Seminario de Análisis y Aplicaciones

Jueves, 23 de mayo de 2019

11:30 h., Aula Gris 1 (ICMAT)

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Quantitative absolute continuity of caloric measure

Resumen:

For a domain Ω in space-time $\mathbb{R}^{n+1}$, quantitative, scale-invariant absolute continuity (more precisely, the weak-A_∞ property) of caloric measure with respect to a natural version of "surface" measure on the "quasi-lateral boundary" (a subset of the parabolic boundary which is simply the usual lateral boundary for cylinders and Lip(1,1/2) domains), is equivalent to the solvability of a suitable version of the initial-Dirichlet problem with lateral (more precisely "quasi-lateral") data in some L^p space, $p < \infty$. We establish two criteria for the weak-A_∞ property to hold. The first, based on changing the pole of the parabolic measure without a change of pole formula, extends elliptic results of Bennewitz and Lewis to the parabolic setting. The second, based on extrapolation from the endpoint, extends an elliptic result of Dindos, Kenig and Pipher. This is joint work with A. Genschaw.

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