

High temperature superconducting solar container motor





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Design study of high-temperature superconducting motors for ship

A high-efficiency super drive system (HESDS) for next-generation coastal ships, which has very high efficiency compared with the conventional system, was proposed here. Fundamental electric designs ...

Megawatt Electric Motors With High Temperature Superconductors

Calculations were also carried out using a copper winding in cryogen, which showed comparable results with the design of an electric motor with high-temperature superconductors.



What is a superconducting solar container system

Abstract: Compared to traditional metal cable, high-temperature superconductor (HTS) cable is a promising candidate for the energy transmission in space solar power stations due to its great ...

High Temperature Superconducting Motors, High Temperature

An electrical motor can be termed an HTS motor if its design contains elements that are HTS and these elements are working in the superconducting state at much higher



temperatures than elements ...



High temperature superconductivity applied to electric motors

The application of high temperature superconductors to electric motors is discussed. Both the advantages and limitations of using superconductors in motors are reviewed. A synchronous motor ...

High Temperature Superconducting Motor Cooled by On-Board ...

HTS (high temperature superconducting) motor that utilizes superconductor as the field winding has advantage of compactness, light weight and high efficiency, but it has an inherent ...



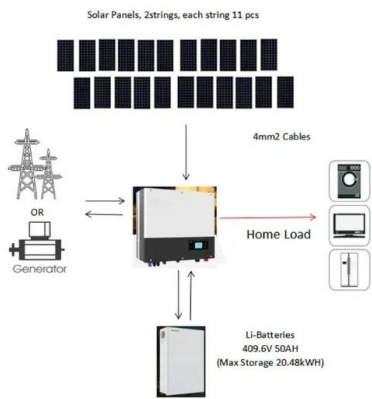
Development of High-Temperature Superconducting Motor for ...

The major challenge in applying a superconducting motor to an automobile is that the superconducting coil must be kept at a low temperature, below the critical temperature of the superconducting material.



Superconducting Synchronous Motors for Electric Ship Propulsion

Summary We propose a notional design for a high-torque-density (66 Nm/kg), high efficiency (99%) 36 MW, 120 rpm motor for ship propulsion. The synchronous motor uses LTS field coils to create a ...



High temperature superconducting rotating electrical machines: ...

1. Introduction Electric motors and the systems they drive account for more than 40% of global electricity consumption (Falkner and Holt, 2011). The desire for electrification of transport to meet envi ...

Assessment of High Temperature Superconducting (H'TS) ...

The objective of this task was to define the characteristics of high temperature superconducting motors and generators and to assess their benefits in helicopter main lift systems.



Analysis and design of superconducting material solar container

This paper has presented an analysis of the design and feasibility of employing High Temperature Superconducting (HTS) cables for Space Solar Power Satellite (SBSP) applications.



Numerical analysis of 40 MW HTS motor electromagnetic ...

In recent years, with the development of ship electric propulsion system, High Temperature Superconducting (HTS) motors have gained attention as a promising potential ...

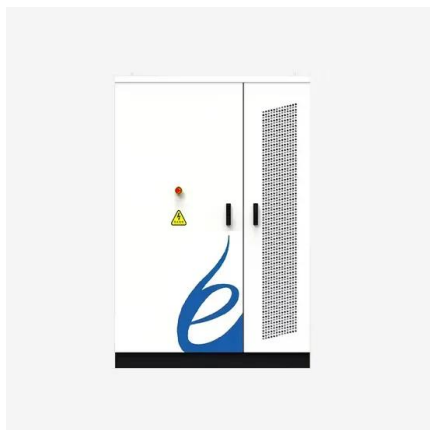


Feasibility of high temperature superconducting cables for energy

The aim of this paper is to present feasibility of application of High Temperature Superconducting (HTS) cables for Space-Based Solar Power (SBSP) app...

High temperature superconducting rotating electrical machines: An

Superconducting rotating machines are more efficient, smaller and lighter than conventional ones. Thus, they can reduce energy consumption and can be an enabling technology in ...



High temperature superconducting rotating electrical machines: ...

Ision and wind turbine generators require low-speed, high-torque machines. In addition, this paper provides unique features: a comprehensive list of HTS superconducting machines, including those ...



Pressure drop and heat transfer analysis of high temperature

In this paper, a 1 MW-class High temperature superconducting (HTS) motor with high efficiency, smaller size and simple structure, which is designed and manufactured for podded ...



Mechanical analysis of high-temperature superconducting motor rotor

The impact of superconducting coil current density distribution assumptions on mechanical calculations in rotor HTS motors is addressed. This paper systematically compares the ...

Numerical analysis of 40 MW HTS motor electromagnetic

In recent years, with the development of ship electric propulsion system, High Temperature Superconducting (HTS) motors have gained attention as a promising potential ...



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