Functional Analysis Seminar

A dual and a conjugate system for q-Gaussians for all q

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Abstract

q-Gaussian random variables, for some fixed real q with $-1 \leq q \leq 1$, are of the form $a_i + a_i^*$, where the a_i are operators satisfying the q-relations $a_i a_j^* - q a_j^* a_i = \delta_{ij}$. Understanding the properties of the non-commutative distributions of those deformations of classical multivariate Gaussian distributions as well as their associated operator algebras – in particular, whether and how they depend on q – has been of central interest in the last 30 years. I will give an introduction and survey on those q-relations and in particular report also some recent progress (from joint work with A.Miyagawa) on the existence of dual systems and conjugate systems for the q-Gaussians. Special focus is on the fact that those results are for the whole interval $(-1, +1)$, and not just for some restricted set of q.

Time: Wednesday, June 8, 2022, 19:30-21:00 (UTC+8)

Zoom ID: 824 7045 6491   (Password: 123399)

Link: https://zoom.us/j/82470456491?pwd=dGswU3d3RGd1L1d4a3ZvSXdnakVkUT09