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On linearisation around singular Rayleigh-Jeans for the 4-waves kinetic equation

Friday, May 24, 2024 10:00 AM (1 hour)

We consider the 4-waves spatial homogeneous kinetic equation arising in weak wave turbulence theory. In this talk I will present some new results on the existence and behaviour of solutions around different Rayleigh-Jeans (RJ) thermodynamic equilibrium solutions. In particular, I will discuss existence of global solutions in L2 around RJ with positive chemical potential, for confined frequencies. Moreover, I will discuss a more recent work on linearisation around singular RJ, i.e. zero chemical potential, where instabilities are present. If time permits, I will briefly discuss the nonlinear problem for singular initial data, where an instantaneous condensation can be proven, explaining the behaviour of the linearised problem. The latter is a joint work with Miguel Escobedo (UPV/EHU).

Presenter: MENEGAKI, Angeliki