

Hassina Bilheux

List of Publications by Year in descending order

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115
papers

2,039
citations

257357

24
h-index

265120

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119
all docs

119
docs citations

119
times ranked

2515
citing authors

#	ARTICLE	IF	CITATIONS
1	Site specific control of crystallographic grain orientation through electron beam additive manufacturing. <i>Materials Science and Technology</i> , 2015, 31, 931-938.	0.8	424
2	Neutron imaging of hydrogen-rich fluids in geomaterials and engineered porous media: A review. <i>Earth-Science Reviews</i> , 2014, 129, 120-135.	4.0	128
3	Anomalous Discharge Product Distribution in Lithium-Air Cathodes. <i>Journal of Physical Chemistry C</i> , 2012, 116, 8401-8408.	1.5	79
4	Water calibration measurements for neutron radiography: Application to water content quantification in porous media. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2013, 708, 24-31.	0.7	72
5	Dynamic Lithium Distribution upon Dendrite Growth and Shorting Revealed by Operando Neutron Imaging. <i>ACS Energy Letters</i> , 2019, 4, 2402-2408.	8.8	65
6	Rapid imbibition of water in fractures within unsaturated sedimentary rock. <i>Advances in Water Resources</i> , 2015, 77, 82-89.	1.7	59
7	Transport of Ions in Mesoporous Carbon Electrodes during Capacitive Deionization of High-Salinity Solutions. <i>Langmuir</i> , 2015, 31, 1038-1047.	1.6	56
8	An investigation of a multi-layered oscillating heat pipe additively manufactured from Ti-6Al-4V powder. <i>International Journal of Heat and Mass Transfer</i> , 2017, 108, 1036-1047.	2.5	54
9	Neutron scattering in the biological sciences: progress and prospects. <i>Acta Crystallographica Section D: Structural Biology</i> , 2018, 74, 1129-1168.	1.1	47
10	The CG-1D Neutron Imaging Beamline at the Oak Ridge National Laboratory High Flux Isotope Reactor. <i>Physics Procedia</i> , 2015, 69, 104-108.	1.2	46
11	Probing lithiation and delithiation of thick sintered lithium-ion battery electrodes with neutron imaging. <i>Journal of Power Sources</i> , 2019, 419, 127-136.	4.0	46
12	Neutron imaging reveals internal plant water dynamics. <i>Plant and Soil</i> , 2013, 366, 683-693.	1.8	45
13	The CG1 instrument development test station at the high flux isotope reactor. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2011, 634, S71-S74.	0.7	43
14	Probing Multiscale Transport and Inhomogeneity in a Lithium-Ion Pouch Cell Using In Situ Neutron Methods. <i>ACS Energy Letters</i> , 2016, 1, 981-986.	8.8	43
15	Laser ion source tests at the HRIBF on stable Sn, Ge and Ni isotopes. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2006, 243, 442-452.	0.6	42
16	Porosity detection in electron beam-melted Ti-6Al-4V using high-resolution neutron imaging and grating-based interferometry. <i>Progress in Additive Manufacturing</i> , 2017, 2, 125-132.	2.5	36
17	Transmission Bragg edge spectroscopy measurements at ORNL Spallation Neutron Source. <i>Journal of Physics: Conference Series</i> , 2010, 251, 012069.	0.3	32
18	Spontaneous imbibition of water and determination of effective contact angles in the Eagle Ford Shale Formation using neutron imaging. <i>Journal of Earth Science (Wuhan, China)</i> , 2017, 28, 874-887.	1.1	32

