



Seminario Rubio de Francia

Conferencia

por

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Título:

*Spectral multiplier theorems for abstract harmonic oscillators on
UMD lattices*

Resumen:

We consider operators acting on a UMD Banach lattice X that have the same algebraic structure as the position and momentum operators associated with the harmonic oscillator $-\frac{1}{2}\Delta + \frac{1}{2}|x|^2$ acting on $L^2(\mathbb{R}^d)$. More precisely, we consider abstract harmonic oscillators of the form $\frac{1}{2}\sum_{j=1}^d(A_j^2 + B_j^2)$ for tuples of operators $A = (A_j)_{j=1}^d$ and $B = (B_k)_{k=1}^d$, where iA_j and iB_k are assumed to generate C_0 groups and to satisfy the Weyl commutator relations. We prove functional calculus results for these abstract harmonic oscillators that match classical Hörmander spectral multiplier estimates for the harmonic oscillator $-\frac{1}{2}\Delta + \frac{1}{2}|x|^2$ on $L^p(\mathbb{R}^d)$.

Fecha: Miércoles, 24 de abril de 2024.

Hora: 13:00 horas.

Lugar: Seminario Rubio de Francia. Primera planta, Edificio B, Facultad de Ciencias.

Web: <http://anamat.unizar.es/seminario.html>