

SEMINARIO DE ANÁLISIS Y APLICACIONES

Jueves 2 de marzo,

11:30 h., Módulo 17 - Aula 520 (Depto. Matemáticas UAM)

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Smoothing estimates for averages over curves

Resumen:

The regularity property of integral transforms is a fundamental subject in classical harmonic analysis. In this talk, we are concerned with the smoothing properties of the averaging operator defined by convolution with a measure on a smooth non-degenerate curve. Despite the simple geometric structure of the curve, the sharp smoothing estimates have remained largely unknown except for those in low dimensions until recently. We prove the sharp Sobolev regularity estimates in every dimension bigger than 4. Besides, we obtain the sharp local smoothing estimates, which consequently establish a nontrivial L^p bound on the maximal function associated with the nondegenerate curves in dimensions bigger than 3.

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