

Abstract List

Plenary Talk

- PT-1 Overview of 4GSR-Multipurpose Synchrotron Radiation Construction Project
Ko, Kyung Tae (KBSI)
- PT-2 Ongoing Projects and Issues of 4th generation Storage Ring
Seunghwan Shin (Korea University)
- PT-3 Technology Challenges in High Power Spallation Targets Development
Yongjoong Lee (Oak Ridge National Laboratory)
- PT-4 RF-cavities - State of the art for the synchrotrons of the future
Bjoern Keune (RI Research Instrument)
- PT-5 Ion beam modification and ion beam analysis in current materials research
Stefan Facsko (Helmholtz-Zentrum Dresden-Rossendorf (HZDR))

Invited Talk

- IT-1 Vacuum Design and Technical Development for the Taiwan Photon Source toward the Future Light Source
Gao-Yu Hsiung (National Synchrotron Radiation Research Center)
- IT-2 Overview of fusion-like neutron sources based on high-intensity linear accelerators
Moses Chung, Emre Cosgun (UNIST), Yoo Lim Cheon, Hyun Wook Kim (KFE)
- IT-3 High-Energy Radioactive Beams and Systems beyond the Neutron Dripline
Nigel Orr (LPC-Caen)
- IT-4 Accelerator and Beam Related Technologies of the Electrophysics Research Center with the Korea Electrotechnology Research Institute
Seong-Tae Han, Jong-Soo Kim, Yun-Sik Jin, Chuhyun Cho, Chae-Hwa Shon, Hyung-Suk Kim, Sung-Rok Jang, Ju-Hong Cha, and Chan-Hoon Yu (Korea Electrotechnology Research Institute, Korea)
- IT-5 Recent update in peptide receptor-targeted radionuclide therapy in Korea : as a theranostics approach
Gi Jeong Cheon (Seoul National University)

Contributed Talk

- CT-1** Structural phase transition and electronic structure of epitaxial VO₂ thin films prepared on a-Al₂O₃ substrate
Manish Kumar, Sunita Rani, Hyun Hwi Lee (Pohang Accelerator Laboratory)
- CT-2** Accelerator Facilities at KOMAC for Advanced Applications
Young Seok Hwang, Jun Kue Park, Yumi KIM, Dong-Seok Kim, Eun-joo Oh, Gwang-il Jung, Jun Mok Ha, Young Jun Yoon, Jae Kwon Suk, Hye-Ran Jeon, Cho Rong Kim, In-mok Yang, and Chan Young Lee (Korea Multi-Purpose Accelerator Complex, Korea Atomic Energy Research Institute)
- CT-3** Proton response of a 1.5-inch trans-stilbene scintillator for lunar surface fast neutron investigation
Nguyen Duy Quang, HongJoo Kim, Phan Quoc Vuong, Nguyen Duc Ton(Kyungpook National Univ.), Uk-Won Nam, Won-Kee Park, JongDae Sohn, Young-Jun Choi (Korea Astronomy and Space Science Institute), Sunghwan Kim (Cheongju University), SukWon Youn (Seoul National University), Sung-Joon Ye (Seoul National University)
- CT-4** Crystal-based positron source for future lepton colliders
Alexei Sytov (INFN), Fahad ALHARTHI (IJCLab), Laura Bandiera (INFN), Luca Bomben (Dipartimento di Scienze e Alta Tecnologia, Università degli Studi dell'Insubria), Riccardo Camattari (INFN, Ferrara Division (IT)), Gianluca Cavoto (Sapienza Universita e INFN, Roma I), Iryna Chaikovska (CNRS/IJCLab), Robert Chehab (IJCLab), Kihyeon Cho (Korea Institute of Science and Technology Information), Davide De Salvador (INFN LNL and University of Padova), Vincenzo Guidi (University of Ferrara and INFN), Viktar Haurylavets (Belarusian State University), Evgenii Lutsenko (Universita and INFN), Valerio Mascagna (Universita di Brescia), Andrea Mazzolari (INFN, Ferrara Division), Michela Prest (Universita and INFN, Milano-Bicocca), Marco Romagnoni (INFN, Ferrara Division), Federico Ronchetti (Universita degli Studi dell'Insubria and INFN, Milano-Bicocca), Francesco Sgarbossa (INFN LNL and University of Padova), Mattia Soldani (University of Ferrara and INFN, Ferrara Division), Melissa Tamisari (University of Ferrara and INFN, Ferrara Division), Victor Tikhomirov (Institute for Nuclear Problems, Belarusian State University), Erik Vallazza (Universita and INFN, Milano-Bicocca)
- CT-5** Technical Design of an IH-type buncher for KoBRA at RAON
H. Hoeltermann, U. Ratzinger, W. Schweizer, M. Schwarz, H. Hahnel, D. Streh (BEVATECH GmbH), K. Tshoo, C. Ham, D. Kwak, T.S. Shin (Institute for Basic Science), D. Yoon (Hanmac Corporation)
- CT-6** Commissioning results of a 70 MeV proton cyclotron system of IBS
Jong-Won Kim (Institute for Basic Science)
- CT-7** Luminescence, optical, compositional and structural investigations of natural ruby
Yaowaluk Tariwong (Nakhon Pathom Rajabhat University, CEGM), Sdipta Saha, Arshad Khan, Jin Jegal(Kyungpook National University), Natthakridta Chanthima, Hongjoo Kim(Kyungpook National University) and Jakrapong Kaewkha(Nakhon Pathom Rajabhat University, CEGM)

