Record Nr. UNINA9910813759203321 Autore Rowe D. J (David J.) **Titolo** Nuclear collective motion: models and theory / / David J. Rowe Singapore; ; Hackensack, N.J., : World Scientific Pub. Co., c2010 Pubbl/distr/stampa **ISBN** 1-283-14351-8 9786613143518 981-279-066-7 Edizione [1st ed.] Descrizione fisica 1 online resource (250 p.) Disciplina 539.74 Soggetti Many-body problem Nuclear collective models Nuclear spectroscopy Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "The first edition was published by Methuen in 1970."--t.p. verso. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto pt. 1. Phenomenological models -- pt. 2. Microscopic theories. Sommario/riassunto The two most important developments in nuclear physics were the shell model and the collective model. The former gives the formal framework for a description of nuclei in terms of interacting neutrons and protons. The latter provides a very physical but phenomenological framework for interpreting the observed properties of nuclei. A third approach, based on variational and mean-field methods, brings these two perspectives together in terms of the so-called unified models. Together, these three approaches provide the foundations on which

nuclear physics is based. They need to be understood by e