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Analysis Seminar

R. Smith

will speak on

Approximation of norms in Banach spaces

Tue 6th February 2018 at 4:00PM

Location: SCN 125

This talk follows on from one I gave in May 2017. Let X be a Banach space and let $\mathbf{P}$ be a property of norms. We say that a norm $\|\cdot\|$ on X (equivalent to the original norm) can be approximated by norms having $\mathbf{P}$ if, given $\varepsilon > 0$, there exists another norm $|||\cdot|||$ on X with $\mathbf{P}$, such that $\|x\| \leq |||x||| \leq (1+\varepsilon)\|x\|$ for all $x \in X$. There are a number of papers in the literature that consider the question of whether or not all(equivalent) norms on a given space can be approximated in this way.¡br/¿For a number of classes of Banach spaces X, including $c_0(\Gamma)$(where Γ is an arbitrary set), certain Orlicz spaces and Lorentzpredual spaces, and a class of $C(K)$ spaces (where K comes from a classof compact spaces having unbounded scattered height), we show that all equivalent norms on X can be approximated by C^∞-smooth norms or polyhedral norms.¡br/¿This is joint work with Stanimir Troyanski, University of Murcia, Spain,and Institute of Mathematics, Bulgarian Academy of Sciences ¡/p¿

This talk is part of the **Analysis** series. For more, see
https://maths.ucd.ie/seminars