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Nota di contenuto	1. Introduction -- 2. Preliminaries -- 3. Some state space properties -- 4. State differentiability properties in input-output systems -- 5. Summary and conclusion.
Sommario/riassunto	By investigating the properties of the natural state, this book presents

an analysis of input-output systems with regard to the mathematical concept of state. The state of a system condenses the effects of past inputs to the system in a useful manner. This monograph emphasizes two main properties of the natural state; the first has to do with the possibility of determining the input-output system from its natural state set and the second deals with differentiability properties involving the natural state inherited from the input-output system, including differentiability of the natural state and natural state trajectories. The results presented in this title aid in modeling physical systems since system identification from a state set holds in most models. Researchers and engineers working in electrical, aerospace, mechanical, and chemical fields along with applied mathematicians working in systems or differential equations will find this title useful due to its rigorous mathematics. .