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Sommario/riassunto	This is the second volume of a three-volume treatise which presents the mathematical foundations of systems and control theory in a self-contained, comprehensive, detailed and mathematically rigorous way. The work combines the features of a detailed introductory textbook with those of a reference source. Volume II concentrates on problems of control, measurement and feedback control for time-varying and time-invariant linear systems. Special features are: • a comprehensive treatment of controllability and observability • an analysis of reachable sets under bounded controls with applications to the time-optimal control problem • a detailed construction of canonical forms for

controllable systems under similarity transformations, including an application of these forms to the topological analysis of system spaces • a new module-theoretic approach to Rosenbrock systems in time domain • an introduction to balancing and model reduction by balanced truncation • an introduction to a general feedback control theory of input-output systems • a detailed treatment of stabilization and observation problems for time-invariant linear systems • a self-contained proof of Rosenbrock's theorem by state space methods. Throughout the book there are many examples, figures and exercises illustrating the text which help bring out the intuitive ideas behind the mathematical constructions. The book should be accessible to mathematics students after two years of study and also to engineering students with a good mathematical background. It will be of value for researchers in systems theory as well as for mathematicians and engineers who wish to learn about the mathematical foundations of the above topics.