

CONTENTS

Foreword	ix
Introductory Note	1
Chapter 1. Dynamic symmetries of the interacting boson and boson-fermion models F. IACHELLO	5
Chapter 2. Shell model foundations of the interacting boson model I. TALMI	27
Chapter 3. Microscopic structure of the interacting boson model and its application to high spin states AKITO ARIMA	51
Chapter 4. Test of the microscopic foundation of the interacting boson model for deformed nuclei ENRICO MAGLIONE and ANDREA VITTURI	87
Chapter 5. Collective bands in the shell-model and some thoughts on the interacting boson model J. P. ELLIOTT	101
Chapter 6. Geometrical analysis of the interacting boson model A. E. L. DIEPERINK	121
Chapter 7. Microscopic investigation of the interacting boson model L. M. YANG	147
Chapter 8. Phenomenological concepts of nuclear collective motion and their possible microscopic foundations ABRAHAM KLEIN, CHING-TEH LI, THOMAS D. COHEN and MICHEL VALLIERES	183
Chapter 9. Dynamic deformation model KRISHNA KUMAR	233
Chapter 10. Finite-temperature Hartree-Fock-Bogoliubov cranking theory ALAN L. GOODMAN	281
Chapter 11. The IBA in deformed nuclei R. F. CASTEN and D. D. WARNER	311

Chapter 12.	Collective bands in some rotational and transitional nuclei FRANK S. STEPHENS	359
Chapter 13.	Reflections on collectivity H. FESHBACH	387
Chapter 14.	A microscopic description of fermion boson interaction A. VAN EGMOND and K. ALLAART	405
Chapter 15.	Broken-pair, generalized seniority and interacting boson approximations in a spectroscopic study of Sn nuclei G. BONSIGNORI, K. ALLAART and A. VAN EGMOND	431
Chapter 16.	The giant dipole resonance in the high spin region of deformed nuclei P. RING and J. L. EGIDO	449
Chapter 17.	On the microscopic theory of interacting bosons P. RING, Y. K. GAMBHIR, S. IWASAKI and P. SCHUCK	465
Chapter 18.	Coherent states for bosons and fermions: A tutorial ROBERT GILMORE and DA HSUAN FENG	479
Chapter 19.	Comparison of the logical structure of the liquid drop model and the interacting boson model ROBERT GILMORE and DA HSUAN FENG	495
Chapter 20.	Simple boson models applied to even ¹⁵⁰⁻¹⁶⁰ Gd P. O. LIPAS	511
Chapter 21.	Band crossings at very high spins TORD BENGTTSSON	523
Chapter 22.	A microscopic determination of the interacting boson model parameters for nondegenerate orbits B. R. BARRETT, P. D. DUVAL and S. PITTEL	535
Chapter 23.	Shell model and collective model calculations of bands in ^{114,116} Sb J. VAN MALDEGHEM, K. HEYDE and J. SAU	551
Chapter 24.	On the microscopic origin of the Pauli term in the interaction boson fermion model (IBFM) U. KAUP	561
Chapter 25.	Band structure of the transitional nucleus ²¹⁸ Ra J. FERNANDEZ NIELLO, H. PUCHTA, F. RIESS and W. TRAUTMANN	567

Chapter 26. Dynamic description of the self-consistent field XU GONG-OU	573
Author Index	581
Contents of Previous Volumes	589