# Thomas Friedrich

List of Publications by Year
in descending order



| | | | |
|---|---|---|---|
| 60 papers | 2,156 citations | 257450 24 h-index | 233421 45 g-index |
| 61 all docs | 61 docs citations | 61 times ranked | 1509 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Quantification of the Relative Biological Effectiveness for Ion Beam Radiotherapy: Direct Experimental Comparison of Proton and Carbon Ion Beams and a Novel Approach for Treatment Planning. International Journal of Radiation Oncology Biology Physics, 2010, 78, 1177-1183. | 0.8 | 270 |
| 2 | Systematic analysis of RBE and related quantities using a database of cell survival experiments with ion beam irradiation. Journal of Radiation Research, 2013, 54, 494-514. | 1.6 | 208 |
| 3 | Calculation of the biological effects of ion beams based on the microscopic spatial damage distribution pattern. International Journal of Radiation Biology, 2012, 88, 103-107. | 1.8 | 163 |
| 4 | Kill-painting of hypoxic tumours in charged particle therapy. Scientific Reports, 2015, 5, 17016. | 3.3 | 124 |
| 5 | Impact of enhancements in the local effect model (LEM) on the predicted RBE-weighted target dose distribution in carbon ion therapy. Physics in Medicine and Biology, 2012, 57, 7261-7274. | 3.0 | 88 |
| 6 | Modeling Cell Survival after Photon Irradiation Based on Double-Strand Break Clustering in Megabase Pair Chromatin Loops. Radiation Research, 2012, 178, 385-394. | 1.5 | 81 |
| 7 | Quantum chaotic scattering in microwave resonators. Physical Review E, 2010, 81, 036205. | 2.1 | 77 |
| 8 | A comparison of mechanismâ€inspired models for particle relative biological effectiveness (RBE). Medical Physics, 2018, 45, e925-e952. | 3.0 | 69 |
| 9 | Assessment of potential advantages of relevant ions for particle therapy: A model based study. Medical Physics, 2015, 42, 1037-1047. | 3.0 | 68 |
| 10 | Rabi oscillations at exceptional points in microwave billiards. Physical Review E, 2007, 75, 027201. | 2.1 | 61 |
| 11 | Mapping of RBE-Weighted Doses Between HIMACâ€“ and LEMâ€“Based Treatment Planning Systems for Carbon IonÂTherapy. International Journal of Radiation Oncology Biology Physics, 2012, 84, 854-860. | 0.8 | 59 |
| 12 | Physical and biological factors determining the effective proton range. Medical Physics, 2013, 40, 111716. | 3.0 | 51 |
| 13 | First Experimental Observation of Superscars in a Pseudointegrable Barrier Billiard. Physical Review Letters, 2006, 97, 254102. | 7.8 | 48 |
| 14 | Systematics of relative biological effectiveness measurements for proton radiation along the spread out Bragg peak: experimental validation of the local effect model. Physics in Medicine and Biology, 2017, 62, 890-908. | 3.0 | 46 |
| 15 | Induced Violation of Time-Reversal Invariance in the Regime of Weakly Overlapping Resonances. Physical Review Letters, 2009, 103, 064101. | 7.8 | 44 |
| 16 | Is the doseâ€averaged <scp>LET</scp> a reliable predictor for the relative biological effectiveness?. Medical Physics, 2019, 46, 1064-1074. | 3.0 | 38 |
| 17 | The link between cell-cycle dependent radiosensitivity and repair pathways: A model based on the local, sister-chromatid conformation dependent switch between NHEJ and HR. DNA Repair, 2015, 27, 28-39. | 2.8 | 37 |
