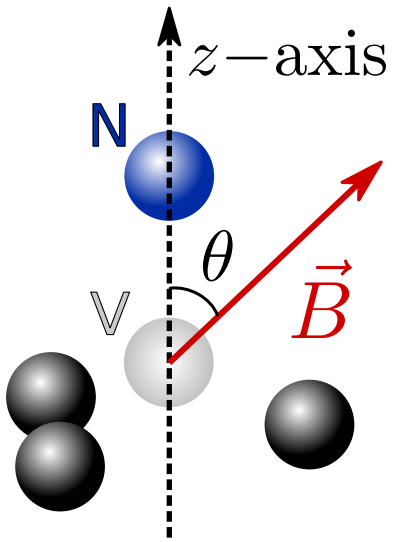
$$\hat{\mathcal{H}}_s = DS_z^2 + \gamma \mathbf{B} \cdot \hat{\mathbf{S}}$$

$$D = 2.87\,\text{GHz},\ \gamma = 2.8\,\text{MHz/G}$$



$$\mathcal{H}_s = \begin{array}{c} \begin{matrix} |-1\rangle & |0\rangle & |+1\rangle \end{matrix} \\ \begin{pmatrix} D - \gamma B_z & \gamma B_\perp & 0 \\ \gamma B_\perp & 0 & \gamma B_\perp \\ 0 & \gamma B_\perp & D + \gamma B_z \end{pmatrix} \end{array}$$

When $D \gg \gamma B_\perp$:

= Zeeman shift

= State mixing

$$B_z = |\vec{B}| \cos\theta \quad B_\perp = |\vec{B}| \sin\theta/\sqrt{2}$$