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**Non-commutative Jensen and Chebyshev inequalities for measurable  
matrix-valued functions and measures**

**Abstract**

The idea of noncommutative averaging (that is, of a matrix-convex combination of matrix-valued functions) extends quite naturally to the integral of matrix-valued measurable functions with respect to positive matrix-valued measures. In this lecture I will report on collaborative work with F. Zhou, S. Plosker, and M. Kozdron on formulations of some classical integral inequalities (Jensen, Chebyshev) in the context of noncommutative integration. The Schwarz inequality will also be considered, leading to the notions of noncommutative expectation and variance.

Talk time: 07/21/2016 2:30PM— 07/21/2016 2:50PM

Talk location: Crow 206

Special Session: Non-commutative inequalities. Organized by J.W. Helton and I. Klep.