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(I) Quantum finite elements

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The finite element method is a well-known technique to approximate solutions of partial differential equations on complex geometries. In this talk, I consider the quantization of the classical finite element method as applied to a scalar field propagating on a closed spatial manifold equipped with a random triangulation. This is intended to be a toy model of quantized matter inhabiting the kind of random discrete geometry envisioned by certain approaches to quantum gravity.

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