Xiaodong Zhang

List of Publications by Year in descending order

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102 papers	4,923 citations	100601 38 h-index	111975 67 g-index
106 all docs	106 docs citations	106 times ranked	3488 citing authors

#	Article	IF	Citations
1	Impact of RBE variations on risk estimates of temporal lobe necrosis in patients treated with intensity-modulated proton therapy for head and neck cancer. Acta OncolÃ³gica, 2022, 61, 215-222.	0.8	5
2	Design and validation of a synchrotron proton beam line for FLASH radiotherapy preclinical research experiments. Medical Physics, 2022, 49, 497-509.	1.6	16
3	An algorithm for thoracic re-irradiation using biologically effective dose: a common language on how to treat in a â€œno-treat zoneâ€. Radiation Oncology, 2022, 17, 4.	1.2	1
4	Artificial Intelligence-Based Automated Treatment Planning of Postmastectomy Volumetric Modulated Arc Radiotherapy. Frontiers in Oncology, 2022, 12, 871871.	1.3	2
5	Predictive performance of different NTCP techniques for radiation-induced esophagitis in NSCLC patients receiving proton radiotherapy. Scientific Reports, 2022, 12, .	1.6	4
6	Principles of intensity-modulated proton therapy treatment planning. , 2021, , 56-79.e4.		1
7	Technological advancements and outlook in proton therapy. , 2021, , 215-220.e5.		0
8	Dosimetric impact of commercial CT metal artifact reduction algorithms and a novel inâ€house algorithm for proton therapy of head and neck cancer. Medical Physics, 2021, 48, 445-455.	1.6	3
9	Toxicity and Survival After Intensity-Modulated Proton Therapy Versus Passive Scattering Proton Therapy for NSCLC. Journal of Thoracic Oncology, 2021, 16, 269-277.	0.5	23
10	Evaluation of image quality of a novel computed tomography metal artifact management technique on an anthropomorphic head and neck phantom. Physics and Imaging in Radiation Oncology, 2021, 17, 111-116.	1.2	7
11	Consensus Statement on Proton Therapy in Mesothelioma. Practical Radiation Oncology, 2021, 11, 119-133.	1.1	11
12	Proton Therapy for Major Salivary Gland Cancer: Clinical Outcomes. International Journal of Particle Therapy, 2021, 8, 261-272.	0.9	4
13	Proton Therapy for HPV-Associated Oropharyngeal Cancers of the Head and Neck: a De-Intensification Strategy. Current Treatment Options in Oncology, 2021, 22, 54.	1.3	11
14	A Review of the Robust Optimization Process and Advances with Monte Carlo in the Proton Therapy Management of Head and Neck Tumors. International Journal of Particle Therapy, 2021, 8, 14-24.	0.9	2
15	Intensity-modulated proton therapy for oropharyngeal cancer reduces rates of late xerostomia. Radiotherapy and Oncology, 2021, 160, 32-39.	0.3	18
16	Executive Summary of Clinical and Technical Guidelines for Esophageal Cancer Proton Beam Therapy From the Particle Therapy Co-Operative Group Thoracic and Gastrointestinal Subcommittees. Frontiers in Oncology, 2021, 11, 748331.	1.3	4
17	Multiple-CT optimization: An adaptive optimization method to account for anatomical changes in intensity-modulated proton therapy for head and neck cancers. Radiotherapy and Oncology, 2020, 142, 124-132.	0.3	28
18	Patterns of protein expression in human head and neck cancer cell lines differ after proton vs photon radiotherapy. Head and Neck, 2020, 42, 289-301.	0.9	11

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19	Transitioning from measurement-based to combined patient-specific quality assurance for intensity-modulated proton therapy. British Journal of Radiology, 2020, 93, 20190669.	1.0	6
20	Outcomes and patterns of radiation associated brain image changes after proton therapy for head and neck skull base cancers. Radiotherapy and Oncology, 2020, 151, 119-125.	0.3	10
