Record Nr. UNINA9910438119503321 Autore Durr Detlef Titolo Quantum physics without quantum philosophy / / Detlef Durr, Sheldon Goldstein, Nino Zanghi Berlin, : Springer, 2013 Pubbl/distr/stampa 1-283-84946-1 **ISBN** 3-642-30690-X Descrizione fisica 1 online resource (293 p.) Altri autori (Persone) GoldsteinSheldon ZanghiNino Disciplina 530.01 Soggetti Quantum theory Quantum theory - Philosophy Nuclear physics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto pt. I. Quantum equilibrium -- pt. II. Quantum motion -- pt. III. Quantum relativity. Sommario/riassunto It has often been claimed that without drastic conceptual innovations a genuine explanation of quantum interference effects and quantum randomness is impossible. This book concerns Bohmian mechanics, a simple particle theory that is a counterexample to such claims. The gentle introduction and other contributions collected here show how the phenomena of non-relativistic quantum mechanics, from Heisenberg's uncertainty principle to non-commuting observables, emerge from the Bohmian motion of particles, the natural particle

motion associated with Schrödinger's equation. This book will be of value to all students and researchers in physics with an interest in the meaning of quantum theory as well as to philosophers of science.