

Sophie Baton

List of Publications by Year in descending order

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117
papers

3,212
citations

147801

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168389

53
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119
all docs

119
docs citations

119
times ranked

1511
citing authors

#	ARTICLE	IF	CITATIONS
1	Bremsstrahlung cannon design for shock ignition relevant regime. Review of Scientific Instruments, 2021, 92, 013501.	1.3	7
2	Rayleigh-Taylor mixing may account for the position anomaly in NIF microdot spectroscopy experiments. Physics of Plasmas, 2021, 28, 042704.	1.9	3
3	Experimental characterization of hot-electron emission and shock dynamics in the context of the shock ignition approach to inertial confinement fusion. Physics of Plasmas, 2021, 28, 103302.	1.9	10
4	Preliminary results from the LMJ-PETAL experiment on hot electrons characterization in the context of shock ignition. High Energy Density Physics, 2020, 36, 100796.	1.5	19
5	Transfers from Earth to LEO and LEO to interplanetary space using lasers. Acta Astronautica, 2018, 146, 92-102.	3.2	17
6	X-ray absorption radiography for high pressure shock wave studies. Journal of Instrumentation, 2018, 13, C01013-C01013.	1.2	3
7	Two-channel high-resolution quasi-monochromatic X-ray imager for Al and Ti plasma. Review of Scientific Instruments, 2018, 89, 113702.	1.3	5
8	High-resolution quasi-monochromatic X-ray imaging using a Fresnel phase zone plate and a multilayer mirror. Review of Scientific Instruments, 2017, 88, 013701.	1.3	14
9	Stimulated backward Raman scattering driven collectively by two picosecond laser pulses in a bi- or multi-speckle configuration. Physics of Plasmas, 2017, 24, 032708.	1.9	13
10	Shock generation comparison with planar and hemispherical targets in shock ignition relevant experiment. Physics of Plasmas, 2017, 24, .	1.9	8
11	Laser-driven shock waves studied by x-ray radiography. Physical Review E, 2017, 95, 063205.	2.1	22
12	Laser impulse coupling measurements at 400 fs and 80 ps using the LULI facility at 1057 nm wavelength. Journal of Applied Physics, 2017, 122, .	2.5	28
13	Collimated Propagation of Fast Electron Beams Accelerated by High-Contrast Laser Pulses in Highly Resistive Shocked Carbon. Physical Review Letters, 2017, 118, 205001.	7.8	11
14	Propagation of intense short-pulse laser in homogeneous near-critical density plasmas. Journal of Physics: Conference Series, 2016, 717, 012019.	0.4	1
15	Density and temperature characterization of long-scale length, near-critical density controlled plasma produced from ultra-low density plastic foam. Scientific Reports, 2016, 6, 21495.	3.3	31
16	Experimental Evidence of Backward Raman Scattering Driven Cooperatively by Two Picosecond Laser Pulses Propagating Side by Side. Physical Review Letters, 2016, 117, 015002.	7.8	18
17	Experimental investigation of stimulated Raman and Brillouin scattering instabilities driven by two successive collinear picosecond laser pulses. Physical Review E, 2016, 93, 043209.	2.1	5
18	Short-pulse laser-driven x-ray radiography. High Power Laser Science and Engineering, 2016, 4, .	4.6	17

