

Contents

Introduction	1
Application of the Close-Coupling Method to Electron-Molecule Scattering	3
D. L. Moores	
The Coupled-Channels Integral-Equations Method in the Theory of Low-Energy Electron-Molecule Scattering	15
Michael A. Morrison	
Roundtable on Numerical Methods	53
Contribution of the Variable Phase Method to the Frame Transformation Theory of Rotational Excitation of Molecules by Electron Impact	59
M. Le Dourneuf and Vo Ky Lan	
The R-Matrix Method for Electron-Molecule Scattering: Theory and Computation	77
Barry I. Schneider	
The T-Matrix Method in Electron-Molecule Scattering	87
A. W. Fliflet	
Roundtable on L^2 -Methods	105
The Separable Approximation in Multichannel Electron-Molecule Collisions	109
Gordon Gallup and Joe Macek	
Nonempirical Polarization in Low-Energy Electron-Molecule Scattering Theory	123
Avner Klonover and Uzi Kaldor	
R-Matrix Calculations for Electron Scattering by Diatom Molecules	133
B. D. Buckley and P. G. Burke	

Discussion on Electron-Molecule Scattering	141
Polarization Potentials for Electron Scattering	151
Donald G. Truhlar, David A. Dixon, Robert A. Eades, F. A. Van-Catledge and Kunizo Onda	
Vibrational Excitations of Low-Energy e-CO Scattering	167
B. H. Choi and Robert T. Poe	
Improved Hybrid Theory Calculation of e-N ₂ Vibrational Excitation	173
A. Temkin	
Stieltjes-Tchebycheff Moment-Theory Approach to Molecular Photoionization Studies	183
P. W. Langhoff	
The Continuum Multiple-Scattering Approach to Electron-Molecule Scattering and Molecular Photoionization	225
J. L. Dehmer and Dan Dill	
Molecular Resonance Phenomena	267
J. N. Bardsley	
Stieltjes-Moment-Theory Technique for Calculating Resonance Widths	281
A. U. Hazi	
Progress Toward the Application of Complex Coordinate and Complex Basis Function Techniques to Molecular Resonance Calculations	299
C. William McCurdy	
Discussion on Photoionization and Molecular Resonances	315
A Modification of the Langhoff Imaging Technique	329
Ernest R. Davidson and Richard L. Martin	
Workshop on L ² -Methods	335
Workshop on Single-Center Techniques	343
Index	353