Hans Rabus

List of Publications by Year in descending order

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133	2,382	172386	254106
papers	citations	29	43
		h-index	g-index

137	137	137	2167
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mean energy required to produce an electron-hole pair in silicon for photons of energies between 50 and 1500 eV. Journal of Applied Physics, 1998, 84, 2926-2939.	1.1	136
2	Roadmap for metal nanoparticles in radiation therapy: current status, translational challenges, and future directions. Physics in Medicine and Biology, 2020, 65, 21RM02.	1.6	101
3	Synchrotron-radiation-operated cryogenic electrical-substitution radiometer as the high-accuracy primary detector standard in the ultraviolet, vacuum-ultraviolet, and soft-x-ray spectral ranges. Applied Optics, 1997, 36, 5421.	2.1	94
4	A plane-grating monochromator beamline for the PTB undulators at BESSY II. Journal of Synchrotron Radiation, 1998, 5, 780-782.	1.0	90
5	Determination of the electronâ€“hole pair creation energy for semiconductors from the spectral responsivity of photodiodes. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2000, 439, 208-215.	0.7	81
6	PtSiâ€“nâ€“Si Schottkyâ€barrier photodetectors with stable spectral responsivity in the 120â€“250 nm spectral range. Applied Physics Letters, 1996, 69, 3662-3664.	1.5	69
7	Enhanced anharmonicity in the interaction of low-Zadsorbates with metal-surfaces. Physical Review Letters, 1990, 64, 1765-1768.	2.9	63
8	Differential elastic and total electron scattering cross sections of tetrahydrofuran. Physical Review A, 2012, 86, .	1.0	56
9	Future development of biologically relevant dosimetry. British Journal of Radiology, 2015, 88, 20140392.	1.0	55
10	An electron-impact cross section data set (10 eVâ€“1 keV) of DNA constituents based on consistent experimental data: A requisite for Monte Carlo simulations. Radiation Physics and Chemistry, 2017, 130, 459-479.	1.4	54
11	An (e, 2e + ion) study of low-energy electron-impact ionization and fragmentation of tetrahydrofuran with high mass and energy resolutions. Journal of Chemical Physics, 2014, 141, 134314.	1.2	51
12	High resolution xâ€ray absorption spectroscopy of linear hydrocarbons adsorbed on noble metal surfaces. Journal of Chemical Physics, 1992, 96, 1560-1573.	1.2	49
13	A New Standard DNA Damage (SDD) Data Format. Radiation Research, 2018, 191, 76.	0.7	49
14	Characterization of photodiodes as transfer detector standards in the 120 nm to 600 nm spectral range. Metrologia, 1998, 35, 355-362.	0.6	45
15	Measurement of the mean electronâ€hole pair creation energy in crystalline silicon for photons in the 50â€“1500 eV spectral range. Applied Physics Letters, 1996, 69, 2974-2976.	1.5	43
16	Cryogenic radiometry in the hard x-ray range. Metrologia, 2008, 45, 577-585.	0.6	43
17	Intercomparison of dose enhancement ratio and secondary electron spectra for gold nanoparticles irradiated by X-rays calculated using multiple Monte Carlo simulation codes. Physica Medica, 2020, 69, 147-163.	0.4	42
18	NANODOSIMETRY: TOWARDS A NEW CONCEPT OF RADIATION QUALITY. Radiation Protection Dosimetry, 2018, 180, 150-156.	0.4	40

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19	Source and detector calibration in the UV and VUV at BESSY II. Metrologia, 2003, 40, S107-S110.	0.6	37
20	Detector calibration at the PTB radiometry laboratory at BESSY. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 377, 209-216.	0.7	36
21	Intramolecular resonances afterK-shell excitation of C2H2n adsorbed on Ag and Cu(100) surfaces. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1989, 11, 219-229.	1.0	35
