

## Markov chains and sampling methods for contiguous partitions

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We consider the problem of uniformly randomly dividing a graph into connected pieces. We'll show that "grid-like" graphs, approximate sampling can be achieved by Glauber dynamics in subexponential time in the regime where linearly many constant-sizes pieces are desired. Negative results for the complementary case of constantly many linear-size pieces will be discussed. Joint work with Alan Frieze.