

CONTENTS

CONTRIBUTORS TO VOLUME 62	vii
FOREWORD	ix

Spin-Polarized Electrons in Solid-State Physics

H. C. SIEGMANN, F. MEIER, M. ERBUDAK, AND M. LANDOLT

I. Introduction	2
II. Experimental Techniques	3
III. Magnetism in Metals	11
IV. Magnetism in Systems with Localized Magnetic Moments	21
V. The Symmetry of Electronic States	34
VI. The Spin Dependence of the Elastic Scattering of Electrons from Solids	52
VII. Secondary Electrons	67
VIII. Surface Magnetochemistry	74
IX. Surface Magnetization Curves	81
X. Conclusion	90
References	93

Predictions of Deep-Impurity-Level Energies in Semiconductors

P. VOGL

I. Introduction	101
II. What Is a Deep Trap?	104
III. The Defect Molecule Picture	105
IV. The Koster-Slater Green's Function Method	108
V. The Tight-Binding Method	109
VI. General Theoretical Results	114
VII. Empirical Trends in Trap-Level Energies of Point Defects	119
VIII. Empirical Trends in g Factors of Deep Impurities	120
IX. Predictions	124
X. Chemical Trends in Transition-Metal Impurities	153
References	155

Recent Advances in the Electron Microscopy of Materials

D. B. WILLIAMS AND D. E. NEWBURY

I. Introduction to Electron Optical Instrumentation	162
II. Advances in Instrumentation	175

III. Developments in Imaging in the Electron Microscope	179
IV. Crystallographic Information in the Electron Microscope	247
V. Chemical Analysis in the Electron Microscope	263
VI. Combinations of Techniques	272
VII. Conclusions	280
References	283
AUTHOR INDEX	289
SUBJECT INDEX	299