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19	Characterization of Crystallographic Structures Using Bragg-Edge Neutron Imaging at the Spallation Neutron Source. <i>Journal of Imaging</i> , 2017, 3, 65.	1.7	31
20	Imaging of the Li spatial distribution within V2O5 cathode in a coin cell by neutron computed tomography. <i>Journal of Power Sources</i> , 2018, 376, 125-130.	4.0	30
21	Diffusivity and Sorptivity of Berea Sandstone Determined using Neutron Radiography. <i>Vadose Zone Journal</i> , 2013, 12, 1-8.	1.3	26
22	Average Soil Water Retention Curves Measured by Neutron Radiography. <i>Soil Science Society of America Journal</i> , 2012, 76, 1184-1191.	1.2	25
23	Overview of the Conceptual Design of the Future VENUS Neutron Imaging Beam Line at the Spallation Neutron Source. <i>Physics Procedia</i> , 2015, 69, 55-59.	1.2	24
24	The Nature of Electrochemical Delithiation of Li-Mg Alloy Electrodes: Neutron Computed Tomography and Analytical Modeling of Li Diffusion and Delithiation Phenomenon. <i>Journal of the Electrochemical Society</i> , 2017, 164, A28-A38.	1.3	24
25	Multiple pixel-scale soil water retention curves quantified by neutron radiography. <i>Advances in Water Resources</i> , 2014, 65, 1-8.	1.7	21
26	Imbibition of Mixed-Charge Surfactant Fluids in Shale Fractures. <i>Energy & Fuels</i> , 2019, 33, 2839-2847.	2.5	21
27	Neutron Imaging of Archaeological Bronzes at the Oak Ridge National Laboratory. <i>Physics Procedia</i> , 2013, 43, 343-351.	1.2	19
28	Neutron imaging of ion transport in mesoporous carbon materials. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 11740.	1.3	17
29	Quantifying root water extraction after drought recovery using sub-mm in situ empirical data. <i>Plant and Soil</i> , 2018, 424, 73-89.	1.8	16
30	Potential limits of capacitive deionization and membrane capacitive deionization for water electrolysis. <i>Separation Science and Technology</i> , 2019, 54, 2112-2125.	1.3	16
31	Analysis and simulation of a blue energy cycle. <i>Renewable Energy</i> , 2016, 91, 249-260.	4.3	14
32	Flexible sample environment for high resolution neutron imaging at high temperatures in controlled atmosphere. <i>Review of Scientific Instruments</i> , 2015, 86, 125109.	0.6	13
33	High Resolution Neutron Radiography and Tomography of Hydrided Zircaloy-4 Cladding Materials. <i>Physics Procedia</i> , 2015, 69, 478-482.	1.2	13
34	Lithium indium diselenide: A new scintillator for neutron imaging. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2016, 830, 140-149.	0.7	13
35	High-Resolution X-Ray and Neutron Computed Tomography of an Engine Combustion Network Spray G Gasoline Injector. <i>SAE International Journal of Fuels and Lubricants</i> , 0, 10, 328-343.	0.2	13
36	Feasibility Study of Making Metallic Hybrid Materials Using Additive Manufacturing. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5035-5041.	1.1	13

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37	iMARS (iMaging Analysis Research Software). Physics Procedia, 2015, 69, 343-348.	1.2	12
38	A novel approach to determine post mortem interval using neutron radiography. Forensic Science International, 2015, 251, 11-21.	1.3	12
39	LISE pixel detector for neutron imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 833, 142-148.	0.7	12
40	Setup for polarized neutron imaging using <i>in situ</i> ^3He cells at the Oak Ridge National Laboratory High Flux Isotope Reactor CG-1D beamline. Review of Scientific Instruments, 2017, 88, 095103.	0.6	12
41	Neutron Imaging of Alkali Metal Heat Pipes. Physics Procedia, 2013, 43, 323-330.	1.2	11
42	Progression of Soot Cake Layer Properties During the Systematic Regeneration of Diesel Particulate Filters Measured with Neutron Tomography. Emission Control Science and Technology, 2015, 1, 24-31.	0.8	11
43	Evaluation of segregation in Roman sestertius coins. Journal of Materials Science, 2018, 53, 2161-2170.	1.7	11
44	Neutron transmission simulation of texture in polycrystalline materials. Nuclear Instruments & Methods in Physics Research B, 2019, 459, 166-178.	0.6	11
45	Enhancement of electrosorption rates using low-amplitude, high-frequency, pulsed electrical potential. Separation and Purification Technology, 2014, 129, 18-24.	3.9	10
46	Identification of lithium hydride and its hydrolysis products with neutron imaging. Journal of Nuclear Materials, 2017, 485, 147-153.	1.3	10
47	Azimuthally anisotropic hydride lens structures in Zircaloy 4 nuclear fuel cladding: High-resolution neutron radiography imaging and BISON finite element analysis. Journal of Nuclear Materials, 2017, 496, 129-139.	1.3	10
48	Applying neutron transmission physics and 3D statistical full-field model to understand 2D Bragg-edge imaging. Journal of Applied Physics, 2018, 123, .	1.1	10
49	SPONTANEOUS IMBIBITION OF A WETTING FLUID INTO A FRACTURE WITH OPPOSING FRACTAL SURFACES: THEORY AND EXPERIMENTAL VALIDATION. Fractals, 2019, 27, 1940001.	1.8	10
50	Neutron tomography of particulate filters: a non-destructive investigation tool for applied and industrial research. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 729, 581-588.	0.7	8
51	In situ monitoring of hydrogen loss during pyrolysis of wood by neutron imaging. Proceedings of the Combustion Institute, 2019, 37, 1273-1280.	2.4	8
52	Software Framework for Federated Science Instruments. Communications in Computer and Information Science, 2020, , 189-203.	0.4	8
53	Rock Fracture Sorptivity as Related to Aperture Width and Surface Roughness. Vadose Zone Journal, 2019, 18, 1-10.	1.3	7
54	Monitoring residual strain relaxation and preferred grain orientation of additively manufactured Inconel 625 by in-situ neutron imaging. Additive Manufacturing, 2021, 46, 102130.	1.7	7

