Ali Reza Niknam

List of Publications by Year
in descending order

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131 papers	1,119 citations	430874 18 h-index	610901 24 g-index
131 all docs	131 docs citations	131 times ranked	473 citing authors

#	Article	IF	Citations
1	Weakly relativistic and ponderomotive effects on the density steepening in the interaction of an intense laser pulse with an underdense plasma. Physics of Plasmas, 2009, 16, 033105.	1.9	52
2	Effect of the q-nonextensive electron velocity distribution on a magnetized plasma sheath. Physics of Plasmas, 2014, 21, .	1.9	39
3	Collisional effects in magnetized plasma sheath with two species of positive ions. Journal Physics D: Applied Physics, 2009, 42, 025204.	2.8	33
4	Magnetized plasma sheath with two species of positive ions. Physics of Plasmas, 2008, 15, .	1.9	29
5	Theoretical study of the surface waves in semi-bounded quantum collisional plasmas. Physics of Plasmas, 2012, 19, 032109.	1.9	28
6	Turning point temperature and competition between relativistic and ponderomotive effects in self-focusing of laser beam in plasma. Physics of Plasmas, 2013, 20, .	1.9	26
7	Numerical investigation of the magnetized plasma sheath characteristics in the presence of negative ions. Physics of Plasmas, 2008, 15, 123501.	1.9	25
8	Self-focusing of intense high frequency electromagnetic waves in a collisional magnetoactive plasma. Physics of Plasmas, 2011, 18, 112305.	1.9	25
9	Nonlinear dynamic of low-frequency Buneman instability of a current-driven plasma. Physics of Plasmas, 2005, 12, 062110.	1.9	24
10	Nonlinear structure of the electromagnetic waves in underdense plasmas. Physics of Plasmas, 2006, 13, 113110.	1.9	24
11	Ponderomotive self-focusing of Gaussian laser beam in warm collisional plasma. Physics of Plasmas, 2014, 21, .	1.9	24
12	Propagation of surface waves on a semi-bounded quantum magnetized collisional plasma. Physics of Plasmas, 2013, 20, 122106.	1.9	23
13	Effect of q-non-extensive distribution of electrons on the plasma sheath floating potential. Journal of Plasma Physics, 2014, 80, 607-618.	2.1	23
14	Density steepening formation in the interaction of microwave field with a plasma. Physics of Plasmas, 2007, 14, 052104.	1.9	21
15	Resonant terahertz radiation from warm collisional inhomogeneous plasma irradiated by two Gaussian laser beams. Physics of Plasmas, 2016, 23, 053110.	1.9	21
16	Wakefield evolution and electron acceleration in interaction of frequency-chirped laser pulse with inhomogeneous plasma. Physics of Plasmas, 2017, 24, 023112.	1.9	20
17	Nonlinear filamentation of a current-carrying plasma. Physics of Plasmas, 2008, 15, .	1.9	19
18	Plasma immersion ion implantation characteristics with q-nonextensive electron velocity distribution. Journal of Plasma Physics, 2015, 81, .	2.1	19