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- CT-8** Detector and device developments for RI nuclear physics by CENS
Kevin Insik Hahn(IBS)
- CT-9** Current status of LAMPS at RAON
Byungsik Hong (Korea University)
- CT-10** Space-charge-driven halo formations and their mitigation via beam spinning in high-intensity linear accelerators
Yoo Lim Cheon (KFE), Moses Chung (UNIST), Dong-O Jeon (IBS)
- CT-11** Future DESY II Booster Synchrotron proof-of-principle experiment for a crystal-based extraction of electrons
Alexei Sytov (INFN), Laura Bandiera (INFN), Kihyeon Cho (KISTI), Pablo Cirrone (INFN-LNS), Heiko Ehrlichmann (DESY (DE)), Vincenzo Guidi (University of Ferrara and INFN(IT)), Viktar Haurylavets, Gero Kube (DESY (DE)), Andrea Mazzolari (INFN, Ferrara Division (IT)), Marco Romagnoni (INFN, Ferrara Division (IT)), Mattia Soldani (University of Ferrara and INFN, Ferrara Division (IT)), Marcel Stanitzki (DESY (DE)), Melissa Tamisari (University of Ferrara and INFN (IT)), Victor Tikhomirov, Kay Wittenburg (DESY (DE))
- CT-12** SNUH Project Status and Heavy Ion Therapy System
Jaeman Son, Seongmoon Jung, Hyungmin Jin, Kyung Su Kim, Hong-gyun Wu (Seoul National University Hospital).
- CT-13** Experience of the operation and maintenance of the Proton Therapy System in National Cancer Center, Korea
Jaeseok Yang (National Cancer Center), Se Byeong Lee (National Cancer Center), Sang Hoon Lee (National Cancer Center)
- CT-14** Preliminary design of RF system for Korea 4GSR
Yong-Seok Lee (Pohang Accelerator Laboratory), Young-Uk Sohn (Pohang Accelerator Laboratory), In-Soo Park (Pohang Accelerator Laboratory), Young-Do Joo (Pohang Accelerator Laboratory), Sehwan Park (Pohang Accelerator Laboratory), Mujin Lee (Pohang Accelerator Laboratory), Jeong-Hoon Kim (Pohang Accelerator Laboratory)
- CT-15** Investigation of Luminescence & Radiation Shielding Properties via the Borosilicate Glass System for Multi-Function Applications
Wasu Cheewasukhanont, Jakrapong Kaewkha, Jakrapong Kaewkha (Nakhon Pathom Rajabhat University)
- CT-16** Initial Beam Commissioning Results of RAON Linac
Ji-Ho Jang (IBS), Dong-O Jeon (IBS), Hyunchang Jin (IBS), Hyung-Jin Kim (IBS), Gi Dong Kim(IBS), Bum Sik Park(IBS), In Seok Hong(IBS), Hoe Chun Jung(IBS), Jungil Heo(IBS), Jangwon Kwon(IBS), Seokho Moon(IBS, UNIST), Een Hoon Lim(IBS, Korea University)

KOPUA Talk

KT-1 Medical Application of Proton Stimulation Therapy
Jong-Ki Kim (Daegu Catholic University, School of Medicine)

KT-2 Tumor-treating fields as a Proton beam-Sensitizer for Glioblastoma Therapy
Eun Ho Kim (Daegu Catholic University)

KT-3 Plant mutation breeding using the proton-beam irradiation in Korea
Bo-Keun Ha (Chonnam National University), Yeong Deuk Jo (Chonnam National University), Sang Hoon Kim (Korea Atomic Energy Research Institute)

