

1. Record Nr.	UNINA9910130744403321
Autore	Krappe H. J (Hans Jurgen), <1933->
Titolo	Theory of nuclear fission : a textbook / / Hans J. Krappe, Krzysztof Pomorski
Pubbl/distr/stampa	Heidelberg ; ; New York, : Springer, c2012
ISBN	3-642-23515-8
Edizione	[1st ed. 2012.]
Descrizione fisica	1 online resource (IX, 320 p. 101 illus.)
Collana	Lecture notes in physics, , 0075-8450 ; ; 838
Altri autori (Persone)	PomorskiKrzysztof
Disciplina	539.762
Soggetti	Nuclear fission Nuclear physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (p. 295-316) and index.
Nota di contenuto	From the contents: Introduction -- Potential Energy Surfaces -- Statistical Decay Model -- Scission Point Models -- Fission Dynamics.
Sommario/riassunto	This book brings together various aspects of the nuclear fission phenomenon discovered by Hahn, Strassmann and Meitner almost 70 years ago. Beginning with an historical introduction the authors present various models to describe the fission process of hot nuclei as well as the spontaneous fission of cold nuclei and their isomers. The role of transport coefficients, like inertia and friction in fission dynamics is discussed. The effect of the nuclear shell structure on the fission probability and the mass and kinetic energy distributions of the fission fragments is presented. The fusion-fission process leading to the synthesis of new isotopes including super-heavy elements is described. The book will thus be useful for theoretical and experimental physicists, as well as for graduate and PhD students.