一般演題（口頭）

■放射線治療（粒子線）　生物他　9月12日(木)15：00～15：45　第1会場

座長：田代 睦（群馬大学）

O-001　Dependence of the Sub-Lethal Damage Repair Rate on LET in Proton Irradiation : An Initial Study

○Koki Kasamatsu[1], Memu Hosoda[1], Jin-Min Nam[2,3], Hironobu Yasui[4], Sodai Tanaka[5,6], Shusuke Hirayama[1], Naoki Miyamoto[2,5], Kikuo Umegaki[2,5,6], Hiroki Shirato[2,3,6], Taeko Matsuura[2,5,6]（[1]Hokkaido University, [2]Hokkaido University, [3]Hokkaido University, [4]Hokkaido University, [5]Hokkaido University, [6]Hokkaido University Hospital）

O-002　Effects of yield accuracy of secondary fragments on biological dose in heavy ion irradiations estimated by Monte Carlo simulation and MK model

○Yoshiyuki Hirano[1]（[1]Nagoya university）

O-003　A robustness analysis with equivalent stochastic dose and worst case scenario in prostate carbon ion therapy

○Makoto Sakama[1]（[1]NIRS, QST）

■放射線治療（粒子線）　QA・：計測　9月12日(木)16：00～17：00　第1会場

座長：歳籐 利行（名古屋陽子線）

O-004　Filtering process examination for dose distribution reconstruction of fine carbon-ion beams using iterative approximation

○Mutsumi Tashiro[1], Hikaru Souda[1,2], Takuya Yoshida[3], Hiroshi Sakurai[3]（[1]Gunma University Heavy Ion Medical Center, [2]Graduate School of Medicine, Yamagata University, [3]School of Science and Technology, Gunma University）

O-005　Reconstruction of physical and biological dose distributions of carbon-ion beam through deconvolution of longitudinal dosimeter responses

○Nobuyuki KANEMATSU[1], Taku INANIWA[1], Shunsuke YONAI[1], Hideyuki MIZUNO[2]（[1]QST NIRS, [2]QST Hospital）

O-006　Estimation and correction of Cerenkov-light in the luminescence image of water during irradiations of carbon-ion beams

○Takuya YABE[1,2], Yoshiyuki HIRANO[1], Masataka KOMORI[1], Takashi AKAGI[3], Seiichi YAMAMOTO[1]（[1]Nagoya University Graduate School of Medicine, [2]Nagoya University Hospital, [3]Hyogo Ion Beam Medical Center）

O-007 Conversion of the luminescence image of water into dose distribution using deep learning for particle therapy

○Takuya YABE[1,2], Masahiro ODA[3], Kensaku MORI[3], Takashi AKAGI[4], Seiichi YAMAMOTO[1] ([1]Nagoya University Graduate School of Medicine, [2]Nagoya University Hospital, [3]Nagoya University Graduate School of Informatics, [4]Hyogo Ion Beam Medical Center)

■画像情報・医療情報　画像処理の新技術　9月12日(木)15：00～16：00　第3会場
座長：馬込 大貴（駒澤大学）

O-008 Deep learning-based virtual non-contrast CT for treatment planning：Comparison with dual-energy CT-based approach

○Yuhei Koike[1], Shingo Ohira[2], Yuichi Akino[3], Yoshihiro Ueda[2], Masayoshi Miyazaki[2], Iori Sumida[1], Teruki Teshima[2], Kazuhiko Ogawa[1] ([1]Osaka University, [2]Osaka International Cancer Institute, [3]Osaka University Hospital)

O-009 3D CT image prediction with optical flow for X ray lung radiotherapy

○Pohl Michel[1], Mitsuru Uesaka[1,2], Kazuyuki Demachi[2], Chhatkuli Ritu Bhusal[3], Akihiro Haga[4] ([1]The University of Tokyo, [2]The University of Tokyo, [3]National Institute of Radiological Sciences, [4]Tokushima University)

O-010 The effectiveness of stereo camera system to reduce the variation on daily set-up in radiotherapy

○Thi Thu Thuy Ho[1] ([1]Tokyo Metropolitan University)

O-011 球面調和関数展開を用いた線量分布における特徴量抽出

○Yusuke Anetai[1], Hideki Takegawa[1], Satoaki Nakamura[1], Noboru Tanigawa[1] ([1]Kansai Medical University)

■放射線治療（粒子線）　線量計測　9月13日(金)11：00～12：00　第1会場
座長：武井 秀行（筑波大学）

O-012 Discovery of scintillation of glass and application for 3D dose distribution measurements of proton beam

○Seiichi Yamamoto[1], Ryo Horita[1], Katsunori Yogo[1], Masataka Komori[1], Toshiyuki Toshito[2] ([1]Nagoya University, [2]Nagoya Proton Therapy Center)

