

Contents

CONTRIBUTORS TO VOLUME XVI.....	v
PREFACE.....	vii
CONTENTS OF PREVIOUS VOLUMES.....	xi
ARTICLES PLANNED FOR FUTURE VOLUMES.....	xv

Cohesion of Ionic Solids in the Born Model

MARIO P. TOSI

I. Introduction.....	1
II. Cohesive Energy.....	6
III. Ionic Radii.....	74
IV. Surface Energy.....	92
Appendix A. Evaluation of Electrostatic Lattice Potentials by the Ewald Method.....	107
Appendix B. A Review of Methods of Lattice Summation.....	113

F-Aggregate Centers in Alkali Halide Crystals

W. DALE COMPTON AND HERBERT RABIN

I. Introduction.....	121
II. Experimental Evidence for the Models.....	136
III. Oscillator Strength.....	161
IV. Processes of Formation and Destruction.....	165
V. Theory.....	195
VI. Studies Relating to the First Excited States.....	199
VII. Studies Relating to the Higher Excited States.....	211
VIII. Concluding Remarks.....	223

Point-Charge Calculations of Energy Levels of Magnetic Ions in Crystalline Electric Fields

M. T. HUTCHINGS

I. Introduction.....	227
II. Determination of the Perturbing Hamiltonian.....	228
III. Calculation of the Matrix Elements of the Crystalline Potential Perturbing Hamiltonian.....	247
IV. Summary.....	271
Bibliography.....	272

Physical Properties and Interrelationships of Metallic and Semimetallic Elements

KARL A. GSCHNEIDNER, JR.

I. Introduction.....	276
II. Elastic Properties.....	279
III. Coefficient of Thermal Expansion.....	313
IV. Atomic Volume.....	321
V. Melting Point and Heat of Fusion.....	323
VI. Boiling Point and Heat of Sublimation.....	336
VII. Specific Heat Data.....	350
VIII. Debye Temperature.....	368
IX. Some Interrelationships and Derived Properties.....	388
AUTHOR INDEX.....	427
SUBJECT INDEX.....	441