

Contents

CONTRIBUTORS	v
PREFACE	vii
CONTENTS OF PREVIOUS VOLUMES	xi
SUPPLEMENTARY MONOGRAPHS	xv
ARTICLES PLANNED FOR FUTURE VOLUMES	xvi

Theoretical and Experimental Aspects of the Effects of Point Defects and Disorder on the Vibrations of Crystals—2

A. A. MARADUDIN

I. Impurity-Induced Infrared Lattice Absorption in Crystals	2
II. Anharmonic Effects in Impurity-Induced One-Phonon Infrared Lattice Absorption	51
III. Localized Modes and Spin-Lattice Interactions	83
IV. The Surface of a Crystal Considered as a Defect	100
V. Conclusion	133

X-Ray Diffraction Studies of the Lattice Parameters of Solids under Very High Pressure

H. G. DRICKAMER, R. W. LYNCH, R. L. CLENDENEN, AND E. A. PEREZ-ALBUERNE

I. Introduction	135
II. Ionic and Ionic-Covalent Crystals	140
III. Molecular and Covalent Crystals	167
IV. Metals and Alloys	191
Appendix A	210
Appendix B	228

Shock Effects in Solids

DONALD G. DORAN AND RONALD K. LINDE

I. Introduction and Summary	230
II. Shock Waves in Solids	233
III. Transient Observation of Material under Shock Compression	243
IV. Terminal Observation of Shocked Material	262
V. Comparison with Static Work	286
VI. Relating Laboratory Experiments to Specimens Recovered in the Field	288

Interaction of Acoustic Waves and Conduction Electrons

HAROLD N. SPECTOR

I. Introduction.....	291
II. Theory of the Interaction.....	293
III. Calculation of the Conductivity Tensor.....	306
IV. Calculation of the Absorption Coefficient.....	320
V. Electron-Phonon Interaction as a Tool.....	349
List of Symbols.....	356
Additional References.....	359
 AUTHOR INDEX.....	 363
SUBJECT INDEX.....	374