

49th Eigenvector

$$N_e = 4 \quad s = 0 \quad m_s = 0$$

Irred. Representation : $\Gamma_{3,1}$

$$E_{49} = \frac{1}{2} \left(-J + t + 3U + 9W - \sqrt{A_4} \right)$$

$$\begin{aligned} |\Psi_{49}\rangle &= |4, 0, 0, \Gamma_{3,1}\rangle \\ &= C_{49,1} (|202\rangle - |220\rangle) \\ &\quad + C_{49,2} (|d2u\rangle - |du2\rangle - |u2d\rangle + |ud2\rangle) \end{aligned}$$

$$C_{49-1} = \frac{-J + t - U + W + \sqrt{A_4}}{2\sqrt{2}}$$

$$C_{49-2} = -\frac{t}{\sqrt{2}}$$

$$N_{49} = \sqrt{2C_{49,1}^2 + 4C_{49,2}^2}$$