一般演題（Oral）

■ Diagnostic x-ray　　Sep. 15th（Fri.）10 : 30 ～ 11 : 50　Room 2

Moderator : Hidetaka Arimura（Kyushu University）

Cho　Seungryoung（Korea Advanced Institute of Science and Technology）

O-001 Feasibility study of bone removal image generation using single-shot x-ray imaging and a four-layer stack of image plates.

○ Hiroyuki Kosaka[1)], Kohei Shimomura[2)], Hajime Monzen[1)]（[1)]Department of Medical Physics, Graduate School of Medical Science, Kindai University [2)]Depertment of Radiological Technology, Faculty of Medical Science, Kyoto College of Medical Science）

O-002 A fast skin dose estimation system in interventional radiology

○ Takeshi Takata[1)], Jun'ichi Kotoku[1), 2)], Hideyuki Maejima[2)], Shinobu Kumagai[2)], Norikazu Arai[2)], Takenori Kobayashi[1)], Kenshiro Shiraishi[3)], Masayoshi Yamamoto[3)], Hiroshi Kondo[3)], Shigeru Furui[1), 3)]（[1)]Graduate School of Medical Technology, Teikyo University [2)]Central of Radiology, Teikyo University Hospital [3)]Department of Radiology, Teikyo University School of Medicine）

O-003 Application of bone suppression technique with deep learning in chest digital tomosynthesis

○ Donghoon Lee, Sunghoon Choi, Haenghwa Lee, Dohyeon Kim, Seungyeon Choi, Hee-Joung Kim（Yonsei University）

O-004 Evaluation of the Scattered X-rays in Photon Counting CT

○ Shinichi Kojima, Isao Takahashi, Kazuma Yokoi（Hitachi, Ltd.）

O-005 Determination of urinary stone composition using micro CT based on attenuation coefficient

○ Freddy Haryanto, Leni Aziyus Fitri, Umar Fauzi（Institut Teknologi Bandung）

O-006 Comparative Performance Analysis for Abdominal Phantom ROI Detectability according to CT Reconstruction Algorithm : Focused on ADMIRE.

○ jun bong Shin[1), 2)], Do kun Yoon[2)], Seong yong Pak[3)], Yang ho Kwon[3)]（[1)]Catholic Kwandong University International ST. Mary's Hospital [2)]Catholic University of Korea College of Medicine Department of Biomedical Engineering [3)]Siemens Healthcare）

O-007 A new deformable image registration algorithm by considering deformation discontinuity with L0-norm regularization and Levenberg-Marquardt scheme

○ Hojin Kim[1), 2)], Dan Ruan[2)], Byung-chul Cho[1)], Jungwon Kwak[1)], Chi-young Chung[1)], Ke Sheng[2)]（[1)] Asan Medical Center in Seoul [2)]University of California, Los Angeles）

O-100 Four-dimensional digital tomosynthesis based on visual respiratory guidance

○ Dong-Su Kim[1)], Seungwan Lee[2)], Siyong Kim[3)], Tae-Ho Kim[1)], Seong-Hee Kang[1), 4)], Kyeong-Hyeon Kim[1)], Dong-Seok Shin[1)], Tae Suk Suh[1)] ([1)]Department of Biomedical Engineering and Research Institute of Biomedical Engineering, College of Medicine, The Catholic University of Korea [2)]Department of Radiological Science, College of Medical Science, Konyang University [3)]Department of Radiation Oncology, School of Medicine, Virginia Commonwealth University [4)]Department of Radiation Oncology, Seoul National University Hospital)

■ Image informatics, brachytherapy, and others Sep. 15th (Fri.) 10 : 50 ～ 12 : 00 Room 3

Moderator : Hiroshi Watabe (Tohoku University)

Kim Kun Bae (Korea Institute of Radiological & Medical Sciences (KIRAMS))

O-008 Electromagnetic simulation of heating in an RF burn injury during MRI examinations

○ Takuya Haruyama[1)], Minghui Tang[2)], Keita Teramura[3)], Toru Yamamoto[2)] ([1)]Graduate School of Health Sciences, Hokkaido University [2)]Faculty of Health Sciences, Hokkaido University [3)]Department of Health Sciences, School of Medicine, Hokkaido University)

O-009 MRI-visible phantom fabricated using material jetting three-dimensional printing with nanocomposite hydrogel for MRI-guided therapy simulation

○ Takeshi Kamoame[1)], Tomohiro Komada[1)], Yutaka Kato[2)], Kuniyasu Okudaira[2)], Takashi Matsumura[3)], Yoshihiro Norikane[3)], Tatsuya Niimi[3)], Yoshiyuki Itoh[1)], Shinji Naganawa[1)] ([1)]Nagoya University Graduate School of Medicine [2)]Nagoya University Hospital [3)]Ricoh Co., Ltd.)

O-010 Radiomics predictability of early-stage non-small cell lung cancer histology : interobserver delineation analysis

○ Akihiro Haga, Wataru Takahashi, Syuuri Aoki, Kanabu Nawa, Hideomi Yamashita, Osamu Abe, Keiichi Nakagawa (The University of Tokyo Hospital)

O-011 The impact of number of views on cross-sectional Compton imaging

○ Makoto Sakai[1)], Raj Kumar Parajuli[1)], Mikiko Kikuchi[1)], Kazuo Arakawa[1),2)], Mitsutaka Yamaguchi[2)], Yuto Nagao[2)], Naoki Kawachi[2)], Takashi Nakano[1)] ([1)]Gunma University [2)]National Institutes for Quantum and Radiological Science and Technology)

O-012 Improvements in measuring the source dwell time of HDR brachytherapy using quality assurance tools with Cerenkov radiation

○ Yuya Tatsuno[1)], Katsunori Yogo[3)], Takahiro Shimo[4)], Takumi Narusawa[1)], Kohei Kamata[1)], Hiromichi Ishiyama[2), 5)], Kazushige Hayakawa[1), 2), 5)] ([1)]Kitasato University,Graduated School of Medical Science [2)]Kitasato University, School of Medicine [3)]Hiroshima High-precision Radiotherapy Cancer Center [4)]Tokyo Nishi Tokushukai Hospital [5)]Kitasato University Hospital)

O-013 Monte Carlo simulation of a tandem applicator with rotatable shieldfor Intensity Modulated Brachytherapy of cervical cancers

○ Young Kyung Lim[1], Sang Hyoun Choi[2], Youngmoon Goh[1], Ui-Jung Hwang[3], Soonki Min[1], Eun Hee Jeang[1], Haksoo Kim[1], Jong Hwi Jeong[1], Dongho Shin[1], Se Byeong Lee[1] ([1]National Cancer Center Korea [2]Korea Institute of Radiological & Medical Sciences [3]National Medical Center)

O-014 Application of deep learning technique to nuclear medicine image acquisition

○ Do-Kun Yoon[1], Han-Back Shin[1], Hajime Monzen[2], Kazuki Kubo[2], Tae Suk Suh[1] ([1]The Catholic University of Korea [2]Kindai University)

■Radiotherapy (X-ray, Electron) 1 Sep. 15th (Fri.) 13 : 00 ～ 14 : 00 MO hall

Moderator : Norihisa Masai (Miyakojima IGRT Clinic)

Oh Young Kee (Dept. of Radiation Oncology, School of Medicine, Keimyung University)

O-015 Reduction of the skin surface dose for megavoltage photon beams

○ Mikoto Tamura[1], Hajime Monzen[1], Kenji Matsumoto[1], Masahiko Okumura[2], Yasumasa Nishimura[3] ([1]Department of Medical Physics, Graduate School of Medical Science, Kindai University [2]Department of Central Radiology, Kindai University Hospital [3]Department of Radiation Oncology, Faculty of Medicine, Kindai University)

O-016 Validation of fluence-based 3D VMAT dose reconstruction system using a new transmission detector on a heterogeneous anthropomorphic phantom

○ Yuji Nakaguchi, Masato Maruyama, Yudai Kai, Yoshinobu Shimohigashi (Kumamoto University Hospital)

O-017 Basic evaluation of target movement using 4-dimentional target-moving phantom.

○ Yoshitsugu Matsumoto[1], Shigeto Kabuki[1], Etsuo Kunieda[1], Akitomo Sugawara[1], Tadashi Kitahara[1], Yukio Fujita[1], Koichirou Yamada[3], Kazumasa Amino[2], Yousuke Sasaki[2], Katsuki Murakami[2], Koichirou Sugawara[4], Naoichirou Saito[5] ([1]Department of Radiation Oncology, Tokai University School of Medicine [2]Radiological Technology Department, Clinical Technology Division, Tokai University Hachioji Hospital [3]Tokai University, Graduate School of Medicine [4]Accuthera Inc. [5]ARRK Corp.)

O-018 Multi-threshold gamma analysis for dose verification of intensity-modulated radiotherapy

Akito Saito, Takuro Okumura, Takeo Nakashima, Masamichi Aita, Kazunari Hioki, Daisuke Kawahara, Hirokazu Masuda, Kentaro Miki, Masayoshi Mori, Koji Naito, Yusuke Ochi, Kento Tsubouchi, Yoshimi Ohno, Yasushi Nagata (Hiroshima University Hospital)

O-019 Estimation of Measurement-guided 4D Dose Verification System Using Customized Polymer Gel Dosimeter

○Kaoru Ono[1)], Sachie Fujimoto[1)], Shin-ichiro Hayashi[2)], Kazunari Hioki[3)], Masanori Miyazawa[4)], Yukio Akagi[1)], Yutaka Hirokawa[1)] ([1)]High-precision Radiotherapy Center, Hiroshima Heiwa Clinic [2)]Department of Clinical Radiology, Hiroshima International University [3)]Division of Radiation Therapy, Hiroshima University Hospital [4)]R-TECH.INC)

O-020 Feasibility study of two dimensional measurement system based on optical sensor for photon therapy

○Sun Young Moon, Jihye Koo, Myonggeun Yoon (Department of Bio-convergence Engineering, Korea University, Seoul, Republic of Korea)

■Radiotherapy (Particle) 1 Sep. 15th (Fri.) 13 : 00 ～ 14 : 00 Room 3

Moderator : Hiroaki Kumada (Tsukuba University)

Park Sung Ho (Ulsan University Hospital)

O-021 Investigation of 6Li compound suitable for beam component measurement using polymer gel detector for BNCT

○Kenichi Tanaka[1)], Yuto Murakami[1)], Shin-ichiro Hayashi[2)], Tsuyoshi Kajimoto[1)], Yuka Shigetake[1)], Yoshinori Sakurai[3)], Hiroki Tanaka[3)], Satoru Endo[1)] ([1)]Hiroshima University [2)]Hiroshima International University [3)]Kyoto University)

O-022 Feasibility study for usefulness of CBCT image using X-ray equipment on BNCT treatment planning

○Hiroyuki Sato[1), 2)], Yasushi Ono[1)], Takushi Takata[3)], Yoshinori Sakurai[3)] ([1)]Tottori University Hospital [2)]Graduate School of Engineering, Kyoto University [3)]Kyoto University Research Reactor Institute)

O-023 Treatment planning comparison between boron neutron capture therapy and volumetric modulated arc therapy for patients with brain cancer

○Kazuki Kubo[1), 2)], Do-Kun Yoon[3)], Hiroki Tanaka[4)], Hajime Monzen[1)], Yoshinori Sakurai[4)], Kentaro Ishii[2)], Ryu Kawamorita[2)], Tae Suk Suh[3)], Yasumasa Nishimura[5)] ([1)]Department of Medical Physics, Graduate School of Medical Sciences, Kindai University [2)]Department of Radiation Oncology, Tane General Hospital [3)]Department of Biomedical Engineering and Research Institute of Biomedical Engineering, College of Medicine, Catholic University of Korea [4)]Particle Radiation Oncology Research Center, Kyoto University Research Reactor Institute, Kyoto University [5)]Department of Radiation Oncology, Faculty of Medicine, Kindai University)

O-024 Development of the pharmacokinetic-evaluation system for boron delivery agent using prompt gamma-ray analysis

○ Yoshinori Sakurai[1)], Hiroyuki Michiue[2)], Mizuki Kitamatsu[3)], Takushi Takata[1)], Hiroki Tanaka[1)], Natsuko Kondo[1)], Minoru Suzuki[1)] ([1)]Kyoto University Research Reactor Institute [2)]Neutron Therapy Research Center, Okayama University [3)]Faculty of Science and Engineering, Kindai University)

O-025 Study on dose reduction of normal tissue using freely deformable neutron shield for boron neutron capture therapy

○ Hiroki Tanaka, Takushi Takata, Yuki Tamari, Yoshinori Sakurai, Tsubasa Watanabe, Minoru Suzuki, Shin-ichiro Masunaga, Akira Maruhashi, Koji Ono (Kyoto University Research Reactor Institute)

O-026 Optimization of Whole-Scalp Irradiation Applicator for Boron Neutron Capture Therapy

