

20th Eigenvector

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

Irred. Representation : $\Gamma_{4,1}$

$$E_{20} = \frac{1}{2} \left(-J + U + 2W - \sqrt{A_1} \right)$$

$$\begin{aligned} |\Psi_{20}\rangle &= |2, 0, 0, \Gamma_{4,1}\rangle \\ &= C_{20,1} (|0002\rangle + |0020\rangle - |0200\rangle - |2000\rangle) \\ &\quad + C_{20,2} (|00du\rangle - |00ud\rangle - |du00\rangle + |ud00\rangle) \end{aligned}$$

$$C_{20-1} = -t$$

$$C_{20-2} = \frac{1}{4} \left(-J - U + 2W - \sqrt{A_1} \right)$$

$$N_{20} = 2\sqrt{C_{20,1}^2 + C_{20,2}^2}$$