

# Conference Program

Oral Session < online Zoom Meeting >

**September 7 (Tuesday)**

## Opening

09:00-09:10 Takashi Morii (Director of IAE, Kyoto University)

## Oral Session 1

Chair: Yuhei Miyauchi

09:10-09:35 **On the Displacement Damage-Helium Interaction Effects on Cavity Evolution and Void Swelling in Dual Ion Irradiated Tempered Martensitic F82H Steels (ZE2021A-32)**

Takuya Yamamoto  
(University of California at Santa Barbara, USA)

09:35-10:00 **Solar PV Power Conversion Reliability and Degradation Issues in Malaysia (ZE2021B-12)**

Nasrudin Abd Rahim  
(University of Malaya, Malaysia)

10:00-10:15 - Break -

## Poster Session I • II

10:15-11:45 < Gather Town >

11:45-13:30 - Break -

13:30-15:00 < Gather Town >

15:00-15:15 - Break -

## Oral Session 2

Chair: Yuhei Miyauchi

15:15-15:40 **Theory of Exciton Thermal Radiation in Semiconducting Single-Walled Carbon Nanotubes (ZE2021B-02)**

Satoru Konabe  
(Hosei University, Japan)

15:40-16:05 **Development of Biomaterial Which improve Gut Microbiome and Health of White-Leg Shrimp by Using Heat-Stable Carotenoid-Producing *Bacillus Spores* (ZE2021A-17)**

Nguyen Thi Van Anh  
(VNU University of Science, Vietnam National University, Hanoi, Vietnam)

## Closing Remarks

16:05-16:10 Toshiyuki Nohira (IAE, Kyoto University, Japan)

Satellite Meeting

**September 8 (Wednesday)**

Satellite Meeting: Symposium on Exploring Carbon Negative Energy Science 2021

< Main Building 5F: W-503E & Online >

Exploring Carbon Negative Energy Science

- 13:00-13:05      **Opening Address**  
Toshiyuki Nohira (IAE, Kyoto University)
- 13:05-13:30      **Optical Science in Extreme Low-Dimensional Materials Toward Reduced Energy Consumption Devices**  
Kazunari Matsuda (IAE, Kyoto University)
- 13:30-13:55      **An Interdisciplinary Aspect of Plasma Turbulence Based on the Concept of Phase Space Entropy Sustaining Fusion as a Hydrogen-Based Primary Energy**  
Yasuaki Kishimoto, Kenji Imadera (Graduate School of Energy Science, Non-linear/non-equilibrium Plasma Science UNIT, Kyoto University)
- 13:55-14:20      **Electrodeposition of a Medium-Entropy Alloy in a Water-In-Oil Emulsion**  
Kazuhiro Fukami (Graduate School of Engineering, Kyoto University)
- 14:20-14:45      **Possibility of the Marine Environment Assessment by Laser-Induced Breakdown Spectroscopy**  
Tetsuo Sakka (Graduate School of Engineering, Kyoto University)
- 14:45-15:10      **Preparation of Electrospun TiO<sub>2</sub>- or SrTiO<sub>3</sub>-Nanofibers and Evaluation of Their Photocatalyses**  
Takashi Sagawa (Graduate School of Energy Science, Kyoto University)
- 15:10-15:25      **Break**
- 15:25-15:50      **Molecular Vapor Assisted Low Temperature Growth of Graphene Nanoribbon**  
Takahiro Kojima, Hiroshi Sakaguchi (IAE, Kyoto University)
- 15:50-16:15      **Using Lasers as a Tool to What Can We Learn from the Detection of Bubbles?**  
Takashi Nakajima (IAE, Kyoto University)
- 16:15-16:40      **Present Status of KU-FEL and Possible Contribution to Carbon Negative Energy Science**  
Hideaki Ohgaki (IAE, Kyoto University)
- 16:40-17:05      **Function and Structure of a Lytic Polysaccharide Monooxygenase Which Cooperates Synergistically with Cellulases Toward Zero-Emission Energy**  
Masato Katahira (IAE, Kyoto University)

