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Noise Susceptibility in Observer-Based Systems; 7.5 Exercises; Chapter 8. Using the Luenberger Observer in Motion Control; 8.1 The Luenberger Observers in Motion Systems; 8.2 Observing Velocity to Reduce Phase Lag; 8.3 Using Observers to Improve Disturbance Response
8.4 ExercisesReferences; Appendix A. Observer-Based Resolver Conversion in Industrial Servo Systems; Introduction; Resolvers and Traditional RDC; Converting the Signal; Observers; Applying the Observer to RDC; Advantages of Observer-Based Conversion; Conclusion; References; Appendix B. Cures for Mechanical Resonance in Industrial Servo Systems; Introduction; Two-Part Transfer Function; Low-Frequency Resonance; Velocity Control Law; Methods of Correction Applied to Low-Frequency Resonance; Conclusion; Acknowledgments; References; Appendix C. European Symbols for Block Diagrams
Part I: Linear FunctionsPart II: Nonlinear Functions; Appendix D. Development of the Bilinear Transformation; Bilinear Transformation; Prewarping; Factoring Polynomials; Phase Advancing; Appendix E. Solutions of Exercises; Chapter 2; Chapter 3; Chapter 4; Chapter 5; Chapter 6; Chapter 7; Chapter 8; Index

Sommario/riassunto

Observers are digital algorithms that combine sensor outputs with knowledge of the system to provide results superior to traditional structures, which rely wholly on sensors. Observers have been used in selected industries for years, but most books explain them with complex mathematics. This book uses intuitive discussion, software experiments, and supporting analysis to explain the advantages and disadvantages of observers. If you are working in controls and want to improve your control systems, observers could be the technology you need and this book will give you a clear, thorough explanation.
