

Contents

1. Introduction

- McDaniel, E. W.:** Historical Development and Present State of Swarm Research 1

2. Ion-Transport

- Skullerud, H. R., Kuhn, S.:** Velocity Distribution Functions of Atomic Ions in Drift Tubes 13
Viehland, L. A.: Internal-Energy Distribution of Molecular Ions in Drift Tubes 27
Gatland, I. R.: Determination of Ion-Atom Potentials from Mobility Experiments 44
Märk, E., Märk, T. D.: Transverse Ion Diffusion in Gases 60
Howorka, F.: Runaway Mobilities of Ions in Helium 87

3. Ion-Reactions

- Flannery, M. R.:** Theory of Ion-Molecule Collisions at (1 eV–5 keV)/AMU 103
Ferguson, E. E.: Vibrational Excitation and De-Excitation and Charge-Transfer of Molecular Ions in Drift Tubes 126
Lindinger, W.: Kinetic and Internal Energy Effects on Ion-Neutral-Reactions 146
Castleman, Jr., A. W., Keesee, R. G.: Cluster Ion Association Reactions: Thermochemistry and Relationship to Kinetics 167
Adams, N. G., Smith, D.: Temperature Dependences of Positive-Ion Molecule Reactions 194
Viggiano, A. A., Paulson, J. F.: Reactions of Negative Ions 218

4. Electron Interactions

- Christophorou, L. G., Hunter, S. R.:** Electrons in Dense Gases 241
Ogawa, I.: Electrons in Inert Gases 265
Smith, D., Adams, N. G.: Studies of Plasma Reaction Processes Using a Flowing-Afterglow/Langmuir Probe Apparatus 284

- Subject Index 307