



DEPARTAMENTO DE
ANÁLISIS MATEMÁTICO Y
MATEMÁTICA APLICADA



SEMINARIO DE ANÁLISIS MATEMÁTICO Y MATEMÁTICA APLICADA

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High-dimensional approximation in periodic function spaces

During the last decade there has been an increasing interest in approximation of functions on high-dimensional domains. From a theoretical point of view one was mainly interested in the exact asymptotic rate as $n \rightarrow \infty$ of the approximation numbers and of the corresponding function space embedding. For computational issues, however, this is not enough. One also needs information how the hidden constants depend on the dimension d of the underlying domain and on the chosen norm. Even more important is the preasymptotic behaviour of a_n for 'small' n , say $n \leq 2d$. In this talk I will present recent results in this direction for periodic functions with (isotropic or mixed order) Sobolev regularity, and for C^∞ - functions with Gevrey-type regularity.

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