Christian Morel

List of Publications by Citations

99 papers	3,244 citations	23 h-index	56 g-index
119 ext. papers	4,041 ext. citations	2.2 avg, IF	3.74 L-index

#	Paper	IF	Citations
99	GATE: a simulation toolkit for PET and SPECT. *Physics in Medicine and Biology*, **2004**, 49, 4543-61	3.8	1239
98	GATE V6: a major enhancement of the GATE simulation platform enabling modelling of CT and radiotherapy. *Physics in Medicine and Biology*, **2011**, 56, 881-901	3.8	488
97	GATE: a Geant4-based simulation platform for PET and SPECT integrating movement and time management. *IEEE Transactions on Nuclear Science*, **2003**, 50, 1516-1521	1.7	140
96	The ClearPET project: development of a 2nd generation high-performance small animal PET scanner. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2005**, 537, 307-311	1.2	102
95	GATE (geant4 application for tomographic emission): a PET/SPECT general-purpose simulation platform. *Nuclear Physics, Section B, Proceedings Supplements*, **2003**, 125, 75-79		99
94	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	1.2	66
93	Roadmap toward the 10 ps time-of-flight PET challenge. *Physics in Medicine and Biology*, **2020**, 65, 21RM01	3.8	63
92	Monte Carlo simulation in PET and SPECT instrumentation using GATE. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2004**, 527, 180-189	1.2	63
91	XPAD3-S: A fast hybrid pixel readout chip for X-ray synchrotron facilities. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2008**, 591, 159-162	1.2	47
90	Geant4-based Monte Carlo simulations on GPU for medical applications. *Physics in Medicine and Biology*, **2013**, 58, 5593-611	3.8	44
89	XPAD3: A new photon counting chip for X-ray CT-scanner. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2007**, 571, 321-324	1.2	44
88	An object-oriented Monte Carlo simulator for 3D cylindrical positron tomographs. *Computer Methods and Programs in Biomedicine*, **1999**, 58, 133-45	6.9	42
87	Direct photon cross sections in proton-proton and antiproton-proton interactions at GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1998**, 436, 222-230	4.2	35
86	Development of new mixed Lux(RE3+)1 AP:Ce scintillators (RE3+=Y3+ or Gd3+): comparison with other Ce-doped or intrinsic scintillating crystals. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2000**, 443, 331-341	1.2	34
85	Production of terbium-152 by heavy ion reactions and proton induced spallation. *Applied Radiation and Isotopes*, **2001**, 54, 53-8	1.7	31
84	Direct photon production in proton-antiproton interactions at = 24.3 GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1988**, 206, 163-168	4.2	31
83	The ClearPET project. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2004**, 527, 171-174	1.2	29

82	A 20kpixels CdTe photon-counting imager using XPAD chip. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2008**, 589, 268-274	1.2	27
81	A measurement of the inclusive □ and □production cross sections at high pT in p p and pp collisions at. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1987**, 194, 568-572	4.2	26
80	Implementation of an environment for Monte Carlo simulation of fully 3-D positron tomography on a high-performance parallel platform. *Parallel Computing*, **1998**, 24, 1523-1536	1	25
79	XPAD: A photons counting pixel detector for material sciences and small-animal imaging. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2007**, 572, 250-253	1.2	25
78	Readout of scintillator light with avalanche photodiodes for positron emission tomography. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1999**, 433, 637-645	1.2	25
77	Development of an optimized LSO/LuYAP phoswich detector head for the Lausanne ClearPET demonstrator. *IEEE Transactions on Nuclear Science*, **2006**, 53, 25-29	1.7	24
76	XPAD3 hybrid pixel detector applications. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2009**, 607, 233-235	1.2	23
75	Imaging performance of the hybrid pixel detectors XPAD3-S. *Physics in Medicine and Biology*, **2009**, 54, 1773-89	3.8	21
74	Precise comparison of antiproton-proton and proton-proton forward elastic scattering at □ = 24.3 GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1989**, 216, 459-465	4.2	20
73	Incremental beamwise backprojection using geometrical symmetries for 3D PET reconstruction in a cylindrical scanner geometry. *Physics in Medicine and Biology*, **1998**, 43, 3009-24	3.8	19
72	Measurement of the inclusive J/□production cross sections in and pp collisions at □ = 24.3 GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1990**, 252, 505-510	4.2	19
71	Determination of □ and the gluon distribution using direct photon production in pp and pp collisions. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1993**, 317, 250-256	4.2	17
70	Use of a neural network to exploit light division in a triangular scintillating crystal. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1996**, 373, 111-118	1.2	16
69	First results of XPAD3, a new photon counting chip for X-ray CT-scanner with energy discrimination **2007**,		15
68	Simulation of time curves in small animal PET using GATE. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2004**, 527, 190-194	1.2	15
67	The FAVOR algorithm for 3D PET data and its implementation using a network of transputers. *Physics in Medicine and Biology*, **1993**, 38, 929-944	3.8	15
66	Direct photon production in and pp interactions at □ = 24.3 GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1993**, 317, 243-249	4.2	15
65	First K-Edge Imaging With a Micro-CT Based on the XPAD3 Hybrid Pixel Detector. *IEEE Transactions on Nuclear Science*, **2013**, 60, 103-108	1.7	14

