Emanuele Scifoni

List of Publications by Year
in descending order

74 papers	1,926 citations	257101 24 h-index	264894 42 g-index
74 all docs	74 docs citations	74 times ranked	1846 citing authors

#	Article	IF	Citations
1	Physics of ion beam cancer therapy: A multiscale approach. Physical Review E, 2009, 79, 011909.	0.8	124
2	Kill-painting of hypoxic tumours in charged particle therapy. Scientific Reports, 2015, 5, 17016.	1.6	124
3	LET-painting increases tumour control probability in hypoxic tumours. Acta OncolÃ³gica, 2014, 53, 25-32.	0.8	112
4	Simulations of dose enhancement for heavy atom nanoparticles irradiated by protons. Physics in Medicine and Biology, 2014, 59, 1441-1458.	1.6	95
5	New Ions for Therapy. International Journal of Particle Therapy, 2015, 2, 428-438.	0.9	91
6	Helium ions for radiotherapy? Physical and biological verifications of a novel treatment modality. Medical Physics, 2016, 43, 1995-2004.	1.6	87
7	On the robustness of the ammonia thermometer. Monthly Notices of the Royal Astronomical Society, 2009, 399, 425-431.	1.6	77
8	Including oxygen enhancement ratio in ion beam treatment planning: model implementation and experimental verification. Physics in Medicine and Biology, 2013, 58, 3871-3895.	1.6	73
9	May oxygen depletion explain the FLASH effect? A chemical track structure analysis. Radiotherapy and Oncology, 2021, 162, 68-75.	0.3	62
10	Particle therapy and nanomedicine: state of art and research perspectives. Cancer Nanotechnology, 2017, 8, 9.	1.9	60
11	Oxygen beams for therapy: advanced biological treatment planning and experimental verification. Physics in Medicine and Biology, 2017, 62, 7798-7813.	1.6	59
12	Ion-induced electron production in tissue-like media and DNA damage mechanisms. European Physical Journal D, 2009, 51, 63-71.	0.6	58
13	Molecular level assessments of radiation biodamage. European Physical Journal D, 2010, 60, 1-10.	0.6	57
14	Hibernation for space travel: Impact on radioprotection. Life Sciences in Space Research, 2016, 11, 1-9.	1.2	57
15	Spectra of secondary electrons generated in water by energetic ions. Physical Review E, 2010, 81, 021903.	0.8	50
16	Proton beam characterization in the experimental room of the Trento Proton Therapy facility. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 869, 15-20.	0.7	49
17	Impact of Target Oxygenation on the Chemical Track Evolution of Ion and Electron Radiation. International Journal of Molecular Sciences, 2020, 21, 424.	1.8	44
18	FLASH radiotherapy with carbon ion beams. Medical Physics, 2022, 49, 1974-1992.	1.6	43