21	Development of a stereoscopic CT metal artifact management algorithm using gantry angle tilts for head and neck patients. Journal of Applied Clinical Medical Physics, 2020, 21, 120-130.	0.8	9
22	Sparing Organs at Risk with Simultaneous Integrated Boost Volumetric Modulated Arc Therapy for Locally Advanced Non-Small Cell Lung Cancer: An Automatic Treatment Planning Study . Cancer Management and Research, 2020, Volume 12, 9643-9653.	0.9	1
23	Anatomic change over the course of treatment for nonâ€“small cell lung cancer patients and its impact on intensity-modulated radiation therapy and passive-scattering proton therapy deliveries. Radiation Oncology, 2020, 15, 55.	1.2	16
24	Exploring the advantages of intensity-modulated proton therapy: experimental validation of biological effects using two different beam intensity-modulation patterns. Scientific Reports, 2020, 10, 3199.	1.6	7
25	Proton and photon radiosensitization effects of niraparib, a PARPâ€1/â€2 inhibitor, on human head and neck cancer cells. Head and Neck, 2020, 42, 2244-2256.	0.9	20
26	Lymanâ€“Kutcherâ€“Burman normal tissue complication probability modeling for radiation-induced esophagitis in non-small cell lung cancer patients receiving proton radiotherapy. Radiotherapy and Oncology, 2020, 146, 200-204.	0.3	12
27	Statistical evaluation of worst-case robust optimization intensity-modulated proton therapy plans using an exhaustive sampling approach. Radiation Oncology, 2019, 14, 129.	1.2	13
28	Potential feature exploration and model development based on 18F-FDG PET/CT images for differentiating benign and malignant lung lesions. European Journal of Radiology, 2019, 121, 108735.	1.2	23
29	An analytical model for the upper bound estimation of respiratory motionâ€“induced dose uncertainty in spotâ€scanning proton beam therapy. Medical Physics, 2019, 46, 5249-5261.	1.6	5
30	Effect of setup and inter-fraction anatomical changes on the accumulated dose in CT-guided breath-hold intensity modulated proton therapy of liver malignancies. Radiotherapy and Oncology, 2019, 134, 101-109.	0.3	11
31	Proton versus photon radiationâ€“induced cell death in head and neck cancer cells. Head and Neck, 2019, 41, 46-55.	0.9	23
32	Phase 2 Study of Stereotactic Body Radiation Therapy and Stereotactic Body Proton Therapy for High-Risk, Medically Inoperable, Early-Stage Non-Small Cell Lung Cancer. International Journal of Radiation Oncology Biology Physics, 2018, 101, 558-563.	0.4	55
33	Reirradiation of thoracic cancers with intensity modulated proton therapy. Practical Radiation Oncology, 2018, 8, 58-65.	1.1	34
34	Multiple-CT optimization of intensity-modulated proton therapy â€“ Is it possible to eliminate adaptive planning?. Radiotherapy and Oncology, 2018, 128, 167-173.	0.3	22
35	Radiation-Related Alterations of Taste Function in Patients With Head and Neck Cancer: a Systematic Review. Current Treatment Options in Oncology, 2018, 19, 72.	1.3	49
36	Power-law relationship in the long-tailed sections of proton dose distributions. Scientific Reports, 2018, 8, 10413.	1.6	2

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37	3D treatment planning systemâ€”Varian Eclipse for proton therapy planning. Medical Dosimetry, 2018, 43, 184-194.	0.4	7
38	Long-term outcome of phase I/II prospective study of dose-escalated proton therapy for early-stage non-small cell lung cancer. Radiotherapy and Oncology, 2017, 122, 274-280.	0.3	38
39	Programmed deathâ€ligand 1 is prognostic factor in esophageal squamous cell carcinoma and is associated with epidermal growth factor receptor. Cancer Science, 2017, 108, 590-597.	1.7	37
40	Dose calculation for spot scanning proton therapy with the application of a range shifter. Biomedical Physics and Engineering Express, 2017, 3, 035019.	0.6	2
