Andrey Brantov

List of Publications by Year
in descending order

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118 papers	1,678 citations	361413 20 h-index	330143 37 g-index
118 all docs	118 docs citations	118 times ranked	1161 citing authors

#	Article	IF	Citations
1	Accelerating monoenergetic protons from ultrathin foils by flat-top laser pulses in the directed-Coulomb-explosion regime. Physical Review E, 2008, 78, 026412.	2.1	160
2	Accelerating protons to therapeutic energies with ultraintense, ultraclean, and ultrashort laser pulses. Medical Physics, 2008, 35, 1770-1776.	3.0	101
3	Controlled electron injection into the wake wave using plasma density inhomogeneity. Physics of Plasmas, 2008, 15, .	1.9	88
4	Nonlocal Electron Transport in a Plasma. Physical Review Letters, 1995, 75, 4405-4408.	7.8	86
5	Effect of Nonlocal Transport on Heat-Wave Propagation. Physical Review Letters, 2004, 92, 205006.	7.8	68
6	Enhanced inverse bremsstrahlung heating rates in a strong laser field. Physics of Plasmas, 2003, 10, 3385-3396.	1.9	64
7	Experimental and theoretical study of absorption of femtosecond laser pulses in interaction with solid copper targets. Physical Review B, 2009, 79, .	3.2	61
8	Quasi-mono-energetic ion acceleration from a homogeneous composite target by an intense laser pulse. Physics of Plasmas, 2006, 13, 122705.	1.9	54
9	Nonlocal electron transport in laser heated plasmas. Physics of Plasmas, 1998, 5, 2742-2753.	1.9	51
10	Ion acceleration by femtosecond laser pulses in small multispecies targets. Physics of Plasmas, 2008, 15, .	1.9	51
11	Optimization of laser-target interaction for proton acceleration. Physics of Plasmas, 2013, 20, .	1.9	51
12	Synchronized Ion Acceleration by Ultraintense Slow Light. Physical Review Letters, 2016, 116, 085004.	7.8	32
13	Theory of filamentation instability and stimulated Brillouin scattering with nonlocal hydrodynamics. Physics of Plasmas, 2000, 7, 1511-1519.	1.9	31
14	Anomalous Absorption of High-Energy Green Laser Light in High-ZPlasmas. Physical Review Letters, 2002, 88, 235002.	7.8	29
15	Nonlocal transport in hot plasma. Part I. Plasma Physics Reports, 2013, 39, 698-744.	0.9	29
16	Ion energy scaling under optimum conditions of laser plasma acceleration from solid density targets. Physical Review Special Topics: Accelerators and Beams, 2015, 18, .	1.8	29
17	Ion Response to Relativistic Electron Bunches in the Blowout Regime of Laser-Plasma Accelerators. Physical Review Letters, 2010, 105, 195002.	7.8	25
18	Laser-triggered ion acceleration from a double-layer foil. Physics of Plasmas, 2009, 16, 043107.	1.9	24

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19	Prepulse controlled electron acceleration from solids by a femtosecond laser pulse in the slightly relativistic regime. Physics of Plasmas, 2017, 24, .	1.9	21
20	Optimization of electron acceleration by short laser pulses from low-density targets. Plasma Physics and Controlled Fusion, 2018, 60, 084010.	2.1	21
21	Electrostatic Response of a Two-Component Plasma with Coulomb Collisions. Physical Review Letters, 2012, 108, 205001.	7.8	20
22	Laser acceleration of ions: recent results and prospects for applications. Physics-Uspekhi, 2015, 58, 71-81.	2.2	20
23	Femtosecond laser-plasma interaction with prepulse-generated liquid metal microjets. Physics of Plasmas, 2012, 19, 013104.	1.9	19
24	Kinetic Susceptibility and Transport Theory of Collisional Plasmas. Physical Review Letters, 2004, 93, 125002.	7.8	18
25	Xâ€Ray Diagnostics of Ultrashort Laserâ€Driven Plasma: Experiment and Simulations. Contributions To Plasma Physics, 2013, 53, 116-121.	1.1	18
26	Temperature relaxation in hot spots in a laser-produced plasma. Physical Review E, 1998, 57, 978-981.	2.1	17
27	Ion acoustic instability driven by a temperature gradient in laser-produced plasmas. Physics of Plasmas, 2001, 8, 3558-3564.	1.9	17
28	Comparative study of amplified spontaneous emission and short pre-pulse impacts onto fast electron generation at sub-relativistic femtosecond laser-plasma interaction. Physics of Plasmas, 2014, 21, .	1.9	17
29	Tc-99m production with ultrashort intense laser pulses. Laser and Particle Beams, 2014, 32, 605-611.	1.0	17
30	Stochastic electron acceleration in plasma waves driven by a high-power subpicosecond laser pulse. Plasma Physics Reports, 2014, 40, 202-214.	0.9	17
31	Nonlocal heat wave propagation due to skin layer plasma heating by short laser pulses. Computer Physics Communications, 2004, 164, 67-72.	7.5	16
32	Enhanced relativistic laserâ€“plasma coupling utilizing laser-induced micromodified target. Laser Physics Letters, 2015, 12, 046005.	1.4	16
33	Effective production of gammas, positrons, and photonuclear particles from optimized electron acceleration by short laser pulses in low-density targets. Physics of Plasmas, 2019, 26, 123107.	1.9	16
34	Ion acceleration by ultrahigh-power ultrashort laser pulses. Quantum Electronics, 2007, 37, 863-868.	1.0	15
35	Terahertz radiation in laser-induced charge separation in the irradiated plasma target. Quantum Electronics, 2016, 46, 1023-1030.	1.0	14
36	Plasma fluctuations driven by a randomized laser beam. Physics of Plasmas, 1999, 6, 3002-3011.	1.9	13

