

1. Record Nr.	UNISA996508667803316
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Titolo	Models for research and understanding : exploring dynamic systems, unconventional approaches, and applications / / Stanislaw Raczynski
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	9783031119262 9783031119255
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (286 pages)
Collana	Simulation foundations, methods and applications
Disciplina	003.3
Soggetti	Computer simulation System analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Concept of Model -- 2. Continuous System Models -- 3. Differential inclusions, uncertainty and functional sensitivity -- 4. Functional sensitivity applications -- 5. Attainable sets in flight control -- 6. Discrete event models -- 7. Self-organization, dynamics and agent-based model -- 8. The space of models, semi-discrete events with fuzzy logic -- 9. Models and categories -- 10. Fuzzy time instants and time model -- 11. Reversibility and the 5th dimension -- 12. Modeling, simulation and optimization. .
Sommario/riassunto	This introductory textbook/reference addresses the fundamental and mostly applied kinds of models. The focus is on models of dynamic systems that move and change over time. However, the work also proposes new methods of uncertainty treatment, offering supporting examples. Topics and features: Chapters suitable for textbook use in teaching modeling and simulation Includes sections of questions and answers, helpful in didactic work Proposes new methodology in addition to examining conventional approaches Offers some cognitive, more abstract models to give a wider insight on model building Aimed primarily at undergraduates, the textbook will also serve graduates and researchers working on multidisciplinary problems. It may be used while teaching computer simulation, applied mathematics, system

analysis and system dynamics. Stanislaw Raczyński is affiliated with the Universidad Panamericana, Engineering Faculty, Mexico City, Mexico. He also has authored the recent Springer book, *Catastrophes and Unexpected Behavior Patterns in Complex Artificial Populations*.

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