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Leader-follower Optimal Coordination Tracking Control for Multi-agent Systems with Unknown Internal States

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Highlights

- There are four main contributions in this paper: 1) Neural-network-based observers, which only need the measurable input-output data, are established for NMASs to recover the unknown system dynamics; 2) Based on the observed states, an online optimal controller is designed for each agent using ADP method to obtain the optimal cooperation tracking control. 3) Compared with [26, 28], we only adopts the critic network architecture for each agent, which eliminates the action network so as to reduce the computation load, it is more reasonable for NMASs. 4) The learning process for the observers and the critic networks are tuned online.

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