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37	Linear theory of nonlocal transport in a magnetized plasma. Physics of Plasmas, 2003, 10, 4633-4644.	1.9	13
38	Electron transport and permittivity in a plasma with an arbitrary ionic charge. Journal of Experimental and Theoretical Physics, 2008, 106, 983-998.	0.9	13
39	Nanostructured plasmas for enhanced gamma emission at relativistic laser interaction with solids. Applied Physics B: Lasers and Optics, 2017, 123, 1.	2.2	13
40	Comparison of optimized ion acceleration from thin foils and low-density targets for linearly and circularly polarized laser pulses. Physics of Plasmas, 2017, 24, 113102.	1.9	13
41	Generation of high-charge electron beam in a subcritical-density plasma through laser pulse self-trapping. Plasma Physics and Controlled Fusion, 2019, 61, 124004.	2.1	13
42	Laserâ€Triggered Proton Acceleration From Microâ€Structured thin Targets. Contributions To Plasma Physics, 2013, 53, 731-735.	1.1	11
43	Nonlocal transport in hot plasma. Part II. Plasma Physics Reports, 2014, 40, 505-563.	0.9	11
44	Electrostatic fluctuations in collisional plasmas. Physical Review E, 2017, 96, 043207.	2.1	11
45	Return current instability driven by a temperature gradient in ICF plasmas. Plasma Physics and Controlled Fusion, 2018, 60, 014004.	2.1	11
46	Laser-triggered proton acceleration from hydrogenated low-density targets. Physical Review Accelerators and Beams, 2017, 20, .	1.6	11
47	Ion energy spectra directly measured in the interaction volume of intense laser pulses with clustered plasma. Scientific Reports, 2018, 8, 9404.	3.3	10
48	Monoenergetic proton beams from mass-limited targets irradiated by ultrashort laser pulses. Plasma Physics Reports, 2010, 36, 256-262.	0.9	9
49	Resonance between heat-carrying electrons and Langmuir waves in inertial confinement fusion plasmas. Physics of Plasmas, 2016, 23, .	1.9	9
50	Comparative analysis of laser-triggered proton generation from overdense and low-density targets. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 62-65.	1.6	8
51	Laser-triggered stochastic volumetric heating of sub-microwire array target. High Energy Density Physics, 2020, 37, 100856.	1.5	8
52	Shielded radiography with gamma rays from laser-accelerated electrons in a self-trapping regime. Physics of Plasmas, 2020, 27, .	1.9	8
53	Parametric waves excitation in relativistic laser-plasma interactions for electron acceleration. Journal of Physics: Conference Series, 2015, 653, 012007.	0.4	7
54	Improvement of hot-electron and gamma-ray yields by selecting preplasma thickness for a target irradiated by a short laser pulse. Quantum Electronics, 2017, 47, 232-235.	1.0	7

