C Joshi

List of Publications by Year
in descending order

131 papers	9,448 citations	36303 51 h-index	38395 95 g-index
133 all docs	133 docs citations	133 times ranked	2478 citing authors

#	Article	IF	Citations
1	Electron acceleration from the breaking of relativistic plasma waves. Nature, 1995, 377, 606-608.	27.8	750
2	Generating multi-GeV electron bunches using single stage laser wakefield acceleration in a 3D nonlinear regime. Physical Review Special Topics: Accelerators and Beams, 2007, 10, .	1.8	710
3	Injection and Trapping of Tunnel-Ionized Electrons into Laser-Produced Wakes. Physical Review Letters, 2010, 104, 025003.	7.8	434
4	High-efficiency acceleration of an electron beam in a plasma wakefield accelerator. Nature, 2014, 515, 92-95.	27.8	403
5	Self-Guided Laser Wakefield Acceleration beyond 1ÂGeV Using Ionization-Induced Injection. Physical Review Letters, 2010, 105, 105003.	7.8	338
6	Ultrahigh-gradient acceleration of injected electrons by laser-excited relativistic electron plasma waves. Physical Review Letters, 1993, 70, 37-40.	7.8	307
7	Experimental Measurements of Hot Electrons Generated by Ultraintense (>1019W/cm2) Laser-Plasma Interactions on Solid-Density Targets. Physical Review Letters, 1998, 81, 822-825.	7.8	263
8	Ultrahigh gradient particle acceleration by intense laser-driven plasma density waves. Nature, 1984, 311, 525-529.	27.8	256
9	Demonstration of a Narrow Energy Spread,<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo>â^¼</mml:mo><mml:mn>0.5</mml:mn><mml:mtext>â€‰</mml:mtext><mml:mtext>â€‰</mml:mtext>< Beam from a Two-Stage Laser Wakefield Accelerator. Physical Review Letters, 2011, 107, 045001.	7.8	213
10	Observation of Electron Energies Beyond the Linear Dephasing Limit from a Laser-Excited Relativistic Plasma Wave. Physical Review Letters, 1998, 80, 2133-2136.	7.8	195
11	Relativistic Plasma-Wave Excitation by Collinear Optical Mixing. Physical Review Letters, 1985, 54, 2343-2346.	7.8	192
12	Evolution of self-focusing of intense electromagnetic waves in plasma. Physical Review Letters, 1988, 60, 1298-1301.	7.8	187
13	Forward Raman Instability and Electron Acceleration. Physical Review Letters, 1981, 47, 1285-1288.	7.8	171
14	Near-GeV-Energy Laser-Wakefield Acceleration of Self-Injected Electrons in a Centimeter-Scale Plasma Channel. Physical Review Letters, 2004, 93, 185002.	7.8	168
15	Propagation of Intense Subpicosecond Laser Pulses through Underdense Plasmas. Physical Review Letters, 1995, 74, 4659-4662.	7.8	166
16	Experiments and simulations of tunnel-ionized plasmas. Physical Review A, 1992, 46, 1091-1105.	2.5	164
17	Radiation from Cerenkov Wakes in a Magnetized Plasma. Physical Review Letters, 1997, 79, 4194-4197.	7.8	161
18	Multi-GeV Energy Gain in a Plasma-Wakefield Accelerator. Physical Review Letters, 2005, 95, 054802.	7.8	160

