Colloquium del Departamento de Análisis Matemático

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“Weak type (1,1) for some operators related to the Laplacian with drift in real hyperbolic space”

Jueves 26 de noviembre de 2016
a las 13:00 horas en el seminario 222

Abstract:

Our setting is the $n$-dimensional hyperbolic space, where the Laplacian is given a drift in the “vertical” (or radial) direction. We consider the Riesz transforms of order 1 and 2, and also the Littlewood-Paley-Stein functions for the heat semi-group and the Poisson semigroup. These operators are known to be bounded on $L^p$, $p>1$, for the relevant measure. We show that all the Riesz transforms are most of the Littlewood-Paley-Stein operators are also of weak type $(1,1)$. In the exceptional cases, we disprove the weak type $(1,1)$. This is joint work with Hong-Quang Li.