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19	Characterization of near-LTE, high-temperature and high-density aluminum plasmas produced by ultra-high intensity lasers. High Energy Density Physics, 2015, 16, 12-17.	1.5	21
20	Collimated fast electron beam generation in critical density plasma. Physics of Plasmas, 2014, 21, .	1.9	11
21	Development of x-ray radiography for high energy density physics. Physics of Plasmas, 2014, 21, .	1.9	34
22	Unraveling resistive versus collisional contributions to relativistic electron beam stopping power in cold-solid and in warm-dense plasmas. Physics of Plasmas, 2014, 21, 033101.	1.9	15
23	Physics issues for shock ignition. Nuclear Fusion, 2014, 54, 054009.	3.5	100
24	Velocity Interferometer blanking due to preheating in a double pulse planar experiment. Physics of Plasmas, 2014, 21, 082705.	1.9	9
25	Fast electron energy transport in solid density and compressed plasma. Nuclear Fusion, 2014, 54, 054004.	3.5	49
26	Fast electron beam measurements from relativistically intense, frequency-doubled laser-solids interactions. New Journal of Physics, 2013, 15, 093021.	2.9	5
27	Measuring fast electron spectra and laser absorption in relativistic laser-solid interactions using differential bremsstrahlung photon detectors. Review of Scientific Instruments, 2013, 84, 083505.	1.3	19
28	Supra-thermal electron beam stopping power and guiding in dense plasmas. Journal of Plasma Physics, 2013, 79, 429-435.	2.1	8
29	Relativistic High-Current Electron-Beam Stopping-Power Characterization in Solids and Plasmas: Collisional Versus Resistive Effects. Physical Review Letters, 2012, 109, 255002.	7.8	35
30	Controlling Fast-Electron-Beam Divergence Using Two Laser Pulses. Physical Review Letters, 2012, 109, 015001.	7.8	45
31	A study of fast electron energy transport in relativistically intense laser-plasma interactions with large density scalelengths. Physics of Plasmas, 2012, 19, 053104.	1.9	28
32	Experiment in Planar Geometry for Shock Ignition Studies. Physical Review Letters, 2012, 108, 195002.	7.8	42
33	Three-Dimensional Simulations of Cylindrical Target Implosion Imaging Using Laser-Driven Proton Source. IEEE Transactions on Plasma Science, 2012, 40, 1131-1133.	1.3	3
34	Magnetically Guided Fast Electrons in Cylindrically Compressed Matter. Physical Review Letters, 2011, 107, 065004.	7.8	45
35	The HiPER project for inertial confinement fusion and some experimental results on advanced ignition schemes. Plasma Physics and Controlled Fusion, 2011, 53, 124041.	2.1	18
36	Proton radiography of laser-driven imploding target in cylindrical geometry. Physics of Plasmas, 2011, 18, 012704.	1.9	30

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37	Can proton radiography be used to image imploding target in ICF experiments?. , 2011, , .		0
38	Experimental results performed in the framework of the HIPER European Project. , 2011, , .		0
39	Experimental study of fast electron propagation in compressed matter. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 653, 176-180.	1.6	6
40	Studying ignition schemes on European laser facilities. Nuclear Fusion, 2011, 51, 094025.	3.5	7
41	Proton radiography of cylindrical laser-driven implosions. Plasma Physics and Controlled Fusion, 2011, 53, 032003.	2.1	9
42	Laser-driven cylindrical compression of targets for fast electron transport study in warm and dense plasmas. Physics of Plasmas, 2011, 18, 043108.	1.9	16
43	Proton Radiography for Inertial Confinement Fusion. Journal of the Korean Physical Society, 2011, 59, 3160-3165.	0.7	1
44	X-ray diagnostics of fast electrons propagation in high density plasmas obtained by cylindrical compression. Journal of Physics: Conference Series, 2010, 244, 022027.	0.4	1
45	Proton Radiography of a Laser-Driven Cylindrical Implosion. AIP Conference Proceedings, 2010, , .	0.4	1
46	The HiPER Experimental Road Map. , 2010, , .		1
47	New developments in energy transfer and transport studies in relativistic laser-plasma interactions. Plasma Physics and Controlled Fusion, 2010, 52, 124046.	2.1	7
48	Enhanced Isochoric Heating from Fast Electrons Produced by High-Contrast, Relativistic-Intensity Laser Pulses. Physical Review Letters, 2010, 104, 085001.	7.8	49
49	Single-shot divergence measurements of a laser-generated relativistic electron beam. Physics of Plasmas, 2010, 17, .	1.9	11
50	Fast electron propagation in high-density plasmas created by 1D shock wave compression: Experiments and simulations. Journal of Physics: Conference Series, 2010, 244, 022060.	0.4	4
51	Proton Radiography and Fast Electron Propagation Through Cylindrically Compressed Targets. Journal of the Korean Physical Society, 2010, 57, 305-310.	0.7	1
52	Enhanced hot-electron localization and heating in high-contrast ultraintense laser irradiation of microcone targets. Physical Review E, 2009, 79, 036408.	2.1	23
53	Experimental Evidence of Predominantly Transverse Electron Plasma Waves Driven by Stimulated Raman Scattering of Picosecond Laser Pulses. Physical Review Letters, 2009, 102, 185003.	7.8	41
54	LASER-driven fast electron dynamics in gaseous media under the influence of large electric fields. Physics of Plasmas, 2009, 16, 033104.	1.9	12

