



relaxation

$$J' = J \frac{\langle S \rangle^2}{S^2}$$

$$\langle S \rangle = \frac{3e^{2J+J/2} + 2e^{-J/2} + e^{-2J+J/2}}{e^{J+J/2} + 2e^{-J/2} + e^{-2J+J/2}}$$