

of Book: Many-Particle Quantum Dynamics in Atomic and Molecular Fragmentation

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Title of Book: Many-Particle Quantum Dynamics in Atomic and Molecular Fragmentation

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Abstract / Description: This is the first comprehensive treatment of the interactions of atoms and molecules with charged particles, photons and laser fields. Addressing the subject from a unified viewpoint, the volume reflects our present understanding of many-particle dynamics in rearrangement and fragmentation reactions such as electron capture, target and projectile ionisation, photoabsorption and Compton scattering, collisional breakup in Coulomb systems, and dissociative ionisation. The individual chapters, each written by leading experts, give a concise picture of the advanced experimental and theoretical methods. The book also describes experimental methods such as recoil-ion momentum spectroscopy (RIMS), electron microscopy (REMI), and many-particle time-of-flight and imaging techniques. Theoretical approaches treated include the three-body Coulomb problem, R- and S-matrix as well as classical approaches, close-coupling methods, and density-functional theory.

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Full Name of Book-Editor(s): Joachim Ullrich; Viatcheslav Shevelko

Affiliations:

MPI für Kernphysik/Group D. Schwalm/Atomic and Molecular Physics with Stored Ions (A. Wolf)

External Affiliations:

Dept. of Particle Physics, Weizmann Institute of Science, 76100 Rehovot, Israel

Our experimental work focuses on the quantum dynamics of simple ionic systems ranging from atoms to cold molecules and clusters. This research has direct impact on the field of quantum chemistry and on basic few-body quantum physics regarding the dynamics of systems including several particles in highly excited or strongly correlated motion. It leads to the destruction and chemical conversion of the molecules and produces further chemically active radicals as fragments. Predicting the rates and the product channels for these reactions requires detailed knowledge of inner-molecular dynamics actively studied worldwide both experimentally and theoretically. See more about this book on [Archive.org](#). [Want to Read](#). [1](#) [2](#) [3](#) [4](#) [5](#). An edition of Many-particle quantum dynamics in atomic and molecular fragmentation (2003). Many-Particle Quantum Dynamics in Atomic and Molecular Fragmentation (Springer Series on Atomic, Optical, and Plasma Physics). 1 edition. Items related to Many-Particle Quantum Dynamics in Atomic and Molecular Home Joachim Ullrich Many-Particle Quantum Dynamics in Atomic and Molecular Stock Image. Bookseller Image. [View Larger Image](#). Many-Particle Quantum Dynamics in Atomic and Molecular Fragmentation. Joachim Ullrich. 0 ratings by Goodreads. Addressing the subject from a unified viewpoint, the volume reflects our present understanding of many-particle dynamics in rearrangement and fragmentation reactions. 515 pp. Englisch. Start by marking "Many-Particle Quantum Dynamics in Atomic and Molecular Fragmentation" as [Want to Read](#): [Want to Read](#) saving... [Want to Read](#). This is the first comprehensive treatment of the interactions of atoms and molecules with charged particles, photons and laser fields. Addressing the subject from a unified viewpoint, the volume reflects our present understanding of many-particle dynamics in rearrangement and fragmentation reactions. [Get A Copy](#). Amazon.