Superconducting magnetic solar container system in ships

In 1985 SOF began R& D of superconducting electromagnetic propulsion ship; the project goal is to develop propulsion equipment utilizing magnetohydrodynamic force as thrust, and to conduct sea ...

Hydrogen-battery systems have great potential to be used in the propulsion system of electric ships. High temperature superconducting magnetic energy storage (HTS-SMES) has the ...

In this case the dose delivered in a few hours by a solar burst inside a spacecraft can easily exceed 1 year cumulated dose by GCRs. The high-energy component of SCRs is quasidirectional so that a ...

CONSTRUCTION of the world"s first ship driven by electromagnetism is nearing completion in Japan. If all goes well, the Yamato-1, a catamaran 30 metres long, will begin sea trials ...

New design and optimization methodologies, based on new dynamic system model, are presented and discussed. Power system performance has been assessed and validated through real-time hardware ...

A concept of flat coil comprising a high-temperature superconducting cable, set on the seabed in shallow water, is expected to have an effective deperming system of a ship. This system ...

A superconducting magnetic eddy current heater (SMH) is proposed for the characteristics of wind thermal power generation system, which uses non-resistive, large current-carrying superconducting ...

Hydrogen-battery systems have great potential to be used in the propulsion system of electric ships. High temperature superconducting magnetic energy storage (HTS-SMES) has the advantages of ...

To deal with these issues, a distribution system has been designed using both short- and long-term energy storage systems such as superconducting magnetic energy storage (SMES) and pumped ...

According to the study"s results, integrated solar PV systems could reduce crew workload, enhance safety, increase ship energy range, and influence the design of new types of solar ...

In 1988, a self-propelling test of a 2.6 m long model ship equipped with the internal magnetic field-type SEMP system was successfully conducted in the water test tank of SOPs Tsukuba Institute.

The architecture of a simplified electric ship power system used in this paper is shown in Fig. 1. The ship power system generally consists of two to four generator sets including an emergency one, various ...

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Electrical energy storage technologies for stationary applications are reviewed. Particular attention is paid to pumped hydroelectric storage, compressed air energy storage, battery, ...

By utilizing magnetic materials, iron particles and other heavy metal pollutants can be effectively removed from water, reducing the impact on marine ecosystems. 9?Ship Automation and ...

The application area of ship electric drive is expanding. The engines of boats, barges and motor ships, large and small river and sea vessels need reliable, timely and affordable power supply. The ...

In 1991, a full scale experimental MHD ship "YAMATO 1" was built and a study was conducted to investigate feasibility for applying MHD thruster system to actual ships, which was motivated by the ...

The unique properties of superconductivity have facilitated many significant innovations of the 20th century in sectors like high energy physics c superconductors c science and technology. ...

This study tests the system of a superconducting coil in the MATLAB/Simulink software environment, presenting it as a direct current source that should respond to a voltage dip in the power grid.

Abstract Electrical energy storage technologies for stationary applications are reviewed. Particular attention is paid to pumped hydroelectric storage, compressed air energy storage, battery, flow ...

s of the Arctic, icebreakers are used, which have electrical transmission to the screws. The case of using SMES while ensuri g the installation speed at the time forcing icebreaker speed is discussed in the ...

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