19th Workshop: Noncommutative Probability, Noncommutative Harmonic Analysis and Related Topics with Applications, 31.07-6.08.2022, Bedlewo

ABSTRACT

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Distributions for nonsymmetric monotone and weakly monotone position operators

Abstract: In this talk, we investigate the vacuum distribution, under an appropriate scaling, of a family of partial sums of nonsymmetric position operators on weakly monotone and monotone Fock spaces.

We first consider the case of weakly monotone Fock space and show that any single operator has the vacuum law belonging to the free Meixner class. After establishing some relations between the combinatorics of Motzkin and Riordan paths, we give a recursive formula for the vacuum moments of the law of any finite sum. We also investigate the asymptotic measure for these sums, which turns out to belong to the free Meixner class, with an atomic and an absolutely continuous part, both explicitly computed.

Finally, we briefly describe the case of monotone Fock space.

This is a joint work with V. Crismale and J. Wysoczański.