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55	Characterization of A Tubular Hot-Cavity Surface Ionization Source. , 0, , .		6
56	Neutron Imaging of Diesel Particulate Filters. , 0, , .		6
57	Reply to: Comment on "neutron imaging reveals internal plant water dynamics"™. Plant and Soil, 2013, 371, 15-17.	1.8	6
58	In-situ neutron imaging of hydrogenous fuels in combustion generated porous carbons under dynamic and steady state pressure conditions. Carbon, 2017, 116, 766-776.	5.4	6
59	Neutron imaging and tomography with MCPS. Journal of Instrumentation, 2017, 12, C12006-C12006.	0.5	6
60	Total variation-based neutron computed tomography. Review of Scientific Instruments, 2018, 89, 053704.	0.6	6
61	Improving polarized neutron imaging for visualization of the Meissner effect in superconductors. Review of Scientific Instruments, 2019, 90, 033705.	0.6	6
62	An interactive web-based tool to guide the preparation of neutron imaging experiments at oak ridge national laboratory. Journal of Physics Communications, 2019, 3, 103003.	0.5	6
63	Extraction of space-charge-dominated ion beams from an ECR ion source: Theory and simulation. Review of Scientific Instruments, 2004, 75, 1431-1435.	0.6	5
64	Performance characterization studies of a flat field volume ECR ion source. Nuclear Instruments & Methods in Physics Research B, 2005, 241, 965-970.	0.6	5
65	Neutron Tomography of Exhaust Gas Recirculation Cooler Deposits. , 0, , .		5
66	Neutron imaging at the Oak Ridge National Laboratory: Application to biological research. , 2014, , .		5
67	Magnified Neutron Radiography with Coded Sources. Physics Procedia, 2015, 69, 218-226.	1.2	5
68	LiF/CsI:Tl Scintillator for High-Resolution Neutron Imaging. IEEE Transactions on Nuclear Science, 2019, 66, 2261-2264.	1.2	5
69	Nonuniform Oxidation Behavior of Loaded Gasoline Particulate Filters. Emission Control Science and Technology, 2020, 6, 301-314.	0.8	5
70	Biocatalytic Yarn for Peroxide Decomposition with Controlled Liquid Transport. Advanced Materials Interfaces, 2021, 8, 2002104.	1.9	5
71	Dynamics of hydrogen loss and structural changes in pyrolyzing biomass utilizing neutron imaging. Carbon, 2021, 176, 511-529.	5.4	5
72	Time-Resolved High Resolution Neutron Imaging Studies at the ORNL Spallation Neutron Source. IEEE Transactions on Nuclear Science, 2009, 56, 2493-2498.	1.2	4

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73	Coded source neutron imaging at the PULSTAR reactor. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 652, 606-609.	0.7	4
74	Neutron Radiography of Fluid Flow for Geothermal Energy Research. Physics Procedia, 2015, 69, 464-471.	1.2	4
75	Anisotropic storage medium development in a full-scale, sodium alanate-based, hydrogen storage system. International Journal of Hydrogen Energy, 2016, 41, 13557-13574.	3.8	4
76	Ex Situ and In Situ Neutron Imaging of Enzymatic Electrochemical Cells. Electrochimica Acta, 2016, 213, 244-251.	2.6	4
77	Design and characterization of zero magnetic field chambers for high efficiency neutron polarization transport. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 940, 174-180.	0.7	4
78	Probing the Potential of Neutron Imaging for Biomedical and Biological Applications. Neutron Scattering Applications and Techniques, 2009, , 253-264.	0.2	4
79	Computational design studies for an ion extraction system for a "volume-type" ECR ion source. Review of Scientific Instruments, 2002, 73, 595-597.	0.6	3
80	Investigation of coded source neutron imaging at the north carolina state university PULSTAR reactor. , 2009, , .		3
81	Magnified neutron radiography with coded sources. Proceedings of SPIE, 2014, , .	0.8	3
82	Neutron Imaging and Electrochemical Characterization of a Glucose Oxidase-Based Enzymatic Electrochemical Cell. Journal of Electrochemical Energy Conversion and Storage, 2018, 15, .	1.1	3
83	Neutron imaging analysis using jupyter Python notebook. Journal of Physics Communications, 2019, 3, 083001.	0.5	3
84	Onset dynamics of air-water menisci on rock fracture surfaces. Advances in Water Resources, 2020, 146, 103754.	1.7	3
85	Improved Acquisition and Reconstruction for Wavelength-Resolved Neutron Tomography. Journal of Imaging, 2021, 7, 10.	1.7	3
86	Quantification of Water Absorption and Transport in Parchment. Physics Procedia, 2015, 69, 524-529.	1.2	2
87	Fabrication and experimental evaluation of microstructured 6Li silicate fiber arrays for high spatial resolution neutron imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 954, 161695.	0.7	2
88	Neutron imaging of lithium concentration in LiNi _{0.33} Mn _{0.33} Co _{0.33} O ₂ cathode. Journal of Neutron Research, 2020, 22, 43-48.	0.4	2
89	Convolutional neural network based non-iterative reconstruction for accelerating neutron tomography [*] . Machine Learning: Science and Technology, 2021, 2, 025031.	2.4	2
90	Water Migration and Swelling in Engineered Barrier Materials for Radioactive Waste Disposal. Nuclear Technology, 2021, 207, 1237-1256.	0.7	2

