

CONTENTS

PREFACE	v
ACKNOWLEDGMENTS	vii
CHARLES B. WHARTON: <i>Plasma Diagnostic Techniques</i> . . .	3
JOHN A. THORNTON: <i>Electric and Electromagnetic Shock Tubes</i> . .	27
H. N. OLSEN: <i>The Measurement of Argon Transition Probabilities and Computation of Thermodynamic Properties of the Argon Plasma</i>	47
J. H. DE LEEUW: <i>Electrostatic Plasma Probes</i>	65
PAUL C. WILBER: <i>Experimental Investigation of the Characteristics of a Langmuir Probe in Ionized Low-Density Flows</i> . . .	97
ROBERT BETCHOV and EUGENE B. TURNER: <i>Measurements of MHD Turbulence with Magnetic Probes</i>	113
R. M. MONTGOMERY and R. A. HOLMES: <i>Some Experiments in Radio- Frequency Diagnostics of Partially-Ionized Plasmas</i> . . .	131
W. K. MCGREGOR: <i>Spectroscopic Measurements in Plasmas</i> . . .	143
KENNETH M. FOREMAN and MAURICE E. LEVY: <i>Comparative Spectro- scopic Studies of Electromagnetically-Driven Hypersonic Waves in Elemental Gases and Detonable Mixtures</i> . . .	167
ROBERT B. SPIERS, JR, and CHARLES HUSSON: <i>Development of a Rocket- borne Spectroradiometer to Measure the Radiation Environ- ment of a Reentry Vehicle</i>	187
M. R. DENISON and R. W. ZIEMER: <i>Investigation of the Phenomena in Crossed-Field Plasma Accelerators</i>	201
ALAN F. KLEIN: <i>A Survey of Optical Interferometry as Applied to Plasma Studies</i>	233
KOICHI OSHIMA: <i>Microwave Diagnostics of a Partly-Ionized Flow in the Presence of a Magnetic Field</i>	247
CHARLES E. SHEPARD and VELVIN R. WATSON: <i>Performance of a Constricted-Arc Discharge in a Supersonic Nozzle</i> . . .	261
PHILIP BROCKMAN, ROBERT V. HESS, and RICHARD E. WEINSTEIN: <i>Measurements and Theoretical Interpretation of Hall Currents for Steady Axial Discharges in Radial Magnetic Fields</i> . .	273

STERGE T. DEMETRIADES: <i>Momentum Transfer to Plasmas by Lorentz Forces</i>	297
L. J. KRZYCKI, H. M. LARSEN, and W. M. BYRNE, JR.: <i>Magnetohydrodynamic Power Generation from a Supersonic Rocket Exhaust</i>	329
A. I. CARSWELL, M. P. BACHYNSKI, and G. G. CLOUTIER: <i>Micro-wave Measurements of Electromagnetic Properties of Plasma Flow-Fields</i>	355
ALLEN E. FUHS: <i>Flight Instrumentation for the Reentry Plasma Sheath</i>	383
BORIS RAGENT: <i>X-Ray Densitometer for Use in Plasma Streams</i> .	403
T. HERBERT DIMMOCK and WILLIAM R. KINEYKO: <i>Ionization Profiles in Low-Pressure Exhausts</i>	423