

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	Achieving pair creation via linear and nonlinear Breit-Wheeler processes in dense plasmas irradiated by high-intensity laser pulses. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	2
2	Electron acceleration from transparent targets irradiated by ultra-intense helical laser beams. <i>Communications Physics</i> , 2022, 5, .	5.3	4
3	Progress in relativistic laser-plasma interaction with kilotesla-level applied magnetic fields. <i>Physics of Plasmas</i> , 2022, 29, 053104.	1.9	2
4	Kinetic phenomena of helical plasma waves with orbital angular momentum. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	5
5	Towards the optimisation of direct laser acceleration. <i>New Journal of Physics</i> , 2021, 23, 023031.	2.9	22
6	Emission of electromagnetic waves as a stopping mechanism for nonlinear collisionless ionization waves in a high- I^2 regime. <i>Physical Review E</i> , 2021, 103, 023209.	2.1	0
7	Particle integrator for particle-in-cell simulations of ultra-high intensity laser-plasma interactions. <i>Journal of Computational Physics</i> , 2021, 434, 110233.	3.8	8
8	Generation of Ultrarelativistic Monoenergetic Electron Bunches via a Synergistic Interaction of Longitudinal Electric and Magnetic Fields of a Twisted Laser. <i>Physical Review Letters</i> , 2021, 126, 234801.	7.8	19
9	Dominance of $\hat{I}^3\text{-}\hat{I}^3$ electron-positron pair creation in a plasma driven by high-intensity lasers. <i>Communications Physics</i> , 2021, 4, .	5.3	32
10	Strong interplay between superluminescence and radiation friction during direct laser acceleration. <i>New Journal of Physics</i> , 2021, 23, 095010.	2.9	5
11	Relativistically transparent magnetic filaments: scaling laws, initial results and prospects for strong-field QED studies. <i>New Journal of Physics</i> , 2021, 23, 095009.	2.9	14
12	A single-laser scheme for observation of linear Breit-Wheeler electron-positron pair creation. <i>New Journal of Physics</i> , 2021, 23, 115005.	2.9	16
13	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
14	Generation of megatesla magnetic fields by intense-laser-driven microtube implosions. <i>Scientific Reports</i> , 2020, 10, 16653.	3.3	30
15	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
16	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
17	Electron-positron pair creation in the electric fields generated by micro-bubble implosions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020, 384, 126854.	2.1	10
18	Generation of focusing ion beams by magnetized electron sheath acceleration. <i>Scientific Reports</i> , 2020, 10, 18966.	3.3	9

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19	Application of laser-driven capacitor-coil to target normal sheath acceleration. High Energy Density Physics, 2020, 37, 100874.	1.5	2
20	Power Scaling for Collimated γ -Ray Beams Generated by Structured Laser-Irradiated Targets and Its Application to Two-Photon Pair Production. Physical Review Applied, 2020, 13, .	3.8	45
21	Electron confinement by laser-driven azimuthal magnetic fields during direct laser acceleration. Physics of Plasmas, 2020, 27, .	1.9	7
22	Birefringence in thermally anisotropic relativistic plasmas and its impact on laser-plasma interactions. Physics of Plasmas, 2020, 27, .	1.9	7
23	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
24	Laser reflection as a catalyst for direct laser acceleration in multipicosecond laser-plasma interaction. Physics of Plasmas, 2020, 27, 013106.	1.9	4
25	Energy gain by laser-accelerated electrons in a strong magnetic field. Physical Review E, 2020, 101, 043201.	2.1	15
26	Relativistic plasma physics in supercritical fields. Physics of Plasmas, 2020, 27, .	1.9	81
27	Sign reversal in magnetic field amplification by relativistic laser-driven microtube implosions. Applied Physics Letters, 2020, 117, 244101.	3.3	8
28	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
29	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
30	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
31	Laser-driven acceleration of quasi-monoenergetic, near-collimated titanium ions via a transparency-enhanced acceleration scheme. New Journal of Physics, 2019, 21, 103005.	2.9	5
32	Direct laser acceleration of electrons in the plasma bubble by tightly focused laser pulses. Physics of Plasmas, 2019, 26, .	1.9	17
33	Extreme nonlinear dynamics in vacuum laser acceleration with a crossed beam configuration. Physics of Plasmas, 2019, 26, .	1.9	4
34	Ionization injection of highly-charged copper ions for laser driven acceleration from ultra-thin foils. Scientific Reports, 2019, 9, 666.	3.3	16
35	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
36	Relativistic proton emission from ultrahigh-energy-density nanosphere generated by microbubble implosion. Physics of Plasmas, 2019, 26, .	1.9	9

