

Seminario EDP

Expositor: José Manuel Palacios Armesto
Université Paris-Sud (UPSUD).

Título: Dispersive blow-up and persistence properties for the Schrödinger-Korteweg-de Vries system.

Abstract:

In this talk, we shall prove the existence of dispersive blow-up for the Schrödinger-Korteweg-de Vries system. Roughly, dispersive blow-up has been called to the development of point singularities due to the focussing of short or long waves. In mathematical terms, we show that the existence of this kind of singularities is provided by the linear dispersive solution by proving that the Duhamel term is smoother. This result is the first one regarding systems of nonlinear dispersive equations. To obtain our results we use, in addition to smoothing properties, persistence properties for solutions of the IVP in fractional weighted Sobolev spaces which we establish here.

This work is in collaboration with professor Felipe Linares (IMPA).

Martes 03 de septiembre de 2019, Sala de John Von Neumann, 7to piso, Torre Norte de Beauchef 851.