22	Track structure characterization and its link to radiobiology. Radiation Measurements, 2017, 106, 506-511.	0.7	35
23	Quantum efficiency of cesium iodide photocathodes in the 120â€“220nm spectral range traceable to a primary detector standard. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1999, 438, 94-103.	0.7	34
24	Effect of a magnetic field on the track structure of low-energy electrons: a Monte Carlo study. European Physical Journal D, 2010, 60, 85-92.	0.6	34
25	Comparative study of fluorescence- and electron-yield detection onYB2Cu3O7âˆ’Î´at the OKedge through x-ray absorption. Physical Review B, 1990, 41, 7297-7300.	1.1	33
26	Nanodosimetry: Bridging the gap to radiation biophysics. Radiation Measurements, 2011, 46, 1522-1528.	0.7	32
27	Kinematically complete study of low-energy electron-impact ionization of neon: Internormalized cross sections in three-dimensional kinematics. Physical Review A, 2015, 91, .	1.0	32
28	The two normal-incidence monochromator beam lines of PTB at BESSY II. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 467-468, 605-608.	0.7	30
29	Total electron-scattering cross sections of pyrimidine. Physical Review A, 2013, 88, .	1.0	29
30	Comparison of nanodosimetric parameters of track structure calculated by the Monte Carlo codes Geant4-DNA and PTra. Physics in Medicine and Biology, 2012, 57, 1231-1250.	1.6	27
31	PTB radiometry laboratory at the BESSY II electron storage ring. , 1998, , .		26
32	The Vibrational Fine Structure of Chemisorbed C2H4Molecules in the (1s-1, Ï€*) State. Physica Scripta, 1990, T31, 131-136.	1.2	25
33	Determining dose enhancement factors of high-Z nanoparticles from simulations where lateral secondary particle disequilibrium exists. Physics in Medicine and Biology, 2019, 64, 155016.	1.6	25
34	Measurement of the mass energy-absorption coefficient of air for x-rays in the range from 3 to 60 keV. Physics in Medicine and Biology, 2012, 57, 8231-8247.	1.6	23
35	Ionization cross section data of nitrogen, methane, and propane for light ions and electrons and their suitability for use in track structure simulations. Physical Review E, 2013, 88, 043308.	0.8	23
36	ASSESSING THE CONTRIBUTION OF CROSS-SECTIONS TO THE UNCERTAINTY OF MONTE CARLO CALCULATIONS IN MICRO- AND NANODOSIMETRY. Radiation Protection Dosimetry, 2019, 183, 11-16.	0.4	23

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37	First results with the new PTB cryogenic radiometer for the vacuum-ultraviolet spectral range. Metrologia, 1995, 32, 571-574.	0.6	22
38	Characterization of two different adsorption states for O on Cu(100). Ionic versus covalent bonding. Chemical Physics Letters, 1993, 211, 53-59.	1.2	21
39	Water acting as a catalyst for electron-driven molecular break-up of tetrahydrofuran. Nature Communications, 2020, 11, 2194.	5.8	21
40	New detector calibration facility for the wavelength range 35â€“400 nm based on an electrical substitution radiometer. Review of Scientific Instruments, 1995, 66, 2324-2326.	0.6	20
41	Geant4-DNA simulation of DNA damage caused by direct and indirect radiation effects and comparison with biological data.. EPJ Web of Conferences, 2017, 153, 04019.	0.1	20
42	State of The Art of Instrumentation in Experimental Nanodosimetry. Radiation Protection Dosimetry, 2018, 180, 177-181.	0.4	20
43	Intercomparison of Monte Carlo calculated dose enhancement ratios for gold nanoparticles irradiated by X-rays: Assessing the uncertainty and correct methodology for extended beams. Physica Medica, 2021, 84, 241-253.	0.4	20
