Seminar/Talk

Long time behaviour and phase transitions for the McKean-Vlasov equation

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Host: Jan Maas

We study the long time behaviour and the number and structure of stationary solutions for the McKean-Vlasov equation, a nonlinear nonlocal Fokker-Planck type equation that describes the mean field limit of a system of weakly interacting diffusions. We consider two cases: the McKean-Vlasov equation in a multiscale confining potential with quadratic, Curie-Weiss, interaction (the so-called Dasai-Zwanzig model), and the McKean-Vlasov dynamics on the torus with periodic boundary conditions and with a localized interaction. Our main objectives are the study of convergence to a stationary state and the construction of the bifurcation diagram for the stationary problem. The application of our work to the study of models for opinion formation is also discussed.

Tuesday, March 13, 2018 02:00pm - 03:00pm
Mondi Seminar Room 2, Central Building

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