

1. Record Nr.	UNISA996465481303316
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Titolo	Automated Modeling of Physical Systems [[electronic resource] /] / by P. Pandurang Nayak
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1995
ISBN	3-540-48520-1
Edizione	[1st ed. 1995.]
Descrizione fisica	1 online resource (XXII, 238 p.)
Collana	Lecture Notes in Artificial Intelligence ; ; 1003
Disciplina	003/.3
Soggetti	Computer simulation Physics Artificial intelligence Computers Computational complexity Electronics Microelectronics Simulation and Modeling Physics, general Artificial Intelligence Computation by Abstract Devices Complexity Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Models and model fragments -- Adequate models -- Complexity of model selection -- Causal approximations -- Differential equations -- Order of magnitude reasoning -- Model selection program and results -- Related work -- Conclusions.
Sommario/riassunto	This book is based on the author's PhD thesis which was selected during the 1993 ACM Doctoral Dissertation Competition as one of the three best submissions. This monograph investigates the problem of selecting adequate models for reasoning about physical systems and applications to engineering problem solving. An elegant treatment of

both the theoretical and practical sides are presented: the problem is precisely formalized, its computational complexity is analyzed in detail, and an efficient algorithm for finding adequate models is derived; on the practical side, a methodology for building systems that automatically construct adequate models is provided, and implementational aspects and tests are described.
