

Title: Targeted formation control of Lagrangian systems with time delay

Authors: Ernesto Aranda Escolástico, María Guinaldo, Leonardo J. Colombo

Abstract: We study the problem of targeted formation control for multi-agent systems which evolves under the dynamics provided by a Lagrangian function. Each agent observes a convex set as a targeted set and the goal of the swarm is to achieve the desired formation in the intersection of these sets while there is a time-delay in their communication. A novel control law is proposed to achieve the formation in the intersection of all targeted sets while the velocities of the agents are driven to zero. Applications and simulation results are given to validate the theoretical results.