

# Abstract List

The 22<sup>nd</sup> International Conference on Accelerators and Beam Utilizations

## ICABU 2018

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## Plenary Session

- PS-1** R&D status of CEPC Accelerator  
Yunlong Chi (IHEP)
- PS-2** Tagged neutron method as a tool for nuclear reaction studies and elemental analysis  
Vadim R. Skoy (FLNP), V. M. Bystritsky (FLNP), D. N. Grozdanov (FLNP), N. A. Fedorov (FLNP), Yu. N. Kopatch (FLNP), I. N. Ruskov (FLNP), T. Yu. Tretyakova (FLNP), A. O. Zontikov (FLNP), D. Wang (FLNP), F. Aliev. (FLNP)
- PS-3** Exploring Nuclear Structure using Radioactive Beams Produced by In-Flight Fragmentation  
Nigel Orr (LPC-Caen)
- PS-4** CEPC RF power sources system  
Zusheg Zhou (IHEP)
- PS-5** Injection Scheme with Deflecting Cavity for Ultimate Storage Ring  
Jaehyun Kim (Postech), Seung Hwan Shin (PAL), gyeongsu Jang (postech), Bong Hoon Oh (PAL), Moohyun Yoon (POSTECH), Jaeyu Lee (PAL), Jin Ju Ko (Postech), Yong Woon Park (PAL), Ilmoon Hwang (PAL), Taekyun Ha (PAL), Dong-Eon Kim (PAL), Sang-hoon Kim (Michigan State Univ.)

## Contributed Session

- CS-1** Electron and ion beam transmission test for the RAON EBIS charge breeder  
Hyock-Jun Son (IBS), Young-Ho Park (IBS), Jun Young Moon (IBS), Ramzi Boussaid (IBS), Seongjin Heo (KU), Liu Haolin (KU), Taeksu SHIN (IBS), Jongwon Kim (IBS), Moses Chung (UNIST)
- CS-2** EUV Source Based on Electron Storage Ring  
Jang-Hui Han (PAL), Sojeong Lee (PAL)
- CS-3** Performance test of prototype QWR cryomodule and HWR cryomodule for RAON  
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- CS-4** Preliminary reports on the characterization of fast-neutron beams at the KOMAC  
Pilsoo Lee (KOMAC/KAERI), Jeong-jeung Dang (KOMAC/KAERI), Hyeok-Jung Kwon (KOMAC/KAERI), Han-Sung Kim (KOMAC/KAERI), Sang Pil Yoon (KOMAC/KAERI), Seunghyun Lee (KOMAC/KAERI), Young-Gi Song (KOMAC/KAERI), Yong-Sub Cho (KAERI)
- CS-5** Performance study of the C-band magnetron used in the 9 MeV electron accelerator  
Heuijin Lim (DIRAMS), Dong Eun Lee (DIRAMS), Sangkoo Kang (DIRAMS), Hee Chang Kim (DIRAMS), Seung Heon Kim (DIRAMS), Jungyu Yi (DIRAMS), Dong Hyeok Jeong (DIRAMS), Manwoo Lee (DIRAMS)
- CS-6** Demonstration of emittance exchange bunch compression at Argonne Wakefield Accelerator  
Jimin Seok (UNIST), Gwanghui Ha (ANL), John Power (ANL), Manoel Conde (ANL), Moses Chung (UNIST)

## KOPUA Session

- KS-1** Assessment of therapeutic effect of a proton beam in liver cancer cells  
Kyung-Soo Nam (Dongguk Univ.), Kyu-Shik Lee (Dongguk Univ.), Min-Gu Lee (Dongguk Univ.)
- KS-2** Radiation Effects of <sup>6</sup>Li Enriched CLYC Scintillator using 100 MeV Proton Beams in KOMAC  
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- KS-3** Study of deuterium desorption behaviors in tungsten irradiated with deuterium ions of an ICP ion source  
W.J. Byeon (Dankook Univ.), Sang-woon Yoon (Dankook Univ.), H.J. Seo (Dankook Univ.), H.S. Kim (Dankook Univ.), S.J. Noh (Dankook Univ.)
- KS-4** Influence of Ion Implantation on Structural and Electrical Properties of VO<sub>2</sub>  
Sang-Wook Han (Jeonbuk Nat'l Univ.), In-Hui Hwang (Jeonbuk Nat'l Univ.), Chang-In Park (Jeonbuk Nat'l Univ.)
- KS-5** Study on hydrogen-isotope permeation barrier layers of fusion materials  
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- KS-6** R&D on trigger RPCs of two-dimensional tracking capability  
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- KS-7** Heavy Ion Beam Irradiation Target Chamber for DIAC  
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Hong, Wan (KIGAM)
- KS-9** A Study on Applications of Proton Accelerator for Industry  
Yu-Seok Kim (Dongguk Univ.)
- KS-10** LDL Receptor Ligand Functionalized Gold Nanoparticles as Infiltrative Tumor Targeting Au-nanoradiator for Site-Specific Proton Therapy : Overcoming blood-brain barrier  
Jong-Ki Kim (Catholic Univ. of Daegu), Jae-Kun Jeon (Catholic Univ. of Daegu), Seungjun Seo (Catholic Univ. of Daegu)

