



Polarization, Alignment, and Orientation in Atomic Collisions

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Book Condition: New. Publisher/Verlag: Springer, Berlin | This graduate text deals with polarization, alignment, and orientation effects in atomic collisions, induced by electron or heavy particle impact. The first part introduces light and particle polarization, experimental and computational methods, and the density matrix and state multipole formalism, with examples and exercises. The second part includes case studies of electron impact and heavy particle excitation, electron transfer, impact ionization and autoionization, with the final chapter discussing related topics and applications. The book includes selected seminal papers of tutorial value from the early history of the field. Intended as an introductory text for both experimental and theoretical students and researchers, the book can be used as a textbook for graduate courses, as a primary source for special topics and seminar courses, and as a standard reference. | 1. Introduction.- 2 Polarized Light.- 3 Polarized Electrons.- 4 Experimental Geometries and Approaches.- 5 Density Matrices: Connecting Experiment and Theory.- 6 Computational Methods.- 7. Electron-Impact Excitation.- 8 Ion- and Atom-Impact Excitation.- 9 Propensity Rules.- 10 Impact Ionization.- 11 Related Topics and Applications.- Introductory Summaries.- 1. Prüfung von D-Leuchten, das von einem nahezu parallelen Elektronenbündel angeregt ist, auf Polarisation, Ann. Phys. (Leipzig) 77 (1925); 273-277, 286.-...



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