- 17:05-17:30      **Conditional Effect of the Spatial Enzyme Organization on the Cascade Efficiency**  
Takashi Morii (IAE, Kyoto University)
- 17:30-17:55      **Thermal Optical Properties of Carbon Nanotubes and Their Applications for Solar Energy Utilization Technologies**  
Yuhei Miyauchi (IAE, Kyoto University)
- 17:55-18:20      **Electrolytic Synthesis of Diamond in Molten Salt Under Atmospheric Pressure**  
Toshiyuki Nohira (IAE, Kyoto University)
- 18:20-18:25      **Closing Address**  
Kazunari Matsuda (IAE, Kyoto University)

## Poster Session

- ZE2021A-01 **Elucidation of Hopping Conduction in Lithium Excess Solvate Ionic Liquids**  
A. Kitada, Y. Koujin, M. Shimizu, K. Fukami, Z. Zhang, M. Saimura, T. Nagata, M. Katahira, K. Murase
- ZE2021A-02 **Study on lignin degradation by infrared free electron laser**  
T. Kawasaki, T. Nagata, H. Zen
- ZE2021A-03 **Study of formation process of solute clusters in stainless steel with ion irradiation**  
K. Fukumoto, K. Yabuuchi
- ZE2021A-04 **Photoinduced electron-transfer reactions of metal complexes as photosensitizers bound to the active site of enzyme**  
H. Takashima, Y. Kakimoto, S. Eguchi, R. Yokoyama, E. Nakata
- ZE2021A-05 **Elucidation of redox status-dependent mitochondrial temperature fluctuation towards the development of energy production system mimicking mitochondria**  
R. Sakaguchi, T. Morii, Y. Mori
- ZE2021A-06 **Bi-Based Alloy Anode Materials for Na-Ion Batteries**  
H. Usui, Y. Domi, Y. Itoda, T. Yamamoto, T. Nohira, K. Matsumoto, R. Hagiwara, H. Sakaguchi
- ZE2021A-07 **Chemical state analysis of borocarbides**  
N. Mizumoto, R. Matsudo, R. Kasada, H. Yu, S. Kondo, K. Yabuuchi
- ZE2021A-08 **Generation and sustainment of high-energy density plasmas via the interaction between high power laser and structured medium**  
Y. Kishimoto, R. Matsui, S. Inoue, Y. Miyauchi, Y. Ihara, I. Yamada, H. Sakaguchi
- ZE2021A-09 **Functionalization of amino sugar-containing polysaccharides using environmental microbes**  
H. Morita, K. Kondo, S. Chida, M. Katahira, M. Takeda
- ZE2021A-10 **Interaction analysis between cellulase carbohydrate-binding module and lignin by ultra-high sensitivity NMR for biorefinery**  
T. Watanabe, Y. Tokunaga, T. Nagata, K. Kondo, M. Katahira
- ZE2021A-11 **Combined effect of irradiation and corrosion on hydrogen isotope permeation behavior in functional coatings for fusion reactor blanket**  
T. Chikada, S. Miura, R. Norizuki, H. Fujiwara, K. Yabuuchi
- ZE2021A-12 **Analysis of fused in sarcoma aggregation caused by shear stress and suppression of aggregation by non-coding RNA**  
R. Kurokawa, N. Hamad, R. Yoneda, M. So, K. Kondo, Y. Yamaoki, T. Nagata, M. Katahira

