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Spatial random permutations and the Bose gas

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Abstract

I will discuss the links between the Feynman–Kac representation of the Bose gas and certain models of “spatial” random permutations. The latter are simpler and should prove useful in numerical simulations. One can compute effective interactions between permutation jumps. This leads to approximate models that could shed light on the effects of interactions on the Bose–Einstein condensation.