Sophie Baton

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8428113/publications.pdf

Version: 2024-02-01

117	3,212	147801	168389
papers	citations	31 h-index	53 g-index

119	119	119	1511
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	KÎ±fluorescence measurement of relativistic electron transport in the context of fast ignition. Physical Review E, 2004, 69, 066414.	2.1	225
2	Observation of Laser Wakefield Acceleration of Electrons. Physical Review Letters, 1998, 81, 995-998.	7.8	196
3	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
4	Time-Resolved Observation of Ultrahigh Intensity Laser-Produced Electron Jets Propagating through Transparent Solid Targets. Physical Review Letters, 1999, 83, 5015-5018.	7.8	145
5	Dynamics of Subpicosecond Relativistic Laser Pulse Self-Channeling in an Underdense Preformed Plasma. Physical Review Letters, 1998, 80, 1658-1661.	7.8	123
6	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
7	Physics issues for shock ignition. Nuclear Fusion, 2014, 54, 054009.	3.5	100
8	Suprathermal Electron Generation and Channel Formation by an Ultrarelativistic Laser Pulse in an Underdense Preformed Plasma. Physical Review Letters, 1997, 79, 2053-2056.	7.8	95
9	Evidence of Ultrashort Electron Bunches in Laser-Plasma Interactions at Relativistic Intensities. Physical Review Letters, 2003, 91, 105001.	7.8	91
10	Inhibition of fast electron energy deposition due to preplasma filling of cone-attached targets. Physics of Plasmas, 2008, 15, .	1.9	85
11	Transmission through Highly Overdense Plasma Slabs with a Subpicosecond Relativistic Laser Pulse. Physical Review Letters, 1998, 80, 2326-2329.	7.8	74
12	Fast-electron transport and heating of solid targets in high-intensity laser interactions measured byKÎ±fluorescence. Physical Review E, 2006, 73, 046402.	2.1	70
13	Filamentation in long scale length plasmas: Experimental evidence and effects of laser spatial incoherence. Physics of Fluids B, 1992, 4, 2224-2231.	1.7	60
14	Subfemtosecond, coherent, relativistic, and ballistic electron bunches generated at Ï‰0 and 2Ï‰0 in high intensity laser-matter interaction. Physics of Plasmas, 2005, 12, 063106.	1.9	57
15	Enhanced Isochoric Heating from Fast Electrons Produced by High-Contrast, Relativistic-Intensity Laser Pulses. Physical Review Letters, 2010, 104, 085001.	7.8	49
16	Fast electron energy transport in solid density and compressed plasma. Nuclear Fusion, 2014, 54, 054004.	3.5	49
17	The Generation and Transport of Large Currents in Dense Materials: The Physics of Electron Transport Relative to Fast Ignition. Fusion Science and Technology, 2006, 49, 297-315.	1.1	45
18	Magnetically Guided Fast Electrons in Cylindrically Compressed Matter. Physical Review Letters, 2011, 107, 065004.	7.8	45

#	Article	IF	Citations
19	Controlling Fast-Electron-Beam Divergence Using Two Laser Pulses. Physical Review Letters, 2012, 109, 015001.	7.8	45
20	Channel Formation in Long Laser Pulse Interaction with a Helium Gas Jet. Physical Review Letters, 1997, 79, 2979-2982.	7.8	44
21	Stimulated Brillouin scattering in picosecond time scales: Experiments and modeling. Physics of Fluids B, 1993, 5, 3319-3327.	1.7	43
22	Inhibition in the propagation of fast electrons in plastic foams by resistive electric fields. Physical Review E, 2002, 65, 066409.	2.1	43
23	Experiment in Planar Geometry for Shock Ignition Studies. Physical Review Letters, 2012, 108, 195002.	7.8	42
24	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
25	Relativistic electron transport and confinement within charge-insulated, mass-limited targets. High Energy Density Physics, 2007, 3, 358-364.	1.5	36
26	Ultraintense Laser-Produced Fast-Electron Propagation in Gas Jets. Physical Review Letters, 2005, 94, 055004.	7.8	35
27	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
28	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
29	Development of x-ray radiography for high energy density physics. Physics of Plasmas, 2014, 21, .	1.9	34
30	Fast electron heating of a solid target in ultrahigh-intensity laser pulse interaction. Physical Review E, 2004, 70, 055402.	2.1	33
31	Large-Amplitude Ion Acoustic Waves in a Laser-Produced Plasma. Physical Review Letters, 1995, 75, 248-251.	7.8	31
32	Thomson Scattering Measurements of the Langmuir Wave Spectra Resulting from Stimulated Raman Scattering. Physical Review Letters, 1996, 77, 67-70.	7.8	31
33	Investigation of stimulated Raman scattering using a short-pulse diffraction limited laser beam near the instability threshold. Laser and Particle Beams, 2009, 27, 185-190.	1.0	31
34	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
35	Stimulated Brillouin scattering with a 1 ps laser pulse in a preformed underdense plasma. Physical Review E, 1994, 49, R3602-R3605.	2.1	30
36	Proton radiography of laser-driven imploding target in cylindrical geometry. Physics of Plasmas, 2011, 18, 012704.	1.9	30

