

Finite Temperature: Markov Chain Monte Carlo

- Exploits the classical/quantum split of the model.
- At fixed S_i we can solve the quantum system exactly up to about 300 sites.
- MCMC: Gives us a random walk over spins states S_i with a thermal distribution.
- A two step method from Krauth gives a 2-10x speedup. [1]
- Get thermal expectation values of:
 - Density of States
 - CDW Order Parameter: Staggered magnetisation
 - Energy Resolved Inverse Participation Ratio (measure of localisation)



