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""An excellent introduction to optimal control and estimation theory and its relationship with LQG design. . . . invaluable as a reference for those already familiar with the subject."" - Automatica. This highly regarded graduate-level text provides a comprehensive introduction to optimal control theory for stochastic systems, emphasizing application of its basic concepts to real problems. The first two chapters introduce optimal control and review the mathematics of control and estimation. Chapter 3 addresses optimal control of systems that may be nonlinear and time-varying, but whose input