

Categories	Reference number	Title of Research Project	Affiliation	Principle Researcher	Key Person in IAE
Planned joint research	ZE2024A-01	Structural analysis of lignocellulosic biomass by NMR spectroscopy toward decarbonized society	Kyoto University	Hiroshi Nishimura	Masato Katahira
Planned joint research	ZE2024A-02	Degradation mechanism of high melting point materials for heat exchanger applications	National Institute for Fusion Science	Keisuke Mukai	Juro Yagi
Planned joint research	ZE2024A-03	Development of anode/electrolyte interface for advanced Na-ion battery	Tottori University	Hiroki Sakaguchi	Toshiyuki Nohira
Planned joint research	ZE2024A-04	Development of Interfacial Strain Relaxation Methods in Multimaterials for Fusion Reactor Components	Tohoku University	Ryuta Kasada	Kiyohiro Yabuuchi
Planned joint research	ZE2024A-05	Emission properties and photoinduced electron-transfer reactions of photosensitizers bound to the reaction site of enzyme	Nara Women's University	Hiroshi Takashima	Eiji Nakata
Planned joint research	ZE2024A-06	NMR analysis of artificial biomolecules that control the growth of plants or microorganisms	Chiba Institute of Technology	Taiichi Sakamoto	Takashi Nagata
Planned joint research	ZE2024A-07	Electrocatalysis of graphene nanoribbons: Utilization for surface processing of silicon and energy conversion	Kyoto University	Kazuhiro Fukami	Hiroshi Sakaguchi
Planned joint research	ZE2024A-08	Fermentative production using hydrogen sulfide and food processing by-products as energy sources	Yokohama National University	Minoru Takeda	Masato Katahira
Planned joint research	ZE2024A-09	Precise control of mode-selective phonon excitation on energy material	Kumamoto Industrial Research Institute	Kyohei Yoshida	Hideaki Ohgaki
Planned joint research	ZE2024A-10	Changes in atomic density distribution in tritium breeding material Li ₈ ZrO ₆ sintered body due to Li ₂ O evaporation	Hirosaki University	Kiyoto Shinmura	Juro Yagi
Planned joint research	ZE2024A-11	Structural basis of G-quadruplex recognition by the replication initiator ORC	Japan women's University	Shou Waga	Yudai Yamaoki
Planned joint research	ZE2024A-12	Energy location of Ce ³⁺ 4f and defect levels in multicomponent garnet oxide crystals determined by photo-induced free carrier plasma transient absorption spectroscopy	Yamagata University	Mamoru Kitaura	Heishun Zen

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Planned joint research	ZE2024A-13	Mechanism of changes in mechanical strength properties of lithium-ion electrolyte due to ionic conduction	Hirosaki University	Kazuya Sasaki	Juro Yagi
Planned joint research	ZE2024A-14	Study on development of compound-based anode for K-ion battery and on compatibility with ionic liquid electrolyte	Tottori University	Yasuhiro Domi	Takayuki Yamamoto
Planned joint research	ZE2024A-15	Elucidation of interactions between TLS and long non-coding RNA that regulates liquid-liquid phase separation caused by TLS	Saitama Medical University	Riki Kurokawa	Masato Katahira
Planned joint research	ZE2024A-16	Design of Electrode/Electrolyte Interface for All Solid State Battery by Photo-Induced Chemical Solution Process	Chiba Institute of Technology	Ikuma Takahashi	Juro Yagi
Planned joint research	ZE2024A-17	Improved techniques for manipulating magnetized cells	Kyoto University	Motonari Uesugi	Hideaki Ohgaki
Planned joint research	ZE2024A-18	Innovative Approach for Lignin Utilization: Reactivity Analysis through Selective Stable Isotope Labeling Method	Tokyo University of Agriculture and Technology	Yasuyuki Matsushita	Masato Katahira
Planned joint research	ZE2024A-19	Experimental verification of hydrogen adsorption and desorption behavior for advanced neutron multipliers	National Institutes for Quantum and Radiological Science and Technology	Jae-Hwan Kim	Juro Yagi
Planned joint research	ZE2024A-20	Development of Fluorophores Directed toward Application in Luminescent Solar Concentrators	Kyoto Institute of Technology	Masaki Shimizu	Hiroshi Sakaguchi
Planned joint research	ZE2024A-21	Determining the conditions of heat treatments for extending the lifetime of nuclear reactors (3)	Kumamoto University	Yoshitaka Matsukawa	Kiyohiro Yabuuchi
Planned joint research	ZE2024A-22	Elucidation of the highly efficient energy production system utilized by intracellular organelle	University of Occupational and Environmental Health	Reiko Sakaguchi	Eiji Nakata
Planned joint research	ZE2024A-23	NMR Structural Analysis of Cell Growth-Related Protein in Complex with Viral Protein-Derived Peptide	National Institute of Infectious Diseases	Hideki Kusunoki	Takashi Nagata
Planned joint research	ZE2024A-24	Study of Hydrogen Isotope Separation Technology by Molten Salt	Hokkaido University	Hisayoshi Matsushima	Toshiyuki Nohira