- ZE2021A-13 Influence of Alloying Elements on Radiation Damage Formation and Hydrogen Isotope Trapping in Tungsten**  
Y. Hatano, J. Wang, A. Matsumoto, T. Hinoki, K. Yabuuchi
- ZE2021A-14 Structural analysis of fluorine-containing compounds by NMR spectroscopy**  
K. Matsumoto, H. Iyama, R. Hagiwara, M. Saimura, Y. Yamaoki, T. Nagata, M. Katahira
- ZE2021A-15 Hydrogen isotope retention for damaged W-10%Re**  
Y. Oya, K. Ashizawa, S. Hirata, Y. Koyama, T. Hinoki, K. Yabuuchi
- ZE2021A-16 The effects of dangling-bond on anodic dissolution of ceramics**  
S. Kondo, K. Seki, X. Yuan, S. Iwamoto, S. Lyu, R. Kasada, T. Hinoki, K. Yabuuchi
- ZE2021A-17 Oral Presentation**  
Nguyen Thi Van Anh
- ZE2021A-18 High-Fluence Irradiation Behavior of Reduced Activation Fusion Reactor Materials and its Mechanical Property**  
M. Ando, T. Nozawa, H. Tanigawa, K. Yabuuchi, Y. Hayashi, O. Hashitomi, T. Hinoki
- ZE2021A-19 Development of low-density stacked CNT target and fundamental process of the interaction by high-intensity laser irradiation**  
R. Matsui, Y. Kishimoto, S. Inoue, Y. Miyauchi, Y. Ihara, I. Yamada, K. Fukami, K. Matsuda
- ZE2021A-20 Electrodeposition of Si in Molten Salts Containing Silicate Ions towards the Production of Solar-Grade Silicon**  
K. Yasuda, Y. Ma, T. Yamamoto, T. Nohira
- ZE2021A-21 Development of the crystalline cellulose degradation system consisting of the psychrophilic fungus-type hybrid enzymes**  
M. Horiuchi, S. Kuninaga, I. Saito, M. Katahira, T. Nagata
- ZE2021A-22 Advanced thermal diffusivity evaluation method using D3 miniature specimens at elevated temperature**  
M. Akiyoshi, K. Yabuuchi, T. Hinoki
- ZE2021A-23 Study on Optimization of Alloying Elements of Tungsten Alloys for Improved Irradiation Tolerance**  
S. Nogami, K. Yabuuchi
- ZE2021A-24 Synergistic effects of electronic excitation and displacement damage in oxide/nitride ceramics**  
A. Maruo, N. Sakaguchi, S. Yoshioka, S. Matsumura, N. Ishikawa, K. Yabuuchi, K. Yasuda
- ZE2021A-25 Hydrogen and helium mixed plasma irradiation effects on tungsten materials with rhenium**  
Y. Ueda, B.D. Hattingh, H.T. Lee, K. Fujiwara, T. Hinoki, K. Yabuuchi

- ZE2021A-26 **Analysis of element distribution changes in solid lithium electrolyte generated by electro dialysis using rf-GD-OES**  
K. Sasaki, K. Mukai, K. Shin-mura, H. Takahashi, R. Tokuyoshi,  
I. Takahashi, R. Kasada
- ZE2021A-27 **Evaluation of irradiation resistance of high entropy oxide superconductors**  
N. Oono-Hori, K. Sakurai, Y. Mizuguchi, K. Yabuuchi
- ZE2021A-28 **Potassiation–Depotassiation Properties of Various Antimony–Based Alloys as Novel Anode Materials of K-Ion Battery**  
K. Kuritani, Y. Domi, H. Usui, T. Yamamoto, T. Nohira, H. Sakaguchi
- ZE2021A-29 **Development of Emissive Solid Materials Applicable to Luminescent Solar Concentrators**  
M. Shimizu, R. Terao, T. Sakurai, H. Sakaguchi
- ZE2021A-30 **Development of pulsed laser deposition using infrared free electron laser**  
T. Nakajima, M. Onuki, J. Fujioka, H. Zen
- ZE2021A-31 **NMR analysis of peptides and nucleic acids that modulate biomolecular functions**  
Y. Sekigami, K. Kumagai, T. Suzuki, Y. Sekikawa, K. Kamba, L. Wan,  
K. Nagata, A. Takaori-Kondo, M. Katahira, T. Nagata, T. Sakamoto
- ZE2021A-32 **Oral Presentation**  
Takuya Yamamoto
- ZE2021A-33 **Generation of high intensity THz pulse by superimposing of undulator superradiance**  
S. Kashiwagi, H. Saito, H. Zen, K. Sakaue
- ZE2021A-34 **Carrier diffusion process in silicide kankyo semiconductors revealed by mid-infrared free electron laser**  
M. Kitaura, H. Zen
- ZE2021A-35 **Human origin recognition complex subunit 1 bound to DNAs that form G-quadruplex structures**  
S. Waga, Y. Yamaoki, A. Eladl, S. Hoshina, H. Horinouchi, K. Kondo,  
T. Nagata, M. Katahira
- ZE2021A-36 **The temperature dependence of ductility in Al, Zr-added ODS ferritic steel treated under different MA atmospheres**  
N.Y. Iwata, Y. Morizono, K. Yabuuchi, A. Kimura
- ZE2021A-37 **Study of material development and interface design for all-solid- state Li ion battery**  
I. Takahashi, E. Kaji, T. Watanabe, K. Sasaki, K. Mukai
- ZE2021A-38 **In-situ measurement of periodic nanostructures on semiconductor surface induced by mid-infrared free electron lasers**  
M. Hashida, H. Zen, T. Nagashima, N. Ozaki, S. Inoue

