

Patrick Sauvan

List of Publications by Year in descending order

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88
papers

986
citations

567281

15
h-index

501196

28
g-index

88
all docs

88
docs citations

88
times ranked

840
citing authors

#	ARTICLE	IF	CITATIONS
1	The joint evaluated fission and fusion nuclear data library, JEFF-3.3. European Physical Journal A, 2020, 56, 1.	2.5	318
2	New capabilities for Monte Carlo simulation of deuteron transport and secondary products generation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 614, 323-330.	1.6	43
3	D1SUNED system for the determination of decay photon related quantities. Fusion Engineering and Design, 2020, 151, 111399.	1.9	42
4	Development of the R2SUNED Code System for Shutdown Dose Rate Calculations. IEEE Transactions on Nuclear Science, 2016, 63, 375-384.	2.0	39
5	A full and heterogeneous model of the ITER tokamak for comprehensive nuclear analyses. Nature Energy, 2021, 6, 150-157.	39.5	34
6	Methodological approach for DEMO neutronics in the European PPPT programme: Tools, data and analyses. Fusion Engineering and Design, 2017, 123, 26-31.	1.9	30
7	Design of a beam dump for the IFMIF-EVEDA accelerator. Fusion Engineering and Design, 2009, 84, 509-513.	1.9	21
8	ITER oriented neutronics benchmark experiments on neutron streaming and shutdown dose rate at JET. Fusion Engineering and Design, 2017, 123, 171-176.	1.9	20
9	Modeling the radiative properties of dense plasmas. Physical Review E, 1998, 58, 942-950.	2.1	19
10	Neutronics experiments and analyses in preparation of DT operations at JET. Fusion Engineering and Design, 2016, 109-111, 895-905.	1.9	19
11	First IFMIF/EVEDA Radioprotection Studies for the Preliminary Design of the Accelerator Beam Dump. Fusion Science and Technology, 2009, 56, 273-280.	1.1	18
12	Shutdown dose rate assessment for a DCLL blanket-based reactor: Application of the R2S-UNED approach. Fusion Engineering and Design, 2013, 88, 2088-2091.	1.9	18
13	Spectral line shapes using the dicenter approach for dense, hot plasmas: hydrogen and helium-like lines. Journal of Quantitative Spectroscopy and Radiative Transfer, 2000, 65, 511-525.	2.3	17
14	The IFMIF-EVEDA accelerator beam dump design. Journal of Nuclear Materials, 2011, 417, 1275-1279.	2.7	15
15	ITER plasma source and building modelling to produce radiation maps. Nuclear Fusion, 2018, 58, 126012.	3.5	15
16	The LIPAc beam dump. Fusion Engineering and Design, 2018, 127, 127-138.	1.9	14
17	Experimental discovery of charge-exchange-caused dips in spectral lines from laser-produced plasmas. Physical Review E, 2001, 64, 065401.	2.1	13
18	Floquet-Liouville approach for calculating Stark profiles in plasmas in the presence of a strong oscillating field. Physical Review E, 2009, 79, 036405.	2.1	12

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19	Shutdown dose rate analysis of European test blanket modules shields in ITER Equatorial Port #16. Fusion Engineering and Design, 2016, 109-111, 1554-1558.	1.9	12
20	Multiphysics approach to plasma neutron source modelling at the JET tokamak. Nuclear Fusion, 2019, 59, 096020.	3.5	12
21	X-ray spectroscopy and imaging of hot dense plasma created by colliding foils. Simulation of spectra. Journal of Quantitative Spectroscopy and Radiative Transfer, 1997, 58, 721-735.	2.3	10
22	Observation of ion-ion correlation effects on emissivity and opacity of hot ultra-dense low Z plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 71, 493-504.	2.3	10
23	The use of the long modular diagnostics shield module to mitigate shutdown dose rates in the ITER diagnostics equatorial ports. Nuclear Fusion, 2018, 58, 056015.	3.5	10
24	The role of nuclear data for fusion nuclear technology. Fusion Engineering and Design, 2018, 136, 162-167.	1.9	10
25	Accuracy of simplified methods for ion dynamics in Stark profile calculations. Physical Review E, 1999, 59, 3499-3502.	2.1	9
26	Low Z opacities at high densities. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 81, 441-450.	2.3	9
27	Dipole transition-matrix elements of the one-electron heterodiatomic quasimolecules. Physical Review A, 2005, 71, .	2.5	9
28	Lead shutter for the IFMIF LIPAc accelerator. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 901, 69-75.	1.6	9
29	Advanced simulations of spectroscopic signatures of charge exchange in laser-produced plasmas. European Physical Journal D, 2002, 20, 269-274.	1.3	8
30	Deuteron cross section evaluation for safety and radioprotection calculations of IFMIF/EVEDA accelerator prototype. Journal of Nuclear Materials, 2011, 417, 1271-1274.	2.7	8
31	Comparison of DT neutron production codes MCUNED, ENEA-JSI source subroutine and DDT. Fusion Engineering and Design, 2016, 109-111, 164-168.	1.9	8
32	Development of radiation sources for nuclear analysis beyond ITER bio-shield: SRC-UNED code. Computer Physics Communications, 2022, 275, 108309.	7.5	8
33	Improving the dicenter model for hot dense plasmas: molecular stark effect. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 71, 675-687.	2.3	6
34	Spectroscopic diagnostics of plasma interaction with an external oscillatory field. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 195001.	1.5	6
35	Update in the nuclear responses of the European TBMs for ITER during operation and shutdown. Fusion Engineering and Design, 2018, 134, 92-96.	1.9	6
36	Nuclear data for D1SUNED for the study of ITER planned in-situ maintenance dose scenarios. Fusion Engineering and Design, 2021, 170, 112646.	1.9	6

