



Review—Solid Electrolytes for Safe and High Energy Density Lithium-Sulfur Batteries: Promises and Challenges

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All-solid-state lithium-sulfur batteries (ASSLSBs) offer a means to enhance the energy density and safety of the state-of-art lithium-ion batteries (LIBs), due to their high gravimetric energy density, low cost and environmental benignancy. In this work, the status of the research advances and perspectives on several types of solid electrolytes (SEs) developed for ASSLSBs are reviewed. The promises and challenges of utilizing SEs are discussed taking into account both theoretical calculation and experimental results, in hope of shedding some lights on future design of high energy density, cost competitive, and safe Li-S batteries.

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Manuscript submitted August 4, 2017; revised manuscript received September 25, 2017. Published October 7, 2017. *This paper is part of the JES Focus Issue on Lithium-Sulfur Batteries: Materials, Mechanisms, Modeling, and Applications.*

Acknowledgments

This work was supported by GV-ELKARTEK-2016 from the Basque Government, and MINECO RETOS (Ref: ENE2015-64907-C2-1-R) from Spanish Government. X. J. thanks the Government of the Basque Country for funding through a Ph.D. Fellowship, and C.L. thanks the Juan de la Cierva scholarship (Ref: FJCI-2015-23898).