

Contents

Preface	v
Part I. Analysis of nonlinear stochastic systems	
Analysis of nonlinear stochastic systems by means of the Fokker-Planck equation. By A. T. FULLER	1
The use of functionals in the analysis of nonlinear physical systems. By J. F. BARRETT	55
Hermite functional expansions and the calculation of output autocorrelation and spectrum for any time-invariant non-linear system with noise input. By J. F. BARRETT	105
Part II. Optimal nonlinear deterministic control	
Phase space in the theory of optimum control. By A. T. FULLER	115
Optimization of non-linear control systems with transient inputs. By A. T. FULLER	135
Study of an optimum non-linear control system. By A. T. FULLER	151
Minimization of integral-square-error for non-linear control systems of third and higher order. By P. E. W. GRENSTED and A. T. FULLER	161
Optimization of some non-linear control systems by means of Bellman's equation and dimensional analysis. By A. T. FULLER	203
Optimal control of saturating linear plants for quadratic performance indices. By H. R. SIRISENA	239
Optimal nonlinear control of systems with pure delay. By A. T. FULLER	263
Part III. Optimal nonlinear stochastic control	
Optimization of non-linear control systems with random inputs. By A. T. FULLER	289
Optimization of a non-linear control system with a random telegraph signal input. By A. T. FULLER	305
Optimization of a saturating control system with Brownian motion input. By A. T. FULLER	325
Saturating servomechanism to follow a random process. By P. H. GOVAERTS	333
Optimal control of continuous time, Markov, stochastic systems. By J. J. FLORENTIN	351
Partial observability and optimal control. By J. J. FLORENTIN	367
Part IV. Sub-optimal nonlinear control	
Linear control of nonlinear systems. By A. T. FULLER	387
A computational approach to optimal control of stochastic saturating systems. By W. M. WONHAM and W. F. CASHMAN	435