| 18 | Relative biological effectiveness of carbon ions for tumor control, acute skin damage and late radiation-induced fibrosis in a mouse model. Acta OncolÃ³gica, 2015, 54, 1623-1630. | 1.8 | 37 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Spectral fluctuations of billiards with mixed dynamics: From time series to superstatistics. Physical Review E, 2008, 77, 046202. | 2.1 | 35 |
| 20 | Induced Time-Reversal Symmetry Breaking Observed in Microwave Billiards. Physical Review Letters, 2007, 98, 074103. | 7.8 | 34 |
| 21 | DNA damage interactions on both nanometer and micrometer scale determine overall cellular damage. Scientific Reports, 2018, 8, 16063. | 3.3 | 33 |
| 22 | Induction and Processing of the Radiation-Induced Gamma-H2AX Signal and Its Link to the Underlying Pattern of DSB: A Combined Experimental and Modelling Study. PLoS ONE, 2015, 10, e0129416. | 2.5 | 30 |
| 23 | Chaotic scattering in the regime of weakly overlapping resonances. Physical Review E, 2008, 78, 055204. | 2.1 | 28 |
| 24 | Distribution of resonance strengths in microwave billiards of mixed and chaotic dynamics. Physical Review E, 2005, 71, 046202. | 2.1 | 25 |
| 25 | Comparative Risk Predictions of Second Cancers After Carbon-Ion Therapy Versus Proton Therapy. International Journal of Radiation Oncology Biology Physics, 2016, 95, 279-286. | 0.8 | 25 |
| 26 | First Experimental Evidence for Quantum Echoes in Scattering Systems. Physical Review Letters, 2004, 93, 134102. | 7.8 | 24 |
| 27 | Prevalence of marginally unstable periodic orbits in chaotic billiards. Physical Review E, 2008, 77, 016205. | 2.1 | 24 |
| 28 | RBE of ion beams in hypofractionated radiotherapy (SBRT). Physica Medica, 2014, 30, 588-591. | 0.7 | 24 |
| 29 | Spectral properties of Bunimovich mushroom billiards. Physical Review E, 2007, 75, 035203. | 2.1 | 23 |
| 30 | The Fate of a Normal Human Cell Traversed by a Single Charged Particle. Scientific Reports, 2012, 2, 643. | 3.3 | 21 |
| 31 | Update of the particle irradiation data ensemble (PIDE) for cell survival. Journal of Radiation Research, 2021, 62, 645-655. | 1.6 | 21 |
| 32 | Direct measurement of the 3-dimensional DNA lesion distribution induced by energetic charged particles in a mouse model tissue. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12396-12401. | 7.1 | 20 |
| 33 | A Model of Photon Cell Killing Based on the Spatio-Temporal Clustering of DNA Damage in Higher Order Chromatin Structures. PLoS ONE, 2014, 9, e83923. | 2.5 | 20 |
| 34 | Accuracy of RBE: experimental and theoretical considerations. Radiation and Environmental Biophysics, 2010, 49, 345-349. | 1.4 | 17 |
| 35 | Particle species dependence of cell survival RBE: Evident and not negligible. Acta OncolÃ³gica, 2013, 52, 589-603. | 1.8 | 17 |
| 36 | Measuring Leukocyte Adhesion to (Primary) Endothelial Cells after Photon and Charged Particle Exposure with a Dedicated Laminar Flow Chamber. Frontiers in Immunology, 2017, 8, 627. | 4.8 | 14 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Modeling Cell Survival after Irradiation with Ultrasoft X Rays using the Giant Loop Binary Lesion Model. Radiation Research, 2014, 181, 485-494. | 1.5 | 13 |
| 38 | Proton RBE dependence on dose in the setting of hypofractionation. British Journal of Radiology, 2020, 93, 20190291. | 2.2 | 13 |
| 39 | Nonperiodic echoes from mushroom billiard hats. Physical Review E, 2006, 74, 056207. | 2.1 | 12 |
| 40 | Characterizing Radiation Effectiveness in Ion Beam Therapy Part I: Introduction and Biophysical Modeling of RBE Using the LEMIV. Frontiers in Physics, 2020, 8, . | 2.1 | 12 |
