Francesco Romano

List of Publications by Year in descending order

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141 papers

4,764 citations

201575 27 h-index 102432 66 g-index

145 all docs

145 docs citations

145 times ranked 9203 citing authors

#	Article	IF	Citations
1	Determination of beam quality correction factors for the Roos plane-parallel ionisation chamber exposed to very high energy electron (VHEE) beams using Geant4. Physics in Medicine and Biology, 2022, 67, 065011.	1.6	O
2	Ultraâ€high dose rate dosimetry: Challenges and opportunities for FLASH radiation therapy. Medical Physics, 2022, 49, 4912-4932.	1.6	51
3	A systematic study of the contribution of counting statistics to the final lineal energy uncertainty in microdosimetry. Physics in Medicine and Biology, 2022, 67, 155002.	1.6	7
4	Report on G4â€Med, a Geant4 benchmarking system for medical physics applications developed by the Geant4 Medical Simulation Benchmarking Group. Medical Physics, 2021, 48, 19-56.	1.6	92
5	A Geant4 Fano test for novel very high energy electron beams. Physics in Medicine and Biology, 2021, 66, 245023.	1.6	2
6	TOF diagnosis of laser accelerated, high-energy protons. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 978, 164364.	0.7	15
7	The European Joint Research Project UHDpulse – Metrology for advanced radiotherapy using particle beams with ultra-high pulse dose rates. Physica Medica, 2020, 80, 134-150.	0.4	71
8	Challenges in dosimetry of particle beams with ultra-high pulse dose rates. Journal of Physics: Conference Series, 2020, 1662, 012028.	0.3	11
9	The challenge of ionisation chamber dosimetry in ultra-short pulsed high dose-rate Very High Energy Electron beams. Scientific Reports, 2020, 10, 9089.	1.6	62
10	ELIMED-ELIMAIA: The First Open User Irradiation Beamline for Laser-Plasma-Accelerated Ion Beams. Frontiers in Physics, 2020, 8, .	1.0	13
11	Irradiation and dosimetry arrangement for a radiobiological experiment employing laser-accelerated protons. Journal of Instrumentation, 2019, 14, C10015-C10015.	0.5	2
12	A new energy spectrum reconstruction method for time-of-flight diagnostics of high-energy laser-driven protons. Review of Scientific Instruments, 2019, 90, 083303.	0.6	19
13	Radiobiological quantities in proton-therapy: Estimation and validation using Geant4-based Monte Carlo simulations. Physica Medica, 2019, 58, 72-80.	0.4	10
14	STUDY FOR A PASSIVE SCATTERING LINE DEDICATED TO RADIOBIOLOGY EXPERIMENTS AT THE TRENTO PROTON THERAPY CENTER. Radiation Protection Dosimetry, 2019, 183, 274-279.	0.4	2
15	Geant4 simulation of the ELIMED transport and dosimetry beam line for high-energy laser-driven ion beam multidisciplinary applications. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 909, 298-302.	0.7	11
16	First experimental proof of Proton Boron Capture Therapy (PBCT) to enhance protontherapy effectiveness. Scientific Reports, 2018, 8, 1141.	1.6	76
17	Diagnostics and Dosimetry Solutions for Multidisciplinary Applications at the ELIMAIA Beamline. Applied Sciences (Switzerland), 2018, 8, 1415.	1.3	12
18	ELIMAIA: A Laser-Driven Ion Accelerator for Multidisciplinary Applications. Quantum Beam Science, 2018, 2, 8.	0.6	49

