Crystal field contributions to the specific heat of $ErBa_2Cu_3O_7$

Thuy N.P., Hien N.T., Hien T.D., Franse J.J.M.

Cryogenic Laboratory, Faculty of Physics, University of Hanoi, Viet Nam; Van der Waals-Zeeman Laboratorium der Universiteit van Amsterdam, Valckenierstraat 65, 1018 XE Amsterdam, Netherlands

Abstract: By using the sets of crystal field parameters recently deduced by Allenspach et al. for $ErBa_2Cu_3O_x$ ($6 < x < 7$) from inelastic neutron scattering experiments, the crystal field contribution of the Er ion to the low-temperature specific heat has been calculated at zero field and at a field of 5 T applied parallel and perpendicular to the c axis. The calculated results are compared with available specific-heat data for a sintered polycrystalline sample and found to be in close agreement with the experimental results. ?? 1992.

Index Keywords: Electric Fields; Neutrons - Scattering; Rare Earth Compounds; Crystalline Electric Field; Erbium Ion; Inelastic Neutron Scattering Experiments; Low Temperature Specific Heat; Oxide Superconductors; High Temperature Superconductors

Year: 1992
Source title: Journal of Magnetism and Magnetic Materials
Volume: 104-107
Issue: PART 1
Page : 489-490
Cited by: 2
Link: Scorpus Link
Correspondence Address: Thuy, N.P.; Cryogenic Laboratory, Faculty of Physics, University of HanoiViet Nam
ISSN: 3048853
CODEN: JMMMD
Language of Original Document: English
Abbreviated Source Title: Journal of Magnetism and Magnetic Materials
Document Type: Article
Source: Scopus

Authors with affiliations:

1. Thuy, N.P., Cryogenic Laboratory, Faculty of Physics, University of Hanoi, Viet Nam
2. Hien, N.T., Cryogenic Laboratory, Faculty of Physics, University of Hanoi, Viet Nam
3. Hien, T.D., Cryogenic Laboratory, Faculty of Physics, University of Hanoi, Viet Nam
4. Franse, J.J.M., Van der Waals-Zeeman Laboratorium der Universiteit van Amsterdam, Valckenierstraat 65, 1018 XE Amsterdam, Netherlands