Arie Zigler

List of Publications by Year
in descending order

111 papers	3,032 citations	159358 30 h-index	189595 50 g-index
111 all docs	111 docs citations	111 times ranked	1820 citing authors

#	Article	IF	Citations
1	Super-transition-arrays: A model for the spectral analysis of hot, dense plasma. Physical Review A, 1989, 40, 3183-3193.	1.0	345
2	Guiding of High Intensity Laser Pulses in Straight and Curved Plasma Channel Experiments. Physical Review Letters, 1996, 77, 4186-4189.	2.9	295
3	Control of multiple filamentation in air. Optics Letters, 2004, 29, 1772.	1.7	141
4	Self-focusing Distance of Very High Power Laser Pulses. Optics Express, 2005, 13, 5897.	1.7	73
5	High efficiency guiding of terawatt subpicosecond laser pulses in a capillary discharge plasma channel. Physical Review E, 1999, 59, R4769-R4772.	0.8	71
6	Enhanced Proton Acceleration by an Ultrashort Laser Interaction with Structured Dynamic Plasma Targets. Physical Review Letters, 2013, 110, 215004.	2.9	69
7	Variable profile capillary discharge for improved phase matching in a laser wakefield accelerator. Applied Physics Letters, 1999, 75, 772-774.	1.5	57
8	Stable Laser-Pulse Propagation in Plasma Channels for GeV Electron Acceleration. Physical Review Letters, 2000, 85, 5110-5113.	2.9	57
9	Gain predictions for nickel-like gadolinium from a 181-level multiconfigurational distorted-wave collisional-radiative model. Physical Review A, 1988, 38, 1797-1804.	1.0	55
10	Conversion of Electrostatic to Electromagnetic Waves by Superluminous Ionization Fronts. Physical Review Letters, 2001, 86, 2806-2809.	2.9	55
11	Characterization of the electrical properties and thickness of thin epitaxial semiconductor layers by THz reflection spectroscopy. Journal of Applied Physics, 2001, 90, 5778-5781.	1.1	47
12	Classification of X-Ray Spectra from Laser Produced Plasmas of Atoms from Tm to Pt in the Range 6-9 Ã.... Physica Scripta, 1983, 27, 39-53.	1.2	45
13	Investigations of double capillary discharge scheme for production of wave guide in plasma. Applied Physics Letters, 1997, 71, 2925-2927.	1.5	45
14	Control of the collapse distance in atmospheric propagation. Optics Express, 2006, 14, 4946.	1.7	45
15	Inner-shell satellite transitions in dense short pulse plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 1997, 58, 859-878.	1.1	44
16	Fine Structure of a Laser-Plasma Filament in Air. Physical Review Letters, 2007, 98, 155002.	2.9	44
17	Generation of controlled radiation sources in the atmosphere using a dual femtosecond /nanosecond laser pulse. Journal of Applied Physics, 2008, 103, .	1.1	43
18	Experimental characterization of active plasma lensing for electron beams. Applied Physics Letters, 2017, 110, .	1.5	42