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19	Miniaturized microdosimeters as LET monitors: First comparison of calculated and experimental data performed at the 62‬MeV/u 12C beam of INFN-LNS with four different detectors. Physica Medica, 2018, 52, 113-121.	0.4	19
20	Monte Carlo GEANT4-based application for in vivo RBE study using small animals at LNS-INFN preclinical hadrontherapy facility. Physica Medica, 2018, 54, 173-178.	0.4	3
21	Transversal dose distribution optimization for laser-accelerated proton beam medical applications by means of Geant4. Physica Medica, 2018, 54, 166-172.	0.4	3
22	Proton computed tomography images with algebraic reconstruction. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 845, 652-655.	0.7	8
23	Characterization of the ELIMED prototype permanent magnet quadrupole system. Journal of Instrumentation, 2017, 12, C01031-C01031.	0.5	2
24	Proton Computed Tomography: iterative image reconstruction and dose evaluation. Journal of Instrumentation, 2017, 12, C01034-C01034.	0.5	6
25	Time of Flight based diagnostics for high energy laser driven ion beams. Journal of Instrumentation, 2017, 12, C03086-C03086.	0.5	17
26	lon recombination correction factor in scanned light-ion beams for absolute dose measurement using plane-parallel ionisation chambers. Physics in Medicine and Biology, 2017, 62, 5365-5382.	1.6	19
27	Prompt gamma-ray emission for future imaging applications in proton-boron fusion therapy. Journal of Instrumentation, 2017, 12, C03059-C03059.	0.5	8
28	The radiobiology of laser-driven particle beams: focus on sub-lethal responses of normal human cells. Journal of Instrumentation, 2017, 12, C03084-C03084.	0.5	33
29	Monte Carlo simulation of the ELIMED beamline using Geant4. Journal of Instrumentation, 2017, 12, C03027-C03027.	0.5	6
30	Study of gamma-ray emission by proton beam interaction with injected Boron atoms for future medical imaging applications. Journal of Instrumentation, 2017, 12, C03049-C03049.	0.5	10
31	TOF technique for laser-driven proton beam diagnostics for the ELIMED beamline. Journal of Instrumentation, 2017, 12, C03044-C03044.	0.5	7
32	Laser-accelerated ion beam diagnostics with TOF detectors for the ELIMED beam line. Journal of Instrumentation, 2017, 12, C02025-C02025.	0.5	14
33	Feasibility study of a novel multi-strip silicon detector for use in proton therapy range verification quality assurance. Radiation Measurements, 2017, 106, 378-384.	0.7	4
34	Faraday cup: absolute dosimetry for ELIMED beam line. Journal of Instrumentation, 2017, 12, C03046-C03046.	0.5	3
35	Abstract ID: 35 Monte Carlo dosimetric study for preclinical small animal hadrontherapy using Geant4 toolkit. Physica Medica, 2017, 42, 6.	0.4	0
36	Abstract ID: 45 Development and analysis of the track-LET, dose-LET and RBE calculations with a therapeutical proton and ion beams using Geant4 Monte Carlo code. Physica Medica, 2017, 42, 9.	0.4	5

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37	Abstract ID: 173 Geant4-based Monte Carlo simulations of a transport beam line for multidisciplinary applications of laser-driven proton beams. Physica Medica, 2017, 42, 36-37.	0.4	o
38	CMOS active pixel sensors response to low energy light ions. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 875, 35-40.	0.7	8
39	Response of synthetic diamond detectors in proton, carbon, and oxygen ion beams. Medical Physics, 2017, 44, 5445-5449.	1.6	12
40	Validation of Geant4 fragmentation for Heavy Ion Therapy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 869, 68-75.	0.7	34
41	Preliminary study for small animal preclinical hadrontherapy facility. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2017, 846, 126-134.	0.7	10
42	Comparison of human lung cancer cell radiosensitivity after irradiations with therapeutic protons and carbon ions. Experimental Biology and Medicine, 2017, 242, 1015-1024.	1.1	14
43	Clinical and Research Activities at the CATANA Facility of INFN-LNS: From the Conventional Hadrontherapy to the Laser-Driven Approach. Frontiers in Oncology, 2017, 7, 223.	1.3	22
44	Status of the ELIMED multidisciplinary and medical beam-line at ELI-Beamlines. Journal of Physics: Conference Series, 2017, 777, 012016.	0.3	2
45	Spectral and spatial shaping of a laser-produced ion beam for radiation-biology experiments. Physical Review Accelerators and Beams, 2017, 20, .	0.6	35
46	Proof-of-Principle results of proton computed tomography. , 2016, , .		2
47	Recent developments in Geant4. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 835, 186-225.	0.7	2,327
48	DoPET: an in-treatment monitoring system for proton therapy at 62 MeV. Journal of Instrumentation, 2016, 11, C12029-C12029.	0.5	4
49	Status of the ELIMED Beamline at the ELIMAIA facility. Journal of Instrumentation, 2016, 11, C12052-C12052.	0.5	4
50	Ion recombination correction in carbon ion beams. Medical Physics, 2016, 43, 4198-4208.	1.6	17
51	DoPET: an in-treatment monitoring system for particle therapy. Radiotherapy and Oncology, 2016, 118, S92.	0.3	O
52	Design of the prototype of a beam transport line for handling and selection of low energy laser-driven beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 837, 80-87.	0.7	3
53	Measurement of fragmentation cross sections of C12 ions on a thin gold target with the FIRST apparatus. Physical Review C, 2016, 93, .	1.1	20
54	Characterization of the ELIMED Permanent Magnets Quadrupole system prototype with laser-driven proton beams. Journal of Instrumentation, 2016, 11, T07005-T07005.	0.5	16

