Hugo Bouchard

List of Publications by Year
in descending order

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48 papers	1,511 citations	331670 21 h-index	315739 38 g-index
48 all docs	48 docs citations	48 times ranked	1282 citing authors

#	Article	IF	Citations
1	<scp>GPUMCD</scp>: A new GPUâ€oriented Monte Carlo dose calculation platform. Medical Physics, 2011, 38, 754-764.	3.0	181
2	A stoichiometric calibration method for dual energy computed tomography. Physics in Medicine and Biology, 2014, 59, 2059-2088.	3.0	124
3	The potential of dual-energy CT to reduce proton beam range uncertainties. Medical Physics, 2017, 44, 2332-2344.	3.0	103
4	Ionization chamber-based reference dosimetry of intensity modulated radiation beams. Medical Physics, 2004, 31, 2454-2465.	3.0	100
5	On the characterization and uncertainty analysis of radiochromic film dosimetry. Medical Physics, 2009, 36, 1931-1946.	3.0	100
6	Detector dose response in megavoltage small photon beams. I. Theoretical concepts. Medical Physics, 2015, 42, 6033-6047.	3.0	85
7	Ionization chamber gradient effects in nonstandard beam configurations. Medical Physics, 2009, 36, 4654-4663.	3.0	72
8	Experimental validation of two dualâ€energy CT methods for proton therapy using heterogeneous tissue samples. Medical Physics, 2018, 45, 48-59.	3.0	61
9	A general method to derive tissue parameters for Monte Carlo dose calculation with multi-energy CT. Physics in Medicine and Biology, 2016, 61, 8044-8069.	3.0	57
10	Detector dose response in megavoltage small photon beams. II. Pencil beam perturbation effects. Medical Physics, 2015, 42, 6048-6061.	3.0	54
11	Technical Note: Potential errors in optical density measurements due to scanning side in EBT and EBT2 Gafchromic film dosimetry. Medical Physics, 2010, 37, 1565-1570.	3.0	48
12	Reference dosimetry using radiochromic film. Journal of Applied Clinical Medical Physics, 2012, 13, 339-353.	1.9	37
13	Optimized I-values for use with the Bragg additivity rule and their impact on proton stopping power and range uncertainty. Physics in Medicine and Biology, 2018, 63, 165007.	3.0	31
14	Investigation of three radiation detectors for accurate measurement of absorbed dose in nonstandard fields. Medical Physics, 2010, 37, 2404-2413.	3.0	26
15	A Bayesian approach to solve proton stopping powers from noisy multiâ€energy CT data. Medical Physics, 2017, 44, 5293-5302.	3.0	25
16	A theoretical comparison of tissue parameter extraction methods for dual energy computed tomography. Medical Physics, 2014, 41, 081905.	3.0	24
17	Reference dosimetry in the presence of magnetic fields: conditions to validate Monte Carlo simulations. Physics in Medicine and Biology, 2015, 60, 6639-6654.	3.0	23
18	Assessing lung function using contrastâ€enhanced dualâ€energy computed tomography for potential applications in radiation therapy. Medical Physics, 2017, 44, 5260-5269.	3.0	23