○ Takushi Takata, Nozomi Fujimoto, Hiroki Tanaka, Yoshinori Sakurai, Minoru Suzuki (Research Reactor Institute, Kyoto University)

■Radiation measurement 1 Sep. 15th (Fri.) 14 : 00 ～ 15 : 00 Room 3

Moderator : Hideki Takegawa (Kansai Medical University)

Lim Young Kyung (National Cancer Center, Korea)

O-027 A feasibility study to use alanine/ESR dosimeter in MR-cobalt treatment

○ Hidetoshi Yamaguchi[1)], Yuichiro Morishita[1)], Morihito Shimizu[1)], Yuuki Sato[1)], Kenji Yasue[1)], Hiroyuki Okamoto[2)], Tatsuya Sakasai[2)], Yuuki Miura[2)], Shie Nishioka[2)], Yoshihisa Abe[2)], Jun Itami[2)] ([1)]National Metrology Institute of Japan, AIST [2)]National Cancer Center Hospital)

O-028 Investigation on the calibration coefficients of ionization chambers used in a high magnetic field by MRIdian

○ Yuichiro Morishita[1)], Morihito Shimizu[1)], Hidetoshi Yamaguchi[1)], Yuuki Sato[1)], Kenji Yasue[1)], Hiroyuki Okamoto[2)], Tatsuya Sakasai[2)], Yuuki Miura[2)], Shie Nishioka[2)], Yoshihisa Abe[2)], Jun Itami[2)] ([1)]National Metrology Institute of Japan (AIST) [2)]National Cancer Center Hospital)

O-029 Responses of the ionization chambers in a high magnetic field by MRIdian

○ Yuichiro Morishita[1)], Morihito Shimizu[1)], Hidetoshi Yamaguchi[1)], Yuuki Sato[1)], Kenji Yasue[1)], Hiroyuki Okamoto[2)], Tatsuya Sakasai[2)], Yuuki Miura[2)], Shie Nishioka[2)], Yoshihisa Abe[2)], Jun Itami[2)] ([1)]National Metrology Institute of Japan (AIST) [2)]National Cancer Center Hospital)

O-030 Evaluation of entrance surface dose using a dose area product meter in diagnostic x-ray beams

○ Suzuna Umeno[1)], Fujio Araki[2)], Takeshi Ohno[2)] ([1)]Graduate School of Health Sciences, University of Kumamoto [2)]Faculty of Life Sciences, University of Kumamoto)

O-031 Retrospective Dose Assessment of Medical Radiation Exposure : Investigation on the ESR Dosimetry of Nails

○ Chryzel Angelica Babaan Gonzales[1), 2), 3)], Hiroshi Yasuda[2), 3)], Yasushi Nagata[1), 2), 4)] ([1)]Department of Radiation Oncology, Graduate School of Biomedical and Health Sciences, Hiroshima University [2)]Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster [3)]Department of Biophysics, Research Institute for Radiation Biology and Medicine (RIRBM), Hiroshima University [4)]Department of Radiation Oncology, Institute of Biomedical and Health Sciences, Hiroshima University Hospital)

O-032 3D Silicon Microdosimetry for Boron Neutron Capture Therapy : A Simulation Study

○ Naonori Ko[1)], Ryohei Uchida[1)], Thuy Linh Tran[2)], Anatoly Rosenfeld[2)], Yoshinori Sakurai[3)] ([1)]Graduate School of Engineering, Kyoto University [2)]Centre for Medical Radiation Physics, University of Wollongong [3)]Research Reactor Institute, Kyoto University)

■ Radiotherapy (Particle) 2 Sep. 16th (Sat.) 10 : 00 ～ 11 : 00 MO hall

Moderator : Takaaki Fujii (Hokkaido University)

Kim Dong Wook (Kyung Hee University Hospital at Gangdong)

O-033 Development of robust optimization method for patch irradiation using proton spot scanning technique

○ Yusuke Fujii[1)], Rintaro Fujimoto[1)], Shinichiro Fujitaka[1)], Masahiro Hosaka[2)], Yoshihiko Nagamine[2)], Kensuke Hayashi[3)], Toshiyuki Toshito[3)] ([1)]Hitachi, Ltd. Research and Development Group [2)]Hitachi, Ltd. Healthcare Business Unit [3)]Nagoya Proton Therapy Center)

O-034 A noble method for determination of beam-halo characteristics in proton pencil beam scanning fields.

○ Yushi Wakisaka[1)], Takashi Akagi[2)], Katsuyuki Tsunazawa[4)], Yuki Tominaga[4)], Mitsutoshi Tada[4)], Tomoaki Okimoto[3)], Masahiko Koizumi[1)] ([1)]Dept. of Medical Physics & Engineering, Osaka University Graduate School of Medicine [2)]Hyogo Ion Beam Medical Support [3)]Hyogo Ion Beam Medical Center [4)] Tsuyama Chuo Hospital Dept. of radiation technology)

O-035 Investigation of dose distribution immobilization devices with meshes in proton therapy.

○ Kumiko Asai[1)], Kensuke Hayashi[1)], Eiki Nikawa[1)], Kenichiro Tanaka[1)], Akira Shimomura[1)], Rie Muramatsu[1)], Toshiyuki Toshito[1)], Chihiro Oomachi[1)], Mitsuhiro Kimura[1)], Tatsuya Inoue[1)], Keisuke Yasui[2)] ([1)]Nagoya Proton Therapy Center [2)]Fujita Health University)

O-036 Clinical Commissioning of a uniform scanning Treatment Planning System for our proton therapy facility

○ Kunihiko Tateoka, Yuya Azuma, Yasuhiro Hasegawa, Keiji Nakazato, Ayaka Kikuchi, Hyuga Nireki, Masaru Takagi, Masato Hareyama (Proton Treatment Center , Sapporo Teishinkai Hospital)

O-037 Modeling of range-modulated proton beams by using numerical methods in the commissioning of our proton therapy system

○ Yuya Azuma, Kunihiko Tateoka, Yasuhiro Hasegawa, Keiji Nakazato, Ayaka Kikuchi, Hyuga Nireki, Masaru Takagi, Masato Hareyama（Sapporo Teishinkai Hospital）

O-038 Evaluation of Water-Equivalent-Thickness (WET) deviation between Plan CT and Re-plan CT for prostate cancer in Spot-Scanning Proton-beam Therapy

○ Takaaki Fujii[1)], Taeko Matsuura[2),3)], Seishin Takao[4)], Naoki Miyamoto[4)], Shusuke Hirayama[1)], Kikuo Umegaki[2)], Shinichi Shimizu[1)], Toru Umekawa[5)], Hiroki Shirato[1)]（[1)]Graduate School of Medicine, Hokkaido University [2)]Graduate School of Engineering, Hokkaido University [3)]Global Station for Quantum Medical Science and Engineering, Global Institution for Collaborative Research and Education (GI-CoRE) [4)]Hokkaido University Hospital [5)]Hitachi, Ltd., Research and Development Group）

■Radiotherapy（X-ray, Electron）2 Sep. 16th（Sat.）9 : 50 ～ 11 : 00 Room 2

Moderator : Kaoru Ono（Hiroshima Heiwa Clinic)

Kang Young-nam（Seoul St.Mary's Hospital, Radiation Oncology, The Catholic University of Korea）

O-039 Dosimetric and radiobiological variations with dose calculation grid size between Acuros XB and AAA algorithm on prostate VMAT

○ Kyeong-Hyeon Kim[1)], Sang-Won Kang[1)], Jin-Beom Chung[2)], Keun-Yong Eom[2)], Changhoon Song[2)], In-Ah Kim[2)], Jae-Sung Kim[2)], Tae Suk Suh[1)]（[1)]Department of Biomedical Engineering, Research Institute of Biomedical Engineering, College of Medicine, the Catholic University of Korea, Seoul, Korea [2)] Department of Radiation Oncology, Seoul National University Bundang Hospital, Seongnam, Korea）

O-040 Investigation of tolerance level for uncorrectable rotation error in total-body irradiation by helical tomotherapy system

○ Akira Isobe[1)], Keisuke Usui[2)], Makiko Kinosita[1)], Saori Ishisugi[1)], Junpei Oobuchi[1)], Naoya Hara[1)], Haruyoshi Houshido[1)], Keisuke Sasai[2)]（[1)]Juntendo University Medical School Hospital [2)]Juntendo University School of Medicine）

O-041 Optimization of collimator and table angle for VMAT in multiple brain metastases

○ Takeshi Ohno[1)], Fujio Araki[1)], Naoto Yamaura[2)]（[1)]Faculty of Life Sciences, Kumamoto University [2)] Graduate School of Health Sciences, Kumamoto University）

O-042 Calculation of ideal three-dimensional dose distribution based on patient geometric information in intensity modulated radiation therapy

○ Kazunari Hioki[1)], Takeo Nakashima[1)], Kentaro Miki[2)], Kento Tsubouchi[1)], Koji Naitou[1)], Hirokazu Masuda[1)], Takurou Okumura[1)], Daisuke Kawahara[1), 3)], Yusuke Ochi[1)], Masamichi Aita[1)], Yoshimi Ohno[1)], Yasushi Nagata [2)]（[1)]Division of Radiation Therapy, Department of Clinical Practice and Support, Hiroshima University Hospital [2)]Department of Radiation Oncology, Hiroshima University Hospital [3)]Graduate school of Biomedical & Health sciences, Hiroshima University）

O-043 Comparative Dosimetric Analysis of Acoustic Neuroma Treatment

○ Yoonjin Oh[1)], Dong Oh Shin[3)], Dong Ho Shin[4)], Weon Kuu Chung[2)], Moonkyoo Kong[5)], Dong Wook Kim[2)] ([1)]Research Institute of Clinical Medicine, Kyung Hee University Hospital at Gangdong, Seoul, Korea [2)]Department of Radiation Oncology, Kyung Hee University Hospital at Gangdong, Seoul, Korea [3)]Department of Radiation Oncology, Kyung Hee University Hospital, Seoul, Korea [4)]Proton Therapy Center, National Cancer Center, Goyang-si, Korea [5)]Department of Radiation Oncology, Kyung Hee University Medical Center, Kyung Hee University School of Medicine, Seoul, Republic of Korea)

O-044 Feasibility study of a semi-automatic treatment planning algorithm for breast irradiation using the field-in-field technique

○ Satoru Sugimoto, Hiroyuki Watanabe, Toru Kawabata (Juntendo University)

O-045 Evaluation of the influence of the couch sagging for setup margin with stereotactic radiation surgery/therapy

○ Inomata Shinichiro[1)], Yoshihiro Tanaka[1)], Shizuka Takasaka[1)], Hitomi Doya[1)], Ryuma Yamashita[1)], Toshiaki Fuse[1)], Yoshimi Kato[1)], Kohei Shimomura[2)], Seiichi Ota[3)] ([1)]Japanese Red Cross Kyoto Daiichi Hospital [2)]Kyoto College of Medical Science [3)]Osaka University Hospital)

■ Radiotherapy (X-ray, Electron) 3 Sep. 16th (Sat.) 9 : 50 ～ 11 : 00 Room 3

Moderator : Hirokazu Mizuno (Osaka University)

Seo Jeongmin (Daewon University)

O-046 Development of real time abdominal compression force (ACF) monitoring system

○ Tae Ho Kim[1)], Siyong Kim[2)], Dong-Su Kim[1)], Seong-Hee Kang[1)], Kyeong-Hyun Kim[1)], Dong-Seok Shin[1)], Tae-Suk Suh[1)] ([1)]Department of Biomedical Engineering, the Catholic University of Korea, Seoul, Korea [2)]Department of Radiation Oncology, Virginia Commonwealth University, VA, USA)

O-047 Performance Analysis of Prediction Algorithms for a Robotic Couch Tracking System

○ Min-Seok Cho[1)], Minsik Lee[1)], Hoyeon Lee[2)], Hyekyun Chung[1)], Byungchul Cho[1)] ([1)]Department of Radiation Oncology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea [2)]Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology, Daejeon Korea)

O-048 Accuracy of lung tumor delineation with breath coaching and four dimensional image using 320-slice area detector CT

○ Kentaro Suzuki[1), 2)], Keisuke Usui[1)], Ryoichi Hinoto[2)], Keisuke Sasai [1)] ([1)]Juntendo University [2)]Saiseikai Yokohamashi Tobu Hos.)

