

214th Eigenvector

$$N_e = 5 \quad s = \frac{1}{2} \quad m_s = \frac{1}{2}$$

Irred. Representation : $\Gamma_{5,3}$

$$E_{214} = \frac{1}{2} (-J + 2t + 3U + 34W + \sqrt{A_4})$$

$$\begin{aligned} |\Psi_{214}\rangle &= |5, \frac{1}{2}, \frac{1}{2}, \Gamma_{5,3}\rangle \\ &= C_{214,1} (|02u2\rangle - |0u22\rangle - |202u\rangle + |220u\rangle - |22u0\rangle + |2u20\rangle + |u022\rangle - |u202\rangle) \\ &+ C_{214,2} (|2duu\rangle + |2udu\rangle + |d2uu\rangle - |du2u\rangle + |u2ud\rangle - |udu2\rangle - |uu2d\rangle - |uud2\rangle) \\ &+ C_{214,3} (|2uud\rangle - |duu2\rangle + |u2du\rangle - |ud2u\rangle) \end{aligned}$$

$$\begin{aligned} C_{214-1} &= -\frac{1}{2} \sqrt{\frac{3}{2}} t \\ C_{214-2} &= -\frac{J - 2t + U - 2W - \sqrt{A_4}}{4\sqrt{6}} \\ C_{214-3} &= \frac{J - 2t + U - 2W - \sqrt{A_4}}{2\sqrt{6}} \\ N_{214} &= 2\sqrt{2C_{214,1}^2 + 2C_{214,2}^2 + C_{214,3}^2} \end{aligned}$$