

Joaquin Lopez Herraiz

List of Publications by Year in descending order

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Version: 2024-02-01

100
papers

1,294
citations

430843

18
h-index

395678

33
g-index

102
all docs

102
docs citations

102
times ranked

1607
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurements of the Electric Form Factor of the Neutron up to $Q^2 = 3.4$ fm ⁻² the Reaction $^3\text{He}(\alpha, n)^6\text{Li}$. Physical Review Letters, 2010, 105, 262302.	7.8	110
2	FIRST: Fast Iterative Reconstruction Software for (PET) tomography. Physics in Medicine and Biology, 2006, 51, 4547-4565.	3.0	86
3	The electron-ion scattering experiment ELISE at the International Facility for Antiproton and Ion Research (FAIR)â€”A conceptual design study. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 637, 60-76.	1.6	85
4	Time domain reconstruction of sound speed and attenuation in ultrasound computed tomography using full wave inversion. Journal of the Acoustical Society of America, 2017, 141, 1595-1604.	1.1	78
5	PeneloPET, a Monte Carlo PET simulation tool based on PENELOPE: features and validation. Physics in Medicine and Biology, 2009, 54, 1723-1742.	3.0	76
6	Fast Patch-Based Pseudo-CT Synthesis from T1-Weighted MR Images for PET/MR Attenuation Correction in Brain Studies. Journal of Nuclear Medicine, 2016, 57, 136-143.	5.0	72
7	Transmission-reflection optoacoustic ultrasound (TROPUS) computed tomography of small animals. Light: Science and Applications, 2019, 8, 18.	16.6	71
8	Performance evaluation of SiPM photodetectors for PET imaging in the presence of magnetic fields. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 613, 308-316.	1.6	56
9	Positron range estimations with PeneloPET. Physics in Medicine and Biology, 2013, 58, 5127-5152.	3.0	56
10	Parallel transmit pulse design for patients with deep brain stimulation implants. Magnetic Resonance in Medicine, 2015, 73, 1896-1903.	3.0	56
11	GPU-Based Fast Iterative Reconstruction of Fully 3-D PET Sinograms. IEEE Transactions on Nuclear Science, 2011, 58, 2257-2263.	2.0	29
12	Tissue-Dependent and Spatially-Variant Positron Range Correction in 3D PET. IEEE Transactions on Medical Imaging, 2015, 34, 2394-2403.	8.9	27
13	Simulation of triple coincidences in PET. Physics in Medicine and Biology, 2015, 60, 117-136.	3.0	26
14	Recovery and normalization of triple coincidences in PET. Medical Physics, 2015, 42, 1398-1410.	3.0	26
15	SAR reduction in 7T Câ€”spine imaging using a â€œdark modesâ€”transmit array strategy. Magnetic Resonance in Medicine, 2015, 73, 1533-1539.	3.0	26
16	Multi-atlas and label fusion approach for patient-specific MRI based skull estimation. Magnetic Resonance in Medicine, 2016, 75, 1797-1807.	3.0	21
17	Improving PET Quantification of Small Animal [68Ga]DOTA-Labeled PET/CT Studies by Using a CT-Based Positron Range Correction. Molecular Imaging and Biology, 2018, 20, 584-593.	2.6	20
18	Noninvasive multiparametric characterization of mammary tumors with transmission-reflection optoacoustic ultrasound. Neoplasia, 2020, 22, 770-777.	5.3	19