41	Intensity-modulated proton therapy and osteoradionecrosis in oropharyngeal cancer. Radiotherapy and Oncology, 2017, 123, 401-405.	0.3	73
42	Human papillomavirus status and the relative biological effectiveness of proton radiotherapy in head and neck cancer cells. Head and Neck, 2017, 39, 708-715.	0.9	24
43	Proton Beam Radiotherapy and Concurrent Chemotherapy for Unresectable Stage III Nonâ€“Small Cell Lung Cancer. JAMA Oncology, 2017, 3, e172032.	3.4	119
44	Consensus Guidelines for Implementing Pencil-Beam Scanning Proton Therapy for Thoracic Malignancies on Behalf of the PTCOG Thoracic and Lymphoma Subcommittee. International Journal of Radiation Oncology Biology Physics, 2017, 99, 41-50.	0.4	162
45	Synchrotron-Based Pencil Beam Scanning Nozzle with an Integrated Mini-Ridge Filter: A Dosimetric Study to Optimize Treatment Delivery. Cancers, 2017, 9, 170.	1.7	4
46	An Anthropomorphic Head and Neck Quality Assurance Phantom for Credentialing of Intensity-Modulated Proton Therapy. International Journal of Particle Therapy, 2017, 4, 40-47.	0.9	11
47	Motionâ€robust intensityâ€modulated proton therapy for distal esophageal cancer. Medical Physics, 2016, 43, 1111-1118.	1.6	63
48	Quantitative analysis of treatment process time and throughput capacity for spot scanning proton therapy. Medical Physics, 2016, 43, 3975-3986.	1.6	17
49	A Multidisciplinary Orbit-Sparing Treatment Approach That Includes Proton Therapy for Epithelial Tumors of the Orbit and Ocular Adnexa. International Journal of Radiation Oncology Biology Physics, 2016, 95, 344-352.	0.4	49
50	Toward a model-based patient selection strategy for proton therapy: External validation of photon-derived normal tissue complication probability models in a head and neck proton therapy cohort. Radiotherapy and Oncology, 2016, 121, 381-386.	0.3	78
51	Novel Hybrid Scattering- and Scanning-Beam Proton Therapy Approach. International Journal of Particle Therapy, 2016, 3, 37-50.	0.9	2
52	Postoperative Intensity-Modulated Proton Therapy for Head and Neck Adenoid Cystic Carcinoma. International Journal of Particle Therapy, 2016, 2, 533-543.	0.9	16
53	Robust Optimization for Intensity Modulated Proton Therapy Plans with Multi-Isocenter Large Fields. International Journal of Particle Therapy, 2016, 3, 305-311.	0.9	7
54	Selective robust optimization: A new intensityâ€modulated proton therapy optimization strategy. Medical Physics, 2015, 42, 4840-4847.	1.6	34

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55	Improved Beam Angle Arrangement in Intensity Modulated Proton Therapy Treatment Planning for Localized Prostate Cancer. Cancers, 2015, 7, 574-584.	1.7	20
56	Towards Effective and Efficient Patient-Specific Quality Assurance for Spot Scanning Proton Therapy. Cancers, 2015, 7, 631-647.	1.7	59
57	Early experience with intensity modulated proton therapy for lung-intact mesothelioma: A case series. Practical Radiation Oncology, 2015, 5, e345-e353.	1.1	40
58	Robust optimization in intensity-modulated proton therapy to account for anatomy changes in lung cancer patients. Radiotherapy and Oncology, 2015, 114, 367-372.	0.3	72
59	Reducing Dose Uncertainty for Spot-Scanning Proton Beam Therapy of Moving Tumors by Optimizing the Spot Delivery Sequence. International Journal of Radiation Oncology Biology Physics, 2015, 93, 547-556.	0.4	30
60	Quantification of beam complexity in intensityâ€modulated radiation therapy treatment plans. Medical Physics, 2014, 41, 021716.	1.6	106
61	Proton energy optimization and reduction for intensity-modulated proton therapy. Physics in Medicine and Biology, 2014, 59, 6341-6354.	1.6	34
