

High temperature superconducting ring solar container magnet

Global Energy Challenges - the need for nuclear By 2050, we need to deliver safe, reliable power to an extra 3.4 billion new energy customers from emerging economies, while reducing our total CO₂ ...

This paper discusses the challenges in front of application of a newly developed magnet type, i.e. HTS ring magnets for being used in superconducting rotating machine in future electric aircrafts. HTS ring ...

To investigate the impact of ferromagnetic rings on the axial centerline magnetic field distribution of high-temperature superconducting engine magnets, we first analyzed the magnetic field ...

A cryostat with a high-temperature superconducting magnet that generated a high magnetic field of up to 5 T for the high-pressure chamber with variable sample temperature from 150 ...

A Conduction cooled superconducting magnet (SM) for human magnetic resonance imaging, made of Nb₃Sn superconducting coils, has been designed. The magnet features a warm ...

A new ring shape HTS magnet has been proposed to build a HTS permanent magnet [10, 11 with large dimensions]. The HTS ring magnet can be made of a HTS coated conductor by splitting the ...

Superconducting Magnet while applied as an Energy Storage System (ESS) shows dynamic and efficient characteristic in rapid bidirectional transfer of electrical power with grid. The ...

This paper discusses the challenges facing a newly developed magnet type, i.e. HTS ring magnet, that being considered in superconducting rotating machine in future electric aircrafts.

Abstract This paper presents a new trapped-field magnet made of second-generation high-temperature superconducting (2G HTS) rings. This so-called ring-shape 2G HTS magnet has ...

The 1.5 T magnet superconducting magnet was manufactured according to the design and simulation works. After 35 h cooling, the superconducting magnet stabilized at 3.87 K, and ...

Comprehensive Research Facility for Fusion Technology (CRAFT) is a comprehensive research platform for the research and development of the key components of the fusion reactor in China, ...

Future high-energy accelerators will need magnetic fields of 20 Tesla and above. In order to achieve this level of performance, a new technological leap is required after niobium-titanium ...

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Superconducting magnets must operate below both the critical temperature and the critical field of the material from which they are constructed. Table 1 illustrates the critical temperatures and fields of the ...

The utility model discloses a superconducting magnet for magnetically controlled Czochralski single crystal and a refrigerating method, wherein the superconducting magnet comprises saddle-shaped ...

We developed a new three dimensional model to simulate the magnetic field distribution within the HTS ring magnet and good agreement between experiments and simulation have been found.



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