#	Article	IF	Citations
37	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
38	Laser impulse coupling measurements at 400 fs and 80 ps using the LULI facility at 1057â€‰nm wavelength. Journal of Applied Physics, 2017, 122, .	2.5	28
39	Transient Development of Backward Stimulated Raman and Brillouin Scattering on a Picosecond Time Scale Measured by Subpicosecond Thomson Diagnostic. Physical Review Letters, 2006, 97, 015001.	7.8	25
40	Fast-electron transport in cylindrically laser-compressed matter. Plasma Physics and Controlled Fusion, 2009, 51, 124035.	2.1	24
41	Experimental study of laser penetration in overdense plasmas at relativistic intensities. I: Hole boring through preformed plasmas layers. Physics of Plasmas, 1999, 6, 2563-2568.	1.9	23
42	Enhanced hot-electron localization and heating in high-contrast ultraintense laser irradiation of microcone targets. Physical Review E, 2009, 79, 036408.	2.1	23
43	Laser-driven shock waves studied by x-ray radiography. Physical Review E, 2017, 95, 063205.	2.1	22
44	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
45	Measurement of the stimulated Brillouin scattering reflectivity from a spatially smoothed laser beam in a homogeneous large scale plasma. Physical Review E, 1998, 57, R4895-R4898.	2.1	20
46	Experimental investigation of fast electron transport through KÎ± imaging and spectroscopy in relativistic laserâ€“solid interactions. Plasma Physics and Controlled Fusion, 2009, 51, 014007.	2.1	20
47	Experimental study of laser penetration in overdense plasmas at relativistic intensities. II: Explosion of thin foils by laser driven fast electrons. Physics of Plasmas, 1999, 6, 2569-2578.	1.9	19
48	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
49	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
50	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
51	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
52	Fast electron propagation in high density plasmas created by shock wave compression. Plasma Physics and Controlled Fusion, 2009, 51, 014005.	2.1	17
53	Short-pulse laser-driven x-ray radiography. High Power Laser Science and Engineering, 2016, 4, .	4.6	17
54	Transfers from Earth to LEO and LEO to interplanetary space using lasers. Acta Astronautica, 2018, 146, 92-102.	3.2	17

#	Article	IF	Citations
55	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
56	Second harmonic emission from laser-preformed plasmas as a diagnostic for filamentation in various interaction conditions. Laser and Particle Beams, 1994, 12, 435-444.	1.0	15
57	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
58	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
59	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
60	Fine-Scale Spatial and Temporal Structures of Second-Harmonic Emission from an Underdense Plasma. Europhysics Letters, 1993, 23, 191-196.	2.0	13
61	Fast electron transport and heating in solid-density matter. Laser and Particle Beams, 2002, 20, 171-175.	1.0	13
62	Recent experiments on electron transport in high-intensity laser matter interaction. Plasma Physics and Controlled Fusion, 2005, 47, B777-B789.	2.1	13
63	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
64	Formation of plasma channels in the interaction of a nanosecond laser pulse at moderate intensities with helium gas jets. Physical Review E, 1999, 59, 7110-7120.	2.1	12
65	LASER-driven fast electron dynamics in gaseous media under the influence of large electric fields. Physics of Plasmas, 2009, 16, 033104.	1.9	12
66	Strong self-focusing in quasi-stationary laser plasmas. Physics of Plasmas, 2000, 7, 4259.	1.9	11
67	Single-shot divergence measurements of a laser-generated relativistic electron beam. Physics of Plasmas, 2010, 17, .	1.9	11
68	Collimated fast electron beam generation in critical density plasma. Physics of Plasmas, 2014, 21, .	1.9	11
69	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
70	Experimental Validation of the Linear Theory of Stimulated Raman Scattering Driven by a 500-fs Laser Pulse in a Preformed Underdense Plasma. Physical Review Letters, 1996, 76, 4649-4649.	7.8	10
71	Observation of the Langmuir decay instability driven by stimulated Raman scattering. Physics of Plasmas, 1997, 4, 3012-3020.	1.9	10
72	Temperature profiles derived from transverse optical shadowgraphy in ultraintense laser plasma interactions at 6Ã—1020â€‚Wâ€‰cmâ˜2. Physics of Plasmas, 2009, 16, 056707.	1.9	10