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19	Scleral cross-linking using riboflavin and ultraviolet-A radiation for prevention of progressive myopia in a rabbit model. Experimental Eye Research, 2014, 127, 190-195.	1.2	41
20	Longitudinal Phase-Space Manipulation with Beam-Driven Plasma Wakefields. Physical Review Letters, 2019, 122, 114801.	2.9	41
21	Generation of tunable far-infrared radiation by the interaction of a superluminous ionizing front with an electrically biased photoconductor. Applied Physics Letters, 1999, 74, 1669-1671.	1.5	40
22	GeV acceleration in tapered plasma channels. Physics of Plasmas, 2002, 9, 2364-2370.	0.7	40
23	5.5â€“7.5ÅMeV Proton Generation by a Moderate Intensity Ultrashort Pulse Laser Interaction with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">O</mml:mi></mml:math>Nanowire Targets. Physical Review Letters, 2011, 106, 134801.	2.9	39
24	Focusing of High-Brightness Electron Beams with Active-Plasma Lenses. Physical Review Letters, 2018, 121, 174801.	2.9	39
25	Reduction of damage threshold in dielectric materials induced by negatively chirped laser pulses. Applied Physics Letters, 2005, 87, 241903.	1.5	37
26	Extended lifetime of high density plasma filament generated by a dual femtosecondâ€“nanosecond laser pulse in air. New Journal of Physics, 2014, 16, 123046.	1.2	37
27	Interpretation of unresolved transition arrays in the soft-x-ray spectra of highly ionized molybdenum and palladium. Physical Review A, 1982, 25, 2391-2394.	1.0	34
28	The Unresolved 3d-4fTransitions in the X-ray Spectra of Highly Ionized Tm to Re from Laser Produced Plasma. Physica Scripta, 1986, 34, 51-57.	1.2	33
29	Measurement of energy penetration depth of subpicosecond laser energy into solid density matter. Applied Physics Letters, 1991, 59, 534-536.	1.5	32
30	Effect of an Energy Reservoir on the Atmospheric Propagation of Laser-Plasma Filaments. Physical Review Letters, 2008, 100, 155003.	2.9	32
31	Energy spread minimization in a beam-driven plasma wakefield accelerator. Nature Physics, 2021, 17, 499-503.	6.5	30
32	Plasma structures for quasiphase matched high harmonic generation. Applied Physics Letters, 2011, 98, 141110.	1.5	29
33	Microwave diagnostics of femtosecond laser-generated plasma filaments. Applied Physics Letters, 2011, 99, .	1.5	29
34	Experimental characterization of the effects induced by passive plasma lens on high brightness electron bunches. Applied Physics Letters, 2017, 111, .	1.5	29
35	Elimination of laser prepulse by relativistic guiding in a plasma. Applied Physics Letters, 1991, 58, 346-348.	1.5	28
36	Effect of ponderomotive forces on wave dispersion and second-harmonic light emissions in laser-produced plasmas. Physical Review A, 1981, 24, 1601-1608.	1.0	27

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37	Shadow monochromatic backlighting: Large-field high resolution X-ray shadowgraphy with improved spectral tunability. Laser and Particle Beams, 2001, 19, 285-293.	0.4	27
38	First demonstration of a staged all-optical laser wakefield acceleration. Physics of Plasmas, 2005, 12, 100702.	0.7	27
39	Control of the filamentation distance and pattern in long-range atmospheric propagation. Optics Express, 2007, 15, 2779.	1.7	27
40	Plasma production from ultraviolet-transmitting targets using subpicosecond ultraviolet radiation. Optics Letters, 1991, 16, 1261.	1.7	25
41	The inverse Faraday effect in plasma produced by circularly polarized laser light in the range of intensities 109â€“1014 W/cm2. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 246, 329-334.	0.9	25
42	Observation of density-enhanced dielectronic satellite spectra produced during subpicosecond laser-matter interactions. Physical Review A, 1992, 45, 1569-1574.	1.0	24
43	Velocity control and staging in laser wakefield accelerators using segmented capillary discharges. Applied Physics Letters, 2001, 78, 3175-3177.	1.5	24
44	Guiding of 35 TW laser pulses in ablative capillary discharge waveguides. Physics of Plasmas, 2009, 16, 113105.	0.7	23
45	X-Ray Spectrum Emitted by Laser-Produced Barium Plasma in the 8 to 13.5 Ã... Wavelength Range. Physica Scripta, 1998, 58, 19-24.	1.2	22
46	High-resolution x-ray spectrum of a laser-produced barium plasma in the 9.10â€“9.36-Ã... wavelength range. Physical Review A, 1998, 58, 1859-1866.	1.0	22
47	Nickel-like spectra of Tm XLII and Yb XLIII from laser produced plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 1980, 79, 67-70.	0.9	21
48	High intensity focusing of laser pulses using a short plasma channel lens. Physics of Plasmas, 2002, 9, 1431-1442.	0.7	21
49	Interpretation of laser produced Au and W X-ray spectra in the 3 keV range. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 117, 31-35.	0.9	20
50	Elongated high-temperature, dense plasma produced by a high-power-laser heating of a capillary discharge. Physical Review A, 1987, 35, 4446-4448.	1.0	20
51	High intensity generation of 9â€“13 Ã... xâ€rays from BaF2targets. Applied Physics Letters, 1991, 59, 777-778.	1.5	20
52	Nickel-like spectrum of platinum emitted from a laser-produced plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 1980, 75, 343-344.	0.9	19
53	Use of unresolved transition arrays for plasma diagnostics. Physical Review A, 1987, 35, 280-285.	1.0	19
54	Burnâ€through of thin aluminum foils by laserâ€driven ablation. Journal of Applied Physics, 1979, 50, 6817-6821.	1.1	18