- ZE2021A-39 **Study on the Impact of Phase Reconfiguration in Unbalanced Distribution Systems**  
V. Vai, S. Eng, C. Chhith, L. Bun, H. Ohgaki
- ZE2021A-40 **Applicaion of mode-selective phonon-excitation method in semiconductors of energy functionality with mid-infrared free-electron laser**  
K. Hachiya, R. Akasegawa, K. Yoshida, H. Zen, T. Sagawa, H. Ohgaki
- ZE2021A-41 **Elucidation of ablation mechanism on molding materials and surface modification by infrared free electron laser**  
J. Fujioka, T. Nakajima, K. Tsukiyama, H. Zen
- ZE2021A-42 **Hydrogen solution energy in Be-rich intermetallics bulk by density functional theory calculations**  
J-H. Kim, M. Nakamichi, R. Kasada, K. Mukai, K. Yabuuchi, S. Konishi
- ZE2021A-43 **Analysis of transition from axisymmetric torus to helical axis toroidal plasma**  
A. Sanpei, H. Himura, T. Inoue, S. Inagaki, R. Takaoka, N. Kojima, S. Masamune, K. Nagasaki
- ZE2021B-01 **Design and investigation of complexes comprising atom-layered materials**  
M. Maruyama, Y. Gao, K. Matsuda, S. Okada
- ZE2021B-02 **Oral Presentation**  
Satoru Konabe
- ZE2021B-03 **Identification of quadruplexes that can regulate gene expression**  
Y. Tanaka, T. Nagata, T. Ogino
- ZE2021B-04 **Surface Processing of SiC Achieved by Combination of Phonon Excitation using FEL and Electrochemistry**  
K. Fukami, Y. Maeda, S. Lin, K. Kazumi, H. Zen
- ZE2021B-05 **Development of reduced activation high entropy materials for high energy reactor**  
N. Hashimoto, E. Wada, H. Oka, K. Yabuuchi, O. Hashitomi
- ZE2021B-06 **The study of material degradation evaluation with irradiation hardening in tungsten for divertor**  
K. Tougou, M. Fukui, K. Fukumoto, K. Yabuuchi
- ZE2021B-07 **Supramolecular reaction at the end of linearly moving nanofiber**  
C. Kanzaki, M. Numata, E. Nakata, T. Hinoki
- ZE2021B-08 **Study of Hydrogen Isotope Separation Technology by Molten Salt**  
T. Nago, Y. Norikawa, H. Matsushima, T. Nohira
- ZE2021B-09 **Development of tantalum added vanadium alloys for fusion reactors**  
T. Miyazawa, H. Saito, J. Shen, Y. Hishinuma, T. Nagasaka, T. Muroga, Y. Hao, R. Kasada, K. Yabuuchi, A. Hasegawa

