

Valeri Goncharov

List of Publications by Year in descending order

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55
papers

4,007
citations

136950

32
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149698

56
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56
docs citations

56
times ranked

1502
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct-drive inertial confinement fusion: A review. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	521
2	Analytical Model of Nonlinear, Single-Mode, Classical Rayleigh-Taylor Instability at Arbitrary Atwood Numbers. <i>Physical Review Letters</i> , 2002, 88, 134502.	7.8	298
3	Growth rates of the ablative Rayleigh-Taylor instability in inertial confinement fusion. <i>Physics of Plasmas</i> , 1998, 5, 1446-1454.	1.9	297
4	Early stage of implosion in inertial confinement fusion: Shock timing and perturbation evolution. <i>Physics of Plasmas</i> , 2006, 13, 012702.	1.9	155
5	Analysis of a direct-drive ignition capsule designed for the National Ignition Facility. <i>Physics of Plasmas</i> , 2001, 8, 2315-2322.	1.9	152
6	Improved performance of direct-drive inertial confinement fusion target designs with adiabat shaping using an intensity picket. <i>Physics of Plasmas</i> , 2003, 10, 1906-1918.	1.9	146
7	Crossed-beam energy transfer in implosion experiments on OMEGA. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	142
8	Theory of the Ablative Richtmyer-Meshkov Instability. <i>Physical Review Letters</i> , 1999, 82, 2091-2094.	7.8	139
9	Polar direct drive on the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 2763-2770.	1.9	139
10	Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuterium-tritium implosions on OMEGA. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	139
11	Crossed-beam energy transfer in direct-drive implosions. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	133
12	Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 032702.	1.9	126
13	Deceleration phase of inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2002, 9, 2277-2286.	1.9	118
14	Demonstration of the Highest Deuterium-Tritium Areal Density Using Multiple-Picket Cryogenic Designs on OMEGA. <i>Physical Review Letters</i> , 2010, 104, 165001.	7.8	111
15	Tripled yield in direct-drive laser fusion through statistical modelling. <i>Nature</i> , 2019, 565, 581-586.	27.8	103
16	Performance of direct-drive cryogenic targets on OMEGA. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	92
17	Hot-spot dynamics and deceleration-phase Rayleigh-Taylor instability of imploding inertial confinement fusion capsules. <i>Physics of Plasmas</i> , 2001, 8, 5257-5267.	1.9	87
18	A model of laser imprinting. <i>Physics of Plasmas</i> , 2000, 7, 2062-2068.	1.9	81

#	ARTICLE	IF	CITATIONS
19	A polar-drive ignition design for the National Ignition Facility. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	70
20	Three-dimensional modeling of direct-drive cryogenic implosions on OMEGA. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	69
21	First-principles equation of state of polystyrene and its effect on inertial confinement fusion implosions. <i>Physical Review E</i> , 2015, 92, 043104.	2.1	68
22	Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implosion Experiments. <i>Physical Review Letters</i> , 2012, 108, 125003.	7.8	67
23	First Observation of Cross-Beam Energy Transfer Mitigation for Direct-Drive Inertial Confinement Fusion Implosions Using Wavelength Detuning at the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 120, 085001.	7.8	65
24	Velocity and Timing of Multiple Spherically Converging Shock Waves in Liquid Deuterium. <i>Physical Review Letters</i> , 2011, 106, 195005.	7.8	54
25	First-principles opacity table of warm dense deuterium for inertial-confinement-fusion applications. <i>Physical Review E</i> , 2014, 90, 033111.	2.1	53
26	Two-dimensional simulations of the neutron yield in cryogenic deuterium-tritium implosions on OMEGA. <i>Physics of Plasmas</i> , 2010, 17, 102706.	1.9	43
27	Validation of Thermal-Transport Modeling with Direct-Drive, Planar-Foil Acceleration Experiments on OMEGA. <i>Physical Review Letters</i> , 2008, 101, 055002.	7.8	42
28	Effects of local defect growth in direct-drive cryogenic implosions on OMEGA. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	42
29	First-principles investigations on ionization and thermal conductivity of polystyrene for inertial confinement fusion applications. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	40
30	Wavelength-detuning cross-beam energy transfer mitigation scheme for direct drive: Modeling and evidence from National Ignition Facility implosions. <i>Physics of Plasmas</i> , 2018, 25, 056314.	1.9	40
31	Direct-drive cryogenic target implosion performance on OMEGA. <i>Physics of Plasmas</i> , 2004, 11, 2790-2797.	1.9	39
32	Evolution of Shell Nonuniformities near Peak Compression of a Spherical Implosion. <i>Physical Review Letters</i> , 2001, 87, 155002.	7.8	32
33	Laser-Beam Zooming to Mitigate Crossed-Beam Energy Losses in Direct-Drive Implosions. <i>Physical Review Letters</i> , 2013, 110, 145001.	7.8	31
34	Neutron yield study of direct-drive, low-adiabat cryogenic D2 implosions on OMEGA laser system. <i>Physics of Plasmas</i> , 2009, 16, 112706.	1.9	27
35	Mitigation of mode-one asymmetry in laser-direct-drive inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	26
36	Optical properties of highly compressed polystyrene: An ab initio study. <i>Physical Review B</i> , 2017, 96, .	3.2	22

