

# Hideaki Takabe

## List of Publications by Year in descending order

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112  
papers

2,748  
citations

218677

26  
h-index

182427

51  
g-index

112  
all docs

112  
docs citations

112  
times ranked

1591  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling Astrophysical Phenomena in the Laboratory with Intense Lasers. <i>Science</i> , 1999, 284, 1488-1493.	12.6	369
2	Observation of magnetic field generation via the Weibel instability in interpenetrating plasma flows. <i>Nature Physics</i> , 2015, 11, 173-176.	16.7	236
3	Scalings of implosion experiments for high neutron yield. <i>Physics of Fluids</i> , 1988, 31, 2884.	1.4	165
4	Nonrelativistic Collisionless Shocks in Unmagnetized Electron-Ion Plasmas. <i>Astrophysical Journal</i> , 2008, 681, L93-L96.	4.5	137
5	Time Evolution of Collisionless Shock in Counterstreaming Laser-Produced Plasmas. <i>Physical Review Letters</i> , 2011, 106, 175002.	7.8	127
6	Self-organized electromagnetic field structures in laser-produced counter-streaming plasmas. <i>Nature Physics</i> , 2012, 8, 809-812.	16.7	118
7	X-ray astronomy in the laboratory with a miniature compact object produced by laser-driven implosion. <i>Nature Physics</i> , 2009, 5, 821-825.	16.7	113
8	Characterizing counter-streaming interpenetrating plasmas relevant to astrophysical collisionless shocks. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	101
9	Numerical study of pair creation by ultraintense lasers. <i>Physics of Plasmas</i> , 2002, 9, 1505-1512.	1.9	82
10	Studying astrophysical collisionless shocks with counterstreaming plasmas from high power lasers. <i>High Energy Density Physics</i> , 2012, 8, 38-45.	1.5	82
11	Electrostatic and electromagnetic instabilities associated with electrostatic shocks: Two-dimensional particle-in-cell simulation. <i>Physics of Plasmas</i> , 2010, 17, 032114.	1.9	78
12	High-Mach number collisionless shock and photo-ionized non-LTE plasma for laboratory astrophysics with intense lasers. <i>Plasma Physics and Controlled Fusion</i> , 2008, 50, 124057.	2.1	60
13	NONRELATIVISTIC COLLISIONLESS SHOCKS IN WEAKLY MAGNETIZED ELECTRON-ION PLASMAS: TWO-DIMENSIONAL PARTICLE-IN-CELL SIMULATION OF PERPENDICULAR SHOCK. <i>Astrophysical Journal</i> , 2010, 721, 828-842.	4.5	58
14	Collisionless shock experiments with lasers and observation of Weibel instabilities. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	51
15	Collisionless shock generation in high-speed counterstreaming plasma flows by a high-power laser. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	50
16	Transition from Collisional to Collisionless Regimes in Interpenetrating Plasma Flows on the National Ignition Facility. <i>Physical Review Letters</i> , 2017, 118, 185003.	7.8	49
17	Soft x-ray spectra of highly ionized elements with atomic numbers ranging from 57 to 82 produced by compact lasers. <i>Journal of Applied Physics</i> , 1994, 75, 1923-1930.	2.5	42
18	Study of indirectly driven implosion by x-ray spectroscopic measurements. <i>Physics of Plasmas</i> , 1995, 2, 2063-2074.	1.9	42

