GOODS CONTAINERS

Superconducting magnetic energy storage braking

Overview

What is superconducting magnetic energy storage (SMES)?

During the braking of a maglev train, the regenerative power from the linear motor will cause high-amplitude overvoltage in the DC bus, which can severely impact the fragile traction power system . Superconducting magnetic energy storage (SMES) is one of the most promising superconducting magnet applications.

Can superconducting magnetic energy storage cause voltage disturbance in traction power system?

However, the fluctuating characteristics of renewable energy can cause voltage disturbance in the traction power system, but high-speed maglevs have high requirements for power quality. This paper presents a novel scheme of a high-speed maglev power system using superconducting magnetic energy storage (SMES) and distributed renewable energy.

Can superconducting magnetic energy storage improve power quality of high-speed maglevs?

In this paper, a novel scheme was proposed for high-speed maglevs using superconducting magnetic energy storage and distributed renewable energy sources. The SMES compensation system was used to enhance the power quality of the maglev and ensure stable power supply during operation.

Can a superconducting magnetic energy storage unit control inter-area oscillations?

An adaptive power oscillation damping (APOD) technique for a superconducting magnetic energy storage unit to control inter-area oscillations in a power system has been presented in . The APOD technique was based on the approaches of generalized predictive control and model identification.

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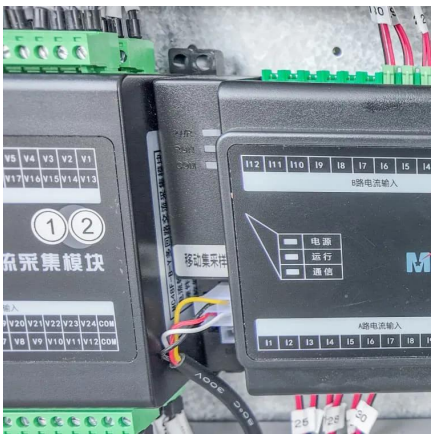

[Superconducting Magnetic Energy Storage , SpringerLink]

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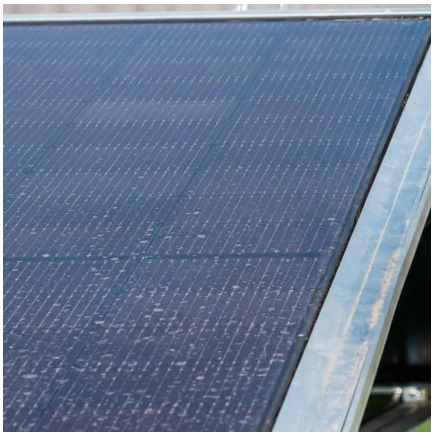

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