44	Secondary ionisations in a wall-less ion-counting nanodosimeter: quantitative analysis and the effect on the comparison of measured and simulated track structure parameters in nanometric volumes. European Physical Journal D, 2015, 69, 1.	0.6	18
45	Measurement of track structure parameters of low and medium energy helium and carbon ions in nanometric volumes. Physics in Medicine and Biology, 2017, 62, 7569-7597.	1.6	17
46	The PTB high-accuracy spectral responsivity scale in the ultraviolet. Metrologia, 2000, 37, 515-518.	0.6	16
47	Nanodosimetry: The missing link between radiobiology and radiation physics?. Radiation Measurements, 2011, 46, 893-897.	0.7	16
48	The European radiation dosimetry group â€“ Review of recent scientific achievements. Radiation Physics and Chemistry, 2020, 168, 108514.	1.4	16
49	EURADOS STRATEGIC RESEARCH AGENDA 2020: VISION FOR THE DOSIMETRY OF IONISING RADIATION. Radiation Protection Dosimetry, 2021, 194, 42-56.	0.4	16
50	High resolution photoabsorption spectroscopy at the carbonK-Edge. Applied Physics A: Solids and Surfaces, 1989, 49, 393-397.	1.4	14
51	Metrological Issues in Molecular Radiotherapy. EPJ Web of Conferences, 2014, 77, 00022.	0.1	14
52	The resonance and its vibrational broadening of unperturbed and adsorbed C2H4 molecules. Surface Science, 1992, 269-270, 270-275.	0.8	13
53	<title>Spectral responsivity of silicon photodiodes: high-accuracy measurement and improved self-calibration in the soft x-ray spectral range</title>. , 1996, , .		13
54	Quantitative analysis of the NEXAFS for chemisorbed C2H4 molecules. Physica Scripta, 1990, 41, 846-849.	1.2	12

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55	Alkali-metal-induced bond length contraction of acetonitrile (CH3CN) on Au(100). Chemical Physics Letters, 1993, 201, 108-114.	1.2	12
56	Validation of the uncertainty budget for soft X-ray radiant power measurement using a cryogenic radiometer. Metrologia, 2002, 39, 381-389.	0.6	12
57	Nanoscale characterization of ion tracks: MC simulations versus analytical approach. European Physical Journal D, 2012, 66, 1.	0.6	12
58	Biologically Weighted Quantities in Radiotherapy: an EMRP Joint Research Project. EPJ Web of Conferences, 2014, 77, 00021.	0.1	12
59	High-resolution (e, 2e + ion) study of electron-impact ionization and fragmentation of methane. Journal of Chemical Physics, 2015, 142, 174313.	1.2	12
60	Energy dependent track structure parametrisations for protons and carbon ions based on nanometric simulations. European Physical Journal D, 2015, 69, 1.	0.6	12
61	Core-level spectroscopy of physisorbed ethylene: Symmetry of electronic excitations and molecular orientations. Physical Review B, 1992, 45, 1518-1521.	1.1	11
62	Radiation damage of biomolecules (RADAM) database development: current status. Journal of Physics: Conference Series, 2013, 438, 012016.	0.3	11
63	From Energy Deposition of Ionizing Radiation to Cell Damage Signaling: Benchmarking Simulations by Measured Yields of Initial DNA Damage after Ion Microbeam Irradiation. Radiation Research, 2019, 191, 566.	0.7	11
64	State of the art in research into the risk of low dose radiation exposureâ€"findings of the fourth MELODI workshop. Journal of Radiological Protection, 2013, 33, 589-603.	0.6	10
65	Analysis of Radiation-Induced Chromosomal Aberrations on a Cell-by-Cell Basis after Alpha-Particle Microbeam Irradiation: Experimental Data and Simulations. Radiation Research, 2018, 189, 597-604.	0.7	10
66	Nanodosimetry â€“ on the ''tracks'' of biological radiation effectiveness. Zeitschrift Fur Medizinische Physik, 2020, 30, 91-94.	0.6	10
