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Titolo	Active System Control : Design of System Resilience / / by Igor Schagaev, Brian Robinson Kirk
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Descrizione fisica	1 online resource (XVI, 295 p. 139 illus., 110 illus. in color.)
Disciplina	621.382
Soggetti	Electrical engineering Quality control Reliability Industrial safety Control engineering Communications Engineering, Networks Quality Control, Reliability, Safety and Risk Control and Systems Theory
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Aviation: Landscape, Classification, Risk Data -- Active System Control and Safety Approach and Regulation in Other Application Domains -- Aircraft Flight Reliability, Safety Landscape of Aircraft Use -- Active Safety Relative to Existing Devices -- Principle of Active System Control (Theory) -- Principle of Active System Control: Implementation Aspects -- Active System Control and Its Impact on Mission Reliability -- Flight Mode Concept and Realisation -- Active System Control: Realisation -- Active System Control: Future.
Sommario/riassunto	This book introduces an approach to active system control design and development to improve the properties of our technological systems. It extends concepts of control and data accumulation by explaining how the system model should be organized to improve the properties of the system under consideration. The authors define these properties as reliability, performance and energy-efficiency, and self-adaption. They

describe how they bridge the gap between data accumulation and analysis in terms of interpolation with the real physical models when data used for interpretation of the system conditions. The authors introduce a principle of active system control and safety—an approach that explains what a model of a system should have, making computer systems more efficient, a crucial new concern in application domains such as safety critical, embedded and low-power autonomous systems like transport, healthcare, and other dynamic systems with moving substances and elements. On a theoretical level, this book further extends the concept of fault tolerance, introducing a system level of design for improving overall efficiency. On a practical level it illustrates how active system approach might help our systems be self-evolving. Presents the rationale for, and theory of, redundancy, presented for easy application in system design; Describes the role of activeness in system design in terms of what is needed to making systems efficient; Estimates the benefit of using a new approach of active system control system.