

Nathan B Meezan

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

4,153
citations

76326

40
h-index

110387

64
g-index

72
all docs

72
docs citations

72
times ranked

1557
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Symmetric Inertial Confinement Fusion Implosions at Ultra-High Laser Energies. <i>Science</i> , 2010, 327, 1228-1231. | 12.6 | 321 |
| 2 | Burning plasma achieved in inertial fusion. <i>Nature</i> , 2022, 601, 542-548. | 27.8 | 233 |
| 3 | Onset of Hydrodynamic Mix in High-Velocity, Highly Compressed Inertial Confinement Fusion Implosions. <i>Physical Review Letters</i> , 2013, 111, 085004. | 7.8 | 215 |
| 4 | Fusion Energy Output Greater than the Kinetic Energy of an Imploding Shell at the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 120, 245003. | 7.8 | 205 |
| 5 | Symmetry tuning via controlled crossed-beam energy transfer on the National Ignition Facility. <i>Physics of Plasmas</i> , 2010, 17, . | 1.9 | 171 |
| 6 | Capsule implosion optimization during the indirect-drive National Ignition Campaign. <i>Physics of Plasmas</i> , 2011, 18, . | 1.9 | 131 |
| 7 | First High-Convergence Cryogenic Implosion in a Near-Vacuum Hohlraum. <i>Physical Review Letters</i> , 2015, 114, 175001. | 7.8 | 117 |
| 8 | High-density carbon ablator experiments on the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, . | 1.9 | 116 |
| 9 | A high-resolution integrated model of the National Ignition Campaign cryogenic layered experiments. <i>Physics of Plasmas</i> , 2012, 19, . | 1.9 | 108 |
| 10 | Insulator-metal transition in dense fluid deuterium. <i>Science</i> , 2018, 361, 677-682. | 12.6 | 108 |
| 11 | Symmetry control of an indirectly driven high-density-carbon implosion at high convergence and high velocity. <i>Physics of Plasmas</i> , 2017, 24, . | 1.9 | 106 |
| 12 | Multistep redirection by cross-beam power transfer of ultrahigh-power lasers in a plasma. <i>Nature Physics</i> , 2012, 8, 344-349. | 16.7 | 104 |
| 13 | Symmetry tuning for ignition capsules via the symcap technique. <i>Physics of Plasmas</i> , 2011, 18, . | 1.9 | 101 |
| 14 | Energy transfer between laser beams crossing in ignition hohlraums. <i>Physics of Plasmas</i> , 2009, 16, . | 1.9 | 92 |
| 15 | Novel Characterization of Capsule X-Ray Drive at the National Ignition Facility. <i>Physical Review Letters</i> , 2014, 112, 105003. | 7.8 | 87 |
| 16 | Design of inertial fusion implosions reaching the burning plasma regime. <i>Nature Physics</i> , 2022, 18, 251-258. | 16.7 | 87 |
| 17 | Backscatter measurements for NIF ignition targets (invited). <i>Review of Scientific Instruments</i> , 2010, 81, 10D921. | 1.3 | 82 |
| 18 | of Plasmas, 2015, 22, 056315. | 1.9 | 82 |