- ZE2021B-10 **Spatially resolved measurement of atomic emission line spectra using NIR Zeeman spectroscopy**  
T. Shikama, S. Kado, Y. Ueno, T. Chatani, H. Kawazome, T. Minami, S. Kobayashi, S. Oshima, H. Okada, A. Iwata, R. Matoike, T. Oishi, L. Matsuoka, A. Ishizawa, Y. Nakamura, S. Konoshima, T. Mizuuchi, K. Nagasaki, M. Hasuo
- ZE2021B-11 **Nondestructive evaluation of residual elastic strain distribution around the interface between non-irradiated areas and ion irradiated area II**  
Y. Subing, Y. Nakagawa, T. Shibayama, Y. Hayashi, T. Hinoki, K. Yabuuchi
- ZE2021B-12 **Oral Presentation**  
Nasrudin Abd Rahim
- ZE2021B-13 **Development and application of organic spintronics materials toward energy-saving devices**  
Y. Miyake, R. Kobata, S. Nobusue, K. Tajima, H. Sakaguchi
- ZE2021B-14 **Highly efficient photochemical reactions induced by optimal laser pulses: Quantum optimal control with machine learning**  
T. Namba, R. Ishii, T. Nakajima, H. Katsuki, K. Ohmori, Y. Ohtsuki
- ZE2021B-15 **Dependence of the hardness increase caused by hydrogenation on irradiation temperature in ion-irradiated tungsten**  
K. Sato, K. Ueno, R. Kasada, K. Yabuuchi
- ZE2021B-16 **Trapping Processes of He and H in Ion-irradiated Nano-structured Ferritic Alloys (NFAs)**  
B. Tsuchiya, Y. Hayashi, T. Hinoki, K. Yabuuchi
- ZE2021B-17 **NMR analysis of the three-dimensional solution structure of the sequence-specific RNA-binding protein Musashi1 involved in translation control of the downstream target RNA**  
W.H. Tu, K. Kamba, T. Nagata, M. Katahira, T. Imai
- ZE2021B-18 **A small-molecule-based technology for live-cell imaging of energy**  
S. Sato, H. Hakariya, E. Nakata, T. Morii
- ZE2021B-19 **Research and development of enzymatic activity control using VHH antibody**  
A. Takaori-Kondo, T. Nagata
- ZE2021B-20 **Time-series data analysis of Heliotron-J plasma by statistical modeling**  
S. Inagaki, K. Nagasaki, G.M. Weir, T. Minami, S. Kado, S. Kobayashi, S. Yamamoto, S. Ohshima, H. Okada, T. Mizuuchi
- ZE2021B-21 **Development of ultrasound-enhanced cell-internalization method and mechanism evaluation**  
A. Harada, E. Nataka, T. Ohtsuki

