Development of Lithium-ion Battery of the “Doped Lithium Iron Phosphate–Doped Lithium Titanate” System for Power Applications

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doi: 10.20964/2017.05.11

Received: 5 February 2017 / Accepted: 28 February 2017 / Published: 12 April 2017

Lithium-ion battery based on a new electrochemical system with a positive electrode based on composite of doped lithium iron phosphate with carbon ($\text{Li}_{0.99}\text{Fe}_{0.98}\text{Y}_{0.01}\text{Ni}_{0.01}\text{PO}_4/\text{C}$) and a negative electrode based on doped lithium titanate ($\text{Li}_{3.812}\text{Ti}_{4.972}\text{Ga}_{0.1}\text{O}_{12}$) has been developed. The battery is intended for use in fixed energy storage units. The battery is characterized by the ability to operate at increased charging/discharging currents (up to 30 C). Specific power of the battery can reach about 1.5 kW kg⁻¹.

Keywords: lithium-ion battery, doped lithium iron phosphate, doped lithium titanate, specific power

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