

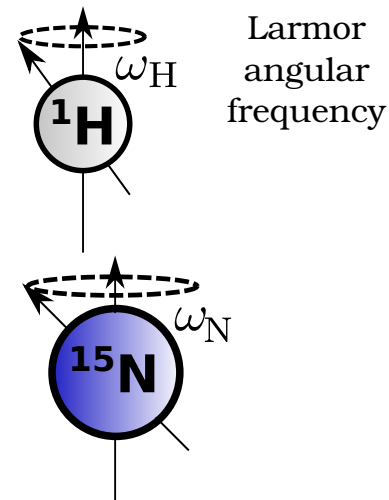
Redfield equations

Dipolar
coupling
constant

$$\frac{1}{T_1} = \frac{d_{\text{NH}}^2}{20} [J(\omega_{\text{H}} - \omega_{\text{N}}) + 3J(\omega_{\text{N}}) + 6J(\omega_{\text{H}} + \omega_{\text{N}})]$$

$$\frac{1}{T_2} = \frac{1}{2} \frac{d_{\text{NH}}^2}{20} [4J(0) + J(\omega_{\text{H}} - \omega_{\text{N}}) + 3J(\omega_{\text{N}}) + 3J(\omega_{\text{H}}) + 6J(\omega_{\text{H}} + \omega_{\text{N}})]$$

$$\text{NOE} = 1 + \frac{d_{\text{NH}}^2}{20} [J(\omega_{\text{H}}) + 6J(\omega_{\text{H}} + \omega_{\text{N}})] \frac{\gamma_{\text{H}} T_1}{\gamma_{\text{N}}}$$



spectral density

$$J(\omega) = 2 \int_0^\infty C(t) \cos(\omega t) dt$$