- ZE2021B-22 **Measurement of coherent edge radiation spectra during free-electron laser oscillations**  
N. Sei, H. Zen, H. Ohgaki
- ZE2021B-23 **Study for the development of functional peptides using NMR**  
H. Kusunoki, T. Nagata, T. Sakamoto, I. Hamaguchi
- ZE2021B-24 **Hydrogen pickup of ion irradiated Zry alloys**  
H. Watanabe, Y. Saita, K. Takahashi, K. Yabuuchi
- ZE2021B-25 **Study of spacial property of excitons in atomically thin layered materials using near-field scanning optical microscope**  
M. Sakai, K. Matsuda
- ZE2021B-26 **Effect of irradiation on Coated Materials for Tritium Barrier**  
X. Yi, Y. Li, D. Geng, W. Han, P. Liu, F. Wan, S. Ohnuki, K. Yabuuchi
- ZE2021B-27 **Quantitative relationship between plasma-produced reactive radical amount and biological/chemical reaction promotion**  
H. Matsuura, N.T. Tran, S.X.N. Bui, Hu Min, R. Asada, M. Furuta, T. Tsuchido, J. Sakamoto, Y. Takemura, S. Kado
- ZE2021B-28 **Gas Ionization with Ultrafast Intense Long-Wavelegth Infrared Pulses**  
R. Hajima, H. Zen, H. Ohgaki
- ZE2021B-29 **Development of an RNA editing oligonucleotide to regulate the production and utilization of biological energy**  
M. Fukuda, K. Hidaka, R. Kurose, T. Morii
- ZE2021B-30 **Development of optical devices using the interface of layered material and nitride semiconductor**  
S. Mouri, R. Kaipeng, Y. Komichi, T. Araki, K. Shinokita, T. Nishihara, Y. Miyauchi, K. Shinokita, K. Matsuda
- ZE2021B-31 **Ultra-Highly Sensitive DNA/RNA Sensor**  
K. Yamana, T. Takada, T. Morii
- ZE2021B-32 **Natural Convection Heat Transfer for Sugar Alcohols**  
M. Shibahara, M. Matsuwaka, K. Yabuuchi
- ZE2021B-33 **Impact of nonlinear wave-plasma interaction on electron cyclotron current drive (ECCD) in tokamak fusion reactor**  
T. Seino, K. Tobita, K. Nagasaki, H. Takahashi, A. Fukuyama, T. Maekawa
- ZE2021B-34 **Design of Staple oligomer based on thermodynamic analysis**  
Y. Katsuda, T. Kamura, S. Sato, E. Nakata, T. Morii
- ZE2021B-35 **Extension of operation regimes for advanced heliotron plasmas using stochastic electrostatic acceleration**  
M. Yoshikawa, S. Kobayashi, Y. Nakashima, J. Kohagura, H. Okada, S. Kado, M. Luo, Y. Takeda, P. Zhang, R. Matoike, A. Miyashita, R. Fukushima, K. Inoshita

- ZE2021B-36 **Microstructural evolution of ODS Ferritic Steels during cold working process for Next generation Nuclear components**  
S. Noh, S. Lee, B-A. Kim, C-K. Moon, K. Yabuuchi
- ZE2021B-37 **Analysis of reaction mechanism of haloacid dehalogenase**  
T. Nakamura, S., Nakano, E. Nakata, T. Morii
- ZE2021B-38 **Characterization of fengycins, cyclic lipopeptides, derived from Bacillus subtilis YAE51**  
Y. Emata, T. Fujimaki, Y. Takatsuka, T. Hara, K. Yokota
- ZE2021B-39 **Impacts of environmental stressors on plastic reproductive traits in the brine shrimp Artemia**  
Y. Satoh, S. Minatoya, K. Toyota, Y. Takatsuka, T. Hara, T. Ohira
- ZE2021B-40 **Developmental research on microbial community structure analysis and biopest applications in medicinal plant cultivation**  
M. Ueno, M. Ino, S. Matsumoto, T. Hara, Y. Takatsuka
- ZE2021B-41 **Formation and crystalline characterization of periodic nanostructures on semiconductor substrates irradiated by intense mid-infrared laser pulses**  
N. Ozaki, D. Kamibayashi, R. Miyagawa, H. Nakamura, H. Ogura, D. Sagae, Y. Seto, T. Shobu, A. Tominaga, H. Zen, M. Hashida
- ZE2021B-42 **Development of high-speed camera image analysis method using magnetic field information**  
N. Nishino, S. Kado, T. Suzuki, H. Okada, H. Kawazome
- ZE2021B-43 **Development of a method for compoiting Li<sub>2</sub>TiO<sub>3</sub> and nanocarbon by microwave irradiation**  
S. Takayama, K. Mukai, J. Yagi
- ZE2021B-44 **Supramolecular assembling regulation of bacterial cell division protein FtsZ on DNA nanostructures**  
A. Onoda, E. Nakata, T. Morii, T. Hayashi
- ZE2021C-01 **Determination of the free energy of the late-blooming phase (3)**  
Y. Matsukawa, T. Hamasato, S. Tsujimura, M. Yamaguchi, Y. Homma, H. Muta, Y. Ohishi, Y. Kobayashi, K. Yabuuchi
- ZE2021C-02 **Study of ion irradiation effects on oxide dispersion strengthened ferritic steel**  
J.J. Shen, T. Nagasaka, T. Muroga, H.L. Yang, S. Kano, H. Abe, K. Yabuuchi
- ZE2021C-03 **Fluorescent analyses of metals using cephem compound**  
I. Takashima, Y. Miura, E. Nakata, A. Takagi, K. Okuda
- ZE2021C-04 **Study on emission process of scintillation material using the one electron beam and Dark Matter Search with a neutron source**  
S. Kurosawa, H. Zen, H. Ohgaki