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19	Terahertz radiation generation through the nonlinear interaction of Hermite and Laguerre Gaussian laser beams with collisional plasma: Field profile optimization. Journal of Applied Physics, 2018, 123, 153101.	2.5	19
20	Atomistic simulation of ultra-short pulsed laser ablation of metals with single and double pulses: An investigation of the re-deposition phenomenon. Applied Surface Science, 2021, 537, 147775.	6.1	19
21	Temperature Effect on Self-Focusing and Defocusing of Gaussian Laser Beam Propagation Through Plasma in Weakly Relativistic Regime. IEEE Transactions on Plasma Science, 2014, 42, 742-747.	1.3	18
22	Effects of potential and duration of pulse width on sheath dynamics related to a target with a groove in two-dimensional simulation. Journal of Applied Physics, 2006, 100, 113301.	2.5	17
23	Weakly relativistic and ponderomotive effects on self-focusing and self-compression of laser pulses in near critical plasmas. Physics of Plasmas, 2014, 21, .	1.9	17
24	Discharge plasma instabilities in the presence of an external constant electric field. Physics of Plasmas, 2003, 10, 4153-4161.	1.9	15
25	Self-focusing and stimulated Brillouin back-scattering of a long intense laser pulse in a finite temperature relativistic plasma. Physics of Plasmas, 2013, 20, .	1.9	15
26	Weibel instability for a streaming electron, counterstreaming e-e, and e-p plasmas with intrinsic temperature anisotropy. Physics of Plasmas, 2014, 21, .	1.9	15
27	Rarefaction shock waves and Hugoniot curve in the presence of free and trapped particles. Physics of Plasmas, 2009, 16, 122109.	1.9	14
28	Simulation of low frequency Buneman instability of a current-driven plasma by particle in cell method. Physics of Plasmas, 2011, 18, .	1.9	14
29	Optimizing chirped laser pulse parameters for electron acceleration in vacuum. Journal of Applied Physics, 2015, 118, 183106.	2.5	14
30	Spatial and temporal evolution of filamentation instability in a current-carrying plasma. Physics of Plasmas, 2010, 17, 122303.	1.9	13
31	Particle in cell simulations of Buneman instability of a current-driven plasma with q-nonextensive electron velocity distribution. Physics of Plasmas, 2014, 21, 092307.	1.9	13
32	Effect of nuclear motion on high-order-harmonic generation of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="normal">H</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:msup><mml:mrow /><mml:mo>+</mml:mo></mml:msup></mml:mrow></mml:math>in intense ultrashort laser pulses. Physical Review A, 2014, 90, .	2.5	13
33	Atomistic simulation of femtosecond laser pulse interactions with a copper film: Effect of dependency of penetration depth and reflectivity on electron temperature. Journal of Applied Physics, 2018, 123, .	2.5	13
34	Terahertz Dyakonov surface waves in plasma metamaterials. Optics Letters, 2018, 43, 519.	3.3	13
35	Characterization of copper oxide nanolayers deposited by direct current magnetron sputtering. Thin Solid Films, 2009, 517, 5464-5467.	1.8	12
36	Simulation of filamentation instability of a current-carrying plasma by particle in cell method. Physics of Plasmas, 2012, 19, .	1.9	12

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37	Numerical Investigation of the Ponderomotive Force Effect in an Underdense Plasma With a Linear Density Profile. IEEE Transactions on Plasma Science, 2010, 38, 2390-2393.	1.3	11
38	Increasing the upper-limit intensity in relativistic and ponderomotive self-focusing by using plasma with a linear electron temperature ramp. Plasma Sources Science and Technology, 2014, 23, 064011.	3.1	11
39	Increasing the upper-limit intensity and temperature range for thermal self-focusing of a laser beam by using plasma density ramp-up. Physics of Plasmas, 2014, 21, 032309.	1.9	11
40	Modulational instability of electromagnetic waves in a collisional quantum magnetoplasma. Physics of Plasmas, 2014, 21, .	1.9	10
41	Spatiotemporal evolution of high power laser pulses in relativistic magnetized inhomogeneous plasmas. Physics of Plasmas, 2015, 22, .	1.9	10
42	Filamentation instability of current-driven dust ion-acoustic waves in a collisional dusty plasma. Physics of Plasmas, 2011, 18, .	1.9	9
43	Dust-acoustic filamentation of a current-driven dusty plasma. Physics of Plasmas, 2011, 18, 063703.	1.9	9
44	Nonlinear interaction of intense electromagnetic waves with a magnetoactive electron-positron-ion plasma. Physics of Plasmas, 2013, 20, 082123.	1.9	9
45	Microwave ponderomotive action on the inhomogeneous collisionless and collisional plasmas. Waves in Random and Complex Media, 2013, 23, 183-199.	2.7	9
46	Evolution of a Gaussian laser beam in warm collisional magnetoplasma. Physics of Plasmas, 2016, 23, 073119.	1.9	9
47	Propagation of surface waves in a spin 1/2 magnetized collisional quantum plasma half-space. European Physical Journal Plus, 2018, 133, 1.	2.6	9
48	Nonlinear dynamics of the filamentation of the resistive instability of a current-carrying plasma. Journal of Plasma Physics, 2008, 74, 319-326.	2.1	8
49	Nonlinear thermocurrent beam instability of a weakly ionized plasma. Physics of Plasmas, 2008, 15, 022107.	1.9	8
50	Formation of current filaments and magnetic field generation in a quantum current-carrying plasma. Physics of Plasmas, 2013, 20, .	1.9	8
51	Weakly relativistic and ponderomotive effects in interaction of intense laser beam with inhomogeneous collisionless and collisional plasmas. Waves in Random and Complex Media, 2014, 24, 1-18.	2.7	8
52	Laser pulse-electron beam synergy effect on electron self-injection and higher energy gain in laser wakefield accelerators. Scientific Reports, 2021, 11, 37.	3.3	8
53	Evolution of non-resonant Buneman instability with a negative diffusion equation. Physica Scripta, 2010, 82, 065503.	2.5	7
54	Influence of Thermal and Collisional Effects on the Dielectric Permittivity Tensor in a Multi Layer Plasma Waveguide With Elliptical Cross Section. IEEE Transactions on Plasma Science, 2012, 40, 414-420.	1.3	7

