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**Superconductivity—Part 7:
Electronic characteristic
measurements—Surface resistance
of superconductors at microwave
frequencies**

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by International Superconductivity Technology Center (ISTEC)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS H 7307:2005** is replaced with this Standard.

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Superconductivity—Part 7: Electronic characteristic measurements— Surface resistance of superconductors at microwave frequencies

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of **IEC 61788-7** published in 2006 without modifying the technical contents and the structure.

The portions underlined with dots are the matters not stated in the original International Standard.

The test method given in this Standard can be also applied to other superconductor bulk plates including low T_c material.

The test method covered in this Standard is based on the VAMAS (Versailles Project on Advanced Materials and Standards) pre-standardization work on the thin film properties of superconductors.

1 Scope

This Standard describes measurement of the surface resistance of superconductors at microwave frequencies by the standard two-resonator method. The object of measurement is the temperature dependence of R_s at the resonant frequency.

The applicable measurement range of surface resistances for this method is as follows:

- Frequency: $8 \text{ GHz} < f < 30 \text{ GHz}$
- Measurement resolution: $0.01 \text{ m}\Omega$ at 10 GHz

The surface resistance data at the measured frequency, and that scaled to 10 GHz, assuming the f^2 rule for comparison, are reported.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows:

IEC 61788-7:2006 *Superconductivity—Part 7: Electronic characteristic measurements—Surface resistance of superconductors at microwave frequencies* (IDT)

The symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this Standard. The most recent edition of the standard (including amendments) indicated below shall be applied.