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37	Computational Tools and Nuclear Data for Radioprotection Studies in Low Energy Light Ions Accelerators. Journal of the Korean Physical Society, 2011, 59, 1195-1198.	0.7	6
38	Quasi-molecular emission from highly correlated plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 1997, 58, 597-606.	2.3	5
39	Semiclassical analytical approach to the description of quasimolecular optical transitions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, 2469-2475.	1.5	5
40	A comparison of two atomic models for the radiative properties of dense hot low Z plasmas. Journal of Quantitative Spectroscopy and Radiative Transfer, 2003, 81, 301-309.	2.3	5
41	Neutron induced activation in the EVEDA accelerator materials: Implications for the accelerator maintenance. Journal of Nuclear Materials, 2009, 386-388, 991-993.	2.7	5
42	Radioprotection Analysis for the High Energy Beam Transport Line of the Accelerator Facility of IFMIF. Fusion Science and Technology, 2012, 62, 240-245.	1.1	5
43	Sensitivity to Nuclear Data in the Radioprotection Design of the LIPAC (IFMIF/EVEDA) Beam Dump. Fusion Science and Technology, 2012, 62, 265-271.	1.1	5
44	Simulation of neutron production using MCNPX+MCUNED. Radiation Protection Dosimetry, 2014, 161, 261-264.	0.8	5
45	The Activities of the European Consortium on Nuclear Data Development and Analysis for Fusion. Nuclear Data Sheets, 2014, 120, 226-229.	2.2	5
46	Assessment and optimization of MCNP memory management for detailed geometry of nuclear fusion facilities. Fusion Engineering and Design, 2018, 136, 386-389.	1.9	5
47	Signature of externally introduced laser fields in X-ray emission of multicharged ions. High Energy Density Physics, 2009, 5, 139-146.	1.5	4
48	Nuclear data for fusion technology – the European approach. EPJ Web of Conferences, 2017, 146, 09003.	0.3	4
49	Implementation of a new energy-angular distribution of particles emitted by deuteron induced nuclear reaction in transport simulations. EPJ Web of Conferences, 2017, 146, 02010.	0.3	4
50	Uncertainty propagation from neutron flux to decay gamma source in R2S methodology. Fusion Engineering and Design, 2019, 146, 1100-1103.	1.9	4
51	Design and configurations for the Shielding of the Beam Dump of IFMIF DONES. Fusion Engineering and Design, 2020, 153, 111475.	1.9	4
52	Development of a methodology to estimate the statistical SDR uncertainty with R2S-UNED. Fusion Engineering and Design, 2021, 168, 112696.	1.9	4
53	Influence of the exchange interaction on Ly- $\hat{\pm}$ radiation of multicharged ions. Physical Review A, 2002, 66, .	2.5	3
54	Access to Spectrally Resolved Ultra-Dense Hot Low Z Emissivities and Opacities. AIP Conference Proceedings, 2002, , .	0.4	3