O-013 Investigation of the therapeutic proton beam dosimetry for a radiophotoluminescent glass dosimeter

○Junya Nagata[1], Keisuke Yasui[2], Chihiro Omachi[3], Hidetoshi Shimizu[4], Takahiro Aoyama[4], Shuta Ogawa[1], Kazuki Ouchi[1], Naoki Hayashi[2] ([1]Fujita Health University Graduate School, [2]Fujita Health University, [3]Nagoya City West Medical Center NAGOYA PROTON THERAPY CENTER, [4]Aichi Cancer Center Hospital)

O-014 Ion recombination correction factor for spot scanning irradiation of protons

○Toshiyuki Toshito[1]（[1]Nagoya Proton Therapy Center）

O-015 The installation of the dose per monitor unit table designed for passively scattered proton beam therapy for prostate cancer

○Naoaki Kondo[1], Yasumasa KAKINOHANA[1], Mayumi Yamashita[1], Takeshi Arimura[1], Takashi Ogino[1]（[1]Medipolis Proton Therapy and Research Center）

■放射線治療（粒子線）　BNCT　9月13日(金)17：00～18：00　第1会場
座長：熊田 博明（筑波大学）

O-016 Optimization of bolus shape for boron neutron capture therapy using epi-thermal neutron beam

○Takushi Takata[1], Hiroki Tanaka[1], Yoshinori Sakurai[1], Akinori Sasaki[2], Akira Maruhashi[1], Minoru Suzuki[1]（[1]Institute for Integrated Radiation and Nuclear Science, Kyoto University, [2]Graduate School of Engineering, Kyoto University）

O-017 Evaluation of neutron-ganma ray discrimination utilizing a LiCAF scintillator - optical fiber detector

○Kazuhiko Akita[1], Kiyotaka Akabori[2], Hiroki Tanaka[3], Naonori KO[1], Koji Ono[1]（[1]Osaka Medical College, [2]Sumitomo Heavy Industries, Ltd, [3]Institute for Integrated Radiation and Nuclear Science , Kyoto University）

O-018 Determination of RBE for BNCT fields using PHITS Monte Carlo simulation

○Naonori Ko[1], Keita Okazaki[2], Hiroki Tanaka[3], Koji Ono[1]（[1]Osaka Medical College, [2]Kyoto University, [3]Institute for Integrated Radiation and Nuclear Science）

■画像情報・医療情報　医用システム開発　9月13日(金)11：00～12：00　第2会場
座長：古徳 純一（帝京大学）

O-019 Developing a new sharing incident system with virtual reality technology

○Akihiro Matsushita[1], Ryosuke Mori[1], Tsuyoshi Ueyama[1], Katsuyuki Tabei[1], Takashi Shiraki[1]（[1]The University of Tokyo Hospital）

O-020 Development of vascular phantom for multi-modality

○Yuki Mitsui[1], Atusi Myojyoyama[1]（[1]Tokyo Metropolitan University）

O-021 Automation of linear accelerator usage record management

○Atsushi Myojoyama[1], Hidetoshi Saitoh[1]（[1]Graduate School of Tokyo Metropolitan University）

O-022 A basic study of numerical simulation for digital breast tomosynthesis using PHITS code.

○Hiroki Otsuka[1], Yoshiyuki Nyui[1]（[1]Tokyo Metropolitan University Graduate School）

■放射線計測１　９月13日(金)14：00〜15：00　第２会場

座長：宇都宮 悟（新潟大学）

O-023　The detailed depth dose simulation for energy spectrum measurement

○Kengo Miyazaki[1], Atsushi Myojoyama[1]（[1]Tokyo Metropolitan University）

O-024　Evaluation of the basic characteristic of a two-dimensional detector for SRS.

○Shuta Ogawa[1], Yasunori Saito[2], Keisuke Yasui[3], Kazuki Ouchi[1], Junya Nagata[1], Naoki Hayashi[3]（[1]Fujita Health University, [2]Fujita Health University　Hospital, [3]Fujita Health University）

O-025　Improvement of a prompt gamma-ray imaging detector using a slab of LaBr3（Ce）scintillator and an 8 x 8 array MPPC for Boron Neutron Capture Therapy

○Keita Okazaki[1], Kiyotaka Akabori[2], Takushi Takata[3], Yoshinori Sakurai[3], Hiroki Tanaka[3]（[1]Kyoto University, [2]Sumitomo Heavy Industries, Ltd, [3]Institute for Integrated Radiation and Nuclear Science, Kyoto University）

■放射線計測２　９月13日(金)15：00〜16：00　第２会場

座長：河内 徹（千葉県がんセンター）

O-026　Influence of entrance window deformation on reference dosimetry measurement