O-049 Reproducibility of 4D-CT ventilation and breath hold CT ventilation imaging for lung cancer

○ Yujiro Nakajima[1), 2)], Noriyuki Kadoya[2)], Satoshi Kito[1)], Shimpei Hashimoto[1)], Keiichi Jingu[2)], Keiji Nihei[1)], Katsuyuki Karasawa [1)] ([1)]Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital [2)]Tohoku University Graduate School of Medicine)

O-050 Feasibility study for detecting a motion blurring of dose distribution using a 2D diode array detector

○ Tadashi Sugita[1)], Satoru Sugimoto[1)], Keisuke Usui[1)], Jun Takatsu[1)], Naoya Hara[2)], Akira Isobe[2)] ([1)] Juntendo University [2)]Juntendo University Hospital)

O-051 Optimization of training periods for estimating three-dimensional target position from abdominal motion

○ Hiraku Iramina[1), 2)], Mitsuhiro Nakamura[2)], Yusuke Iizuka[2)], Takamasa Mitsuyoshi[2)], Yukinori Matsuo[2)], Takashi Mizowaki[2)], Ikuo Kanno[1)] ([1)]Graduate School of Engineering, Kyoto University [2)]Graduate School of Medicine, Kyoto University)

O-052 Verification of delivered dose to a moving target by 4D dose reconstruction in gated volumetric modulated arc therapy

○ Hyekyun Chung[1)], Chiyoung Jeong[1)], Jungwon Kwak[1)], Jin-hong Park[1)], Sang Min Yoon[1)], Seungryong Cho[2)], Byungchul Cho[1)] ([1)]Asan Medical Center [2)]KAIST)

■Radiotherapy (Particle) 3 Sep. 16th (Sat.) 11 : 00 ～ 11 : 50 Room 3

Moderator : Narihiro Matsufuji (National Institute of Radiological Sciences)

Kwak Jungwon (Asan Medical Center)

O-053 Biological dose representation for carbon-ion radiotherapy of unconventional fractionation

○ Nobuyuki Kanematsu[1)], Taku Inaniwa[2)] ([1)]National Institute of Radiological Sciences Hospital, QST [2)]National Institute of Radiological Sciences, QST)

O-054 Comparisons of Geant4 and experimental LET spectra in a C-12 irradiation and high Z fragments using CR-39 detector

○ Yoshiyuki Hirano[1)], Satoshi Kodaira[2)], Hikaru Souda[1)] ([1)]Gunma University Heavy Ion Medical Center [2)]National Institute of Radiological Sciences, QST)

O-055 Determination of MKM parameters for breast cancer cells in carbon-ion radiotherapy

○ Manami Sakata[1)], Takashi Akagi[2)], Takuya Maeda[2)], Tomoaki Okimoto[2)], Tomohiro Yamashita[2)], Masaki Suga[2)], Masahiko Koizumi[1)] ([1)]Osaka University [2)]Hyogo Ion Beam Medical Center)

O-056 Testing a diode detector for measuring pencil-beam profiles in scanned carbon-ion therapy

○ Takumi Narusawa[1)], Katsunori Yogo[5)], Tatsuaki Kanai[2)], Akihiko Matsumura[2)], Hikaru Souda[2)], Yousuke Kano[3)], Yuya Tatsuno[1)], Masami Torikoshi[2)], Kazushige Hayakawa[1), 4)] ([1)]Kitasato University Graduate School of Medical Sciences [2)]Gunma University Heavy Ion Medical Center [3)]Accelerator Engineering Corporation [4)]Kitasato University School of Medicine [5)]Hiroshima High-Precision Radiotherapy Cancer center)

O-057 Compatibility of Monitor Output Estimation in Carbon Ion Radiotherapy

○ Akihiko Matsumura, Tatsuaki Kanai, Ken Yusa (Gunma University Heavy Ion Medical Center)

■ Radiotherapy (X-ray, Electron) 4 Sep. 16th (Sat.) 13 : 00 ～ 14 : 00 MO hall

Moderator : Noriyuki Kadoya (Tohoku University)

Kim Jung-in (Seoul National University Hospital)

O-058 Evaluation and optimization of patient dose from kilovoltage cone beam computed tomography imaging in radiation therapy.

○ Yoshiki Takei[1)], Kenji Matsumoto[2)], Mikoto Tamura[2)], Hajime Monzen[3)] ([1)]Kindai University Nara Hospital [2)]Kindai University Hospital [3)]Graduate School of Medical Science, Kindai University)

O-059 Quantification of interfractional CTV shape variations based on statistical point distribution model for prostate cancer radiation therapy

Hidetaka Arimura, ○ Yusuke Shibayama, Taka-aki Hirose, Tomonari Sasaki, Saiji Ohga, Yoshiyuki Umezu, Hiroshi Honda (Kyushu University)

O-060 Influence of variation in dose distribution : Comparison between CT-and CBCT-based plans for oropharyngeal cancer

○ Masakazu Otsuka[2)], Hajime Monzen[2)], Kazuki Ishikawa[3)], Kenji Matsumoto[1)], Mikoto Tamura[2)], Tamaki Nishi[1)], Kenji Sakaguchi[1)], Yasumasa Nishimura[3)] ([1)]Department of Radiology, Kindai University Factory of Medicine [2)]Department of Medical Physics, Graduate School of Medical Science, Kindai University [3)]Department of Radiation Oncology, Kindai University Faculty of Medicine)

O-061 Comparison of In-Treatment MV and diagnosis kV CT Images For Precise and Safe X-ray Cancer Therapy

○ Ming Cheng[1)], Kazuyuki Demachi[1)], Akihiro Haga[2)], Ritu Bhusal Chhatkuli[1)], Mitsuru Uesaka[1)] ([1)] The University of Tokyo [2)]The University of Tokyo Hospital)

O-062 Evaluation of delivered dose distribution with intra-fractional motion using biplanar diode array detector in helical tomotherapy system

○ Keisuke Usui[1)], Koichi Ogawa[2)], Naoto Shikama[1)], Keisuke Sasai[1)] ([1)]Juntendo University, Department of Radiation Oncology [2)]Hosei University, Faculty of Science and Engineering)

O-063 Development of the Accurate Skin-Dose Evaluation Techniques Based on a Monte Carlo Simulation in Radiation Therapy

○ Bo Wee Cheon, Do Hyeon Yoo, Hyun Joon Choi, Chul Hee Min (Department of Radiation Convergence Engineering, Yonsei University, Wonju, Korea)

■Radiation measurement 2　Sep. 16th（Sat.）13 : 00 ～ 14 : 00　Room 2

Moderator : Yuki Otani（Kaizuka City Hospital)

Cho　Byungchul（ASAN MEDICAL CENTER）

O-064 Development of Time Saving Daily QA Measurement Tool for Spot Scanning Proton Therapy System

○ Takahiro Yamada[1), 2)], Taisuke Takayanagi[1)], Seishin Takao[2)], Taeko Matsuura[2)], Shusuke Hirayama[1), 2)], Takaaki Fujii[1), 2)], Kikuo Umegaki[2)]（[1)]Research & Development Group, Hitachi Ltd. [2)]Proton Therapy Center, Hokkaido University）

O-065 Dosimetric evaluation of dose reporting modes in patient-specific QA using 3D helical diode array

○ Hideaki Hirashima[1)], Mitsuhiro Nakamura[1)], Yoshitomo Ishihara[1)], Nobutaka Mukumoto[1)], Mami Akimoto[1)], Tsuneyuki Tomita[2)], Yoshinori Hirose[2)], Kenji Kitsuda[2)], Takashi Ishigaki[3)], Takashi Mizowaki[1)]（[1)]Department of Radiation Oncology and Image-applied Therapy, Graduate School of Medicine, Kyoto University, Kyoto [2)]Division of Radiology, Osaka Red Cross Hospital, Osaka [3)]Department of Radiation Therapy, Osaka Red Cross Hospital, Osaka）

O-066 TomoTherapy Delivery Quality Assurance Depending on Curve Fitting amd Exposed Dose Range for EBT3 Film Calibration

○ Min-Joo Kim[1), 2)], Eungman Lee[1)], Ho Lee[1)], Sohyun Park[1)], Sohyun Ahn[1)], Jin Sung Kim[1)]（[1)]Department of Radiation Oncology, Yonsei Cancer Center, Yonsei University College of Medicine [2)]Department of Biomedical Engineering, Research Institute of Biomedical Engineering, The Catholic University of Korea College of Medicine）

O-067 Sensing ability of in vivo dosimetry using EPID in VMAT

○ Kazuo Tarutani[1), 2)], Masao Tanooka[1)], Hiroshi Doi[1)], Kengo Kosaka[3)], Hitomi Suzuki[1)], Yasuhiro Takada[1)], Masayuki Fujiwara[1)], Yuki Todo[2)], Hiroyuki Fujimoto[2)], Masaki Miyashita[2)], Ayako Okamura[2)], Kazufumi Kagawa[2)], Norihiko Kamikonya[1)], Yamakado Koichiro [1)]（[1)]Hyogo College of Medicine [2)] Japan Organization of Occupational Health and Safty Kansai Rousai Hospital [3)]Hyogo Cancer Center）

O-068 Development of the patient-specific 4D phantom model for liver stereotactic body radiotherapy

○ Seon yeong Noh, Chiyoung Jeong, Jungwon Kwak, Byung-Chul Cho（Asan medical center）

O-069 The process of the determination of Dosimetric leaf gap and Transmission for VMAT using TrueBeamTM STx

○ Hiroaki Akasaka[1)], Naritoshi Mukumoto[1)], Ryuichi Yada[3)], Tianyuan Wang[3)], Yasuyuki Shimizu[3)], Saki Osuga[3)], Yuichi Aoyama[2)], Ryohei Sasaki[1)]（[1)]Division of Radiation Oncology, Kobe University Hospital [2)]Department of Radiology, Kobe University Hospital [3)]Division of Radiation Oncology, Kobe University Graduate School of Medicine）

■ Radiotherapy (Particle) 4 Sep. 16th (Sat.) 13 : 00 ～ 14 : 00 Room 3

Moderator : Toshiyuki Toshito (Nagoya Proton Therapy Center)

Min Chul Hee (Yonsei University)

O-070 Development of a low-energy X-ray camera for the imaging of secondary electron bremsstrahlung emitted during proton irradiation for range estimation

○ Koki Ando[1)], Anna Kajita[1)], Seiichi Yamamoto[1)], Mitsutaka Yamaguchi[2)], Yuto Nagao[2)], Toshiyuki Toshito[3)], Jun Kataoka[4)], Naoki Kawachi[2)] ([1)]Radiological and Medical Laboratory Sciences, Nagoya University Graduate School of Medicine [2)]Takasaki Advanced Radiation Research Institute, Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science (QST) [3)]Department of Proton Therapy Physics, Nagoya Proton Therapy Center, Nagoya City West Medical Center [4)]Research Institute for Science and Engineering, Waseda University)

O-071 Comparison of reconstructed irradiation field from gamma-rays in proton therapy with dose distribution by using PTSIM

○ Tsukasa Aso[1)], Keiichiro Matsushita[2)], Teiji Nishio[3)], Shigeto Kabuki[4)] ([1)]Computer Engineering, National Institute of Technology, Toyama College [2)]Department of Radiology, Kyoto Prefectural University of Medicine [3)]Department of Medical Physics, Tokyo Women's Medical University [4)]Department of Radiation Oncology, School of Medicine, Tokai University)

O-072 Evaluation of the sensitivity to variable RBE considering LET dependence for the robust optimization and the PTV-based optimization

○ Shusuke Hirayama[1)], Taeko Matsuura[1)], Hideaki Ueda[1)], Hidenori Koyano[1)], Seishin Takao[1)], Takaaki Fujii[1)], Naoki Miyamoto[1)], Shinichi Shimizu[1)], Yusuke Fujii[2)], Rintaro Fujimoto[2)], Kikuo Umegaki[1)], Hiroki Shirato[1)] ([1)]Hokkaido University [2)]Hitachi Ltd., Research & Development Group)

O-073 Evaluation of measurement accuracy of novel monoscopic X-ray imaging technique for three-dimensional target localization using multiple internal fiducial markers

○ Naoki Miyamoto[1)], Ryusuke Suzuki[1)], Seishin Takao[1)], Taeko Matsuura[2)], Shusuke Hirayama[3)], Takaaki Fuji[3)], Satoshi Tomioka[2)], Shinichi Shimizu[3)], Kikuo Umegaki[2)], Hiroki Shirato[3)] ([1)]Department of Medical Physics, Hokkaido University Hospital [2)]Graduate School of Engineering, Hokkaido University [3)]Graduate School of Medicine, Hokkaido University)

O-074 LET dependence correction of SOBP measured by EBT3 film in proton dosimetry

○ Moonhee Lee Lee[1)], Sunghwan Ahn[2)], Wonjoong Cheon[1)], Youngyih Han[2), 3)] ([1)]Sungkyunkwan University, Samsung Advanced Institute for Health Science & Technology (SAIHST) [2)]Samsung Medical Center (SMC), Department of Radiation Oncology, [3)]Sungkyunklwan University, School of Medicine)

O-075 Experimental validation for the feasibility of in-vivo dose verification by analyzing time-structure of the prompt gammas in proton therapy.