| 41 | Prediction of Cell Survival after Exposure to Mixed Radiation Fields with the Local Effect Model. Radiation Research, 2019, 193, 130. | 1.5 | 11 |
| 42 | Modeling Radioimmune Responseâ€"Current Status and Perspectives. Frontiers in Oncology, 2021, 11, 647272. | 2.8 | 10 |
| 43 | Comprehensive comparison of local effect model IV predictions with the particle irradiation data ensemble. Medical Physics, 2022, 49, 714-726. | 3.0 | 10 |
| 44 | Impact of fractionation and number of fields on dose homogeneity for intra-fractionally moving lung tumors using scanned carbon ion treatment. Radiotherapy and Oncology, 2016, 118, 498-503. | 0.6 | 9 |
| 45 | Nonperiodic echoes from quantum mushroom-billiard hats. Physical Review E, 2009, 80, 036212. | 2.1 | 8 |
| 46 | A Comparison of Kinetic Photon Cell Survival Models. Radiation Research, 2015, 184, 494-508. | 1.5 | 8 |
| 47 | Modeling Radiation Effects of Ultrasoft X Rays on the Basis of Amorphous Track Structure. Radiation Research, 2018, 189, 32-43. | 1.5 | 7 |
| 48 | Alpha-Particle Exposure Induces Mainly Unstable Complex Chromosome Aberrations which do not Contribute to Radiation-Associated Cytogenetic Risk. Radiation Research, 2021, 196, 561-573. | 1.5 | 7 |
| 49 | A Predictive Biophysical Model of the Combined Action of Radiation Therapy and Immunotherapy of Cancer. International Journal of Radiation Oncology Biology Physics, 2022, 113, 872-884. | 0.8 | 6 |
| 50 | Properties of nodal domains in a pseudointegrable barrier billiard. Physical Review E, 2008, 78, 045201. | 2.1 | 5 |
| 51 | Modeling Radiation-Induced Neoplastic Cell Transformation In Vitro and Tumor Induction In Vivo with the Local Effect Model. Radiation Research, 2021, 195, 427-440. | 1.5 | 5 |
| 52 | 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. | 3.7 | 5 |
| 53 | New Insight into Quantitative Modeling of DNA Double-Strand Break Rejoining. Radiation Research, 2015, 184, 280. | 1.5 | 4 |
| 54 | Response of the Mimosa-28 pixel sensor to a wide range of ion species and energies. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2021, 1017, 165807. | 1.6 | 3 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | A doubleâ€strandâ€break model for the relative biological effectiveness of electrons based on ionization clustering. Medical Physics, 2022, 49, 5562-5575. | 3.0 | 2 |
| 56 | Friedel oscillations in microwave billiards. Physical Review E, 2009, 80, 066210. | 2.1 | 1 |
| 57 | Comments on the paper â€œModelling of cell killing due to sparsely ionizing radiation in normoxic and hypoxic conditions and an extension to high LET radiationâ€•by A. Mairani et al., Int. J. Radiat. Biol. 89(10), 2013, 782â€“793. International Journal of Radiation Biology, 2015, 91, 127-128. | 1.8 | 1 |
| 58 | Response to the â€œLetter to the Editorâ€•by K. H. Chadwick on our Article â€œA Comparison of Kinetic Photon Cell Survival Modelsâ€• Radiation Research, 2016, 185, 440-441. | 1.5 | 0 |
| 59 | Comments on â€˜Comments on â€œModeling Cell Survival after Photon Irradiation Based on Double-Strand Break Clustering in Megabase Pair Chromatin Loopsâ€•by Thomas Friedrich, Marco Durante and Michael Scholz (Radiat Res 2012; 178:385â€“94)â€™. Radiation Research, 2018, 189, 549-549. | 1.5 | 0 |
| 60 | Modelling secondary cancer risk ratios for proton vs. carbon ion beam therapy: A comparative study based on the Local Effect Model. Medical Physics, 0, , . | 3.0 | 0 |