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19	Two-Dimensional Simulations of Single-Frequency and Beat-Wave Laser-Plasma Heating. Physical Review Letters, 1985, 54, 558-561.	7.8	147
20	Ionization-Induced Electron Trapping in Ultrarelativistic Plasma Wakes. Physical Review Letters, 2007, 98, 084801.	7.8	138
21	Multi-gigaelectronvolt acceleration of positrons in a self-loaded plasma wakefield. Nature, 2015, 524, 442-445.	27.8	133
22	Measurements of the Critical Power for Self-Injection of Electrons in a Laser Wakefield Accelerator. Physical Review Letters, 2009, 103, 215006.	7.8	128
23	Trapped electron acceleration by a laser-driven relativistic plasma wave. Nature, 1994, 368, 527-529.	27.8	124
24	The development of laser- and beam-driven plasma accelerators as an experimental field. Physics of Plasmas, 2007, 14, 055501.	1.9	111
25	Stimulated Raman scattering, two-plasmon decay, and hot electron generation from underdense plasmas at 0.35 Î¼m. Physics of Fluids, 1984, 27, 1887.	1.4	104
26	Hot Electron Generation by the Two-Plasmon Decay Instability in the Laser-Plasma Interaction at 10.6 Î¼m. Physical Review Letters, 1980, 45, 1179-1182.	7.8	103
27	Plasma-Wakefield Acceleration of an Intense Positron Beam. Physical Review Letters, 2003, 90, 214801.	7.8	102
28	Plasma wave wigglers for free-electron lasers. IEEE Journal of Quantum Electronics, 1987, 23, 1571-1577.	1.9	98
29	Meter-Scale Plasma-Wakefield Accelerator Driven by a Matched Electron Beam. Physical Review Letters, 2004, 93, .	7.8	88
30	Strongly coupled stimulated Raman backscatter from subpicosecond laser-plasma interactions. Physical Review Letters, 1992, 69, 442-445.	7.8	86
31	Ion acceleration from laser-driven electrostatic shocks. Physics of Plasmas, 2013, 20, .	1.9	85
32	Simulation of monoenergetic electron generation via laser wakefield accelerators for 5â€“25TW lasers. Physics of Plasmas, 2006, 13, 056708.	1.9	83
33	Plasma physics aspects of tunnel-ionized gases. Physical Review Letters, 1992, 68, 321-324.	7.8	81
34	Transverse Envelope Dynamics of a 28.5-GeV Electron Beam in a Long Plasma. Physical Review Letters, 2002, 88, 154801.	7.8	81
35	Plasma Wave Generation in a Self-Focused Channel of a Relativistically Intense Laser Pulse. Physical Review Letters, 1998, 81, 100-103.	7.8	79
36	Physics of Phase Space Matching for Staging Plasma and Traditional Accelerator Components Using Longitudinally Tailored Plasma Profiles. Physical Review Letters, 2016, 116, 124801.	7.8	73

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37	Photo-ionized lithium source for plasma accelerator applications. IEEE Transactions on Plasma Science, 1999, 27, 791-799.	1.3	70
38	Saturation of Beat-Excited Plasma Waves by Electrostatic Mode Coupling. Physical Review Letters, 1986, 56, 2629-2632.	7.8	69
39	Laser wakefield accelerator based light sources: potential applications and requirements. Plasma Physics and Controlled Fusion, 2014, 56, 084015.	2.1	69
40	Acceleration and scattering of injected electrons in plasma beat wave accelerator experiments*. Physics of Plasmas, 1994, 1, 1753-1760.	1.9	67
41	EuPRAXIA Conceptual Design Report. European Physical Journal: Special Topics, 2020, 229, 3675-4284.	2.6	64
42	Self-Guiding of Ultrashort, Relativistically Intense Laser Pulses through Underdense Plasmas in the Blowout Regime. Physical Review Letters, 2009, 102, 175003.	7.8	63
43	Plasma wakefield acceleration experiments at FACET II. Plasma Physics and Controlled Fusion, 2018, 60, 034001.	2.1	63
44	Second harmonic generation and its interaction with relativistic plasma waves driven by forward Raman instability in underdense plasmas. Physics of Plasmas, 1997, 4, 1127-1131.	1.9	61
45	Angular Dependence of Betatron X-Ray Spectra from a Laser-Wakefield Accelerator. Physical Review Letters, 2013, 111, 235004.	7.8	60
46	Horizon 2020 EuPRAXIA design study. Journal of Physics: Conference Series, 2017, 874, 012029.	0.4	60
47	Observation of Raman forward scattering and electron acceleration in the relativistic regime. IEEE Transactions on Plasma Science, 1996, 24, 289-295.	1.3	58
48	E-157: A 1.4-m-long plasma wake field acceleration experiment using a 30 GeV electron beam from the Stanford Linear Accelerator Center Linac. Physics of Plasmas, 2000, 7, 2241-2248.	1.9	57
49	Role of Direct Laser Acceleration of Electrons in a Laser Wakefield Accelerator with Ionization Injection. Physical Review Letters, 2017, 118, 064801.	7.8	57
50	Enhanced Acceleration of Injected Electrons in a Laser-Beat-Wave-Induced Plasma Channel. Physical Review Letters, 2004, 92, 095004.	7.8	56
51	High quality electron bunch generation using a longitudinal density-tailored plasma-based accelerator in the three-dimensional blowout regime. Physical Review Accelerators and Beams, 2017, 20, .	1.6	53
52	Perspectives on the generation of electron beams from plasma-based accelerators and their near and long term applications. Physics of Plasmas, 2020, 27, .	1.9	50
53	Phase-Space Dynamics of Ionization Injection in Plasma-Based Accelerators. Physical Review Letters, 2014, 112, 035003.	7.8	49
54	Self-modulated wakefield and forced laser wakefield acceleration of electrons. Physics of Plasmas, 2003, 10, 2071-2077.	1.9	46

