

Advanced Synchrotron Techniques Used for New Material Development and Failure Analyses in Li-ions Battery

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Abstract

Synchrotron x-ray techniques are widely used for the inspection and study of Li-ions batteries for a very long time. Important companies such as Panasonic, Samsung SDI and et. al. were all heavy users in this field. They used synchrotron x-ray to develop new material, check structural evolution, and qualify their Li-ions batteries. Because synchrotron x-ray analyses can provide structural information in atomic scale, deduce dynamic behavior via in-situ analyses, and check chemical state in reality via operando analyses. In the recent years, more and more companies in Taiwan are also getting into the world of synchrotron x-ray and realizing the capability of synchrotron x-ray really helpful to their works. This presentation will introduce kinds of synchrotron x-ray techniques that is really good for the analyses of Li-ions batteries. By which, we expect synchrotron x-ray can back up more and more companies, support their development, help them getting better and better.

Keywords – synchrotron x-ray, Li-ions battery

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