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55	Design of a large acceptance, high efficiency energy selection system for the ELIMAIA beam-line. Journal of Instrumentation, 2016, 11, P08022-P08022.	0.5	11
56	The ELIMED transport and dosimetry beamline for laser-driven ion beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 829, 153-158.	0.7	45
57	Designing a range modulator wheel to spread-out the Bragg peak for a passive proton therapy facility. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 806, 101-108.	0.7	18
58	Design and Status of the ELIMED Beam Line for Laser-Driven Ion Beams. Applied Sciences (Switzerland), 2015, 5, 427-445.	1.3	17
59	Design of the ELIMAIA ion collection system. Journal of Instrumentation, 2015, 10, T12001-T12001.	0.5	20
60	Transport and dosimetric solutions for the ELIMED laser-driven beam line. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 796, 99-103.	0.7	21
61	A Study of Monitoring Performances with the INSIDE System. Acta Physica Polonica A, 2015, 127, 1468-1470.	0.2	11
62	Radiochromic film diagnostics for laser-driven ion beams. , 2015, , .		3
63	Glioblastoma stem cells: radiobiological response to ionising radiations of different qualities. Radiation Protection Dosimetry, 2015, 166, 374-378.	0.4	11
64	The INSIDE Project: Innovative Solutions for In-Beam Dosimetry in Hadrontherapy. Acta Physica Polonica A, 2015, 127, 1465-1467.	0.2	26
65	Fragmentation cross sections at intermediate energies for hadrontherapy and space radiation protection. EPJ Web of Conferences, 2014, 66, 10004.	0.1	0
66	ELIMED: MEDICAL APPLICATION AT ELI-BEAMLINES. STATUS OF THE COLLABORATION AND FIRST RESULTS. Acta Polytechnica, 2014, 54, 285-289.	0.3	4
67	Nuclear reaction measurements on tissue-equivalent materials and GEANT4 Monte Carlo simulations for hadrontherapy. Physics in Medicine and Biology, 2014, 59, 7643-7652.	1.6	12
68	The Energy Selection System for the laser-accelerated proton beams at ELI-Beamlines. Journal of Instrumentation, 2014, 9, C05065-C05065.	0.5	5
69	ELIMED, MEDical and multidisciplinary applications at ELI-Beamlines. Journal of Physics: Conference Series, 2014, 508, 012010.	0.3	19
70	Medical research and multidisciplinary applications with laser-accelerated beams: the ELIMED network at ELI-Beamlines. Journal of Instrumentation, 2014, 9, C04026-C04026.	0.5	0
71	Development of a Real-Time, Large Area, High Spatial Resolution Particle Tracker Based on Scintillating Fibers. Advances in High Energy Physics, 2014, 2014, 1-13.	0.5	2
72	Radiation-induced telomere length variations in normal and in Nijmegen Breakage Syndrome cells. International Journal of Radiation Biology, 2014, 90, 45-52.	1.0	15

