

Probabilistic Operator Algebra Seminar

Organizer: Dan Virgil Voiculescu

Monday, 9:00–10:30 am, to attend via Zoom email David Jekel (daj@math.ku.dk) remote

Aug 17 **Dimitri Shlyakhtenko**, UCLA

A free analog of Bobkov's Gaussian Isoperimetry Inequality

We prove a one-variable functional inequality which is the free probability analog of Bobkov's isoperimetry inequality. The inequality involves the L^1 norm of the difference quotient of a function f and can be viewed as a non-local isoperimetric inequality. We also prove related inequalities for subsets of an interval as well as subsets of roots of Hermite polynomials. This paper is also an experiment in AI-based exploration of free analogs of classical probability statements.