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55	Opacities and line transfer in high density plasma. Laser and Particle Beams, 2005, 23, 199-203.	1.0	3
56	Measurement of XUV-absorption spectra of ZnS radiatively heated foils. High Energy Density Physics, 2007, 3, 149-155.	1.5	3
57	X-ray Spectroscopy of Hot Dense Plasmas: Experimental Limits, Line Shifts & Field Effects. , 2008, , .		3
58	Decay Gamma Dose Rates in the EVEDA Accelerator: Impact of the Deuteron Loss Uncertainties in Accelerator Maintenance. Nuclear Technology, 2009, 168, 132-138.	1.2	3
59	Relevance of d-D interactions on neutron and tritium production in IFMIF-EVEDA accelerator prototype. Journal of Nuclear Materials, 2011, 417, 1288-1293.	2.7	3
60	Shutdown dose rates calculations due to light ions induced activation using D1S methodology. Fusion Engineering and Design, 2021, 167, 112298.	1.9	3
61	Propagation of Nuclear Data Uncertainties in Transmutation Calculations Using ACAB Code. Journal of the Korean Physical Society, 2011, 59, 1268-1271.	0.7	3
62	Nuclear data activities of the EUROfusion consortium. EPJ Web of Conferences, 2020, 239, 21001.	0.3	3
63	Design, manufacturing and tests of the LIPAc high energy beam transport line. Nuclear Fusion, 2021, 61, 015001.	3.5	3
64	Advances in implosion physics, alternative targets design, and neutron effects on heavy ion fusion reactors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 464, 61-71.	1.6	2
65	Optical Transitions and Charge-Exchange in Highly Charged Quasi-Molecules. International Journal of Spectroscopy, 2010, 2010, 1-12.	1.6	2
66	Activation analysis of the water cooling system of the LIPAc beam dump. Fusion Engineering and Design, 2014, 89, 2053-2056.	1.9	2
67	Estimation of radiation conditions in the ITER electron cyclotron upper launcher with state-of-the-art simulation techniques. Fusion Engineering and Design, 2020, 157, 111682.	1.9	2
68	Quasimolecular features in hot dense plasma emission. AIP Conference Proceedings, 1997, , .	0.4	1
69	Generation of hot and dense plasmas in laser accelerated colliding foil systems. Laser and Particle Beams, 1998, 16, 21-30.	1.0	1
70	Recent advances in spectroscopy of strongly correlated plasmas. , 1998, , .		1
71	Alternative treatment of line broadening in dense and hot plasmas. , 1999, , .		1
72	Ultra-dense Hot Low Z Line Transition Opacity Simulations. AIP Conference Proceedings, 2002, , .	0.4	1

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73	Spectrally Resolved Intensities of Ultra-Dense Hot Aluminum Plasmas. , 2008, , .		1
74	Multifrequential and mean opacity calculation of carbon plasmas in a wide range of density and temperature. Journal of Physics: Conference Series, 2008, 112, 042007.	0.4	1
75	The influence of charge-exchange on Ly-radiation. AIP Conference Proceedings, 1997, , .	0.4	0
76	Spectroscopic diagnostics of 2D effects in dense plasmas. Comparison with 2D simulations. AIP Conference Proceedings, 1997, , .	0.4	0
77	Two-centre bound states in hot dense plasmas. Laser and Particle Beams, 1998, 16, 39-43.	1.0	0
78	Charge exchange between two nearest neighbour ions immersed in a dense plasma. , 1999, , .		0
79	Ionic correlation effects on opacity and emissivity of ultra-dense hot low Z plasmas. AIP Conference Proceedings, 2001, , .	0.4	0
80	Advanced Simulations for Signatures of Charge Exchange in Heterogeneous Plasma Emission. AIP Conference Proceedings, 2002, , .	0.4	0
81	Recent theoretical and experimental results on inertial fusion energy physics. , 2003, , .		0
82	Characteristics of Quasi-Molecular State Interaction. , 2008, , .		0
83	ABAKOâˆ•RAPCAL: A Flexible Computational Package to Perform Radiative Properties Calculations and Diagnostics in a Wide Range of Plasma Conditions. , 2008, , .		0
84	Stark Profiles In Plasmas Interacting With A Strong Oscillatory Quasi-Monochromatic Electric Field. , 2010, , .		0
85	Improved radiation shielding analysis considering vector calculus. International Journal of Energy Research, 2021, 45, 11904-11915.	4.5	0
86	A method for assessing 3D decay heat and temperature considering accurate distributions of the decay gamma fields. Fusion Engineering and Design, 2021, 168, 112610.	1.9	0
87	Calculation of opacities and emisivities for carbon plasmas under NLTE and LTE conditions. European Physical Journal Special Topics, 2006, 133, 1005-1008.	0.2	0
88	Study of concrete activation with IFMIF-like neutron irradiation: Status of EAF and TENDL neutron activation cross-sections. EPJ Web of Conferences, 2017, 146, 09037.	0.3	0