

In Operando Characterization of Li-Ion Battery Materials

S. Nick Rodesney, Ning Yang, Nathan Henderson, Jon Giencke, Brian Jones

Bruker AXS, Inc., Madison, WI

Contact Author E-mail: steven.rodesney@bruker.com

Structural analysis of energy storage materials is a key component to understanding device performance and long-term structural stability. Here, we highlight diffraction studies of pouch cell batteries in transmission geometry with the EIGER2 R 500K laboratory detector and molybdenum radiation. The large detector active area allows for rapid data collection for detailed characterization along charge/discharge cycles – this is observed in both scanning mode as well as rapid snapshot mode. The large number of diffractograms were refined in automated batch-mode, yielding lattice parameters, cell volume, and crystallite size.