

# Valeri Goncharov

## List of Publications by Year in descending order

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Version: 2024-02-01

55  
papers

4,007  
citations

136950

32  
h-index

149698

56  
g-index

56  
all docs

56  
docs citations

56  
times ranked

1502  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | 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         |
| 2  | Mitigation of mode-one asymmetry in laser-direct-drive inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2021, 28, .  | 1.9  | 26        |
| 3  | Fuel convergence sensitivity in indirect drive implosions. <i>Physics of Plasmas</i> , 2021, 28, 042705.  | 1.9  | 11        |
| 4  | 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         |
| 5  | Central Density and Low-Mode Perturbation Control of Inertial Confinement Fusion Dynamic-Shell Targets. <i>Frontiers in Physics</i> , 2021, 9, .  | 2.1  | 3         |
| 6  | 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         |
| 7  | 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         |
| 8  | Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. <i>Physics of Plasmas</i> , 2020, 27, .  | 1.9  | 1         |
| 9  | Rarefaction Flows and Mitigation of Imprint in Direct-Drive Implosions. <i>Physical Review Letters</i> , 2019, 123, 065001.   | 7.8  | 10        |
| 10 | 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        |
| 11 | Tripled yield in direct-drive laser fusion through statistical modelling. <i>Nature</i> , 2019, 565, 581-586.   | 27.8 | 103       |
| 12 | Plasma Density Measurements of the Inner Shell Release. <i>Physical Review Letters</i> , 2019, 123, 235001.   | 7.8  | 15        |
| 13 | Direct-drive double-shell implosion: A platform for burning-plasma physics studies. <i>Physical Review E</i> , 2019, 100, 063204.   | 2.1  | 18        |
| 14 | 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        |
| 15 | 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        |
| 16 | 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        |
| 17 | Monochromatic backlighting of direct-drive cryogenic DT implosions on OMEGA. <i>Physics of Plasmas</i> , 2017, 24, .  | 1.9  | 21        |
| 18 | Optical properties of highly compressed polystyrene: An ab initio study. <i>Physical Review B</i> , 2017, 96, .   | 3.2  | 22        |

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|----|---|-----|-----------|
| 19 | Indirect-drive ablative Richtmyer Meshkov mode scaling. Journal of Physics: Conference Series, 2016, 717, 012034.   | 0.4 | 12        |
| 20 | Direct-drive implosion physics: Results from OMEGA and the National Ignition Facility. Journal of Physics: Conference Series, 2016, 688, 012006.                          | 0.4 | 4         |
| 21 | First-principles investigations on ionization and thermal conductivity of polystyrene for inertial confinement fusion applications. Physics of Plasmas, 2016, 23, .       | 1.9 | 40        |
| 22 | Three-dimensional modeling of direct-drive cryogenic implosions on OMEGA. Physics of Plasmas, 2016, 23, .   | 1.9 | 69        |
| 23 | First-principles equation of state of polystyrene and its effect on inertial confinement fusion implosions. Physical Review E, 2015, 92, 043104.                          | 2.1 | 68        |
| 24 | Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .   | 1.9 | 521       |
| 25 | X-ray continuum as a measure of pressure and fuelâ€‘shell mix in compressed isobaric hydrogen implosion cores. Physics of Plasmas, 2015, 22, .                            | 1.9 | 14        |
| 26 | Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuteriumâ€‘tritium implosions on OMEGA. Physics of Plasmas, 2014, 21, . | 1.9 | 139       |
| 27 | First-principles opacity table of warm dense deuterium for inertial-confinement-fusion applications. Physical Review E, 2014, 90, 033111.                                 | 2.1 | 53        |
| 28 | Effects of local defect growth in direct-drive cryogenic implosions on OMEGA. Physics of Plasmas, 2013, 20, .   | 1.9 | 42        |
| 29 | Laser-Beam Zooming to Mitigate Crossed-Beam Energy Losses in Direct-Drive Implosions. Physical Review Letters, 2013, 110, 145001.   | 7.8 | 31        |
| 30 | Crossed-beam energy transfer in direct-drive implosions. Physics of Plasmas, 2012, 19, .  | 1.9 | 133       |
| 31 | Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implosion Experiments. Physical Review Letters, 2012, 108, 125003.              | 7.8 | 67        |
| 32 | A polar-driveâ€‘ignition design for the National Ignition Facility. Physics of Plasmas, 2012, 19, .   | 1.9 | 70        |
| 33 | Velocity and Timing of Multiple Spherically Converging Shock Waves in Liquid Deuterium. Physical Review Letters, 2011, 106, 195005.                                       | 7.8 | 54        |
| 34 | Crossed-beam energy transfer in implosion experiments on OMEGA. Physics of Plasmas, 2010, 17, .   | 1.9 | 142       |
| 35 | Demonstration of the Highest Deuterium-Tritium Areal Density Using Multiple-Picket Cryogenic Designs on OMEGA. Physical Review Letters, 2010, 104, 165001.                | 7.8 | 111       |
| 36 | Two-dimensional simulations of the neutron yield in cryogenic deuterium-tritium implosions on OMEGA. Physics of Plasmas, 2010, 17, 102706.                                | 1.9 | 43        |

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|----|--|-----|-----------|
| 37 | 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        |
| 38 | Performance of direct-drive cryogenic targets on OMEGA. <i>Physics of Plasmas</i> , 2008, 15, .  | 1.9 | 92        |
| 39 | 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        |
| 40 | One-megajoule, wetted-foam target-design performance for the National Ignition Facility. <i>Physics of Plasmas</i> , 2007, 14, 056308.   | 1.9 | 18        |
| 41 | Early stage of implosion in inertial confinement fusion: Shock timing and perturbation evolution. <i>Physics of Plasmas</i> , 2006, 13, 012702.                                    | 1.9 | 155       |
| 42 | Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 032702.  | 1.9 | 126       |
| 43 | 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        |
| 44 | Effect of electric fields on electron thermal transport in laser-produced plasmas. <i>Physics of Plasmas</i> , 2004, 11, 5680-5689.  | 1.9 | 4         |
| 45 | Direct-drive cryogenic target implosion performance on OMEGA. <i>Physics of Plasmas</i> , 2004, 11, 2790-2797.   | 1.9 | 39        |
| 46 | Polar direct drive on the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 2763-2770.   | 1.9 | 139       |
| 47 | 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       |
| 48 | Deceleration phase of inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2002, 9, 2277-2286.  | 1.9 | 118       |
| 49 | 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       |
| 50 | 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        |
| 51 | 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       |
| 52 | Evolution of Shell Nonuniformities near Peak Compression of a Spherical Implosion. <i>Physical Review Letters</i> , 2001, 87, 155002.  | 7.8 | 32        |
| 53 | A model of laser imprinting. <i>Physics of Plasmas</i> , 2000, 7, 2062-2068.   | 1.9 | 81        |
| 54 | Theory of the Ablative Richtmyer-Meshkov Instability. <i>Physical Review Letters</i> , 1999, 82, 2091-2094.  | 7.8 | 139       |

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|----|--|-----|-----------|
| 55 | Growth rates of the ablative Rayleigh–Taylor instability in inertial confinement fusion. <i>Physics of Plasmas</i> , 1998, 5, 1446-1454. | 1.9 | 297       |