KT-4 Energy Calibration of Particle Dosimeter on the Moon using High Energy Proton Beams
Sunghwan Kim (Cheongju University), Hong Joo Kim, Hwanbae Park, Bobae Kim, Sincheol Kang (Kyungpook National University), Sukwon Youn, Sung-Joon Ye (Seoul National University), Uk-won Nam, Bong-Kon Moon, Won-Kee Park, Jeonghyun Pyo, Jongdae Sohn, Junga Hwang, Jaejin Lee (Korea Astronomy and Space Science Institute), Insoo Jun (Jet Propulsion Laboratory, California Institute of Technology)

KT-5 Dy³⁺ doped Na₂O-Gd₂O₃-Al₂O₃-P₂O₅ glass scintillator: X-rays and proton responses
N. Wantana (Nakhon Pathom Rajabhat University, CEGM), E.Kaewnuam (Muaban Chombueng Rajabhat University), Y.Tariwong(Nakhon Pathom Rajabhat University, CEGM), Nguyen Duy Quang(Kyungpook National University), P. Pakawanit, C. Phoovasawat(Synchrotron Light Research Institute), N.Vittayakorn(Advanced Materials Research Unit), S. Kothan(Center of Radiation Research and Medical Imaging), H. J. Kim(Kyungpook National University), J.Kaewkha^{*}(Nakhon Pathom Rajabhat University, CEGM)

KT-6 A detector research & development using the KOMAC
In-Kwon YOO^{*}, Sungwoon CHOI, Yongjun CHOI, Han Yi JANG, Kyungrim WOO, Youngjin YEOM (Pusan National University)

KT-7 Introduction of CO₂ Produced from Fossil Fuel to Analyze Radiocarbon Dating Using AMS in Dongguk University
Yu-Seok Kim (Dongguk University), Sae-Hoon Park (Dongguk University)

KT-8 Compatibility demonstration of centrally shielded burnable absorber bearing UO₂-U₃Si₂ nuclear fuel for soluble-boron-free i-SMR development
Sangjoon Ahn (Ulsan National Institute of Science and Technology)

KT-9 Mechanisms of Device Degradation Induced by Proton Irradiation in the GaN-based MIS-HEMTs
Sung-Jae Chang, Hyun-Wook Jung, Il-Gyu Choi, Dohyun Kim, Youn-Sub Noh, Sang-Heung Lee, Seong-il Kim, Ho-Kyun Ahn, and Jong-Won Lim (DMC Convergence Research Department, Electronics and Telecommunications Research Institute), Dong-Seok Kim (Korea Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute), Youngho Bae (Uiduk University)

KT-10 Stabilization of FCVAS Based Hybrid Coating System for Deposition of tetrahedral amorphous Carbon(ta-C) Films and its Applications
Jongkuk Kim, Young-Jun Jang (Korea Institute of Materials Science (KIMS))

Facility Report

FR-1 Facility Report: KOMAC in 2022
Pilsoo Lee (Korea Atomic Energy Research Institute)

FR-2 Status of PLS-II and PAL-XFEL
Changbum Kim (Pohang Accelerator Laboratory)

FR-3 Overview and Status of RAON
Seung-Woo Hong (Rare Isotope Science Project, Institute for Basic Science)

Poster Presentations (Accelerator Technology)

PA-1 Simulation Study of the Beam Extraction with Accelerating Column for Low-energy Accelerator Mass Spectrometer and Implanter
Sae-Hoon Park (Dongguk University), Yu-Seok Kim (Dongguk University)

PA-2 Simulations on Single Beam Instabilities Due to the Resistive Wall Wakes in 4GSR
Keon Hee Kim (Korea University), Eun-San Kim (Korea University)

PA-3 Development of the 3rd harmonic SRF cavity for a bunch lengthening
Junyoung Yoon (Korea Univ.), Jun-ho Han (Kiswire Advanced Technology Co., Ltd.), Eiji Kako (KEK), Eun-San Kim (Korea Univ.), Hee-Su Park (Kiswire Advanced Technology Co., Ltd.)

PA-4 Development of EPICS based PLC Control System for RFT-30 Cyclotron
Young Bae Kong (KAERI), Jong Chul Lee (KAERI), Jin Sik Ju (KAERI), Joo Young Ahn (KAERI), Jeong Hoon Park (KAERI), Min Goo Hur (KAERI)

PA-5 Development of EPICS based Control System for RFT-30 Cyclotron Ion Source
Young Bae Kong(KAERI), Jong Chul Lee(KAERI), Jin Sik Ju(KAERI), Joo Young Ahn(KAERI), Jeong Hoon Park(KAERI), Min Goo Hur (KAERI),

PA-6 Development of Single Stretch Wire Magnetic Harmonics Measure System
Jongmo Hwang (Korea University), Eun-san Kim (Korea University), Jungbae Bahng (Korea University)

PA-7 Measurement of Beam Position Resolution of Beam Transport Line Beam Position Monitors by Using SVD Method at PLS-II
Siwon Jang (Korea University)

PA-8 Nonlinear beam dynamics using lie algebra technique
Bong hoon Oh (Korea Univ.)