#	ARTICLE	IF	CITATIONS
19	Measured laser fusion gains reproduced by self-similar volume compression and volume ignition for NIF conditions. <i>Journal of Plasma Physics</i> , 1998, 60, 743-760.	2.1	38
20	Visualizing electromagnetic fields in laser-produced counter-streaming plasma experiments for collisionless shock laboratory astrophysics. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	36
21	Recent progress of implosion experiments with uniformityâ€”improved GEKKO XII laser facility at the Institute of Laser Engineering, Osaka University. <i>Physics of Plasmas</i> , 1996, 3, 2077-2083.	1.9	34
22	Kelvin-Helmholtz Turbulence Associated with Collisionless Shocks in Laser Produced Plasmas. <i>Physical Review Letters</i> , 2012, 108, 195004.	7.8	34
23	Atomic Number Scaling of the Nickel-Like Soft X-Ray Lasers. <i>International Journal of Modern Physics B</i> , 1997, 11, 945-990.	2.0	33
24	Experimental evidence and theoretical analysis of photoionized plasma under x-ray radiation produced by an intense laser. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	28
25	Magnetic field production via the Weibel instability in interpenetrating plasma flows. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	27
26	Recent progress of laboratory astrophysics with intense lasers. <i>High Power Laser Science and Engineering</i> , 2021, 9, .	4.6	27
27	Collisionless Shocks Driven by Supersonic Plasma Flows with Self-Generated Magnetic Fields. <i>Physical Review Letters</i> , 2019, 123, 055002.	7.8	26
28	Thomson scattering measurement of a shock in laser-produced counter-streaming plasmas. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	25
29	Model experiment of cosmic ray acceleration due to an incoherent wakefield induced by an intense laser pulse. <i>Physics of Plasmas</i> , 2011, 18, 010701.	1.9	23
30	JET FORMATION IN COUNTERSTREAMING COLLISIONLESS PLASMAS. <i>Astrophysical Journal</i> , 2009, 707, L137-L141.	4.5	21
31	Pusherless implosion, pulse tailoring and ignition scaling law for laser fusion. <i>Laser and Particle Beams</i> , 1989, 7, 249-258.	1.0	20
32	The scalability of the accretion column in magnetic cataclysmic variables: the POLAR project. <i>Astrophysics and Space Science</i> , 2011, 336, 81-85.	1.4	19
33	Maximizing magnetic field generation in high power laserâ€”solid interactions. <i>High Power Laser Science and Engineering</i> , 2019, 7, .	4.6	19
34	Cryogenic deuterium target experiments with the GEKKO XII, green laser system. <i>Physics of Plasmas</i> , 1995, 2, 2495-2503.	1.9	18
35	Monochromatic x-ray imaging with bent crystals for laser fusion research. <i>Review of Scientific Instruments</i> , 2001, 72, 744-747.	1.3	17
36	Effects of Thermal Conduction and Compressibility on Rayleigh-Taylor Instability. <i>Journal of the Physical Society of Japan</i> , 1980, 48, 1793-1794.	1.6	16

#	ARTICLE	IF	CITATIONS
37	Requirement of uniformity for fuel ignition and uniformity in high neutron yield implosion. Laser and Particle Beams, 1989, 7, 175-187.	1.0	16
38	Single spatial mode experiments on initial laser imprint on direct-driven planar targets. Physics of Plasmas, 2002, 9, 1734-1744.	1.9	15
39	Laboratory simulation of the collision of supernova 1987A with its circumstellar ring nebula. Plasma Physics Reports, 2001, 27, 843-851.	0.9	14
40	Highly radiative shock experiments driven by GEKKO XII. Astrophysics and Space Science, 2011, 336, 213-218.	1.4	14
41	Ionization and reflux dependence of magnetic instability generation and probing inside laser-irradiated solid thin foils. Physics of Plasmas, 2017, 24, 103115.	1.9	14
42	Time-resolved, two-dimensional electron-temperature distribution of laser-imploded core plasmas. Review of Scientific Instruments, 1997, 68, 820-823.	1.3	13
43	Kinetic effects on the electron thermal transport in ignition target design. Physics of Plasmas, 1996, 3, 3420-3424.	1.9	12
44	Imprint reduction in a plasma layer preformed with x-ray irradiation. Physics of Plasmas, 2002, 9, 1381-1391.	1.9	12
45	One- and two-dimensional fast x-ray imaging of laser-driven implosion dynamics with x-ray streak cameras. Review of Scientific Instruments, 1997, 68, 828-830.	1.3	11
46	Hydrodynamic Instability of Ionization Front in HII Regions: From Linear to Nonlinear Evolution. Astrophysics and Space Science, 2005, 298, 197-202.	1.4	11
47	Experimental results to study astrophysical plasma jets using Intense Lasers. Astrophysics and Space Science, 2009, 322, 25-29.	1.4	11
48	Formation of density inhomogeneity in laser produced plasmas for a test bed of magnetic field amplification in supernova remnants. Astrophysics and Space Science, 2011, 336, 269-272.	1.4	11
49	Collisionless electrostatic shock generation using high-energy laser systems. Advances in Physics: X, 2016, 1, 425-443.	4.1	10
50	Resonant Excitation of High Amplitude Oscillations and Hydrodynamic Wave Breaking in a Streaming Cold Plasma. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1982, 37, 208-218.	1.5	8
51	Preliminary Studies of Direct Energy Conversion in a D- <sup>3</sup> He Inertial Confinement Fusion Reactor. Fusion Science and Technology, 1992, 22, 56-65.	0.6	8
52	Line profile modeling for non-LTE partially ionized plasmas based on average atom model with $\lambda$ -splitting. Laser and Particle Beams, 1993, 11, 81-87.	1.0	8
53	Spectrum modulation of relativistic electrons by laser wakefield. Applied Physics Letters, 2008, 93, 081501.	3.3	8
54	Radiation reaction in the interaction of ultraintense laser with matter and gamma ray source. Physics of Plasmas, 2016, 23, .	1.9	8

