Título: Using R For Numerical Analysis In Science And Engineering

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Sinopsis

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Instead of presenting the standard theoretical treatments that underlie the various numerical methods used by scientists and engineers, Using R for Numerical Analysis in Science and Engineering shows how to use R and its add-on packages to obtain numerical solutions to the complex mathematical problems commonly faced by scientists and engineers. This practical guide to the capabilities of R demonstrates Monte Carlo, stochastic, deterministic, and other numerical methods through an abundance of worked examples and code, covering the solution of systems of linear algebraic equations and nonlinear equations as well as ordinary differential equations and partial differential equations. It not only shows how to use R's powerful graphic tools to construct the types of plots most useful in scientific and engineering work, but also:

  Explains how to statistically analyze and fit data to linear and nonlinear models
  Explores numerical differentiation, integration, and optimization
  Describes how to find eigenvalues and eigenfunctions
  Discusses interpolation and curve fitting
  Considers the analysis of time series

Using R for Numerical Analysis in Science and Engineering provides a solid introduction to the most useful numerical methods for scientific and engineering data analysis using R.