62	A single-field integrated boost treatment planning technique for spot scanning proton therapy. Radiation Oncology, 2014, 9, 202.	1.2	24
63	Evaluation and mitigation of the interplay effects of intensity modulated proton therapy for lung cancer in a clinical setting. Practical Radiation Oncology, 2014, 4, e259-e268.	1.1	56
64	Clinical Implementation of Intensity Modulated Proton Therapy for Thoracic Malignancies. International Journal of Radiation Oncology Biology Physics, 2014, 90, 809-818.	0.4	125
65	On the interplay effects with proton scanning beams in stage III lung cancer. Medical Physics, 2014, 41, 021721.	1.6	87
66	Multifield Optimization Intensity Modulated Proton Therapy for Head and Neck Tumors: A Translation to Practice. International Journal of Radiation Oncology Biology Physics, 2014, 89, 846-853.	0.4	128
67	Evaluation of the systematic error in using 3D dose calculation in scanning beam proton therapy for lung cancer. Journal of Applied Clinical Medical Physics, 2014, 15, 47-56.	0.8	11
68	Spot-Scanning Proton Therapy Patient-Specific Quality Assurance: Results from 309 Treatment Plans. International Journal of Particle Therapy, 2014, 1, 711-720.	0.9	20
69	A Fully Automated Method for CT-on-Rails-Guided Online Adaptive Planning for Prostate Cancer Intensity Modulated Radiation Therapy. International Journal of Radiation Oncology Biology Physics, 2013, 86, 835-841.	0.4	39
70	Incorporating deliverable monitor unit constraints into spot intensity optimization in intensity-modulated proton therapy treatment planning. Physics in Medicine and Biology, 2013, 58, 5113-5125.	1.6	36
71	Improving spotâ€scanning proton therapy patient specific quality assurance with HPlusQA, a secondâ€check dose calculation engine. Medical Physics, 2013, 40, 121708.	1.6	32
72	Use of treatment log files in spot scanning proton therapy as part of patient-specific quality assurance. Medical Physics, 2013, 40, 021703.	1.6	60

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73	Astaxanthin Suppresses MPP+-Induced Oxidative Damage in PC12 Cells through a Sp1/NR1 Signaling Pathway. Marine Drugs, 2013, 11, 1019-1034.	2.2	49
74	Beyond Gaussians: a study of single-spot modeling for scanning proton dose calculation. Physics in Medicine and Biology, 2012, 57, 983-997.	1.6	85
75	Dynamically accumulated dose and 4D accumulated dose for moving tumors. Medical Physics, 2012, 39, 7359-7367.	1.6	40
76	Influence of robust optimization in intensityâ€modulated proton therapy with different dose delivery techniques. Medical Physics, 2012, 39, 3089-3101.	1.6	77
77	Robust optimization of intensity modulated proton therapy. Medical Physics, 2012, 39, 1079-1091.	1.6	282
78	A Comprehensive Comparison of IMRT and VMAT Plan Quality for Prostate Cancer Treatment. International Journal of Radiation Oncology Biology Physics, 2012, 83, 1169-1178.	0.4	154
79	Automated Volumetric Modulated Arc Therapy Treatment Planning for Stage III Lung Cancer: How Does It Compare With Intensity-Modulated Radio Therapy?. International Journal of Radiation Oncology Biology Physics, 2012, 84, e69-e76.	0.4	48
80	Astaxanthin protects against MPP+-induced oxidative stress in PC12 cells via the HO-1/NOX2 axis. BMC Neuroscience, 2012, 13, 156.	0.8	77
81	Uncertainty incorporated beam angle optimization for IMPT treatment planning. Medical Physics, 2012, 39, 5248-5256.	1.6	50
82	An efficient dose calculation strategy for intensity modulated proton therapy. Physics in Medicine and Biology, 2011, 56, N71-N84.	1.6	17
83	Proton Stereotactic Body Radiation Therapy for Clinically Challenging Cases of Centrally and Superiorly Located Stage I Non-Small-Cell Lung Cancer. International Journal of Radiation Oncology Biology Physics, 2011, 80, 1015-1022.	0.4	117
