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    Titolo   Event-Triggered Active Disturbance Rejection Control : Theory and
                        Applications / / by Dawei Shi, Yuan Huang, Junzheng Wang, Ling Shi

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    Altri autori (Persone)   HuangYuan <active 2021>
                             WangJunzheng
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    Disciplina   629.8

    Soggetti   Automatic control
                        Robotics
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                        Control, Robotics, Automation
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    Lingua di pubblicazione   Inglese

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    Nota di contenuto   Introduction -- Discrete-time extended state observer -- Event-
                        triggered extended state observer design -- Event-triggered active
                        disturbance rejection control -- Dealing with unmatched uncertainties
                        -- Extension to event-triggered high-gain control -- Application to DC
                        motor control -- Application to attitude control of a rigid spacecraft --
                        Event-triggered adaptive disturbance rejection for artificial pancreas --
                        Summary and Future work -- Review of stability analysis.

    Sommario/riassunto The past few years have seen the attention and rapid developments in
                        event-triggered sampled-data systems, in which the effect of event-

triggered sensor measurements and controller updates is explored in controller analysis and design. This book offers the first systematic treatment of event-triggered sampled-data control system design using active disturbance rejection control (ADRC), an effective approach that is popular in both theoretic research and industrial applications. Extensive application examples with numerous illustrations are included to show how the event-triggered ADRC with theoretic performance guarantees can be implemented in engineering systems and how the performance can be actually achieved. For theoretic researchers and graduate students, the presented results provide new directions in theoretic research on event-triggered sampled-data systems; for control practitioners, the book offers an effective approach to achieving satisfactory performance with limited sampling rates. .