

Contents

1. Shells

W. Greiner	3
<i>Clusters in Nuclear Physics: From Nuclear Molecules to Cluster Radioactivities</i>	
S. Bjørnholm	26
<i>Balian-Bloch Supershells for Pedestrians</i>	
O. Genzken, M. Brack	39
<i>Selfconsistent Calculation of Electronic Supershells in Metal Clusters</i>	
T.P. Martin, S. Bjørnholm, J. Borggreen, C. Bréchnignac, Ph. Cahuzac, K. Hansen, J. Pedersen	46
<i>Supershells in Laser-Warmed Na-Clusters</i>	
G.S. Anagnostatos	54
<i>Coeexistence of Electronic Shells and Shells of Atoms in Microclusters</i>	
R.W. Hasse	64
<i>Magic Numbers of Coulomb and Lennard-Jones Crystals and Quasicrystals</i>	
A. Săndulescu, A. Ludu, W. Greiner	72
<i>Clusters as Solitons on the Nuclear Surface</i>	

2. Fission

T.D. Märk	83
<i>Fission Versus Metastable Decay Series of Rare Gas Cluster Ions</i>	
W.A. Saunders, N. Dam	93
<i>Applications of the Liquid Drop Model to Metal Clusters</i>	
V.A. Rubchenya	98
<i>The Dynamical Model of the Atomic Cluster Fragmentation</i>	
I. Katakuse, H. Ito	107
<i>Fission of Metallic Clusters</i>	
J.A. Alonso, J.M. López, F. Garcias, M. Barranco	112
<i>Dissociation of Doubly-Charged Alkali-Metal Clusters</i>	

3. Reactions

K. Möhring	121
<i>Projectile Break-up in Heavy Ion Collisions: Molecular Dynamics for Clusters of Alpha Particles</i>	
R. Schmidt, G. Seifert, H.O. Lutz	128
<i>Nuclear Heavy-Ion and Atomic Cluster-Cluster Collisions</i>	
G. Seifert, R. Schmidt, H.O. Lutz	142
<i>Molecular Dynamics Simulations of Cluster-Cluster Collisions</i>	
T. Kondow, S. Nonose, J. Hirokawa, M. Ichihashi	151
<i>Collision-Induced Reactions of Size-Selected Cluster Ions of Ar</i>	

U. Landman, R.N. Barnett, C.L. Cleveland, H.-P. Kaukonen, G. Rajagopal <i>Reactions and Fission of Clusters</i>	158
J. Jellinek, Z.B. Güvenç <i>Molecule-Cluster Collisions: Reaction of D_2 with Ni_{13}</i>	169
U. Buck, R. Krohne, J. Siebers <i>Vibrational Dynamics of Large Clusters from High Resolution He Atom Scattering</i>	178
E.E.B. Campbell, A. Hielscher, R. Ehlich, V. Schyja, I.V. Hertel <i>Collision Experiments with C_{60}^+</i>	185
D. Gerlich <i>Ion Trap Studies of Ternary and Radiative Association Processes</i>	194
M.P. Irion <i>Chemical Reactions of Trapped Metal Clusters</i>	201
V.V. Kresin <i>Electron Scattering and Electromagnetic Response Properties of Metal Clusters</i>	214
D.H.E. Gross <i>Statistical Fragmentation of Clusters into Clusters — in the Example of Nuclear Fragmentation —</i>	222
O. Knospe, R. Dreizler, R. Schmidt, H.O. Lutz <i>Shell Effects in Cluster-Cluster Collisions</i>	230
N. Takahashi <i>Snowballs: Micro-Clusters in Liquid Helium as Tools in Nuclear and Condensed-Matter Physics</i>	238

4. Structure and Excitation

J. Tiggesbäumker, L. Köller, H.O. Lutz, K.H. Meiwes-Broer <i>Collective Excitations in Silver Cluster Anions and Kations</i>	247
P.-G. Reinhard, S. Weisgerber, O. Genzken, M. Brack <i>RPA in Nuclei and Metal Clusters</i>	254
T.A. Dahlseid, G.M. Koretsky, S. Pollack, C.R.C. Wang, J. Hunter, G. Alameddine, D. Cameron, S. Liu, M.M. Kappes <i>Optical Response of Doped S^1-Electron Metal Clusters</i>	262
M. Vollmer, U. Kreibitz <i>Collective Excitations in Large Metal Clusters</i>	266
V. Bonačić-Koutecký, P. Fantucci, J. Koutecký <i>Quantum Molecular Interpretation of Optical Response Properties of Simple Metal Clusters</i>	277
J.G. Eaton, L.H. Kidder, H.W. Sarkas, K.M. McHugh, K.H. Bowen <i>Photoelectron Spectroscopy of Alkali Metal Cluster Anions</i>	291
R.O. Jones <i>Structure and Bonding in Aluminium and Gallium Clusters</i>	305
S. Ohnishi <i>Electronic Shell Structures in Aluminium and Noble Metal Clusters</i>	312
F. Iachello, E. Lipparini, A. Ventura <i>Correlated Electron Pairs in Metal Clusters</i>	318
G. Borstel, U. Lammers, A. Mañanes, J.A. Alonso <i>Electronic and Atomic Structure of Simple-Metal Clusters: Beyond the Spherical Jellium Model</i>	327

M. Koskinen, E. Hammarén, M. Manninen, P.O. Lipas K.W. Schmid <i>Shell-Model and Projected Mean-Field Approach to Electronic Excitations of Atomic Clusters</i>	335
C. Guet, W.R. Johnson <i>Dipole Excitations of Closed-Shell Alkali-Metal Clusters</i>	344
W. Andreoni, U. Röthlisberger <i>Some Considerations on "Isoarithmic" and Isoelectronic Clusters</i>	352
P. Jensen, G. Pastor, K.H. Bennemann <i>Magnetic Properties of Transition- and Rare-Earth Metal Clusters</i>	358