

Slippery Rock University
Department of Mathematics and Statistics

Presents

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“Non-commutative L_p -spaces”

Abstract

Generally speaking, the Banach space is a complete normed vector space. Banach spaces have been the subject of continuous research since 1932, when the classical monograph “Theorie des Operations Lineaires” of Stefan Banach was published in Warszawa, Poland.

The spaces of measurable functions and the spaces $L_p(\mu) = L_p(X, \Omega, \mu)$, $1 \leq p \leq \infty$ of p -integrable functions are the traditional object of the theory of Banach spaces. In our talk we discuss the generalization of classical functional L_p -spaces, namely, the construction of new classes of Banach spaces – so called non-commutative L_p -spaces $L_p(M, \tau)$, associated with the weakly closed algebras M of bounded linear operators on Hilbert space and traces on M . In this construction the commutative algebra $L_p(\mu) = L_p(X, \Omega, \mu)$ of measurable functions on the metric space X will be replaced by the non-commutative algebra M . This construction delivers a great variety of new examples of Banach spaces.

Thursday, November 11th

12:30 p.m.

VSC 201

Students are welcome!