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Nota di contenuto	Frontmatter -- Contents -- Preface -- Introduction -- Chapter 1: Modeling Methodology Using COMSOL Multiphysics 5.x -- Chapter 2: Materials Properties Using COMSOL Multiphysics 5.x -- Chapter 3: 0D Electrical Circuit Interface Modeling Using COMSOL Multiphysics 5.x -- Chapter 4: 1D Modeling Using COMSOL Multiphysics 5.x -- Chapter 5: 2D Modeling Using COMSOL Multiphysics 5.x -- Chapter 6: 2D Axisymmetric Modeling Using COMSOL Multiphysics 5.x -- Chapter 7: 2D Simple and Advanced Mixed Mode Modeling Using COMSOL Multiphysics 5.x -- Chapter 8: 2D Complex Mixed Mode Modeling Using COMSOL Multiphysics 5.x -- Chapter 9: 3D Modeling Using COMSOL Multiphysics 5.x -- Chapter 10: Perfectly Matched Layer Models Using COMSOL Multiphysics 5.x -- Chapter 11: Bioheat Models Using COMSOL Multiphysics 5.x -- Appendix: A Brief Introduction to LiveLinkTM for MATLAB® Using COMSOL Multiphysics 5.x -- Index
Sommario/riassunto	COMSOL 5 and MATLAB are valuable software modeling tools for

engineers and scientists. This updated edition includes five new models and explores a wide range of models in coordinate systems from 0D to 3D, introducing the numerical analysis techniques employed in COMSOL 5.6 and MATLAB software. The text presents electromagnetic, electronic, optical, thermal physics, and biomedical models as examples. It presents the fundamental concepts in the models and the step-by-step instructions needed to build each model. The companion files include all the built models for each step-by-step example presented in the text and the related animations, as specified. The book is designed to introduce modeling to an experienced engineer or can also be used for upper level undergraduate or graduate courses. FEATURES:Focuses on COMSOL 5.x and MATLAB models that demonstrate the use of concepts for later application in engineering, science, medicine, and biophysics for the development of devices and systemsIncludes companion files with executable copies of each model and related animationsIncludes detailed discussions of possible modeling errors and resultsUses a step-by-step modeling methodology linked to the Fundamental Laws of Physics.The companion files are also available online by emailing the publisher with proof of purchase at info@merclearning.com.