○Akihito Shimizu[1]（[1]Nagoya University Graduate School）

O-027　Assessment of a Cable Leakage with Based on Stem Effect

○Naritoshi Mukumoto[1], Ryuichi Yada[1], Hiroaki Akasaka[1], Keisuke Okumura[2], Tianyuan Wang[1], Yasuyuki Shimizu[1], Takaharu Nishitani[2], Ryohei Sasaki[1]（[1]Kobe University Hospital, [2]Kobe University Hospital）

O-028　Effect of storage humidity on the output of the air-filled ionization chamber

○Yuichiro MORISHITA[1], Morihito SHIMIZU[1], Nobuhiro TAKASE[2], Wataru YAMASHITA[2], Katsuhisa NARITA[2], Suoh SAKATA[2,3]（[1]National institute of advanced industrial science and technology, [2]Association for nuclear technology in medicine, [3]National institutes for quantum and radiological science and technology）

O-029　Study on the effective point of the cylindrical ionization chamber in the measurement of carbon absorption dose 3

○Menamu Sano[1,2], Shigekazu FUKUDA[2], Soorim HAN[1,2], Sho Murata[1,2], Shun Kikuta[1,2], Kazuki Kusakabe[2,3]（[1]chiba university graduate school of science, [2]QST hospital, [3]chiba university）

■画像情報・医療情報　精度管理・検証　9月13日(金)16：00～17：00　第2会場

座長：明上山 温（首都大学東京）

O-030　The Utility of Using Optical Set-up Check together with IGRT by X-ray in IMRT for Prostatic Cancer

○Hitoshi Takagi[1], Tetsuya Matsuyama[1], Kiyo Yamazaki[1], Akari Watanabe[1], Hidetoshi Kobayashi[1], Yuuka Nakashima[1], Naoki Hayashi[2], Tomohiro Shimozato[3]（[1]Ogaki Municipal Hospital, [2]Fujita Medical University, [3]Gifu University of Medical Science）

O-031　Utility of Set-up Training by Optical Position Check System

○Tetsuya Matsuyama[1], Hitoshi Takagi[1], Kiyo Yamazaki[1], Akari Watanabe[1], Hidetoshi Kobayashi[2], Tomohiro Shimozato[3], Naoki Hayashi[4]（[1]Ogaki Municipal Hospital, [2]Ogaki Municipal Hospital, [3]Gifu University og Medical Science, [4]Fujita Health University）

O-032　Application of Failure Mode and Effects Analysis to Passive Proton Beam Therapy Equipment

○Yasumasa Kakinohana[1], Naoaki KONDO[1], Kiyotaka Wada[1], Mayumi Yamashita[1], Takeshi Arimura[1], Takashi Ogino[1]（[1]Medipolis Proton Therapy and Research Center）

O-033　リニアック出力線量の訪問測定における遠隔支援システムの開発

○Shuichi Ozawa[1,2], Yoshinori Tanabe[3], Toshiyuki Minemura[4], Shinji Kawamura[5]（[1]Hiroshima University, [2]Hiroshima High-Precision Radiotherapy Cancer Center, [3]Yamaguchi University Hospital, [4]National Cancer Center, [5]Teikyo University）

■放射線治療（光子・電子）　4次元放射線治療　9月13日(金)11：00～12：00　第3会場

座長：木藤 哲史（がん・感染症センター 都立駒込病院）

O-034　Evaluation of the relationship between Interplay Effect and collimator angle in intensity modulated radiation therapy

○Wataru Sugimoto[1], Katsuhisa Kida[1], Saki Oka[1], Yukiya Ikawa[1], Kazuma Yamauchi[1], Yasushi Mukai[1], Eizo Harada[1], Hiroyuki Takagai[1], Kyo Yamashita[1], Motoharu Sasaki[2]（[1]Tokushima Prefectual Central Hospital, [2]Tokushima University）

O-035　動体追跡放射線治療におけるkV-X線画像に混入する治療ビーム散乱線を低減する画像処理の開発

○Shin Nakajima[1], Naoki Niyamoto[2], Sodai Tanaka[2], Masaya Tamura[3], Ryusuke Suzuki[3]（[1]Graduate School of Biomedical Science and Engineering, Hokkaido University , [2]Faculty of Engineering, Hokkaido University, [3]Hokkaido University Hospital.）

O-036　Evaluation of dosimetric impact for 4D Robust optimization against variations of patients respiratory motion

○Daimu Fujimoto[1,2], Jun Takatsu[3], Naoya Hara[4], Masaki Oshima[3], Satoru SUGIMOTO[3], Keisuke Sasai[3]（[1]Juntendo University, [2]Cancer Institute Hospital of Japanese Foundation for Cancer Research, [3]Juntendo University, [4]Juntendo University Hospital）

O-037　Evaluation of gantry angle during respiratory-gated VMAT using triggered kilovoltage x-ray image

