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	Altri autori (Persone)	TianYe CaiChong-Hai
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	Nota di contenuto	Chapter 1. Development of Fission Theory -- Chapter 2. Kinematics of Heavy Ion Collisions -- Chapter 3. Heavy Ion Spherical Optical Model -- Chapter 4. Hauser-Feshbach Theory for Heavy Ion Reactions -- Chapter 5. Initial Yield, Kinetic Energy Distribution, and Angular Distribution of Fission Fragments -- Chapter 6. Compound Nucleus Deexcitation Theory -- Chapter 7. Fission Prompt Neutrons, Prompt Rays, and Fission Fragment Independent Yield -- Chapter 8. Fission Fragment Cumulative Yield, Decay Heat, and Final Mass Distribution -- Chapter 9. Fission Delayed Neutron Simplification Model -- Chapter 10. Theoretical Method for Calculating the Total Contribution of (n,f),(n,n'f),(n,2nf) Three Fission Channels -- Chapter 11. Main Steps of Numerical Calculations for Post-Fission Nuclear Data and Conclusion.
	Sommario/riassunto	This book proposes and develops the equilibrium compound nucleus post-fission theory, a powerful tool for studying the fission process and making numerical calculations of post-fission nuclear data. It begins with a detailed historical background on fission theory and covers fundamental concepts, such as the Bohr-Wheeler formula and

time dependent nuclear density functional theory. The authors explain the kinematics of heavy-ion collisions and develop a heavy-ion spherical optical model. They also present the theoretical methods for calculating the yield, kinetic energy distribution, and angular distribution of fission fragments in the initial state of fission. In addition, readers are provided with the method for calculating the prompt neutron and prompt gamma-ray data as well as the proportion of the isomeric state nucleus and independent yield from the initial yield of the fission fragments. Using the nuclear decay data of the fission products, a method for calculating the cumulative yield and decay heat of the fission fragments is also given. A fission delayed neutron simplification model is proposed and the theoretical method for calculating the total contribution of three fission channels to post-fission nuclear data is provided. This book concludes with a step-by-step guide on numerical calculations for post-fission nuclear data and a Fortran program for optimizing the best theoretical model parameters. It is ideal for both junior and senior researchers in nuclear physics, as well as graduate students who are interested learning about the subject. Given the current interest in post-fission and the tremendous experimental and theoretical efforts in studying it, this book serves as a timely and comprehensive resource for the nuclear physics community.