64	Development of a 3D position sensitive scintillation detector using neural networks		13
63	Image reconstruction for the ClearPET Neuro. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2006**, 569, 381-385	1.2	13
62	Normalisation of Histogrammed List Mode Data. *IEEE Transactions on Nuclear Science*, **2008**, 55, 543-551	1.7	12
61	Characterisation of arrays of avalanche photodiodes for small animal positron emission tomography. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2003**, 504, 325-330	1.2	12
60	A geometrical calibration method for the PIXSCAN micro-CT scanner. *Journal of Instrumentation*, **2009**, 4, P07016-P07016	1	11
59	Count rate performance study of the Lausanne ClearPET scanner demonstrator. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2007**, 571, 207-210	1.2	9
58	PIXSCAN: Pixel detector CT-scanner for small animal imaging. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2007**, 571, 425-428	1.2	9
57	In vivo measurement of glucose utilization in rats using a beta-microprobe: direct comparison with autoradiography. *Journal of Cerebral Blood Flow and Metabolism*, **2004**, 24, 1015-24	7.3	9
56	A new determination of using direct photon production cross sections in pp and p p collisions at s=24.3 GeV. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1999**, 452, 201-206	4.2	9
55	An Object-Oriented Library for 3D PET Reconstruction Using Parallel Computing. *Informatik Aktuell*, **1999**, 268-272	0.3	9
54	Advanced Monte Carlo simulations of emission tomography imaging systems with GATE. *Physics in Medicine and Biology*, **2021**, 66,	3.8	9
53	Performance and Applications of the CdTe- and Si-XPAD3 photon counting 2D detector. *Journal of Instrumentation*, **2011**, 6, C01080-C01080	1	8
52	Study of the charge sharing effect in the photon-counting pixel detector XPAD3-S. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2011**, 633, S111-S113	1.2	8
51	Execution times of five reconstruction algorithms in 3D positron emission tomography. *Physics in Medicine and Biology*, **1998**, 43, 703-12	3.8	8
50			8
49	Comparison of three types of XPAD3.2/CdTe single chip hybrids for hard X-ray applications in material science and biomedical imaging. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2014**, 758, 44-56	1.2	7
48	Development of an optimised LSO/LuYAP phoswich detector head for the ClearPET camera		7
47	Temporal Imaging CeBr3 Compton Camera: A New Concept for Nuclear Decommissioning and Nuclear Waste Management. *EPJ Web of Conferences*, **2018**, 170, 06003	0.3	6

46	A wireless beta-microprobe based on pixelated silicon for in vivo brain studies in freely moving rats. *Physics in Medicine and Biology*, **2013**, 58, 4483-500	3.8	6
45	Approximate reconstruction of PET data with a self-organizing neural network. *IEEE Transactions on Neural Networks*, **1995**, 6, 783-9		6
44	Design study of a □scintronic□crystal targeting tens of picoseconds time resolution for gamma ray imaging: the ClearMind detector. *Journal of Instrumentation*, **2020**, 15, P07029-P07029	1	6
43	Tracking Dynamics of Spontaneous Tumors in Mice Using Photon-Counting Computed Tomography. *IScience*, **2019**, 21, 68-83	6.1	5
42	PIXSIC: A Wireless Intracerebral Radiosensitive Probe in Freely Moving Rats. *Molecular Imaging*, **2015**, 14, 7290.2015.00020	3.7	5
41	PIXSIC: A Pixellated Beta-Microprobe for Kinetic Measurements of Radiotracers on Awake and Freely Moving Small Animals. *IEEE Transactions on Nuclear Science*, **2010**, 57, 998-1007	1.7	5
40	Characterization of two deep-diffusion avalanche photodiode array prototypes with different optical coatings. *IEEE Transactions on Nuclear Science*, **2004**, 51, 2279-2283	1.7	5
39	A data acquisition system for medical imaging **2013**,		4
38	Monte-Carlo simulation based estimation of NECR, sensitivity, and spatial resolution of a novel preclinical PET insert for MR **2015**,		4
37	Hybrid GATE: A GPU/CPU implementation for imaging and therapy applications **2012**,		4
36	GATE, a Geant4-based simulation platform for PET integrating movement and time management		4
35	Development and characterisation of czochralski grown Lu x RE3+ 1-x AIO3: Ce crystals (Re3+ = Y3+ and Gd3+). *Radiation Effects and Defects in Solids*, **1999**, 150, 59-63	0.9	4
34	On the Role of Single Particle Irradiation and Fast Timing for Efficient Online-Control in Particle Therapy. *Frontiers in Physics*, **2020**, 8,	3.9	4
33	Characterization of the imaging performance of a micro-CT system based on the photon counting XPAD3/Si hybrid pixel detectors. *Biomedical Physics and Engineering Express*, **2016**, 2, 025003	1.5	4
32	PIXSIC, a pixelated □-sensitive probe for radiopharmacological investigations in rat brain: binding studies with [□]MPPF. *Molecular Imaging and Biology*, **2015**, 17, 163-7	3.8	3
31	K-edge imaging with the XPAD3 hybrid pixel detector, direct comparison of CdTe and Si sensors. *Physics in Medicine and Biology*, **2015**, 60, 5497-511	3.8	3
30	Design and construction of the ClearPET/XPAD small animal PET/CT scanner **2009**,		3
29	Simulation of PIXSCAN, a photon counting micro-CT for small animal imaging. *Journal of Instrumentation*, **2009**, 4, P05012-P05012	1	3

