

Magnetic Laplacians, quasi-infinitely divisible distributions and polyanalytic determinantal processes

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Abstract. In this talk, we construct quasi-infinitely distributions from eigenfunctions of Magnetic Laplacians in the Euclidean plane and in the hyperbolic disc with constant magnetic field. Doing so leads to generalized Poisson and negative binomial distributions for which we give the Levy-Khintchine type decompositions. We will also shed the light on the relation between these Laplacians, the Sub-Laplacian on the Heisenberg group, the Maass operator and the geometric Brownian motion. Finally, we introduce the polyanalytic determinantal processes and exhibit their rigidity in the sense of Ghosh and Peres.