○Ryohei Miyasaka[1,2], Hidetoshi Saitoh[2], Toru Kawachi[1], Tetsurou Katayose[1], Sangyong Cho[1], Ryohei Yamauchi[2], Ryusuke Hara[1]（[1]Chiba Cancer Center, [2]Tokyo Metropolitan University）

■放射線治療（光子・電子） AI　9月13日（金）14：00～15：00　第3会場

座長：角谷 倫之（東北大学）

O-038　Image processing method using super-resolution technique for exposure dose reduction

○Hikaru Miyauchi[1,2], Hikaru Takahashi[3], Tomoyuki Hasegawa[3], Masatoshi Hashimoto[3]（[1]Kitasato University Graduate School of Medical Sciences, [2]CIH JFCR, [3]Kitasato University School of Allied Health Sciences）

O-039　Challenging of the automated detection of values of irradiated dose to interphase chromosomes with deep learning

○Yosuke KAWATE[1], Kentaro MIKI[2], Shi LIN[3], Imano NOBUKI[2], Satoshi TASHIRO[3], Yasushi NAGATA[2]（[1]Hiroshima University, [2]Hiroshima University Hospital, [3]Hiroshima University）

O-040　Causal discovery of long-term prognosis and adverse event after breast conserving therapy using LiNGAM model

○Kenshiro Shiraishi[1], Kanako Kitazumi[2], Asuka Oyama[2], Jun'ichi Kotoku[2]（[1]Teikyo University, [2]Teikyo University）

■放射線治療（光子・電子） 治療技術　9月13日（金）15：00～16：00　第3会場

座長：宮浦 和徳（昭和大学）

O-041　Projected-CTV tracking in MV image：A phantom study

○Atsushi OTANI[1], Toshiyuki TERUNUMA[1], Takeji SAKAE[1]（[1]Graduate School of Comprehensive Human Sciences, University of Tsukuba）

O-042　Evaluation of out-of-field dose in whole breast irradiation using electric irregular surface compensation

○Satoru Sugimoto[1], Peijiang Lu[2], Tatsuya Inoue[3]（[1]Juntendo University, [2]Fudan University Shanghai Huashan Hospital, [3]Juntendo University Urayasu Hospital）

O-043　Evaluation of delivered dose distribution in lower body irradiation with setup error using the helical tomotherapy

○Akira Isobe[1], Keisuke Usui[2], Tomoya MUROI[1], Shuhei Karube[1], Haruka Katou[1], Naoya Hara[1], Haruyoshi Houshito[1], Keisuke Sasai[2]（[1]Juntendo Univ., Hospital, , [2]Juntendo Univ., School of Medicine）

O-044 Delivery quality assurance method based on simultaneous verification of dose distribution and binary MLC movement

○Yuichi Tanaka[1], Masato Sekiguchi[1], Takeo Katakura[1], Marusu Uchiyama[2], Yuya Katou[2], Yusuke Wauchi[2], Minoru Ishigami[3], Tsuyoshi Terazaki[4], Tomoyuki Hasegawa[2], Masatoshi Hashimoto[2]（[1]Kitasato University Graduate School, [2]Kitasato University, [3]Kitasato University Hospital, [4]Yokohama City Minato Red Cross Hospital）

■放射線治療（光子・電子）治療計画　9月13日（金）16：00〜17：00　第3会場
座長：宮阪 遼平（千葉県がんセンター）

O-045 Development of prediction dose distribution with deep convolutional neural network for order-made treatment planning

○Kentaro Miki[1], Akito Saito[1], Daisuke Kawahara[1], Nobuki Imano[1], Yuuki Takeuchi[1], Ippei Takahashi[1], Ikuno Nishibuchi[1], Tomoki Kimura[1], Yuji Murakami[1], Yasushi Nagata[1]（[1]Hiroshima University Hospital）

O-046 Study of dose distributions for VMAT planning with collimator rotation angles
○Satoshi Yasuhiro[1], Akihiko Hoshi[1]（[1]Japanese Red Cross Musashino Hospital）

O-047 Plan Complexity and Uncertainty of Patient Specific Quality Assurance for VMAT using Different Treatment Planning System

○Akira Ito[1], Makoto Ogasawara[1], Naoaki Suga[1]（[1]Miyagi Cancer Center）

O-048 Development of the MU verification software with the simplified Clarkson's method
○Ryoma YMAGUCHI[1,3], Minoru NAKAO[2,3], Shuichi OZAWA[2,3], Yasushi NAGATA[2,3]（[1]Hiroshima University, [2]Hiroshima University, [3]Hiroshima High-Precision Radiotherapy Cancer Center）

■放射線治療（光子・電子）位置精度　9月13日（金）17：00〜18：00　第3会場
座長：児玉 匠（埼玉がんセンター）

O-049 Off-isocenter irradiation accuracy and its dependency on a distance from an isocenter for intracranial multiple targets

