

CONTENTS, PART A

CONTRIBUTORS TO PART A	v
FOREWORD TO VOLUME 6	vii
KARL LARK-HOROVITZ	ix
CONTRIBUTORS TO PART B	xiii
CONTENTS, PART B	xv
1. Introduction	
1.1. Evaluation of Measurement. by SIDNEY REED	1
1.2. Solid State Physics by K. LARK-HOROVITZ and V. A. JOHNSON	14
2. Preparation and Purification of Materials	
2.1. Purification by P. H. EGLI, L. R. JOHNSON, and W. ZIMMERMAN, III	21
2.2. Detection of Impurities by MARK G. INGRAM	29
2.3. The Control of Impurities in Solids by C. D. THURMOND	39
2.4. Single Crystal Growing by M. TANENBAUM	86
2.5. Preparation of Thin Films by GEORG HASS and A. F. TURNER	122
2.6. Agglomeration by S. S. FLASCHEN and J. C. WILLIAMS	134
2.7. Preparation of Laboratory Glass Samples by C. L. BABCOCK	139
2.8. Surface Preparation by J. W. FAUST, JR.	147
2.9. Electron Microscopy of Surfaces by H. J. YEARIAN and J. F. RADAVICH	176
3. Crystal Structure Determination	
3.1. The Diffraction of Short-Wavelength Radiation by Matter by DAVID HARKER	187
3.2. X-Ray Diffraction by W. P. BINNIE and I. G. GEIB	203

3.3. Electron Diffraction Methods	246
by H. J. YEARIAN	
3.4. Neutron Diffraction Methods	278
by C. G. SHULL	
4. Mechanical Properties	
4.1. High-Precision Density Determination of Solids	283
by ALEXANDER SMAKULA	
4.2. Elastic, Anelastic, and Plastic Properties	291
by T. A. READ, C. A. WERT, and MARVIN METZGER	
4.3. Line Imperfections or Dislocations	321
by S. AMELINCKX	
4.4. Radiation Damage	357
by J. W. MACKAY	
4.5. Diffusion	364
by CARL T. TOMIZUKA	
5. Thermal Properties	
5.1. Heat Capacity	375
by P. H. KEESOM and N. PEARLMAN	
5.2. Thermal Conductivity	385
by N. PEARLMAN	
6. Solid State Studies under High Pressure	
by JOHN C. JAMIESON and A. W. LAWSON	
6.1. Introduction	407
6.2. The Generation of Static High Pressure	407
6.3. The Measurement of Pressure	414
6.4. The Measurement of Temperature at High Pressure	417
6.5. Dilatometric Measurements	418
6.6. Determination of Elastic Constants under Pressure	420
6.7. The Study of Phase Changes	421
6.8. Thermal Measurements	423
6.9. Dielectric Measurements	424
6.10. The Measurement of Electrical Resistance	425
6.11. Magnetic Measurements	429
6.12. Optical Measurements	430
6.13. Mechanical Properties of Solids under High Hydrostatic Pressure	432
6.14. Shock Wave Techniques	434
6.15. Miscellaneous	436
AUTHOR INDEX	439
SUBJECT INDEX	458

