

Alessio PORRETTA: Long time behavior of mean field games

In this talk, based on my collaborations with P. Cardaliaguet, J-M. Lasry and P.-L. Lions, I will discuss the long time behavior of mean field games systems in the stable case(monotone couplings) when the dynamic takes place in the flat torus. I will explain the main features that appeared in the study of the long time limit: the effects of the forward-backward coupling, the ergodic behavior and the turnpike property of the underlying control problems, the long time convergence of the master equation. This latter step is crucial in order to fully characterize the limit of the value function compared to what happens for a single Hamilton-Jacobi equation.