Record Nr. UNINA9910739452703321 Autore Durán Juan Manuel Titolo Computer Simulations in Science and Engineering: Concepts - Practices - Perspectives / / by Juan Manuel Durán Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2018 **ISBN** 3-319-90882-0 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (225 pages) Collana The Frontiers Collection, , 1612-3018 Disciplina 003.3 Soggetti **Physics** Philosophy and science Computer simulation Computer mathematics Applied mathematics **Engineering mathematics** Numerical and Computational Physics, Simulation Philosophy of Science Simulation and Modeling Computational Science and Engineering Mathematical and Computational Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction -- The universe of computer simulations -- Units of analysis I: Models and computer simulations -- Units of analysis II: Laboratory experimentation and computer simulations -- Trusting computer simulations -- Epistemological functions of computer simulations -- Technological Paradigms -- Ethics and computer simulations. Sommario/riassunto This book addresses key conceptual issues relating to the modern scientific and engineering use of computer simulations. It analyses a broad set of questions, from the nature of computer simulations to their epistemological power, including the many scientific, social and ethics implications of using computer simulations. The book is written

in an easily accessible narrative, one that weaves together philosophical questions and scientific technicalities. It will thus appeal equally to all academic scientists, engineers, and researchers in industry interested in questions (and conceivable answers) related to the general practice of computer simulations.