84	Parameterization of multiple Bragg curves for scanning proton beams using simultaneous fitting of multiple curves. Physics in Medicine and Biology, 2011, 56, 7725-7735.	1.6	30
85	A methodology for automatic intensity-modulated radiation treatment planning for lung cancer. Physics in Medicine and Biology, 2011, 56, 3873-3893.	1.6	88
86	Intensity-Modulated Proton Therapy Reduces the Dose to Normal Tissue Compared With Intensity-Modulated Radiation Therapy or Passive Scattering Proton Therapy and Enables Individualized Radical Radiotherapy for Extensive Stage IIIB Non-Small-Cell Lung Cancer: A Virtual Clinical Study. International Journal of Radiation Oncology Biology Physics, 2010, 77, 357-366.	0.4	249
87	Impact of Using Different Four-Dimensional Computed Tomography Data Sets to Design Proton Treatment Plans for Distal Esophageal Cancer. International Journal of Radiation Oncology Biology Physics, 2009, 73, 601-609.	0.4	15
88	Four-Dimensional Computed Tomographyâ€"Based Treatment Planning for Intensity-Modulated Radiation Therapy and Proton Therapy for Distal Esophageal Cancer. International Journal of Radiation Oncology Biology Physics, 2008, 72, 278-287.	0.4	123
89	Theory of the Sr-induced reconstruction of the Si (001) surface. Journal of Applied Physics, 2008, 103, 103710.	1.1	28
90	Incorporating partial shining effects in proton pencil-beam dose calculation. Physics in Medicine and Biology, 2008, 53, 605-616.	1.6	11

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91	A novel patch-field design using an optimized grid filter for passively scattered proton beams. Physics in Medicine and Biology, 2007, 52, N265-N275.	1.6	14
92	Effect of anatomic motion on proton therapy dose distributions in prostate cancer treatment. International Journal of Radiation Oncology Biology Physics, 2007, 67, 620-629.	0.4	89
93	4D Proton treatment planning strategy for mobile lung tumors. International Journal of Radiation Oncology Biology Physics, 2007, 67, 906-914.	0.4	178
94	A sensitivity-guided algorithm for automated determination of IMRT objective function parameters. Medical Physics, 2006, 33, 2935-2944.	1.6	17
95	Beam angle optimization and reduction for intensity-modulated radiation therapy of nonâ€“small-cell lung cancers. International Journal of Radiation Oncology Biology Physics, 2006, 65, 561-572.	0.4	55
96	Significant reduction of normal tissue dose by proton radiotherapy compared with three-dimensional conformal or intensity-modulated radiation therapy in Stage I or Stage III nonâ€“small-cell lung cancer. International Journal of Radiation Oncology Biology Physics, 2006, 65, 1087-1096.	0.4	290
97	Use of deformed intensity distributions for on-line modification of image-guided IMRT to account for interfractional anatomic changes. International Journal of Radiation Oncology Biology Physics, 2005, 61, 1258-1266.	0.4	218
98	Effectiveness of noncoplanar IMRT planning using a parallelized multiresolution beam angle optimization method for paranasal sinus carcinoma. International Journal of Radiation Oncology Biology Physics, 2005, 63, 594-601.	0.4	119
99	Development of methods for beam angle optimization for IMRT using an accelerated exhaustive search strategy. International Journal of Radiation Oncology Biology Physics, 2004, 60, 1325-1337.	0.4	74
100	Speed and convergence properties of gradient algorithms for optimization of IMRT. Medical Physics, 2004, 31, 1141-1152.	1.6	53
101	High density operation on the HT-7 superconducting tokamak. Nuclear Fusion, 2000, 40, 1875-1883.	1.6	35
102	Lower hybrid current drive experiments and improved performance on the HT-7 superconducting tokamak. Nuclear Fusion, 1999, 39, 1769-1774.	1.6	46