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73	Measurement of Fragment Production Cross Sections in the $^{12}\C+^{12}\C$ and $^{12}\C+^{197}\Au$ Reactions at 62 \$A\$ MeV for Hadrontherapy and Space Radiation Protection. Acta Physica Polonica B, 2014, 45, 565.	0.3	0
74	A real-time, large area, high space resolution particle radiography system. Journal of Instrumentation, 2014, 9, C06012-C06012.	0.5	5
75	Reference dosimetry for light-ion beams based on graphite calorimetry. Radiation Protection Dosimetry, 2014, 161, 92-95.	0.4	7
76	Proton range monitoring with in-beam PET: Monte Carlo activity predictions and comparison with cyclotron data. Physica Medica, 2014, 30, 559-569.	0.4	39
77	A Monte Carlo study for the calculation of the average linear energy transfer (LET) distributions for a clinical proton beam line and a radiobiological carbon ion beam line. Physics in Medicine and Biology, 2014, 59, 2863-2882.	1.6	71
78	First full-beam PET acquisitions in proton therapy with a modular dual-head dedicated system. Physics in Medicine and Biology, 2014, 59, 43-60.	1.6	66
79	Calibration and energy resolution study of a high dispersive power Thomson Parabola Spectrometer with monochromatic proton beams. Journal of Instrumentation, 2014, 9, T10003-T10003.	0.5	12
80	Dosimetric characterization of a synthetic single crystal diamond detector in a clinical 62 MeV ocular therapy proton beam. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 767, 310-317.	0.7	14
81	Relative Biological Effectiveness Variation Along Monoenergetic and Modulated Bragg Peaks of a 62-MeV Therapeutic Proton Beam: A Preclinical Assessment. International Journal of Radiation Oncology Biology Physics, 2014, 90, 27-35.	0.4	178
82	Performance of the reconstruction algorithms of the FIRST experiment pixel sensors vertex detector. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 767, 34-40.	0.7	13
83	A new Thomson Spectrometer for high energy laser-driven beams diagnostic. Journal of Instrumentation, 2014, 9, T08001-T08001.	0.5	7
84	OFFSET: Optical Fiber Folded Scintillating Extended Tracker. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 737, 195-202.	0.7	16
85	Development of an energy selector system for laser-driven proton beam applications. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 740, 87-93.	0.7	28
86	A proton Computed Tomography based medical imaging system. Journal of Instrumentation, 2014, 9, C12009-C12009.	0.5	19
87	An in-beam PET system for monitoring ion-beam therapy: test on phantoms using clinical 62 MeV protons. Journal of Instrumentation, 2014, 9, C04005-C04005.	0.5	27
88	Recent results on the development of a proton computed tomography system. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 732, 573-576.	0.7	31
89	The PRIMA collaboration: Preliminary results in FBP reconstruction of pCT data. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 730, 184-190.	0.7	29
90	Full in-beam PET measurements of 62MeV protons onto a PMMA target. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 718, 151-153.	0.7	9

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91	Status report of the Thomson spectrometer for LILIA experiment. Applied Surface Science, 2013, 274, 401-404.	3.1	1
92	The PRIMA (PRoton IMAging) collaboration: Development of a proton Computed Tomography apparatus. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 730, 178-183.	0.7	34
93	ELIMED, future hadrontherapy applications of laser-accelerated beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2013, 730, 174-177.	0.7	32
94	A proton Computed Tomography system for medical applications. Journal of Instrumentation, 2013, 8, C02021-C02021.	0.5	13
95	Beam handling and transport solutions. , 2013, , .		3
96	Investigations of DNA damage induction and repair resulting from cellular exposure to high dose-rate pulsed proton beams. , $2013, \ldots$		0
97	Comparison of the biological effectiveness of 45 MeV C-ions and \hat{l}^3 -rays in inducing early and late effects in normal human primary fibroblasts. , 2013, , .		0
98	High-energy resolution Thomson Parabola spectrometer for laser plasma diagnostics. , 2013, , .		0
99	Monte Carlo simulation for the transport beamline. , 2013, , .		5
100	Absolute and relative dosimetry for ELIMED. , 2013, , .		2
101	Spatio-temporal radiation biology with conventionally or laser-accelerated particles for ELIMED. , 2013, , .		0
102	Conversion from dose-to-graphite to dose-to-water in an 80 MeV/A carbon ion beam. Physics in Medicine and Biology, 2013, 58, 5363-5380.	1.6	10
103	ELIMED: a new hadron therapy concept based on laser driven ion beams. Proceedings of SPIE, 2013, , .	0.8	13
104	Experiment FIRST: Fragmentation of ¹² C beam at 400 MeV/u., 2013, , .		0
105	Towards a large area apparatus for Proton Computed Tomography. , 2013, , .		0
106	Antiproton induced DNA damage: proton like in flight, carbon-ion like near rest. Scientific Reports, 2013, 3, 1770.	1.6	21
107	Development of a scintillation-fiber detector for real-time particle tracking. Journal of Instrumentation, 2013, 8, P04015-P04015.	0.5	8
108	FIRST experiment: Fragmentation of lons Relevant for Space and Therapy. Journal of Physics: Conference Series, 2013, 420, 012061.	0.3	9