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55	Low emittance electron beam generation from a laser wakefield accelerator using two laser pulses with different wavelengths. Physical Review Special Topics: Accelerators and Beams, 2014, 17, .	1.8	46
56	Observation of Betatron X-Ray Radiation in a Self-Modulated Laser Wakefield Accelerator Driven with Picosecond Laser Pulses. Physical Review Letters, 2017, 118, 134801.	7.8	45
57	Femtosecond Probing of Plasma Wakefields and Observation of the Plasma Wake Reversal Using a Relativistic Electron Bunch. Physical Review Letters, 2017, 119, 064801.	7.8	44
58	Generation of 160-ps terawatt-power CO_2 laser pulses. Optics Letters, 1999, 24, 1717.	3.3	43
59	Role of direct laser acceleration in energy gained by electrons in a laser wakefield accelerator with ionization injection. Plasma Physics and Controlled Fusion, 2014, 56, 084006.	2.1	42
60	Observation of steepening in electron plasma waves driven by stimulated Raman backscattering. Physical Review Letters, 1987, 59, 292-295.	7.8	38
61	Measurement of Transverse Wakefields Induced by a Misaligned Positron Bunch in a Hollow Channel Plasma Accelerator. Physical Review Letters, 2018, 120, 124802.	7.8	38
62	Self-modulated laser wakefield accelerators as x-ray sources. Plasma Physics and Controlled Fusion, 2016, 58, 034018.	2.1	37
63	Evolution of Stimulated Raman into Stimulated Compton Scattering of Laser Light via Wave Breaking of Plasma Waves. Physical Review Letters, 1995, 74, 1355-1358.	7.8	36
64	9 GeV energy gain in a beam-driven plasma wakefield accelerator. Plasma Physics and Controlled Fusion, 2016, 58, 034017.	2.1	35
65	Acceleration of a trailing positron bunch in a plasma wakefield accelerator. Scientific Reports, 2017, 7, 14180.	3.3	32
66	Bremsstrahlung hard x-ray source driven by an electron beam from a self-modulated laser wakefield accelerator. Plasma Physics and Controlled Fusion, 2018, 60, 054008.	2.1	31
67	Phase Space Dynamics of a Plasma Wakefield Dechirper for Energy Spread Reduction. Physical Review Letters, 2019, 122, 204804.	7.8	31
68	Experiments on laser driven beatwave acceleration in a ponderomotively formed plasma channel. Physics of Plasmas, 2004, 11, 2875-2881.	1.9	30
69	Nonresonant beat-wave excitation of relativistic plasma waves with constant phase velocity for charged-particle acceleration. Physical Review E, 2004, 69, 026404.	2.1	30
70	Stimulated Compton scattering from preformed underdense plasmas. Physical Review Letters, 1991, 67, 1434-1437.	7.8	29
71	Demonstration of Collisionally Enhanced Degenerate Four-Wave Mixing in a Plasma. Physical Review Letters, 1989, 62, 151-154.	7.8	28
72	Laser wakefield acceleration at reduced density in the self-guided regime. Physics of Plasmas, 2010, 17, 056709.	1.9	28