28	Measured and simulated specifications of Lausanne ClearPET scanner demonstrator		3
27	A lead/proportional-tube electromagnetic calorimeter for direct photon detection. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1990**, 286, 49-60	1.2	3
26	Implantable CMOS pixel sensor for positron imaging in rat brain. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2018**, 911, 19-24	1.2	3
25	MAPSSIC, a Novel CMOS Intracerebral Positrons Probe for Deep Brain Imaging in Awake and Freely Moving Rats: A Monte Carlo Study. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2019**, 3, 302-314	4.2	2
24	. *IEEE Transactions on Nuclear Science*, **2010**, 57, 242-245	1.7	2
23	Digital pulse shape discrimination methods for phoswich detectors		2
22	Measurement of the dynamic response of low-gain solid-state photodetector under weak pulse illumination. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2000**, 442, 378-383	1.2	2
21	Improvement of the performance and accuracy of PET Monte Carlo simulations **1999**,		2
20	A large surface X-ray camera based on XPAD3/CdTe single chip hybrids. *Journal of Instrumentation*, **2015**, 10, C11010-C11010	1	2
19	FIRST RESULTS WITH THE CLEARPET SMALL ANIMAL PET SCANNERS **2006**, 149-164		2
18	Temporal imaging: Observation and localization of a compton effect inside a 20 mm monolithic LYSO plate with a Philips digital Si-PM **2016**,		1
17	Simultaneous reconstruction and separation in a spectral CT framework **2016**,		1
16	New concept of a submillimetric pixellated Silicon detector for intracerebral application. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2011**, 659, 499-503	1.2	1
15	Measured imaging performance of photon counting hybrid pixel X-ray detectors **2008**,		1
14	Evaluation of tomographic reconstruction methods for small animal microCT and microPET/CT. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2007**, 571, 278-281	1.2	1
13	Design study for the ClearPET/XPAD small animal PET/CT scanner **2007**,		1
12	La simulation Monte Carlo en m□decine nucl□aire. *Medecine Nucleaire*, **2007**, 31, 160-164	0.1	1
11	PIXSCAN: pixel detector CT-scanner for small animal imaging		1

10	A tunable light pulse generator to investigate properties of photodetectors		1
9	On-line parallel processing for a rotating positron tomograph operated in 3D mode. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1994**, 351, 527-533	1.2	1
8	Parallel readout of the CERN RMH system using transputers. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1992**, 321, 342-347	1.2	1
7	A time-of-flight-based reconstruction for real-time prompt-gamma imaging in proton therapy. *Physics in Medicine and Biology*, **2021**, 66,	3.8	1
6	Simulation results for PLATO: a prototype hybrid X-ray photon counting detector with a low energy threshold for fusion plasma diagnostics. *Journal of Instrumentation*, **2017**, 12, C01036-C01036	1	
5	MAPSSIC, a communicating MAPS-based intracerebral positrons probe for deep brain imaging in awake and freely-moving rats. *EPJ Web of Conferences*, **2020**, 225, 09002	0.3	
4	Neutron imaging with the XPAD3-S hybrid pixel detector. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2011**, 634, 85-90	1.2	
3	High-performance scalable parallel platform for volume reconstruction of PET data. *International Journal of Imaging Systems and Technology*, **1998**, 9, 455-462	2.5	
2	INVESTIGATION OF CRYSTAL IDENTIFICATION METHODS FOR ClearPETTMPHOSWICH DETECTOR **2006**, 165-189		
1	ProMeSCT: A Proximal Metric Algorithm for Spectral CT. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2021**, 5, 548-558	4.2	