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55	Properties of an exploding foil neon-like germanium soft X-ray laser. <i>Laser and Particle Beams</i> , 1993, 11, 109-117.	1.0	7
56	A jet production experiment using the high-repetition rate Astra laser. <i>Astrophysics and Space Science</i> , 2009, 322, 31-35.	1.4	7
57	Electrostatic Field Generation and Hot Electron Reduction in a Laser Produced Plasma. <i>Journal of the Physical Society of Japan</i> , 1982, 51, 2293-2299.	1.6	6
58	Proton imaging of an electrostatic field structure formed in laser-produced counter-streaming plasmas. <i>Journal of Physics: Conference Series</i> , 2016, 688, 012071.	0.4	6
59	Theory of efficient shell implosions. <i>Laser and Particle Beams</i> , 1989, 7, 189-205.	1.0	5
60	Design of Laser Fusion Reactor driven by Laser-Diode-Pumped Solid State Laser. <i>Fusion Science and Technology</i> , 1992, 21, 1460-1464.	0.6	5
61	Numerical simulation of implosion and burn of $\langle i \rangle \text{D}^{\text{t}} \langle /i \rangle$ ignitor/ $\text{D}^{\text{3}} \langle /sup \rangle \text{He}$ fuel pellet for $\text{D}^{\text{3}} \langle /sup \rangle \text{He}$ inertial confinement fusion reactor. <i>Laser and Particle Beams</i> , 1993, 11, 137-147.	1.0	5
62	Numerical Simulation of Non-spherical Implosion Related to Fast Ignition. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	5
63	Eagle Nebula Pillars: From Models to Observations. <i>Astrophysics and Space Science</i> , 2005, 298, 177-181.	1.4	5
64	Characteristic measurements of silicon dioxide aerogel plasmas generated in a Planckian radiation environment. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	5
65	Characterization of electrostatic shock in laser-produced optically-thin plasma flows using optical diagnostics. <i>Physics of Plasmas</i> , 2017, 24, 072701.	1.9	5
66	The suppression of radiation reaction and laser field depletion in laser-electron beam interaction. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	5
67	Recent Laboratory Astrophysics Experiments at LULI. <i>Plasma and Fusion Research</i> , 2009, 4, 044-044.	0.7	5
68	Theoretical studies on electron and radiation preheatings. <i>Laser and Particle Beams</i> , 1989, 7, 487-493.	1.0	4
69	Effects of neutron heating on ignition and energy gain of laser-imploded D-T pellets. <i>Laser and Particle Beams</i> , 1997, 15, 259-276.	1.0	4
70	Nonlinear Dynamics of Ionization Fronts in HII Regions. <i>Astrophysics and Space Science</i> , 2007, 307, 183-186.	1.4	4
71	Collisionless Shock Wave Generation in Counter-Streaming Plasmas Using Gekko XII HIPER Laser. <i>Plasma and Fusion Research</i> , 2011, 6, 2404057-2404057.	0.7	4
72	Generation of counter-streaming plasmas for collisionless shock experiment. <i>High Energy Density Physics</i> , 2017, 23, 207-211.	1.5	4