## Facility Report Session

- FR-1      Status of RAON  
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- FR-2      The status of PLS-II and PAL-XFEL  
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- FR-3      Operation status of KOMAC facility  
            Han-Sung Kim (KOMAC/KAERI)

## Poster Presentations (Accelerator Technology)

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- PA-3** Multipacting simulation of RF coupler for SSR cavity  
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- PA-9** Design of RF Reference distribution System for the RISP Linac  
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- PA-10** RF Conditioning of a CW Radio Frequency Quadrupole Accelerator for the Rare Isotope Science Project  
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- PA-12** Towards a sextupole-free accelerator  
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- PA-13** Preliminary metal beam extraction experiment of a SC-ECRIS of RAIN accelerator  
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- PA-14** High Temperature Baking for Jacketed HWR Cavity  
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- PA-15** Development and Commercialization of 15-MeV Accelerator System for Inspection of Large Structures  
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- PA-16** Beam Quality Measurement of RFT-30 Cyclotron  
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- PA-17** Conceptual Design of the High Voltage Support Frame using the Aluminum Profile of Considering Dielectric Breakdown for RAON SC-ECRIS  
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- PA-18** Status of Assembly for Vertical Test of Superconducting Cavities  
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- PA-19** Dose measurement of the 6 MeV linac electron beam with the DIRAMS monitor chamber  
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- PA-21** Design of Magnet to Measure Isotope Ratios in the Gaseous Sample Analysis System for AMS  
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## Poster Presentations (Beam Utilization)

- PU-1** Synthesis, luminescence and optical properties of  $\text{CaMoO}_4$  nano-powder prepared by co-precipitation method  
Hong Joo Kim (KNU), Sujita Karki (KNU), Indra Raj Pandey (KNU), Pabitra Aryal (KNU), Daehoon Ha (KNU), HyangKyuPark (KU)
- PU-2** Developing interactive kinematics code for transfer reactions  
D.H. Kim (SKKU), K.Y. Chae (SKKU)
- PU-3** Construction of a TOF system for beams charge-bred by EBIS  
Jongwon Kim (IBS), Liu Hao-lin (IBS), Hyock-Jun Son (IBS), Young-Ho Park (IBS), Taeksu Shin (IBS)
- PU-4** Mechanism of Wettability Change from Hydrophilicity to Hydrophobicity by Nuclear Reactions  
Eun Je Lee (KAERI), Young Bae Kong (KAERI), Ho Seung Song (KAERI)
- PU-5** Measuring stopping power of the radioactive  $^{22}\text{Mg}$  ion beam in the active  $\text{He}+\text{CO}_2$  gas target  
N. N. Duy (SKKU), K.Y.Chae (SKKU), T.Hashimoto (IBS), J.Hu (CAS), N.Iwasa (Tohoku Univ.), D.Kahl (Edinburgh Univ.), L.H.Khiem (IOP,Vietnam), Y.H.Kim (ILL), S. Kubono (RIKEN), Y.K.Kwon (IBS), J.S.Song (ANL), T.Teranishi (Kyushu Univ.), Y.Wakabayashi (JAEA), H.Yamaguchi (Tokyo Univ.)
- PU-6** Upgrade of Gaseous Ion Beam Facility for Stable Control and Measurement  
Yong Seok Hwang (KOMAC/KAERI), Chan Young Lee (KOMAC/KAERI), Cho Rong Kim (KOMAC/KAERI), Jae Kwon Suk (KOMAC/KAERI), Maengjun Kim (KOMAC/KAERI)
- PU-7** Neutron source evaluation for the Neutron Data Production System (NDPS) at RAON  
Sangjin Lee (RISP/IBS)
- PU-8** Irradiation-induced interfacial defect in silicon solar cells by dual nitrogen/oxygen ion implantation  
Rajkumar Sahu (Chonbuk Nat'l Univ.), Srikanta Palei (Chonbuk Nat'l Univ.), Jonghun Mun (Chonbuk Nat'l Univ.), Keunjoo Kim (Chonbuk Nat'l Univ.)
- PU-9** Design study of the reflector time-of-flight mass spectrometer for EBIS Charge Breeder  
Liu Hao-Lin (KU), Hyock-Jun Son (IBS), Young-Ho Park (IBS), Taeksu Shin (IBS), Eun-San Kim (KU), Jongwon Kim (IBS)

