

1. Record Nr.	UNINA9910456148203321
Titolo	Fractional order systems [[electronic resource]] : modeling and control applications / / Riccardo Caponetto ... [et al.]
Pubbl/distr/stampa	Singapore, : World Scientific, c2010
ISBN	1-282-76371-7 9786612763717 981-4304-20-4
Descrizione fisica	1 online resource (200 p.)
Collana	World Scientific Series on Nonlinear Science: Series A
Altri autori (Persone)	CaponettoR <1966-> (Riccardo)
Disciplina	515.83
Soggetti	Fractional calculus Nonlinear systems - Mathematical models Control theory - Mathematical models Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface; Acknowledgments; Contents; List of Figures; List of Tables; 1. Fractional Order Systems; 2. Fractional Order PID Controller and their Stability Regions Definition; 3. Fractional Order Chaotic Systems; 4. Field Programmable Gate Array Implementation; 5. Microprocessor Implementation and Applications; 6. Field Programmable Analog Array Implementation; 7. Switched Capacitor Integrated Circuit Design; 8. Fractional Order Model of IPMC; Bibliography; Index
Sommario/riassunto	This book aims to propose implementations and applications of Fractional Order Systems (FOS). It is well known that FOS can be applied in control applications and systems modeling, and their effectiveness has been proven in many theoretical works and simulation routines. A further and mandatory step for FOS real world utilization is their hardware implementation and applications on real systems modeling. With this viewpoint, introductory chapters on FOS are included, on the definition of stability region of Fractional Order PID Controller and Chaotic FOS, followed by the practical implementati