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Planned joint research	ZE2024A-25	Investigation on molecular structure changes of polylactide and polylactide-based materials induced by mid-infrared free electron laser	Chiang Mai University	Sakhorn Rimjaem	Hideaki Ohgaki
Planned joint research	ZE2024A-26	Development of the crystalline cellulose degradation system consisting of the psychrophilic fungus-type hybrid enzymes.	Health Sciences University of Hokkaido	Masataka Horiuchi	Takashi Nagata
Planned joint research	ZE2024A-27	Characterization of E.coli derived G-quadruplexes which can regulate gene expression.	Yokohama National University	Yoichiro Tanaka	Takashi Nagata
Planned joint research	ZE2024A-28	Investigation of Fast Charge Extraction in Perovskite Solar Cells with QDs-enhanced Electron Transfer utilizing MIR free-electron laser	Chiang Mai University	Sukrit Sucharitakul	Hideaki Ohgaki
Planned joint research	ZE2024A-29	Fluorescent biosensor for visualizing nuclear localization signal of transcription factor Sp1 for regulating metabolic reactions	Doshisha Women's College of Liberal Arts	Shunsuke Tajima	Eiji Nakata
Planned joint research	ZE2024A-30	Novel pulsed terahertz source by super-radiance free electron laser oscillator	The University of Tokyo	Kazuyuki Sakaue	Heishun Zen
Planned joint research	ZE2024A-31	Study of Chemical reaction in the processing of super engineering plastics	Tokyo University of Science	Jun Fujioka	Heishun Zen
Planned joint research	ZE2024A-32	Development of strong superconducting bulk magnets with high shape-flexibility	Aoyama Gakuin University	Takanori Motoki	Hideaki Ohgaki
Planned joint research	ZE2024N-01	Python-Based LV Microgrid Planning Strategies: Clustered Topology and PV Hosting Capacity	Department of Electrical and Energy Engineering, Institute of Technology of Cambodia	Vannak Vai	Hideaki Ohgaki
Planned joint research	ZE2024N-02	Experimental research on the sophistication of advanced information infrastructure for the operation and maintenance of complex energy systems	Kyoto University	Hidekazu Yoshikawa	Kazunori Morishita
Planned joint research	ZE2024N-03	Carbon Capture - Bioenergy System Design and Biofuel Readiness Analysis for Urban Communities	Telkom University	Pulungan Muhammad Almaududi	Hideaki Ohgaki
Planned joint research	ZE2024N-04	Biochar Production from Cocoa Byproducts for Rural Application	Universiti Putra Malaysia Bintulu Sarawak Campus (UPMKB)	Juniza Md Saad	Hideaki Ohgaki

