

Jean Michel LÃ©tang

List of Publications by Year in descending order

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119
papers

3,037
citations

218592

26
h-index

175177

52
g-index

121
all docs

121
docs citations

121
times ranked

2232
citing authors

#	ARTICLE	IF	CITATIONS
1	Region-of-Interest CT Reconstruction Using Object Extent and Singular Value Decomposition. IEEE Transactions on Radiation and Plasma Medical Sciences, 2022, 6, 537-551.	2.7	0
2	Use of fast realistic simulations on GPU to extract CAD models from microtomographic data in the presence of strong CT artefacts. Precision Engineering, 2022, 74, 110-125.	1.8	5
3	Estimate of the Biological Dose in Hadrontherapy Using GATE. Cancers, 2022, 14, 1667.	1.7	4
4	Monte Carlo simulations of nanodosimetry and radiolytic species production for monoenergetic proton and electron beams: Benchmarking of GEANT4â€œDNA and LPCHEM codes. Medical Physics, 2022, , .	1.6	3
5	Characterization of internal fatigue cracks in aluminum alloys by simulation of phase contrast tomography. Scientific Reports, 2022, 12, 5981.	1.6	1
6	Relative stopping power resolution in time-of-flight proton CT. Physics in Medicine and Biology, 2022, 67, 165004.	1.6	0
7	Modeling complex particles phase space with GAN for Monte Carlo SPECT simulations: a proof of concept. Physics in Medicine and Biology, 2021, 66, 055014.	1.6	13
8	Influence of sub-nanosecond time of flight resolution for online range verification in proton therapy using the line-cone reconstruction in Compton imaging. Physics in Medicine and Biology, 2021, 66, 125012.	1.6	6
9	A time-of-flight-based reconstruction for real-time prompt-gamma imaging in proton therapy. Physics in Medicine and Biology, 2021, 66, 135003.	1.6	10
10	Evaluation of simulators for x-ray speckle-based phase contrast imaging. Physics in Medicine and Biology, 2021, 66, 175027.	1.6	4
11	Energy-adaptive calculation of the most likely path in proton CT. Physics in Medicine and Biology, 2021, 66, 20NT02.	1.6	0
12	Artificial Intelligence for Monte Carlo Simulation in Medical Physics. Frontiers in Physics, 2021, 9, .	1.0	11
13	A new hybrid next-event estimator for photon-based Monte Carlo dose rate calculations. European Physical Journal Plus, 2021, 136, 1.	1.2	1
14	Influence of Doppler broadening model accuracy in Compton camera list-mode MLEM reconstruction. Inverse Problems in Science and Engineering, 2021, 29, 3509-3529.	1.2	10
15	Monitoring Ion Beam Therapy With a Compton Camera: Simulation Studies of the Clinical Feasibility. IEEE Transactions on Radiation and Plasma Medical Sciences, 2020, 4, 218-232.	2.7	26
16	CCMod: a GATE module for Compton camera imaging simulation. Physics in Medicine and Biology, 2020, 65, 055004.	1.6	19
17	3-D Reconstruction Benchmark of a Compton Camera Against a Parallel-Hole Gamma Camera on Ideal Data. IEEE Transactions on Radiation and Plasma Medical Sciences, 2020, 4, 479-488.	2.7	7
18	A comparison of direct reconstruction algorithms in proton computed tomography. Physics in Medicine and Biology, 2020, 65, 105010.	1.6	13

