

Department of Applied Mathematics Seminar

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Topic

Inertial Dean-Kawasaki Models

Date| Time

29 April 2025 (Tuesday) | 16:00 – 17:00 (HK Time)

Mode of Delivery

Online via Zoom

Meeting ID | Passcode

870 2256 9248 | 0429

Zoom Link

<https://polyu.hk/IDKlZ>

Abstract:

The Dean-Kawasaki stochastic PDE describes the empirical density of an over-damped particle system. We show how to introduce inertia and, for a set of particles following an under-damped Langevin equation, we derive a PDE description of the dynamics of the empirical density for positions and momenta. We introduce a discontinuous Galerkin approximation for the model, and describe numerical experiments in Firedrake.

ALL ARE WELCOME