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37	Structured targets for detection of Megatesla-level magnetic fields through Faraday rotation of XFEL beams. <i>Physics of Plasmas</i> , 2019, 26, 013105.	1.9	17
38	Radiation reaction as an energy enhancement mechanism for laser-irradiated electrons in a strong plasma magnetic field. <i>Scientific Reports</i> , 2019, 9, 17181.	3.3	18
39	Highly collimated electron acceleration by longitudinal laser fields in a hollow-core target. <i>Plasma Physics and Controlled Fusion</i> , 2019, 61, 035012.	2.1	16
40	Radiation rebound and quantum splash in electron-laser collisions. <i>Physical Review Accelerators and Beams</i> , 2019, 22, .	1.6	6
41	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
42	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
43	Generation of ultrahigh field by micro-bubble implosion. <i>Scientific Reports</i> , 2018, 8, 7537.	3.3	12
44	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
45	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
46	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
47	Self-aligning concave relativistic plasma mirror with adjustable focus. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	8
48	Breaking of dynamical adiabaticity in direct laser acceleration of electrons. <i>Physics of Plasmas</i> , 2017, 24, 023101.	1.9	5
49	Parametric decay of plasma waves near the upper-hybrid resonance. <i>Physics of Plasmas</i> , 2017, 24, 032119.	1.9	10
50	Nonlinear parametric resonance of relativistic electrons with a linearly polarized laser pulse in a plasma channel. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	18
51	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
52	Direct laser acceleration of electrons in plasma bubbles or ion channels with and without a longitudinal wakefield. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	3
53	Kinetic simulations of X-B and O-X-B mode conversion and its deterioration at high input power. <i>Nuclear Fusion</i> , 2017, 57, 116024.	3.5	11
54	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

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55	Beyond the ponderomotive limit: Direct laser acceleration of relativistic electrons in sub-critical plasmas. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	94
56	Spontaneous emergence of non-planar electron orbits during direct laser acceleration by a linearly polarized laser pulse. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	19
57	Enhanced proton acceleration in an applied longitudinal magnetic field. <i>New Journal of Physics</i> , 2016, 18, 105011.	2.9	50
58	Universal scalings for laser acceleration of electrons in ion channels. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	45
59	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
60	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
61	Criterion for correctly simulating relativistic electron motion in a high-intensity laser field. <i>AIP Conference Proceedings</i> , 2016, , .	0.4	2
62	Compact tunable Compton x-ray source from laser wakefield accelerator and plasma mirror. <i>AIP Conference Proceedings</i> , 2016, , .	0.4	2
63	Summary report of working group 2: Computations for accelerator physics. <i>AIP Conference Proceedings</i> , 2016, , .	0.4	2
64	Non-Maxwellian electron distributions resulting from direct laser acceleration in near-critical plasmas. <i>Matter and Radiation at Extremes</i> , 2016, 1, 82-87.	3.9	21
65	Novel aspects of direct laser acceleration of relativistic electrons. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	62
66	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
67	Kinetic simulations of X-B and O-X-B mode conversion. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	2
68	Laser generation of ultra-short neutron bursts from high atomic number converters. <i>Proceedings of SPIE</i> , 2015, , .	0.8	4
69	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
70	Relativistic Plasma Polarizer: Impact of Temperature Anisotropy on Relativistic Transparency. <i>Physical Review Letters</i> , 2015, 115, 025002.	7.8	43
71	Compact tunable Compton x-ray source from laser-plasma accelerator and plasma mirror. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	67
72	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