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19	2D directional ramp filter. Physics in Medicine and Biology, 2020, 65, 08NT01.	1.6	2
20	Ultra-fast prompt gamma detection in single proton counting regime for range monitoring in particle therapy. Physics in Medicine and Biology, 2020, 65, 245033.	1.6	17
21	Scatter Correction for Spectral CT Using a Primary Modulator Mask. IEEE Transactions on Medical Imaging, 2020, 39, 2267-2276.	5.4	5
22	Scattering proton CT. Physics in Medicine and Biology, 2020, 65, 225015.	1.6	7
23	Towards Monte Carlo simulation of X-ray phase contrast using GATE. Optics Express, 2020, 28, 14522.	1.7	18
24	On the Role of Single Particle Irradiation and Fast Timing for Efficient Online-Control in Particle Therapy. Frontiers in Physics, 2020, 8, .	1.0	6
25	Motion detection in helical CT using data consistency conditions. , 2020, , .		1
26	Polynomial modelling of proton trajectories in homogeneous media for fast most likely path estimation and trajectory simulation. Physics in Medicine and Biology, 2019, 64, 195014.	1.6	9
27	Generative adversarial networks (GAN) for compact beam source modelling in Monte Carlo simulations. Physics in Medicine and Biology, 2019, 64, 215004.	1.6	19
28	Effects of transverse heterogeneities on the most likely path of protons. Physics in Medicine and Biology, 2019, 64, 065003.	1.6	8
29	A 100 ps TOF Detection System for On-Line Range-Monitoring in Hadrontherapy. , 2019, , .		2
30	Breast density and iodine quantification in spectral mammography. Biomedical Physics and Engineering Express, 2018, 4, 015008.	0.6	3
31	Fixed forced detection for fast SPECT Monte-Carlo simulation. Physics in Medicine and Biology, 2018, 63, 055011.	1.6	9
32	Prompt-gamma monitoring in hadrontherapy: A review. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 878, 58-73.	0.7	176
33	Learning SPECT detector angular response function with neural network for accelerating Monte-Carlo simulations. Physics in Medicine and Biology, 2018, 63, 205013.	1.6	7
34	Total variation and point spread function priors for MLEM reconstruction in Compton camera imaging. , 2018, , .		4
35	Neutron track length estimator for GATE Monte Carlo dose calculation in radiotherapy. Physics in Medicine and Biology, 2018, 63, 125018.	1.6	3
36	Deriving the mean excitation energy map from dual-energy and proton computed tomography. Physics and Imaging in Radiation Oncology, 2018, 6, 20-24.	1.2	4

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37	Large surface gamma cameras for medical imaging: characterization of the bismuth germanate blocks. Journal of Instrumentation, 2018, 13, P08018-P08018.	0.5	3
38	A comprehensive theoretical comparison of proton imaging set-ups in terms of spatial resolution. Physics in Medicine and Biology, 2018, 63, 135013.	1.6	30
39	Characterizing the behavior of scattered radiation in multi-energy x-ray imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 850, 25-34.	0.7	4
40	A cost-effective monitoring technique in particle therapy via uncollimated prompt gamma peak integration. Applied Physics Letters, 2017, 110, .	1.5	39
41	Compton camera study for high efficiency SPECT and benchmark with Anger system. Physics in Medicine and Biology, 2017, 62, 8794-8812.	1.6	45
42	Comparison of projection- and image-based methods for proton stopping power estimation using dual energy CT. Physics and Imaging in Radiation Oncology, 2017, 3, 28-36.	1.2	22
43	Optimization of dual-energy CT acquisitions for proton therapy using projection-based decomposition. Medical Physics, 2017, 44, 4548-4558.	1.6	7
44	Convolution-based scatter correction using kernels combining measurements and Monte Carlo simulations. Journal of X-Ray Science and Technology, 2017, 25, 613-628.	0.7	6
45	Versatile Compton Camera for High-energy Gamma Rays: Monte Carlo Comparison with Anger Camera for Medical Imaging. Acta Physica Polonica B, 2017, 48, 1639.	0.3	2
46	Assessment of Geant4 Prompt-Gamma Emission Yields in the Context of Proton Therapy Monitoring. Frontiers in Oncology, 2016, 6, 10.	1.3	19
47	Improving basis material decomposition in the presence of x-ray scatter with an energy-resolved photon counting detector. , 2016, , .		0
48	Separable scatter model of the detector and object contributions using continuously thickness-adapted kernels in CBCT. Journal of X-Ray Science and Technology, 2016, 24, 723-732.	0.7	2
49	Accelerated prompt gamma estimation for clinical proton therapy simulations. Physics in Medicine and Biology, 2016, 61, 7725-7743.	1.6	10
50	Technical Note: Procedure for the calibration and validation of kilo-voltage cone-beam CT models. Medical Physics, 2016, 43, 5199-5204.	1.6	6
51	Filtered back-projection reconstruction for attenuation proton CT along most likely paths. Physics in Medicine and Biology, 2016, 61, 3258-3278.	1.6	13
52	Experimental validation of a multi-energy x-ray adapted scatter separation method. Physics in Medicine and Biology, 2016, 61, 8625-8639.	1.6	4
53	Organ radiation exposure with EOS: GATE simulations versus TLD measurements. , 2016, , .		0
54	EP-1847: Comparison of stopping power estimators from dual-energy computed tomography for protontherapy. Radiotherapy and Oncology, 2016, 119, S869.	0.3	1

