Contents of Volume 2

V. LATTICE LOCATION AND DECHANNELING IN DISORDERED CRYSTALS

Analysis Problems in Lattice Location Studies 497
H.D. Carstanjen

Multi-String Statistical Equilibrium Calculation of Scattering Yield for Foreign Atom Location Using Channeling Effect 517
K. Komaki

Ion Channeling Studies of the Lattice Location of Interstitial Impurities: Hydrogen in Metals 527
S.T. Picraux

Depth Distribution of Damage Obtained by Rutherford Backscattering Combined with Channeling 539
R. Behrisch, J. Roth

Helium Trapping in Aluminum and Sintered Aluminum Powders . . 567
S.K. Das, M. Kaminsky, T. Rossing

Helium Re-Emission and Surface Deformation in Niobium During Multiple Temperature Helium Implantation 575
W. Bauer, G.J. Thomas

Studies on Compound Thin Film Semiconductors by Ion Beam and Electron Microscopy Techniques 585
S.U. Campisano, G. Foti, E. Rimini, G. Vitali, C. Corsi

Energy Dependence of Channeling Analysis in Implantation Damaged Al. 597
E. Rimini, S.U. Campisano, G. Foti, P. Baeri, S.T. Picraux

Characterization of Reordered (001) Au Surfaces by the Combined Techniques of Positive Ion Channeling Spectroscopy (PICS), LEED-AES, and Computer Simulation 607
B.R. Appleton, D.M. Zehner, T.S. Noggle, J.W. Miller, O.E. Schow III, L.H. Jenkins, J.H. Barrett

Proton Channeling Applied to the Study of Thermal Disorder in AgBr 627
M. Roulet, C. Jaccard, H. Huber

Neon-Ion Implantation Damage Gettering of Heavy Metal Impurities in Silicon 635
Shanghai Institute of Metallurgy, Chinese Academy of Sciences, Shanghai Institute of Nuclear Research

VI. RELATED TECHNIQUES

A New Scanning Ion Microscope for Surface and In-Depth Analysis 649
K. Wittmaack

Sputtering of Thin Films in an Ion Microprobe 659
W.O. Hofer, H. Liebl

Xe^+ Ion Beam Induced Secondary Ion (Si^+) Yield from Si-Metal Interfaces 665
T. Narusawa, T. Satake, S. Komiya, A. Shimizu, M. Iwami, A. Hiraki

Surface Analysis of Ion Bombarded Metal Foils by XPS 675
E. Henrich, H.J. Schmidt

Chemical Reaction Enhancement and Damage Rate of Surface Layer Bombarded with Inert Ion Beams 685
T. Tsurushima, H. Tanoue

VII. ION INDUCED X-RAY SPECTROSCOPY

Progress in the Description of Ion Induced X-Ray Production; Theory and Implication for Analysis 695
F. Folkmann

K-Shell Ionization of Boron Induced by Light Ions Bombardment 719
K. Kawatsura, K. Ozawa, F. Fujimoto, M. Terasawa

Effect of Channeling on Impurity Analysis by Charged Particle Induced X-Rays 727
P.B. Price, B.E. Cooke, G.T. Ewan, J.L. Whitton

Depth Profiling with Ion Induced X-Rays 735
L.C. Feldman, P.J. Silverman

Sensitivity in Trace Element Analysis of Thick Samples Using Proton Induced X-Rays 747
F. Folkmann

Review of Trace Analysis by Ion Induced X-Rays 759
J.F. Ziegler

The Use of Proton Induced X-Rays to Monitor the Near Surface Composition of Catalysts 773
J.A. Cairns, A. Lurio, J.F. Ziegler, D.F. Holloway, J. Cookson

Application of Proton-Induced X-Ray Emission to Elemental Analysis of Oligo-Elements in Human Lymphocytes 785
M.C. Bonnet, J.P. Thomas, H. Betuel, M. Fallavier, S. Marsaud

Elemental Analysis of Biological Samples Using Deuteron Induced X-Rays and Charged Particles 795
L. Amtén, L. Glantz, B. Morenius, J. Pihl, B. Sundqvist

Suppression of Radioactive Background in Ion Induced X-Ray Analysis 803
H. Sobiesiak, D. Heck, F. Käppeler

VIII. NUCLEAR REACTIONS

Depth Profiling of Hydrogen and Helium Isotopes in Solids by Nuclear Reaction Analysis 811
J. Bøttiger, S.T. Picraux, N. Rud

Achievable Depth Resolution in Profiling Light Atoms by Nuclear Reactions 821
W. Eckstein, R. Behrisch, J. Roth

Depth Profiling of Deuterons in Metals at Large Implantation Depths Using the Nuclear Reaction Technique . . . 831
M. Hufschmidt, W. Möller, V. Heintze, D. Kamke

Gas Reemission and Blister Formation on Nickel Surfaces During High Energy Deuteron Bombardment 841
W. Möller, Th. Pfeiffer, D. Kamke

Unfolding Techiques for the Determination of Distribution Profiles from Resonance Reaction Gamma-Ray Yields 851
D.J. Land, D.G. Simons, J.G. Brennan, M.D. Brown

Z_2 Dependence of the Electronic Stopping Power of 800 keV $^{14}N^+$ Ions in Targets from Carbon Through Molybdenum 863
D.G. Simons, D.J. Land, J.G. Brennan, M.D. Brown

Sensitivity of Fluorine Detection in Different Matrices and at Different Depths Through the $^{19}F(p,\alpha\gamma)^{16}O$ Reaction 873
M.A. Chaudhri, G. Burns, J.L. Rouse, B.M. Spicer

Ion Beam Analysis Techniques in Corrosion Science 885
G. Dearnaley

Quantitative Measurement of Light Element Profiles in Thick Corrosion Films on Steels, Using the Harwell Nuclear Microbeam 901
C.R. Allen, G. Dearnaley, N.E.W. Hartley

Nuclear Microprobe Analysis of Reactor Materials 913
J.W. McMillan, T.B. Pierce

Analysis or Microgram Quantities of Aluminum in Germanium . 925
I.V. Mitchell, W.N. Lennard

Analysis of Fluorine by Nuclear Reactions and Application to Human Dental Enamel 933
J. Stroobants, F. Bodart, G. Deconninck, G. Demoriter, G. Nicolas

Determination of Nitrogen Depth Distributions in Cereals Using the $^{14}N(d,p_0)^{15}N$ Reaction 945
B. Sundqvist, L. Gönczi, I. Koersner, R. Bergman, U. Lindh

Experimental Measurements, Mathematical Analysis and Partial Deconvolution of the Asymmetrical Response of Surface Barrier Detectors to MeV ^{4}He, ^{12}C, ^{14}N, ^{16}O Ions 953
G. Amsel, C. Cohen, A. L'Hoir

Experimental Study of the Stopping Power and Energy Straggling of MeV ^{4}He, ^{12}C, ^{14}N, ^{16}O Ions in Amorphous Aluminium Oxide 965
A. L'Hoir, C. Cohen, G. Amsel

AUTHOR INDEX 977

SUBJECT INDEX 981