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55	Analysis of the x-ray spectra emitted by laser-produced plasma of highly ionized lanthanum and praseodymium in the 8.4 to 12.0 Ã... wavelength range. Physica Scripta, 1994, 50, 61-67.	1.2	18
56	Is efficiency of gain generation in Li III 13.5-nm laser with 0.25-Î¼m subpicosecond pulses the same as with 1 Î¼m?. IEEE Journal of Selected Topics in Quantum Electronics, 1999, 5, 1453-1459.	1.9	18
57	Temporal evolution of femtosecond laser induced plasma filament in air and N2. Applied Physics Letters, 2013, 103, .	1.5	18
58	Spatial resolution of X-ray line emission in laser produced plasma by shadow techniques. Physics Letters, Section A: General, Atomic and Solid State Physics, 1977, 60, 319-322.	0.9	17
59	Temporally resolved target potential measurements in laser-target interactions. Journal Physics D: Applied Physics, 1987, 20, 210-214.	1.3	17
60	Misalignment sensitivity of beam combining by stimulated Brillouin scattering. Optics Letters, 1990, 15, 469.	1.7	17
61	The origin of KÎ± radiation in laser-produced aluminum plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 1977, 63, 275-278.	0.9	16
62	Generation of a high-energy ultrawideband chirped source in periodically poled LiTaO3. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 620.	0.9	16
63	Imaging of laser-produced plasmas at 44 Ã... using a multilayer mirror. Optics Communications, 1988, 68, 190-195.	1.0	15
64	Electron-density dependence of line intensities of Cu iâ€“likeSm33+toYb41+emitted from tokamak and laser-produced plasmas. Physical Review A, 1988, 38, 288-295.	1.0	15
65	Coherent beam and image amplification by Brillouin two-beam coupling in CS_2. Optics Letters, 1990, 15, 616.	1.7	15
66	Longitudinal profiles of plasma parameters in a laser-ignited capillary discharge and implications for laser wakefield accelerator applications. Applied Physics Letters, 2005, 87, 261501.	1.5	15
67	X-ray emission from a 650-fs laser-produced barium plasma. Physical Review E, 1993, 47, 4349-4353.	0.8	14
68	Trapping and acceleration of nonideal injected electron bunches in laser Wakefield accelerators. IEEE Transactions on Plasma Science, 2005, 33, 712-722.	0.6	14
69	Micro-radiography with laser plasma X-ray source operating in air atmosphere. Laser and Particle Beams, 2010, 28, 393-397.	0.4	14
70	The Lagrangian formulation of strong-field quantum electrodynamics in a plasma. Physics of Plasmas, 2014, 21, 053103.	0.7	14
71	Scleral Cross-linking Using Riboflavin and Ultraviolet-A Radiation for Prevention of Axial Myopia in a Rabbit Model. Journal of Visualized Experiments, 2016, , e53201.	0.2	14
72	Novel Single-Shot Diagnostics for Electrons from Laser-Plasma Interaction at SPARC_LAB. Quantum Beam Science, 2017, 1, 13.	0.6	14

