Distributed Energy System, Graduate School of Environmental Studies, Department of Mechanical and Aerospace Engineering, School of Engineering

Kawada • Yashiro lab

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Environmental friendly and Sustainable Energy System

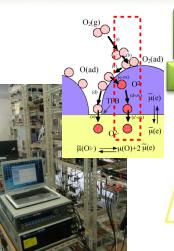
Kawada 'Yashiro lab focuses on environmentally friendly energy-conversion systems. Special interest is put on Solid Oxide Fuel Cells (SOFC), which have a potential to achieve the highest ever efficiency in converting chemical energy of fossil fuels into electricity, and Solid Oxide Electrolysis Cells (SOEC) for efficient energy storage system. We are also exploring the researches into finding new materials for energy conversion devices. On the basis of thermodynamics, solid-state chemistry and electrochemistry, we are contributing to clarifying physical and chemical properties of the energy-related materials. If you are interested in new energy system, feel free to send the personal questions via email.



Sustainable energy system



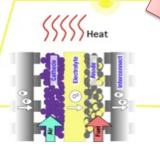
Achieve high efficiency and long lifetime of SOFC system



Interfacial engineering for practical applications

Ion conduction mechanism

Electricity



of actual SOFC systems

Elucidate degradation mechanism

Basic properties of materials



Mechanical test under actual condition Solid Oxide Fuel Cells (SOFC) Performance test under actual condition

New findings, improvement

Durability, reliability of systems