Toshinori Yabuuchi

List of Publications by Year
in descending order

107 papers	1,878 citations	279701 23 h-index	276775 41 g-index
109 all docs	109 docs citations	109 times ranked	1452 citing authors

#	Article	IF	Citations
1	Hugoniot equation-of-state and structure of laser-shocked polyimide <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>22</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>10</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>5</mml:mn></mml:msub></mml:mrow></mml:math>. Physi	1.1	4
2	Phase transition and melting in zircon by nanosecond shock loading. Physics and Chemistry of Minerals, 2022, 49, .	0.3	5
3	X-ray diffraction study of phase transformation dynamics of Fe and Fe-Si alloys along the shock Hugoniot using an x-ray free electron laser. Physical Review B, 2022, 105, .	1.1	1
4	Nanoscale subsurface dynamics of solids upon high-intensity femtosecond laser irradiation observed by grazing-incidence x-ray scattering. Physical Review Research, 2022, 4, .	1.3	5
5	Using Diffuse Scattering to Observe X-Ray-Driven Nonthermal Melting. Physical Review Letters, 2021, 126, 015703.	2.9	10
6	X-ray radiography based on the phase-contrast imaging with using LiF detector. Journal of Physics: Conference Series, 2021, 1787, 012027.	0.3	0
7	Liquid Structure of Tantalum under Internal Negative Pressure. Physical Review Letters, 2021, 126, 175503.	2.9	6
8	Micron-scale phenomena observed in a turbulent laser-produced plasma. Nature Communications, 2021, 12, 2679.	5.8	17
9	Spatially resolved single-shot absorption spectroscopy with x-ray free electron laser pulse. Review of Scientific Instruments, 2021, 92, 053534.	0.6	2
10	Ultrafast olivine-ringwoodite transformation during shock compression. Nature Communications, 2021, 12, 4305.	5.8	9
11	Observation of ultra-high energy density state with x-ray free electron laser SACLA. High Energy Density Physics, 2020, 36, 100813.	0.4	4
12	Femtosecond Optical Laser System with Spatiotemporal Stabilization for Pump-Probe Experiments at SACLA. Applied Sciences (Switzerland), 2020, 10, 7934.	1.3	7
13	Development of an Experimental Platform for Combinative Use of an XFEL and a High-Power Nanosecond Laser. Applied Sciences (Switzerland), 2020, 10, 2224.	1.3	16
14	Evidence of shock-compressed stishovite above 300â€‰GPa. Scientific Reports, 2020, 10, 10197.	1.6	8
15	Toward the Fusion of High-Power Laser Shock and Material Sciences. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2020, 30, 216-224.	0.1	0
16	Ultrafast anisotropic disordering in graphite driven by intense hard X-ray pulses. High Energy Density Physics, 2019, 32, 63-69.	0.4	13
17	Monochromatic 2D <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>K</mml:mi><mml:mi>Î±</mml:mi></mml:mrow></mml:math> Emission Images Revealing Short-Pulse Laser Isochoric Heating Mechanism. Physical Review Letters, 2019, 122, 155002.	2.9	16
18	An experimental platform using high-power, high-intensity optical lasers with the hard X-ray free-electron laser at SACLA. Journal of Synchrotron Radiation, 2019, 26, 585-594.	1.0	17

