

Andrew Jirasek

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

86
papers

2,505
citations

25
h-index

49
g-index

87
ext. papers

2,782
ext. citations

3
avg. IF

4.79
L-index

#	Paper	IF	Citations
86	Simulated design optimization of a prototype solid tank optical CT scanner for 3D radiation dosimetry. <i>Journal of Physics: Conference Series</i> , 2022 , 2167, 012009	0.3	
85	Raman spectroscopy and group and basis-restricted non negative matrix factorisation identifies radiation induced metabolic changes in human cancer cells. <i>Scientific Reports</i> , 2021 , 11, 3853	4.9	2
84	Group and Basis Restricted Non-Negative Matrix Factorization and Random Forest for Molecular Histotype Classification and Raman Biomarker Monitoring in Breast Cancer. <i>Applied Spectroscopy</i> , 2021 , 37028211035398	3.1	0
83	A Methodology for Dynamic Material Characterizations via Terahertz Time-Domain Spectroscopy. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2020 , 10, 282-291	3.4	2
82	Monitor Ionizing Radiation-Induced Cellular Responses with Raman Spectroscopy, Non-Negative Matrix Factorization, and Non-Negative Least Squares. <i>Applied Spectroscopy</i> , 2020 , 74, 701-711	3.1	5
81	Optimization of solid tank design for fan-beam optical CT based 3D radiation dosimetry. <i>Physics in Medicine and Biology</i> , 2020 , 65, 245012	3.8	1
80	Linac-integrated kV-cone beam CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2020 , 65, 2250330	3.3	1
79	Evaluation of an x-ray CT polymer gel dosimetry system in the measurement of deformed dose. <i>Biomedical Physics and Engineering Express</i> , 2020 , 6, 035031	1.5	3
78	Raman spectroscopy detects metabolic signatures of radiation response and hypoxic fluctuations in non-small cell lung cancer. <i>BMC Cancer</i> , 2019 , 19, 474	4.8	7
77	Delivered Dose Distribution Visualized Directly With Onboard kV-CBCT: Proof of Principle. <i>International Journal of Radiation Oncology Biology Physics</i> , 2019 , 103, 1271-1279	4	9
76	Haralick texture feature analysis for quantifying radiation response heterogeneity in murine models observed using Raman spectroscopic mapping. <i>PLoS ONE</i> , 2019 , 14, e0212225	3.7	4
75	Introduction of a deformable x-ray CT polymer gel dosimetry system. <i>Physics in Medicine and Biology</i> , 2018 , 63, 075014	3.8	8
74	Ex Vivo Detection of Circulating Tumor Cells from Whole Blood by Direct Nanoparticle Visualization. <i>ACS Nano</i> , 2018 , 12, 1902-1909	16.7	20
73	Raman Spectroscopic Signatures Reveal Distinct Biochemical and Temporal Changes in Irradiated Human Breast Adenocarcinoma Xenografts. <i>Radiation Research</i> , 2018 , 189, 497-504	3.1	10
72	Characteristics of a Ce-Doped silica fiber irradiated by 74 MeV protons. <i>Radiation Measurements</i> , 2018 , 114, 19-24	1.5	8
71	Breast cancer subtype specific biochemical responses to radiation. <i>Analyst, The</i> , 2018 , 143, 3850-3858	5	11
70	Plasmonic labeling of subcellular compartments in cancer cells: multiplexing with fine-tuned gold and silver nanoshells. <i>Chemical Science</i> , 2017 , 8, 3038-3046	9.4	24

69	Improving the quality of reconstructed X-ray CT images of polymer gel dosimeters: zero-scan coupled with adaptive mean filtering. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2017 , 40, 159-165	1.9	6
68	Evaluation of accuracy and precision in polymer gel dosimetry. <i>Medical Physics</i> , 2017 , 44, 736-746	4.4	12
67	Accuracy and reproducibility in x-ray computed tomography polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2017 , 847, 012047	0.3	
66	Optical and X-ray computed tomography scanning of 3D dosimeters. <i>Journal of Physics: Conference Series</i> , 2017 , 847, 012019	0.3	2
65	Raman spectroscopy identifies radiation response in human non-small cell lung cancer xenografts. <i>Scientific Reports</i> , 2016 , 6, 21006	4.9	39
64	Design and application of 3D-printed stepless beam modulators in proton therapy. <i>Physics in Medicine and Biology</i> , 2016 , 61, N276-90	3.8	5
63	Uncertainty in 3D gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2015 , 573, 012008	0.3	13
62	Destructive backscatter-based readout of polymer gel dosimeters: proof of principle. <i>IFMBE Proceedings</i> , 2015 , 629-632	0.2	
61	A Raman spectroscopic study of cell response to clinical doses of ionizing radiation. <i>Applied Spectroscopy</i> , 2015 , 69, 193-204	3.1	31
60	Incorporating multislice imaging into x-ray CT polymer gel dosimetry. <i>Medical Physics</i> , 2015 , 42, 1666-77	4.4	9
59	Assessment of the effects of CT dose in averaged x-ray CT images of a dose-sensitive polymer gel. <i>Journal of Physics: Conference Series</i> , 2015 , 573, 012075	0.3	1
58	Radiation-Induced Glycogen Accumulation Detected by Single Cell Raman Spectroscopy Is Associated with Radioresistance that Can Be Reversed by Metformin. <i>PLoS ONE</i> , 2015 , 10, e0135356	3.7	19
57	3D printed plastics for beam modulation in proton therapy. <i>Physics in Medicine and Biology</i> , 2015 , 60, N231-40	3.8	16
56	Dose rate properties of NIPAM-based x-ray CT polymer gel dosimeters. <i>Physics in Medicine and Biology</i> , 2015 , 60, 4399-411	3.8	7
55	Dose calibration optimization and error propagation in polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2014 , 59, 597-614	3.8	16
54	Radiation-induced refraction artifacts in the optical CT readout of polymer gel dosimeters. <i>Medical Physics</i> , 2014 , 41, 112102	4.4	2
53	SciBri AM: Mountain ID4: Label-free Raman spectroscopy of single tumour cells detects early radiation-induced glycogen synthesis associated with increased radiation resistance. <i>Medical Physics</i> , 2014 , 41, 23-24	4.4	
52	Characterization of the essential dosimetric properties of cosolvent-free polymer gel dosimeters: Recent progress in x-ray CT based normoxic polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2013 , 444, 012092	0.3	

