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Titolo	Calculus for cognitive scientists [[electronic resource] ] : higher order models and their analysis // by James K. Peterson
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2016
ISBN	981-287-877-7
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (567 p.)
Collana	Cognitive Science and Technology, , 2195-3988
Disciplina	515.15
Soggetti	Computational intelligence Mathematical physics Neural networks (Computer science) Artificial intelligence Optical data processing Computational Intelligence Theoretical, Mathematical and Computational Physics Mathematical Models of Cognitive Processes and Neural Networks Artificial Intelligence Computer Imaging, Vision, Pattern Recognition and Graphics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introductory Remarks -- Linear Algebra -- Numerical Methods Order One ODEs -- Multivariable Calculus -- Integration -- Complex Numbers -- Linear Second Order ODEs -- Systems -- Numerical Methods Systems of ODEs -- Predator Prey Models -- Predator Prey Models With Self Interaction -- Disease Models -- A Cancer Model -- Nonlinear Differential Equations -- An Insulin Model -- Series Solutions -- Final Thoughts -- Background Reading.
Sommario/riassunto	This book offers a self-study program on how mathematics, computer science and science can be profitably and seamlessly intertwined. This book focuses on two variable ODE models, both linear and nonlinear, and highlights theoretical and computational tools using MATLAB to explain their solutions. It also shows how to solve cable models using separation of variables and the Fourier Series.

