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CMM PDE Seminar

Speaker: Yvan Martel (UVSQ, Francia)

Title: Asymptotic stability of small solitary waves for the one-dimensional cubic-quintic Schrödinger equation

Abstract: I will present two results on the asymptotic stability of small solitary waves for the one-dimensional cubic-quintic Schrödinger equation. The first result concerns the focusing-defocusing double power nonlinearity, for which the linearized operator around the small solitary waves has no internal mode. The second result concerns the more delicate case of the focusing-focusing double power nonlinearity, for which the linearized operator around the small solitary waves actually has an internal mode. The internal mode component of the solution is controlled by checking explicitly a condition related to the Fermi golden rule. We will also explain the analogies and differences with previous similar works, mainly on nonlinear wave-type models with solitons or kinks.

References : Yvan Martel, Asymptotic stability of solitary waves for the 1D cubic-quintic Schrödinger equation with no internal mode, arXiv:2110.01492 Yvan Martel, Asymptotic stability of small standing solitary waves of the one-dimensional cubic-quintic Schrödinger equation, arXiv:2312.11016

Lugar y fecha: Sala John Von Neumann (séptimo piso), 16 de enero a las 12:00 hs.

For further information, see our webpage: **https://eventos.cmm.uchile.cl/pdeseminar/**