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Planned joint research	ZE2024N-05	(Tentative Title) Achieving Carbon-Neutral Organic Coffee Cultivation through Biocontrol	National University of Laos	Keonakhone Khounvilay	Hideaki Ohgaki
Planned joint research	ZE2024N-06	Proposing a Green Energy Ecosystem through Solar and Wind Energy in Indonesia	National Research and Innovation Agency of Indonesia (BRIN)	Anugerah Yuka Asmara	Hideaki Ohgaki
Planned joint research	ZE2024N-07	Life Cycle Assessment of Rural Electrification in Malaysia	UMPEDAC, University of Malaya	Chia-Kwang Tan	Hideaki Ohgaki
Proposal based project	ZE2024B-01	Study of damage rate effects on mechanical properties and microstructural evolution in reactor pressure vessel model alloys.	University of Fukui	Ken-ichi Fukumoto	Kiyohiro Yabuuchi
Proposal based project	ZE2024B-02	In-situ measurement of periodic nanostructures on semiconductor surface induced by mid-infrared free electron lasers	Tokai University/Kyoto University	Masaki Hashida	Heishun Zen
Proposal based project	ZE2024B-03	Description of free-electron laser interaction based on observation of coherent edge radiation	National Institute of Advanced Industrial Science and Technology	Norihiro Sei	Hideaki Ohgaki
Proposal based project	ZE2024B-04	Developing a new optical technique to determine the ratio of hydrogen bubbles to the total evolved hydrogen during water electrolysis	Japan Synchrotron Radiation Research Institute	Kota Ando	Takashi Nakajima
Proposal based project	ZE2024B-05	Structural studies on hierarchical molecular architectures created in microfluidic device	Kyoto Prefectural University	Munenori Numata	Eiji Nakata
Proposal based project	ZE2024B-06	Neutronics feasibility and compatibility of Li-Br/F/I based molten salt applied for fusion reactors' liquid blanket	Tohoku University	Yasuyuki Ogino	Juro Yagi
Proposal based project	ZE2024B-07	Physical properties of large scale structure of atomic layer materials	University of Tsukuba	Susumu Okada	Kazunari Matsuda
Proposal based project	ZE2024B-08	Development of Highly Bioactive Zirconia Ceramics and Surface Control Technology	Kyoto University	Takeshi Yabutsuka	Kiyohiro Yabuuchi
Proposal based project	ZE2024B-09	Basic study on pulse water surface discharge with needle electrodes and its improvement	Osaka Metropolitan University	Hiroto Matsuura	Shinichiro Kado

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Proposal based project	ZE2024B-10	Exploring Quantum Materials for High-Efficiency and High-Performance Energy Conversion	Hosei University	Satoru Konabe	Yuhei Miyauchi
Proposal based project	ZE2024B-11	An artificial-nucleic-acid probe for live-cell imaging of energy metabolism	Kumamoto University	Shinichi Sato	Eiji Nakata
Proposal based project	ZE2024B-12	Development of ratiometric optical thermometry based on thermal properties of photoluminescence in single-walled carbon nanotubes	Hyogo Prefectural Institute of Technology	Shun Aota	Yuhei Miyauchi
Proposal based project	ZE2024B-13	Tunneling ionization with ultrafast intense infrared pulses	National Institutes for Quantum and Radiological Science and Technology	Ryoichi Hajima	Heishun Zen
Proposal based project	ZE2024B-14	Frabrication of multi-sacle target using nano-material technology for the structured plasma generation for hydrogen-boron nuclear fusion using high intensity laser	Kyoto University	Yasuaki Kishimoto	Hiroshi Sakaguchi
Proposal based project	ZE2024B-15	Analysis of insulin ball in mice given infrared free electron laser-irradiated insulin	Gunma University	Kazuhiro Nakamura	Heishun Zen
Proposal based project	ZE2024B-16	Optical properties of high-quality two-dimensional heterostructures	Tokyo Metropolitan University	Wenjin Zhang	Yuhei Miyauchi
Proposal based project	ZE2024B-17	Highly efficient laser-induced photochemical processes by using machine-learning approach combined with quantum optimal control	Tohoku University	Yukiyoshi Ohtsuki	Takashi Nakajima
Proposal based project	ZE2024B-18	Development of novel guanine-tethered antisennse oligonucleotides	Hirosaki University	Masaki Hagihara	Eiji Nakata
Proposal based project	ZE2024B-19	AFM/EM imaging of intracellular metals with nanostructures constructed via signal amplification systems	Tohoku University	Ippei Takashima	Eiji Nakata
Proposal based project	ZE2024B-20	Effect of the metal-insulator transition temperature of vanadium dioxide film on its refractive index	Okayama University	Kazuma Isobe	Taishi Nishihara
Proposal based project	ZE2024B-21	Development of RNA editing technology to control metabolic enzyme genes	Fukuoka University	Masatora Fukuda	Eiji Nakata

