

Special Issue

Enhancement of Lithium-Ion and Post-lithium Batteries Safety: Fundamentals, Materials and Applications

Message from the Guest Editors

Novel materials that are cheaper, safer and more sustainable for lithium batteries and their technology concepts are urgently required for the decarbonization of the energy system and the extensive market penetration of electric vehicles and stationary storage systems. Additionally, so-called post-lithium batteries based on, for example, sodium or magnesium ions, which no longer rely on lithium, are promising alternatives that offer significant potential. Therefore, the characterization of the electrochemical, thermal and safety properties of the cells and their individual active and passive materials are required to obtain quantitative and reliable data, which are needed to enhance our current understanding of this technology and design and develop superior and safer materials and cells. This Special Issue addresses all the techniques that are necessary for a holistic safety assessment of these batteries, from the materials to the cell and the application of lithium-ion and post-lithium batteries.

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Deadline for manuscript submissions

20 December 2024



Batteries

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CiteScore 4.0



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