PA-9 Concurrent Operation of Round Beam and Flat Beam in a Low-Emittance Storage Ring
Jaeyu Lee (Pohang Accelerator Laboratory), Gyeongsu Jang (Pohang Accelerator Laboratory), B. Oh (Korea University), S. Shin (Korea University), Y. D. Yoon (Pohang Accelerator Laboratory)

PA-10 Thermal Load Analysis of M1, the First Mirror of Korea-4GSR Beamlne
Jinjoo Ko, Seunghwan Shin (Korea Univ.), Jaeyoon Baek, Kijung Kim (PAL)

PA-11 Bunch Length Measurement with Stripline Fast Faraday Cup at MEBT of RAON
Jangwon Kwon, G.D.KIM(Institution of Basic Science), E.H. Lim(Institution of Basic Science, Korea University)

- PA-12** Preliminary commissioning results of single bunch selection at RAON facility
Seok Ho Moon(UNIST), DongHyun KWAK(UNIST), Moses CHUNG(UNIST), Jangwon KWON(Institution of basic science), Gi Dong KIM(Institute of Basic Science), Dong-O JEON(Institute of Basic Science), JiHo JANG(Institute of Basic Science)
- PA-13** Physical phenomena for zero temperature limit in accelerator physics
Heetae Kim (Institute for Basic Science)
- PA-14** Two Methods of Transverse Emittance Measurement Using Wire Scanner in RAON
Eunhoon Lim, Y.S.Chung, G.D.Kim, J.W.Kwon, E.S.Kim (Institute for Basic Science)
- PA-15** Proposed General Quadrupole Magnet Design for the Korean 4th Generation Storage Ring Development
Sanghyeon Je, Jongmo Hwang, Inwoo Chun and Eun-San Kim (Korea University)
- PA-16** Design and Test of a Mode Converter for 200 GHz cold test
Hyung-sup Kong (PALy and KNU), Hyeong-Cheol Ri (Kyungpook National University), Seung-Hwan Kim (Pohang Accelerator Laboratory), Jong Hyun Kim (Pohang Accelerator Laboratory), Seunghwan Shin (Korea University), EunMi Choi (UNIST), Hong Eun Choi (UNIST)
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Kyungtae Seol (Institute for Basic Science), Kitaek Son (Institute for Basic Science), Hyunik Kim (Institute for Basic Science)
- PA-18** Analysis of high order modes in CESR-B type superconducting cavity using a full three-dimensional EM simulation code
Youngdo Joo (PAL), Sehwan Park (PAL), Youngsuk Lee (PAL), Mujin Lee (PAL), Junghoon Kim (PAL), Younguk Sohn (PAL), Insoo Park (PAL)
- PA-19** Gamma-ray and fast neutron imaging for air container inspection
Jae Yeon Park*, Jungho Mun, Jae Hyun Lee, Moonsik Chae, Minwoong Lee, and Nam Ho Lee (Korea Atomic Research Institute)
- PA-20** Error Analysis and Correction Scheme in KOMAC 100 MeV linac
Seunghyun Lee, Hyeok-Jung Kwon, Han-Sung Kim, Jeong-Jeung Dang, Dong-Hwan Kim, Sang-Pil Yun (Korea Multipurpose Acccelerator Complex, Korea Atomic Energy Research Institute)
- PA-21** Characteristics of HWR Quality Factor
Yoochul Jung (Institute of Basic Science)
- PA-22** Impedance estimations for Korea-4GSR vacuum chamber
Jimin Seok (Pohang Accelerator Laboratory), Taekyun Ha (Pohang Accelerator Laboratory), Jaeyu Lee (Pohang Accelerator Laboratory), Shin Seung-Hwan (Korea university)

