



## Solid State Physics of Finite Systems

By R. A. Broglia

Springer-Verlag Berlin and Heidelberg GmbH & Co. K. Paperback. Book Condition: New. Paperback. 236 pages. Dimensions: 9.1in. x 6.0in. x 0.7in. Quantum mechanics is the set of laws of physics which, to the best of our knowledge, provides a complete account of the microworld. One of its chapters, quantum electrodynamics (QED), is able to account for the quantal phenomena of relevance to daily life (electricity, light, liquids and solids, etc.) with great accuracy. The language of QED, field theory, has proved to be universal providing the theoretical basis to describe the behaviour of many-body systems. In particular finite many-body systems (FMBS) like atomic nuclei, metal clusters, fullerenes, atomic wires, etc. That is, systems made out of a small number of components. The properties of FMBS are expected to be quite different from those of bulk matter, being strongly conditioned by quantal size effects and by the dynamical properties of the surface of these systems. The study of the electronic and of the collective behaviour (plasmons and phonons) of FMBS and of their interweaving, making use of well established first principle quantum (field theoretical) techniques, is the main subject of the present monograph. The interest for the study...



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