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19	Study of CT-based positron range correction in high resolution 3D PET imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S172-S175.	1.6	18
20	Positron range effects in high resolution 3D PET imaging. , 2009, , .		17
21	Feasibility assessment of the interactive use of a Monte Carlo algorithm in treatment planning for intraoperative electron radiation therapy. Physics in Medicine and Biology, 2014, 59, 7159-7179.	3.0	16
22	Performance evaluation of SiPM detectors for PET imaging in the presence of magnetic fields. , 2008, , .		13
23	Superscaling analysis of the Coulomb sum rule in quasielastic electron-nucleus scattering. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2010, 688, 250-257.	4.1	12
24	Multi-modal Ultrasound Imaging for Breast Cancer Detection. Physics Procedia, 2015, 63, 134-140.	1.2	12
25	Evaluation of PeneloPET Simulations of Biograph PET/CT Scanners. IEEE Transactions on Nuclear Science, 2016, 63, 1367-1374.	2.0	12
26	Speed of sound ultrasound transmission tomography image reconstruction based on BÃ©zier curves. Ultrasonics, 2020, 103, 106097.	3.9	12
27	Dictionary-based protoacoustic dose map imaging for proton range verification. Photoacoustics, 2021, 21, 100240.	7.8	12
28	Deep-Learning-Driven Full-Waveform Inversion for Ultrasound Breast Imaging. Sensors, 2021, 21, 4570.	3.8	12
29	Deep-Learning Based Positron Range Correction of PET Images. Applied Sciences (Switzerland), 2021, 11, 266.	2.5	11
30	Improved quantification for local regions of interest in preclinical PET imaging. Physics in Medicine and Biology, 2015, 60, 7127-7149.	3.0	9
31	Nuclear astrophysics with radioactive ions at FAIR. Journal of Physics: Conference Series, 2016, 665, 012044.	0.4	9
32	Parallel transmission pulse design with explicit control for the specific absorption rate in the presence of radiofrequency errors. Magnetic Resonance in Medicine, 2016, 75, 2493-2504.	3.0	9
33	Analysis of Cross-Combinations of Feature Selection and Machine-Learning Classification Methods Based on [18F]F-FDG PET/CT Radiomic Features for Metabolic Response Prediction of Metastatic Breast Cancer Lesions. Cancers, 2022, 14, 2922.	3.7	9
34	PeneloPET, a Monte Carlo PET simulation toolkit based on PENELOPE: Features and Validation. , 2006, , .		8
35	Frequency selective signal extrapolation for compensation of missing data in sinograms. , 2008, , .		8
36	GPU acceleration of a fully 3D Iterative Reconstruction Software for PET using CUDA. , 2009, , .		8

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37	Fully 3D GPU PET reconstruction. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S169-S171.	1.6	8
38	Phase space determination from measured dose data for intraoperative electron radiation therapy. Physics in Medicine and Biology, 2015, 60, 375-401.	3.0	8
39	Experimental validation of gallium production and isotope-dependent positron range correction in PET. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 814, 110-116.	1.6	8
40	Improved image reconstruction in small animal PET using a priori estimates of single-pixel events. , 2007, , .		7
41	Improved dead-time correction for PET scanners: application to small-animal PET. Physics in Medicine and Biology, 2013, 58, 2059-2072.	3.0	7
42	Sensitivity estimation in time-of-flight list-mode positron emission tomography. Medical Physics, 2015, 42, 6690-6702.	3.0	6
43	Ultrasound computed tomography for quantitative breast imaging. , 2016, , .		6
44	Real-Time 3D PET Image with Pseudoinverse Reconstruction. Applied Sciences (Switzerland), 2020, 10, 2829.	2.5	6
45	Statistical Reconstruction Methods in PET: Resolution Limit, Noise, Edge Artifacts and considerations for the design of better scanners. , 0, , .		5
46	Automatic Cardiac Self-Gating of Small-Animal PET Data. Molecular Imaging and Biology, 2016, 18, 109-116.	2.6	5
47	USCT reference data base: conclusions from the first SPIE USCT data challenge and future directions. , 2018, , .		5
48	Artificial Intelligence and Democratization of the Use of Lung Ultrasound in COVID-19: On the Feasibility of Automatic Calculation of Lung Ultrasound Score. International Journal of Translational Medicine, 2022, 2, 17-25.	0.4	5
49	Validation of PeneloPET against two small animal PET scanners. , 2007, , .		4
50	Noise and physical limits to maximum resolution of PET images. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 580, 934-937.	1.6	4
51	Validation of PeneloPET positron range estimations. , 2010, , .		4
52	Full-wave attenuation reconstruction in the time domain for ultrasound computed tomography. , 2016, , .		4
53	Photoacoustic dose monitoring in clinical high-energy photon beams. Biomedical Physics and Engineering Express, 2019, 5, 035028.	1.2	4
54	Ultrafast Ultrasound Imaging for Super-Resolution Preclinical Cardiac PET. Molecular Imaging and Biology, 2020, 22, 1342-1352.	2.6	4

