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Titolo	Linearization of Nonlinear Control Systems // by Hong-Gi Lee
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Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (591 pages)
Collana	Mathematics and Statistics Series
Disciplina	512.55
Soggetti	Automatic control System theory Control theory Algebras, Linear Control and Systems Theory Systems Theory, Control Linear Algebra
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	1 Introduction -- 2 Basic Mathematics for Linearization -- 3 Linearization by State Transformation -- 4 Feedback Linearization -- 5 Linearization with Output Equation -- 6 Dynamic Feedback Linearization -- 7 Linearization of Discrete-time Systems -- 8 Observer Error Linearization -- 9 Input-output Decoupling.
Sommario/riassunto	This textbook helps graduate level student to understand easily the linearization of nonlinear control system. Differential geometry is essential to understand the linearization problems of the control nonlinear systems. In this book, the basics of differential geometry, needed in linearization, are explained on the Euclean space instead of the manifold for the students who are not accustomed to differential geometry. Many Lie algebra formulas, used often in linearization, are also provided with proof. The conditions in the linearization problems are complicated to check because the Lie bracket calculation of vector fields by hand needs much concetration and time. This book provides the MATLAB programs for most of the theorems.

