

1. Record Nr.	UNINA9910254330303321
Autore	Chen Xiaoming
Titolo	Analysis and Synthesis of Positive Systems Under 1 and L1 Performance // by Xiaoming Chen
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2017
ISBN	981-10-2227-5
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIX, 116 p. 37 illus. in color.)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	512.9434
Soggetti	Automatic control Mechanical engineering Microprogramming Control and Systems Theory Mechanical Engineering Control Structures and Microprogramming
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Doctoral Thesis accepted by The University of Hong Kong, Hong Kong."
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- 1-induced Controller Design for Positive Systems -- L1-induced Output-Feedback Controller Synthesis for Interval Positive Systems -- Positive State-Bounding Observer for Interval Positive Systems -- Positive Filtering for Positive Systems under L1 Performance -- Controller and Filter Syntheses for Positive Takagi-Sugeno Fuzzy Systems under 1 Performance -- Conclusions and Future Work.
Sommario/riassunto	This thesis introduces novel and significant results regarding the analysis and synthesis of positive systems, especially under l1 and L1 performance. It describes stability analysis, controller synthesis, and bounding positivity-preserving observer and filtering design for a variety of both discrete and continuous positive systems. It subsequently derives computationally efficient solutions based on linear programming in terms of matrix inequalities, as well as a number of analytical solutions obtained for special cases. The thesis applies a range of novel approaches and fundamental techniques to the further study of positive systems, thus contributing significantly to the theory

of positive systems, a “hot topic” in the field of control. .
