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| 1. Record Nr. | UNINA9910299757103321 |
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| Titolo | Finite-Time Stability and Control / / by Francesco Amato, Roberto Ambrosino, Marco Ariola, Carlo Cosentino, Gianmaria De Tommasi |
| Pubbl/distr/stampa | London : , : Springer London : , : Imprint : Springer, , 2014 |
| ISBN | 1-4471-5664-1 |
| Edizione | [1st ed. 2014.] |
| Descrizione fisica | 1 online resource (XII, 146 p. 37 illus., 14 illus. in color.) |
| Collana | Lecture Notes in Control and Information Sciences, , 0170-8643 ; ; 453 |
| Disciplina | 629.8 |
| Soggetti | Control engineering System theory Chemical engineering Automotive engineering Aerospace engineering Astronautics Control and Systems Theory Systems Theory, Control Industrial Chemistry/Chemical Engineering Automotive Engineering Aerospace Technology and Astronautics |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Bibliographic Level Mode of Issuance: Monograph |
| Nota di contenuto | Part I: Linear Systems -- Finite-time Stability Analysis of Continuous-Time Linear Systems -- Controller Design for the Finite-Time Stabilization of Continuous-Time Linear Systems -- Robustness Issues -- Finite-time Stability of Discrete-Time Linear Systems -- Finite-time Stability Analysis via PQLFs -- Part II: Hybrid Systems -- Finite-time Stability of Impulsive Dynamical Linear Systems -- Controller Design for the Finite-time Stability of Impulsive Dynamical Linear Systems -- Robustness Issues for Impulsive Dynamical Linear Systems. |
| Sommario/riassunto | Finite-time stability (FTS) is a more practical concept than classical Lyapunov stability, useful for checking whether the state trajectories of a system remain within pre-specified bounds over a finite time interval. In a linear systems framework, FTS problems can be cast as convex |

optimization problems and solved by the use of effective off-the-shelf computational tools such as LMI solvers. Finite-time Stability and Control exploits this benefit to present the practical applications of FTS and finite-time control-theoretical results to various engineering fields. The text is divided into two parts: · linear systems; and · hybrid systems. The building of practical motivating examples helps the reader to understand the methods presented. Finite-time Stability and Control is addressed to academic researchers and to engineers working in the field of robust process control. Instructors teaching graduate courses in advanced control will also find parts of this book useful for their courses.
