domain holography. Journal of Applied Physics, 2013, 114, .	2.5	15
51	Energy gain by laser-accelerated electrons in a strong magnetic field. Physical Review E, 2020, 101, 043201.	2.1	15
52	Relativistically transparent magnetic filaments: scaling laws, initial results and prospects for strong-field QED studies. New Journal of Physics, 2021, 23, 095009.	2.9	14
53	Ion acceleration by hot electrons in microclusters. Physics of Plasmas, 2007, 14, 073105.	1.9	12
54	Generation of ultrahigh field by micro-bubble implosion. Scientific Reports, 2018, 8, 7537.	3.3	12

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55	Kinetic simulations of X-B and O-X-B mode conversion and its deterioration at high input power. Nuclear Fusion, 2017, 57, 116024.	3.5	11
56	Probing and possible application of the QED vacuum with micro-bubble implosions induced by ultra-intense laser pulses. Matter and Radiation at Extremes, 2019, 4, 034401.	3.9	11
57	Parametric decay of plasma waves near the upper-hybrid resonance. Physics of Plasmas, 2017, 24, 032119.	1.9	10
58	Electron-positron pair creation in the electric fields generated by micro-bubble implosions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126854.	2.1	10
59	Ion kinetics in a magnetized plasma source. Physics of Plasmas, 2002, 9, 1015-1024.	1.9	9
60	$l=1$ diocotron instability of single charged plasmas. Plasma Physics Reports, 2002, 28, 141-157.	0.9	9
61	Impact of ion dynamics on laser-driven electron acceleration and gamma-ray emission in structured targets at ultra-high laser intensities. Plasma Physics and Controlled Fusion, 2019, 61, 084004.	2.1	9
62	Relativistic proton emission from ultrahigh-energy-density nanosphere generated by microbubble implosion. Physics of Plasmas, 2019, 26, .	1.9	9
63	Generation of focusing ion beams by magnetized electron sheath acceleration. Scientific Reports, 2020, 10, 18966.	3.3	9
64	Strong surface magnetic field generation in relativistic short pulse laser-plasma interaction with an applied seed magnetic field. New Journal of Physics, 2020, 22, 113009.	2.9	9
65	Status of Magnetic Nozzle and Plasma Detachment Experiment. AIP Conference Proceedings, 2006, , .	0.4	8
66	Self-aligning concave relativistic plasma mirror with adjustable focus. Physics of Plasmas, 2017, 24, .	1.9	8
67	Particle integrator for particle-in-cell simulations of ultra-high intensity laser-plasma interactions. Journal of Computational Physics, 2021, 434, 110233.	3.8	8
68	Sign reversal in magnetic field amplification by relativistic laser-driven microtube implosions. Applied Physics Letters, 2020, 117, 244101.	3.3	8
69	Magnetic field generation in a laser-irradiated thin collisionless plasma target by return current electrons carrying orbital angular momentum. New Journal of Physics, 2020, 22, 073067.	2.9	8
70	Electron confinement by laser-driven azimuthal magnetic fields during direct laser acceleration. Physics of Plasmas, 2020, 27, .	1.9	7
71	Birefringence in thermally anisotropic relativistic plasmas and its impact on laser-plasma interactions. Physics of Plasmas, 2020, 27, .	1.9	7
72	Electron-positron pair production in the collision of real photon beams with wide energy distributions. Plasma Physics and Controlled Fusion, 0, , .	2.1	7

