

X-RAY DIFFRACTION ANALYSES OF LITHIUM BATTERY MATERIALS

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Lithium batteries will play a key role in plug-in hybrid (PHEV) and all-electric vehicles (EV) because of their high energy and power density compared to other battery technologies. However, there is a wide range of materials and technologies under consideration to reach the higher capacities, improve durability and lower cost before widespread adoption of EVs and PHEVs will be possible. From the development of new materials, to investigations of degradation and optimization of existing materials, X-ray diffraction and fluorescence provide critical information for all of these needs. In this presentation, I will share some examples of materials problems and characterization techniques we have developed for battery materials.