

1. Record Nr.	UNINA9910257441103321
Titolo	Fundamentals of Laser Interactions [[electronic resource]] : Proceedings of a Seminar held at Obergurgl, Austria, February 24 – March 2, 1985 / / edited by Fritz Ehlotzky
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1985
ISBN	3-540-39503-2
Edizione	[1st ed. 1985.]
Descrizione fisica	1 online resource (IX, 319 p. 7 illus.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 229
Disciplina	539
Soggetti	Atoms Physics Lasers Photonics Quantum optics Atomic, Molecular, Optical and Plasma Physics Optics, Lasers, Photonics, Optical Devices Quantum Optics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Electron-atom interactions in intense, high frequency laser fields -- Strong-coupling theory of electron scattering from atoms in a radiation field -- Electron-atom collisions in a strong laser field -- Electron scattering in stochastic radiation fields -- Laser-assisted atom-atom collisions -- Laser spectroscopy of collision complexes: A case study -- Two-photon collisional redistribution of radiation -- Studies of multiquantum processes in atoms -- Interaction of an intense laser pulse with a many-electron atom: Fundamental processes -- Multiphoton ionization of complex atoms -- Correlation in single- and multiphoton processes -- Radiation interaction of Rydberg atoms and the one-atom maser -- Planetary atoms -- Laser spectroscopy of highly excited hydrogen atoms in electric and magnetic fields -- Dynamic processes in molecular rydberg states -- Four wave frequency mixing in gases -- Coherence of states in trapped ions -- Light

pressure cooling of a trapped three-level ion -- Nonlinear and coherent properties of laser radiation pressure on atoms -- Multiphoton transitions in the coulomb continuous spectrum -- Gauge problems in laser fields -- Electron states in a constant magnetic field and the zero field limit in potential scattering -- Laser-assisted ionization on he(21, 23s) + He(11s) collision system -- Variation of k index in ATI processes -- Multiphoton ionization of atoms in a strong field. A non-perturbative method -- Transition matrix method for multiphoton ionization processes -- One- and two-photon detachment of negative hydrogen ions: A hyperspherical approach -- New aspects of the radiation coupling of two bound states with a predissociating (Autoionizing) resonance -- Laser induced resonances in the MPI-spectrum of sodium atoms -- Effective gas ionization with simultaneous irradiation of pulsed CO₂ and excimer lasers -- Laser manipulation of atomic beam velocities: Demonstration of stopped atoms and velocity reversal -- Dynamics of the laser-cooling of a trapped ion.
