



Operando, In Situ and Ex Situ Studies of Battery Materials

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Message from the Guest Editors

Dear Colleagues,

The increasing demands on energy storage require a significant improvement in current battery electrode materials and the development of advanced electrode materials. This necessitates an in-depth understanding of the reaction processes, degradation mechanisms, and thermal decomposition mechanisms of electrode materials under realistic operation conditions.

This Special Issue focuses on all levels of in situ, ex situ and operando experiments to understand the dynamics of a variety of different battery materials, including alloy/conversion electrodes, intercalation electrodes, and alkali metal anodes. These areas include primary batteries, secondary batteries, improved data analytics, the linkage of dynamics across time and length scales, and understanding the atomic-scale evolution of interphases. We expect that continued progress in investigating the elaborate inner workings of battery systems across time and length scales will benefit to advance future battery technologies.





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Message from the Editor-in-Chief

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