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| Sommario/riassunto | An innovative, multifaceted approach to scientific experiments as designed by and shaped through interaction with the modeling process. The role of scientific modeling in mediation between theories and phenomena is a critical topic within the philosophy of science, touching on issues from climate modeling to synthetic models in biology, high energy particle physics, and cognitive sciences. Offering a radically new conception of the role of data in the scientific modeling process as well as a new awareness of the problematic aspects of data, this cutting-edge volume offers a multifaceted view on experiments as designed and shaped in interaction with the modeling process. Contributors address such issues as the construction of models in conjunction with scientific experimentation; the status of measurement and the function of experiment in the identification of relevant parameters; how the phenomena under study are reconceived when accounted for by a model; and the interplay between experimenting, modeling, and simulation when results do not mesh. Highlighting the mediating role of models and the model-dependence (as well as theory-dependence) of data measurement, this volume proposes a normative and conceptual innovation in scientific modeling--that the phenomena to |

be investigated and modeled must not be precisely identified at the start but specified during the course of the interactions arising between experimental and modeling activities. Contributors: Nancy D. Cartwright, U of California, San Diego; Anthony Chemero, U of Cincinnati; Ronald N. Giere, U of Minnesota; Jenann Ismael, U of Arizona; Tarja Knuutila, U of South Carolina; Andrea Loettgers, U of Bern, Switzerland; Deborah Mayo, Virginia Tech; Joseph Rouse, Wesleyan U; Paul Teller, U of California, Davis; Michael Weisberg, U of Pennsylvania; Eric Winsberg, U of South Florida.