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73	Interaction of an electron with coherent dipole radiation: Role of convergence and anti-dephasing. <i>Physics of Plasmas</i> , 2018, 25, 053107.	1.9	6
74	Comment on "Creation of Electron-Positron Pairs in Photon-Photon Collisions Driven by 10-PW Laser Pulses". <i>Physical Review Letters</i> , 2020, 125, 079501.	7.8	6
75	Radiation rebound and quantum splash in electron-laser collisions. <i>Physical Review Accelerators and Beams</i> , 2019, 22, .	1.6	6
76	Electron acceleration using twisted laser wavefronts. <i>Plasma Physics and Controlled Fusion</i> , 0, , .	2.1	6
77	Effects of simulation dimensionality on laser-driven electron acceleration and photon emission in hollow microchannel targets. <i>Physical Review E</i> , 2021, 104, 045206.	2.1	6
78	Breaking of dynamical adiabaticity in direct laser acceleration of electrons. <i>Physics of Plasmas</i> , 2017, 24, 023101.	1.9	5
79	High-angle deflection of the energetic electrons by a voluminous magnetic structure in near-normal intense laser-plasma interactions. <i>Physical Review E</i> , 2018, 98, .	2.1	5
80	Laser-driven acceleration of quasi-monoenergetic, near-collimated titanium ions via a transparency-enhanced acceleration scheme. <i>New Journal of Physics</i> , 2019, 21, 103005.	2.9	5
81	Strong interplay between superluminescence and radiation friction during direct laser acceleration. <i>New Journal of Physics</i> , 2021, 23, 095010.	2.9	5
82	Generation of Fast Ions by Microclusters. <i>Plasma and Fusion Research</i> , 2010, 5, S2071-S2071.	0.7	5
83	Kinetic phenomena of helical plasma waves with orbital angular momentum. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	5
84	Propagation of radially localized helicon waves in longitudinally nonuniform plasmas. <i>Physics of Plasmas</i> , 2006, 13, 062107.	1.9	4
85	Parametric amplification of laser-driven acceleration in a plasma channel. , 2013, , .		4
86	Observation of Self-Sustaining Relativistic Ionization Wave Launched by a Sheath Field. <i>Physical Review Letters</i> , 2014, 112, 045002.	7.8	4
87	Laser generation of ultra-short neutron bursts from high atomic number converters. <i>Proceedings of SPIE</i> , 2015, , .	0.8	4
88	Extreme nonlinear dynamics in vacuum laser acceleration with a crossed beam configuration. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	4
89	Laser reflection as a catalyst for direct laser acceleration in multipicosecond laser-plasma interaction. <i>Physics of Plasmas</i> , 2020, 27, 013106.	1.9	4
90	Electron acceleration from transparent targets irradiated by ultra-intense helical laser beams. <i>Communications Physics</i> , 2022, 5, .	5.3	4

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91	Direct laser acceleration of electrons in plasma bubbles or ion channels with and without a longitudinal wakefield. AIP Conference Proceedings, 2017, , .	0.4	3
92	Kinetic simulations of X-B and O-X-B mode conversion. AIP Conference Proceedings, 2015, , .	0.4	2
93	Criterion for correctly simulating relativistic electron motion in a high-intensity laser field. AIP Conference Proceedings, 2016, , .	0.4	2
94	Compact tunable Compton x-ray source from laser wakefield accelerator and plasma mirror. AIP Conference Proceedings, 2016, , .	0.4	2
95	Summary report of working group 2: Computations for accelerator physics. AIP Conference Proceedings, 2016, , .	0.4	2
96	Application of laser-driven capacitor-coil to target normal sheath acceleration. High Energy Density Physics, 2020, 37, 100874.	1.5	2
97	Net energy gain in direct laser acceleration due to enhanced dephasing induced by an applied magnetic field. Physics of Plasmas, 2020, 27, 023110.	1.9	2
98	Achieving pair creation via linear and nonlinear Breit-Wheeler processes in dense plasmas irradiated by high-intensity laser pulses. Physics of Plasmas, 2022, 29, .	1.9	2
99	Progress in relativistic laser-plasma interaction with kilotesla-level applied magnetic fields. Physics of Plasmas, 2022, 29, 053104.	1.9	2
100	$l=1$ diocotron instability of single charged plasmas in a cylindrical Penning trap with central conductor. AIP Conference Proceedings, 2002, , .	0.4	0
101	In Situ Measurement of Cluster Mass Fraction in Supersonic Gas Jets by Frequency Domain Holography. , 2012, , .		0
102	Particle-in-cell simulations of ion acceleration in high contrast and high intensity laser-solid target interactions at intensities above 10^{20} Wcm^{-2} . , 2017, , .		0
103	Emission of electromagnetic waves as a stopping mechanism for nonlinear collisionless ionization waves in a high- \hat{I}^2 regime. Physical Review E, 2021, 103, 023209.	2.1	0
104	Observation of Self-Sustaining Relativistic Ionization Wave Launched by Sheath Field. , 2014, , .		0
105	An Ultra-Short Pulsed Neutron Source. , 2014, , .		0