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3. Microscopic optical potential for a-particles interacting with 90Zr4. Calculation of Deuterium-Lithium cross sections for energies up to 50 MeV; 5. Quantum-statistical MSD processes at low and intermediate energies on 90Zr and 100Mo; References; Identification of Excited 10Be Clusters Born in Ternary Fission of 252Cf; 1. Introduction; 2. Experiment; 3. Results and Discussion; References; Production of Photofission Fragments and Study of their Nuclear Structure; References; Variation of Charge Density in Fusion Reactions; 1. Introduction; 2. Geometry related charge density path
3. Total deformation energy4. Results and discussion; 5. Conclusion; References; Parent Di-Nuclear Quasimolecular States as Exotic Resonant States; 1. Introduction; 2. Properties of the exotic resonant poles and states; 3. Di-nuclear PQMS - a particular case of ERS; References; Fission Investigations and Evaluation Activities at IRMM; 1. Experimental investigations; 2. The statistical model; 3. Results and discussions; References; Investigation of GeV Proton-Induced Spallation Reactions; 1. Motivation; 2. Experiment; 3. Pre-equilibrium cluster emission; 4. Excitation energy distributions
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1. Introduction

Sommario/riassunto

This book covers new experimental and theoretical studies that focus on the modern developments of nuclear fission, aiming at various applications in a wide range of fields and bringing together scientists working in different fields related to nuclear fission. The following topics are dealt with: radioactive beam facilities based on nuclear fission; nuclear waste transmutations and the future accelerator-driven system; fission and spallation nuclear data and modeling; experimental and theoretical advances in the study of nuclear fission; fusion reactions and decay modes of superheavy nuclei;