○ Wook-Geun Shin[1)], Jong-Hwi Jeong[2)], Se Byeong Lee[2)], Chul Hee Min[1)] ([1)]Yonsei University [2)]National Cancer Center)

■ Radiation measurement 3　Sep. 16th（Sat.）14 : 00 ～ 15 : 00　Room 3

Moderator : Naoki Hayashi（Fujita Health University)

Hwang　Ui-Jung（National Medical Center）

O-076　The response of nanoDot OSLD system in megavoltage photon beams

○ Kento Hoshida[1)], Fujio Araki[2)], Takeshi Ohno[2)]（[1)]Graduate School of Health Science, Kumamoto University [2)]Faculty of Life Science, Kumamoto University）

O-077　Ionization chamber calibration by using current comparison method in high-energy photon beams from a clinical linac

○ Ken Hirayama[1), 2)], Yuuki Satou[1), 2)], Morihito Shimizu[2)], Masao Hoshina[1)], Masanori Satou[1)]
([1)]Graduate School of Komazawa University [2)]National Metrology Institute of Japan, AIST）

O-078　Stem perturbation correction factor for beam quality conversion factor of cylindrical ionization chambers in megavoltage photon beam

○ Eri Iriyama[1)], Tetsurou Katayose[1), 2)], Hidetoshi Saitoh[1)]（[1)]Graduate School of Human Health Sciences, Tokyo Metropolitan University [2)]Chiba cancer center）

O-079　Development of the fiber optic dosimeter using a Nd : YAG crystal

○ Yuichiro Ueno, Takahiro Tadokoro, Shuichi Hatakeyama, Yoshitaka Nemoto（Hitachi Ltd.）

O-080　Development of a mirrorless compact scintillation detector

○ Wonjoong Cheon[1)], Hyunuk Jung[2)], Sungkoo Cho[3)], Moonhee Lee[1)], Youngyih Han[4)]（[1)]Department of Health Sciences and Technology, SAIHST, Sungkyunkwan University, Seoul, 06351, Korea [2)]Department of Radiation Oncology, University of Texas Southwestern Medical Center, Dallas, TX 75235, USA [3)]Department of Radiation Oncology, Samsung Medical Center, Seoul, 06351, Korea [4)]Department of Radiation Oncology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, 06351, Korea）

O-081　Development of beam monitoring system using Fiber-Optic Radiation Sensor for proton PBS

○ Jaeman Son[1), 2)], Jongwhi Jeong[2)], Myonggeun Yoon[1)], Dongho Shin[2)]（[1)]Department of Bio-convergence Engineering, Korea University, Seoul, Korea [2)]Proton Therapy Center, National Cancer Center, Goyang, Korea）

■ Radiotherapy (Particle) 5 Sep. 16th (Sat.) 15 : 00 ～ 15 : 50 MO hall

Moderator : Kyo Kume (Wakasa Wan Energy Research Center)

Jung Haijo (Korea Institute of Radiological & Medical Sciences)

O-083 Geant4-DNA Implementation of Electromagnetic Interaction Models for Proton Transportation in Gold Nanoparticle

Dousatsu Sakata[1), 2)], Ioanna Kyriakou[3)], ○Susanna Guatelli[4)], Marie-Claude Bordage[5), 6)], Nathanael Lampe[7)], Hoang N. Tran[8)], Shogo Okada[9)], Koichi Murakami[9)], Takashi Sasaki[9)], Vladimir N. Ivantchenko[10)], Dimitris Emfietzoglou[3)], Sebastien Incerti1[2)] ([1)]University of Bordeaux, CENBG, Bordeaux, France [2)]CNRS, IN2P3, CENBG, Bordeaux, France [3)]Medical Physics Laboratory, University of Ioannina Medical School, Ioannina, Greece [4)]Centre For Medical Radiation Physics, University of Wollongong, Wollongong, Australia [5)]University of Toulouse III-Paul Sabatier, Toulouse, France [6)]CRCT, INSERM, Toulouse, France [7)]Laboratoire de Physique Corpusculaire, Universite Clermont Auvergne, Universite Blaise Pascal, CNRS/IN2P3, Clermont-Ferrand, France [8)]Irfu, CEA, Universite Paris-Saclay, Gif-sur-Yvette, France [9)]KEK, Tsukuba, Japan [10)]Geant4 Associates International Ltd, Hebden Bridge, United Kingdom)

O-084 Verification of the HU - SPR Conversion Table with Carbon CT

○Sung Hyun Lee[1)], Akie Nagao[2)], Hiroshi Sakurai[2)], Yoshiyuki Hirano[3)], Yosuke Kano[4)], Masami Torikoshi[1), 3)], Tatsuaki Kanai[1), 3)] ([1)]Heavy Ion Medicine and Biology, Graduate School of Medicine, Gunma University [2)]Department of Electronics and Informatics, Gunma University [3)]Heavy Ion Medical Research Center, Gunma University [4)]GHMC Group, Accelerator Engineering Corporation)

O-085 Target tumor localization algorithm using multiple fiducial markers for Real-time Tumor-tracking Radiation Therapy

○Yohei Arai[1)], Naoki Miyamoto[2)], Hideaki Ueda[3)], Haruo Nakagawa[1)], Kikuo Umegaki[3), 4)] ([1)]Hokkaido University Graduate School of Engineering [2)]Hokkaido University Hospital [3)]Hokkaido University Faculty of Engineering [4)]The Proton Beam Therapy Center of Hokkaido University Hospital)

O-086 Concept of optimum mixing in particle complex therapy

○Takeji Sakae[1)], Kenta Takada[1)], Hideyuki Sakurai[1)], Ken Takayama[2)] ([1)]University of Tsukuba [2)]High Energy Accelerator Research Organization (KEK))

O-087 Treatment planning of intensity modulated composite particle therapy with dose and linear energy transfer optimization

○Taku Inaniwa[1)], Nobuyuki Kanematsu[2)], Koji Noda[3)], Tadashi Kamada[4)] ([1)]Department of Accelerator and Medical Physics, National Institute of Radiological Sciences, QST [2)]Medical Physics Section, National Institute of Radiological Sciences Hospital, QST [3)]National Institute of Radiological Sciences, QST [4)]National Institute of Radiological Sciences Hospital)

■ Radiotherapy（X-ray, Electron）5 Sep. 16th（Sat.）15 : 00 ～ 16 : 00 Room 2

Moderator : Masashi Yagi（Osaka University Graduate school of Medicine)

Choi Wonhoon（Yonsei University）

O-088 A concept for 3D fluence view and evaluation using spherical harmonics

○ Yusuke Anetai[1), 2)], Hideki Takegawa[2)], Iori Sumida[1)], Hirokazu Mizuno[1)], Satoaki Nakamura[2)], Noboru Tanigawa[2)], Kazuhiko Ogawa[1)] ([1)]Osaka University [2)]Kansai Medical University）

O-089 Feasibility Study of the 2-dimensional MLC Movement Technique to Improve the Beam Conformity in the Radiation Treatment

○ Hyojun Park[1)], Hyun Joon Choi[1)], Jung-In Kim[2)], Chul Hee Min[1)] ([1)]Department of Radiation Convergence Engineering, Yonsei University [2)]Department of Radiation Oncology, Seoul national University Hospital, Korea）

O-090 Relative biological effectiveness study on Lipiodol based on the microdosimetric-kinetic model

○ Daisuke Kawahara[1), 2)], Hisashi Nakano[3)], Shuichi Ozawa[4), 5)], Akito Saito[4)], Tatsuhiko Suzuki[2)], Masato Tsuneda[2), 6)], Sodai Tanaka[7)], Takeo Nakashima[1)], Yoshimi Ohno[1)], Yasushi Nagata[4), 5)]
([1)]Radiation Therapy Section, Department of Clinical Support, Hiroshima University Hospital [2)]Medical and Dental Sciences Course, Graduate School of Biomedical & Health Sciences, Hiroshima University [3)]Hiroshima Heiwa Clinic, State of the Art Treatment Center [4)]Department of Radiation Oncology, Institute of Biomedical & Health Sciences, Hiroshima University [5)]Hiroshima High-Precision Radiotherapy Cancer Center [6)]Tokyo Women's Medical University Graduate School of Medicine Medical Physics [7)]Department of Nuclear Engineering and Management, School of Engineering, University of Tokyo）

O-091 Effect of transverse magnetic fields on dose distributions of photon beams in Geant4

○ Takanori Matsuoka[1)], Fujio Araki[2)], Takeshi Ohno[2)] ([1)]Graduate School of Health Sciences Kumamoto University [2)]Faculty of Life Science Kumamoto University）

O-092 Effect of dose-delivery time with flattened and flattening filter-free photon beams based on microdosimetric kinetic model

○ Hisashi Nakano[1)], Daisuke Kawahara[2)], Kaoru Ono[1)], Yukio Akagi[1)], Yutaka Hirokawa[1)]
([1)]High-precision Radiotherapy Center, Hiroshima Heiwa Clinic [2)]Graduate School of Biomedical and Health Sciences, Hiroshima University）

O-093 Presentation cancel

■ Radiotherapy (X-ray, Electron) 6 Sep. 16th (Sat.) 15 : 00 ～ 16 : 00 Room 3

Moderator : Yuichi Akino (Suita Tokusyukai Hospital)

Park Jong Min (Department of Radiation Oncology, Seoul National University Hospital)

O-094 Evaluation of the beam data deviation of TrueBeam linear accelerators : multi-institutional study in Japan

○ Yoshihiro Tanaka[1)], Hirokazu Mizuno[2)], Yuichi Akino[3)], Masaru Isono[4)], Norimasa Masai[5)], Toshijiro Yamamoto[6)] ([1)]Japanese Red Cross society Kyoto Daiichi Hospital [2)]Osaka University Graduate School of Medicine [3)]Suita Tokushukai Hospital [4)]Osaka International Cancer Institute [5)]Miyakojima IGRT Clinic [6)]Saiseikai Noe Hospital)

O-095 Development of Independent Patient Dose Validation System for Gamma Knife Radiosurgery using the Monte Carlo Simulation and DICOM-RT Interface

○ Hyun Joon Choi[1)], Jason W. Sohn[2)], Hyun-Tai Chung[3)], Tae Hoon Kim[4)], Chul Hee Min[1)] ([1)]Yonsei University [2)]Case Western Reserve University [3)]Seoul National University College of Medicine [4)] Hanyang University)

O-096 Beam Modelling and Dose Calculation of X-ray Therapy Beams using Monte Carlo Code PHITS for Clinical Application

○ Kenta Takada[1)], Hiroaki Kumada[1), 2)], Hideyuki Sakurai[1), 2)], Takeji Sakae[1), 2)] ([1)]Proton Beam Therapy Center, University of Tsukuba Hospital [2)]Faculty of Medicine, University of Tsukuba)

O-097 Hybrid MR/CT Compatible Phantom for MR-only based Radiotherapy

○ Min-Joo Kim[1), 2)], Seu-Ran Lee[2)], Sohyun Ahn[1)], Tae Suk Suh[2)] ([1)]Department of Radiation Oncology, Yonsei Cancer Center, Yonsei University College of Medicine [2)]Department of Biomedical Engineering, Research Institute of Biomedical Engineering, The Catholic University of Korea College of Medicine)

O-098 Impact of CT number to electron density calibration error in radiotherapy treatment planning system

○ Minoru Nakao[1)], Shuichi Ozawa[1), 2)], Kiyoshi Yamada[1)], Katsunori Yogo[1)], Fumika Hosono[1)], Masahiro Hayata[1)], Akito Saito[2)], Kentaro Miki[2)], Takeo Nakashima[2)], Yusuke Ochi[2)], Daisuke Kawahara[2)], Yoshiharu Morimoto[3)], Toru Yoshizaki[4)], Hiroshige Nozaki[5)], Kosaku Habara[5)], Yasushi Nagata[1), 2)] ([1)] Hiroshima High-Precision Radiotherapy Cancer Center [2)]Hiroshima University [3)]Hiroshima Prefectural Hospital [4)]Hiroshima City Hiroshima Citizens Hospital [5)]Hiroshima Red Cross Hospital & Atomic-bomb Survivors Hospital)

O-099 Overview of ICRP Adult Mesh-type Reference Computational Phantoms and Their Medical Applications

○ Chansoo Choi, Yeon Soo Yeom, Thang Tat Nguyen, Hanjin Lee, Haegin Han, Min Cheol Han, Bangho Shin, Chan Hyeong Kim (Hanyang University)

一般演題（Poster）

［Q&A time］Sep. 15th（Fri.） 13 : 00 ～ 14 : 00 Training room

P-001 Image Quality and Exposure Dose of Adaptive Statistic Iterative Reconstruction in X-ray Computed Tomography for Detection of Acute Ischemic Stroke

○ Hidetake Hara[1)], Hiroshi Muraishi[1)], Hiroki Matsuzawa[2)], Toshiyuki Inoue[3)], Shinji Abe[4)], Hitoshi Satoh[4)], Yasuo Nakajima[3)]（[1)]Kitasato University [2)]Saitama Medical University [3)]St.Marianna University School of Medicine [4)]Ibaraki Prefectural University of Health Sciences）

P-002 Material identification of object from X-ray images made by 2 dimensional CdTe X-ray sensor

○ Masao Matsumoto（Osaka University）

P-003 3D printed uncompressed anthropomorphic breast phantom by using randomly generated software voxel phantom

