

CONTENTS

Overview of Fusion Energy Research	3
G. Grieger	
General Principles of Magnetic Confinement	35
J.T. Hogan	
General Principles of Inertial Confinement	71
R.A. Haas	
PART II. THE CALCULATION AND MEASUREMENT OF ATOMIC AND MOLECULAR PROCESSES RELEVANT TO FUSION	
Recent Progress in Theoretical Methods for Atomic Collisions.	139
C.J. Joachain	
Current Theoretical Techniques for Electron-Atom and Electron-Ion Scattering	177
M.R.C. McDowell	
Experimental Aspects of Electron Impact Ionization and Excitation of Positive Ions	213
K.T. Dolder	
The Theory of Charge Exchange and Ionization by Heavy Particles	245
B.H. Bransden	
Experiments on Electron Capture and Ionization by Multiply Charged Ions	269
F.J. de Heer	
Rydberg States	313
F. Brouillard	

PART III. THE ATOMIC AND MOLECULAR PHYSICS OF
CONTROLLED THERMONUCLEAR RESEARCH DEVICES

Atomic and Molecular Processes in High-Temperature, Low-Density Magnetically Confined Plasmas	341
H.W. Drawin	
Atomic Processes in High-Density Plasmas	399
R.M. More	
The Plasma Boundary Region and the Role of Atomic and Molecular Processes	441
M.F.A. Harrison	
Neutral Particle Beam Production and Injection	477
D. Post and R. Pyle	
Spectroscopic Plasma Diagnostics	519
H.W. Drawin	
Particle Diagnostic for Magnetic Fusion Experiments	539
D.E. Post	
LECTURERS	561
PARTICIPANTS	563
INDEX	571