#	Article	IF	Citations
73	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
74	Proton radiography of cylindrical laser-driven implosions. Plasma Physics and Controlled Fusion, 2011, 53, 032003.	2.1	9
75	Velocity Interferometer blanking due to preheating in a double pulse planar experiment. Physics of Plasmas, 2014, 21, 082705.	1.9	9
76	Study of Schlieren diagnostics to investigate filamentation in plasmas with long density scale lengths. Optics Communications, 1989, 70, 50-55.	2.1	8
77	Upshifted Raman light produced by coupling between stimulated Raman and Brillouin scattering. Physical Review Letters, 1992, 69, 285-288.	7.8	8
78	Heating of solid target in electron refluxing dominated regime with ultra-intense laser. Journal of Physics: Conference Series, 2008, 112, 022063.	0.4	8
79	Supra-thermal electron beam stopping power and guiding in dense plasmas. Journal of Plasma Physics, 2013, 79, 429-435.	2.1	8
80	Shock generation comparison with planar and hemispherical targets in shock ignition relevant experiment. Physics of Plasmas, 2017, 24, .	1.9	8
81	New developments in energy transfer and transport studies in relativistic laserâ€“plasma interactions. Plasma Physics and Controlled Fusion, 2010, 52, 124046.	2.1	7
82	Studying ignition schemes on European laser facilities. Nuclear Fusion, 2011, 51, 094025.	3.5	7
83	Bremsstrahlung cannon design for shock ignition relevant regime. Review of Scientific Instruments, 2021, 92, 013501.	1.3	7
84	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
85	Measurements of the angular and temporal structure of secondâ€harmonic emission from laserâ€produced plasmas. Physics of Plasmas, 1995, 2, 3473-3483.	1.9	5
86	Fast electron beam measurements from relativistically intense, frequency-doubled laserâ€“solid interactions. New Journal of Physics, 2013, 15, 093021.	2.9	5
87	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
88	Two-channel high-resolution quasi-monochromatic X-ray imager for Al and Ti plasma. Review of Scientific Instruments, 2018, 89, 113702.	1.3	5
89	Influence of absorption and refraction on laser interaction studies in preformed plasmas. Optics Communications, 1989, 74, 195-201.	2.1	4
90	Fuchset al.Reply:. Physical Review Letters, 1998, 81, 4275-4275.	7.8	4

#	Article	IF	Citations
91	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
92	Optical shadowgraphy and proton imaging as diagnostics tools for fast electron propagation in ultrahigh-intensity laserâ€“matter interaction. Radiation Effects and Defects in Solids, 2005, 160, 575-585.	1.2	3
93	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
94	X-ray absorption radiography for high pressure shock wave studies. Journal of Instrumentation, 2018, 13, C01013-C01013.	1.2	3
95	Rayleighâ€“Taylor mixing may account for the position anomaly in NIF microdot spectroscopy experiments. Physics of Plasmas, 2021, 28, 042704.	1.9	3
96	Electron acceleration in laser wakefield experiment at Ecole Polytechnique. Laser and Particle Beams, 1999, 17, 299-305.	1.0	2
97	Recent experiment on fast electron transport in ultra-high intensity laser interaction. Journal of Physics: Conference Series, 2008, 112, 022048.	0.4	2
98	Enhanced energy localization and heating in high contrast ultra-intense laser produced plasmas via novel conical micro-target design. Journal of Physics: Conference Series, 2008, 112, 022050.	0.4	2
99	Importance of magnetic resistive fields in the heating of a micro-cone target irradiated by a high intensity laser. European Physical Journal: Special Topics, 2009, 175, 89-95.	2.6	2
100	High energy electron transport in solids. European Physical Journal Special Topics, 2006, 133, 355-360.	0.2	2
101	Behaviour of fast electron transport in solid targets. European Physical Journal Special Topics, 2006, 133, 405-408.	0.2	2
102	Laser wakefield acceleration of electrons at Ecole Polytechnique. , 1999, , .		1
103	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
104	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
105	Proton Radiography of a Laser-Driven Cylindrical Implosion. AIP Conference Proceedings, 2010, , .	0.4	1
106	The HiPER Experimental Road Map. , 2010, , .		1
107	Propagation of intense short-pulse laser in homogeneous near-critical density plasmas. Journal of Physics: Conference Series, 2016, 717, 012019.	0.4	1
108	The Transport of Relativistic, Laser-Produced Electrons in Matter â€“ Part 1. , 2008, , 265-294.		1

#	Article	IF	Citations
109	The Transport of Relativistic, Laser-Produced Electrons in Matter â€“ Part 2. , 2008, , 295-322.		1
110	Transient development of SRS and SBS in ps-time scale byÂusing sub-ps Thomson diagnostic. European Physical Journal Special Topics, 2006, 133, 259-263.	0.2	1
111	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
112	Proton Radiography and Fast Electron Propogation Through Cylidericallly Compressed Targets. Journal of the Korean Physical Society, 2010, 57, 305-310.	0.7	1
113	Proton Radiography for Inertial Confinement Fusion. Journal of the Korean Physical Society, 2011, 59, 3160-3165.	0.7	1
114	Recent results at LULI on fast electron transport with and without guiding cone in the context of fast ignitor. European Physical Journal: Special Topics, 2009, 175, 77-82.	2.6	0
115	Can proton radiography be used to image imploding target in ICF experiments?. , 2011, , .		0
116	Experimental results performed in the framework of the HIPER European Project. , 2011, , .		0
117	Parametric Instabilities in Picosecond Time Scales. NATO ASI Series Series B: Physics, 1994, , 437-474.	0.2	0