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73	Laser ionized preformed plasma at FACET. Plasma Physics and Controlled Fusion, 2014, 56, 084011.	2.1	28
74	Capturing relativistic wakefield structures in plasmas using ultrashort high-energy electrons as a probe. Scientific Reports, 2016, 6, 29485.	3.3	26
75	Laser-ionized, beam-driven, underdense, passive thin plasma lens. Physical Review Accelerators and Beams, 2019, 22, .	1.6	26
76	Efficient shortening of self-chirped picosecond pulses in a high-power CO_2 amplifier. Optics Letters, 2001, 26, 813.	3.3	24
77	Observation of the Nonlinear Saturation of Langmuir Waves Driven by Ponderomotive Force in a Large Scale Plasma. Physical Review Letters, 1999, 83, 2965-2968.	7.8	23
78	Studies of relativistic waveâ€"particle interactions in plasma-based collective accelerators. Laser and Particle Beams, 1990, 8, 427-449.	1.0	22
79	X-ray sources using a picosecond laser driven plasma accelerator. Physics of Plasmas, 2019, 26, .	1.9	22
80	Energy deposition by hot electrons in CO2-laser-irradiated targets. Physical Review A, 1982, 25, 2440-2443.	2.5	21
81	The Neptune photoinjector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 410, 437-451.	1.6	21
82	Novel small-angle collective Thomson scattering system. Applied Optics, 1985, 24, 2823.	2.1	20
83	Observation of resonant energy transfer between identical-frequency laser beams. Physics of Plasmas, 1999, 6, 2144-2149.	1.9	20
84	Estimation of direct laser acceleration in laser wakefield accelerators using particle-in-cell simulations. Plasma Physics and Controlled Fusion, 2016, 58, 034008.	2.1	20
85	Nanoscale Electron Bunching in Laser-Triggered Ionization Injection in Plasma Accelerators. Physical Review Letters, 2016, 117, 034801.	7.8	20
86	Nonlinear Mixing of Electromagnetic Waves in Plasmas. Science, 1989, 243, 494-500.	12.6	18
87	High-field plasma acceleration in a high-ionization-potential gas. Nature Communications, 2016, 7, 11898.	12.8	18
88	Self-mapping the longitudinal field structure of a nonlinear plasma accelerator cavity. Nature Communications, 2016, 7, 12483.	12.8	18
89	Spatio-temporal dynamics of the resonantly excited relativistic plasma wave driven by a CO2 laser. Physics of Plasmas, 1997, 4, 1434-1447.	1.9	17
90	Formation of Ultrarelativistic Electron Rings from a Laser-Wakefield Accelerator. Physical Review Letters, 2015, 115, 055004.	7.8	17

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91	Betatron x-ray radiation in the self-modulated laser wakefield acceleration regime: prospects for a novel probe at large scale laser facilities. Nuclear Fusion, 2019, 59, 032003.	3.5	17
92	Microcoulomb (0.7 Â± $$rac{0.4}{0.2}$$ Î¼C) laser plasma accelerator on OMEGA EP. Scientific Reports, 2021, 11, 7498.	3.3	17
93	Claytonet al.Respond. Physical Review Letters, 1985, 55, 1652-1652.	7.8	15
94	Dynamic focusing of an electron beam through a long plasma. Physical Review Special Topics: Accelerators and Beams, 2002, 5, .	1.8	13
95	Evidence for high-energy and low-emittance electron beams using ionization injection of charge in a plasma wakefield accelerator. Plasma Physics and Controlled Fusion, 2016, 58, 034009.	2.1	12
96	Laser Accelerators. IEEE Transactions on Nuclear Science, 1985, 32, 1576-1581.	2.0	11
97	Second generation beatwave experiments at UCLA. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 410, 378-387.	1.6	10
98	Betatron x-ray radiation from laser-plasma accelerators driven by femtosecond and picosecond laser systems. Physics of Plasmas, 2018, 25, 056706.	1.9	10
99	Near-Ideal Dechirper for Plasma-Based Electron and Positron Acceleration Using a Hollow Channel Plasma. Physical Review Applied, 2019, 12, .	3.8	10
100	Effect of fluctuations in the down ramp plasma source profile on the emittance and current profile of the self-injected beam in a plasma wakefield accelerator. Physical Review Accelerators and Beams, 2019, 22, .	1.6	10
101	X-ray analysis methods for sources from self-modulated laser wakefield acceleration driven by picosecond lasers. Review of Scientific Instruments, 2019, 90, 033503.	1.3	8
102	Ultrabright Electron Bunch Injection in a Plasma Wakefield Driven by a Superluminal Flying Focus Electron Beam. Physical Review Letters, 2022, 128, 174803.	7.8	8
103	High-brilliance synchrotron radiation induced by the plasma magnetostatic mode. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	7
104	Forward directed ion acceleration in a LWFA with ionization-induced injection. Journal of Plasma Physics, 2012, 78, 327-331.	2.1	7
105	Low-energy-spread laser wakefield acceleration using ionization injection with a tightly focused laser in a mismatched plasma channel. Plasma Physics and Controlled Fusion, 2016, 58, 034004.	2.1	7
106	CO₂ Laser acceleration of forward directed MeV proton beams in a gas target at critical plasma density. Journal of Plasma Physics, 2012, 78, 373-382.	2.1	6
107	Colliding ionization injection in a plasma wakefield accelerator. Plasma Physics and Controlled Fusion, 2016, 58, 034015.	2.1	6
108	Probing plasma wakefields using electron bunches generated from a laser wakefield accelerator. Plasma Physics and Controlled Fusion, 2018, 60, 044013.	2.1	6