67	Simulation of ionisation clusters formed in nanometric volumes of the deoxyribose-substitute tetrahydrofuran. International Journal of Radiation Biology, 2012, 88, 137-142.	1.0	9
68	Effect of a static magnetic field on nanodosimetric quantities in a DNA volume. International Journal of Radiation Biology, 2012, 88, 183-188.	1.0	9
69	Differential elastic electron-scattering cross sections of pyrimidine in the energy range between 20 eV and 1 keV. Physical Review A, 2014, 89, .	1.0	9
70	Local weighting of nanometric track structure properties in macroscopic voxel geometries for particle beam treatment planning. Physics in Medicine and Biology, 2015, 60, 9145-9156.	1.6	9
71	Double differential cross sections for proton induced electron emission from molecular analogues of DNA constituents for energies in the Bragg peak region. Journal of Chemical Physics, 2016, 145, 104301.	1.2	9
72	Measurement of changes in impedance of DNA nanowires due to radiation induced structural damage. European Physical Journal D, 2017, 71, 1.	0.6	9

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73	â€œBroadscaleâ€•nanodosimetry: Nanodosimetric track structure quantities increase at distal edge of spread-out proton Bragg peaks. Radiation Physics and Chemistry, 2020, 166, 108515.	1.4	9
74	Nanodosimetric characterization of ion beams. European Physical Journal D, 2014, 68, 1.	0.6	8
75	Quality assurance for the use of computational methods in dosimetry: activities of EURADOS Working Group 6 â€˜Computational Dosimetryâ€™. Journal of Radiological Protection, 2021, 41, 46-58.	0.6	8
76	XPS Examination of the Chemical Composition of PEGMUAâ€€Coated Gold Nanoparticles. Particle and Particle Systems Characterization, 2022, 39, .	1.2	8
77	Electron emission from amorphous solid water after proton impact: Benchmarking PTra and Geant4 track structure Monte Carlo simulations. Radiation Physics and Chemistry, 2012, 81, 1804-1812.	1.4	7
78	Ion induced fragmentation cross-sections of DNA constituents. European Physical Journal D, 2015, 69, 1.	0.6	7
79	â€˜BioQuaRTâ€™ project: design of a novelin situprotocol for the simultaneous visualisation of chromosomal aberrations and micronuclei after irradiation at microbeam facilities. Radiation Protection Dosimetry, 2015, 166, 197-199.	0.4	7
80	Cross sections for ionization of tetrahydrofuran by protons at energies between 300 and 3000 keV. Physical Review A, 2016, 93, .	1.0	7
81	Reducing the background of secondary ions in an ion-counting nanodosimeter. Journal of Instrumentation, 2019, 14, P07012-P07012.	0.5	7
82	INVESTIGATION INTO THE PROBABILITY FOR MISCOUNTING IN FOCI-BASED ASSAYS. Radiation Protection Dosimetry, 2019, 183, 126-130.	0.4	7
83	Consistency checks of results from a Monte Carlo code intercomparison for emitted electron spectra and energy deposition around a single gold nanoparticle irradiated by X-rays. Radiation Measurements, 2021, 147, 106637.	0.7	7
84	High-accuracy detector calibration in the 3â€“1500ÂeV spectral range at the PTB radiometry laboratory. Journal of Synchrotron Radiation, 1998, 5, 866-868.	1.0	6
85	Three-dimensional nanodosimetric characterisation of proton track structure. Radiation Physics and Chemistry, 2020, 176, 109066.	1.4	6
86	Correlated ionisations in two spatially separated nanometric volumes in the track structure of 241Am alpha particles: Measurements with the PTB ion counter. Radiation Physics and Chemistry, 2020, 176, 109025.	1.4	6
