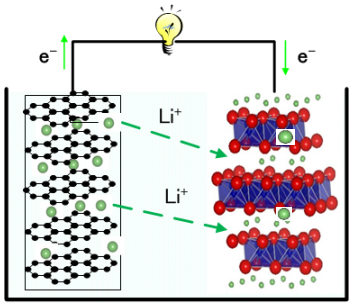
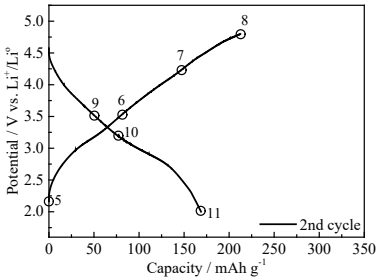
Faculty of Science and Technology
Tokushima University

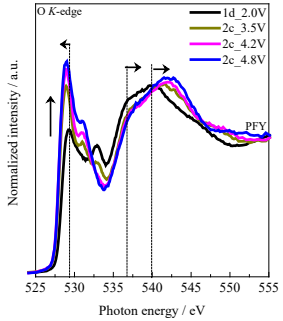
Research on Environmentally Friendly Energy Transport dynamics of ion and electron in solids

Associate Professor Masatsugu Oishi

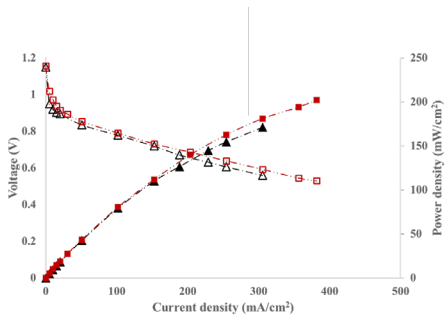


Lithium Ion Battery





O *K*-edge XAS spectra for Li_2MnO_3 electrode.



IV curves of SOFC cell at 800 C.

Solid state lighting.

Content:

Researches on the environmentally friendly-energy conversion devices which achieves high-efficiency energy conversion such as fuel cells, storage batteries and solid-state lightings, with the goal of contributing to the global environmental problems.

Our study is based on solid-state chemistry, thermodynamics, and electrochemistry. We are working to elucidate the transportation dynamics of ions and electrons, and the electronic/local structure using spectroscopic techniques such as synchrotron radiation X-rays in the solid oxides.

Web: https://www-me.ait231.tokushima-u.ac.jp/labs/moishi/

- Li-rich layered oxide materials for the positive electrode in Lithium Ion Secondary Batteries.
- Ionic transportation properties in Solid Oxide Fuel Cells.
- Thermal stability of (oxy)nitride phosphors for White-LEDs and solid state lightings.

Keywords: Solid-state chemistry, Electrochemistry, Secondary Battery, Fuel Cell, solid state lightings.

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