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Nota di contenuto	TITLE PAGE; TABLE OF CONTENTS; EDITORIAL BOARD; CONTRIBUTORS LIST; PREFACE TO THE SERIES; THERMODYNAMIC PERTURBATION THEORY FOR ASSOCIATING MOLECULES; I. INTRODUCTION; II. A BRIEF INTRODUCTION TO CLUSTER EXPANSIONS; III. SINGLE ASSOCIATION SITE: BOND RENORMALIZATION; IV. SINGLE ASSOCIATION SITE: TWO-DENSITY APPROACH; V. MULTIPLE ASSOCIATION SITES: MULTI-DENSITY APPROACH; VI. THE TWO-SITE AB CASE; VII. SPHERICALLY SYMMETRIC AND DIRECTIONAL ASSOCIATION SITES; VIII. DENSITY FUNCTIONAL THEORY; IX. CONCLUDING REMARKS; ACKNOWLEDGMENTS; REFERENCES PATH INTEGRALS AND EFFECTIVE POTENTIALS IN THE STUDY OF MONATOMIC FLUIDS AT EQUILIBRIUM. INTRODUCTION; II. THE PI APPROACH; III. SEMICLASSICAL APPROACHES; IV. STRUCTURAL PROPERTIES; V. THERMODYNAMIC PROPERTIES; VI. FLUID SYSTEMS; VII. CONCLUDING REMARKS; REFERENCES; SPONTANEOUS SYMMETRY BREAKING IN MATTER INDUCED BY DEGENERACIES AND PSEUDODEGENERACIES; I. INTRODUCTION. SYMMETRY BREAKING AND SPONTANEOUS SYMMETRY BREAKING (SSB); II. DEFINITION OF SSB IN ATOMIC SYSTEMS AND MEANS OF ITS OBSERVATION; III. MECHANISMS OF SSB INDUCED BY DEGENERACY AND PSEUDODEGENERACY IN POLYATOMIC SYSTEMS

IV. THEOREM: DEGENERACY AND PSEUDODEGENERACY ARE THE ONLY SOURCE OF SSB IN ATOMIC SYSTEMS V. DEGENERACY-INDUCED SSB IN INTERATOMIC AND INTERMOLECULAR INTERACTIONS; VI. SSB IN GAS-LIQUID AND LIQUID-SOLID TRANSITIONS AS DRIVEN BY DEGENERACIES; VII. LOCALLY TRIGGERED SSB INDUCING SOLID-STATE PHASE TRANSITIONS; VIII. SSB IN ELEMENTARY PARTICLE PHYSICS AS RELATED TO DEGENERACIES; IX. GENERALIZATION: NATURE TENDS TO AVOID DEGENERACIES BY MEANS OF SSB; REFERENCES; MEAN FIELD ELECTROSTATICS BEYOND THE POINT CHARGE DESCRIPTION; I. INTRODUCTION; II. THE MEAN FIELD APPROXIMATION III. POINT-ION WITH A STRUCTURE IV. FINITE-SPREAD PB EQUATION; V. SHORT-RANGE NON-ELECTROSTATIC INTERACTIONS; VI. CONCLUSION; ACKNOWLEDGMENT; REFERENCES; FIRST-PASSAGE PROCESSES IN CELLULAR BIOLOGY; I. INTRODUCTION AND CONTEXT; II. FRAMEWORK; III. APPLICATIONS; IV. CONCLUDING REMARKS; ACKNOWLEDGMENTS; REFERENCES; THEORETICAL MODELING OF VIBRATIONAL SPECTRA AND PROTON TUNNELING IN HYDROGEN-BONDED SYSTEMS; I. INTRODUCTION; II. MODEL OF IR SPECTRA OF HYDROGEN-BONDED SYSTEMS; III. THEORETICAL SIMULATION OF EXPERIMENTAL SPECTRA OF HYDROGEN-BONDED SYSTEMS
