A solvble QFT in 4 dimensions

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Abstract

We review our common work with Raimar Wulkenhaar: The regularisation of a scalar field on Moyal space leads to a matrix model. All correlation functions are expressed in terms of the solution of a nonlinear integral equation. Taking a special limit leads to a local 4D QFT, which satisfies growth property, covariance and symmetry. We discuss the evidence for reflection positivity for the 2-point function, for a certain range of the coupling constant.

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