The 83rd GREEN Seminar

Solid-State Oxygen Redox in Antifluorite-type Cathode Materials

Chair: Dr. Shoichi Matsuda (GREEN)

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For high-capacity cathode materials, plenty of lithium-rich rocksalt-type cathode materials that utilize solid-state oxygen redox reactions have been reported, but their specific capacities are one-third of the theoretical capacity of pure solid-state oxygen redox. Very recently, antifluorite-type cathode materials such as Li_5FeO_4, which is first reported in 1999, have attracted much attention as the high capacity cathode materials using solid-state oxygen redox. However, their reversible capacities are almost equivalent to a one-electron reaction because of its irreversible structural transformation and oxygen evolution. Herein, I will demonstrate how to activate solid-state oxygen redox and stabilize the oxidized oxygen species in antifluorite-type cathode materials.

Venue: Rm. 409/410, 4F, Collaborative Research Bldg., Namiki-site

Date: Monday, December 26th

Time: 15:00-16:00

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