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19	The effect of magnetic field strength on the response of Gafchromic EBT-3 film. Physics in Medicine and Biology, 2019, 64, 06NT03.	3.0	23
20	Lorentz force correction to the Boltzmann radiation transport equation and its implications for Monte Carlo algorithms. Physics in Medicine and Biology, 2015, 60, 4963-4971.	3.0	22
21	A Monte Carlo method to evaluate the impact of positioning errors on detector response and quality correction factors in nonstandard beams. Physics in Medicine and Biology, 2011, 56, 2617-2634.	3.0	21
22	A Fano cavity test for Monte Carlo proton transport algorithms. Medical Physics, 2013, 41, 011706.	3.0	21
23	Dosimetric impact of dual-energy CT tissue segmentation for low-energy prostate brachytherapy: a Monte Carlo study. Physics in Medicine and Biology, 2018, 63, 025013.	3.0	19
24	A theoretical re-examination of Spencerâ€“Attix cavity theory. Physics in Medicine and Biology, 2012, 57, 3333-3358.	3.0	18
25	The influence of nuclear interactions on ionization chamber perturbation factors in proton beams: FLUKA simulations supported by a Fano test. Medical Physics, 2019, 46, 885-891.	3.0	18
26	On charged particle equilibrium violation in external photon fields. Medical Physics, 2012, 39, 1473-1480.	3.0	17
27	Robust quantitative contrastâ€enhanced dualâ€energy CT for radiotherapy applications. Medical Physics, 2018, 45, 3086-3096.	3.0	17
28	The impact of dual- and multi-energy CT on proton pencil beam range uncertainties: a Monte Carlo study. Physics in Medicine and Biology, 2018, 63, 195012.	3.0	17
29	Validation of an electron Monte Carlo dose calculation algorithm in the presence of heterogeneities using EGSnrc and radiochromic film measurements. Journal of Applied Clinical Medical Physics, 2011, 12, 2-14.	1.9	16
30	Experimental and Monte Carlo studies of fluence corrections for graphite calorimetry in lowâ€•and highâ€energy clinical proton beams. Medical Physics, 2016, 43, 4122-4132.	3.0	16
31	Extension of the Fermiâ€“Eyges most-likely path in heterogeneous medium with prior knowledge information. Physics in Medicine and Biology, 2017, 62, 9207-9219.	3.0	14
32	Influence of intravenous contrast agent on dose calculation in proton therapy using dual energy CT. Physics in Medicine and Biology, 2019, 64, 125024.	3.0	14
33	Alanine dosimetry in strong magnetic fields: use as a transfer standard in MRI-guided radiotherapy. Physics in Medicine and Biology, 2020, 65, 115001.	3.0	13
34	Quantitative imaging performance of MARS spectral photonâ€counting CT for radiotherapy. Medical Physics, 2020, 47, 3423-3434.	3.0	13
35	The potential of photon-counting CT for quantitative contrast-enhanced imaging in radiotherapy. Physics in Medicine and Biology, 2019, 64, 115020.	3.0	12
36	Electron density and effective atomic number estimation in a maximum a posteriori framework for dualâ€energy computed tomography. Medical Physics, 2020, 47, 4137-4149.	3.0	11

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37	Small-cavity chamber dose response in megavoltage photon beams coupled to magnetic fields. Physics in Medicine and Biology, 2020, 65, 245008.	3.0	10
38	Monte Carlo calculation of detector perturbation and quality correction factors in a 1.5 T magnetic resonance guided radiation therapy small photon beams. Physics in Medicine and Biology, 2021, 66, 225004.	3.0	7
39	Quality correction factors of composite IMRT beam deliveries: Theoretical considerations. Medical Physics, 2012, 39, 6885-6894.	3.0	4
40	Efficiency improvement in proton dose calculations with an equivalent restricted stopping power formalism. Physics in Medicine and Biology, 2018, 63, 015019.	3.0	2
41	Unsupervised classification of tissues composition for Monte Carlo dose calculation. Physics in Medicine and Biology, 2018, 63, 15NT01.	3.0	2
42	Parametrization of multi-energy CT projection data with eigentissue decomposition. Physics in Medicine and Biology, 2020, 65, 155001.	3.0	2
43	Eigencolor radiochromic film dosimetry. Medical Physics, 2021, 48, 2592-2603.	3.0	2
44	A probabilistic approach for determining Monte Carlo beam source parameters: I. Modeling of a CyberKnife M6 unit. Physics in Medicine and Biology, 2022, 67, 045007.	3.0	2
45	Efficient doseâ€rate correction of silicon diode relative dose measurements. Medical Physics, 2022, 49, 4056-4070.	3.0	2
46	Comment on â€œLinearization of doseâ€response curve of the radiochromic film dosimetry systemâ€•[Med. Phys. 39(8), 4850â€“4857 (2012)]. Medical Physics, 2012, 39, 7171-7172.	3.0	1
47	Comment on â€œMethodological accuracy of imageâ€based electronâ€density assessment using dualâ€energy computed tomographyâ€•[Med. Phys. 44 (6), 2429â€2437 (2017)]. Medical Physics, 2018, 45, 2345-2348.	3.0	1
48	Reference dosimetry of modulated and dynamic photon beams. Physics in Medicine and Biology, 2020, 65, 24TR05.	3.0	0