○ Hanbean Youn[1)], Cheol Ha Baek[2)], Hosang Jeon[1)], Jinsung Kim[4)], Jiho Nam[1)], Jayoung Lee[1)], Juhye Lee[1)], Hokyung Kim[3)]（[1)]Department of Radiation Oncology, Pusan National University Yangsan Hospital [2)]Department of Radiological Science, Dong Seo University [3)]School of Mechanical Engineering, Pusan National University [4)]Department of Radiation Oncology, Yonsei University）

P-004 Accurate quantification of glandularity and its applications with regard to breast doses and missed lesion rates during individualized screening mammography

○ Yoshiyuki Asai[1)], Mika Yamamuro[1)], Koji Yamada[1)], Yoshiaki Ozaki[2)], Masao Matsumoto[3)]（[1)]Kindai University [2)]Kyoto Prefectural Police Headquarters [3)]Osaka University）

P-006 Chemical Exchange Saturation Transfer MRI to Map γ-Aminobutyric acid, Glutamate, Myoinositol, Glycine, and Asparagine

Geon-Ho Jahng, ○ Jang-Hoon Oh（Kyung Hee University Hospital at Gangdong）

P-007 The effect of the number of scanning detector rows on MDCT image quality

Takahiro Fujimoto, ○ Yasumasa Kakinohana（University of the Ryukyus）

P-008 A novel low-radiation-absorbent lok-bar to reduce x-ray scattering and absorption for VMAT plan

○ masahiko okumura[1)], Kazuki Kubo[2)], Mikoto Tamura[2)], Hajime Monzen[2)]（[1)]Department of Central Radiology, Kindai University hospital [2)]Department of Medical Physics, Graduate School of Medical Sciences, Kindai University）

P-009 Shielding ability of tungsten rubber against electron beam

○ Kenta Kijima[1), 3)], Hajime Monzen[1)], Kenji Matsumoto[1)], Yasumasa Nishimura [2)]（[1)]Department of Medical Physics, Graduate of Medical Science, Kindai University [2)]Department of Radiation Oncology, Faculty of Medicine, Kindai University [3)]Department of Radiology, Otsu City Hospital）

P-010 Application of brass buildup caps for in-vivo dosimetry using glass rod dosimeters

○ Hosang Jeon[1), 3)], Hanbean Youn[1)], Jiho Nam[1), 3)], Jayoung Lee[1), 3)], Juhye Lee[1), 3)], Dahl Park[2)], Wontaek Kim[2)], Yongkan Ki ([1)]Department of Radiation Oncology, Pusan National University Yangsan Hospital [2)]Department of Radiation Oncology, Pusan National University Hospital [3)]Research Institute for Convergence of Biomedical Science and Technology, Pusan National University Yangsan Hospital)

P-011 IMRT commissioning of the Elekta VersaHD linear accelerator and Monaco treatment planning system

○ Dahl Park[1), 2)], Haryung Park[1)], Yongho Kim[1)], Wontaek Kim[1), 2), 3)], Yongkan Ki[1), 2), 3)], Donghyun Kim[1), 2)] ([1)]Department of Radiation Oncology, Pusan National University Hospital [2)]Biomedical Research Institute, Pusan National University Hospital [3)]Pusan National University School of Medicine)

P-012 Investigation of target localization accuracy by a guiding audio-visual biofeedback system for respiratory motion management

○ Yoshifumi Oku, Masahiko Toyota, Yasumasa Saigo (Kagoshima University Hospital)

P-013 Study on optimal breath holding interval for stereotactic radiotherapy of lung

○ yoshimoto manabu, Tomohiro Ichikawa, Hikaru Osaki, Kento Tanaka, Kana Narihisa, Kazumi Komoda, Maki Ukita, Masaki Andou, Kazuhisa Okamoto, Yoshio Ohashi, Nobuko Syouji, Ryuji Asai (Aichi Cancer Center Aichi Hospital)

P-014 Radiation dose evaluation of bulk-density-assigned CT images derived from MRI of intracranial regions for radiation treatment

○ Shin-Wook Kim[1), 2)], Hun-Joo Shin[1), 2)], Young-Kyu Lee[3)], Ji-Na Kim[2), 4)], Aeran Kim[2), 4)], Chul Seung Kay[1)], Young-Nam Kang[4)] ([1)]Department of Radiation Oncology, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea [2)]Department of Biomedical Engineering, College of Medicine, The Catholic University of Korea [3)]Department of Radiation Oncology, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea [4)]Department of Radiation Oncology, Seoul St. Mary's hospital, College of Medicine, The Catholic University of Korea)

P-015 Evaluation of a software based QA system using a novel verification phantom

○ Kang Dong-Jin[1)], Shin Young-Joo[1)], Jung Jae-Yong[1)], Min Jung-Whan[2)], Kim Yon-Lae[3)] ([1)]INJE UNIVERSITY SANGGYE PAIK HOSPITAL [2)]Shingu University College of Korea [3)]Choonhae College of Health Sciences)

P-016 Rotation error and dose gradient on 3D gamma evaluation : simulation study

○ Jin-Beom Chung[1)], Kyeong-Hyeon Kim[2)], Tae Suh Suh[2)], Dong-Su Kim[2)], Tae-Ho Kim[2)], Dong-Seok Shin[2)] ([1)]Seoul National University Bundang Hospital [2)]The Catholic University of Korea)

P-017 Impact of Calculation Grid Size on Gamma Evaluations in Volumetric-Modulated Arc Therapy Patient-Specific QA

○Minsoo Chun[1), 2)], Hyun Joon An[1)], Younga Kim[1)], Jong Min Park[1)] ([1)]Seoul National University Hospital [2)]Seoul National University)

P-018 Total body irradiation with a compensator fabricated using a 3D optical scanner and a 3D printer

○So-Yeon Park[1), 2)], Ji Hye Han[1), 2), 3)], Sung Young Lee[1), 2)] ([1)]Department of Radiation Oncology, Seoul National University Hospital, Seoul, 03080, Republic of Korea [2)]Biomedical Research Institute, Seoul National University Hospital, Seoul, 03080, Republic of Korea [3)]Department of Physics, Ewha Womans University, Seoul, 03760, Republic of Korea)

P-019 Evaluation of dual-channel compound method on EBT3 film dosimetry for stereotactic body radiotherapy quality assurance

○Sang-Won Kang[1)], Jin-Beom Chung[2)], Kyeong-Hyeon Kim[1)], Keun-Yong Eom[2)], Changhoon Song[2)], Jeong-Woo Lee[3)], Woong Cho[4)], Tae Suk Suh[1)] ([1)]Research Institute of Biomedical Engineering, College of Medicine, The Catholic University of Korea [2)]Department of Radiation Oncology, Seoul National University Bundang Hospital [3)]Department of Radiation Oncology, Kunkuk University Medical Center [4)]Department of Radiation Oncology, Seoul Metropolitan Government Seoul National University Boramae Medical Center)

P-020 Make a Change DCAT System for VMAT System Using estimated APEX Radiosurgery system and multi shape phantom and QA_preliminary report

○SEO JAE HYUK.[1)], SHIN HEON JU.[3)], KANG YOUNG NAM.[2)], SEO TAE SEOK.[2)] ([1)]The Catholic University of KOERA, Bucheon st. Mary's Hospital [2)]The Catholic University of KOREA, SEOUL ST. MARY'S HOSPITAL [3)]The Catholic University of KOREA,INCHEON ST.MARY'S HOSPITAL)

P-021 Analysis of the relationships between target translation errors and their circumstances including normal organs for prostate radiotherapy

○Yudai Kai[1), 2)], Hidetaka Arimura[3)], Tetsuo Saito[4)], Masato Maruyama[1)], Yuji Nakaguchi[1)], Yoshinobu Shimohigashi[1)], Akiko Kuraoka[1)] ([1)]Department of Radiological Technology, Kumamoto University Hospital [2)]Graduate School of Medical Sciences, Kyushu University [3)]Faculty of Medical Sciences, Kyushu University [4)]Department of Radiation Oncology, Kumamoto University Hospital)

P-022 Improvement of portal image resolution by using external aluminium target

○Jonggeun Baek[1)], Hyunsoo Jang[1)], Hyungdong Kim[2)], Byungyong Kim[3)], Youngkee Oh[4)] ([1)]Department of Radiation Oncology, Dongguk University Gyeongju Hospital [2)]Department of Radiation Oncology, Daegu Fatima Hospital [3)]Department of Radiation Oncology, Semyung Christianity Hospital [4)]Department of Radiation Oncology, Keimyung University College of Medicine)

P-023 Investigation of external low-Z target for portal imaging in a medical accelerator using Geant4 Monte Carlo simulation

○ Hyungdong Kim[1)], Byungyong Kim[2)], Jonggeun Baek[3)], Hyunsoo Jang[3)], Youngkee Oh[4)]
([1)]Department of Radiation Oncology, Daegu Fatima Hospital [2)]Department of Radiation Oncology, Semyung Christianity Hospital [3)]Department of Radiation Oncology, Dongguk University Gyeongju Hospital [4)]Department of Radiation Oncology, Keimyung University College of Medicine)

P-024 Evaluation of tissue equivalent materials to develop a phantom using for verifying the accuracy of MRI and CT image registration

○ Yun Ji Seol[1), 2)], Jina Kim[1), 2)], Aeran Kim[1), 2)], Jinho Hwang[1), 2)], Jin-sol Shin[1), 2)], Youngah Oh[2)], Hong Seok Jang[2)] ([1)]Department of Biomedicine & Health Sciences, The Catholic University of Korea [2)] Advanced Institute For Radiation Fusion Medical Technology, College of Medicine, The Catholic University of Korea [3)]Department of Radiation Oncology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea [4)]Department of Radiation Oncology, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea)

P-025 Analysis of couch sag on both CT and tomotherapy for craniospinal irradiation

○ Hiroyuki Inoue[1)], Hiroyuki Inaba[1)], Hideo Yamaguchi[1)], Nobuyuki Inoue[1)], Yoshihide Matsuda[1)], Saki Handa[1)], Junichiro Oshimo[1)], Hiroaki Yamanishi[1)], Yasunari ([1)]Department of Medical Technology, Osaka City General Hospital [2)]Department of Radiation Oncology, Osaka City General Hospital)

P-026 Evaluation of clinical usefulness of fiducial Marker based target localization system to preclinical trial on beagles.

○ Jina Kim[1)], Young-nam Kang[2)] ([1)]Department of Biomedicine Health and Sciences, The Catholic University of Korea [2)]Department of Radiation Oncology, Seoul St. Mary's hospital, College of Medicine, The Catholic University of Korea)

P-027 Investigation for suitable beam arrangement according to the body size in total body irradiation using volumetric modulated arc therapy(VMAT-TBI)

○ Yuta Takahashi[1), 2)], Hidenobu Tachibana[3)], Hidetoshi Saitoh[1)], Atsushi Myojoyama[1)] ([1)]Graduate school of Human Health Science, Tokyo Metropolitan University [2)]Saitama Medical Center, Jichi Medical University [3)]National Cancer Center)

P-028 Dosimetric comparison of H-VMAT vs. double arcs VMAT vs. c-IMRT in the treatment of cancer of esophagus

○ Youngkyu Lee[1)], Youngnam Kang[2)], Dongsoo Lee[1)] ([1)]Department of Radiation Oncology, Uijeongbu St. Mary's Hospital, the Catholic University of Korea, Cheonbo-ro 271, Uijeongbu, Republic of Korea [2)]Department of Radiation Oncology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, 137-701, Seoul, Republic of Korea)

P-029 A new fabrication method for secondary skin collimation using3D printing technologies

○ Joo-Young Jung Jung[1), 2)], Do-Kun Yoon[1)], Tae Suk Suh[1)], Chihray Liu[2)], Bo Lu[2)] ([1)]Catholic University of Korea [2)]University of Florida)

P-030 Characterization of stochastic noise and post-irradiation density growth for GAFCHROMIC EBT-XD films in therapeutic photon beam dosimetry

○ Yuichi Onishi[1)], Hajime Monzen[1), 2)], Takeshi Kamomae[3)], Shinichi Nakayama[1)], Yutako Oyama[1)], Hirofumi Enomoto[1)], Miharu Oshima[1)], Ayako Mori[1)], SO ([1)]Division of Clinical Radiology Service, Okayama Central Hospital [2)]Department of Radiation Oncology, Kindai University Graduate school of Medicine [3)]Department of Therapeutic Radiology, Nagoya University Graduate school of Medicine [4)] Department of Radiation Oncology, Okayama Central Hospital)

P-031 A Novel Method to Improve Learning Efficiency of Artificial Neural Network Algorithm to Estimate Dose Distribution for Radiation Treatment

○ Lee Chang Joo, Yong Nam Kim, Sanghyuk Song, Soo Kon Kim (Kangwon National University Hospital)

P-032 Survey on nuclide enhancing sensitivity of gel detector to epithermal neutrons for neutron capture therapy

