Conditional Consensus Emergence under Decentralized Controls

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joint work with *Mattia Bongini,* and *Massimo Fornasier*

Abstract

We study the problem of consensus emergence in multi-agent systems via feedback control. We consider a set of agents interacting with dynamics given by the Cucker-Smale model, and study its consensus stabilization via centralized and decentralized control configurations. We present a characterization of consensus emergence for systems with a feedback based on spatially confined information, corresponding to a parameter-dependent transition regime between self-regulation and centralized feedback stabilization.

<div align="center">*</div>

References

[1] M.Bongini, M. Fornasier and D. Kalise, *Conditional and Unconditional Consensus under Decentralized Controls*, preprint.

[2] M. Caponigro, M. Fornasier, B. Piccoli and E. Trélat, *Sparse Stabilization and Optimal Control of the Cucker-Smale Model*, Mathematical Control And Related Fields, Vol. 3, No. 4, December 2013, pp. 447-466.