87	Detector calibration at the radiometry laboratory of the Physikalisch-Technische Bundesanstalt in the VUV and soft x-ray spectral ranges using synchrotron radiation. , 1995, 2519, 92.		5
88	Stopping power of liquid water for carbon ions in the energy range between 1 MeV and 6 MeV. Physics in Medicine and Biology, 2014, 59, 3683-3695.	1.6	5
89	Comparison of measured and Monte Carlo simulated track structure parameters in nanometric volumes. Radiation Protection Dosimetry, 2014, 161, 441-444.	0.4	5
90	WHAT ROLES FOR TRACK-STRUCTURE AND MICRODOSIMETRY IN THE ERA OF -omics AND SYSTEMS BIOLOGY?. Radiation Protection Dosimetry, 2019, 183, 22-25.	0.4	5

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91	Intercomparison of micro- and nanodosimetry Monte Carlo simulations: An approach to assess the influence of different cross-sections for low-energy electrons on the dispersion of results. Radiation Measurements, 2022, 150, 106675.	0.7	5
92	Experimental investigation of ionisation track structure of carbon ions at HIL Warsaw. Radiation Protection Dosimetry, 2015, 166, 253-256.	0.4	4
93	AN ALGORITHM TO DETERMINE THE NANODOSIMETRIC IMPACT OF GOLD NANOPARTICLES ON CELL MODELS. Radiation Protection Dosimetry, 2019, 183, 55-59.	0.4	4
94	Investigation into the foundations of the track-event theory of cell survival and the radiation action model based on nanodosimetry. Radiation and Environmental Biophysics, 2021, 60, 559-578.	0.6	4
95	Unfolding the background of secondary ions in measured nanodosimetric ionisation cluster size distributions. Journal of Instrumentation, 2019, 14, P03023-P03023.	0.5	3
96	EURADOS education and training activities. Journal of Radiological Protection, 2019, 39, R37-R50.	0.6	3
97	CONSIDERATIONS ON THE TARGET SIZE IN A WALL-LESS NANODOSIMETER. Radiation Protection Dosimetry, 2019, 183, 182-186.	0.4	3
98	Wenzelet al. reply. Physical Review Letters, 1990, 65, 1522-1522.	2.9	2
99	Novel method for state selective determination of electron-impact-excitation cross sections from 0Â° to 180Â°. EPJ Techniques and Instrumentation, 2014, 1, .	0.5	2
100	Standards for MRT dosimetry: the MetroMRT project. Physica Medica, 2014, 30, e9.	0.4	2
101	PO-0850: MRI-Linac: Effect of the magnetic field on the interaction cross sections. Radiotherapy and Oncology, 2015, 115, S431.	0.3	2
102	EP-1952: Monte-Carlo calculation of the secondary electron spectra inside and around gold nanoparticles. Radiotherapy and Oncology, 2016, 119, S926.	0.3	2
103	PROSPECTS FOR METROLOGY RELATED TO BIOLOGICAL RADIATION EFFECTS OF ION BEAMS. Radiation Protection Dosimetry, 2019, 183, 131-135.	0.4	2
104	Stopping power of water for carbon ions with energies in the Bragg peak region. Physical Review E, 2020, 102, 062418.	0.8	2
105	Lessons learnt from the recent EURADOS intercomparisons in computational dosimetry. Radiation Measurements, 2022, 156, 106822.	0.7	2
106	Proton-impact ionisation cross sections for nanodosimetric track structure simulations. Radiation Protection Dosimetry, 2014, 161, 474-477.	0.4	1
107	Momentum imaging of dissociative electron attachment in biologically relevant molecules. Journal of Physics: Conference Series, 2015, 635, 072013.	0.3	1
108	Measurements of the fragmentation cross sections of pyrimidine and tetrahydrofuran for electron energies of 50 eV, 100 eV and 300 eV. Journal of Physics: Conference Series, 2015, 635, 072076.	0.3	1

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109	EP-1488: Estimation of the RBEs of two miniature x-ray devices, I-125, Ir-192 and Co-60 BT-sources. Radiotherapy and Oncology, 2016, 119, S687-S688.	0.3	1