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55	Laser-induced thermoelectric current as a source of generation of THz surface electromagnetic waves. Quantum Electronics, 2018, 48, 653-657.	1.0	7
56	Ultrafast target charging due to polarization triggered by laser-accelerated electrons. Physical Review E, 2020, 102, 021202.	2.1	7
57	Particle-in-cell simulations of heat flux driven ion acoustic instability. Physics of Plasmas, 2005, 12, 012321.	1.9	6
58	Permittivity of plasma and nonstationary theory of nonlocal transport. Journal of Experimental and Theoretical Physics, 2005, 100, 1159-1174.	0.9	6
59	Dielectric function and electron transport in collisional plasma. IEEE Transactions on Plasma Science, 2006, 34, 738-754.	1.3	6
60	Relaxation of a thermal perturbation in a collisional plasma. Plasma Physics Reports, 2006, 32, 337-343.	0.9	6
61	Nonlocal transport model in equilibrium two-component plasmas. Physics of Plasmas, 2009, 16, 102301.	1.9	6
62	Energetic electron and ion generation from interactions of intense laser pulses with laser machined conical targets. Nuclear Fusion, 2010, 50, 055006.	3.5	6
63	Flux of multiple charged metal ions of high energy from plasma produced by a moderate energy laser pulse. Journal Physics D: Applied Physics, 2010, 43, 035201.	2.8	6
64	Acceleration of ions by â€œslowâ€•intense laser light in low-density targets. JETP Letters, 2016, 104, 618-623.	1.4	6
65	Magnetic field generation from a coil-shaped foil by a laser-triggered hot-electron current. Laser Physics Letters, 2019, 16, 066006.	1.4	6
66	Anomalous absorption due to development of return current instability. High Energy Density Physics, 2020, 36, 100824.	1.5	6
67	Taking into account electron-electron collisions in classical absorption of short laser pulses. Plasma Physics Reports, 2009, 35, 244-250.	0.9	5
68	High-Intensity Laser Triggered Proton Acceleration from Ultrathin Foils. Contributions To Plasma Physics, 2013, 53, 161-164.	1.1	5
69	Neutron Production from Structured Targets Irradiated By an Ultrashort Laser Pulse. Journal of Russian Laser Research, 2021, 42, 292.	0.6	5
70	Laser-based photonuclear production of medical isotopes and nuclear waste transmutation. Plasma Physics and Controlled Fusion, 2022, 64, 054002.	2.1	5
71	Target optimisation for the yield of X-rays of desired hardness under femtosecond pulse irradiation. Quantum Electronics, 2016, 46, 342-346.	1.0	4
72	Synchronized ion acceleration by ultraintense slow light and electron source for x-ray production from low-density targets. Plasma Physics and Controlled Fusion, 2017, 59, 034009.	2.1	4

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73	Molecular dynamics model for heating of Coulomb clusters by laser field. Computer Physics Communications, 2004, 164, 53-59.	7.5	3
74	Collisional particle simulation of ion acoustic instability. Journal of Plasma Physics, 2006, 72, 1295.	2.1	3
75	DSMC Modeling of a Single Hot Spot Evolution Using the Landau-Fokker-Planck Equation. Acta Applicandae Mathematicae, 2014, 132, 107-116.	1.0	3
76	Novel photonuclear techniques based on femtosecond lasers. Physics of Particles and Nuclei Letters, 2014, 11, 54-59.	0.4	3
77	Laser-based ion sources for medical applications. European Physical Journal: Special Topics, 2015, 224, 2621-2624.	2.6	3
78	Comparative study of ion acceleration by linearly polarized laser pulses from optimized targets of solid and near-critical density. Plasma Physics and Controlled Fusion, 2016, 58, 034022.	2.1	3
79	Laser-triggered fast charge-separation field generates a strong surface current and wave. Plasma Physics and Controlled Fusion, 2020, 62, 094003.	2.1	3
80	Proton acceleration from thin foils by extremely short PW laser pulse. Physics of Plasmas, 2021, 28, 063106.	1.9	3
81	Coulomb explosion of a heated cluster. Plasma Physics Reports, 2008, 34, 920-923.	0.9	2
82	Laser acceleration of ions in mass-limited multi-species targets. Journal of Physics: Conference Series, 2008, 112, 042033.	0.4	2
83	Coulomb acceleration of light ions from homogeneous and layered targets. Journal of Experimental and Theoretical Physics, 2012, 114, 748-767.	0.9	2
84	Modeling of Laser Generation and Propagation of Electron Bunch Along Thin Irradiated Wire. Bulletin of the Lebedev Physics Institute, 2018, 45, 346-349.	0.6	2
85	Laser induced THz Sommerfeld waves along metal wire. EPJ Web of Conferences, 2018, 195, 03002.	0.3	2
86	Proton Acceleration to Therapeutic Energies with Ultra-Intense Ultra-Clean and Ultra-Short Laser Pulses. AIP Conference Proceedings, 2006, , .	0.4	1
87	Proton acceleration from thin foils using ultraintense, high-contrast pulses. , 2007, , .		1
88	Ultrashort laser pulse absorption and target heating. , 2009, , .		1
89	Ultrashort-laser-pulse absorption with spatial dispersion and nonlocal transport effects. Journal of Russian Laser Research, 2011, 32, 163-176.	0.6	1
90	Effective Generation of Collimated Ion Beams by Relativistic Laser Pulse Using 2D Microstructured Foils: 3D PIC Simulations. Contributions To Plasma Physics, 2011, 51, 457-462.	1.1	1

