

Hydrodynamic limit and fluctuations for a mean field opinion model

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In this talk we analyse the dynamics of an opinion model in a population of N agents with mean field interaction. Every agent is endowed with an opinion on $[0, 1]$ which is updated at a rate determined by the average opinion of the population. We study the hydrodynamic behaviour of the model with two different time scales. We first prove that, when the system is accelerated by the factor $N^{\frac{1}{2}}$, the average opinion remains constant and the agents tend to reach the consensus state. While, under the time scaling N^2 , the average opinion evolves as a Wright Fisher diffusion. Furthermore, if we zoom in on the drifting average, we see that the individual opinions are distributed according to the invariant measure of a Ornstein Uhlenbeck process with parameter depending on the position of the average opinion. This is a joint work with I. Armendariz, C. da Costa and P. Ferrari.