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55	Investigation of stimulated Raman scattering using a short-pulse diffraction limited laser beam near the instability threshold. <i>Laser and Particle Beams</i> , 2009, 27, 185-190.	1.0	31
56	Experimental investigation of fast electron transport through $K\alpha$ imaging and spectroscopy in relativistic laser-solid interactions. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 014007.	2.1	20
57	Fast-electron transport in cylindrically laser-compressed matter. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 124035.	2.1	24
58	Recent results at LULI on fast electron transport with and without guiding cone in the context of fast ignitor. <i>European Physical Journal: Special Topics</i> , 2009, 175, 77-82.	2.6	0
59	Importance of magnetic resistive fields in the heating of a micro-cone target irradiated by a high intensity laser. <i>European Physical Journal: Special Topics</i> , 2009, 175, 89-95.	2.6	2
60	Fast electron propagation in high density plasmas created by shock wave compression. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 014005.	2.1	17
61	Temperature profiles derived from transverse optical shadowgraphy in ultraintense laser plasma interactions at $6\text{--}1020\text{ W cm}^{-2}$. <i>Physics of Plasmas</i> , 2009, 16, 056707.	1.9	10
62	Inhibition of fast electron energy deposition due to preplasma filling of cone-attached targets. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	85
63	Heating of solid target in electron refluxing dominated regime with ultra-intense laser. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022063.	0.4	8
64	Recent experiment on fast electron transport in ultra-high intensity laser interaction. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022048.	0.4	2
65	Enhanced energy localization and heating in high contrast ultra-intense laser produced plasmas via novel conical micro-target design. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022050.	0.4	2
66	The Transport of Relativistic, Laser-Produced Electrons in Matter – Part 1. , 2008, , 265-294.		1
67	The Transport of Relativistic, Laser-Produced Electrons in Matter – Part 2. , 2008, , 295-322.		1
68	Relativistic electron transport and confinement within charge-insulated, mass-limited targets. <i>High Energy Density Physics</i> , 2007, 3, 358-364.	1.5	36
69	Fast-electron transport and heating of solid targets in high-intensity laser interactions measured by $K\alpha$ fluorescence. <i>Physical Review E</i> , 2006, 73, 046402.	2.1	70
70	The Generation and Transport of Large Currents in Dense Materials: The Physics of Electron Transport Relative to Fast Ignition. <i>Fusion Science and Technology</i> , 2006, 49, 297-315.	1.1	45
71	Transient Development of Backward Stimulated Raman and Brillouin Scattering on a Picosecond Time Scale Measured by Subpicosecond Thomson Diagnostic. <i>Physical Review Letters</i> , 2006, 97, 015001.	7.8	25
72	Transient development of SRS and SBS in ps-time scale by using sub-ps Thomson diagnostic. <i>European Physical Journal Special Topics</i> , 2006, 133, 259-263.	0.2	1