○Takayuki Kanai[1], Yoshiro Ieko[1], Yuya Miyasaka[1], Koji Suzuki[2], Mayumi Ichikawa[1], Hiraku Sato[1], Takeo Iwai[1], Kenji Nemoto[1]（[1]Yamagata University, [2]Yamagata University Hospital）

O-050 Long term analysis of radiation isocenter accuracy evaluated with virtual starshot technique
○Yuichi Akino[1], Masateru Fujiwara[2], Hirokazu Mizuno[3], Hiroya Shiomi[3], Akari Kaneko[2], Fumiaki Isohashi[3], Yuji Seo[3], Osamu Suzuki[3], Keisuke Otani[3], Keisuke Tamari[3], Kazuhiko Ogawa[3]（[1]Osaka University Hospital, [2]Suita Tokushukai Hospital, [3]Osaka University）

O-051 A Novel Tool for the Assessment of X-ray Beam Axis in Radiotherapy
○Shigeo Anai[1], Masato Mekata[1], Seigo Murakami[1], Ryo Murakami[1], Yuki Oishi[1], Satoru Uehara[1], Kazuharu Nishitani[2]（[1]Fukuoka Tokushukai Medical Center, [2]Precise Accuracy Laboratory）

O-052 Consideration of the bed deflection QA method using CT equipment commissioning data

○Yasushi Oda[1], Naohide Fuseya[1], Keita Iwata[1], Eisaku Yokoyama[1], Minoru Terazawa[1] ([1]Konan Kosei Hospital)

■放射線治療（粒子線） 治療計画　9月14日(土)14：00～15：00　第1会場

座長：綱島 義一（九州国際重粒子センター）

O-053 Influence of lipiodol on the range of carbon ion beams

○Kei Okamoto[1] ([1]Ion Beam Therapy Center , SAGA HIMAT Foundation)

O-054 Effectiveness of setup with markers in the heavy ion therapy for prostate cancer

○Masaaki Takashina[1], Noriaki Hamatani[1], Toshiro Tsubouchi[1], Yushi Wakisaka[1], Masashi Yagi[2], Tatsuaki Kanai[1], Junetsu Mizoe[1] ([1]Osaka Heavy Ion Therapy Center, [2]Osaka University)

O-055 An evaluation of a proton beam scanning treatment planning robustness considering inter and intra-fractional variation for prostate cancer

○Mitsutoshi Tada[1], Yuki Tominaga[1], Masashi Yamanaka[1], Tetsunori Matsuda[1] ([1]Tsuyama Chuo Hospital)

O-056 Commissioning of a new treatment planning system for carbon-ion scanning beam

○Masashi Yagi[1], Toshiro Tsubouchi[2], Noriaki Hamatani[2], Masaaki Takashina[2], Kazumasa Minami[1], Osamu Suzuki[1], Kazuhiko Ogawa[1], Tatsuaki Kanai[2] ([1]Osaka University, [2]Osaka Heavy Ion Therapy Center)

■放射線治療（粒子線） 治療計画2・その他　9月14日(土)15：00～16：00　第1会場

座長：大町 千尋（名古屋陽子線）

O-057 Feasibility Study on DVH Estimation by Machine Learning from Small Data towards Simplified Model-based Approach for Selective Use of Proton Therapy

○Jampa-ngern Sira[1], Kobashi Keiji[2], Shinichi Shimizu[2] ([1]Hokkaido University Graduate School, [2]Hokkaido University Faculty of Medicine)

O-058 A Method to compute dose-to-water for Monte Carlo transport simulation in realistic materials

○Weishan Chang[1,2], Yusuke Koba[1], Takuya Furuta[2], Shunsuke Yonai[1], Shintaro Hashimoto[2], Shinnosuke Matsumoto[1] ([1]QST-NIRS, [2]JAEA)

O-059 Image quality evaluation for four-dimensional cone-beam CT reconstruction using orthogonal X-ray imaging system on a gantry for proton beam therapy

○Yukiko Otsuka[1], Hideaki Ueda[2], Shinichi Shimizu[3], Kikuo Umegaki[2], Naoki Miyamoto[2], Seishin Takao[3] ([1]Hokkaido University, [2]Hokkaido University, [3]Hokkaido University Hospital)

O-060　Numerical simulations for soft error phenomena in semiconductor devices in spot-scanning proton therapy

○Seiji SAITO[1], Hideaki UEDA[2], Fujio HIRAGA[2], Sodai TANAKA[2], Kikuo UMEGAKI[2,3,4], Taeko MATSUURA[2,3,4]（[1]Hokkaido University, [2]Hokkaido University, [3]GI-CoRE, [4]Hokkaido University Hospital）

■放射線計測3　9月14日(土)11：00～12：00　第2会場

座長：眞正 浄光（首都大学東京）

O-061　放射線フィルムを用いた炭素線の測定

○Motohiro Kawashima[1], Akihiko MATSUMURA[1], Hikaru SOUDA[2], Mutsumi TASHIRO[1]（[1]Gunma University, [2]Yamagata University）