- PA-23** Demonstration of multifunctional longitudinal phase space manipulation platform using double-emittance exchange
Jimin Seok (Pohang Accelerator Laboratory), Gwanghui Ha, Manoel Conde, Wanming Liu, John Power, Eric Wisniewski, Scot Doran, Charles Whiteford (Argonne National Laboratory), Moses Chung (UNIST)
- PA-24** Beam Optics for KAHIF in KAERI
Sangbeen Lee, Dae-Sik Chang, Kihyun Lee, Sunghwan Yun, Young-Bum Chun, Suk-Kwon Kim, Seung-Hyun Lee (Korea Atomic Energy Research Institute)
- PA-25** Multi-objective genetic algorithm optimization of the cavity design and beam dynamics in the electron linac
Chanmi Kim (Korea Univ.), Eun-San Kim (Korea Univ.), Chong Shik Park (Korea Univ.)
- PA-26** Investigation of nonlinear effect on octupole on KOREA-4GSR
Gyeongsu Jang, Jaeyu Lee, Y. D. Yoon, Bong hoon Oh (Pohang Accelerator Laboratory), S. Shin (Korea University), Jinjoo Ko (Korea University), Jaehyun Kim (Postech)
- PA-27** Development of the Discriminant Code to Improve Data Processing Time of the TOF Analysis from the RF Phase Scan
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- PA-28** Electron motion in the phase space under the low-gain FEL
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- PA-29** Interlock System optimization for the 9 MeV DIRAMS LINAC
Hyun Kim, Seung Wook Kim, Tae Woo Kang, Sang Koo Kang, Sang Jin Lee, Kyoung Won Jang, Dong Hyeok Jeong, Manwoo Lee and Heuijin Lim* (Dongnam Institute of Radiological & Medical Sciences)
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- PA-57** Measurement of coupling parameters with turn-by-turn beam position monitor data in electron storage ring
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- PA-59** Preliminary design of prototype LLRF system for Korea-4GSR
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- PA-60** Second order transfer matrix method to determine beam motion for cyclotron
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- PA-61** Development of a Reference Trap to improve cooling performance of RFQ-CB of RAON
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- PA-62** Study on Design parameters of a ring-type dipole for Compact light source using Laser-accelerated electron beam
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- PA-63** Design study of a capacitive pick-up monitor for the RAON low-energy experimental system
Donghyun Kwak(UNIST,RISP/IBS), Cheolmin Ham(RISP/IBS), Kyoungho Tshoo(RISP/IBS), Gidong Kim(RISP/IBS), Hyungjoo Woo(RISP/IBS), Taeksu Shin(RISP/IBS), and Moses Chung(UNIST)
- PA-64** Commissioning Results of an High-dose X-band LINAC for a Dual-head SBRT
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- PA-66** Pumping speed of Non-evaporable getter pills for distributed pumping
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- PA-74** Deep Neural Network-based Prediction for Low Energy Beam Transport Tuning.
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- PA-75** Web interface design for integrated management of EPICS Archiver Appliances
Sang-Gil Lee (IBS/RISP), Mijeong Park (IBS/RISP)
- PA-76** The Variation of the Beam according to the RF frequency, Vacuum and Gas ratio of the 14.5 GHz ECRIS
Jeongil Heo*(IBS), Inseok Hong(IBS), Hyungjin Kim (IBS)

PA-77 Conceptual Design study of a 240 MeV Synchrocyclotron Magnetic Field for Proton Therapy

Hyun Wook Kim (Korea Institute of Fusion Energy), Yong Seok Lee (Pohang Accelerator Laboratory), Jong Seo Chai (SungKyunKwan University)

PA-78 Low Energy Experimental Facility Beam Transfer Line vacuum system installation of RAON

Hyungjoo Son, Yangho Lee, Jaehyun Cho, Kwangkook Jung, Hyeongdae Mun, Chuljin Choi, Yeonsei Chung (Institute for Basic Science)

Poster Presentations (Beam Utilizations)

PU-1 Design and implementation of high current pulse measuring device for real-time flash electron beam monitoring

Kyoung Won Jang, Manwoo Lee, Heuijin Lim, Sang Koo Kang, Sang Jin Lee, Hyun Kim, Dong Hyeok Jeong* (Dongnam Institute of Radiological and Medical Sciences)

PU-2 Development of a mono-energetic neutron field utilizing an accelerator deuteron beam

HyeoungWoo Park (Kyungpook National University), Shinchul Kang, Jungho Kim, Hyeonseo Park, Joong Hyun Kim, Young Soo Yoon* (Korea Research Institute of Standards and Science)

PU-3 Characteristics of Photo-polymerized PMMA based Plastic Scintillator in Proton Beams Monitoring

Sunghwan Kim1 (Cheongju University 1), Gwangsoo Kim2, Hongjoo Kim2 (Kyungpook National University2)

PU-4 Development of Beam Profile Analysis Software Using Phosphor Screen and Cooled CMOS Camera

Gwang-il Jung (KAERI), Young Jun Yoon (KAERI)

PU-5 Sketches of Target, Moderator, Reflector, and Shieldings for Spallation Neutron Source at KOMAC

Nam-woo KANG, Pilsoo LEE, Yongsik JANG (KOMAC, Korea Atomic Energy Research Institute)

