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Synchronization of singular complex networks with time-varying delay via pinning control and linear feedback control. (English) Zbl 07514652
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Summary: In this paper, the problem on synchronization is investigated for singular complex networks with time-varying delay via pinning control and linear feedback control. Together with some Lyapunov-Krasovskii functions and effective mathematical techniques, the variation interval of the time delay is divided into several subintervals, several conditions are derived to guarantee a class of singular complex networks with time-varying delay to be synchronized. Finally, examples are given to illustrate the effectiveness of the proposed methods.

MSC:
34D06 Synchronization of solutions to ordinary differential equations
34H05 Control problems involving ordinary differential equations
37N35 Dynamical systems in control

Keywords:
synchronization; singular complex networks; LMI approach; time-varying delays; pinning control; linear feedback control

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