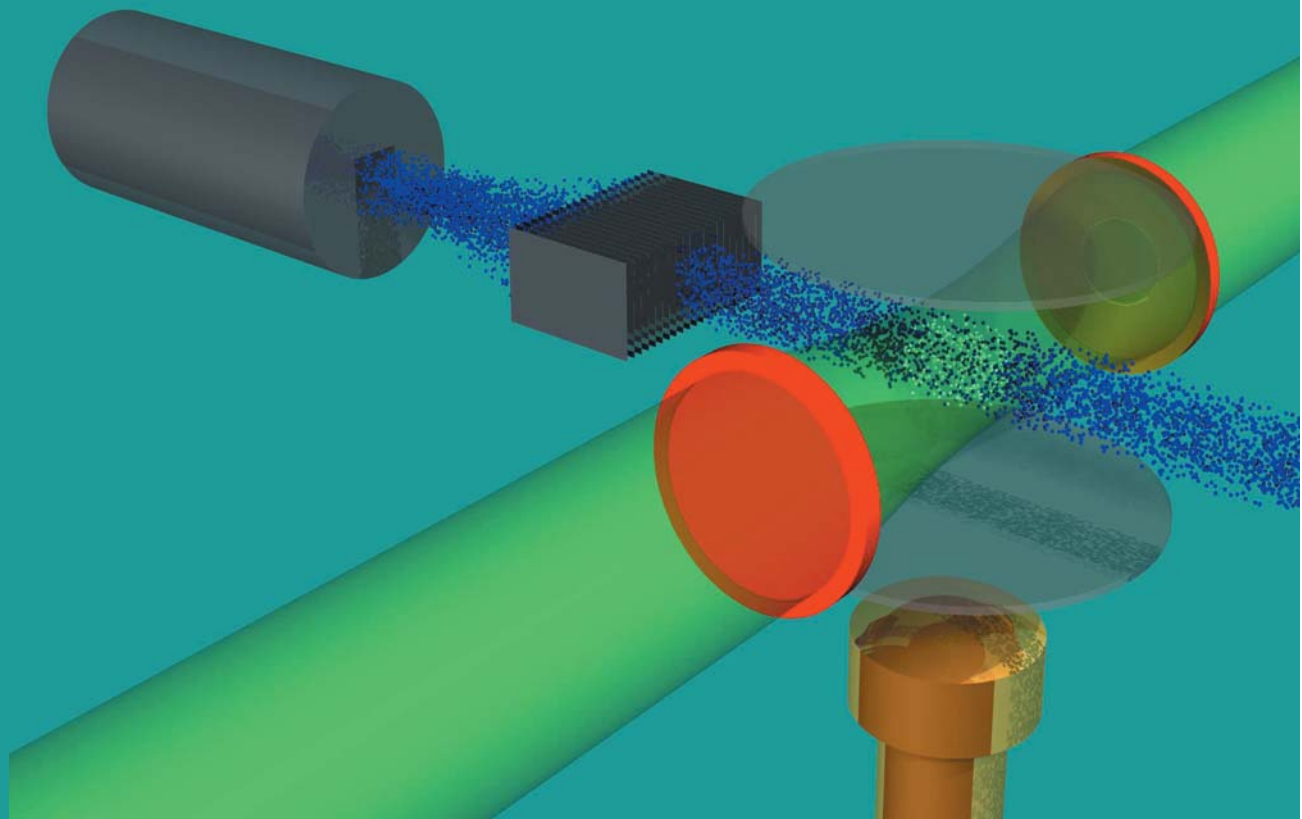


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# ATOMIC PHYSICS

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This book is intended for advanced undergraduate, graduate students and researchers who are interested in Atomic, Molecular, and Optical (AMO) Physics. Written as a collection of problems, hints and solutions, the book will provide help in learning about both fundamental and applied aspects of this vast field of knowledge, where rapid and exciting developments are currently taking place.

The authors touch upon a broad spectrum of phenomena and techniques and adopt an experimentalist's approach, by avoiding formal calculations whenever possible in favour of "back-of-the-envelope" estimates, symmetry arguments, and physical analogies. While complete coverage of all AMO Physics is not attempted, there are chapters on atomic structure, behaviour of atoms and molecules in external electromagnetic fields, atomic collisions and experimental techniques. Special attention is given to a discussion of ideas and experimental methods in several "hot areas", a few of these being cold atoms and Bose-Einstein condensates, tests of fundamental symmetries, atomic magnetometers and frequency comb metrology with ultra-short laser pulses.

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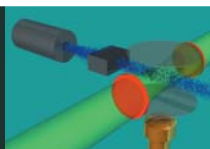
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