

47th Eigenvector

$$N_e = 3 \quad s = \frac{1}{2} \quad m_s = -\frac{1}{2}$$

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

$$E_{47} = \frac{1}{2} \left(-J - 2t + U + 10W + \sqrt{A_4} \right)$$

$$\begin{aligned} |\Psi_{47}\rangle &= |3, \frac{1}{2}, -\frac{1}{2}, \Gamma_{3,2}\rangle \\ &= C_{47,1} (|002d\rangle + |00d2\rangle - |02d0\rangle - |0d20\rangle - |200d\rangle + |2d00\rangle - |d002\rangle + |d200\rangle) \\ &+ C_{47,2} (|0ddu\rangle + |0udd\rangle - |d0ud\rangle + |dd0u\rangle - |ddu0\rangle + |du0d\rangle - |u0dd\rangle - |udd0\rangle) \\ &+ C_{47,3} (|0dud\rangle - |d0du\rangle - |dud0\rangle + |ud0d\rangle) \end{aligned}$$

$$C_{47-1} = -\frac{1}{2} \sqrt{\frac{3}{2}} t$$

$$C_{47-2} = \frac{J - 2t + U - 2W - \sqrt{A_4}}{4\sqrt{6}}$$

$$C_{47-3} = -\frac{J - 2t + U - 2W - \sqrt{A_4}}{2\sqrt{6}}$$

$$N_{47} = 2\sqrt{2C_{47,1}^2 + 2C_{47,2}^2 + C_{47,3}^2}$$