IFAC World Congress 2020 Open Invited Track on "Event-Triggered and Self-Triggered Control"

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Abstract

This Open Invited Track is seeking contributions in the broad areas of Event-Triggered and Self-Triggered Control (ETC and STC). In addition to papers proposing new ETC and STC strategies and/or providing new theoretical results, we also explicitly solicit papers that show the potential of ETC and STC in experimental setups and real-life applications.

MOTIVATION AND RELEVANCE

The area of event-triggered and self-triggered control has been steadily gaining attention over the last two decades. Given the rapid rise of research and development related to networked cyber-physical systems, new challenges arise in the context of systems with limited communication/computation bandwidth and/or limited energy resources in general. In fact, event-triggered and self-triggered control are one of the few control strategies that can truly balance the usage of computational/communication resources on the one hand and control performance on the other. To enable the wide exploitation of these aperiodic control concepts in applications, there is a strong need for a rigorous system theory and proof-of-concepts of the main ideas in experimental and real-life applications.

The goal of this Open Invited Track is to promote further research in this emerging area through meaningful technical discussions and interactions with other researchers in the field, and bring together theory and practice. The presentation of real applications of ETC and STC in the special track should show the real potential of the developed system theory on the one hand, but also identify new challenges for this flourishing research area.

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