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Title
An introduction to wave turbulence for surface gravity waves

Abstract:
The operational models for wave forecasting rely on the wave energy balance equation. This equation represents the evolution of the wave energy spectral density function and considers factors such as wind forcing, dissipation and nonlinear interactions. The latter are the sole element in this equation derived from first principles, under certain assumptions. These interactions are expressed through the collision integral, which contributes only in the presence of exact resonant interactions.

In this presentation, I will emphasize the crucial steps involved in deriving the collision integral. Additionally, I will explore the stationary solutions that hold significance in understanding field experiments. Furthermore, I will discuss recent literature addressing modifications to the original collision integral. This lecture is designed to be pedagogical in nature.