SEMINARIO DE ANÁLISIS Y APLICACIONES

Lunes, 28 de octubre de 2018

12:00 h., Aula Gris, 1 (ICMAT)

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Extensions of harmonic functions vanishing on cylindrical surfaces

Resumen:

The Schwarz reflection principle is a beautiful and important result concerning the extension of a harmonic function h on a domain $\Omega \subset \mathbb{R}^N$ through a relatively open subset E of $\partial\Omega$ on which h vanishes. When $N \geq 3$ and N is odd, Ebenfelt and Khavinson have shown that a point-to-point reflection law can only hold when the containing real analytic surface is either a hyperplane or a sphere. Thus, for other surfaces in higher dimensions, more elaborate arguments are required to investigate whether such harmonic extension is still possible. In this talk we survey new results addressing the problem to extend a harmonic function which vanishes on a cylindrical surface. The talk is based on joint work with S.J. Gardiner.

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