Deutsch Japanisches Symposium 2012

Titel:

Porous Carbon for Electric Double Layer Capacitors

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Abstract

An increasing demand of Energy and the need for energy storage will be the major topics in future. Capacitors offer an environmentally clean solution to store electrical energy. Electric double layer capacitors are low-maintenance and long-lasting devices and provide high power for a certain time and are also able to recuperate energy very fast.
With their unique features, energy and power density, they can complement the weakness of other power storage solutions like batteries, redox flow or fuel cell systems.

EDLCs in automotive applications (regenerative breaking, on-board network stabilisation and acceleration) are able to save energy and/or to make fuel consumption much more efficient. The development of cost-effective and high-performance carbons is the key for optimized energy and power density in EDLCs. To achieve sustained success in volume markets like automotive industry, transportation and energy systems EDLCs with highest performance combined with lowest volume are required. As a result porous carbons with optimized porosity and optimized energy storage properties are the key for future applications.
The talk will demonstrate the material properties of carbons for high-performance systems and will give examples of industrially manufactured active materials based on different raw materials. The target of SGL Group is to develop and commercialize porous carbon which can be applied to volume markets displaying a better performance than actual available materials.