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55	Absorbed energy monitoring during hadrontherapy via prompt gamma detection. , 2016, , .		0
56	Bayesian tissue decomposition method for spectral mammography. , 2016, , .		0
57	CHARACTERISING THE EOS SLOT-SCANNING SYSTEM WITH THE EFFECTIVE DETECTIVE QUANTUM EFFICIENCY. Radiation Protection Dosimetry, 2016, 169, 319-324.	0.4	5
58	A novel scatter separation method for multi-energy x-ray imaging. Physics in Medicine and Biology, 2016, 61, 4711-4728.	1.6	13
59	Scattering correction using continuously thickness-adapted kernels. NDT and E International, 2016, 78, 52-60.	1.7	15
60	Monte Carlo comparison of x-ray and proton CT for range calculations of proton therapy beams. Physics in Medicine and Biology, 2015, 60, 7585-7599.	1.6	39
61	Technical Note: Experimental carbon ion range verification in inhomogeneous phantoms using prompt gammas. Medical Physics, 2015, 42, 2342-2346.	1.6	15
62	Fast scattering simulation tool for multi-energy x-ray imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 802, 60-66.	0.7	7
63	Monte Carlo simulation of prompt β^+ -ray emission in proton therapy using a specific track length estimator. Physics in Medicine and Biology, 2015, 60, 8067-8086.	1.6	7
64	A track length estimator method for dose calculations in low-energy X-ray irradiations: implementation, properties and performance. Zeitschrift Fur Medizinische Physik, 2015, 25, 36-47.	0.6	14
65	Absolute prompt-gamma yield measurements for ion beam therapy monitoring. Physics in Medicine and Biology, 2015, 60, 565-594.	1.6	52
66	Prompt-Gamma Monitoring of Proton- and Carbon-Therapy. Combined Development of Time-of-Flight Collimated- and Compton-Cameras. Acta Physica Polonica A, 2015, 127, 1445-1448.	0.2	0
67	Development of a Compton camera for medical applications based on silicon strip and scintillation detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 787, 98-101.	0.7	86
68	Collimated prompt gamma TOF measurements with multi-slit multi-detector configurations. Journal of Instrumentation, 2015, 10, P01011-P01011.	0.5	27
69	SUâ€¢Eâ€¢Câ€¢147: Monte Carlo Study of the Precision and Accuracy of Proton CT Reconstructed Relative Stopping Power Maps. Medical Physics, 2015, 42, 3298-3298.	1.6	1
70	Design optimisation of a TOF-based collimated camera prototype for online hadrontherapy monitoring. Physics in Medicine and Biology, 2014, 59, 7653-7674.	1.6	59
71	Split exponential track length estimator for Monte-Carlo simulations of small-animal radiation therapy. Physics in Medicine and Biology, 2014, 59, 7703-7715.	1.6	21
72	Real-time proton beam range monitoring by means of prompt-gamma detection with a collimated camera. Physics in Medicine and Biology, 2014, 59, 1327-1338.	1.6	54