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73	Ultrashort Pulsed Neutron Source. Physical Review Letters, 2014, 113, 184801.	7.8	123
74	Observation of Self-Sustaining Relativistic Ionization Wave Launched by a Sheath Field. Physical Review Letters, 2014, 112, 045002.	7.8	4
75	Enhancement of laser-driven electron acceleration in an ion channel. Physics of Plasmas, 2014, 21, .	1.9	62
76	Observation of Self-Sustaining Relativistic Ionization Wave Launched by Sheath Field. , 2014, , .		0
77	An Ultra-Short Pulsed Neutron Source. , 2014, , .		0
78	Generating "Superponderomotive" Electrons due to a Non-Wake-Field Interaction between a Laser Pulse and a Longitudinal Electric Field. Physical Review Letters, 2013, 111, 065002.	7.8	103
79	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
80	Parametric amplification of laser-driven acceleration in a plasma channel. , 2013, , .		4
81	In Situ Measurement of Cluster Mass Fraction in Supersonic Gas Jets by Frequency Domain Holography. , 2012, , .		0
82	Characterization of cluster/monomer ratio in pulsed supersonic gas jets. Applied Physics Letters, 2012, 100, 064101.	3.3	22
83	Parametric Amplification of Laser-Driven Electron Acceleration in Underdense Plasma. Physical Review Letters, 2012, 108, 145004.	7.8	96
84	Measurements and modeling of radio frequency field structures in a helicon plasma. Physics of Plasmas, 2011, 18, 013501.	1.9	29
85	Size distribution and mass fraction of microclusters in laser-irradiated plasmas. High Energy Density Physics, 2010, 6, 121-127.	1.5	15
86	Generation of Fast Ions by Microclusters. Plasma and Fusion Research, 2010, 5, S2071-S2071.	0.7	5
87	Collisionless plasma expansion into vacuum: Two new twists on an old problem. Physics of Plasmas, 2009, 16, 055707.	1.9	25
88	Ambipolar acceleration of ions in a magnetic nozzle. Physics of Plasmas, 2008, 15, .	1.9	60
89	Magnetic nozzle and plasma detachment model for a steady-state flow. Physics of Plasmas, 2008, 15, .	1.9	35
90	Ion acceleration by hot electrons in microclusters. Physics of Plasmas, 2007, 14, 073105.	1.9	12

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91	Status of Magnetic Nozzle and Plasma Detachment Experiment. AIP Conference Proceedings, 2006, , .	0.4	8
92	Propagation of radially localized helicon waves in longitudinally nonuniform plasmas. Physics of Plasmas, 2006, 13, 062107.	1.9	4
93	Resonant power absorption in helicon plasma sources. Physics of Plasmas, 2006, 13, 123507.	1.9	46
94	Nonlinear physics of laser-irradiated microclusters. Physics of Plasmas, 2005, 12, 056706.	1.9	67
95	Magnetohydrodynamic scenario of plasma detachment in a magnetic nozzle. Physics of Plasmas, 2005, 12, 043504.	1.9	112
96	Harmonic generation in clusters. Physics of Plasmas, 2004, 11, 3349-3359.	1.9	44
97	Theoretical components of the VASIMR plasma propulsion concept. Physics of Plasmas, 2004, 11, 2942-2949.	1.9	100
98	Electron response in laser-irradiated microclusters. Plasma Physics Reports, 2003, 29, 593-597.	0.9	24
99	Ion kinetics in a magnetized plasma source. Physics of Plasmas, 2002, 9, 1015-1024.	1.9	9
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	$l=1$ diocotron instability of single charged plasmas. Plasma Physics Reports, 2002, 28, 141-157.	0.9	9
102	Single-pass ion cyclotron resonance absorption. Physics of Plasmas, 2001, 8, 907-915.	1.9	30
103	Radially Localized Helicon Modes in Nonuniform Plasma. Physical Review Letters, 2000, 84, 3863-3866.	7.8	58
104	Electron acceleration using twisted laser wavefronts. Plasma Physics and Controlled Fusion, 0, , .	2.1	6
105	Electron-positron pair production in the collision of real photon beams with wide energy distributions. Plasma Physics and Controlled Fusion, 0, , .	2.1	7