

Superconductivity —

Part 13: AC loss measurements — Magnetometer methods for hysteresis loss in Cu/Nb-Ti multifilamentary composites

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National foreword

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Part 13: AC loss measurements -
Magnetometer methods for hysteresis loss
in Cu/Nb-Ti multifilamentary composites
(IEC 61788-13:2003)

Supraconductivité
Partie 13 : Mesure des pertes
en courant alternatif -
Méthodes de mesure par magnétomètre
des pertes par hystérésis
dans les composites multifilamentaires
de Cu/Nb-Ti
(CEI 61788-13:2003)

Supraleitfähigkeit
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Magnetometerverfahren zur
Messung der Hystereseverluste
von Cu/Nb-Ti-Multifilament-
Verbundsupraleitern
(IEC 61788-13:2003)

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CENELEC

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Foreword

The text of document 90/137/FDIS, future edition 1 of IEC 61788-13, prepared by IEC TC 90, Superconductivity, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61788-13 on 2003-06-01.

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- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-06-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annex A is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61788-13:2003 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

IEC technical committee 90 proposes magnetometer and pickup coil methods for measuring the AC losses of Cu/Nb-Ti composite superconducting wires in transverse time-varying magnetic fields. These represent initial steps in standardization of methods for measuring the various contributions to AC loss in transverse fields, the most frequently encountered configuration.

It was decided to split the initial proposal mentioned above into two documents covering two standard methods. One of them describes the magnetometer method for hysteresis loss and low frequency (or sweep rate) total AC loss measurement in a slowly varying magnetic field, and the other describes the pickup coil method for total AC loss measurement in higher frequency (or sweep rate) magnetic fields. The frequency range is 0 Hz – 0,06 Hz for the magnetometer method and 0,005 Hz – 1 Hz for the pickup-coil method. The overlap between 0,005 Hz and 0,06 Hz is a complementary frequency range for the two methods.

This standard deals with the magnetometer method.