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91	Prepulse induced microstructured plasma with melted and solid targets: formation, properties & prospects to relativistic laser-plasma interaction. Proceedings of SPIE, 2013, , .	0.8	1
92	Nonstationary kinetic theory of ion transport in plasma with small perturbations. Plasma Physics Reports, 2013, 39, 364-373.	0.9	1
93	Relativistic laser driven hot particles generation in undercritical pre-plasma of solid targets. , 2014, , .		1
94	On the feasibility of increasing the energy of laser-accelerated protons by using low-density targets. Plasma Physics Reports, 2015, 41, 501-506.	0.9	1
95	Optimization of a Laser-Based Proton Source and a New Mechanism of Ion Acceleration. IEEE Transactions on Plasma Science, 2016, 44, 364-368.	1.3	1
96	Contribution of the surface roughness of hexagonal crystal into the low temperature surface specific heat. Solid State Communications, 1996, 99, 783-787.	1.9	0
97	Contribution of surface roughness of an isotropic solid to low-temperature surface heat capacity. Low Temperature Physics, 1998, 24, 367-372.	0.6	0
98	<title>Resonant instability of laser speckles in a semicollisional underdense plasma</title>. , 2001, 4424, 336.		0
99	Proton Acceleration from Thin Foils Using Ultraintense, High-Contrast Pulses. , 2007, , .		0
100	Novel schemes of proton acceleration at ~ 1 PW laser power. , 2010, , .		0
101	Control of proton energy in ultra-high intensity laser-matter interaction. Journal of Physics: Conference Series, 2010, 244, 042025.	0.4	0
102	High-energy protons from submicron-sized targets. , 2012, , .		0
103	Femtosecond laser-plasma interaction with prepulse-generated liquid metal micro-jets. , 2012, , .		0
104	Numerical simulations of energy transfer in two collisionless interpenetrating plasmas. EPJ Web of Conferences, 2013, 59, 15003.	0.3	0
105	Ion acceleration from laser-irradiated thin targets. , 2014, , .		0
106	Optimization of laser triggered proton source and new mechanisms of ion acceleration: From thin solid-dense foils to low-dense target. , 2015, , .		0
107	Terahertz electromagnetic wave generation by high-intensity laser pulse along metal surfaces. , 2016, , .		0
108	Laser energy absorption and hot electrons generation in near-critical plasma at relativistic intensities. , 2016, , .		0

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109	Plasma optimization for efficient gamma production at relativistic intensities. , 2018, , .		0
110	Laser triggered radiation sources (from terahertz radiation to gamma-rays). , 2018, , .		0
111	Generation of terahertz electromagnetic wave by high-intensity laser pulse interaction with solid targets. , 2018, , .		0
112	Laser triggered X-ray and gamma-ray sources. , 2018, , .		0
113	Two plasmon decay instability in inhomogeneous femtosecond laser plasma. , 2018, , .		0
114	Strong terahertz electromagnetic wave generation due to intense laser-plasma interaction mechanisms. , 2019, , .		0
115	TH-C-230A-06: High-Energy Proton Acceleration Driven by Ultra-Intense Ultra-Clean Laser Pulses. Medical Physics, 2006, 33, 2272-2272.	3.0	0
116	MO-EE-A2-05: Experimental Implementation of the Directed Coulomb Explosion Regime of Laser-Proton Acceleration. Medical Physics, 2009, 36, 2703-2703.	3.0	0
117	SU-GG-T-462: Observation of Quasi-Monoenergetic Laser Accelerated Proton and Carbon Beams. Medical Physics, 2010, 37, 3293-3293.	3.0	0
118	On the Buildup of Ionâ€“Acoustic Instability in Plasma with Two Types of Ions. Plasma Physics Reports, 2021, 47, 1007-1013.	0.9	0