Seminario de Análisis y Aplicaciones

Jueves, 13 de diciembre de 2018

15:30 h., Módulo 17 - Aula 520 (Depto. Matemáticas UAM)

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Sharp estimates for linear and nonlinear wave equations via the Penrose transform

Summary:

In 2006, Damiano Foschi found the sharp constant in the Strichartz estimate for the wave equation in three spatial dimensions and conjectured what the maximizers should be in other dimensions. First of all, I will present evidence to support his conjecture in odd dimensions while disproving it in even dimensions. Secondly, we will see how his three dimensional inequality can be sharpened further, adding a term which is zero on the maximizers. These results will take advantage of a conformal transformation which compactifies the space-time. Finally, I will present an application of the sharpened inequality to the cubic wave equation with data in the critical-under-scaling L^2-Sobolev space.

Presentación previa a la defensa de tesis doctoral.

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