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Proposal based project	ZE2024B-22	Development of a New Method for Controlling Thermal Radiation by Quantum Metamaterials	Niigata University	Atsushi Sakurai	Yuhei Miyauchi
Proposal based project	ZE2024B-23	Bactericidal effect of Gram active bacteria an infrared free electron laser	Kanagawa Dental College	Toshizo Toyama	Heishun Zen
Proposal based project	ZE2024B-24	Study of spacial property of excitons in atomically thin layered materials	University of Yamanashi	Masaru Sakai	Kazunari Matsuda
Proposal based project	ZE2024B-25	Development of 3 dimensional radiative distribution measurement system using incoherent digital holography in Heliotron J.	National Institute of Technology, Kagawa College	Hayato Kawazome	Shinichiro Kado
Proposal based project	ZE2024B-26	Whole genome analysis and culture method development of Thai coffee leaf rust fungus	Pibulsongkram Rajabhat University	Rampai Kodsueb	Yumiko Takatsuka
Proposal based project	ZE2024B-27	Systematic study of selective desulfation phenomena in glycosaminoglycans using infrared free electron laser	High Energy Accelerator Research Organization	Takashi Honda	Heishun Zen
Proposal based project	ZE2024B-28	High-temperature oxidation properties of oxide dispersion strengthened alloy powder in argon atmosphere	National Institute of Technology, Kurume Colleague	Noriyuki Iwata	Kiyohiro Yabuuchi
Proposal based project	ZE2024B-29	Developing the technique to monitor the spatial size distribution of radioactive miro/nano fragments during laser decontamination	Applied Laser and Innovative Technology Institute, Tsuruga Comprehensive Research and Development Center, Japan Atomic Energy Agency	Atsushi Kosuge	Takashi Nakajima
Proposal based project	ZE2024B-30	Application of Model Inclusive Learning to Fusion Plasma Science - Equilibrium Reconstruntion of Plasma -	Doshisha University	Yasuaki Kuroe	Shinji Kobayashi
Proposal based project	ZE2024B-31	Study and experiment of the high-energy electron generation by the high-power laser-irradiation to the structured target	Kyoto University	Ryutaro Matsui	Kazunari Matsuda
Proposal based project	ZE2024B-32	Development of New Semiconductor Power Control Devices Aiming for Carbon Neutrarity	Opto-Semiconductor Laboratory	Kensho Okamoto	Kazunori Morishita
Proposal based project	ZE2024B-33	Analysis of direct energy conversion method using charge separation by cyclotron motion	Bauhutte Co. Ltd.	Nobuhiro Nishino	Shinichiro Kado

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Joint usage of facilities	ZE2024C-01	Study on ultrafast measurement of relativistic electromagnetic fields	National Institute for Fusion Science	Masato Ota	Heishun Zen
Joint usage of facilities	ZE2024C-02	Investigation of Intrabacterial Calcification due to FEL Irradiation on Human Oral Resident Bacteria	Nihon University	Tetsuro Kono	Hideaki Ohgaki
Joint usage of facilities	ZE2024C-03	Radial Correlation Analysis on Edge Plasma Turbulence in a Toroidal Plasma and its Dependence on Plasma Configuration	Kyushu University	Yoshihiko Nagashima	Shigeru Inagaki
Joint usage of facilities	ZE2024C-04	Study on the mechanism of direct conversion of cellulosic materials into glucose under microwave irradiation condition	National Institute for Fusion Science	Sadatsugu Takayama	Juro Yagi
Joint usage of facilities	ZE2024C-05	Study on emission process and evaluation of light outputs for novel scintillator and dark-matter search using the one electron beam	Tohoku University	Shunsuke Kurosawa	Hideaki Ohgaki
Research meetings	ZE2024D-01	Distributed Workshop on "Physics and control of non-linear and non-equilibrium plasma based on the concept of broad-band energy science"	Kyoto University	Yasuaki Kishimoto	Kazunari Matsuda
Research meetings	ZE2024D-02	The 3rd International symposium of Biofunctional Chemistry: Towards the understanding of biological energy system	University of Occupational and Environmental Health	Reiko Sakaguchi	Lin Peng
Research meetings	ZE2024D-03	The Japanese Society for Biomaterials, Kansai Block 2024	Kyoto Prefectural University of Medicine	Tetsuya Adachi	Eiji Nakata
Research meetings	ZE2024D-04	4th Switzerland-Japan Biomolecular Chemistry Symposium (SJBCS2024)	Osaka Metropolitan University	Nobutaka Fujieda	Eiji Nakata
Research meetings	ZE2024D-05	Active Learning for Public Outreach in Energy Science	Kyoto University	Takeshi Yao	Kazunori Morishita