- Preface p. vii
- About the Author p. x
- 1.3. Matlab Help and Demo p. 9
- 1. Matlab Basics p. 1
- 1.1. Introduction p. 1
- 1.2. Matlab Start p. 5
- References p. 26
- 2. Matlab Functions, Operators, and Commands p. 27
- 2.1. Mathematical Functions p. 27
- 2.2. Matlab Characters and Operators p. 31
- 2.3. Matlab Commands p. 32
- References p. 41
- 3. Matlab and Problem Solving p. 42
- 3.1. Starting Matlab p. 42
- 3.2. Basic Arithmetic p. 42
- 3.3. How to Use Some Basic Matlab Features p. 49
- 3.3.1. Scalars and Basic Operations with Scalars p. 50
- 3.3.2. Arrays, Vectors, and Basic Operations p. 51
- 3.4. Matrices and Basic Operations with Matrices p. 53
- 3.5. Conditions and Loops p. 73
- 3.6. Illustrative Examples p. 80
- References p. 98
- 4. Matlab Graphics p. 99
- 4.1. Plotting p. 99
- 4.2. Two- and Three-Dimensional Graphics p. 113
- 4.3. Illustrative Examples p. 125
- References p. 132

• 5. Matlab Applications: Numerical Simulations of Differential Equations and Introduction to Dynamic Systems p. 133

- 5.1. Solution of Differential Equations and Dynamic Systems Fundamentals p. 133
- 5.2. Mathematical Model Developments and Matlab Applications p. 141
- 5.3. Modeling and Computing Using Matlab p. 152
- References p. 171
- 6. Simulink p. 172
- 6.1. Introduction to Simulink p. 172
- 6.2. Engineering and Scientific Computations Using Simulink with Examples p. 185
- References p. 206
- Appendix Matlab Functions, Operators, Characters, Commands, and Solvers p. 207
- Index p. 226
- References p. 225