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73	High energy electron transport in solids. European Physical Journal Special Topics, 2006, 133, 355-360.	0.2	2
74	Study of the propagation of ultra-intense laser-produced fast electrons in gas jets. European Physical Journal Special Topics, 2006, 133, 367-370.	0.2	1
75	Behaviour of fast electron transport in solid targets. European Physical Journal Special Topics, 2006, 133, 405-408.	0.2	2
76	Optical shadowgraphy and proton imaging as diagnostics tools for fast electron propagation in ultrahigh-intensity laser-matter interaction. Radiation Effects and Defects in Solids, 2005, 160, 575-585.	1.2	3
77	Recent experiments on electron transport in high-intensity laser matter interaction. Plasma Physics and Controlled Fusion, 2005, 47, B777-B789.	2.1	13
78	Ultraintense Laser-Produced Fast-Electron Propagation in Gas Jets. Physical Review Letters, 2005, 94, 055004.	7.8	35
79	Subfemtosecond, coherent, relativistic, and ballistic electron bunches generated at 1% and 2% in high intensity laser-matter interaction. Physics of Plasmas, 2005, 12, 063106.	1.9	57
80	K α fluorescence measurement of relativistic electron transport in the context of fast ignition. Physical Review E, 2004, 69, 066414.	2.1	225
81	Fast electron heating of a solid target in ultrahigh-intensity laser pulse interaction. Physical Review E, 2004, 70, 055402.	2.1	33
82	Evidence of Ultrashort Electron Bunches in Laser-Plasma Interactions at Relativistic Intensities. Physical Review Letters, 2003, 91, 105001.	7.8	91
83	Inhibition in the propagation of fast electrons in plastic foams by resistive electric fields. Physical Review E, 2002, 65, 066409.	2.1	43
84	Fast electron transport and heating in solid-density matter. Laser and Particle Beams, 2002, 20, 171-175.	1.0	13
85	Fast Electron Transport in Ultraintense Laser Pulse Interaction with Solid Targets by Rear-Side Self-Radiation Diagnostics. Physical Review Letters, 2002, 89, 025001.	7.8	172
86	Strong absorption, intense forward-Raman scattering and relativistic electrons driven by a short, high intensity laser pulse through moderately underdense plasmas. Physics of Plasmas, 2002, 9, 4261-4269.	1.9	34
87	Effects of self-generated electric and magnetic fields in laser-generated fast electron propagation in solid materials: Electric inhibition and beam pinching. Laser and Particle Beams, 2001, 19, 59-65.	1.0	1
88	Experimental evidence of the effect of heat flux on Thomson scattering off ion acoustic waves. Physical Review E, 2000, 61, 1949-1953.	2.1	14
89	Experimental evidence of electric inhibition in fast electron penetration and of electric-field-limited fast electron transport in dense matter. Physical Review E, 2000, 62, R5927-R5930.	2.1	113
90	Strong self-focusing in quasi-stationary laser plasmas. Physics of Plasmas, 2000, 7, 4259.	1.9	11