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|----|--|-----|-----------|
| 19 | of Plasmas, 2015, 22, 056318. | 1.9 | 80 |
| 20 | Exploring the limits of case-to-capsule ratio, pulse length, and picket energy for symmetric hohlraum drive on the National Ignition Facility Laser. Physics of Plasmas, 2018, 25, . | 1.9 | 79 |
| 21 | The first measurements of soft x-ray flux from ignition scale <i>Hohlraums</i> at the National Ignition Facility using DANTE (invited). Review of Scientific Instruments, 2010, 81, 10E321. | 1.3 | 66 |
| 22 | Progress in hohlraum physics for the National Ignition Facility. Physics of Plasmas, 2014, 21, . | 1.9 | 62 |
| 23 | Cryogenic tritium-hydrogen-deuterium and deuterium-tritium layer implosions with high density carbon ablators in near-vacuum hohlraums. Physics of Plasmas, 2015, 22, 062703. | 1.9 | 62 |
| 24 | Hohlraum energetics scaling to 520 TW on the National Ignition Facility. Physics of Plasmas, 2013, 20, . | 1.9 | 59 |
| 25 | Integrated modeling of cryogenic layered highfoot experiments at the NIF. Physics of Plasmas, 2016, 23, . | 1.9 | 59 |
| 26 | Hot electron measurements in ignition relevant <i>Hohlraums</i> on the National Ignition Facility. Review of Scientific Instruments, 2010, 81, 10D938. | 1.3 | 58 |
| 27 | The relationship between gas fill density and hohlraum drive performance at the National Ignition Facility. Physics of Plasmas, 2017, 24, . | 1.9 | 55 |
| 28 | X-ray driven implosions at ignition relevant velocities on the National Ignition Facility. Physics of Plasmas, 2013, 20, . | 1.9 | 54 |
| 29 | Thomson-scattering measurements of high electron temperature hohlraum plasmas for laser-plasma interaction studies. Physics of Plasmas, 2006, 13, 052704. | 1.9 | 53 |
| 30 | Toward a burning plasma state using diamond ablator inertially confined fusion (ICF) implosions on the National Ignition Facility (NIF). Plasma Physics and Controlled Fusion, 2019, 61, 014023. | 2.1 | 53 |
| 31 | Suprathermal electrons generated by the two-plasmon-decay instability in gas-filled <i>Hohlraums</i> . Physics of Plasmas, 2010, 17, . | 1.9 | 51 |
| 32 | The near vacuum hohlraum campaign at the NIF: A new approach. Physics of Plasmas, 2016, 23, . | 1.9 | 51 |
| 33 | Hotspot conditions achieved in inertial confinement fusion experiments on the National Ignition Facility. Physics of Plasmas, 2020, 27, . | 1.9 | 50 |
| 34 | Experimental basis for laser-plasma interactions in ignition hohlraums at the National Ignition Facility. Physics of Plasmas, 2010, 17, . | 1.9 | 49 |
| 35 | X-ray conversion efficiency in vacuum hohlraum experiments at the National Ignition Facility. Physics of Plasmas, 2012, 19, 053301. | 1.9 | 48 |
| 36 | Suppression of Stimulated Brillouin Scattering by Increased Landau Damping in Multiple-Ion-Species Hohlraum Plasmas. Physical Review Letters, 2008, 100, 105001. | 7.8 | 43 |

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|----|--|-----|-----------|
| 37 | The I-Raum: A new shaped hohlraum for improved inner beam propagation in indirectly-driven ICF implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2018, 25, . | 1.9 | 43 |
| 38 | Images of the laser entrance hole from the static x-ray imager at NIF. <i>Review of Scientific Instruments</i> , 2010, 81, 10E538. | 1.3 | 42 |
| 39 | Increasing stagnation pressure and thermonuclear performance of inertial confinement fusion capsules by the introduction of a high-Z dopant. <i>Physics of Plasmas</i> , 2018, 25, . | 1.9 | 42 |
| 40 | Symmetry control in subscale near-vacuum hohlraums. <i>Physics of Plasmas</i> , 2016, 23, . | 1.9 | 34 |
| 41 | Investigation of ion kinetic effects in direct-drive exploding-pusher implosions at the NIF. <i>Physics of Plasmas</i> , 2014, 21, 122712. | 1.9 | 33 |
| 42 | Implosion configurations for robust ignition using high-density carbon (diamond) ablator for indirect-drive ICF at the National Ignition Facility. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012023. | 0.4 | 30 |
| 43 | Developing an Experimental Basis for Understanding Transport in NIF Hohlraum Plasmas. <i>Physical Review Letters</i> , 2018, 121, 095002. | 7.8 | 28 |
| 44 | Ultra-high (>30%) coupling efficiency designs for demonstrating central hot-spot ignition on the National Ignition Facility using a Frustrum. <i>Physics of Plasmas</i> , 2019, 26, . | 1.9 | 25 |
| 45 | Role of hydrodynamics simulations in laser-plasma interaction predictive capability. <i>Physics of Plasmas</i> , 2007, 14, 056304. | 1.9 | 24 |
| 46 | Hydrodynamics simulations of 2% laser propagation in underdense gasbag plasmas. <i>Physics of Plasmas</i> , 2004, 11, 5573-5579. | 1.9 | 23 |
| 47 | Soft x-ray images of the laser entrance hole of ignition hohlraums. <i>Review of Scientific Instruments</i> , 2012, 83, 10E525. | 1.3 | 22 |
| 48 | Towards a more universal understanding of radiation drive in gas-filled hohlraums. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012026. | 0.4 | 20 |
| 49 | Three-dimensional modeling of laser-plasma interaction: Benchmarking our predictive modeling tools versus experiments. <i>Physics of Plasmas</i> , 2008, 15, 056313. | 1.9 | 19 |
| 50 | First demonstration of improved capsule implosions by reducing radiation preheat in uranium vs gold hohlraums. <i>Physics of Plasmas</i> , 2018, 25, . | 1.9 | 17 |
| 51 | Update 2015 on Target Fabrication Requirements for NIF Layered Implosions, with Emphasis on Capsule Support and Oxygen Modulations in GDP. <i>Fusion Science and Technology</i> , 2016, 70, 121-126. | 1.1 | 16 |
| 52 | Simultaneous visualization of wall motion, beam propagation, and implosion symmetry on the National Ignition Facility (invited). <i>Review of Scientific Instruments</i> , 2018, 89, 10K111. | 1.3 | 15 |
| 53 | Development of new platforms for hydrodynamic instability and asymmetry measurements in deceleration phase of indirectly driven implosions on NIF. <i>Physics of Plasmas</i> , 2018, 25, 082705. | 1.9 | 15 |
| 54 | Evidence of restricted heat transport in National Ignition Facility Hohlraums. <i>Physics of Plasmas</i> , 2020, 27, 102704. | 1.9 | 15 |

