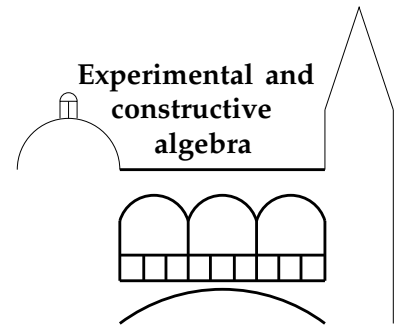


Graduiertenkolleg

Experimentelle und konstruktive Algebra



Kolloquiumsvortrag

Dienstag, 02. Mai 2017, 14:00 Uhr, SeMath

HARTMUT FÜHR (LEHRSTUHL A FÜR MATHEMATIK):
Classification of anisotropic Besov spaces

The homogeneous anisotropic Besov spaces $\dot{B}_{p,q}^\alpha(A)$ are defined in terms of wavelet coefficient decay over a wavelet system $(D_{A^j} T_k \psi)_{j \in \mathbb{Z}, k \in \mathbb{Z}^d} \subset L^2(\mathbb{R}^d)$, with suitably chosen mother wavelet ψ . D_B, T_k denote dilation resp. translation operators acting on functions. The dilation matrix A is chosen to be *expansive*, i.e., all eigenvalues of A have modulus > 1 . For $A = 2 \cdot \mathbf{E}_d$, the Besov spaces are just the usual, isotropic ones. The dependence of the scale of spaces $\dot{B}_\alpha^{p,q}(A)$ on the choice of the dilation matrix A is not well-understood. The aim of the talk is to clarify when two matrices yield the same scale of anisotropic Besov spaces. For this purpose, we will translate this question to a question about equivalence of certain quasi-norms on euclidean space (i.e., translate a question from approximation theory and functional analysis to a simpler one in geometry), and then solve the latter using linear algebra and elementary Lie theory.

Wir laden alle Interessierten herzlich ein.