Special Issue

Micro–Nano Research in Lithium Batteries

Message from the Guest Editor

Conventional Li-ion battery technology cannot satisfy the increasing demands for greater energy density and safety. Solid-state batteries (SSB) can offer enhanced safety features, owing to the replacement of an organic liquid electrolyte with a safer and more reliable inorganic solid electrolyte (SE), which offers a more simple battery design with improved safety and durability. Solid electrolytes (SEs) are widely believed to be compatible with metallic anodes for high-energy batteries due to their significant mechanical strength and high ionic transference number. However, the wide application of Li-metal solid-state batteries can be realized only if several scientific and engineering obstacles are addressed, including the issues of (electro)chemical stability and interfacial contact loss, the penetration of the Li filament, and the requirement of a high stack pressure.

Guest Editor

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