Mario A Bernal

List of Publications by Year
in descending order

55 papers	2,559 citations	304743 22 h-index	189892 50 g-index
56 all docs	56 docs citations	56 times ranked	1185 citing authors

#	Article	IF	Citations
1	Comparison of <scp>GEANT4</scp> very low energy cross section models with experimental data in water. Medical Physics, 2010, 37, 4692-4708.	3.0	392
2	Track structure modeling in liquid water: A review of the Geant4-DNA very low energy extension of the Geant4 Monte Carlo simulation toolkit. Physica Medica, 2015, 31, 861-874.	0.7	373
3	THE GEANT4-DNA PROJECT. International Journal of Modeling, Simulation, and Scientific Computing, 2010, 01, 157-178.	1.4	366
4	Geant4â€DNA example applications for track structure simulations in liquid water: A report from the Geant4â€DNA Project. Medical Physics, 2018, 45, e722.	3.0	265
5	Diffusion-controlled reactions modeling in Geant4-DNA. Journal of Computational Physics, 2014, 274, 841-882.	3.8	121
6	An investigation on the capabilities of the PENELOPE MC code in nanodosimetry. Medical Physics, 2009, 36, 620-625.	3.0	85
7	Geant4 Monte Carlo simulation of absorbed dose and radiolysis yields enhancement from a gold nanoparticle under MeV proton irradiation. Nuclear Instruments & Methods in Physics Research B, 2016, 373, 126-139.	1.4	63
8	Evaluation of early radiation DNA damage in a fractal cell nucleus model using Geant4-DNA. Physica Medica, 2019, 62, 152-157.	0.7	54
9	Monte Carlo simulation of energy-deposit clustering for ions of the same LET in liquid water. Physics in Medicine and Biology, 2012, 57, 209-224.	3.0	51
10	Simulation of Auger electron emission from nanometer-size gold targets using the Geant4 Monte Carlo simulation toolkit. Nuclear Instruments & Methods in Physics Research B, 2016, 372, 91-101.	1.4	50
11	A New Standard DNA Damage (SDD) Data Format. Radiation Research, 2018, 191, 76.	1.5	49
12	The invariance of the total direct DNA strand break yield. Medical Physics, 2011, 38, 4147-4153.	3.0	44
13	Dose point kernels in liquid water: An intra-comparison between GEANT4-DNA and a variety of Monte Carlo codes. Applied Radiation and Isotopes, 2014, 83, 137-141.	1.5	42
14	An atomistic geometrical model of the B-DNA configuration for DNAâ€“radiation interaction simulations. Computer Physics Communications, 2013, 184, 2840-2847.	7.5	38
15	On the consistency of Monte Carlo track structure DNA damage simulations. Medical Physics, 2014, 41, 121708.	3.0	38
16	Simulating radial dose of ion tracks in liquid water simulated with Geant4-DNA: A comparative study. Nuclear Instruments & Methods in Physics Research B, 2014, 333, 92-98.	1.4	38
17	Energy deposition in small-scale targets of liquid water using the very low energy electromagnetic physics processes of the Geant4 toolkit. Nuclear Instruments & Methods in Physics Research B, 2013, 306, 158-164.	1.4	36
18	Accounting for radiation-induced indirect damage on DNA with the Geant 4-DNA code. Physica Medica, 2018, 51, 108-116.	0.7	33

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19	Inelastic-collision cross sections for the interactions of totally stripped H, He and C ions with liquid water. Nuclear Instruments & Methods in Physics Research B, 2007, 262, 1-6.	1.4	26
20	Comparison of Geant4-DNA simulation of S-values with other Monte Carlo codes. Nuclear Instruments & Methods in Physics Research B, 2014, 319, 87-94.	1.4	26
21	Combination of electromagnetic physics processes for microdosimetry in liquid water with the Geant4 Monte Carlo simulation toolkit. Nuclear Instruments & Methods in Physics Research B, 2012, 273, 95-97.	1.4	25
22	Assessment of Radio-Induced Damage in Endothelial Cells Irradiated with 40 kVp, 220 kVp, and 4 MV X-rays by Means of Micro and Nanodosimetric Calculations. International Journal of Molecular Sciences, 2019, 20, 6204.	4.1	23
23	A Feasibility Study of Fricke Dosimetry as an Absorbed Dose to Water Standard for 192Ir HDR Sources. PLoS ONE, 2014, 9, e115155.	2.5	22
24	Modeling proton and alpha elastic scattering in liquid water in Geant4-DNA. Nuclear Instruments & Methods in Physics Research B, 2015, 343, 132-137.	1.4	22
25	Proximity effects in chromosome aberration induction by low-LET ionizing radiation. DNA Repair, 2017, 58, 38-46.	2.8	22
26	Carbon ion fragmentation effects on the nanometric level behind the Bragg peak depth. Physics in Medicine and Biology, 2014, 59, 7691-7702.	3.0	21
27	The HKS model for electron production in liquid water by light ions. Nuclear Instruments & Methods in Physics Research B, 2006, 251, 171-176.	1.4	18
28	Dosimetric evaluation of radionuclides for VCAM-1-targeted radionuclide therapy of early brain metastases. Theranostics, 2018, 8, 292-303.	10.0	17
29	Comparison of experimental proton-induced fluorescence spectra for a selection of thin high-Z samples with Geant4 Monte Carlo simulations. Nuclear Instruments & Methods in Physics Research B, 2015, 358, 210-222.	1.4	16
30	Proximity effects in chromosome aberration induction: Dependence on radiation quality, cell type and dose. DNA Repair, 2018, 64, 45-52.	2.8	16
31	The Influence of DNA Configuration on the Direct Strand Break Yield. Computational and Mathematical Methods in Medicine, 2015, 2015, 1-8.	1.3	14
32	A Geant4-DNA Evaluation of Radiation-Induced DNA Damage on a Human Fibroblast. Cancers, 2021, 13, 4940.	3.7	13
33	A comparison between Geant4 PIXE simulations and experimental data for standard reference samples. Nuclear Instruments & Methods in Physics Research B, 2013, 316, 1-5.	1.4	12
34	Calculation of lineal energies for water and DNA bases using the Rudd model cross sections integrated within the Geant4-DNA processes. Journal of Applied Physics, 2017, 122, .	2.5	12
35	Targeted alpha therapy with 212Pb or 225Ac: Change in RBE from daughter migration. Physica Medica, 2018, 51, 91-98.	0.7	12
36	Microdosimetric calculations for radionuclides emitting Î² and Î± particles and Auger electrons. Applied Radiation and Isotopes, 2020, 166, 109302.	1.5	12

