

Special Issue

Lithium–Sulfur Batteries: Challenges and Prospects

Message from the Guest Editor

State-of-the-art commercial Li-ion batteries are approaching their energy density limit (300 Wh kg⁻¹), making it difficult for them to meet the ever-growing energy demand for energy storage systems that have a high energy density in specific markets. Among the alternative battery chemistries, lithium–sulfur (Li–S) batteries are of great interest because of their highest energy density (2600 Wh kg⁻¹ and 2800 Wh L⁻¹) due to the pairing of solid elements. The kinetics of the redox reactions are highly sluggish, which leads to continued accumulation of LiPSs in the electrolyte that exacerbates the polysulfides' shuttling effect and which severely conceals the advantages of Li–S batteries by triggering a degraded capacity along with cycling and slowed down rate responses. Therefore, this Special Issue welcomes submissions on intelligent electrode designing, electrolyte tuning, catalyst engineering, etc., in order to promote the current research on this topic.

Guest Editor

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