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Autore	Hertel Ingolf V
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Nota di contenuto	Basics -- Elements of Quantum Mechanics -- Periodic System and Removal of l-Degeneracy -- Non-Stationary Problems: Dipole Excitation -- Linewidths, Photoionization, and More -- Fine Structure and LAMB Shift -- Helium and Other two Electron Systems -- Atoms in External Fields -- Hyperfine Structure -- Multi- Electron Atoms -- Appendices.
Sommario/riassunto	This is the first volume of textbooks on atomic, molecular and optical physics, aiming at a comprehensive presentation of this highly productive branch of modern physics as an indispensable basis for many areas in physics and chemistry as well as in state of the art bio- and material-sciences. It primarily addresses advanced students (including PhD students), but in a number of selected subject areas the reader is lead up to the frontiers of present research. Thus even the active scientist is addressed. This volume 1 provides the canonical knowledge in atomic physics together with basics of modern

spectroscopy. Starting from the fundamentals of quantum physics, the reader is familiarized in well structured chapters step by step with the most important phenomena, models and measuring techniques. The emphasis is always on the experiment and its interpretation, while the necessary theory is introduced from this perspective in a compact and occasionally somewhat heuristic manner, easy to follow even for beginners.