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Subset Glauber dynamics mixes rapidly on graphs of bounded tree-width.

Motivated by the 'subgraphs world' view of the ferromagnetic Ising model, we develop a general approach to studying mixing times of Glauber dynamics based on subset expansion expressions for a class of graph polynomials. With a canonical paths argument, we demonstrate that the chains defined within this framework mix rapidly upon graphs of bounded tree-width. This extends known rapid mixing results for the Tutte, adjacency-rank and interlace polynomials. This is joint work with Magnus Bordewich.