Light Scattering in Solids IX

Novel Materials and Techniques

This volume treats new materials (nanotubes and quantum dots) and new techniques (synchrotron radiation scattering and cavity confined scattering). In the past five years, Raman and Brillouin scattering have taken a place among the most important research and characterization methods for carbon nanotubes. Among the novel techniques discussed in this volume are those employing synchrotron radiation as a light source.

The series "Light Scattering in Solids" was launched in 1975 with the eighth volume of the Springer Collection "Topics in Applied Physics." That volume dealt mainly with Raman and Brillouin spectroscopy of low-frequency e- mentary excitations (phonons, electronic excitations including plasmons and, magnetic excitations such as magnons) The advent of the laser around 1960,

itscommercialavailabilityafewyearslater, and concomitant developments in light-dispersion and -detection systems have positioned light-scattering sp- troscopy among the most powerful techniques for the investigation and ch- acterization of condensed matter, particularly solids. To date, a wide range of material systems, including bulk semiconductor (crystalline and am- phous), semiconductor nanostructures (e. g., superlattices), fullerites, na- tubes, high-T superconductors and, very recently, more conventional sup- c conductors (boron-doped diamond, magnesium diboride), have been succe- fully investigated using light-scattering techniques. The ?rst volume of the series was meant to be a "one-shot a?air". H- ever, due to the scarcity of literature in the ?eld it soon ran out of print and a new edition was called for. It appeared in 1983 under the title Light Scattering in Solids I, thus signaling the beginning of a series. Volume I (LSS I) contains eight articles covering the fundamentals of several applications of lightscattering spectroscopy, both spontaneous and stimulated, to the inv-

tigationandcharacterizationofsolids. Botheditionstogetherhavebeencited a total of 1050 times in "source journals" (see Chap. 1) as of June 25, 2006. Light Scattering in Solids II appeared in 1982.



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