PU-6 A feasibility study of ¹¹C production from Boron Nitride (BN) Target for a Hadron Therapy

Jaehong Kim (Institute for Basic Science), Sangrok Kim (KIRAMS), Dongho Shin (ETRI)

PU-7 A Study on Heavy-Ion Beam Simulation using Geant4

Kyungho Kim (Korea Institute of Science and Technology Information), Kihyeon Cho*(University of Science and Technology)

PU-8 Small animal irradiation device for FLASH preclinical studies

Dong Hyeok Jeong, Manwoo Lee, Heuijin Lim, Hyun Kim, Sang Koo Kang, Sang Jin Lee, Tae Woo Kang, Seung Wook Kim, Kyoung Won Jang* (Dongnam Institute of Radiological and Medical Sciences)

PU-9 Geant4 simulation model of electromagnetic processes in oriented crystals for the accelerator physics

Alexei Sytov (INFN) Laura Bandiera (INFN), Kihyeon Cho* (Korea Institute of Science and Technology Information), Pablo Cirrone (INFN-LNS (IT)), Susanna Guatelli (University of Wollongong, Australia), Viktar Haurylavets (Belarusian State University), Soonwook Hwang (Korea Institute of Science & Technology Information (KR)), Vladimir Ivanchenko (CERN), Luciano Pandola (INFN-LNS (IT)), Victor Tikhomirov (Belarusian State University), Anatoly Rosenfeld (University of Wollongong, Australia)

- PU-10** Search for Dark Photons Using Electron-Positron Collider Beams at $\sqrt{s} = 10.58\text{--}1000 \text{ GeV}$
Kihong Park (University of Science and Technology, Korea Institute of Science and Technology Information), Kyungho Kim (Korea Institute of Science and Technology Information), Kihyeon Cho* (University of Science and Technology, Korea Institute of Science and Technology Information)
- PU-11** Revealing the RuC_x Nanosurface as a New and Stable Active site for Hydrogen Evolution Reaction in Alkaline Media
Jeonghyeon Kim, Sang-il Choi* (Kyungpook National University)
- PU-12** Grain Boundary Mediated Oxygen Reduction Reaction (ORR) Performance in Bimetallic Pt-Co Nanowires
Mrinal Kanti Kabiraz, Jeonghyeon Kim, Sang-il Choi* (Kyungpook National University)
- PU-13** The effect of Gamma-ray irradiation on SiC MOSFETs
Chaeyun Kim and Hyowon Yoon, Yeongeon Park, Gwangjae Kim, Gyuhyeok Kang, Ogyun Seok (Kumoh national Institute of Technology), Dong-Seok Kim (Korea Atomic Energy Research Institute)
- PU-14** Fabrication and properties of epitaxial VO₂ thin film on m-Al₂O₃ substrate
Sunita Rani, Manish Kumar, Hyun Hwi Lee (Pohang Accelerator Laboratory)
- PU-15** Preliminary Design of a Tungsten Target for the Korea Spallation Neutron Source
Yongsik Jang, Nam-woo Kang, Pilsoo Lee, Dong Won Lee (Korea Atomic Energy Research Institute), Ji Su Hwang (Virtual Rx Incorporated)
- PU-16** Ferromagnetism in defective yttria-stabilized zirconia
Parksangkyun Ryu, Daegil Cho (Pusan National University), Jun Kue Park (KOMAC/KAERI), Jae S. Lee (KOMAC/KAERI), Tae Eun Hong (KBSI), Mirang Beon (KBSI), Hyoungjeen Jeen (Pusan National University)
- PU-17** Experimental design for observation of long beam-plasma instabilities
K. Moon¹, J. Jeong¹, C. Sung¹ and M. Chung¹ (UNIST)
- PU-18** Wear resistance enhancement of SKH 55 by nitrogen hot implantation
Chan Young Lee, Sunmog Yeo, Jae Sang Lee Korea Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute) and Sang Wook Kim* (Dongguk University)
- PU-19** The Passivation Effect of Hydrogen Ion Implantation and Thermal Annealing in Polysilicon-based Device
Jae-Sung Lee (Uiduk University), Young Ho Bae (Uiduk University), Hugh Kang (Inner Sensor Co., ltd), Chang-Heon Yang (YES POWER TECHNIX Co., ltd)

