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Descrizione fisica	1 online resource (VI, 433 p. 23 illus.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 168
Disciplina	539.7092
Soggetti	Nuclear physics Heavy ions Nuclear fusion Nuclear Physics, Heavy Ions, Hadrons Nuclear Fusion
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Nota di contenuto	Opening talk -- Calculation of effective interactions -- Potential model description of heavy ion scattering using spline techniques -- Folding models for elastic and inelastic scattering -- Relations between the simultaneous and sequential transfer of two nucleons -- Polarization phenomena in heavy ion transfer reactions -- Nuclear charge and matter distributions -- What do we learn from self-consistent models about nuclear density distributions ? -- Probing the nuclear structure with heavy-ion reactions -- Different regimes of dissipative collisions -- Charge equilibration in deep-inelastic peripheral collisions -- Neutron-proton asymmetry and fast fission : Two extreme time evolutions in dissipative heavy ion reactions -- Neutron-proton asymmetry -- Fast fission phenomenon -- Pre-equilibrium processes in nuclear reactions -- Light nuclei far from stability -- Direct proton decay of ^{147}Tm -- Description of high spin states -- Shape coexistence and a new region of strong deformation in nuclei far from stability -- New directions in studies of nuclei far from stability with heavy ions -- Multiple discontinuities of the moment of inertia at high spin -- Recent results on nuclei far from stability in the mass region a ?

70 -- Fusion and compound nuclei decay for light and intermediate-mass systems: ^{24}Mg , $^{28}\text{Si} + ^{12}\text{C}$; $^{24}\text{Mg} + ^{24,26}\text{Mg}$; $^{28}\text{Si} + ^{24}\text{Mg}$, $^{28,29,30}\text{Si}$ -- Nuclear 'molecular' states -- The excitation and decay of isoscalar giant resonances -- Heavy ions and giant resonances -- The width and decay-properties of giant resonances -- Spectroscopy of superheavy quasimolecules and quasiatoms.