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55	Study of Nonlinear Dynamics of the Filamentation Instability in a Current-Carrying Plasma Using Adomian Decomposition Method. IEEE Transactions on Plasma Science, 2012, 40, 9-15.	1.3	7
56	Energy Distribution Along the Focal Axis of a Metallic Cylindrical Parabolic Reflector Covered With a Plasma Layer. IEEE Transactions on Plasma Science, 2014, 42, 286-292.	1.3	7
57	Skull and cerebrospinal fluid effects on microwave radiation propagation in human brain. Journal Physics D: Applied Physics, 2017, 50, 495401.	2.8	7
58	Characteristics of ions in a magnetized plasma sheath with two species of positive ions. Vacuum, 2009, 83, S231-S234.	3.5	6
59	External magnetic field effect on the sheath dynamics and implantation profiles in the vicinity of a long step shaped target inÂplasma immersion ion implantation. Vacuum, 2014, 101, 354-359.	3.5	6
60	Kinetic theory of the filamentation instability in a collisional current-driven plasma with nonextensive distribution. Physics of Plasmas, 2015, 22, .	1.9	6
61	Numerical analysis of electrostatic ion cyclotron instability in an electron-positron-ion plasma. Physics of Plasmas, 2016, 23, .	1.9	6
62	Electrostatic ion cyclotron instability in a plasma with q-nonextensive distributions. Physics of Plasmas, 2016, 23, 122110.	1.9	6
63	Simulation of thermoacoustic resonance response of tumor by finite element method. Journal of Applied Physics, 2019, 126, .	2.5	6
64	Nonlinear regime of the filamentation of a microwave produced plasma. Physics of Plasmas, 2007, 14, 032113.	1.9	5
65	Low-frequency temperature-dependent plasma discharge instabilities in the presence of external constant electric and magnetic fields. Journal of Plasma Physics, 2008, 74, 35-46.	2.1	5
66	Investigation of spatiotemporal behavior of the plasma density during the development of the thermocurrent instability. Physics of Plasmas, 2009, 16, 052103.	1.9	5
67	Filamentation instability of nonextensive current-driven plasma in the ion acoustic frequency range. Physics of Plasmas, 2014, 21, 122106.	1.9	5
68	Particle in cell simulation of low frequency instability in a current carrying plasma in the presence of negative ions. Physics of Plasmas, 2014, 21, .	1.9	5
69	Thermal effects on longitudinal waves instabilities in rotating beam-plasma interaction. Physics of Plasmas, 2018, 25, 032118.	1.9	5
70	Terahertz Dyakonov plasmon surface waves supported by a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>plasma</mml:mi><mml:mo>/</mml:mo><m interface. Physical Review B, 2018, 98, .	3.2	5
71	Field profiles of symmetric surface waves in diffusion-controlled regime of a non-isothermal plasma columns. Plasma Physics and Controlled Fusion, 2005, 47, 1805-1816.	2.1	4
72	Low-Frequency Instabilities in the Interaction of Ion Beam With Magnetized Plasma. IEEE Transactions on Plasma Science, 2012, 40, 429-437.	1.3	4