- PU-20** Beam Current Modulation for Small Field Proton Radiosurgery
Sung Hwan Ahn (Samsung Medical Center, Korea), Jungwon Kwak (Asan Medical Center, Korea), Dongho Shin, Se-Byeong Lee (National Cancer Center, Korea), Sung Yong Park (National Cancer Centre Singapore)
- PU-21** Design study of the beam emittance measurement system by using quadrupole scan method in Microtron-based THz Free Electron Laser System
Jae Hong Yu, Keon Ho Kim, Seong Hee Park* (Korea University)
- PU-22** Beam commissioning of RFQ cooler buncher for low energy experiments at RAON
Seongjin Heo^{1*}, Kyoung-hun Yoo¹, Takashi Hashimoto¹, Jun-Young Moon¹, Hee Joong Yim¹ (*Rare Isotope Science Project, Institute for Basic Science*), Young-Ho Park³ (*Korea Research Institute of Standards and Science*), Chaeyoung Lim^{1,2} (*Rare Isotope Science Project, Institute for Basic Science, Korea University*), Jin Ho Lee *Korea University*)
- PU-23** Ultra-low Fluence Ion Implanter at KOMAC
Jaekwon Suk, In-mok Yang, Yong Seok Hwang, Jun Mok Ha, Jun Kue Park, Chan Young Lee, Sunmog Yeo (Korea Multi-purpose accelerator complex, Korea atomic energy research institute)
- PU-24** In-situ Fluence Monitoring System using In-air AC Current Transformer for Proton Irradiation Test Facility at KOMAC
Yu-Mi Kim*, Young-Seok Hwang, Myung-Hwan Jung, Eun-Joo Oh (KOMAC/KAERI)
- PU-25** Improvement of Hydrogen Gas Sensitivity on Graphene Gas Sensors Using Ion Beam Technology
Young Jun Yoon, Jun Mok Ha, Sunmog Yeo* (KOMAC/KAERI)
- PU-26** Current Status of Strontium-82 Production
K. R. Kim, S. P. Yoon, Y. S. Cho, H. J. Kwon, Y. G. Song (KAERI), H. G. Kim, S. J. Han, J. Y. Kim, K. C. Lee, J. S. Kim (KIRAMS)
- PU-27** Complete Ethanol Electrooxidation via Rh Single-Atom Decoration on Pt Nanocubes
Sae Hyun Park, Jeonghyeon Kim, Sang-il Choi* (Kyungpook National University)

Poster Presentations (KOPUA Session)

PK-1 Characterization of CsPbBr₃ Perovskite Nanocrystal Scintillator Using Proton Beam

Jin Jegal¹ (Kyungpook National University), Hongjoo Kim (Kyungpook National University), HyeoungWoo Park* (Kyungpook National University)

PK-2 Scintillation Properties of Rare Earth doped Germanosilicate Glass Scintillator using proton beam

J. Y. CHO, D. H. LEE, H.W PARK, H. J. KIM* (Kyungpook National University), S.C. KANG Korea Research Institute of Standards and Science)

PK-3 The regulation of survivin and RAD51 expressions by proton beam irradiation is closely related to the treatment of pancreatic cancer cells

Min-Gu Lee, Kyu-Shik Lee, Kyung-Soo Nam* (Dongguk University, Gyeongju)

PK-4 Electrical and Local Structural Properties of Ion-implanted VO₂ film

In-Hui Hwang¹, Cheng-Jun Sun¹ (Argonne National Laboratory), Sunmog Yeo²(KOMAC/KAERI), Chae-Hyun Yu³, and Sang-Wook Han^{3*} (Jeonbuk National University)

PK-5 The combined effects of simulated microgravity and radiation on mitochondrial biogenesis

Phuong Hoa Tran, Kyung-JuShin, DuyBinhTran ('Inha Institute of Aerospace Medicine and Inha University) , Steve K. Cho (GIST), Su-Geun Yang^{1,2,*} ('Inha Institute of Aerospace Medicine and Inha University)

PK-6 Inhibitory Effect of Proton Beam Irradiation on Metastatic Cancer Metabolism of Human Colorectal Adenocarcinoma Cells

Byung Geun Ha¹, Sung Suk Jung¹, Yun Hee Shon¹ (Kyungpook National University Hospital)

PK-7 A detector research & development using the KOMAC

In-Kwon YOO*, Sungwoon CHOI, Yongjun CHOI, Han Yi JANG, Kyungrim WOO, Youngjin YEOM (Pusan National University)

PK-8 Measurement of transport parameters for protium in ODS steels

H. J. Seo¹, H. S. Kim¹ (Dankook University), W. J. Byeon²(KBSI), Bo-Hyun Chung³(KAPRA), and S. J. Noh¹ (Dankook University)

PK-9 The effect of proton beam on cell cycle of HepG2 hepatocellular carcinoma cell

Kyung-Soo Nam, Min-Gu Lee and Kyu-Shik Lee (Dongguk University, Gyeongju)