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109	Plasma-based accelerators: then and now. Plasma Physics and Controlled Fusion, 2019, 61, 104001.	2.1	6
110	Initializing anisotropic electron velocity distribution functions in optical-field ionized plasmas. Plasma Physics and Controlled Fusion, 2020, 62, 024011.	2.1	6
111	Predominant contribution of direct laser acceleration to high-energy electron spectra in a low-density self-modulated laser wakefield accelerator. Physical Review Accelerators and Beams, 2021, 24, .	1.6	6
112	Motion of relativistic electrons through transverse relativistic plasma waves. Review of Scientific Instruments, 1990, 61, 3037-3039.	1.3	5
113	The nonlinear optics of plasmas. Physica Scripta, 1990, T30, 90-94.	2.5	5
114	Pump depletion limited evolution of the relativistic plasma wave-front in a forced laser-wakefield accelerator. Plasma Physics and Controlled Fusion, 2009, 51, 024003.	2.1	5
115	Measuring the angular dependence of betatron x-ray spectra in a laser-wakefield accelerator. Plasma Physics and Controlled Fusion, 2014, 56, 084016.	2.1	5
116	Long-range attraction of an ultrarelativistic electron beam by a column of neutral plasma. New Journal of Physics, 2016, 18, 103013.	2.9	5
117	Transverse oscillations in plasma wakefield experiments at FACET. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 829, 94-98.	1.6	4
118	Producing multi-coloured bunches through beam-induced ionization injection in plasma wakefield accelerator. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180184.	3.4	4
119	Betatron radiation and emittance growth in plasma wakefield accelerators. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180173.	3.4	4
120	Alternative interpretation of Nucl. Instr. and Meth. A 410 (1998) 357 (H. Dewa et al.). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1999, 432, 227-231.	1.6	3
121	High Frequency Instabilities in Underdense Plasmas Produced by a 0.35 Âµm Laser Beam. , 1984, , 527-543.		3
122	12.1 Plasma Accelerators. , 2013, , 592-605.		3
123	Limitation on the accelerating gradient of a wakefield excited by an ultrarelativistic electron beam in rubidium plasma. Physical Review Accelerators and Beams, 2016, 19, .	1.6	3
124	Backward Compton scattering for probing electric fields in a plasma. Review of Scientific Instruments, 1986, 57, 1840-1842.	1.3	2
125	Two Dimensional Simulations of Intense Laser Irradiation of Underdense Plasmas. , 1986, , 767-779.		2
126	The production of high-energy electrons from the interaction of an intense laser pulse with an underdense plasma. Journal of Modern Optics, 2003, 50, 673-681.	1.3	1

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127	Betatron radiation from laser plasma accelerators. Proceedings of SPIE, 2015, , .	0.8	1
128	Sub-femtosecond electron bunches created by direct laser acceleration in a laser wakefield accelerator with ionization injection. AIP Conference Proceedings, 2016, , .	0.4	1
129	Mitigation Techniques for Witness Beam Hosing in Plasma - Based Acceleration. , 2018, , .		1
130	The energy-dependent betatron phase advance in the blowout regimeâ€"comparison of two methods for estimation. AIP Conference Proceedings, 2016, , .	0.4	0
131	Outlook for the Future. , 2020, , 797-825.		0