#	ARTICLE	IF	CITATIONS
19	Spatial Dose Patterns Associated With Radiation Pneumonitis in a Randomized Trial Comparing Intensity-Modulated Photon Therapy With Passive Scattering Proton Therapy for Locally Advanced Non-Small Cell Lung Cancer. International Journal of Radiation Oncology Biology Physics, 2019, 104, 1124-1132.	0.4	37
20	TRAX-CHEM: A pre-chemical and chemical stage extension of the particle track structure code TRAX in water targets. Chemical Physics Letters, 2018, 698, 11-18.	1.2	36
21	Overview of recent advances in treatment planning for ion beam radiotherapy. European Physical Journal D, 2014, 68, 1.	0.6	29
22	Fragmentation of 120 and 200 MeV u^{âˆ’1}⁴He ions in water and PMMA targets. Physics in Medicine and Biology, 2017, 62, 1310-1326.	1.6	29
23	Characterizing the Potency and Impact of Carbon Ion Therapy in a Primary Mouse Model of Soft Tissue Sarcoma. Molecular Cancer Therapeutics, 2018, 17, 858-868.	1.9	25
24	A new facility for proton radiobiology at the Trento proton therapy centre: Design and implementation. Physica Medica, 2019, 58, 99-106.	0.4	25
25	Commissioning of GPUâ€"Accelerated Monte Carlo Code FRED for Clinical Applications in Proton Therapy. Frontiers in Physics, 2021, 8, .	1.0	25
26	Rotational Quenching in Ionic Systems at Ultracold Temperatures. Physical Review Letters, 2002, 89, 283201.	2.9	24
27	Modelling the risk of radiation induced alopecia in brain tumor patients treated with scanned proton beams. Radiotherapy and Oncology, 2020, 144, 127-134.	0.3	23
28	Ion-beam cancer therapy: News about a multiscale approach to radiation damage. Mutation Research - Reviews in Mutation Research, 2010, 704, 206-212.	2.4	20
29	Charged cores in ionized $mathsf{{^{4}He}}$ clusters III: A quantum modeling for the collisional relaxation dynamics. European Physical Journal D, 2004, 30, 363-368.	0.6	19
30	Dosimetric effects of residual uncertainties in carbon ion treatment of head chordoma. Radiotherapy and Oncology, 2014, 113, 66-71.	0.3	18
31	Radial dose distribution from carbon ion incident on liquid water. European Physical Journal D, 2010, 60, 115-119.	0.6	17
32	Collisional excitation of doubly deuterated ammonia ND2H by para-H2. Monthly Notices of the Royal Astronomical Society, 2011, 413, 509-513.	1.6	16
33	Study of relationship between dose, LET and the risk of brain necrosis after proton therapy for skull base tumors. Radiotherapy and Oncology, 2021, 163, 143-149.	0.3	16
34	Charged cores in ionized He clusters. European Physical Journal D, 2002, 21, 323-333.	0.6	14
35	Charged cores in ionized $mathsf{{^{4}He}}$ clusters II: Ab initio calculations for the $mathsf{{He_{2}^{ + } + He}}$ system and Many-Body fitting of the computed points. European Physical Journal D, 2004, 30, 353-362.	0.6	14
36	Clinical implementation in proton therapy of multi-field optimization by a hybrid method combining conventional PTV with robust optimization. Physics in Medicine and Biology, 2020, 65, 045002.	1.6	14

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37	Microdosimetric measurements as a tool to assess potential in-field and out-of-field toxicity regions in proton therapy. Physics in Medicine and Biology, 2020, 65, 245024.	1.6	14
38	Ion beams in radiotherapy - from tracks to treatment planning. Journal of Physics: Conference Series, 2012, 373, 012017.	0.3	13
39	Advancing the modeling in particle therapy: From track structure to treatment planning. Applied Radiation and Isotopes, 2014, 83, 171-176.	0.7	13
40	Radiation biophysical aspects of charged particles: From the nanoscale to therapy. Modern Physics Letters A, 2015, 30, 1540019.	0.5	11
41	Ionic reactions in He nanodroplets: The [LiHHe]+ complex and its possible energy pathways into products fromab initiocalculations. Journal of Chemical Physics, 2005, 122, 224312.	1.2	10
42	Backscattered electron emission after proton impact on carbon and gold films: Experiments and simulations. Nuclear Instruments & Methods in Physics Research B, 2017, 401, 8-17.	0.6	10
43	Hypoxia Transcriptomic Modifications Induced by Proton Irradiation in U87 Glioblastoma Multiforme Cell Line. Journal of Personalized Medicine, 2021, 11, 308.	1.1	10
44	Low-energy electron transport in non-uniform media. Nuclear Instruments & Methods in Physics Research B, 2014, 320, 75-82.	0.6	8
45	Development and characterization of aÎ”E-TOF detector prototype for the FOOT experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 916, 116-124.	0.7	8
46	FLUKA simulation of target fragmentation in proton therapy. Physica Medica, 2020, 80, 342-346.	0.4	8
47	Systematic quantification of nanoscopic dose enhancement of gold nanoparticles in ion beams. Physics in Medicine and Biology, 2020, 65, 075008.	1.6	8
48	Modeling Radiation Effects of Ultrasoft X Rays on the Basis of Amorphous Track Structure. Radiation Research, 2018, 189, 32-43.	0.7	7
49	Backscattered electron emission after proton impact on gold nanoparticles with and without polymer shell coating. Physics in Medicine and Biology, 2019, 64, 125007.	1.6	7
50	Cell Survival Computation via the Generalized Stochastic Microdosimetric Model (GSM2); Part I: The Theoretical Framework. Radiation Research, 2021, 197, .	0.7	7
51	TLD efficiency calculations for heavy ions: an analytical approach. European Physical Journal D, 2015, 69, 1.	0.6	6
52	Charge identification of fragments with the emulsion spectrometer of the FOOT experiment. Open Physics, 2021, 19, 383-394.	0.8	6
53	Evaluation of proton beam radiation-induced skin injury in a murine model using a clinical SOBP. PLoS ONE, 2020, 15, e0233258.	1.1	6
54	Dynamical ionization of the [sup 4]He trimer: A time-dependent modeling of its fragmentation. Journal of Chemical Physics, 2003, 118, 2606.	1.2	5