○ Yuto Murakami[1)], Kenichi Tanaka[1)], Tsuyoshi Kajimoto[1)], Yoshinori Sakurai[2)], Shin-ichiro Hayashi[3)], Satoru Endo[1)] ([1)]Hiroshima University [2)]Kyoto University [3)]Hiroshima International University)

P-033 Experimental evaluation of detailed electrometer performance for heavy ion dosimetry

○ Makoto Sakama, Hideyuki Mizuno (National Institute of Radiological Sciences, QST)

P-034 GPU-based fast imaging technique during boron neutron capture therapy (BNCT) : Monte Carlo simulation study for S-PET operation

○ Hye Jeong Yang, Do-Kun Yoon, Han-Back Shin, Moo-Sub Kim, Sunmi Kim, Tae Suk Suh (Department of Biomedical Engineering, Catholic University of Korea)

P-035 Development of Multi-Volume Matching technique for segment displacement estimation at patient positioning

○ Mutsumi Tashiro, Yoshiki Kubora, Masami Torikoshi, Tatsuya Ohno, Takashi Nakano (Gunma University)

P-036 A Simulation Study for Radiation Treatment Planning Based on the Atomic Physics of the Proton-Boron Fusion Reaction

○ Sunmi Kim, Do-Kun Yoon, Han-Back Shin, Joo-Young Jung, Moo-Sub Kim, Kyeong-Hyeon Kim, Tae Suk Suh (The Catholic University of Korea)

P-037 The verification of the dose calculation accuracy of Simplified Monte Carlo method on proton beam therapy

○ Toshiya Rachi, Kenji Hotta, Hiromi Baba (Natinal Cancer Center Hospital East)

P-038 Quantitative Evaluation of Dose Enhancement Due to Nanoparticles for Proton therapy

○ Ahn Sang Hee[1)], Youngyih Han[2)], Hee Chul Park[2)], Doo Ho Choi[2)] ([1)]Department of Health Sciences and Technology, Samsung Advanced Institute for Health Sciences and Technology, Sungkyunkwan University [2)]Samsung Medical Center, Sungkyunkwan University School of Medicine radiation oncology)

P-039 Method for reducing depth dose error using a statistical respiratory motion model with beam angle optimization in proton beam therapy

○Haruo Nakagawa[1)], Naoki Miyamoto[2)], Hideaki Ueda[3)], Kohei Yokokawa[3)], Yohei Arai[1)], Shusuke Hirayama[4)], Kikuo Umegaki[2), 3)] ([1)]Hokkaido University Graduate School of Engineering [2)]Hokkaido University Proton Therapy Center [3)]Hokkaido University Faculty of Engineering [4)]Hokkaido University Graduate School of Medicine)

P-040 An evaluation of Water-Equivalent path Length Change along proton beam paths in Real-time Tumor-tracking Proton Therapy

○Soichiro Unno[1)], Takaaki Fujii[2)], Hideaki Ueda[3)], Seishin Takao[4)], Tomofumi Ano[1)], Kikuo Umegaki[3), 4)] ([1)]Hokkaido University Graduate School of Engineering [2)]Hokkaido University Graduate School of Medicine [3)]Hokkaido University Faculty of Engineering [4)]The Proton Beam Therapy Center of Hokkaido University Hospital)

P-041 Design of module type sealed source applicator using Monte Carlo simulation for Skin Cancer

○ChangHeon Choi, Seong-hee Kang, Min Jung Kim, Hyun Hee Kim (Seoul National University Hospital)

P-042 Investigation of quality assurance procedures for permanent prostate seed implant brachytherapy system based on end-to-end tests

○Suguru Kimura, Hidenori Osanai, Yuichi Saito, Takahisa Suzuki, Tsuyoshi Ikeda, Mitsunori Sekizawa (Division of Radiological Techinology, NHO Hokkaido Cancer Center)

P-043 Development of Reference Procedures for Gamma Knife Radiosurgery Facilities

○Hyun-Tai Chung[1)], Jae Pil Chung[2)], Young Min Seong[2)], Hye Jeong Yang[3)], Kook Jin Chun[4)] ([1)]Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea [2)]Korea Research Institute of Standards and Science, Daejon, Korea [3)]Department of Biomedical Engineering, Catholic University of Korea, Seoul, Korea [4)]Department of Accelerator Science, Korea University, Sejong, Korea)

P-044 An individual calibration system for electrometer and ionization chamber of radiotherapy dosimeters.

○Nobuhiro Takase[1)], Suoh Sakata[1)], Masahiro Endo[1)], Katsuhisa Narita[1)], Wataru Yamashita[1)], Masahiro Hoteida[1)], Yousuke Sasaki[1)], Hiroaki Okuyama[1)], Tota Ushi ([1)]Association for Nuclear Technology in Medicine [2)]National Institute of Radiological Sciences)

P-045 Feasibility of a 3D-printed anthropomorphic patient-specific head phantom for patient-specific quality assurance of intensity-modulated radiotherapy

○Ji Woon Yea, Jae Won Park, Sung Kyu Kim, Seong Hoon Kim, Se An Oh (Yeungnam University Medical Center)

P-046 Absorbed dose to water calibration coefficients by types of ionization chambers

○ Wataru Yamashita[1)], Suoh Sakata[1)], Nobuhiro Takase[1)], Masahiro Hoteida[1)], Yosuke Sasaki[1)], Hiroaki Okuyama[1)], Tota Ushiroda[1)], Katsuhisa Narita[1)], Masahiro E (1)Association for Nuclear Technology in Medicine 2)National Institute of Radiological Sciences)

P-047 Development of 6Li-loaded water-based liquid scintillator for the detection of secondary neutrons in proton therapy

○ Yoshiaki Kibe (Nagoya Proton Therapy Center)

P-048 Reversible radiochromic gel dosimeter based on polyvinyl alcohol-iodide complex

○ Shin-ichiro Hayashi[1)], Takeyoshi Sunagawa[2)], Kaoru Ono[3)], sachie Fujimoto[3)], Yoshinori Sakurai[4)], Ryohei Uchida[4)], Kenichi Tanaka[5)], Genichiro Wakabayashi[6)], (1)Hiroshima International University 2) Fukui University of Technology 3)Hiroshima Heiwa Clinic 4)Kyoto University 5)Hiroshima University 6) Kindai University 7)Nuclear Technology, Inc.)

P-049 An Evaluation of Lithium Formate Dosimeter Using Electron Paramagnetic Resonance Spectrometer

○ Jinsol Shin[1), 2)], Jina Kim[1), 2)], Aeran Kim[1), 2)], Jinho Hwang[1), 2)], Yunji Seol[1), 2)], Youngah Oh[2)], Hong Seok Jang[2)] (1)Department of Biomedicine & Health Sciences, The Catholic University of Korea 2) Advanced Institute for Radiation Fusion Medical Technology, College of Medicine, The Catholic University of Korea 3)Department of Radiation Oncology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Republic of Korea)

P-050 Evaluation of novel film-folding type phantom for X-ray CT dosimetry

○ Nobuyoshi Tanki[1), 2)], Toshizo Katsuda[1)], Tadao Kuwano[2)], Rumi Gotanda[3)], Tatsuhiro Gotanda[3)], Tomoya Oue[1)], Yuuna Sugihara[1)], Shinya Imai[1)], Takuy (1)Butsuryo College of Osaka 2)Graduate School of Health Sciences, Okayama University 3)Faculty of Health Science and Technology, Kawasaki University of Medical Welfare 4)Department of Radiological Technology, Tokushima Red Cross Hospital 5)Department of Radiological Sciences, Junshin Gakuen University)

P-051 Parameter optimization for polymer gel dosimetry using 0.2T magnetic resonance imaging

○ Nobuyoshi Tanki[1), 2)], Shin-ichiro Hayashi[3)], Tatsuhiro Gotanda[4)], Rumi Gotanda[4)], Tadao Kuwano[2)], Koutaro Iwasaki[1)], Shinya Imai[1)], Haruyuki Watanabe[5)] (1)Butsuryo College of Osaka 2)Graduate School of Health Sciences, Okayama University 3)Faculty of Health Sciences, Hiroshima International University 4)Faculty of Health Science and Technology, Kawasaki University of Medical Welfare 5) Graduate School of Radiological Technology, Gunma Prefectural College of Health Sciences)

P-052 Simulation study on a pulse shape discrimination analysis using a scintillator with optical fiber (SOF) detector.

○ Ryo Ogawara[1)], Mitsuru Suda[1)], Masayori Ishikawa[2)], Tsuyoshi Hamano[1)] (1)QST/NIRS 2)Hokkaido Univ.)

P-053 Development of a prototype online dose distribution monitoring system

○ Fuyumi Ito[1)], Takashi Hasegawa[2)], Munetoshi Maeda[1)], Kyo Kume[1)] (1)The Wakasa Wan Energy Research Center 2)Hasetech LLC)

P-054 Correction of optical artefacts in the luminescence imaging of water during proton-ion beam irradiations

○ Takuya Yabe（Nagoya University Graduate School of Medicine）

P-055 The basic feasibility study for radiation protection by using metal functional paper in 125I seeds brachytherapy.

○ Kenji Matsumoto[1)], Hajime Monzen[2)], Yoshiyuki Asai[1)], Masakazu Otsuka[2)], Mikoto Tamura[2)], Masahiko Okumura[1)]（[1)]Department of Radiology, Kindai University Hospital [2)]Department of Radiation Oncology, Kindai University faculty of medicine）

P-056 Organ dose calculation for arbitrary CT models using the user model function in WAZA-ARIv2 system

○ Yusuke Koba（QST NIRS）

P-057 Influence of exposure associated with IGRT on dose distribution and NTCP in prostate IMRT

○ Tetsuya Tomita[1)], Tomonori Isobe[2)], Toshiyuki Terunuma[2)], Daisuke Kobayashi[1)], Hideyuki Takei[1)], Yutaro Mori[2)], Yoshinobu Furuyama[3)], Hiroshi Yokota[1)], Takeji（[1)]University of Tsukuba hospital [2)] University of Tsukuba [3)]Chiba university hospital）

P-058 Development of a low-cost-high-sensitivity Compton camera and its application for environmental monitoring in medical facility

○ Hiroshi Muraishi[1), 9)], Ryoji Enomoto[2), 9)], Hideaki Katagiri[3), 9)], Takara Watanabe[1), 4), 9)], Mika Kagaya[5), 9)], Masahiro Fuk（[1)]Kitasato University [2)]ICRR, University of Tokyo [3)]Ibaraki University [4)]Tokyo Metropolitan University [5)]National Institute of Technology, Sendai College [6)]National Cancer Center Hospital East [7)]KEK [8)]Fuji Electric Co., Ltd [9)]KEK Open-It）

P-059 Development of GPU-based fast reconstruction algorithm for Gamma ray imaging with insufficient conditions

○ Moo-Sub Kim, Do-Kun Yoon, Joo-Young Jung, Han-Back Shin, Sunmi Kim, Tae Suk Suh（The Catholic University of Korea）

P-060 Development of a Si-PM-based positron emission mammography (PEM) system

○ Kouhei Nakanishi[1)], Seiichi Yamamoto[1)], Hiroshi Watabe[2)], Katsuhiko Kato[1)]（[1)]Nagoya University Graduate School of Medicine [2)]Tohoku University CYRIC）

P-061 A method for reducing motion artifacts of DSA using deep learning technique

○ Megumi Yamamoto, Yasuhiko Okura（Hiroshima International University）

P-063 Study of the phantom development and evaluation of radio-frequency measurement for quality assurance of hyperhermia cancer therapy system

○ Hun-Joo Shin[1), 2)], Shin-Wook Kim[1), 2)], Chul Seung Kay[1)], Tae-Suk Suh[2)], Young-nam Kang[3)]（[1)]Department of Radiation Oncology, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea [2)]Department of Biomedical Engineering, College of Medicine, The Catholic University of Korea [3)]Department of Radiation Oncology, Seoul St. Mary's hospital, College of Medicine, The Catholic University of Korea）

P-124 Development of face authentication system for radiation therapy

○Takatomo Ezura[1), 2)], Hidetoshi Saitoh[1)], Yuji Hanyu[2)], Kumiko Karasawa[3)], Atsushi Myojoyama[1)] ([1)] Graduate School of Human Health Sciences, Tokyo Metropolitan University [2)]Department of Radiology, Tokyo Women's Medical University Hospital [3)]Department of Radiation Oncology, Tokyo Women's Medical University)

P-127 Quantitative analysis of prompt gamma ray imaging during proton boron fusion therapy depending on boron concentration

○Han-Back Shin, Do-Kun Yoon, Moo-Sub Kim, Sunmi Kim, TaeSuk Suh (The Catholic University of Korea)

P-130 A study on safety function and requirements for robotic couch system at the ion beam therapy facilities

○Byungsu Kim[1)], Wongyun Jung[1)], Ilsung Cho[1)], Sunhong Min[1)], Sukho Park[2)] ([1)]Korea Institute of Radiological and Medical Sciences, [2)]Chonnam National University)

P-132 Development of 6D Robotic Couch for Heavy-ion Radiotherapy

○Wongyun Jung[1)], Ilsung Cho[1)], Sunghong[1)], Byungsu Kim[1)], Sukho Park[2)], Jeongsuk Kang[3)] ([1)]Korea Institute of Radiological and Medical Sciences, [2)]Chonnam National University, [3)]SMEC, Ltd.)

