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MS18 Modeling and Control of Multi-agent Systems

Mean field and Boltzmann control of socio-economic systems

Lorenzo Pareschi

University of Ferrara

lorenzo.pareschi@unife.it

Abstract: In this talk we survey some recent results on the control of complex socioeconomic systems composed by a large number of agents. We focus in particular on constrained opinion models and investigate model predictive control techniques in the mean-field and Boltzmann limits. Connections with continuous control based on Riccati equations are also presented. Finally the presence of random inputs in the system is considered and the need to control instabilities is discussed. Several numerical results illustrate the different approaches.

References

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