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73	Assessment and improvements of Geant4 hadronic models in the context of prompt-gamma hadrontherapy monitoring. Physics in Medicine and Biology, 2014, 59, 1747-1772.	1.6	32
74	A review of the use and potential of the GATE Monte Carlo simulation code for radiation therapy and dosimetry applications. Medical Physics, 2014, 41, 064301.	1.6	332
75	Fast scattering simulation tool for multi-energy x-ray imaging. , 2014, , .		1
76	Influence of scattering on material quantification using multi-energy x-ray imaging. , 2014, , .		6
77	Machine learning-based patient specific prompt-gamma dose monitoring in proton therapy. Physics in Medicine and Biology, 2013, 58, 4563-4577.	1.6	51
78	Real-time online monitoring of the ion range by means of prompt secondary radiations. , 2013, , .		2
79	Low Statistics Reconstruction of the Compton Camera Point Spread Function in 3D Prompt- γ Imaging of Ion Beam Therapy. IEEE Transactions on Nuclear Science, 2013, 60, 3355-3363.	1.2	17
80	An efficient numerical tool for dose deposition prediction applied to synchrotron medical imaging and radiation therapy. Journal of Synchrotron Radiation, 2013, 20, 785-792.	1.0	19
81	Efficient simulated annealing for full inverse treatment planning. , 2013, , .		0
82	Filtered backprojection proton CT reconstruction along most likely paths. Medical Physics, 2013, 40, 031103.	1.6	79
83	Interaction vertex imaging (IVI) for carbon ion therapy monitoring: a feasibility study. Physics in Medicine and Biology, 2012, 57, 4655-4669.	1.6	78
84	Secondary radiations in cone-beam computed tomography: simulation study. Journal of Electronic Imaging, 2012, 21, 021113.	0.5	2
85	Electron density resolution determination and systematic uncertainties in proton computed tomography (pCT). , 2012, , .		0
86	Design Study of the Absorber Detector of a Compton Camera for On-Line Control in Ion Beam Therapy. IEEE Transactions on Nuclear Science, 2012, 59, 1850-1855.	1.2	24
87	Monte Carlo nuclear models evaluation and improvements for real-time prompt gamma ray monitoring in proton and carbon therapy. , 2012, , .		0
88	Design Guidelines for a Double Scattering Compton Camera for Prompt- γ Imaging During Ion Beam Therapy: A Monte Carlo Simulation Study. IEEE Transactions on Nuclear Science, 2011, 58, 87-94.	1.2	86
89	Secondary radiations in CBCT: a simulation study. Proceedings of SPIE, 2011, , .	0.8	0
90	Design of a Compton camera for 3D prompt- imaging during ion beam therapy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 648, S20-S23.	0.7	78