[Q&A time] Sep. 16th (Sat.) 10 : 00 ～ 11 : 00 Training room

P-062 Introducing Total Curvature for Computed Tomographic Image Reconstruction

○Yejin Kim, Sanghoom Cho, Seungryong Cho (KAIST)

P-064 Accuracy of CT number, effective atomic numbers, and electron density relative to water in Spectral CT images

○Heesoon Sheen[1), 3)], Youngyih Han[1), 2)], Han-Back Shin[4)], Eunhyuk Shin[2)] ([1)]School of Medicine/Sungkyunkwan University [2)]Department of Radiation Oncology/Samsung Medical Center [3)]GE Healthcare Korea [4)]College of Medicine/Catholic University of Korea)

P-065 Grid-based Dual Energy CBCT : Feasibility Study

○Eunbin Ju[1)], Rena Lee[2)] ([1)]Department of Medical Science, Ewha Womans University, Seoul, Korea [2)]Department of Biomedical Engineering, School of Medicine, Ewha Womans University, Seoul, Korea)

P-066 Study on the effect of the electrode material and protective layer on electrical property of CdTe

○Gyuseok Cho, Kumbae Kim, Sanghyoun Choi, Soonsung Lee, Soorim Han, Younghoon Ji, Kyoungmin Kim (Korea Isntitute Of Radiological and Medical Science)

P-067 Metal Artifacts Reduction using the Metal Deletion Technique in Cone Beam Computed Tomography

○Hyun Jin KIM, Chi Young Jeong, Jung Won Kwak, Byung Chul Cho（ASAN MEDICAL CENTER）

P-068 Estimation of MRI with Dental Restorations from CT Segmentation with Dedicated CT/MR Oral Phantom

○Min-Young Lee, Kyu-Ho Song, Bo-Young Choe, Tae-Suk Suh（Department of Biomedical Engineering, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea）

P-069 Verification of accuracy for MRI thermal mapping using Proton Resonance frequency shift method

○Jinho Hwang[1), 2)], Jina Kim[1), 2)], Aeran Kim[1), 2)], Jin-sol Shin[1), 2)], Yunji Seol[1), 2)], Youngah Oh[2)], Hong Seok Jang[2)] ([1)]Department of Biomedicine & Health Sciences, The Catholic University of Korea [2)] Advanced Institute for Radiation Fusion Medical Technology, College of Medicine, The Catholic University of Korea [3)]Department of Radiation Oncology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Republic of Korea）

P-070 Low-dose cone-beam CT reconstruction with moving beam blockers for dual-energy CT

○Donghyeon Lee, Jeongtae So, Taejin Kwon, Taewon Lee, Jiseoc Lee, Sunhee Wi, Seungryoung Cho（Korea Advanced Institute of Science and Technology）

P-071 How does variable collimator accuracy influence dose distribution on prostate cases of robotic stereotactic radiotherapy -planning study-

○Seiichi Ota[1)], Keita Kurosu[2)], Iori Sumida[2)], Hiroya Shiomi[2)], Hirokazu Mizuno[2)], Yuichi Akino[3)], Keisuke Tamari[2)], Shinichi Inoue[1)], Osamu Suzuki [2)] ([1)]Department of Medical Technology, Osaka University Hospital [2)]Department of Radiation Oncology, Osaka University [3)]Department of Radiology, Suita Tokushukai Hospital）

P-072 Impact of CT dataset on dose calculation for lung stereotactic ablative radiotherapy

○Shinichi Nakayama[1)], Mikoto Tamura[2)], Yuichi Onishi[1)], Yutako Oyama[1)], Hirofumi Enomoto[1)], Miharu Oshima[1)], Hajime Monzen[1), 2)], Soichiro Kaneshige[3)] ([1)]Division of Clinical Radiology Service, Okayama Central Hospital [2)]Department of Medical Physics, Graduate School of Medical sciences, Kindai University [3)]Department of Radiation Oncology, Okayama Central Hospital）

P-073 Relationship between Intra-Fraction Head Motion and Imaging Interval Using Continuous Motion Monitoring System

○Hiroki Inata, Yuta Kuribayashi, Azusa Katakami, Noritaka Sodeoka, Shigeki Nakayama, Osamu Nishizaki（Saiseikai Imabari Hospital）

P-074 The dosimetric impact of interrupted Tomotherapy treatments

○Shougo Tsunemine[2)], Shuichi Ozawa[3)], Hiroshi Shinomoto[2)], Yasuhiko Oonishi[2)], Fumito Ookawa[2)], Kazuki Kubo[1)] ([1)]Tane General Hospital [2)]himeji medical center [3)]Hiroshima High-Precision Radiotherapy Cancer Center）

P-075 Evaluation of Set-up Error and Addition Exposure in 3D General Couch with OBI and 6D Robotic Couch with Exactrac

○Kyo Chul Shin[1)], Jun-Min Ryu[1)], Sang Gyu Choi[1)], Hyojung Park[1)], Young Kee Oh[2)], Dong Hyeok Jeong[3)], Jung Ki Kim[3)] ([1)]Dept. of Radiation Oncology, Dankook University Hospital, Cheonan, Korea [2)]Dept. of Radiation Oncology, Dongsan Medical Center, Keimyung Univ. School of Medicine, Daegu, Korea [3)]Research Center, Dongnam Institute of Radiological & Medical Sciences, Busan, Korea)

P-076 Monte Carlo simulations of photon energy spectra for high energy photon beam dosimetry

○Kenji Yasue[1), 2)], Hiraku Fuse[1)], Tatsuya Fujisaki[1)], Yuichiro Morisita[2)], Morihito Shimizu[2)] ([1)]Ibaraki Prefectural University of Health Sciences [2)]National Metorology Institute of Japan, AIST)

P-077 Effectivity of using novel margin recipe and anterior rectal wall registration to treatment planning for intermediate risk prostate cancer patients

○Ryu Kawamorita, Shun Kishimoto, Kazuki Kubo, Ryuta Nakahara, Wataru Okada, Yuta Nakasaka, Masayuki Kusawake, Shogo Matsuda, Ryo Ogino, Kentaro Ishii, Toshifumi Nakajima（Department of radiation oncology, Tane General Hospital）

P-078 Comparison of 3D dose volume single- and double-arc volumetric modulated arc therapy (VMAT) plan for prostate cancer patients.

○Shun Kishimoto, Ryu Kawamorita, Wataru Okada, Ryuta Nakahara, Kazuki Kubo, Yuta Nakasaka, Masayuki Kusawake, Shogo Matsuda, Ryo Ogino, Kentaro Ishii, Toshifumi Nakajima（Department of Radiation Oncology, Tane General Hospital）

P-079 Error detection of a 3D dose verification system using statistical tolerance value

○Ryuta Nakahara, Ryu Kawamorita, Wataru Okada, Shun Kishimoto, Kazuki Kubo, Yuta Nakasaka, Masayuki Kusawake, Kentaro Ishii, Toshifumi Nakajima（Tane General Hospital）

P-080 A Validation of TrueBeam Exact IGRT Couch Modeling for Radiotherapy Planning

○Yoonsun Chung, Sang Hoon Jung, Hye Young Kim（Department of Radiation Oncology, Samsung Medical Center）

P-081 Comparison of cone-based plan and 5mm mlc VMAT SRS brain metastases plans.

○Yoshiaki Kato, Hiroyuki Kawakami, Ayami Numata, Takayuki Kaneko, Shihoko Sakahara（Seirei Sakura Citizen Hospital）

P-082 Examination of prostate VMAT plan using ultra-HRCT

○Naoya Hashimoto, Masato Takagi, Masato Mizuno, Shinya Murakami（Kyorin University Hospital）

P-083 Evaluation of patient specific quality assurance using EPID and machine log

○Eungman Lee, So-hyun Park, Sohyun Ahn, Jeongmin Yoon, Ho Lee, Kwang Woo Park, Jin Sung Kim, Yong Bae Kim ([1)]Department of Radiation Oncology, Yonsei University College of Medicine)

P-084 Comparison of dose calculation between KV and MV image value to density tables (IVDTs) in the treatment planning with titanium

○Sohyun Park[1), 2)], Sohyun Ahn[1), 2)], Jinsung Kim[1), 2)], kwang woo Park[1), 2)], Ho Lee[1), 2)], Jeongmin Yoon[1), 2)], Eung ([1)]Yonsei University College of Medicine [2)]Yonsei cancer center)

P-085 Quantitative evaluation of patient-specific quality assurance using online dosimetry system

○Jae-Yong Jung[1), 2)], Young-Ju Shin[1)], Seung-Chang Sohn[1)], Dong-Su Kim[2)], Bo-Young Choe[2)], Tae-Suk Suh[2)], Jung-Whan Min[3)], Yon-Lae Kim[4)] ([1)]Inje University Sanggye Paik Hospital [2)]Catholic University of Korea [3)]The Shingu University College of Korea [4)]Choonhae college of Health Science)

P-086 Influence of back scatter from floor of FF beam and FFF beam on collimator scatter coeffecient measurement

○Hayato Tsuno[1), 3)], Masahiro Nakano[1)], Tomoharu Sato[1)], Masataka Sakamoto[2), 3)] ([1)]Cancer Institute Hospital Japanese Foundation for Cancer Reserch [2)]Hamamatus University School of Medicine [3)]Gunma Prefectural College of Health Sciences)

P-087 Evaluation of a Stealth Chamber as a Reference Detector for Beam Data Measurements

○Soo-ho Moon[1)], Seoung-Joon Lee[1)], Sung-Joon Kim[2)], Byoung-Soo Ko[2)], Min-Kyu Kang[3)], Jeoung-Eun Lee[3)], Jae-Chul Kim[3)] ([1)]Kyungpook National University Hospital [2)]Kyungpook National University Medical Center [3)]Kyungpook National University School of Medicine)

P-088 Dosimetric comparison of RapidArc plans for spinal stereotactic body radiation therapy

○Mi-Hwa Kim, Hae-Jin Park, Yeong-Teak Oh, Mison Chun, O Kyu Noh, Oyeon Cho, Jaesung Heo (Ajou University School of Medicine (Dept. of Radiation Oncology))

P-089 Evaluation of deformable dose summation in cervical cancer

○Jeongmin Yoon, YongBae Kim, Ho Lee (Yonsei University)

P-090 Quantitative Evaluation of Patient Positioning Error using CBCT Gamma Density Analysis in Radiotherapy

○Soon Sung Lee[1), 2)], Sang Hyoun Choi[1), 2)], Young Hoon Ji[1), 2)], Gyu Suk Jo[1)], Kum Bae Kim[1)], Soorim Han[1)], Ju Hyun Lee[3)], Chul Kee Min ([1)]Korea Institute of Radiological & Medical Sciences [2)]University of Science Technology [3)]DK Medical Solution [4)]Soon Chun Hyang University Hospital Cheonan)

P-091 Electron beam control of linear accelerator using electromagnet

○Atsushi Myojoyama, Hidetoshi Saitoh (Tokyo Metropolitan University)

P-092 Measurement of an energy spectrum of 60Co using UVC camera

○Kyohei Morita, Atsushi Myojoyama (Tokyo Metropolitan University)

P-093 RBE estimation on flattening filter free photon beams using PHITS

○Tatsuya Segawa, Yuki Kase, Tetsuya Tomida, Masahiro Konno, Ryousei Nakada (Shizuoka Cancer Center)

P-094 Feasibility assessment of physical factors of rectal cancer short-course CRT with delayed surgery

Yoonjin Oh[2)], ○Jihye Koo[1)], Mijoo Chung[2)], Sunsik Jin[2)], Weon Kuu Chung[2)], Dong Wook Kim[2)] ([1)] Korea University [2)]Kyung Hee University Hospital at Gangdong)

P-095 Development of Amplitude-Based 4D reconstruction with ML-EM method for on-board Cone Beam CT

○ Tomofumi Ano[1)], Seishin Takao[2)], Hideaki Ueda[3)], Takaaki Fujii[4)], Soichiro Unno[1)], Kikuo Umegaki[2), 3)] ([1)]Graduate School of Engineering, Hokkaido Univ [2)]The Proton Beam Therapy Center of Hokkaido University Hospital [3)]Faculty of Engineering, Hokkaido Univ [4)]Graduate School of Medicine, Hokkaido Univ)

P-096 Establishment of an evaluation method for relative biological effectiveness using microdosimetry in BNCT irradiation field of Kyoto University Reactor

○ Kazuhiko Akita[1), 2)], Yoshinori Sakurai[3)], Hiroki Tanaka[3)], Takushi Takata[3)], Hiroyuki Sato[1), 4)], Minoru Suzuki[3)] ([1)]Graduate School of Engineering,Kyoto University [2)]Osaka Medical College [3)]Kyoto University Research Reactor Institute [4)]Department of Radiology, Tottori University Hospital)