51	Considerations for x-ray CT polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2013 , 444, 012005	4
50	Statistical Correlation Between SERS Intensity and Nanoparticle Cluster Size. <i>Journal of Physical Chemistry C</i> , 2013 , 117, 16596-16605	3.8 34
49	Revealing the impact of radiation-induced refractive index changes in polymer gel dosimeters. <i>Journal of Physics: Conference Series</i> , 2013 , 444, 012077	0.3
48	Recent developments with a prototype fan-beam optical CT scanner. <i>Journal of Physics: Conference Series</i> , 2013 , 444, 012066	0.3 1
47	A prototype fan-beam optical CT scanner for 3D dosimetry. <i>Medical Physics</i> , 2013 , 40, 061712	4.4 19
46	An x-ray CT polymer gel dosimetry prototype: I. Remnant artefact removal. <i>Physics in Medicine and Biology</i> , 2012 , 57, 3137-53	3.8 22
45	An x-ray CT polymer gel dosimetry prototype: II. Gel characterization and clinical application. <i>Physics in Medicine and Biology</i> , 2012 , 57, 3155-75	3.8 34
44	Raman spectroscopy of single human tumour cells exposed to ionizing radiation in vitro. <i>Physics in Medicine and Biology</i> , 2011 , 56, 19-38	3.8 40
43	Biochemical signatures of in vitro radiation response in human lung, breast and prostate tumour cells observed with Raman spectroscopy. <i>Physics in Medicine and Biology</i> , 2011 , 56, 6839-55	3.8 46
42	Cosolvent-free polymer gel dosimeters with improved dose sensitivity and resolution for x-ray CT dose response. <i>Physics in Medicine and Biology</i> , 2011 , 56, 2091-102	3.8 49
41	SU-E-T-93: A CT Polymer Gel Dosimetry System for End-To-End Dosimetry. <i>Medical Physics</i> , 2011 , 38, 3507-3507	4.4 8
40	Variability in Raman spectra of single human tumor cells cultured in vitro: correlation with cell cycle and culture confluency. <i>Applied Spectroscopy</i> , 2010 , 64, 871-87	3.1 84
39	A matrix-based two-dimensional regularization algorithm for signal-to-noise ratio enhancement of multidimensional spectral data. <i>Applied Spectroscopy</i> , 2010 , 64, 1209-19	3.1 4
38	Polymer gel dosimeters with enhanced sensitivity for use in x-ray CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2010 , 55, 5269-81	3.8 60
37	Alternative imaging modalities for polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2010 , 250, 012070	0.3 3
36	Preliminary investigations with a photodiode-based fan-beam optical CT scanner. <i>Journal of Physics: Conference Series</i> , 2010 , 250, 012024	0.3 3
35	Isopropanol-based polymer gel dosimeters for use with x-ray CT imaging. <i>Journal of Physics: Conference Series</i> , 2010 , 250, 012072	0.3 3
34	Polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2010 , 55, R1-63	3.8 643