- ZE2021C-05 **Deuterium desorption from heavy ion irradiated tungsten using isothermal desorption method**  
N. Ashikawa, H. Takaoka, Y. Torikai, Y. Hayashi, T. Hinoki, K. Yabuuchi
- ZE2021C-06 **Influence of irradiation defects on the tritium removal behavior from tungsten by hydrogen isotope exchange**  
M. Zhao, M. Yajima, M. Tokitani, S. Masuzaki, K. Yabuuchi
- ZE2021C-07 **Clarification of fine structure of environmentally compatible hydroxyapatite capsules**  
T. Yabutsuka, S. Takai, T. Hinoki, K. Yabuuchi
- ZE2021C-08 **Conductivity Enhancement Mechanism of NASICON-type Lithium Ion Conductive Composite**  
S. Takai, T. Morii, T. Yabutsuka, F. Song, M. Oku, T. Yao
- ZE2021C-09 **The effect of ion beam irradiation on the properties of heavily doped nanocrystals**  
M. Sakamoto, T. Hinoki, Y. Hayashi, K. Yabuuchi
- ZE2021C-10 **Carbon dioxide gas fixation by laser irradiation response to calculus forming bacteria**  
T. Kono, T. Sakae, H. Okada, Y. Hayakawa, T. Sakai, H. Zen, T. Kii, H. Ohgaki
- ZE2021C-11 **Analyses of Electroretinograms from Crayfish's Compound Eyes Evoked by KU-FEL Irradiation: Fast and Late Reaction**  
F. Shishikura, H. Zen, Y. Hayakawa, T. Sakai, Y. Sumitomo, T. Kii, H. Ohgaki
- ZE2021C-12 **Measurement of scintillation response by fast neutron**  
Y. Urano, K. Hata, R. Orito, S. Kurosawa, K. Fushimi, S. Konishi, M. Bakr, K. Mukai
- ZE2021C-13 **Statistical analysis on edge turbulence fluctuation data in Heliotron-J**  
Y. Nagashima, S. Ohshima, S. Inagaki, A. Fujisawa