P-097 Technical workflow of respiratory gated irradiation using carbon-ion pencil-beam scanning at i-ROCK

○ Shinichi Minohara, Yohusuke Kusano, Kenji Shioiri, Eri Takeshita, Yuka Matsuzaki, Yuji Tokiya, Masaya Ogura, Shinichi Yoshino (Kanagawa Cancer Center)

P-098 Dosimetric comparison between IMPT and SFUD using spot scanning method for head and neck tumor in Nagoya Proton Therapy Center

○ Eiki Nikawa[1)], Toshiyuki Toshito[1)], Kensuke Hayashi[1)], Kenichiro Tanaka[1)], Keisuke Yasui[2)], Akira Shimomura[1)], Kumiko Asai[1)], Rie Muramatsu[1)] ([1)]Nagoya Proton Therapy Center [2)]Hujita Health University)

P-099 Commissioning of respiratory gating system with pressure sensor for scanning carbon beam therapy

○ Hideyuki Mizuno[1)], Osami Saito[1)], Minoru Tajiri[1)], Taku Kimura[1)], Daigo Kuroiwa[1)], Toshiyuki Shirai[1)], Taku Inaniwa[1)], Mai Fukahori[1)], Kentaro Miki[2)] ([1)]National institute of Radiological Sciences, QST [2)]Hiroshima high-Precision Radiotherapy Cancer Center)

P-100 Development and Validation of dose verification system for Patient specific Quality Assurance

○ Shohei Mizutani[1)], Kenji Hotta[3)], Hiromi Baba[3)], Takashi Yamaguchi[1)], Takuya Miyashita[2)], Tetsuo Akimoto[3)] ([1)]Technology Research Center, Sumitomo Heavy Industries, Ltd. [2)]Quantum Equipment Division, Sumitomo Heavy Industries, Ltd. [3)]National Cancer Center Hospital East)

P-101 Verification for the field size effect of irregular fields at Tsuyama Chuo Hospital

○ Masashi Yamanaka, Yuki Tominaga, Mitsutoshi Tada, Katsuyuki Tsunazawa, Tetsunori Matsuda (Tsuyama Chuo Hospital)

P-102 Complementation of the treatment planning system based on Monte Carlo simulation in the passive scattering proton therapy.

○ Se Byeong Lee[1)], Chankyu Kim[1)], Nuri Lee[1)], Dongho Shin[1)], Young Kyung Lim[1)], Jong Hwi Jung[1)], Haksoo Kim[1)], Eun Hee Jeang[1)], Chul Hee Min[2)], Wook ([1)]National Cancer Center, Korea [2)]Yonsei University)

P-103 Development of Water Equivalent Multi-Layer Ionization Chamber with Liquid Crystal Polymer

○Hiroyuki Kobayashi[1), 2)], Shigekazu Fukuda[2)], Soma Iwata[3)] ([1)]Chiba University [2)]QST NIRS [3)]AEC)

P-104 Development and characterization of dedicated applicator to abdomen intraoperative radiotherapy

○Sohyun Ahn, Jinsung Kim, Ho Lee, Kwangwoo Park, Jeongmin Yoon, Eungman Lee, Sohyun Park, Yong Bae Kim, Ik Jae Lee (Yonsei University Colleage of Medicine)

P-105 Development of real-time patient's dose monitoring system through scintillation fibers based on the existing brachytherapy applicator

○Juhye Kim[1)], Jihye Koo[2)], Sunyoung Moon[2)], Myonggeun Yoon[2)], Sang Hyoun Choi[4)], SoonSung Lee[3), 4)], Weon-Kuu Chung[1)], Dongwook Kim [1)] ([1)]Department of Radiation Oncology, Kyung Hee University Hospital at Gangdong, Seoul, Korea [2)]Department of Bio-convergence Engineering, Korea University, Seoul, Korea [3)]Radiological Cancer Medicine, University of Science and Technology, Daejeon, Korea [4)] Research Center for Radiotherapy, Korea Institute of Radiological and Medical Sciences, Seoul, Korea)

P-106 Dose evaluation in consideration of the energy dependence of the OSL dosimeter

○Hiroki Ohtani[1)], Siriprapa Somboon[2)] ([1)]Teikyo University [2)]Tokyo Metropolitan University)

P-107 Feasibility study on a fiber-optic gamma probe capable of measuring radiation doses

Bongsoo Lee[1)], ○Mingeon Kim[1)], Young Beom Song[1)], Hye Jin Kim[1)], Sang Hun Shin[2)] ([1)]Chung-Ang University [2)]Konkuk University)

P-108 Prototype development of a small animal X-ray irradiation device using an electron linear accelerator

○Sangkoo Kang, Heuijin Lim, Manwoo Lee, Me Young Kim, Sang Jin Lee, Young Min Moon, Dong Hyeok Jeong (Dongnam Institute of Radiological and Medical Science)

P-109 Application of electronic portal imaging devices (EPID) to daily dosimetry check for photon beams

○Chulhang Kim[1)], Jin Ho Song[1)], Hoon Sik Choi[1)], Hojin Jeong[2)], Ki Mun Kang[2)], Byung Do Park[3)], Jung Hoon Ro[4)] ([1)]Department of Radiation oncology, Gyeongsang National University Changwon Hospital, Korea [2)]Department of Radiation oncology, Gyeongsang National University Hospital, Korea [3)]Department of Radiation oncology, Samsung Changwon Hospital, Korea [4)]Department of Biomedical Engineering, School of Medicine, Pusan National University, Korea)

P-110 Development of a simple dose measurement system for proton beam therapy

○Yutaro Mori[1)], Tomonori Isobe[1)], Hideyuki Takei[2)], Yoshiki Yamaguchi[2)], Toshiyuki Terunuma[1)], Satoshi Kamizawa[1)], Tetsuya Tomita[2)], Daisuke Kobayashi[2)], Takej ([1)]Faculty of Medicine, University of Tsukuba [2)]University of Tsukuba Hospital)

P-111 Study of the dosimetric deviation of dose rate modulation in intensity modulated radiation therapy with Dynamic MLC

○Satoshi Yasuhiro, Akihiko Hoshi (Musashino Red Cross Hospital Radiation department)

P-112 A Comprehensive Evaluation of Dosimetric Properties for Radiochromic Micelle Gel Dosimeter Using Reusable Leuco Dye

○Samju Cho[1)], Jin Mook Kang[2)], Dong Han Lee[2)], Yu Ra Jo[2)], Seon Bung Hwang[2)], Young Hoon Ji[2)], So Hyun Ahn[3)], Sang Hoon Lee[4)], Rena Lee[1)], Kyubo K ([1)]Ewha Womans Univesity [2)]Korea Institute of Radiological and Medical Sciences [3)]Yonsei University [4)]Cheil General Hospital & Women's Heathcare Center)

P-113 Portable phantom development and evaluation to compare the radiation dose for medical linacs

○Jhin Kee Kim[1)], Dong Hyeok Jeong[2)], JeongGu Kang[3)], JeongOk Lee[3)], BuGil Kim[1)], HyeongCheol Kwon[1)], JungSoo Kim[1)], YoungKee Oh[4)], KyoCheol Shin[5)] ([1)]Chonbuk National University Hospital [2)] Dongnam Institute of Radiological & Medical Sciences [3)]Wonkwong Health Science University [4)] Kemyung University Hospital [5)]Dankook University Hospital [6)]Chungnam National University Hospital)

P-114 Development of 3D Dosimetry System for Helical Tomotherapy

○Samju Cho[1)], Sangwook Lim[2)], Dahl Park[3)], Yong Ho Kim[3)], Jang Bo Shim[4)], Suk Lee[4)], Sang Hoon Lee[5)], Rena Lee[1)], Kyobo Kim[1)] ([1)]Ewha Womans Univesity [2)]Kosin University [3)]Pusan National University Hospital [4)]Korea University [5)]Cheil General Hospital & Women's Heathcare Center)

P-115 Effect of Nominal Photon Energy from Target Degradation in Varian Linac

○Sung Jin Kim[1)], Sang Hoon Jung[1)], Yoonsun Chung[1)], Sang Gyu Ju[1)], Youngyih Han[1)], Won Kyu Kim[2)], Tae Jong Kim[2)] ([1)]Department of Radiation Oncology, Samsung Medical Center, Seoul, Korea [2)] Department of Biomedical Engineering, Samsung Medical Center, Seoul, Korea)

P-116 Development of real-time field size evaluation algorithm using least square method

○Young min Moon, Sangkoo Kang, Dong Hyeok Jeong, Me Young Kim (Dongnam Institute of Radiological & Medical Sciences (DIRAMS))

P-117 Determining of reference air kerma rate of 192 Ir HDR brachytherapy source using Farmer type chamber based on IAEA-TECDOC-1274

○Soorim Han, K.S. Cho, S.S. Lee, S.H. Choi, K. B. Kim (Korea Institue of Radiological & Medical Sciences)

P-118 Measurement of absorbed dose at off-axis point in IMRT

○Makoto Hirata[1), 2)], Hajime Monzen[2)], Kohei Hanaoka[2)], Yasumasa Nishimura [3)] ([1)]Otsu Red Cross Hospital [2)]Department of Medical Physics, Graduate School of Medical Science, Kindai University [3)]Department of Radiation Oncology, Faculty of Medicine, Kindai University)

P-119 SPECT image analysis using computational ROC curve based on threshold setup

○Min-Gun Choi[1)], Moo-Sub Kim[1)], Han-Back Shin[1)], Sunmi Kim[1)], Jae Goo Shim[2)], Do-Kun Yoon[1)], Tae Suk Suh[1)] ([1)]Department of Biomedical Engineering and Research Institute of Biomedical Engineering, College of Medicine, The Catholic University of Korea, Seoul 06591, Korea, [2)]Department of Radiologic Technology Daegu Health College, Daegu 41453, Korea)

P-120 Building database for efficient radiotherapy patient management

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P-121 Spherical and cylindrical ROIs in the calibration method with a traceable Ge-68/Ga-68 point-like source

○Shoji Koyama[1], Tomoyuki Hasegawa[2], Yusuke Inoue[3], Kei Kikuchi[3], Hiroki Miyatake[3], Kei Wagatsuma[4], Noriaki Miyaji[5], Hiroshi Watabe[6], Miho Shidahara<s ([1]Kitasato University Graduate School [2] Kitasato University [3]Kitasato University Hospital [4]Tokyo Metropolitan Institute of Gerontology [5] The Cancer Institute Hospital of JFCR [6]Tohoku University [7]Tsukuba International University [8] National Cancer Center Hospital East [9]RIKEN Center for Life Science Technologies [10]Hokkaido University of Science [11]AIST)

P-122 Point-like Ge-68/Ga-68 radioactive source with a spherical acrylic absorber as a basic calibration tool for PET scanners

○Tomoyuki Hasegawa[1], Shoji Koyama[2], Takahiro Yamada[3], Mikio Matsumoto[4], Hidetake Ishizu[4], Takahiro Mikamoto[4], Yasushi Sato[5], Hiroki Miyatake[6], Kei Kik ([1]Kitasato University [2]Kitasato University Graduate School [3]Kindai University [4]JRIA [5]AIST [6]Kitasato University Hospital)

P-123 Potential impact of metal artifact caused by loc-bar on PET/CT image

○Kohei Hanaoka[1], Masahiko Okumura[1], Kenji Matsumoto[1], Kohei Shimomura[2], Hajime Monzen[1] ([1] Kindai University [2]Kyoto College of Medical Science)

P-125 Development of an Anthropomorphic Deformable Lung Phantom

○Dong-Seok Shin[1], Seong-Hee Kang[2], Kyeong-Hyeon Kim[1], Tae-Ho Kim[1], Dong-Su Kim[1], Do-Kun Yoon[1], Tokihiro Yamamoto[3], Tae Suk Suh[1] ([1]The Catholic University of Korea [2]Seoul National Universiy Hospital [3]Universiy of California Davis School of Medicine)

P-126 Radiation Irradiation Facility and Equipment in KIRAMS (Korean Institute of Radiological and Medical Sciences) for Research of Radiological Medicine

○Seungwoo Park, Mun sik Choi, Haijo Jung, Young Hoon Ji (Korea Institute of Radiological & Medical Sciences)

P-129 Study on Ridge Bar Shape for Biological Uniform Response in a Carbon Beam Delivery Line

○Ilsung Cho[1], Byungsu Kim[1], Sunhong Min[1], Won-Gyun Jung[1] ([1]Korea Institute of Radiological and Medical Sciences)

P-131 Radiation Safety from Source-term Analysis in Heavy Ion-beams Synchrotron at KHIMA's Medical Facilities

○Sun-Hong Min[1], Ilsung Cho[1], Byung Su Kim[1], Won-Gyun Jung[1] ([1]Korea Institute of Radiological & Medical Science (KIRAMS))