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73	Laser Fusion Research at Ite Osaka University. Fusion Science and Technology, 1996, 30, 625-633.	0.6	3
74	Optical pyrometer system for collisionless shock experiments in high-power laser-produced plasmas. Review of Scientific Instruments, 2012, 83, 10D514.	1.3	3
75	Optimizing the energies conversion in laser-electron beam collision. Physics of Plasmas, 2019, 26, 033102.	1.9	3
76	Relativistic Plasma Physics. Relativistic Motion of Charged Particles in Ultra-Intense Laser Fields.. Journal of Plasma and Fusion Research, 2002, 78, 341-346.	0.4	3
77	Soft X ray radiation confinement in laser fusion.. KakuyÅ«gÅ•KenkyÅ«, 1990, 63, 219-234.	0.1	3
78	Radiation-driven cannonball targets for high-convergence implosions. Laser and Particle Beams, 1993, 11, 89-96.	1.0	2
79	Prospect for Multiple Time and Spatial Scale Simulation Research in Astrophysical Plasma Phenomena: Grand Challenge for Studying the History of Universe from the Dark Ages to the Solar System. Journal of Plasma and Fusion Research, 2003, 79, 504-515.	0.4	2
80	Fast Ignitor Research with Use of Ultra-Intense Laser System.. Journal of Plasma and Fusion Research, 1999, 75, 452-458.	0.4	2
81	Recent results from experiments on x-ray confining cavities (abstract). Review of Scientific Instruments, 1990, 61, 2813-2813.	1.3	1
82	Beatwave excitation of plasma wave and electron acceleration. AIP Conference Proceedings, 1991, , .	0.4	1
83	Non-LTE atomic modeling for laser-produced plasmas. Laser and Particle Beams, 1993, 11, 119-126.	1.0	1
84	High energy particle transport in laser fusion. AIP Conference Proceedings, 1994, , .	0.4	1
85	Kinetic effects on the electron thermal transport in ignition target design. AIP Conference Proceedings, 1996, , .	0.4	1
86	Instabilities of nuclear flames in thermonuclear supernovae. AIP Conference Proceedings, 1996, , .	0.4	1
87	Implosion experiments with uniformity-improved GEKKO XII: Overview. AIP Conference Proceedings, 1996, , .	0.4	1
88	Development of inertial fusion energy. , 1997, , .		1
89	Calculation of Photoionized Plasmas with a Detailed-Configuration-Accounting Atomic Model. Journal of the Physical Society of Japan, 2009, 78, 064301.	1.6	1
90	Can X-Ray Lasers Exist in Astrophysical Objects ?. Publication of the Astronomical Society of Japan, 2011, 63, 727-733.	2.5	1

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91	Ablation and Compression Mechanism in Laser Fusion Plasma.. The Review of Laser Engineering, 1979, 7, 394-400.	0.0	1
92	Magnetic Field Effects on Resonance Absorption. Journal of the Physical Society of Japan, 1985, 54, 4178-4187.	1.6	0
93	Computational and experimental studies on the implosion processes of laser fusion targets. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1987, 5, 2743-2745.	2.1	0
94	Internal structure of a partially ionized heavy ion. Isolated ion model. Laser and Particle Beams, 1989, 7, 581-588.	1.0	0
95	Indirect-drive inertial fusion research at the Institute of Laser Engineering. AIP Conference Proceedings, 1994, , .	0.4	0
96	High-intensity x-ray pulses from picosecond glass laser produced plasmas. , 0, , .		0
97	Agreement of measured fusion gains with the self-similarity model and volume ignition for NIF conditions. , 1997, , .		0
98	X-ray Line and Recombination Emission in the Afterglow of Grb. Astrophysics and Space Science, 2005, 298, 323-326.	1.4	0
99	Recent studies of high energy density physics at the institute of physics, Beijing. , 2009, , .		0
100	Laboratory Astrophysics Experiment Using High-Power Lasers. The Review of Laser Engineering, 2011, 39, 5-11.	0.0	0
101	Conference on Computational Physics 2012. Asia-Pacific Physics Newsletter, 2013, 02, 12-13.	0.0	0
102	High Power Laser Astrophysics. The Review of Laser Engineering, 2001, 29, 82-83.	0.0	0
103	Potentiality of the Laboratory Astrophysics Using High Repetition Rate and High Intensity Lasers. The Review of Laser Engineering, 2003, 31, 711-720.	0.0	0
104	Laboratory Astrophysics with Lasers: Turbulent Electromagnetic Field Associated with Collisionless Shocks. The Review of Laser Engineering, 2013, 41, 20.	0.0	0
105	Obtaining Correct and Physically Meaningful Results for Simulations of the Richtmyer-Meshkov Instability (RMI) Driven by Shock Wave. , 2014, , .		0
106	Review of Laser Fusion Theory and Simulation. The Review of Laser Engineering, 1986, 14, 1066-1089.	0.0	0
107	Directly Driven Implosion by Laser. KakuyÅ«gÅ•KenkyÅ«, 1987, 58, 244-254.	0.1	0
108	Laser accelerators (Recent topics on beat wave acceleration).. The Review of Laser Engineering, 1987, 15, 481-494.	0.0	0

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109	Design study of an indirect-drive target.. KakuyÅ«gÅ•KenkyÅ«, 1990, 64, 408-429.	0.1	0
110	ãf-ãf¼ã, ¶ãf¼æ, èžâç, ¼ç¼fç,,¼ã«ããã¼. The Review of Laser Engineering, 1995, 23, 117-120.	0.0	0
111	Prospect on the Atomic and Molecular Processes in Plasmas. Transport Code. Radiation Transport Code.. Journal of Plasma and Fusion Research, 1999, 75, 1145-1155.	0.4	0
112	Relativistic Laser-Electron Interactions. Springer Series in Plasma Science and Technology, 2020, , 167-202.	0.2	0