33	How does the chemistry of polymer gel dosimeters affect their performance?. <i>Journal of Physics: Conference Series</i> , 2009 , 164, 012003	0.3	5
32	Preliminary investigation of the NMR, optical and x-ray CT dose-response of polymer gel dosimeters with cosolvents and increased crosslinker levels. <i>Journal of Physics: Conference Series</i> , 2009 , 164, 012017	0.3	2
31	Preliminary investigation of the NMR, optical and x-ray CT dose-response of polymer gel dosimeters incorporating cosolvents to improve dose sensitivity. <i>Physics in Medicine and Biology</i> , 2009 , 54, 2779-90	3.8	48
30	Effects of glycerol co-solvent on the rate and form of polymer gel dose response. <i>Physics in Medicine and Biology</i> , 2009 , 54, 907-18	3.8	21
29	The use of ultraviolet resonance Raman spectroscopy in the analysis of ionizing-radiation-induced damage in DNA. <i>Applied Spectroscopy</i> , 2009 , 63, 412-22	3.1	10
28	An overview of polymer gel dosimetry using x-ray CT. <i>Journal of Physics: Conference Series</i> , 2009 , 164, 012038	0.3	6
27	A prototype fan-beam optical CT scanner for polymer gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2009 , 164, 012025	0.3	3
26	Adaptive mean filtering for noise reduction in CT polymer gel dosimetry. <i>Medical Physics</i> , 2008 , 35, 344-54	5.4	34
25	Investigation of a two-point maximum entropy regularization method for signal enhancement applied to magnetoencephalography data. <i>Biomedical Signal Processing and Control</i> , 2008 , 3, 78-87	4.9	3
24	X-ray CT dose in normoxic polyacrylamide gel dosimetry. <i>Medical Physics</i> , 2007 , 34, 1934-43	4.4	27
23	Two-point maximum entropy noise discrimination in spectra over a range of baseline offsets and signal-to-noise ratios. <i>Applied Spectroscopy</i> , 2007 , 61, 157-64	3.1	11
22	MEG signal enhancement using a two-point maximum entropy regularization method. <i>International Congress Series</i> , 2007 , 1300, 241-244		
21	Investigation of X-ray CT dose in normoxic polyacrylamide gel dosimetry 2007 , 1873-1876		
20	Discrimination between UV radiation-induced and thermally induced spectral changes in AT-paired DNA oligomers using UV resonance Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2006 , 37, 1368-1380	2.3	20
19	Investigation of a 2D two-point maximum entropy regularization method for signal-to-noise ratio enhancement: application to CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2006 , 51, 2599-617	3.8	27
18	Assessment of CT dose in X-ray CT polyacrylamide gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2006 , 56, 268-271	0.3	
17	Investigation of tetrakis hydroxymethyl phosphonium chloride as an antioxidant for use in x-ray computed tomography polyacrylamide gel dosimetry. <i>Physics in Medicine and Biology</i> , 2006 , 51, 1891-906	2.8	66
16	Experimental investigations of polymer gel dosimeters. <i>Journal of Physics: Conference Series</i> , 2006 , 56, 23-34	0.3	16

15	Experimental properties of THPC based normoxic polyacrylamide gels for use in x-ray computed tomography gel dosimetry. <i>Journal of Physics: Conference Series</i> , 2006 , 56, 263-267	0.3	4
14	Technical considerations for implementation of x-ray CT polymer gel dosimetry. <i>Physics in Medicine and Biology</i> , 2005 , 50, 1727-45	3.8	56
13	Spectroscopic studies of the anaerobic enzyme-substrate complex of catechol 1,2-dioxygenase. <i>Journal of the American Chemical Society</i> , 2005 , 127, 16882-91	16.4	38
12	Investigation of selected baseline removal techniques as candidates for automated implementation. <i>Applied Spectroscopy</i> , 2005 , 59, 545-74	3.1	231
11	Effects of gel composition on the radiation induced density change in PAG polymer gel dosimeters: a model and experimental investigations. <i>Physics in Medicine and Biology</i> , 2004 , 49, 2477-90	3.8	45
10	Accuracy and precision of manual baseline determination. <i>Applied Spectroscopy</i> , 2004 , 58, 1488-99	3.1	60
9	The response of PAG density to dose: a model and experimental investigations. <i>Journal of Physics: Conference Series</i> , 2004 , 3, 163-167	0.3	2
8	Revealing system dynamics through decomposition of the perturbation domain in two-dimensional correlation spectroscopy. <i>Applied Spectroscopy</i> , 2003 , 57, 1551-60	3.1	12
7	Identification and interpretation of generalized two-dimensional correlation spectroscopy features through decomposition of the perturbation domain. <i>Applied Spectroscopy</i> , 2003 , 57, 1561-74	3.1	16
6	Relative effectiveness of polyacrylamide gel dosimeters applied to proton beams: Fourier transform Raman observations and track structure calculations. <i>Medical Physics</i> , 2002 , 29, 569-77	4.4	46
5	CT gel dosimetry technique: comparison of a planned and measured 3D stereotactic dose volume. <i>Journal of Applied Clinical Medical Physics</i> , 2002 , 3, 110-8	2.3	16
4	CT gel dosimetry technique: Comparison of a planned and measured 3D stereotactic dose volume. <i>Journal of Applied Clinical Medical Physics</i> , 2002 , 3, 110	2.3	48
3	Characterization of monomer/crosslinker consumption and polymer formation observed in FT-Raman spectra of irradiated polyacrylamide gels. <i>Physics in Medicine and Biology</i> , 2001 , 46, 151-65	3.8	67
2	Effects of crosslinker fraction in polymer gel dosimeters using FT Raman spectroscopy. <i>Physics in Medicine and Biology</i> , 2001 , 46, 1949-61	3.8	37
1	Polymer gel dosimetry using x-ray computed tomography: a feasibility study. <i>Physics in Medicine and Biology</i> , 2000 , 45, 2559-71	3.8	178