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109	New methods for high current fast ion beam production by laser-driven acceleration. Review of Scientific Instruments, 2012, 83, 02B307.	0.6	7
110	Charged particle's flux measurement from PMMA irradiated by 80 MeV/u carbon ion beam. Physics in Medicine and Biology, 2012, 57, 5667-5678.	1.6	37
111	The PRIMA (Proton Imaging) collaboration: Status of the development of a proton Computed Tomography Scanner. , 2012, , .		2
112	A real time, large area, high spatial resolution tracker based on square scintillating fibers. , 2012, , .		1
113	Charged and Neutral Particles Production from 80 MeV/u $<\!$ sup>12 $<\!$ fon beam on a PMMA target. , 2012, , .		O
114	The KENTROS detector for identification and kinetic energy measurements of nuclear fragments at polar angles between 5 and 90 degrees. , 2012 , , .		0
115	PRIMA proton imaging for clinical application. , 2012, , .		4
116	ELIMED a new concept of hadrontherapy with laser-driven beams. , 2012, , .		4
117	Precise measurement of prompt photon emission from 80 MeV/u carbon ion beam irradiation. Journal of Instrumentation, 2012, 7, P03001-P03001.	0.5	26
118	Carbon fragmentation measurements and validation of the Geant4 nuclear reaction models for hadrontherapy. Physics in Medicine and Biology, 2012, 57, 7651-7671.	1.6	53
119	Performance of upstream interaction region detectors for the FIRST experiment at GSI. Journal of Instrumentation, 2012, 7, P02006-P02006.	0.5	14
120	216 RADIO-RESISTANT HUMAN MALIGNANT CELLS AFTER IRRADIATIONS WITH 1H AND 12C IONS OF DIFFERENT LET. Radiotherapy and Oncology, 2012, 102, S108-S109.	0.3	1
121	Thermoluminescence response of sodalime glass irradiated with proton and neutron beams. Nuclear Instruments & Methods in Physics Research B, 2012, 292, 55-58.	0.6	18
122	Development of a Proton Computed Tomography system for pre-clinical tests. , 2012, , .		1
123	The FIRST experiment at GSI. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 678, 130-138.	0.7	30
124	Study of the time and space distribution of emitters from carbon ion beam irradiation on PMMA. Nuclear Instruments & Methods in Physics Research B, 2012, 283, 1-8.	0.6	15
125	SU-E-T-146: Reference Dosimetry for Protons and Light-lon Beams Based on Graphite Calorimetry. Medical Physics, 2012, 39, 3736-3737.	1.6	1
126	Tomographic images by proton Computed Tomography system for proton therapy applications., 2011,,.		7

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127	The FIRST experiment for nuclear fragmentation measurements at GSI., 2011,,.		2
128	PRIMA: An apparatus for medical application. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 658, 73-77.	0.7	21
129	YAG(Ce) crystal characterization with proton beams. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 654, 349-353.	0.7	12
130	CATANA protontherapy facility: The state of art of clinical and dosimetric experience. European Physical Journal Plus, 2011, 126, 1.	1.2	48
131	The FIRST experiment: interaction region and MAPS vertex detector. Nuclear Physics, Section B, Proceedings Supplements, 2011, 215, 157-161.	0.5	7
132	Measurement of prompt photons and gamma PET from 80 MeV/u carbon beam on PMMA target., 2011,,.		0
133	Hadrontherapy: a Geant4-Based Tool for Proton/Ion-Therapy Studies. Progress in Nuclear Science and Technology, 2011, 2, 207-212.	0.3	65
134	Recent Improvements in Geant4 Electromagnetic Physics Models and Interfaces. Progress in Nuclear Science and Technology, 2011, 2, 898-903.	0.3	87
135	Validation of the Geant4 electromagnetic photon cross-sections for elements and compounds. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 618, 315-322.	0.7	86
136	Characterization of an In-Beam PET Prototype for Proton Therapy With Different Target Compositions. IEEE Transactions on Nuclear Science, 2010, 57, 1563-1569.	1.2	13
137	Hadrontherapy: An open source, Geant4-based application for proton-ion therapy studies., 2009,,.		5
138	Medipix2 as a tool for proton beam characterization. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 607, 48-50.	0.7	12
139	Validation of Geant4 hadronic physics models at intermediate energies. , 2008, , .		0
140	Characterization of an in-beam PET prototype for proton therapy with different target composition. , 2008, , .		0
141	Geant4-based Monte Carlo Simulation of the Leksell Gamma Knife®., 2007,,.		6