

Medical Physics

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Other Faculty Members

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Major Scientific Interests of the Group

Medical application of physics and engineering, Particle therapy

Projects for Regular Students in Doctoral or Master's Programs

1) Proton therapy, QA, QC, BNCT, 2) Diagnostic technology

Study Programs for Short Stay Students (one week – one trimester)

1) One week training for medical staffs (medical physics)

Selected Publications

- 1) Onishi Takahiro, Kumada Hiroaki, Takada Kenta, Naito Fujio, Kurihara Toshikazu, Sakae Takeji, Investigation of the neutron spectrum measurement method for dose evaluation in boron neutron capture therapy, APPLIED RADIATION AND ISOTOPES 140, 2018, 5-11
- 2) Takei Hideyuki, Isobe Tomonori, Kitamura Nozomi, Mori Yutaro, Tomita Tetsuya, Kobayashi Daisuke, Kamizawa Satoshi, Sato Tomoharu, Sakurai Hideyuki, Sakae Takeji, General ion recombination effect in a liquid ionization chamber in high-dose-rate pulsed photon and electron beams, JOURNAL OF RADIATION RESEARCH 59, No.3, 2018, 282-285
- 3) Terunuma Toshiyuki, Tokui Aoi, Sakae Takeji, Novel real-time tumor-contouring method using deep learning to prevent mistracking in X-ray fluoroscopy, RADIOLOGICAL PHYSICS AND TECHNOLOGY 11, No.1,2018, 43-53
- 4) Takada Kenta, Sato Tatsuhiko, Kumada Hiroaki, Koketsu Junichi, Takei Hideyuki, Sakurai Hideyuki, Sakae Takeji, Validation of the physical and RBE-weighted dose estimator based on PHITS coupled with a microdosimetric kinetic model for proton therapy, JOURNAL OF RADIATION RESEARCH, 59, No.1, 2018, 91-99
- 5) Masuda Akihiko, Matsumoto Tetsuro, Takada Kenta, Onishi Takahiro, Kotaki Kohei, Sugimoto Hidenori, Kumada Hiroaki, Harano Hideki, Sakae Takeji, Neutron spectral fluence measurements using a Bonner sphere spectrometer in the development of the iBNCT accelerator-based neutron source, APPLIED RADIATION AND ISOTOPES 127, 2017, 47-51
- 6) Takada Kenta, Kumada Hiroaki, Liem Peng Hong, Sakurai Hideyuki, Sakae Takeji, Development of Monte Carlo based real-time treatment planning system with fast calculation algorithm for boron neutron capture therapy, PHYSICA MEDICA-EUROPEAN JOURNAL OF MEDICAL PHYSICS 32, No.12, 2016, 1846-1851
- 7) Mori Yutaro, Isobe Tomonori, Yamaguchi Yoshiki, Takei Hideyuki, Kamizawa Satoshi, Terunuma Toshiyuki, Sato Eisuke, Takada Kenta, Tadano Kiichi, Yoshimura Yousuke, Sakurai Hideyuki, Sakae Takeji, Development of simple high-precision two-dimensional dose-distribution measurement method for proton beam therapy using imaging plate and EBT3, AUSTRALASIAN PHYSICAL & ENGINEERING SCIENCES IN MEDICINE 39, No.3, 2016, 687-696
- 8) Horiguchi Hironori, Sato Tatsuhiko, Kumada Hiroaki, Yamamoto Tetsuya, Sakae Takeji, Estimation of relative biological effectiveness for boron neutron capture therapy using the PHITS code coupled with a microdosimetric kinetic model, JOURNAL OF RADIATION RESEARCH 56, No.2, 2015, 382-390