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| 1. Record Nr.           | UNINA9910254342103321  |
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| Titolo                  | Robust Modelling and Simulation : Integration of SIMIO with Coloured Petri Nets // by Idalia Flores De La Mota, Antoni Guasch, Miguel Mujica Mota, Miquel Angel Piera  |
| Pubbl/distr/stampa      | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017  |
| ISBN                    | 3-319-53321-5  |
| Edizione                | [1st ed. 2017.]  |
| Descrizione fisica      | 1 online resource (XVII, 162 p. 112 illus., 70 illus. in color.)   |
| Disciplina              | 670  |
| Soggetti                | Industrial engineering<br>Production engineering<br>Operations research<br>Management science<br>Computer simulation<br>Computer mathematics<br>Industrial and Production Engineering<br>Operations Research, Management Science<br>Simulation and Modeling<br>Computational Science and Engineering   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Nota di bibliografia    | Includes bibliographical references at the end of each chapters.   |
| Nota di contenuto       | Preface -- Introduction -- Chapter 1: Introduction to Digital Simulation. --Chapter 2: Statistics elements for simulation -- Chapter 3: Modelling of Systems using Petri Nets -- Chapter 4: Integrating Coloured Petri Nets with SIMIO -- Chapter 5: Modelling Example -- References -- Annex.   |
| Sommario/riassunto      | This book presents for the first time a methodology that combines the power of a modelling formalism such as colored petri nets with the flexibility of a discrete event program such as SIMIO. Industrial practitioners have seen the growth of simulation as a methodology for tackling problems in which variability is the common denominator. Practically all industrial systems, from manufacturing to aviation are considered stochastic systems. Different modelling techniques have |

been developed as well as mathematical techniques for formalizing the cause-effect relationships in industrial and complex systems. The methodology in this book illustrates how complexity in modelling can be tackled by the use of coloured petri nets, while at the same time the variability present in systems is integrated in a robust fashion. The book can be used as a concise guide for developing robust models, which are able to efficiently simulate the cause-effect relationships present in complex industrial systems without losing the simulation power of discrete-event simulation. In addition SIMIO's capabilities allows integration of features that are becoming more and more important for the success of projects such as animation, virtual reality, and geographical information systems (GIS).

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