110	Investigating nanodosimetric parameters in and around charged particle tracks. Physica Medica, 2017, 41, S7.	0.4	1
111	Comparative experimental and theoretical study on electron scattering by propane. Physical Review A, 2019, 100, .	1.0	1
112	Doubly differential cross sections for electron-impact ionization of propane in the energy range from 30 eV to 1 keV. European Physical Journal D, 2019, 73, 1.	0.6	1
113	Metrology for MRI Safety. , 2015, , .		1
114	SP-0428 DOSIMETRIC CONCEPTS BASED ON PARTICLE TRACK STRUCTURE. Radiotherapy and Oncology, 2012, 103, S170-S171.	0.3	0
115	Laser assisted electron impact excitation of helium in the threshold region. Journal of Physics: Conference Series, 2014, 488, 112002.	0.3	0
116	Low energy electron-induced break-up of the tetrahydrofuran molecule: An (e, 2e+ion) study. Journal of Physics: Conference Series, 2014, 488, 052018.	0.3	0
117	Towards electron-impact dissociation dynamics of biologically relevant molecules in a reaction microscope. Journal of Physics: Conference Series, 2014, 488, 052017.	0.3	0
118	OC-0156: Calculation of electron track structure in water and DNA medium. Radiotherapy and Oncology, 2015, 115, S76.	0.3	0
119	EP-1363: A database application to investigate the validity of the nanodosimetric approach. Radiotherapy and Oncology, 2015, 115, S734-S735.	0.3	0
120	High resolution (e, 2e + ion) study of low-energy electron-impact ionization and fragmentation of tetrahydrofuran. Journal of Physics: Conference Series, 2015, 635, 072008.	0.3	0
121	SP-0211: Track structure modelling and biodescriptors of the topology of energy deposition. Radiotherapy and Oncology, 2015, 115, S106-S107.	0.3	0
122	Double differential ionization cross section of tetrahydrofuran for proton impact. Journal of Physics: Conference Series, 2015, 635, 032047.	0.3	0
123	Cross sections for the ionization of tetrahydrofuran by light ions. Journal of Physics: Conference Series, 2015, 635, 032050.	0.3	0
124	Low-energy (E0= 65 eV) electron-impact ionization of neon: Internormalized triple-differentical cross sections in 3D kinematics. Journal of Physics: Conference Series, 2015, 635, 052021.	0.3	0
125	Towards electron-impact dissociation dynamics of biologically relevant molecules in a reaction microscope. Journal of Physics: Conference Series, 2015, 635, 072012.	0.3	0
126	SP-0212: Requirements for multiscale models of radiation action - activities in European projects Nano-IBCT and BioQuaRT. Radiotherapy and Oncology, 2015, 115, S107.	0.3	0

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127	EP-1468: Exploring the potential of nanometric track structure based quantities for particle beam treatment planning. Radiotherapy and Oncology, 2015, 115, S796.	0.3	0
128	Internal dose assessment in molecular radiotherapy: Time for an agreed dosimetry protocol?. Physica Medica, 2016, 32, 103-104.	0.4	0
129	SP-0389: Nanodosimetry: from radiation physics to radiation biology. Radiotherapy and Oncology, 2016, 119, S182-S183.	0.3	0
130	SP-0035 Developing metrology support for biologically relevant dosimetry. Radiotherapy and Oncology, 2019, 133, S10-S11.	0.3	0
131	PROPOSAL FOR A EUROPEAN METROLOGY NETWORK ON BIOLOGICAL IONISING RADIATION EFFECTS. Radiation Protection Dosimetry, 2019, 186, 143-147.	0.4	0
132	Characterisation of the PTB ion counter nanodosimeter's target volume and its equivalent size in terms of liquid H2O. Radiation Physics and Chemistry, 2021, 191, 109862.	1.4	0
133	EURADOS working group 6, computational dosimetry, a history of promoting good practice via intercomparisons and training. Radiation Measurements, 2022, , 106829.	0.7	0