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|----|--|------|-----------|
| 55 | Low mode implosion symmetry sensitivity in low gas-fill NIF cylindrical hohlraums. <i>Physics of Plasmas</i> , 2021, 28, . | 1.9 | 15 |
| 56 | Understanding ICF hohlraums using NIF gated laser-entrance-hole images. <i>Physics of Plasmas</i> , 2020, 27, 022702. | 1.9 | 13 |
| 57 | Images of the gold bubble feature in NIF Gas-Filled Ignition Hohlraums. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012049. | 0.4 | 12 |
| 58 | Experimental demonstration of the reduced expansion of a laser-heated surface using a low density foam layer, pertaining to advanced hohlraum designs with less wall-motion. <i>Physics of Plasmas</i> , 2020, 27, . | 1.9 | 12 |
| 59 | Observation of hohlraum-wall motion with spectrally selective x-ray imaging at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2016, 87, 11E321. | 1.3 | 11 |
| 60 | Hybrid particle-in-cell simulations of laser-driven plasma interpenetration, heating, and entrainment. <i>Physics of Plasmas</i> , 2019, 26, 112107. | 1.9 | 11 |
| 61 | Fill tube dynamics in inertial confinement fusion implosions with high density carbon ablaters. <i>Physics of Plasmas</i> , 2020, 27, . | 1.9 | 11 |
| 62 | Laser absorption, power transfer, and radiation symmetry during the first shock of inertial confinement fusion gas-filled hohlraum experiments. <i>Physics of Plasmas</i> , 2015, 22, 122701. | 1.9 | 9 |
| 63 | View factor estimation of hot spot velocities in inertial confinement fusion implosions at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, . | 1.9 | 9 |
| 64 | The effects of multispecies <i>Hohlraum</i> walls on stimulated Brillouin scattering, <i>Hohlraum</i> dynamics, and beam propagation. <i>Physics of Plasmas</i> , 2021, 28, . | 1.9 | 6 |
| 65 | Response to Comment on "Insulator-metal transition in dense fluid deuterium". <i>Science</i> , 2019, 363, . | 12.6 | 5 |
| 66 | Developing "inverted-corona" fusion targets as high-fluence neutron sources. <i>Review of Scientific Instruments</i> , 2021, 92, 033544. | 1.3 | 4 |
| 67 | Interpenetration and kinetic effects in converging, high-energy plasma jets. <i>High Energy Density Physics</i> , 2020, 37, 100861. | 1.5 | 4 |
| 68 | Foam-lined hohlraum, inertial confinement fusion experiments on the National Ignition Facility. <i>Physical Review E</i> , 2020, 102, 051201. | 2.1 | 2 |
| 69 | Kinetic mix at gas-shell interface in inverted corona fusion targets. <i>Physics of Plasmas</i> , 2021, 28, 122702. | 1.9 | 1 |