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19	Photoluminescence properties and characterization of LiF-based imaging detector irradiated by 10 keV XFEL beam. , 2019, , .		2
20	In Situ Characterization of XFEL Beam Intensity Distribution and Focusability by High-Resolution LiF Crystal Detector. Springer Proceedings in Physics, 2018, , 109-115.	0.1	0
21	Advanced high resolution x-ray diagnostic for HEDP experiments. Scientific Reports, 2018, 8, 16407.	1.6	16
22	Reduced fast electron transport in shock-heated plasma in multilayer targets due to self-generated magnetic fields. Physical Review E, 2018, 98, .	0.8	0
23	Development of new diagnostics based on LiF detector for pump-probe experiments. Matter and Radiation at Extremes, 2018, 3, 197-206.	1.5	8
24	Ultrafast observation of lattice dynamics in laser-irradiated gold foils. Applied Physics Letters, 2017, 110, .	1.5	20
25	Coherent X-ray beam metrology using 2D high-resolution Fresnel-diffraction analysis. Journal of Synchrotron Radiation, 2017, 24, 196-204.	1.0	10
26	Overview of optics, photon diagnostics and experimental instruments at SACLA: development, operation and scientific applications. , 2017, , .		3
27	Transport and spatial energy deposition of relativistic electrons in copper-doped fast ignition plasmas. Physics of Plasmas, 2017, 24, 102710.	0.7	6
28	Dynamic fracture of tantalum under extreme tensile stress. Science Advances, 2017, 3, e1602705.	4.7	41
29	Visualizing Overlapping Space-Time Regions ofÂTime-Series 2D Experimental Data and 3D Simulation Data: Application toÂPlasma-PlumeÂCollisions. Communications in Computer and Information Science, 2017, , 579-592.	0.4	0
30	<i>Indirect</i> monitoring shot-to-shot shock waves strength reproducibility during pumpâ€“probe experiments. Journal of Applied Physics, 2016, 120, .	1.1	5
31	Visualizing fast electron energy transport into laser-compressed high-density fast-ignitionÂtargets. Nature Physics, 2016, 12, 499-504.	6.5	49
32	Simulated ablation of carbon wall by alpha particles for a laser fusion reactor. Journal of Nuclear Materials, 2015, 459, 77-80.	1.3	0
33	Slowdown mechanisms of ultraintense laser propagation in critical density plasma. Physical Review E, 2015, 92, 013106.	0.8	3
34	Laser scattered images observed from carbon plasma stagnation and following molecular formation. Applied Physics Letters, 2014, 104, .	1.5	6
35	Interpenetration and stagnation in colliding laser plasmas. Physics of Plasmas, 2014, 21, 013502.	0.7	33
36	Formation of carbon allotrope aerosol by colliding plasmas in an inertial fusion reactor. Nuclear Fusion, 2014, 54, 022003.	1.6	8

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37	Effect of defocusing on picosecond laser-coupling into gold cones. Physics of Plasmas, 2014, 21, 012702.	0.7	1
38	Investigation of fast-electron-induced<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>K</mml:mi></mml:math>Î± x rays in laser-produced blow-off plasma. Physical Review E, 2014, 89, 033105.	0.8	5
39	Collimation of Energetic Electrons from a Laser-Target Interaction by a Magnetized Target Back Plasma Preformed by a Long-Pulse Laser. Physical Review Letters, 2014, 112, .	2.9	25
40	Stopping and transport of fast electrons in superdense matter. Physics of Plasmas, 2013, 20, 083301.	0.7	3
41	Impact of extended preplasma on energy coupling in kilojoule energy relativistic laser interaction with cone wire targets relevant to fast ignition. New Journal of Physics, 2013, 15, 015020.	1.2	7
42	Electron energy distributions through superdense matter by Monte-Carlo simulations. EPJ Web of Conferences, 2013, 59, 17018.	0.1	0
43	Characterization of Fast Electron Source Using Copper KÎ± and Proton Emission from Cone-Wire Targets. The Review of Laser Engineering, 2013, 41, 45.	0.0	0
44	Characteristic of Relativistic Plasma Created by Ultra Intense Laser. The Review of Laser Engineering, 2013, 41, 7.	0.0	0
45	Material Dependence of Energy Spectra of Fast Electrons Generated by Use of High Contrast Laser. The Review of Laser Engineering, 2013, 41, 49.	0.0	0
46	Emission of energetic protons from relativistic intensity laser interaction with a cone-wire target. Physical Review E, 2012, 86, 056405.	0.8	3
47	Temporally resolved characterization of shock-heated foam target with Al absorption spectroscopy for fast electron transport study. Physics of Plasmas, 2012, 19, 092705.	0.7	1
48	Diagnosing laser-driven, shock-heated foam target with Al absorption spectroscopy on OMEGA EP. High Energy Density Physics, 2012, 8, 180-183.	0.4	8
49	Material Dependence on Plasma Shielding Induced by Laser Ablation. Plasma and Fusion Research, 2012, 7, 2405065-2405065.	0.3	5
50	Numerical modeling of fast electron generation in the presence of preformed plasma in laser-matter interaction at relativistic intensities. Physical Review E, 2011, 83, 046401.	0.8	57
51	Proton Radiography of Intense-Laser-Irradiated Wire-Attached Cone Targets. IEEE Transactions on Plasma Science, 2011, 39, 2822-2823.	0.6	3
52	Monochromatic Imaging of 8.0-keV Cu $hbox{K}alpha$ Emission Induced by Energetic Electrons Generated at OMEGA EP. IEEE Transactions on Plasma Science, 2011, 39, 2816-2817.	0.6	3
53	Divergence of laser-generated hot electrons generated in a cone geometry. Journal of Physics: Conference Series, 2010, 244, 022064.	0.3	0
54	Measurement of fast electrons spectra generated by interaction between solid target and peta watt laser. Journal of Physics: Conference Series, 2010, 244, 022067.	0.3	1