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55	Energies and spatial features for the rotationless bound states of He3+4(Î£g+2): A cationic core from helium cluster ionization. Journal of Chemical Physics, 2006, 125, 164304.	1.2	5
56	Ion-beam therapy: from electron production in tissue like media to DNA damage estimations. , 2008, , .		5
57	Biological Impact of Target Fragments on Proton Treatment Plans: An Analysis Based on the Current Cross-Section Data and a Full Mixed Field Approach. Cancers, 2021, 13, 4768.	1.7	5
58	Transversal dose profile reconstruction for clinical proton beams: A detectors inter-comparison. Physica Medica, 2020, 70, 133-138.	0.4	5
59	A quantum modeling of the chemistry of LiH+ with He from ab initio calculations: Ionic reactions in He nanodroplets. International Journal of Mass Spectrometry, 2009, 280, 57-64.	0.7	4
60	Proton pencil beam scanning reduces secondary cancer risk in breast cancer patients with internal mammary chain involvement compared to photon radiotherapy. Radiation Oncology, 2020, 15, 228.	1.2	4
61	Can We Assess Early DNA Damage at the Molecular Scale by Radiation Track Structure Simulations? A Tetranucleosome Scenario in Geant4-DNA. Frontiers in Physics, 2020, 8, .	1.0	3
62	Response to â€œComment on: May oxygen depletion explain the FLASH effect? A chemical track structure analysisâ€. Radiotherapy and Oncology, 2021, 163, 237-239.	0.3	3
63	The FOOT (Fragmentation Of Target) Experiment. , 2017, , .		3
64	Stopping Power and Secondary Electrons in Ion Beam Induced Damage. , 2009, , .		2
65	Including Volume Effects in Biological Treatment Plan Optimization for Carbon Ion Therapy: Generalized Equivalent Uniform Dose-Based Objective in TRiP98. Frontiers in Oncology, 2022, 12, 826414.	1.3	2
66	New Research in Ionizing Radiation andÂNanoparticles: The ARGENT Project. , 2017, , 379-434.		1
67	Study on Tl-204 simultaneous electron and photon emission spectra and their interaction with gold absorbers. Experimental results and Monte Carlo simulations. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 927, 435-442.	0.7	1
68	Enhancing the understanding of fragmentation processes in hadrontherapy and radioprotection in space with the FOOT experiment. Physica Scripta, 2021, 96, 114013.	1.2	1
69	Interaction of therapeutic ¹²C ions with bone-like targets: physical characterization and dosimetric effect at material interfaces. Physics in Medicine and Biology, 2021, 66, 185003.	1.6	1
70	Quantification of biological range uncertainties in patients treated at the Krakow proton therapy centre. Radiation Oncology, 2022, 17, 50.	1.2	1
71	A multi-scale approach to the physics of ion beam cancer therapy. , 2008, , .		0
72	A Multiscale Approach to the Physics of Radiation Damage. , 2009, , .		0

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73	Response to â€œComment on â€˜Helium ions for radiotherapy? Physical and biological verifications of a novel treatment modalityâ€™ â€•[Med. Phys. 43, 1995â€“2004 (2016)]. Medical Physics, 2016, 43, 5262-5262.	1.6	0
74	Experimental Assessment of the Electromagnetic Background Noise in the Trento Proton Therapy Center. , 2021, , .		0