

Electrodes for Li-ion Batteries: Materials, Mechanisms and Performance

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The electrochemical energy storage is a means to conserve electrical energy in chemical form. This form of storage benefits from the fact that these two energies share the same vector, the electron. This advantage allows us to limit the losses related to the conversion of energy from one form to another. The RS2E focuses its research on rechargeable electrochemical devices (or electrochemical storage) batteries and supercapacitors.

The materials used in the electrodes are key components of lithium-ion batteries. Their nature depend battery performance in terms of mass and volume capacity, energy density, power, durability, safety, etc. This book deals with current and future positive and negative electrode materials covering aspects related to research new and better materials for future applications (related to renewable energy storage and transportation in particular), bringing light on the mechanisms of operation, aging and failure.