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37	Estimation of the RBE of mammography-quality beams using a combination of a Monte Carlo code with a B-DNA geometrical model. Physics in Medicine and Biology, 2011, 56, 7393-7403.	3.0	11
38	Proton transport in water and DNA components: A Geant4 Monte Carlo simulation. Nuclear Instruments & Methods in Physics Research B, 2013, 306, 165-168.	1.4	11
39	Application of High-Z Gold Nanoparticles in Targeted Cancer Radiotherapyâ€"Pharmacokinetic Modeling, Monte Carlo Simulation and Radiobiological Effect Modeling. Cancers, 2021, 13, 5370.	3.7	9
40	Experimental and Monte Carlo-simulated spectra of standard mammography-quality beams. British Journal of Radiology, 2012, 85, 629-635.	2.2	8
41	TDDFT-Based Study on the Protonâ€"DNA Collision. Journal of Physical Chemistry B, 2017, 121, 7276-7283.	2.6	8
42	Computational approach to determine the relative biological effectiveness of fast neutrons using the Geant4-DNA toolkit and a DNA atomic model from the Protein Data Bank. Physical Review E, 2019, 99, 052404.	2.1	8
43	A simulation study of gold nanoparticles localisation effects on radiation enhancement at the mitochondrion scale. Physica Medica, 2019, 67, 148-154.	0.7	6
44	Evaluation of the mean energy deposit during the impact of charged particles on liquid water. Physics in Medicine and Biology, 2012, 57, 1745-1757.	3.0	5
45	Single electron ionization and electron capture cross sections for (C 6+ , H 2 O) interaction within the Classical Trajectory Monte Carlo (CTMC) approach. Nuclear Instruments & Methods in Physics Research B, 2016, 366, 140-144.	1.4	5
46	Numerical insight into the Dual Radiation Action Theory. Physica Medica, 2017, 43, 120-126.	0.7	5
47	Determination of fast neutron RBE using a fully mechanistic computational model. Applied Radiation and Isotopes, 2020, 156, 108952.	1.5	4
48	Performance of a new atomistic geometrical model of the B-DNA configuration for DNA-radiation interaction simulations. Journal of Physics: Conference Series, 2014, 490, 012150.	0.4	3
49	Impact of photon cross section uncertainties on Monte Carlo-determined depth-dose distributions. Physica Medica, 2016, 32, 1065-1071.	0.7	2
50	Experimental cross sections for water ionization due to the impact of light ionsâ€"A review. Nuclear Instruments & Methods in Physics Research B, 2022, 517, 6-15.	1.4	2
51	Multi-elemental characterization of organic liquid samples by use of a 13MeV 6Li3+ beam. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 3424-3430.	1.4	1
52	Single Ionization of Liquid Water by Protons, Alpha Particles, and Carbon Nuclei: Comparative Analysis of the Continuum Distorted Wave Methodologies and Empirical Models. Advances in Quantum Chemistry, 2013, 65, 203-229.	0.8	1
53	Quality Control of Pavements and Tarmacs Using ([sup 137]Cs) Î³ Compton Scattering. , 2010, , .		0
54	SU-E-T-05: Comparing DNA Strand Break Yields for Photons under Different Irradiation Conditions with Geant4-DNA. Medical Physics, 2012, 39, 3703-3703.	3.0	0

#	Article	IF	Citations
55	SU-E-T-306: Electronic Equilibrium in RBE of DSB Induction in Monte Carlo Simulations of Low Energy Photon and Electron Track Structures. Medical Physics, 2013, 40, 275-275.	3.0	0