O-062　Measurement of production cross-sections of positron emitter nuclei in target nuclear fragmentation reactions for proton therapy

○Keiichiro MATSUSHITA[1], Teiji NISHIO[2], Takamitsu MASUDA[2], Masato TSUNEDA[2], Sodai TANAKA[3], Tomoyuki KUROSAWA[2], シン ミヤガワ[2], Akira SANO[2,4], Toshiyuki OGATA[1], Tadashi TAKENAKA[1], Hideya YAMAZAKI[1], Kei YAMADA[1]（[1]Kyoto Prefectural University of Medicine, [2]Tokyo Women's Medical Univ, [3]Hokkaido Univ, [4]Mizuho Information & Research Institute, Inc）

O-063　Proton beam range verification based on the gold marker acoustic resonance method：an initial study using FFAG

○Tomoki UESAKA[1], Taisuke TAKAYANAGI[1,2], Yuta NAKAMURA[3], UNLU　　Burcin[4,5], Yasutoshi KURIYAMA[6], Tomonori UESUGI[6], Yoshihiro ISI[6], Kikuo UMEGAKI[5,7,8], Hiroki SHIRATO[5,8], Sodai TANAKA[7,8], Taeko MATSUURA[5,7,8]（[1]Hokkaido University, [2]Hitachi Ltd., [3]Hokkaido University, [4]Bogazici University, [5]GI-CoRE, [6]Kyoto University, [7]Hokkaido University, [8]Hokkaido University Hospital）

O-064　Measurement of MHz ionoacoustic signal generated by proton beam irradiation

○Toshiyuki TERUNUMA[1,2], Yosuke MIYAUCHI[2], Takeji SAKAE[1,2]（[1]Univ. of Tsukuba, [2]Univ. of Tsukuba）

■放射線防護・核医学　9月14日(土)14：00～15：15　第2会場

座長：藤淵 俊王（九州大学）

O-065　Measurement of scattered X-ray energy spectrum towards the eye lens during X-ray CT scan

○Kouta Tsurusawa[1], Saya Kodera[2], Yaeko Hisaki[2], Hirokazu Akaishi[3], Erika Nakajima[4], Hitoshi Sato[4], Daisuke Shimao[1,2]（[1]Hokkaido University of Science Graduate School of Health Sciences, [2]Hokkaido University of Science Faculty of Health Sciences, [3]Sapporo Medical University, [4]Ibaraki Prefectural University of Health Sciences）

O-066　Development of web-based dose calculation system for X-ray radiography

○Yusuke Koba[1], Wei Shan CHANG[1]（[1]QST-NIRS）

O-067 Real-time 3D dose visualization in interventional radiology using Mixed Reality technology

○Takeshi Takata[1], Susumu Nakabayashi[2], Hiroshi Kondo[3], Masayoshi Yamamoto[3], Shigeru Furui[1,3], Kenshiro Shiraishi[3], Takenori Kobayashi[1], Hiroshi Oba[3], Jun'ichi Kotoku[1,4] ([1]Teikyo University, [2]Kameda Medical Center, [3]Teikyo University School of Medicine, [4]Teikyo University Hospital)

O-068 Feasibility study on the development of neutron field simulating neutron energy spectra in the CIRT treatment room

○Yonai Shunsuke[1], Shinnosuke MATSUMOTO[1] ([1]National Institutes for Quantum and Radiological Science and Technology)

O-069 Astatine-211 imaging with an Electron Tracking Compton Camera

○Hiroki Yamada[1], Masafumi Inagaki[1], Kazumi Murata[2], Toru Tanimori[3], Koichi Ogawa[2] ([1]Hosei University, [2]Hosei University, [3]Kyoto University)

■画像診断　X線・CT　9月14日（土）11：00〜12：00　第3会場

座長：和田 真一（新潟大学）

O-070 Study of evaluation method on depiction ability for refraction-contrast imaging

○Nampei Otsuka[1], Naoki Sunaguchi[2], Daisuke Shimao[1,3] ([1]Hokkaido University of Science Graduate School, [2]Nagoya University, [3]Hokkaido University of Science)

O-071 A method for generating real-time X-ray images by utilizing 4D digital phantom

○Kousei Hamamuki[1], Naoki Miyamoto[2], Soudai Tanaka[2], Masaya Tamura[3], Ryusuke Suzuki[3] ([1]HOKKAIDO university, [2]HOKKAIDO university, [3]HOKKAIDO university hospital)

O-072 Influence of pulse pile-up effects on K-edge imaging with a photon-counting CT system

○Kazumi Murata[1], Koichi Ogawa[1] ([1]Hosei University)

O-073 Deep learning based auto segmentation in male pelvic CT images using texture analysis with 3D majority voting

