



Advances in Lithium Metal Anodes for Liquid and Solid Electrolyte-Based Lithium Batteries

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Message from the Guest Editor

Dear Colleagues,

Lithium metal anodes are currently gaining attention as a next-generation anode material due to their high theoretical capacity. In particular, their theoretical capacity (3860 mAh g⁻¹) of approximately 10 times that of commercialized graphite anodes holds the promise of revolutionizing next-generation batteries. However, lithium metal, unlike graphite, is a hostless material, which poses many challenges as its surface undergoes dynamic changes during charge and discharge processes. The formation of dendrites and complex surface reactions hinder the Coulombic efficiency and cycling performance. Numerous studies have been conducted to overcome these issues, but further research is still needed. Therefore, this Special Issue is designed to focus on advances in lithium metal anodes for liquid and solid electrolyte-based lithium batteries. Researchers are invited to submit their original research in addition to review and perspective articles for this Special Issue. Potential topics include, but are not limited to, the fundamental study, synthesis, and analysis of lithium metal anodes in liquid and solid electrolyte systems.





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