Engineering Principles of Combat Modeling and Distributed Simulation

Andreas Tolk
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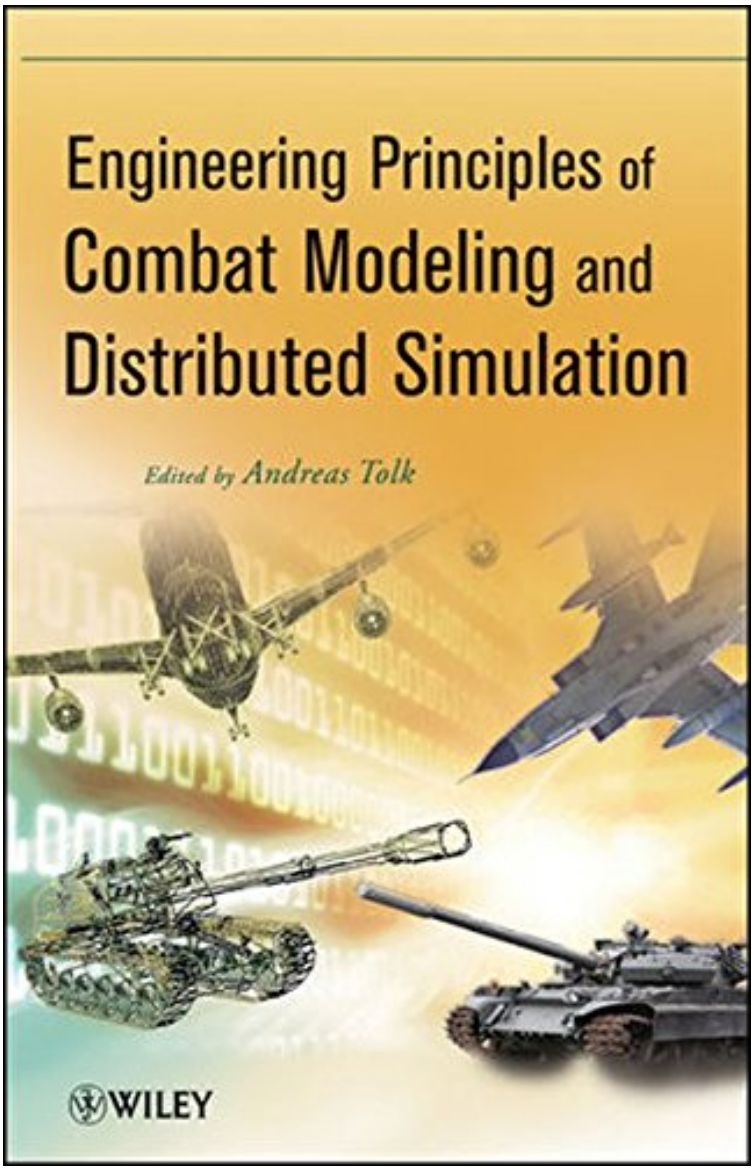

#1313969 in Books 2012-03-20Original language:EnglishPDF # 1 9.30 x 2.10 x 6.50l, 3.00 #File Name: 0470874295936 pages | File size: 43.Mb

Andreas Tolk : Engineering Principles of Combat Modeling and Distributed Simulation before purchasing it in order to gage whether or not it would be worth my time, and all praised Engineering Principles of Combat Modeling and Distributed Simulation:

4 of 4 people found the following review helpful. Text book review for MS practitioners.By Dan SBeen active in the

modeling and simulation (MS) field for over 20 years. The text is the single most comprehensive review of the MS domain that I have ever encountered. Enjoy the practical examples that illustrate teaching points. Written with a touch of humor to make it a more entertaining/interesting read.0 of 1 people found the following review helpful. Great TextBy Harry E. JohnsonGreat text. All MS professionals should have a copy.1 of 5 people found the following review helpful. A standards manual?By MR GEORGE S YOUNGSeems to be more of a standards manual than a how to book for combat modeling. I'd have liked to see more math and computer science in this one.

Explore the military and combat applications of modeling and simulation Engineering Principles of Combat Modeling and Distributed Simulation is the first book of its kind to address the three perspectives that simulation engineers must master for successful military and defense related modeling: the operational view (what needs to be modeled); the conceptual view (how to do combat modeling); and the technical view (how to conduct distributed simulation). Through methods from the fields of operations research, computer science, and engineering, readers are guided through the history, current training practices, and modern methodology related to combat modeling and distributed simulation systems. Comprised of contributions from leading international researchers and practitioners, this book provides a comprehensive overview of the engineering principles and state-of-the-art methods needed to address the many facets of combat modeling and distributed simulation and features the following four sections: Foundations introduces relevant topics and recommended practices, providing the needed basis for understanding the challenges associated with combat modeling and distributed simulation.

“Tolk and his coauthors have extensive experience in this area, making this volume a standard reference for researchers engaged in combat modeling. The complexity of the domain, the consequences of error, and the prohibitive cost of direct experimentation are as great in combat modeling as in any other problem area, making this volume a valuable source of examples and techniques for modelers in other areas that are highly complex, consequential, and inaccessible by direct experiment." (Computing s, 1 October 2012) From the Back CoverExplore the military and combat applications of modeling and simulation Engineering Principles of Combat Modeling and Distributed Simulation is the first book of its kind to address the three perspectives that simulation engineers must master for successful military and defense related modeling: the operational view (what needs to be modeled); the conceptual view (how to do combat modeling); and the technical view (how to conduct distributed simulation). Through methods from the fields of operations research, computer science, and engineering, readers are guided through the history, current training practices, and modern methodology related to combat modeling and distributed simulation systems. Comprised of contributions from leading international researchers and practitioners, this book provides a comprehensive overview of the engineering principles and state-of-the-art methods needed to address the many facets of combat modeling and distributed simulation and features the following four sections: Foundations introduces relevant topics and recommended practices, providing the needed basis for understanding the challenges associated with combat modeling and distributed simulation. Combat Modeling focuses on the challenges in human, social, cultural, and behavioral modeling such as the core processes of "move, shoot, look, and communicate" within a synthetic environment and also equips readers with the knowledge to fully understand the related concepts and limitations. Distributed Simulation introduces the main challenges of advanced distributed simulation, outlines the basics of validation and verification, and exhibits how these systems can support the operational environment of the warfighter. Advanced Topics highlights new and developing special topic areas, including mathematical applications for combat modeling; combat modeling with high-level architecture and base object models; and virtual and interactive digital worlds. Featuring practical examples and applications relevant to industrial and government audiences, Engineering Principles of Combat Modeling and Distributed Simulation is an excellent resource for researchers and practitioners in the fields of operations research, military modeling, simulation, and computer science. Extensively classroom tested, the book is also ideal for courses on modeling and simulation; systems engineering; and combat modeling at the graduate level.About the AuthorANDREAS TOLK, PhD, is Professor in the Department of Engineering Management and Systems Engineering at Old Dominion University. He supported the development of the discipline of modeling and simulation with his publications for a variety of modeling and simulation conferences as well as his contributions to various NATO research activities in the domains of combat modeling, command and control, and studies and analysis.