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91	Experimental study of laser penetration in overdense plasmas at relativistic intensities. II: Explosion of thin foils by laser driven fast electrons. <i>Physics of Plasmas</i> , 1999, 6, 2569-2578.	1.9	19
92	Formation of plasma channels in the interaction of a nanosecond laser pulse at moderate intensities with helium gas jets. <i>Physical Review E</i> , 1999, 59, 7110-7120.	2.1	12
93	Time-Resolved Observation of Ultrahigh Intensity Laser-Produced Electron Jets Propagating through Transparent Solid Targets. <i>Physical Review Letters</i> , 1999, 83, 5015-5018.	7.8	145
94	Experimental study of laser penetration in overdense plasmas at relativistic intensities. I: Hole boring through preformed plasmas layers. <i>Physics of Plasmas</i> , 1999, 6, 2563-2568.	1.9	23
95	Electron acceleration in laser wakefield experiment at Ecole Polytechnique. <i>Laser and Particle Beams</i> , 1999, 17, 299-305.	1.0	2
96	Laser wakefield acceleration of electrons at Ecole Polytechnique. , 1999, , .		1
97	Transmission through Highly Overdense Plasma Slabs with a Subpicosecond Relativistic Laser Pulse. <i>Physical Review Letters</i> , 1998, 80, 2326-2329.	7.8	74
98	Measurement of the stimulated Brillouin scattering reflectivity from a spatially smoothed laser beam in a homogeneous large scale plasma. <i>Physical Review E</i> , 1998, 57, R4895-R4898.	2.1	20
99	Dynamics of Subpicosecond Relativistic Laser Pulse Self-Channeling in an Underdense Preformed Plasma. <i>Physical Review Letters</i> , 1998, 80, 1658-1661.	7.8	123
100	Observation of Laser Wakefield Acceleration of Electrons. <i>Physical Review Letters</i> , 1998, 81, 995-998.	7.8	196
101	Fuchset al.Reply:. <i>Physical Review Letters</i> , 1998, 81, 4275-4275.	7.8	4
102	Suprathermal Electron Generation and Channel Formation by an Ultrarelativistic Laser Pulse in an Underdense Preformed Plasma. <i>Physical Review Letters</i> , 1997, 79, 2053-2056.	7.8	95
103	Channel Formation in Long Laser Pulse Interaction with a Helium Gas Jet. <i>Physical Review Letters</i> , 1997, 79, 2979-2982.	7.8	44
104	Observation of the Langmuir decay instability driven by stimulated Raman scattering. <i>Physics of Plasmas</i> , 1997, 4, 3012-3020.	1.9	10
105	Experimental Validation of the Linear Theory of Stimulated Raman Scattering Driven by a 500-fs Laser Pulse in a Preformed Underdense Plasma. <i>Physical Review Letters</i> , 1996, 76, 4649-4649.	7.8	10
106	Thomson Scattering Measurements of the Langmuir Wave Spectra Resulting from Stimulated Raman Scattering. <i>Physical Review Letters</i> , 1996, 77, 67-70.	7.8	31
107	Measurements of the angular and temporal structure of secondâ€harmonic emission from laserâ€produced plasmas. <i>Physics of Plasmas</i> , 1995, 2, 3473-3483.	1.9	5
108	Large-Amplitude Ion Acoustic Waves in a Laser-Produced Plasma. <i>Physical Review Letters</i> , 1995, 75, 248-251.	7.8	31

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109	Second harmonic emission from laser-preformed plasmas as a diagnostic for filamentation in various interaction conditions. <i>Laser and Particle Beams</i> , 1994, 12, 435-444.	1.0	15
110	Stimulated Brillouin scattering with a 1 ps laser pulse in a preformed underdense plasma. <i>Physical Review E</i> , 1994, 49, R3602-R3605.	2.1	30
111	Parametric Instabilities in Picosecond Time Scales. <i>NATO ASI Series Series B: Physics</i> , 1994, , 437-474.	0.2	0
112	Fine-Scale Spatial and Temporal Structures of Second-Harmonic Emission from an Underdense Plasma. <i>Europhysics Letters</i> , 1993, 23, 191-196.	2.0	13
113	Stimulated Brillouin scattering in picosecond time scales: Experiments and modeling. <i>Physics of Fluids B</i> , 1993, 5, 3319-3327.	1.7	43
114	Upshifted Raman light produced by coupling between stimulated Raman and Brillouin scattering. <i>Physical Review Letters</i> , 1992, 69, 285-288.	7.8	8
115	Filamentation in long scale length plasmas: Experimental evidence and effects of laser spatial incoherence. <i>Physics of Fluids B</i> , 1992, 4, 2224-2231.	1.7	60
116	Study of Schlieren diagnostics to investigate filamentation in plasmas with long density scale lengths. <i>Optics Communications</i> , 1989, 70, 50-55.	2.1	8
117	Influence of absorption and refraction on laser interaction studies in preformed plasmas. <i>Optics Communications</i> , 1989, 74, 195-201.	2.1	4