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37	Monochromatic backlighting of direct-drive cryogenic DT implosions on OMEGA. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	21
38	Effects of temporal density variation and convergent geometry on nonlinear bubble evolution in classical Rayleigh-Taylor instability. <i>Physical Review E</i> , 2005, 71, 046306.	2.1	19
39	One-megajoule, wetted-foam target-design performance for the National Ignition Facility. <i>Physics of Plasmas</i> , 2007, 14, 056308.	1.9	18
40	Direct-drive double-shell implosion: A platform for burning-plasma physics studies. <i>Physical Review E</i> , 2019, 100, 063204.	2.1	18
41	Plasma Density Measurements of the Inner Shell Release. <i>Physical Review Letters</i> , 2019, 123, 235001.	7.8	15
42	X-ray continuum as a measure of pressure and fuel shell mix in compressed isobaric hydrogen implosion cores. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	14
43	Indirect-drive ablative Richtmyer Meshkov mode scaling. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012034.	0.4	12
44	Interpreting the electron temperature inferred from x-ray continuum emission for direct-drive inertial confinement fusion implosions on OMEGA. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	12
45	Subpercent-Scale Control of 3D Low Modes of Targets Imploded in Direct-Drive Configuration on OMEGA. <i>Physical Review Letters</i> , 2018, 120, 125001.	7.8	11
46	Fuel convergence sensitivity in indirect drive implosions. <i>Physics of Plasmas</i> , 2021, 28, 042705.	1.9	11
47	Rarefaction Flows and Mitigation of Imprint in Direct-Drive Implosions. <i>Physical Review Letters</i> , 2019, 123, 065001.	7.8	10
48	Novel Hot-Spot Ignition Designs for Inertial Confinement Fusion with Liquid-Deuterium-Tritium Spheres. <i>Physical Review Letters</i> , 2020, 125, 065001.	7.8	9
49	A case study of using x-ray Thomson scattering to diagnose the in-flight plasma conditions of DT cryogenic implosions. <i>Physics of Plasmas</i> , 2022, 29, 072703.	1.9	7
50	Effect of cross-beam energy transfer on target-offset asymmetry in direct-drive inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2020, 27, 112713.	1.9	6
51	Effect of electric fields on electron thermal transport in laser-produced plasmas. <i>Physics of Plasmas</i> , 2004, 11, 5680-5689.	1.9	4
52	Direct-drive implosion physics: Results from OMEGA and the National Ignition Facility. <i>Journal of Physics: Conference Series</i> , 2016, 688, 012006.	0.4	4
53	Central Density and Low-Mode Perturbation Control of Inertial Confinement Fusion Dynamic-Shell Targets. <i>Frontiers in Physics</i> , 2021, 9, .	2.1	3
54	Ionization state and dielectric constant in cold rarefied hydrocarbon plasmas of inertial confinement fusion. <i>Physical Review E</i> , 2021, 104, 045207.	2.1	2

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55	Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. Physics of Plasmas, 2020, 27, .	1.9	1