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91	A New Method for Enhancing the Performances of Conventional B-Geometry ECR Ion Sources. AIP Conference Proceedings, 2005, , .	0.3	1
92	A neutron sensitive microchannel plate detector with cross delay line readout. , 2012, , .		1
93	Neutron Tomography of Lithium (Li) Coolant inside a Niobium (Nb) Heat Pipe. Journal of Heat Transfer, 2014, 136, .	1.2	1
94	Ductility Evaluation of As-Hydrided and Hydride Reoriented Zircaloy-4 Cladding under Simulated Dry-Storage Condition. Materials Research Society Symposia Proceedings, 2014, 1645, 1.	0.1	1
95	Neutron imaging: Detection of cancer using animal model. , 2014, , .		1
96	Simultaneous Neutron Radiography of Metal Nozzle Geometry and Near-Field Spray. Journal of Propulsion and Power, 2019, 35, 419-423.	1.3	1
97	Neutron Radiography and Computed Tomography of Biological Systems at the Oak Ridge National Laboratory's High Flux Isotope Reactor. Journal of Visualized Experiments, 2021, , .	0.2	1
98	Quantification of Sub-Pixel Dynamics in High-Speed Neutron Imaging. Journal of Imaging, 2022, 8, 201.	1.7	1
99	Initial performance of a 6 GHz "volume" ECR ion source. , 0, , .		0
100	Initial Testing of the 6 GHz, All-Permanent Magnet, "Volume-Type" ECR ion Source. AIP Conference Proceedings, 2003, , .	0.3	0
101	Performances of Volume Versus Surface ECR Ion Sources. AIP Conference Proceedings, 2005, , .	0.3	0
102	Testing of the "Flat-B" 6-GHz ECR Ion Source Equipped with a RF Polarizer (Abstract). AIP Conference Proceedings, 2005, , .	0.3	0
103	Plasma Potential Measurements for a "Volume" Type ECR Ion Source. AIP Conference Proceedings, 2005, , .	0.3	0
104	Laser Ion Source Development for ISOL Systems at RIA. , 0, , .		0
105	Neutron Tomography of Lithium (Li) Menisci Inside a Molybdenum (Mo) Heat Pipe. Journal of Heat Transfer, 2013, 135, .	1.2	0
106	The Use and Refinement of Neutron Imaging Techniques for Archaeological Artifacts. Advances in Archaeological Practice, 2014, 2, 91-103.	0.5	0
107	Multi-scale applications of neutron scattering and imaging. , 2014, , .		0
108	Investigation of a Lithium Indium Diselenide detector for neutron transmission imaging. Proceedings of SPIE, 2014, , .	0.8	0

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109	Simultaneous Neutron Radiography of Metal Nozzle Geometry and Near-Field Spray. , 2019, , .		0
110	EFFECT OF SURFACTANTS ON THE RATE OF WATER IMBIBITION IN FRACTURED SHALES. , 2016, , .		0
111	INVERSE ESTIMATION OF SURFACE FRACTAL DIMENSION AND APERTURE WIDTH FOR ROCK FRACTURES FROM SPONTANEOUS IMBIBITION MEASUREMENTS. , 2017, , .		0
112	Multi-Modal Imaging of Plant-Microbe Interactions in the Pine Rhizosphere. , 2020, , .		0
113	Neutron Imaging of Soil Rhizosphere & Root Water Dynamics. , 2020, , .		0
114	Effect of Fluid Properties on Contact Angles in the Eagle Ford Shale Measured with Spontaneous Imbibition. ACS Omega, 2021, 6, 32618-32630.	1.6	0
115	Fabrication of Black Body Grids by Thick Film Printing for Quantitative Neutron Imaging. Journal of Imaging, 2022, 8, 164.	1.7	0