

# A tensorial toolkit for quantum computing

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In most lattice simulations, the variables of integration are compact and character expansion (for instance Fourier analysis for  $U(1)$  models) can be used to rewrite the partition function and average observables as discrete sums of contracted tensors. This reformulations have been used for RG blocking but they are also suitable for quantum computing. We discuss FAQ about tensorial reformulations: boundary conditions, Grassmann variables, Ward identities and manifest gauge invariance.

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