## Poster (Students & GCOE group)

- ZE2021E-01     **Estimation of different antibiotic formulations' potency after resistance genes assignment using standard strains**  
A. Eladl, A. Elganiny, M. Katahira
- ZE2021E-02     **Monitoring a structure of functional RNA in living human cell by in-cell NMR**  
O. Eladl, Y. Yamaoki, K. Kondo, T. Nagata, M. Katahira
- ZE2021E-03     **Gender and energy research:  
Empowering interventions in renewable energy policy**  
C. Meas, J. Cravioto, H. Ohgaki
- ZE2021E-04     **Improving of a 3D NRF-CT image by the fusion visualization technique with a 3D gamma-CT image**  
K. Ali, H. Ohgaki, H. Zen, T. Kii, T. Hayakawa, T. Shizuma,  
H. Toyokawa, M. Katoh, M. Fujimoto, Y. Taira
- ZE2021E-05     **Present Status and Future improvement of Multi-pass Thomson Scattering System on Heliotron J**  
D. Qiu, T. Minami, R. Shinotsuka, N. Kenmochi, S. Kado,  
C. Takahashi, M. Luo, P. Zhang, S. Ohshima, H. Okada, S. Kobayashi,  
T. Mizuuchi, S. Konoshima, R. Yasuhara, K. Nagasaki
- ZE2021E-06     **Simple and robust strategy to fabricate metal surfaces with enhanced broadband light absorption toward efficient photothermal conversion**  
N. Feng, K. Ando, T. Nakajima
- ZE2021E-07     **Comparative Studies on Graphite as Negative Electrode for Alkali Metal-Ion Batteries Using FSA-Based Ionic Liquids**  
A. Yadav, T. Yamamoto, T. Nohira
- ZE2021E-08     **Birefringence of single-structure-enriched carbon nanotube membranes**  
H. Wu, T. Nishihara, A. Takakura, K. Matsuda, T. Tanaka, H. Kataura,  
Y. Miyauchi
- ZE2021E-09     **Spatial and Temporal Behaviors of Impurity Ions in Heliotron J Using VUV Spectroscopy**  
C. Feng, S. Kado, T. Okano, A. Iwata, T. Minami S. Ohshima,  
S. Kobayashi, Y. Nakamura, A. Ishizawa, H. Okada, S. Konoshima,  
T. Mizuuchi, K. Nagasaki,
- ZE2021E-10     **Development of 320 GHz interferometer system for Heliotron J**  
P. Zhang, S. Ohshima, H. Zhao, S. Kobayashi, H. Okada, T. Minami,  
S. Kado, S. Konoshima, T. Mizuuchi, K. Nagasaki
- ZE2021E-11     **Evaluation of the Injection Parameters of the Laser Blow-off Spectroscopy System in Heliotron J**  
A. Iwata, S. Kado, N. Tamura, T. Minami, S. Ohshima, S. Kobayashi,  
Y. Nakamura, A. Ishizawa, H. Okada, S. Konoshima, T. Mizuuchi,  
K. Nagasaki

- ZE2021E-12 **First Application of Infrared Imaging Video Bolometer to Neutral Beam Injected Plasma in Heliotron J**  
A. Miyashita, K. Mukai, S. Ohshima, R. Matoike, B.J. Peterson,  
S. Kobayashi, H. Okada, S. Kado, T. Minami, T. Mizuuchi,  
S. Konoshima, K. Nagasaki
- ZE2021E-13 **Electrodeposition of Crystalline Silicon Using a Liquid Zn Electrode in KF–KCl Molten Salt**  
W. Moteki, Y. Norikawa, T. Nohira
- ZE2021E-14 **PKA energy dependence of defect production in collision cascades**  
Y. Chen, T. Toyoda, L. Zhu, K. Morishita, Y. Watanabe, T. Nozawa
- ZE2021E-15 **Optical Reconstruction of Plasma Boundary in EAST**  
F. Cai, M. Chen, B. Shen, S. Kado
- ZE2021E-16 **Construction of the CO<sub>2</sub> fixing enzyme assembly on the DNA nanostructure**  
A. Kitada, Y. Koujin, M. Shimizu, K. Fukami, Z. Zhang, M. Saimura,  
T. Nagata, M. Katahira, K. Murase
- ZE2021E-17 **Development of Stable DNA Nanomaterials for Bioenergetic Applications**  
K. Krishnamurthy, R. Arivazhagan, E. Nakata, T. Morii
- GCOE-A **Carbon-neutral transitions: An evaluation of industrial strategies to advance renewable energy supply in some sectors of the Japanese manufacturing**  
K. Ali, A. Eladl, Y. Ogino, T. Sakamoto, C. Meas, T. Sakabe, O. Eladl,  
J. Cravioto, K. Mukai, C. Qu, K. Ueda, S. Konishi, H. Ohgaki
- GCOE-B **Post Covid-19 Recovery Towards Carbon Neutral Society in Japan: Analysis on Transportation Sector**  
M.H Imaduddin, R. Akasegawa, J. Yap, F. Song, T. Kimura, T. Sagawa,  
K. Ishihara