- PU-10** Radiation Effects of  ${}^6\text{Li}$  Enriched CLYC Scintillator using 100 MeV Proton Beams in KOMAC  
Sunghwan Kim (Cheongju Univ.), Uk-won Nam (KASI), Won-kee Park (KASI), Jeonghyun Pyo (KASI), Jongdae Shon (KASI), Bong-kon Moon (KASI), Jaejin Lee (KASI), Junga Hwang (KASI), Sung-Joon Ye (Seoul Nat'l Univ.)
- PU-11** Preliminary Design on Spallation Target for Neutron Generation with 100 MeV Pulsed Proton Beam  
Soobin Lim (SNU), Junghwa Kim (SNU), Donghwan Kim (SNU), Jungmin Jo (SNU), Jeong-Seung Dang (SNU), Kyoung-Jae Chung (SNU), Yong-seok Hwang (SNU)
- PU-12** Analysis of Delayed Gamma-ray Energy Spectrum of  ${}^{\text{nat}}\text{W}(p,x)$  reaction for Dead time  
Jieun Lee (Dong-A Univ/CREH), Jungran Yoon (Dong-A Univ.), Taeik Ro (Dong-A Univ.), Samyol Lee (Dongseo Univ/CREH)
- PU-13** Study on the Derived Concentration of the Progeny of Ra-222 and Rn-220 from the their Concentration Measurement of Airborne Sample  
Yi-Sub Min (KOMAC/KAERI), SungKyun Park (KOMAC/KAERI), JungMinPark (KOMAC/KAERI)
- PU-14** The Effect of Electron Beam Irradiation on Si Solar Cells with Micro-surface  
jonghun Mun (Chonbuk Nat'l Univ.), Rajkumar Sahu (Chonbuk Nat'l Univ.), Keunjoo Kim (Chonbuk Nat'l Univ.)
- PU-15** Development of multi-reflection time of flight mass spectrograph at RAON  
Jun Young Moon (IBS), Young-Ho Park (IBS), Taeksu Shin (IBS), Hyock-Jun Son (IBS), Hiroari Miyatake (KEK), Michiharu Wada (KEK), Peter H. Schury (KEK), Yutaka atanabe (KEK), Yoshikazu Hirayama (KEK), Marco Rosenbusch (RIKEN), Yuta Ito (JAEA)

## Poster Presentations (KOPUA Session)

- PK-1** Effect of a proton beam on metastatic potential in three kinds of liver cancer cells  
Kyu-Shik Lee (Dongguk Univ\_Gyeongju), Min-Gu Lee (Dongguk Univ\_Gyeongju), Kyung-Soo Nam (Dongguk Univ\_Gyeongju)
- PK-2** Cell type-dependent effect of a proton beam in liver cancer cells and pancreatic cancer cells  
Kyu-Shik Lee (Dongguk Univ\_Gyeongju), Min-Gu Lee (Dongguk Univ\_Gyeongju), Kyung-Soo Nam (Dongguk Univ\_Gyeongju)
- PK-3** Local Structural and Electrical Properties of Ion-implanted VO<sub>2</sub>  
In-Hui Hwang (Jeonbuk Nat'l Univ.), Chang-In Park (Jeonbuk Nat'l Univ.), Sang-Wook Han (Jeonbuk Nat'l Univ.)
- PK-4** Permeation and desorption of hydrogen isotopes in fusion materials exposed to ionized hydrogen isotopes  
W.J. Byeon (Dankook Univ\_Cheonan), Sang-woon Yoon (Dankook Univ\_Cheonan), H.J. Seo (Dankook Univ\_Cheonan), H.S. Kim (Dankook Univ\_Cheonan), S.J. Noh (Dankook Univ\_Cheonan)
- PK-5** Fast Neutron Measurements with CLYC Detectors using Tandem Accelerator in KOMAC  
Uk-won Nam (KASI), Won-kee Park (KASI), Jeonghyun Pyo (KASI), Jongdae Shon (KASI), Bong-kon Moon (KASI), Jaejin Lee (KASI), Junga Hwang (KASI), Sung-Joon Ye (Seoul Nat'l Univ.), Sunghwan Kim (Cheongju Univ.)