ARCAI 2024 Special Session "Bumpless Transfer control synthesis of Switched Systems and its Applications"

Organized by Haibin Sun, Dong Yang

Principal Organizer(s):

1. Haibin Sun, seusunhaibin@gmail.com, Qufu Normal University, Rizhao, China

2. Dong Yang, yangdong850901@126.com, Qufu Normal University, Rizhao, China

Call for Papers:

Switched systems are a special class of hybrid systems that consists of an indexed family of subsystems described by continuous or discrete-time dynamics and a rule orchestrating the switching among subsystems. Due to their powerful modeling capability, switched systems have been used to model practical systems/plants/ processes in various fields, such as telerobotic systems, aerospace industry, and quarter car suspension. Over the last decade, considerable research efforts have been dedicated to modeling, stability analysis and control synthesis for switched systems.

However, consequential problems caused by switching control are always overlooked. When the switching happens, abrupt change of the control input and system output, often have a bad effect on the transient performance for a practical system. How to utilize the advantage of switching control and meanwhile avoid the negative effect taken by switching is challenging. This special session aims to stimulate studies pertaining to switched systems, including bumpless transfer and control design, and new trends for such systems.

Topics for this call for papers include but not restricted to:

➢ Bumpless Transfer control of Switched Systems and its Applications
➢ Bumpless Transfer control of Markovian jump systems
➢ Switched Systems modeling, Analysis and control
➢ Bumpless Transfer control of Hybrid systems
➢ Event-triggered control of Switched Systems
➢ Adaptive control of Switched Systems

Accepted and presented papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements and indexed by EI Compendex and Scopus. Selected papers will be invited to SCI Journal Special Issues.