

Table of Contents

Preface

Study of Martensitic Transformations by Static and Dynamic NMR Measurements

S. Rubini, R. Gotthardt and C. Dimitropoulos 1

Step-Wise Stimulated Martensitic Transformations

G. Airoldi and G. Riva 5

Shape Memory Properties of NiTi Alloys

G. Airoldi, B. Vicentini, T. Ranucci and B. Rivolta 17

Martensitic Transition Features of CuZnAl Alloys during Ageing

F.M. Mazzolai, B. Coluzzi, C.M. Costa, S. Ceresara and A. Giarda 27

A Thermodynamic Approach to Amorphisation in Metallic Systems

M. Baricco and L. Battezzati 37

Statistical Thermodynamics of Cooperative Phenomena for Ising Systems and in Ordering Alloys

P.L. Cavallotti, L. Nobili and P.M. Ossi 47

Metastable Structures of Fe-Al Multilayers Grown by Evaporation and Magnetron Sputtering

E. Bonetti, S. Enzo, G. Sberveglieri, G. Valdre, S. Groppelli and A. De Lorenzi 59

Effects of Composition on the Order-Disorder Transformation in Ni-Cr Based Alloys

A. Marucco 77

Thermodynamic Stability of 2D-Solids under Stress and Topological Order

C.E. Bottani 91

Positron Annihilation, Fermi Surface and Lattice Instabilities in $\text{Ba}_{1-x}\text{K}_x\text{BiO}_3$

A. Barbieri, B.L. Györffy, F.J. Pinsky, W.A. Shelton and G.M. Stocks 101

Positron Annihilation: The ACAR Method Measures Electron Momentum Distribution

M. Peter, A.A. Manuel and L. Hoffmann 117

Recent Results on Surface Coatings and Their Interfaces with Iron

M. Carbucicchio and G. Palombarini 129

Neutron Scattering Characterization of Defects and Inhomogeneities in Solids

R. Caciuffo 137

Dislocation Dynamics by Measurements of Dissipation

M.G. Beghi 165

Magnetic Measurements of Dissipative Effects in Bi-Sr-Ca-Cu-O Single Crystals

D. Fiorani and A.M. Testa 173

AES Analysis of Ion-Beam Sputtered Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Films on SrTiO_3 and on ITO/Si

A. Gauzzi, B.J. Kellett, J.H. James, B. Dwir, H.J. Mathieu and D. Pavuna 183

Critical Fields of High T_c Superconductors Granular Systems

S. Pace, R. De Luca, G. Ferrara and C. Naddeo 191

On the Influence of Neutron Induced Point-Defects on the Transport Properties of Ceramic

$\text{YBa}_2\text{Cu}_3\text{O}_{7-y}$ E. Mezzetti, R. Gerbaldo, D. Andreone, V. Lacquaniti and R. Cherubini 201