

4th Eigenvector

$$N_e = 1 \quad s = \frac{1}{2} \quad m_s = -\frac{1}{2}$$

Irred. Representation : $\Gamma_{3,2}$

$$E_4 = -t$$

$$\begin{aligned} |\Psi_4\rangle &= |1, \frac{1}{2}, -\frac{1}{2}, \Gamma_{3,2}\rangle \\ &= C_{4,1} (|00d\rangle + |0d0\rangle) \\ &\quad + C_{4,2} (|d00\rangle) \end{aligned}$$

$$C_{4-1} = -\frac{1}{\sqrt{6}}$$

$$C_{4-2} = \sqrt{\frac{2}{3}}$$

$$N_4 = \sqrt{2C_{4,1}^2 + C_{4,2}^2}$$