SEMINARIO DE ANÁLISIS Y APLICACIONES

Viernes, 9 de abril

11:30 h., ONLINE - URL: https://zoom.us/j/96974398786

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Directional square functions

Resumen:

Charles Fefferman's counterexample for the ball multiplier is intimately linked to square function estimates for directional singular integrals along all possible directions. Quantification of such a failure of the boundedness of the ball multiplier is measured, for instance, through L^p-bounds for the N-gon multiplier which provide information in terms of N.

We present a general approach, developed in collaboration with N. Accomazzo, F. Di Plinio, P. Hagelstein, and I. Parissis, based on a directional embedding theorem for Carleson sequences, to study time-frequency model square functions associated to conical or directional Fourier multipliers. The estimates obtained for these square functions are applied to obtain sharp or quantified bounds for directional Rubio de Francia type square functions. In particular, a precise logarithmic bound for the polygon multiplier is shown, improving previous results.

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