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Autore	Smith Dane (Materials scientist)
Titolo	Materials testing on the DC-X and DC-XA / / Dane Smith [and three others]
Pubbl/distr/stampa	Moffett Field, California : , : National Aeronautics and Space Administration, Ames Research Center, , January 1997
Descrizione fisica	1 online resource (13 pages) : color illustrations
Collana	NASA technical memorandum ; ; 110430
Soggetti	Ceramic matrix composites Ceramics Heat shielding Space Shuttle orbiters Thermal protection
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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Autore	Schaum Alexander
Titolo	Dissipativity in control engineering : applications in finite- and infinite-dimensional systems / / Alexander Schaum
Pubbl/distr/stampa	Berlin ; ; Boston, MA : , : Walter de Gruyter GmbH, , [2021] ©2021
ISBN	1-5231-5442-X 3-11-067794-6
Descrizione fisica	1 online resource (XIV, 228 p.)
Disciplina	629.8
Soggetti	Automatic control - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Frontmatter -- Preface -- Contents -- About the author -- List of Figures -- Part I: Introduction and motivation -- 1 Motivation and problem formulation -- Part II: Theoretical foundations -- 2 Stability, dissipativity and some system-theoretic concepts -- 3 Dissipativity-based observer and feedback control design -- Part III: Application examples -- Introduction -- 4 Finite-dimensional systems -- 5 Infinite-dimensional systems -- 6 Conclusions and outlook -- A Lemmata on quadratic forms -- B Kalman decomposition for observer design -- C The algebraic Riccati equation, optimality and dissipativity -- D Kernel derivations for the backstepping approach -- Bibliography -- Index
Sommario/riassunto	Dissipativity, as a natural mechanism of energy interchange is common to many physical systems that form the basis of modern automated control applications. Over the last decades it has turned out as a useful concept that can be generalized and applied in an abstracted form to very different system setups, including ordinary and partial differential equation models. In this monograph, the basic notions of stability, dissipativity and systems theory are connected in order to establish a common basis for designing system monitoring and control schemes. The approach is illustrated with a set of application examples covering finite and infinite-dimensional models, including a ship steering model, the inverted pendulum, chemical and biological reactors, relaxation

oscillators, unstable heat equations and first-order hyperbolic integro-differential equations.