

SEMINARIO DE ANÁLISIS Y APLICACIONES

Viernes, 15 de febrero de 2019

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

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ICMAT

Fourier analysis in $SL_n(\mathbf{R})$

Resumen:

In harmonic analysis terms, Lafforgue/de la Salle rigidity theorem for $SL_n(\mathbf{R})$ implies that Fourier summability fails in L_p when p is large enough in terms of the rank $n - 1$. It refines older celebrated results by Harish-Chandra, Cowling or Haagerup, and spotlights the dramatic difference between abelian and semisimple harmonic analysis. We shall present the first sufficient condition for L_p -boundedness of Fourier multipliers in this context, which is reminiscent of the Hörmander-Mikhlin criterion, but substantially and necessarily different to accommodate rigidity. Next, we shall introduce a major strengthening of the rigidity theorem and link it with Bochner-Riesz summability problems. Emphasis will be put on the harmonic analysis aspects of both of these results. Joint work with Éric Ricard and Mikael de la Salle.

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