○Masato Sekiguchi[1], Yuichi Tanaka[1], Takeo Katakura[1], Yuto Matsumoto[1], Minoru Ishigami[3], Hiromichi Ishiyama[4], Tomoyuki Hasegawa[2], Masatoshi Hashimoto[2] ([1]Graduate School of Medical Sciences, Kitasato University, [2]School of Allied Health Sciences, Kitasato University, [3]Department of Radiology, Kitasato University Hospital, [4]Department of Radiation Oncology, Kitasato)

■放射線治療（光子・電子）　線量計測・評価　9月14日（土）14：00〜15：00　第3会場

座長：岡本 裕之（国立がん研究センター中央病院）

O-074 IGBTのEnd-to-endテストに向けたファントムの開発と最適な線量計の検討

○Hideyuki Mizuno[1], Taku NAKAJI[1], Satsuki Wakamori[1,2], Ichiro TSURUOKA[1], Shigekazu FUKUDA[1], Akifumi FUKUMURA[1], Noriyuki Okonogi[1] ([1]QST hospital, QST, [2]Tokyo Metroporitan University)

O-075　蛍光ガラス線量計による3D-IGBTの線量評価における線質変換係数導出

○Taku Nakaji[1], Satsuki Wakamori[1,2], Ichiro TSURUOKA[1], Shigekazu FUKUDA[1], Akifumi FUKU-MURA[1], Hideyuki MIZUNO[1] （[1]QST Hospital, Quantum Medical Science Directorate, QST, [2]Graduate School of Human Health Sciences, Tokyo metropolitan university）

O-076　TPS-QC program by independent quality assurance and its practical use

○Toshiyuki Minemura[1], Yoshinori Tanabe[2], Shuichi Ozawa[3,4], Shinji KAWAMURA[5] （[1]National Cancer Center CIS, [2]Yamaguchi University Hospital, [3]Hiroshima University, [4]HIPRAC, [5]Teikyo University）

O-077　Evaluation of uncertainty in electrometer calibration factor measurement using 192Ir source after electrometer separated calibration

○Hayato Tsuno[1,2], Koji Sasaki[2], Morihito Shimizu[3], Nobuhiro Takase[4], Taro Takahashi[1], Satoko Saotome[1], Hikaru Miyauchi[1,5], Tomoharu Sato[1] （[1]Cancer Institute Hospital Japanese Foundation for Cancer Research, [2]Gunma Prefectural College of Health Sciences, Graduate Scholl of Radiological Technology, [3]National Metrology Institute of Japan, AIST, [4]Associat）

■放射線治療（光子・電子）　線量計測・評価　9月14日(土)15：00～16：00　第3会場

座長：宮下 久之（聖マリアンナ医科大学病院）

O-078　The focusing control of electron beam to form arbitrary radiation fields

○Minami Nakao[1], Atsushi Myojoyama[1], Ryo Imai[1], Ryo Nishida[2] （[1]Graduate School of Human Health Sciences, Tokyo Metropolitan University, [2]Faculty of Health Sciences, Tokyo Metropolitan University）

O-079　The simulation on the motion of high energy electron beam in magnetic field

○Ryo Imai[1], Atsushi Myojoyama[1] （[1]Tokyo Metropolitan university）

O-080　Research on convergence control of electron beam by actual measurement

○Ryo Nishida[1], Atsusi Myojoyama[1,2], Ryo Imai[2], Minami Nakao[2] （[1]Tokyo Metropolitan University, [2]Tokyo Metropolitan University Graduate School）

O-081　モデルコンバージョンに伴う放射線治療計画装置のコミッショニング

○Shinji Tsudou[1], Kengo Kosaka[2], Shuhei Sekii[1], Yuuko Inoue[1], Shuichiro Miyazaki[1], Mitsuru Marudai[1], Hisanori Doi[2], Motoko Nishida[2], Kazuki Kobashi[2], Akihiro Ikeda[2], Shouta Oosaki[2], Yousuke Oota[1], Kayoko Tsujino[1] （[1]Hyogo Cancer Center, [2]Hyogo Cancer Center）

一般演題（ポスター）

P-001　Angular dependency of MR signal of cortical bone

○Minghui Tang[1], Ken Masuyama[2], Masahiro Todoh[3], Toru Yamamoto[1]（[1]Hokkaido University, [2]Teine Keijinkai Hospital, [3]Hokkaido University）

P-002　Development of flexible diffusion tensor phantom

○Tadano Kiichi[1], Tajima Yoshiki[1], Sato Eisuke[2], Hashimoto Takeyuki[1]（[1]Kyorin university, [2]Juntendo university）

P-003　Pursuit of the current situation and related factors of pain exacerbation in palliative radiotherapy

