

# Research on Sodium-Sulfur Battery for Energy Storage System

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**Abstract:** *Sodium sulfur battery is one of the most promising candidates for energy storage applications. This paper describes the basic features of sodium sulfur battery and summarizes the recent development of sodium sulfur battery and its applications in stationary energy storage. The research work in the Shanghai Institute of Ceramics, Chinese Academy of Sciences (SICCAS) on beta-Al<sub>2</sub>O<sub>3</sub> ceramics and the sodium sulfur battery is also introduced. This paper is focused on sodium-sulfur (NaS) batteries for energy storage applications, their position within state competitive energy storage technologies and on the modeling. At first, a brief review of state-of-the-art technologies for energy storage applications is presented. Next, the focus is paid on sodium-sulfur batteries, including their technical layouts and evaluation. It is introduced the equivalent circuit model of the battery cell. At the end, there are presented the results from simulation model which was developed in Simulink to verify the proper function*

**Keywords:** Sodium sulfur battery

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