

Titel: Distributional symmetries and non commutative independences

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Abstract:

The properties of the limiting non commutative distribution of random matrices can be usually understood thanks to the symmetry of the model, e.g. Voiculescu's asymptotic free independence occurs for random matrices invariant in law by conjugation by unitary matrices. Nevertheless, the study of random matrices invariant in law by conjugation by permutation matrices requires an extension of free probability, which motivated the speaker to introduce in 2011 the theory of traffics. A traffic is a non commutative random variable in a space with more structure than a general non commutative probability space, so that the notion of traffic distribution is richer than the notion of non commutative distribution. It comes with a notion of independence which is able to encode the different notions of non commutative independence.