

Special Issue

Redox Flow Batteries and Hydrogen Technologies for Large-Scale and Long-Duration Energy Storage Applications

Message from the Guest Editors

Redox flow batteries as a novel and intrinsically safe energy storage technology have the characteristics of long charge and discharge cycle life, recyclable electrolyte, good life cycle economy and environmental friendliness, which has received widespread attention from academia and industry. In response to the major demand for high-security, large-scale stationary electrochemical energy storage technology such as new power systems, it is necessary to increase the research and development of key technologies for new generation flow batteries in the future, break through the key scientific and technical challenges in new technologies, and solve the problems of aqueous flow batteries. Flow battery technology faces problems such as scale, cost, and lifespan, to achieve the orderly and healthy development of the entire flow battery industry chain and provide technical support for the energy revolution and energy structure adjustment. This Special Issue focuses on technologies of redox flow batteries, such as novel ion exchange membranes, modified carbon fiber electrodes, and newly designed electrolytes (aqueous/non-aqueous/organic).

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