

1. Record Nr.	UNINA9910300542703321
Autore	Tolstikhina Inga
Titolo	Basic Atomic Interactions of Accelerated Heavy Ions in Matter : Atomic Interactions of Heavy Ions // by Inga Tolstikhina, Makoto Imai, Nicolas Winckler, Viacheslav Shevelko
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-74992-7
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (xvi, 220 pages) : illustrations
Collana	Springer Series on Atomic, Optical, and Plasma Physics, , 1615-5653 ; ; 98
Disciplina	539.7234
Soggetti	Atoms Physics Particle acceleration Plasma (ionized gases) Atoms and Molecules in Strong Fields, Laser Matter Interaction Particle Acceleration and Detection, Beam Physics Plasma Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Stopping Power of Ions in Matter (SP) -- Evolution of the Projectile Charge-state Fractions in Matter -- Electron Capture Processes.
Sommario/riassunto	This book provides an overview of the recent experimental and theoretical results on interactions of heavy ions with gaseous, solid and plasma targets from the perspective of atomic physics. The topics discussed comprise stopping power, multiple-electron loss and capture processes, equilibrium and non-equilibrium charge-state fractions in penetration of fast ion beams through matter including relativistic domain. It also addresses mean charge-states and equilibrium target thickness in ion-beam penetrations, isotope effects in low-energy electron capture, lifetimes of heavy ion beams, semi-empirical formulae for effective cross sections. The book is intended for researchers and graduate students working in atomic, plasma and

accelerator physics.

---