VERIFICATION AND VALIDATION IN SCIENTIFIC COMPUTING

Advances in scientific computing have made modeling and simulation an important part of the decision-making process in engineering, science, and public policy. This book provides a comprehensive and systematic development of the basic concepts, principles, and procedures for verification and validation of models and simulations. The emphasis is placed on models that are described by partial differential and integral equations and the simulations that result from their numerical solution. The methods described can be applied to a wide range of technical fields, such as the physical sciences, engineering, and technology, as well as to a wide range of applications in industry, environmental regulations and safety, product and plant safety, financial investing, and governmental regulations.

This book will be genuinely welcomed by researchers, practitioners, and decision-makers in a broad range of fields who seek to improve the credibility and reliability of simulation results. It will also be appropriate for either university courses or independent study.

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To our wives, Sandra and Rachel