Short Communication

Synthesis of CeO₂@S Composite as Cathode Material for in Lithium-Sulfur Batteries

Mingkai Yue*

School of Equipment Engineering, Shenyang Ligong University, Shenyang, 110159 China

*E-mail: yuemingkaisy@sina.com

doi: 10.20964/2020.03.61

Received: 27 November 2019 / Accepted: 3 January 2020 / Published: 10 February 2020

Rare metal oxides have many appealing characteristics and performance in many aspects, such as photo catalysis and energy storage. In recent decades, traditional metal oxides have been identified as promising cathode host materials for Li-S batteries. The metal oxides could provide chemical adsorption for the soluble polysulfide in the electrolyte. However, there are few works about the employment of rare metal oxides in the lithium-sulfur batteries. In our work, metal oxide CeO₂ frameworks are prepared and designed as perfect host materials for the sublimed sulfur. Its unique 3D interconnected frameworks could provide sufficient space for the storage of polysulfide. In addition, the 3D structure is beneficial for the rapid electrons transport.

Keywords: Metal oxides; Energy storage; Li-S battery; Mechanical; Framework.

[FULL TEXT](#)

© 2020 The Authors. Published by ESG (www.electrochemsci.org). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).