

23rd Eigenvector

$$N_e = 2 \quad s = 0 \quad m_s = 0$$

Irred. Representation : $\Gamma_{4,2}$

$$E_{23} = \frac{1}{2} \left(-J + U + 2W - \sqrt{A_1} \right)$$

$$\begin{aligned} |\Psi_{23}\rangle &= |2, 0, 0, \Gamma_{4,2}\rangle \\ &= C_{23,1} (|0002\rangle - |0020\rangle - |0200\rangle + |2000\rangle) \\ &\quad + C_{23,2} (|0du0\rangle - |0ud0\rangle - |d00u\rangle + |u00d\rangle) \end{aligned}$$

$$C_{23-1} = t$$

$$C_{23-2} = \frac{1}{4} \left(-J - U + 2W - \sqrt{A_1} \right)$$

$$N_{23} = 2\sqrt{C_{23,1}^2 + C_{23,2}^2}$$