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73	Space Charge and Ponderomotive Force Effects in Interaction of High-Power Microwave With Plasma. IEEE Transactions on Plasma Science, 2013, 41, 3094-3098.	1.3	4
74	PIC Simulation of Currentâ€Ðriven Buneman Instability in Presence of Collisional and Thermal Effects. Contributions To Plasma Physics, 2013, 53, 580-587.	1.1	4
75	Dust gravitational drift wave in complex plasma under gravity. Physics of Plasmas, 2014, 21, .	1.9	4
76	Nonlinear Steepening of Density Profile by Intense Laser Radiation in Collisional Inhomogeneous Plasmas. IEEE Transactions on Plasma Science, 2014, 42, 1353-1357.	1.3	4
77	Self similar solution of superradiant amplification of ultrashort laser pulses in plasma. Physics of Plasmas, 2015, 22, 053105.	1.9	4
78	Filamentation Instability in a Currentâ€Carrying Plasma in the Presence of Quantum Effects. Contributions To Plasma Physics, 2015, 55, 315-320.	1.1	4
79	A new version of fermion coupled coherent states method: Theory and applications in simulation of two-electron systems. Chemical Physics Letters, 2016, 653, 60-66.	2.6	4
80	The influence of static magnetic field on nonlinear response of a plasma background in the presence of two laser beams with different profiles (Hermiteâ€“ and Laguerreâ€“Gaussian). Laser Physics, 2019, 29, 046002.	1.2	4
81	Resonance absorption of intense short laser pulse in near critical inhomogeneous plasma. Waves in Random and Complex Media, 2019, 29, 215-226.	2.7	4
82	Analysis of filamentation instability in a current-carrying plasma using meshless method of lines coupled with radial basis functions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126839.	2.1	4
83	Electron-exchange and correlation effects on filamentation instability of a high-density current-driven plasma. Physics of Plasmas, 2020, 27, .	1.9	4
84	Terahertz radiation emission from three-color laser-induced air plasma. European Physical Journal Plus, 2020, 135, 1.	2.6	4
85	Modification of electromagnetic fields and plasma resistance by thermal effects in helicon plasmas. Physics of Plasmas, 2017, 24, 053511.	1.9	4
86	Kinetic theory of low-frequency instability of discharge plasma. Physics of Plasmas, 2005, 12, 072107.	1.9	3
87	Dust magneto-gravitational drift wave in gÃ—B configuration. Physics of Plasmas, 2014, 21, 113702.	1.9	3
88	Characteristics of Positive Ions in the Sheath Region of Magnetized Collisional Electronegative Discharges. Plasma Science and Technology, 2014, 16, 552-556.	1.5	3
89	Effect of nonextensive velocity distribution on the filamentation instability in a current-driven dusty plasma. Astrophysics and Space Science, 2015, 357, 1.	1.4	3
90	Effect of gas mixing on physical properties of warm collisional helicon plasmas. Physics of Plasmas, 2017, 24, 103525.	1.9	3

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91	Optimizing the electron acceleration in vacuum by chirped ultrashort laser pulse using particle swarm method. Laser and Particle Beams, 2019, 37, 242-251.	1.0	3
92	Interaction of counterstreaming rotating electron-positron beams with inhomogeneous electron-ion plasma. Physics of Plasmas, 2019, 26, 092107.	1.9	3
93	Attosecond pulse generation by relativistic flying mirrors in laser-plasma interaction: Effect of plasma density and driver amplitude on the generated pulse. Physics of Plasmas, 2019, 26, .	1.9	3
94	Time-resolved evolution of collisional transient sheath in plasma source ion implantation. Physica Scripta, 2021, 96, 125623.	2.5	3
95	Particle in cell simulations of the pulsed plasma sheath: Dependence on pulse parameters. Journal of Electrostatics, 2022, 117, 103723.	1.9	3
96	Ion beam driven instabilities in unmagnetized and strongly magnetized plasmas. Waves in Random and Complex Media, 2012, 22, 356-369.	2.7	2
97	Acceleration of positrons by a relativistic electron beam in the presence of quantum effects. Physics of Plasmas, 2013, 20, .	1.9	2
98	Numerical simulation of pulsed plasma sheath dynamics around a micro-sized tip. Journal of Plasma Physics, 2013, 79, 759-764.	2.1	2
99	Electromagnetic modeling of the energy distribution of a metallic cylindrical parabolic reflector covered with a magnetized plasma layer. Physics of Plasmas, 2014, 21, .	1.9	2
100	Dielectric permittivity tensor and low frequency instabilities of a magnetoactive current-driven plasma with nonextensive distribution. Physics of Plasmas, 2015, 22, 122102.	1.9	2
101	Analytical study of effects of positron density and temperature anisotropy on electrostatic ion cyclotron instability. Physics of Plasmas, 2017, 24, 032103.	1.9	2
102	Nonlinear space charge dynamics and modulational instability in the interaction of intense laser pulses with electron-positron plasmas. Physics of Plasmas, 2017, 24, .	1.9	2
103	Longitudinal wave instability due to rotating beam-plasma interaction in weakly turbulent astrophysical plasmas. Monthly Notices of the Royal Astronomical Society, 2019, 489, 3059-3065.	4.4	2
104	Quasi-phase-matched laser wakefield acceleration of electrons in an axially density-modulated plasma channel. Scientific Reports, 2021, 11, 15207.	3.3	2
105	Controlled electron injection into beam driven plasma wakefield accelerators employing a co-propagating laser pulse. Plasma Physics and Controlled Fusion, 2021, 63, 125016.	2.1	2
106	Chemical kinetics simulation of deposition and sp2/sp3 bond ratio of diamond-like carbon film in plasma. Vacuum, 2009, 83, S140-S144.	3.5	1
107	Fundamentals of Slot Antenna Designing for Application in Surface Wave Plasma Sources. IEEE Transactions on Plasma Science, 2012, 40, 470-480.	1.3	1
108	Nonlinear interaction between surface plasmons and ion oscillations in a semi-bounded collisional quantum plasma. Physics of Plasmas, 2015, 22, 112115.	1.9	1