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91	Image reconstruction for Compton camera applied to 3D prompt γ imaging during ion beam therapy. , 2011, , .		3
92	Real-time monitoring of the Bragg-peak position in ion therapy by means of single photon detection. Radiation and Environmental Biophysics, 2010, 49, 337-343.	0.6	83
93	Monte Carlo Simulations of Prompt-Gamma Emission During Carbon Ion Irradiation. IEEE Transactions on Nuclear Science, 2010, 57, 2768-2772.	1.2	31
94	SU-GG-I-120: Joint Simulation of Transmission X-Ray Imaging on GPU and Patient's Respiration on CPU. Medical Physics, 2010, 37, 3129-3129.	1.6	0
95	Simulation of dose deposition in stereotactic synchrotron radiation therapy: a fast approach combining Monte Carlo and deterministic algorithms. Physics in Medicine and Biology, 2009, 54, 4671-4685.	1.6	10
96	Design study of a Compton camera for prompt $\hat{\Gamma}^3$ imaging during ion beam therapy. , 2009, , .		11
97	Dose profile monitoring with carbon ions by means of prompt-gamma measurements. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 993-996.	0.6	79
98	A beam stop based correction procedure for high spatial frequency scatter in industrial cone-beam X-ray CT. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 4042-4054.	0.6	19
99	A Hybrid Approach for Fast Simulation of Dose Deposition in Stereotactic Synchrotron Radiotherapy. IEEE Transactions on Nuclear Science, 2008, 55, 1008-1017.	1.2	11
100	QUANTITATIVE HOMOGENEITY AND IN-CONTACT PARTICLES OF HIGH TEMPERATURE REACTORS (HTR) COMPACTS DETERMINATION VIA X-RAY TOMOGRAPHY. AIP Conference Proceedings, 2008, , .	0.3	0
101	Monitoring the Bragg peak location of $^{73}\text{MeV} \hat{\alpha}$ carbon ions by means of prompt $\hat{\Gamma}^3$ -ray measurements. Applied Physics Letters, 2008, 93, .	1.5	129
102	Fast Dose Calculation for Stereotactic Synchrotron Radiotherapy. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 3914-7.	0.5	1
103	Simulation Study of the Role Played by Intensifying or Support Layers in Scintillation Screens. IEEE Transactions on Nuclear Science, 2007, 54, 699-705.	1.2	1
104	Characterization and simulation of microstructure and properties of EPS lightweight concrete. Cement and Concrete Research, 2007, 37, 1666-1673.	4.6	128
105	Measurement and Monte Carlo modeling of the spatial response of scintillation screens. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 581, 719-727.	0.7	2
106	Geant4 simulation of the response of phosphor screens for X-ray imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 563, 196-199.	0.7	11
107	Fast and robust ray casting algorithms for virtual X-ray imaging. Nuclear Instruments & Methods in Physics Research B, 2006, 248, 175-180.	0.6	37
108	A hybrid approach to simulate multiple photon scattering in X-ray imaging. Nuclear Instruments & Methods in Physics Research B, 2005, 227, 551-558.	0.6	24

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109	Investigation of artefact sources in synchrotron microtomography via virtual X-ray imaging. Nuclear Instruments & Methods in Physics Research B, 2005, 234, 333-348.	0.6	51
110	A hybrid approach to Simulate X-ray imaging techniques, combining Monte Carlo and deterministic algorithms. IEEE Transactions on Nuclear Science, 2005, 52, 1329-1334.	1.2	15
111	Signal-to-noise ratio criterion for the optimization of dual-energy acquisition using virtual x-ray imaging: application to glass wool. Journal of Electronic Imaging, 2004, 13, 436.	0.5	7
112	Deterministic simulation of first-order scattering in virtual X-ray imaging. Nuclear Instruments & Methods in Physics Research B, 2004, 222, 285-300.	0.6	34
113	X-ray tomography applied to the characterization of cellular materials. Related finite element modeling problems. Composites Science and Technology, 2003, 63, 2431-2443.	3.8	198
114	On-line X-ray focal spot assessment based on deconvolution using standard imaging devices. NDT and E International, 2003, 36, 303-317.	1.7	7
115	Quantitative microtomography: measurement of density distribution in glass wool and local evolution during a one-dimensional compressive load. Measurement Science and Technology, 2003, 14, 410-420.	1.4	14
116	Optimal calibration via virtual x-ray imaging for dual-energy techniques: application to glass wool. , 2003, , .		3
117	On the Application of X-ray Microtomography in the Field of Materials Science. Advanced Engineering Materials, 2001, 3, 539.	1.6	254
118	Stereokinematic analysis of visual data in active convergent stereoscopy. Robotics and Autonomous Systems, 1998, 25, 43-71.	3.0	3
119	Motion detection based on a temporal multiscale approach. , 0, , .		3