On the Question of Energy and Power Potentials of the Electrode Materials in the Rechargeable Cells

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The paper considers galvanostatic discharge of different rechargeable cells. In the first part of the paper, the useful mathematical equations for the calculation of voltage, capacity, capacitance, energy, and power is given. In the second part of the paper, the proposal for the determinations of energy and power potentials of the electrode materials introducing the reference electrode as a reference point is discussed for different charge storage cells. The proposed analysis is applied on the polyaniline and lead-lead sulfate electrode discharge, and procedure how from the single electrode measurements, capacity, energy, and power of the hypothetical lead sulfate - polyaniline cell could be estimated.

Keywords: Battery; Supercapacitors; Supercapattery; Galvanostatic Discharge.

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