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# Radiative Processes in Atomic Physics

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O-Book

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## DESCRIPTION

This book offers advanced students and researchers an up-to-date quantum treatment of the interaction of atoms with electromagnetic radiation. Problems and solutions are used to develop concepts, terminology, and the principal results of the quantum theory of radiative processes in atoms. Concepts covered include: radiative transitions between discrete states in atomic systems, atomic photoprocesses involving free particles, coherent phenomena in radiative transitions, extensive treatment of line-broadening mechanisms, atoms in strong fields and theory of angular momentum.

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## ABOUT THE AUTHOR

VLADIMIR P. KRAINOV of the Moscow Institute of Physics and Technology has long been involved in examining the fundamentals of the interaction of strong fields with atoms. He is the coauthor of three books on this subject.

HOWARD R. REISS of American University in Washington, D.C. is one of the originators of intense-field investigations. He has developed basic nonperturbative methods and applied them to atoms, as well as to nuclei, elementary particles, and condensed-matter systems.

BORIS M. SMIRNOV heads a division of the Institute for High Temperatures of the Russian Academy of Sciences. He is the author of approximately 30 books and 300 research articles in plasma physics, atomic physics, and atomic clusters. He is Associate Editor of the journal *Russian Physics-Uspekhi*, and Vice Chairman of the Russian Council on Low Temperature Plasma.

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