Random partition in statistical mechanics

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Abstract:

We consider a family of distributions on spatial random partitions that provide a coupling between different models of interest: the ideal Bose gas; the zero-range process; particle clustering; and spatial permutations. These distributions are invariant for a "chain of Chinese restaurants" stochastic process. We obtain results for the distribution of the size of the largest component. (Joint work with Nicholas Ercolani and Daniel Ueltschi)