SEMINARIO DE ANÁLISIS Y APLICACIONES

Viernes, 22 de noviembre de 2013

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

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Optimal relationships between L^p–norms for the Hardy operator and its dual

Resumen:

In the talk, we present sharp two-sided inequalities between L^p–norms $(1 < p < \infty)$ of functions Hf and H^*f, where H is the Hardy operator, H^* is its dual, and f is a nonnegative measurable function on $(0, \infty)$. In an equivalent form, it gives sharp constants in the two-sided relations between L^p-norms of functions $H\varphi - \varphi$ and φ, where φ is a nonnegative nonincreasing function on $(0, +\infty)$ with $\varphi(+\infty) = 0$.

In particular, it provides an alternative proof of a result obtained by N. Kruglyak and E. Setterqvist (2008) for $p \in \mathbb{N}$, $p \geq 2$ and by S. Boza and J. Soria (2011) for all $p \geq 2$, and gives a sharp version of this result for $1 < p < 2$.