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109	Ohmic heating and space charge effects in microwave-plasma interaction. Laser and Particle Beams, 2015, 33, 87-95.	1.0	1
110	Complex plasma in gÃ—B configurations: Stability switching and stationary structure. Physics of Plasmas, 2015, 22, 083709.	1.9	1
111	Dissipative instability of longitudinal wave in interaction between spiral electron beam and warm collisional magnetized plasma. Physics of Plasmas, 2018, 25, 112108.	1.9	1
112	Dispersion characteristics of terahertz transverse electric mode in a smooth-wall cylindrical waveguide with a degenerate plasma layer. Optical and Quantum Electronics, 2020, 52, 1.	3.3	1
113	Amplitude enhancement of plasma wakefield by interaction of relativistic Gaussian electron beam with inhomogeneous magnetized plasma. AIP Advances, 2020, 10, 015330.	1.3	1
114	Effects of relativistic and ponderomotive nonlinearities on the interaction of highâ€power laser beam with an inhomogeneous warm plasma. Contributions To Plasma Physics, 2021, 61, e202000086.	1.1	1
115	Characterization of microwave heating for hyperthermia cancer treatment. Waves in Random and Complex Media, 2024, 34, 211-225.	2.7	1
116	Magnetically tuned hybrid resonance emission of terahertz waves from the interaction of intense laser beams with warm collisional inhomogeneous plasma. Waves in Random and Complex Media, 0, , 1-13.	2.7	1
117	Microwave reflection, transmission, and absorption by human brain tissue. , 2018, , .		1
118	Quasilinear dynamics of ordinary mode electromagnetic cyclotron instability driven by the interaction of rotating electron beam with magnetized plasma. Plasma Physics and Controlled Fusion, 2020, 62, 115004.	2.1	1
119	Controlling the characteristics of injected and accelerated electron bunch in corrugated plasma channel by temporally asymmetric laser pulses. Scientific Reports, 2022, 12, 8115.	3.3	1
120	Excitation and enhancement of wakefield by beating of two laser beams in a preformed plasma channel: An analytical study. Physics of Plasmas, 2022, 29, 072305.	1.9	1
121	Dependency of the electronegative sheath structure on the negative ion density and temperature. , 2009, , .		0
122	Effect of positive ion density on the characteristics of the magnetized plasma sheath. , 2009, , .		0
123	Acceleration of dust grains by means of the high energy ion beam. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 2368-2372.	2.1	0
124	Collisional effects on the modulational instability of intense laser pulses in magnetoactive plasmas. Laser and Particle Beams, 2015, 33, 705-711.	1.0	0
125	Dynamics of THz angular distribution radiated from air plasma produced by two-color laser pulses. , 2016, , .		0
126	Response to â€œComment on â€˜Propagation of surface waves on a semi-bounded quantum magnetized collisional plasmaâ€™â€•[Phys. Plasmas23, 044701 (2016)]. Physics of Plasmas, 2016, 23, 044702.	1.9	0

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127	Rotating ion beam effects on temperature gradient instability in completely ionized plasmas. Physical Review E, 2020, 102, 043208.	2.1	0
128	Influence of flying mirror features and time delay between two counterpropagating laser pulses on the generated attosecond pulse intensity in near-critical density plasmas. AIP Advances, 2020, 10, 065133.	1.3	0
129	Dispersion of electromagnetic waves in coaxial cylindrical rippled-wall waveguide including plasma layer. Waves in Random and Complex Media, 2022, 32, 66-77.	2.7	0
130	An improved technique based on microwave thermoacoustic method for breast cancer screening. Journal Physics D: Applied Physics, 2021, 54, 415401.	2.8	0
131	Terahertz wave amplification by a laser-modulated relativistic electron beam. Physical Review Accelerators and Beams, 2021, 24, .	1.6	0