○Manabu Yoshimoto[1,2], Tomohiro Ichikawa[1], Hikaru Osaki[1], Natsuki Kato[1], Kana Narihisa[1], Maki Ukita[1], Masaki Andou[2], Kazuhisa Okamoto[1], Yoshio Ohashi[1], Toshie Hattori[1], Nobuko Shoji[1], Ryuji Asai[1], Hiroyasu Iwasaki[2]（[1]Aichi Cancer Center Aichi Hospital, [2]Aichi Children's Health and Medical Center）

P-004　Examination for dose reduction of treatment planning CT by U-HRCT using Iterative Reconstruction

○Naoya Hashimoto[1], Shinya Murakami[1], Masato Takagi[1], Masato Mizuno[1], Hiromi Enomoto[1], Yujiro Fujita[1]（[1]Kyorin University Hospital）

P-005　Evaluation of correction factor of phantom and RGD for electron beam postal dose audit

○Satsuki Wakamori[1,2], Hideyuki MIZUNO[2], Taku NAKAJI[2], Shigekazu FUKUDA[2], Hidetoshi SAITOH[1]（[1]Tokyo Metropolitan university, [2]National Institutes for Quantum and Radiological Science and Technology）

P-006　遠隔支援のための高精度放射線治療線量計算システムの構築

○Hiraku FUSE[1], Kenji YASUE[2], Satoshi OYAMA[2], Tatsuya FUJISAKI[1], Shinji ABE[1]（[1]Ibaraki Prefectural University of Health Sciences, [2]Ibaraki Prefectural University of Health Sciences）

P-007　Evaluation of dose profile at stopping position of upper collimator in Enhanced Dynamic Wedge

○Yasuhisa Kishi[1], Satoshi Yasuhiro[1], Akihiko Hoshi[1]（[1]Musashino Redcross Hospital）

P-008　Examination of the effectiveness of implanted spacer in proton therapy.

○Kumiko Asai[1], Kensuke Hayashi[1], Kenichiro Tanaka[1], Akira Shimomura[1], Rie Muramatsu[1], Toshiyuki Toshito[1], Mitsuhiro Kimura[1]（[1]Nagoya Proton Therapy Center　Nagoya Proton Therapy Center）

P-009 Divided-volume matching technique for volume displacement estimation at patient positioning

○Mutsumi Tashiro[1], Yoshiki Kubota[1], Tatsuya Ohno[1] ([1]Gunma University Heavy Ion Medical Center)

P-010 Development of Generating High-Quality Images using Deep Learning for Patient Positioning in Prostate Cancer Carbon-Ion Radiotherapy

○Kubota Yoshiki[1], Yukinori Hayama[2], Naoya Okamoto[2], Satoshi Abe[3], Saki Souda[3], Hidemasa Kawamura[1], Mutsumi Tashiro[1], Tatsuya Ohno[1], Takashi Nakano[1] ([1]Gunma University Heavy Ion Medical Center, [2]Gunma University, [3]Gunma University Hospital)

P-011 The results of external dose audits for therapeutic high-energy X-rays by ANTM

○Hiroaki Okuyama[1], Masahiro Endo[1], Suoh Sakata[1], Katsuhisa Narita[1], Wataru Yamashita[1], Nobuhiro Takase[1], Masahiro Hoteida[1], Yosuke Sasaki[1], Tota Ushiroda[1], Hideyuki Mizuno[2], Shigekazu Fukuda[2], Akifumi Fukumura[2] ([1]ANTM, [2]NIRS)

P-012 A study on development of remote-changeable Bonner sphere spectrometer for characterization in BNCT irradiation field

○Sadaaki Shiraishi[1], Takushi TAKATA[2], Hiroki TANAKA[2], Yoshinori SAKURAI[2] ([1]Kyoto University, [2]Kyoto University)

P-013 Examination of the fading correction method based on the Thermoluminescence theory

○Kiyomitsu Shinsho[1], Morimi Kudo[2], Daiki Maruyama[1] ([1]Tokyo Metropolitan University, [2]Tokyo Metropolitan University)

P-014 Monte Carlo study of out-of-field exposure in carbon-ion radiotherapy : Quality Factor in pediatric brain tumor treatment.

○Shinnosuke Matsumoto[1], Shunsuke YONAI[1] ([1]National Institutes for Quantum and Radiological Science and Technology)

P-015 Model-based scatter correction method based on Monte Carlo simulation

○Rio Oketa[1], Kiichi Tadano[2], Takeyuki Hashimoto[1] ([1]Kyorin university, [2]Kyorin university)

P-016 Image quality improvement of cone beam CT during treatment using iterative reconstruction

○Kosuke Mano[1], Takeyuki Hashimoto[1], Toshikazu Imae[2], Kensuke Hori[1] ([1]Kyorin University, [2]University of Tokyo Hospital)

P-017 WEBページ「過去問で学ぶ医学物理士試験対策」の運用について

○Sakai Makoto[1] ([1]Gunma University)