

Abstract Submitted
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Synthesis and Characterization of LiFePO_4 Cathode with Fe:P Deficiency for Lithium Ion Batteries¹ HUI FANG, TRAVIS NEELEY, JACOB HILL, GAN LIANG, Sam Houston State University, DEPARTMENT OF PHYSICS, SAM HOUSTON STATE UNIVERSITY TEAM — LiFePO_4 with Fe:P deficiency has been demonstrated a promising cathode material of lithium ion battery for fast rate, high capacity applications. In this study, LiFePO_4 with various amount of Fe:P deficiency are synthesized using high energy ball milling and temperature controlled sintering under reduced gas. X-ray diffraction, X-ray absorption, cyclic voltammetry and constant current charge/discharge measurements are employed to characterize the structural and electrochemical properties of the samples. The effects brought by Fe:P deficiency on charger/discharge rate and capacity will be discussed and presented.

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