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On the Wave Turbulence Theory of 2D Gravity Water Waves

mardi 13 janvier 2026 11:30 (1 heure)

I will talk about some recent work on the problem of establishing rigorously a wave turbulence theory for water waves systems. This is a classical problem in Mathematical Physics, going back to pioneering work of Hasselmann. To address it we propose a new mechanism, based on a combination of two main ingredients:
(1) deterministic energy estimates for all solutions that are small in L^∞-based norms, and
(2) probabilistic arguments aimed at understanding propagation of randomness on long time intervals.

This is joint work with Yu Deng and Fabio Pusateri.

Orateur: IONESCU, Alexandru (Princeton University)