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55	Hot electron generation and transport using KÎ± emission. Journal of Physics: Conference Series, 2010, 244, 022026.	0.3	3
56	Numerical modeling of fast electron transport in short pulse laserâ€“solid interactions with long scale-length pre-formed plasma. Plasma Physics and Controlled Fusion, 2010, 52, 125003.	0.9	3
57	Development of multi-channel electron spectrometer. Review of Scientific Instruments, 2010, 81, 10E535.	0.6	11
58	Single-shot divergence measurements of a laser-generated relativistic electron beam. Physics of Plasmas, 2010, 17, .	0.7	11
59	Transport study of intense-laser-produced fast electrons in solid targets with a preplasma created by a long pulse laser. Physics of Plasmas, 2010, 17, .	0.7	37
60	A dual channel X-ray spectrometer for fast ignition research. Journal of Instrumentation, 2010, 5, P07008-P07008.	0.5	16
61	Correlation between laser accelerated MeV proton and electron beams using simple fluid model for target normal sheath acceleration. Physics of Plasmas, 2010, 17, 073110.	0.7	11
62	Effect of reentrant cone geometry on energy transport in intense laser-plasma interactions. Physical Review E, 2009, 80, 045401.	0.8	4
63	Superthermal and Efficient-Heating Modes in the Interaction of a Cone Target with Ultraintense Laser Light. Physical Review Letters, 2009, 102, 045009.	2.9	19
64	Intense-laser generated fast electron transport in a large preplasma created by a long pulse laser. , 2009, , .		0
65	The effect of target thickness, molecular composition and pulse length on the proton beam flux and conversion efficiency. , 2009, , .		0
66	Recent fast electron energy transport experiments relevant to fast ignition inertial fusion. Nuclear Fusion, 2009, 49, 104023.	1.6	27
67	Evidence of anomalous resistivity for hot electron propagation through a dense fusion core in fast ignition experiments. New Journal of Physics, 2009, 11, 093031.	1.2	20
68	Study of hot electron production and transport as a function of preplasma filling of hollow cone targets. , 2009, , .		0
69	Study of ultraintense laser propagation in overdense plasmas for fast ignition. Physics of Plasmas, 2009, 16, 056307.	0.7	25
70	Measurements of fast electron scaling generated by petawatt laser systems. Physics of Plasmas, 2009, 16, .	0.7	40
71	Energy Injection for Fast Ignition. Plasma and Fusion Research, 2009, 4, 016-016.	0.3	1
72	Fast Heating of Cylindrically Imploded Plasmas by Petawatt Laser Light. Physical Review Letters, 2008, 100, 165001.	2.9	14