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73	Temporal pulse-shaping for laser-fusion experiments using a cavity-dumped O-switched oscillator. Journal of Physics E: Scientific Instruments, 1982, 15, 255-259.	0.7	13
74	Low jitter capillary discharge channels. Applied Physics Letters, 2003, 83, 2961-2963.	1.5	13
75	A plasma microlens for ultrashort high power lasers. Applied Physics Letters, 2009, 95, 031101.	1.5	12
76	Nonlinear Compton scattering in a strong rotating electric field. Physical Review A, 2016, 94, .	1.0	12
77	Collimation of plasma-produced x-rays by spherical crystals: Ray-tracing simulations and experimental results. Review of Scientific Instruments, 1999, 70, 1614-1620.	0.6	10
78	Transmission of high-power CO2 laser pulses through a plasma channel. Applied Physics Letters, 2003, 83, 3459-3461.	1.5	10
79	Generation of fast ions by an efficient coupling of high power laser into snow nanotubes. Applied Physics Letters, 2007, 91, 251501.	1.5	10
80	Autoresonant excitation and control of molecular degrees of freedom in three dimensions. Physical Review A, 2005, 72, .	1.0	8
81	Towards Remote Lightning Manipulation by Meters-long Plasma Channels Generated by Ultra-Short-Pulse High-Intensity Lasers. Scientific Reports, 2019, 9, 407.	1.6	8
82	Tunable, high peak power terahertz radiation from optical rectification of a short modulated laser pulse. Optics Express, 2006, 14, 6813.	1.7	7
83	Simultaneous observation of ultrafast electron and proton beams in TNSA. High Power Laser Science and Engineering, 2020, 8, .	2.0	6
84	Laser frequency bandwidth narrowing by photorefractive two-beam coupling. Optics Letters, 1992, 17, 481.	1.7	5
85	Temporal contrast enhancement of ultrashort pulses using a spatiotemporal plasma-lens filter. Optics Letters, 2020, 45, 2279.	1.7	5
86	Enhancement of a 2477-nm line emitted by the plasma of a boron nitride capillary discharge irradiated by a high-intensity ultrashort laser pulse. Optics Letters, 2005, 30, 1572.	1.7	4
87	Generation of hard x rays by femtosecond laser pulse interaction with solid targets in atmosphere. Optics Letters, 2012, 37, 884.	1.7	4
88	Influence of atomic modeling on integrated simulations of laser-produced Au plasmas. Physical Review E, 2015, 92, 053111.	0.8	4
89	Review on TNSA diagnostics and recent developments at SPARC_LAB. High Power Laser Science and Engineering, 2019, 7, .	2.0	4
90	Highâ€gain photorefractive twoâ€beam coupling in semiâ€insulating GaAs with pumpâ€controlled suppression of the Schottky barrier. Applied Physics Letters, 1990, 57, 422-424.	1.5	3

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91	Increase of multilayer xâ€ray reflectivity induced by pulsed laser heating. Journal of Applied Physics, 1994, 75, 8085-8089.	1.1	3
92	Control of amorphous solid water target morphology induced by deposition on a charged surface. High Power Laser Science and Engineering, 2021, 9, .	2.0	3
93	Gas-ï¬lled capillary-discharge stabilization for plasma-based accelerators by means of a laser pulse. Plasma Physics and Controlled Fusion, 0, , .	0.9	3
94	Comparing efficiency of gain generation in Li III 13.5-nm laser with 0.25-Î¼m and 1-Î¼m subpicosecond pumping pulses. , 1999, , .		2
95	Using the self-filtering property of a femtosecond filament to improve second harmonic generation. Optics Express, 2009, 17, 6451.	1.7	2
96	Proton Acceleration by Ultrashort Intense Laser Interaction with Microstructured Snow Targets. Applied Sciences (Switzerland), 2015, 5, 459-471.	1.3	2
97	Advanced Stabilization Methods of Plasma Devices for Plasma-Based Acceleration. Symmetry, 2022, 14, 450.	1.1	2
98	Distinct features of double phase conjugation in photorefractive semi-insulating GaAs. Optics Communications, 1991, 84, 104-108.	1.0	1
99	Generation of fast protons by interaction of modest laser intensities with H2O â€œsnowâ€•nano-wire targets. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 156-158.	0.7	1
100	‹title›Studies of plasmas excited by intense subpicosecond radiation for x-ray generation (Review) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50		0
101	Generation of tunable bandwidth-controllable terahertz radiation. , 1999, 3795, 477.		0
102	Control of the filamentation distance and pattern in long range atmospheric propagation. , 2007, , NWB2.		0
103	Extending Femtosecond Filamentation of High Power Laser Propagating in the Atmosphere. AIP Conference Proceedings, 2008, , .	0.3	0
104	Interaction of high power laser with snow nanotubes. , 2008, , .		0
105	The fine structure of a laser-plasma filament in air. , 2008, , .		0
106	Guiding and Ionization Blueshift in Ablative Capillary Waveguide Accelerators. , 2009, , .		0
107	THz generation in a photo-activated periodically-biased semiconductor. , 2010, , .		0
108	Atomic kinetics of matter irradiated by intense laser fields. Physical Review E, 2016, 94, 033209.	0.8	0

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109	Low jitter parabolic profile low density plasma channel in 3D printed gas filled capillary. Plasma Research Express, 2021, 3, 025014.	0.4	0
110	Generation of a high-energy ultra wideband chirped source in periodically poled crystals. , 2006, , .		0
111	Simultaneous length extension and temporal prolongation of high-density plasma filaments generated by a femtosecond laser in the air. OSA Continuum, 2020, 3, 267.	1.8	0