



## Atoms and Molecules in Strong External Fields

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Book Condition: New. Publisher/Verlag: Springer, Berlin | This book contains contributions to the 172. WE-Heraeus-Seminar "Atoms and Molecules in Strong External Fields," which took place April 7-11 1997 at the Phys- zentrum Bad Honnef (Germany). The designation "strong fields" applies to external static magnetic, and/or electric fields that are sufficiently intense to cause alterations in the atomic or molecular str- ture and dynamics. The specific topics treated are the behavior and properties of atoms in strong static fields, the fundamental aspects and electronic structure of molecules in strong magnetic fields, the dynamics and aspects of chaos in highly excited R- berg atoms in external fields, matter in the atmosphere of astrophysical objects (white dwarfs, neutron stars), and quantum nanostructures in strong magnetic fields. It is obvious that the elaboration of the corresponding properties in these regimes causes the greatest difficulties, and is incomplete even today. Present-day technology has made it possible for many research groups to study the behavior of matter in strong external fields, both experimentally and theore- cally, where the phrase "experimentally" includes the astronomical observations. - derstanding these systems requires the development of modern theories and powerful computational techniques. Interdisciplinary collaborations will be helpful and useful in...



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