

Asynchronous periodic sampling static consensus for second-order multi-agent systems with event-triggered mechanism

Qingquan Yang¹ and Jing Li¹

¹Xidian University

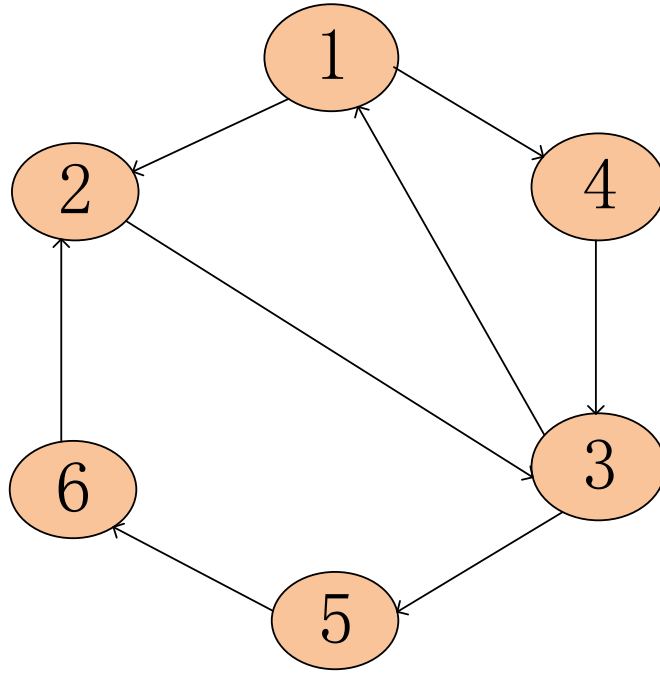
April 28, 2020

Abstract

In this paper, an asynchronous periodic sampling consensus method is proposed for second-order continuous-time multi-agent systems with event-triggered mechanism. Stochastic matrix theory is employed successfully to analyze the consensus of the closed-loop multi-agent systems. By appropriately choosing parameters of the proposed consensus control protocol, it is proved that states of all agents can reach consensus and the Zeno behaviour is excluded if the topology graph contains a directed spanning tree. Finally, a numerical simulation example is given to illustrate the advantages of the asynchronous periodic sampling consensus method.

Hosted file

manuscript.pdf available at <https://authorea.com/users/312593/articles/443149-asynchronous-periodic-sampling-static-consensus-for-second-order-multi-agent-systems-with-event-triggered-mechanism>



figures/2/2-eps-converted-to.pdf

figures/3/3-eps-converted-to.pdf

figures/4/4-eps-converted-to.pdf

figures/5/5-eps-converted-to.pdf