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CCS H 21



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21546-2008

**Critical current measurement -- DC critical current of Nb-Ti
composite superconductors**

铌钛复合超导体的直流临界电流测量

(English Translation)

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What this standard covers

This standard applies to the determination of copper-Super ratio greater than 1 DC critical current of Cu/Nb-Ti composite superconductors, are equally applicable to the determination of niobium titanium wire core diameter greater than 1 μ m, Copper-Ultra ratio greater than 0.9, copper-nickel alloy-superconductor ratio is greater than 0.2 Cu/Cu Ni/Nb-Ti superconducting wire DC critical current. Needed due to the Cu/Nb-Ti composite superconductors and copper/copper-nickel/niobium titanium superconductor critical current two slightly different test methods, the standard Annex C (normative) will introduce the measure copper/copper-nickel/niobium titanium superconductor Special to comply. This standard test method is applicable under standard test conditions in which the magnetic superconductor is less than or equal to 0.7 times the upper critical field, critical current of less than 1000A, n is greater than the superconductor 12. Measurement, the sample should be immersed in liquid helium at a known temperature. Conductor should be tested for the integration of superconducting wire circular or rectangular cross-section, the cross-sectional area of ??less than 2 mm². The sample should have a helical coil geometry. This standard is also given in daily testing of the experimental method allowed deviation and other specifically defined. The critical current is greater than 1000A or greater than 2 mm² cross-sectional area of ??the conductor can also use this method of measurement, but the measurement uncertainty will increase, and the self-field effect is more pronounced. Furthermore, in order to maintain a simple and relatively low measurement uncertainty, this standard does not involve special sample shape for large conductor cross-section may be more suitable. This standard measurement method given through appropriate modifications applicable to other types of composite superconducting wire measuring critical current.

Document data

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Standards quoted by this document

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