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OUTLOOK ON HYBRID ELECTRIC STORAGE TECHNOLOGY: FEATURES, PERFORMANCE AND FEASIBILITY OF SYSTEMS

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Abstract

Supercapacitors possess both a long lifespan and the ability to accept and release large amounts of energy in short time spans. They are well-suited to be a core element of energy storage systems that aim to provide resource efficiency, environment-friendliness and reliability for both transport and stationary applications.

Despite of a noticeable progress in supercapacitor technology within last 10 years it has not yet reached its market potential. The identification of the existing barriers and of the possible ways to overcome them are considered. The breakthrough to widespread application of supercapacitor technology will only be possible when customized supercapacitor solutions with acceptable level of cost, reliability, operating temperature range and adequacy regarding environmental concerns will be implemented. State of the art of a supercapacitor technology with aqueous based electrolyte trimmed towards customized solutions can pave the way to the market breakthrough

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