

SEMINARIO DE ANÁLISIS Y APLICACIONES

Jueves, 17 de febrero de 2011

15:30 h., Módulo 17 (antiguo C-XV) aula 520

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Pointwise convergence for Schrödinger equations with quadratic potentials

Resumen: A classical problem regarding pointwise behavior of the Schrödinger equation is to determine the optimal exponent s for which $\lim_{t \rightarrow 0} e^{it\Delta} f(x) = f(x)$ a.e. $x \in \mathbb{R}^d$, whenever $f \in H^s(\mathbb{R}^d)$. This problem was settled for $d = 1$ but still remains open for higher dimensions, even though some progresses have been made for $d = 2$. In this talk we consider pointwise convergence for Schrödinger equations with quadratic potentials which include the Hermite Schrödinger equation. We show that this problem is essentially equivalent to the one for the free Schrödinger equation. It will be accomplished by obtaining equivalence between the time-space estimates for these equations. This is a joint work with Keith Rogers.

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