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PK-10 The Radiation hardness of LiI:Ag for lunar surface neutron measurement from the LVRAD experiment

Sinchul Kang (KRISS), Hongjoo Kim, Doohyeok Lee, Nguyen Thanh Luan, Hyeoungwoo Park, Nguyen Duy Quang, Phan Quoc Vuong (Kyungpook National University), Young-Jun Choi, Uk-won Nam, Won-Kee Park, Jongdae Sohn (Korea Astronomy & Space Science Institute), Sung-Joon Ye, Sukwon Youn (Seoul National University), Sunghwan Kim (Cheongju University)

PK-11 Status of preparation of BNCT center for multicenter clinical trials

Hyo Jung Seo, Ji Eun Gwak¹, Jungyu Yi¹, Jung Hoon Cha, Dong Seok Heoh¹, Dong Woo Kim¹ (Dawonmedax) Sei-Young Lee², Woohyoung Kim², Yongho Kwak²(Dawonsys), Minhye Son¹, Moonkyoung Kim¹, Sang June Jeon¹, Jae Won Choi¹, Kyu Young Lee¹(Dawonmedax), Jeongwoo Lee², Il Hyoek Seo², Dasom Na², Se Hyun Kim², Hyunhye Kyung², Jieun Yang², Sangbong Lee²(Dawonsys), Kyung June Min¹, Hyoung Min Yoon¹(Dawonmedax), Young-soon Bae^{1,2}, Dong-Su Kim^{1,2}, Je-Un Han^{1,2}, Hyung Jin Yoon^{1,2}, Jung Jin Hwang^{1,2}, Ju Jin Kim^{1,2}(Dawonmedax/Dawonsys), Byung Hyo Woo²(Dawonsys), Hyo Jin Kim^{1,2}(Dawonmedax/Dawonsys), Yoo Soon Jang²(Dawonsys), Seok Chang Han¹(Dawonmedax), Woong Hee Kim^{1,2}, Do Goo Kang^{1,2}(Dawonmedax/Dawonsys), Hyun Jin Seo²(Dawonsys), Soo Young Lee^{1,2}(Dawonmedax/Dawonsys), Na Hyung Park², Myeng Heon Lee²(Dawonsys), Sung June Bae¹(Dawonmedax), Seung Hoon Lee^{1,2}(Dawonmedax/Dawonsys), Gyu Ho Cho²(Dawonsys), Seong Han Kim¹(Dawonmedax), Seong Hwan Moon², Min Kyu Lee²(Dawonsys), Joo Young Nam¹(Dawonmedax), Young-Kwan Moon^b, WonDo¹(Dawonmedax), Mooyoung Yoo¹(Dawonmedax), and SunSoon Park^{1,2}(Dawonmedax/Dawonsys)

PK-12 Decontamination of Radioactive Materials by using Alkyl Thiol and Higher Alcohol Phosphate-based Agents

Jeong Yup Kim¹(NCT), Myung-Hwan Jung^{2,3}(KAERI and Dongguk University, Gyeongju) Eun Seok Choi³(Dongguk University, Gyeongju), Hye-Min Jang²(KAERI) Won-Je Cho²(KAERI), Gun Gyun Kim³(Dongguk University, Gyeongju), Sang Wook Kim^{3†}(Dongguk University, Gyeongju)

PK-13 A study of water splitting efficiency of Cu₂O/CuO/single-atoms hybrid catalysts fabricated by metal ion beam irradiation

Gi Wan Jeon, Jae-Won Jang (Dongguk University, Seoul)

PK-14 Activating NiO Nanorods via Nitrogen Doping and Vacancy Engineering for Alkaline Hydrogen Evolution Reaction

Jaerim Kim, Dongseok Kim, Bongwon Kim, Jaesub Song, Jiye Kim, Hyeonwoong Hwang, and Jong Kyu Kim* (POSTECH)

PK-15 Roll-to-roll Anode Layer Ion-beam Treatment on Polymer Textile for Copper-coated Antimicrobial Filter

Sunghoon Jung (Korea Institute of Materials Science)

PK-16 Characterization of Low Flux and 100 MeV Calibration Proton beams for LVRAD in KOMAC

Ukwon Nam1, Won-Kee Park1, Jongdae Shon1, Young-Jun Choi1, (Korea Astronomy and Space Science Institute 1), Sunghwan Kim2 (Cheongju University 2), Thanh Luan Nguyen3, Bobae Kim3, Hongjoo Kim3, Hwanbae Park3 (Kyungpook National University 3), Sukwon Youn⁴, Sung-Joon Ye⁴ (Seoul National University 4), Yongsuk Hwang5, Eun Joo Oh5 (Korea Atomic Research Institute 5)