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55	Super-Iterative Image Reconstruction in PET. IEEE Transactions on Computational Imaging, 2021, 7, 248-257.	4.4	4
56	PeneloPET simulations of the Biograph ToF clinical PET scanner. , 2011, , .		3
57	Automatic parameter selection in PET image reconstruction based on no-reference image quality assessment. , 2012, , .		3
58	Regularization of image reconstruction in ultrasound computed tomography. , 2015, , .		3
59	Data-driven Improved Sampling in PET. , 2017, , .		3
60	Anatomically Based Analysis of Radioaerosol Distribution in Pulmonary Scintigraphy: A Feasibility Study in Asthmatics. Journal of Aerosol Medicine and Pulmonary Drug Delivery, 2018, 31, 298-310.	1.4	3
61	Computer-Vision Techniques for Water-Fat Separation in Ultra High-Field MRI Local Specific Absorption Rate Estimation. IEEE Transactions on Biomedical Engineering, 2019, 66, 768-774.	4.2	3
62	PeneloPET v3.0, an improved multiplatform PET Simulator. , 2019, , .		3
63	Full 3D-OSEM reconstruction with compressed response of the system. , 0, , .		2
64	Optimal and Robust PET Data Sinogram Restoration Based on the Response of the System. , 2006, , .		2
65	Refraction correction in Full Angle Spatial image Compounding. , 2016, , .		2
66	International mentoring as a new educational approach to alleviate brain drain, empower young talent, and internationalize higher education. Nature Biotechnology, 2017, 35, 285-288.	17.5	2
67	Normalization in 3D PET: Dependence on the Activity Distribution of the Source. , 2006, , .		1
68	Revised consistency conditions for PET data. , 2007, , .		1
69	Overview of neutrino-nucleus quasielastic scattering. , 2009, , .		1
70	Validation of NEMA NU4–2008 scatter fraction estimation with ^{18}F and ^{68}Ga for the ARGUS smallanimal PET scanner. , 2010, , .		1
71	Quantification limits of iterative PET reconstruction algorithms and improved estimation of kinetic constants. , 2011, , .		1
72	Deadtime and pile-up correction method based on the singles to coincidences ratio for PET. , 2011, , .		1

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73	Measurement of activity produced by low energy proton beam in metals using off-line PET imaging. , 2011, , .		1
74	A general framework to study positron range distributions. , 2011, , .		1
75	Iterative reconstruction of whole accelerator phase spaces for Intraoperative Radiation Therapy (IORT) from measured dose data. , 2011, , .		1
76	Iterative Determination of Clinical Beam Phase Space From Dose Measurements. International Journal of Radiation Oncology Biology Physics, 2012, 84, S869.	0.8	1
77	Transmission-reflection optoacoustic ultrasound (TROPUS) imaging of mammary tumors. , 2021, , .		1
78	Super-iterative image reconstruction in PET. , 2019, , .		1
79	Awake preclinical brain PET imaging based on point sources. , 2019, , .		1
80	Application of the pseudoinverse for real-time 3D PET image reconstruction. , 2019, , .		1
81	Influence of random, pile-up and scatter corrections in the quantification properties of small-animal PET scanners. , 2007, , .		0
82	Nonlinear effect of pile-up in the quantification of a small animal PET scanner. , 2008, , .		0
83	($e, e^{-\text{TM}}p$) reaction at true quasielastic kinematics in [^{sup 16} O], [^{sup 12} C] and [^{sup 208} Pb] at JLab. , 2010, , .		0
84	Performance Evaluation of SiPM Photosensors in the Presence of Magnetic Fields. AIP Conference Proceedings, 2010, , .	0.4	0
85	Quasi elastic cross sections for the $^{209}\text{Bi}(e, e'p)^{208}\text{Pb}$ reaction: Jefferson Lab experiment E06007. Journal of Physics: Conference Series, 2012, 381, 012101.	0.4	0
86	Production of positron-gamma emitters for multiplexed PET (mPET) imaging. , 2013, , .		0
87	Simulation of triple coincidences in PET. , 2013, , .		0
88	Scaling of positron range distributions in biological materials. , 2013, , .		0
89	PeneloPET study of the biograph PET scanner. , 2013, , .		0
90	86: Iterative Reconstruction of Clinical Electron Beam Phase Space for Intra-Operative Radiation Therapy. Radiotherapy and Oncology, 2014, 110, S42.	0.6	0

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91	Fast pseudo-CT synthesis from MRI T1-weighted images using a patch-based approach. , 2015, , .		0
92	The Effect of Mouth Motion on the Attenuation Correction in Neurological PET Studies. Lecture Notes in Computational Vision and Biomechanics, 2015, , 63-69.	0.5	0
93	Dynamic PET reconstruction using the split bregman formulation. , 2016, , .		0
94	PO-0937: Sound speed reconstruction in full wave ultrasound computer tomography for breast cancer detection. Radiotherapy and Oncology, 2016, 119, S454-S455.	0.6	0
95	Non contact elastographic techniques. , 2016, , .		0
96	Improved misfit function for attenuation and speed reconstruction in ultrasound computed tomography. , 2017, , .		0
97	Real-Time Accurate Rebinning of PET Data Based on the Pseudo-Inverse of the Axial System Matrix. , 2017, , .		0
98	Design and Performance Study of a Quasi-spherical PET Scanner and Hexagonal SiPM. , 2018, , .		0
99	Dynamic PET imaging with the generalized method of moments. , 2019, , .		0
100	Simultaneous optoacoustic, pulse-echo and transmission ultrasound tomography of mice (Conference Presentation). , 2020, , .		0