Special Issue

Operando, In Situ and Ex Situ Studies of Battery Materials

Message from the Guest Editors

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

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

Editor-in-Chief

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