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Titolo	Essential Circuit Analysis using NI Multisim™ and MATLAB® / / by Farzin Asadi
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ISBN	9783030898502 9783030898496
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (779 pages)
Disciplina	621.3192
Soggetti	Electronic circuits Electronics Telecommunication Electronic Circuits and Systems Electronics and Microelectronics, Instrumentation Microwaves, RF Engineering and Optical Communications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Essentials of MATLAB®: basic operations on real numbers; operations on complex numbers; differentiation/integration; roots of equations; solution of ordinary differential equations; Fast Fourier Transform (FFT), drawing different types of graphs; control statements; optimization -- Essentials of Simulink®: modelling of dynamical systems; circuit analysis -- Essentials of Multisim™: basic resistive circuits; first and second order circuits; diode circuits (clamp circuit, rectifier, etc); amplifiers (common base/emitter/collector, differential); calculation of gain, frequency response, etc.); op-amp circuits (Filters, amplifiers, oscillators); transmission lines and digital circuits.
Sommario/riassunto	This textbook provides a compact but comprehensive treatment that guides students through the analysis of circuits, using NI Multisim™ and MATLAB®. Ideal as a hands-on source for courses in Electric Circuits, Electronics, Digital Logic and Power Electronics this text focuses on solving problems using market-standard software, corresponding to all key concepts covered in the classroom. The author

uses his extensive classroom experience to guide students toward deeper understanding of key concepts, while they gain facility with software they will need to master for later studies and practical use in their engineering careers. Serves as a hands-on complement to texts for Electric Circuits I/II, Electronics I/II, Digital Logic and Power Electronics; Covers both NI Multisim™ and MATLAB®; Filled with examples that students will see throughout the typical course, solved with market-standard software; Includes exercises for each chapter, to reinforce concepts and techniques introduced.