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MS18 Modeling and Control of Multi-agent Systems

Sparse stabilization in multi-agent systems

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Abstract: We study controlled multi-agent models in finite dimension and we explore how to enforce pattern formation or convergence to consensus. In particular we focus on designing control strategies requiring a small amount of external intervention: we want to minimize at each instant of time the number of leaders needed to steer the systems to the desired state. These sparsity features are desirable in view of practical issues. We extend the sparse stabilization procedure to general dissipative control affine systems.