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73	High energy electron acceleration with PW-class laser system. AIP Conference Proceedings, 2008, , .	0.3	0
74	Focus optimization of relativistic self-focusing for anomalous laser penetration into overdense plasmas (super-penetration). Plasma Physics and Controlled Fusion, 2008, 50, 105011.	0.9	31
75	Use of imaging plates at near saturation for high energy density particles. Review of Scientific Instruments, 2008, 79, 10E910.	0.6	4
76	Absolute calibration of imaging plate for GeV electrons. Review of Scientific Instruments, 2008, 79, 066102.	0.6	23
77	Fast heating of wire target attached on entrant hollow cone with ultra-intense laser up to keV order. Journal of Physics: Conference Series, 2008, 112, 022058.	0.3	0
78	Absolute calibration of imaging plate for electron spectrometer measuring GeV-class electrons. Journal of Physics: Conference Series, 2008, 112, 032073.	0.3	1
79	Hot electron emission limited by self-excited fields from targets irradiated by ultra-intense laser pulses. Journal of Physics: Conference Series, 2008, 112, 022093.	0.3	1
80	Hot electron spatial distribution under presence of laser light self-focusing in over-dense plasmas. Journal of Physics: Conference Series, 2008, 112, 022095.	0.3	5
81	High Intensity Laser Propagation though Overdense Plasmas. The Review of Laser Engineering, 2008, 36, 1139-1141.	0.0	0
82	Plasma Devices to Control Energetic Electrons Produced by Ultra-intense Lasers. The Review of Laser Engineering, 2008, 36, 1146-1149.	0.0	0
83	Measurements of Energy Transport Patterns in Solid Density Laser Plasma Interactions at Intensities of5Ã—1020â€‰â€‰Wâ€‰cmâˆ'2. Physical Review Letters, 2007, 98, 125002.	2.9	117
84	On the behavior of ultraintense laser produced hot electrons in self-excited fields. Physics of Plasmas, 2007, 14, 040706.	0.7	39
85	Reentrant cone angle dependence of the energetic electron slope temperature in high-intensity laser-plasma interactions. Physics of Plasmas, 2007, 14, 050701.	0.7	15
86	Effect of sheath potential on electromagnetic radiation emitted from the rear surface of a metallic foil target. Chinese Physics B, 2007, 16, 3009-3015.	1.3	0
87	Relativistic laser channeling in plasmas for fast ignition. Physical Review E, 2007, 76, 066403.	0.8	31
88	Laser generated proton beam focusing and high temperature isochoric heating of solid matter. Physics of Plasmas, 2007, 14, .	0.7	67
89	Zonal Proton Generation from Target Edges Using Ultra-Intense Laser Pulse. Plasma and Fusion Research, 2007, 2, 003-003.	0.3	2
90	Influence of Electrostatic and Magnetic Fields on Hot Electron Emission in Ultra-Intense Laser Matter Interactions. Plasma and Fusion Research, 2007, 2, 015-015.	0.3	1

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91	Optimum Hot Electron Production with Low-Density Foams for Laser Fusion by Fast Ignition. Physical Review Letters, 2006, 96, 255006.	2.9	50
92	Surface Acceleration of Fast Electrons with Relativistic Self-Focusing in Preformed Plasma. Physical Review Letters, 2006, 97, 095004.	2.9	52
93	Transient Electrostatic Fields and Related Energetic Proton Generation with a Plasma Fiber. Physical Review Letters, 2006, 96, 084802.	2.9	14
94	Studies of proton generation and focusing for fast ignition applications. , 2006, , .		0
95	High energy electron transport in solids. European Physical Journal Special Topics, 2006, 133, 355-360.	0.2	2
96	Study of electron and proton isochoric heating for fast ignition. European Physical Journal Special Topics, 2006, 133, 371-378.	0.2	8
97	Relativistic laser channeling into high-density plasmas. European Physical Journal Special Topics, 2006, 133, 409-412.	0.2	1
98	Bulk acceleration of ions in intense laser interaction with foams. Plasma Physics and Controlled Fusion, 2005, 47, B879-B889.	0.9	11
99	Enhancement of energetic electrons and protons by cone guiding of laser light. Physical Review E, 2005, 71, 036403.	0.8	45
100	Calibration of imaging plate for high energy electron spectrometer. Review of Scientific Instruments, 2005, 76, 013507.	0.6	240
101	Demonstration of bulk acceleration of ions in ultraintense laser interactions with low-density foams. Physical Review E, 2005, 72, 066404.	0.8	50
102	Study of Hot Electrons by Measurement of Optical Emission from the Rear Surface of a Metallic Foil Irradiated with Ultraintense Laser Pulse. Physical Review Letters, 2004, 92, 165001.	2.9	41
103	High-energy electrons produced in subpicosecond laser-plasma interactions from subrelativistic laser intensities to relativistic intensities. Physical Review E, 2004, 69, 036405.	0.8	48
104	Characterization of preplasma produced by an ultrahigh intensity laser system. Physics of Plasmas, 2004, 11, 3721-3725.	0.7	19
105	Progress and perspectives of fast ignition. Plasma Physics and Controlled Fusion, 2004, 46, B41-B49.	0.9	18
106	Plasma devices to guide and collimate a high density of MeV electrons. Nature, 2004, 432, 1005-1008.	13.7	170
107	Basic and integrated studies for fast ignition. Physics of Plasmas, 2003, 10, 1925-1930.	0.7	58