

Table of Contents

Preface

An Introduction to Nuclear Methods in Materials Science

M.J. Fluss 1

Modern Materials Studies Using Nuclear Spectroscopic Methods

E.N. Kaufmann 15

Electronic Structure of Decorated Defects in Metals

P.K. Jena 27

Radiation Damage in Solids Studied by ^{119}Sn Mössbauer Effect Spectroscopy

R.H. Herber 49

Temperature Dependent ^{121}Sb Mössbauer Spectroscopy of Selected Antimony Compounds

S.W. Hedges and L.H. Bowen 65

Applications of Elastic and Near Elastic Gamma-Ray Scattering

W.B. Yelon 81

Ion Beam Analysis of Irradiated Materials

R.S. Averbach 99

Materials Analysis Using Thermal Neutron Reactions: Applications

J.E. Riley, J.W. Mitchell, R.G. Downing, R.F. Fleming, R.M. Lindstrom and D.H. Vincent 123

The Generation of Monoenergetic Positrons and some Potential Applications in Materials Science

L.D. Hulett, J.M. Dale and S. Pendyala 133

The Muon, an Exotic Probe of Solids

K.M. Crowe 151

Muonium Spin Rotation Studies in Molecular Systems

Y.C. Jean 177