

157th Eigenvector

$$N_e = 4 \quad s = 1 \quad m_s = 1$$

Irred. Representation : $\Gamma_{5,2}$

$$E_{157} = \frac{A_{11}}{6}$$

$$\begin{aligned} |\Psi_{157}\rangle &= |4, 1, 1, \Gamma_{5,2}\rangle \\ &= C_{157,1} (|02uu\rangle - |20uu\rangle - |uu02\rangle + |uu20\rangle) \\ &+ C_{157,2} (|0u2u\rangle - |0uu2\rangle + |2u0u\rangle - |2uu0\rangle - |u02u\rangle + |u0u2\rangle - |u20u\rangle + |u2u0\rangle) \\ &+ C_{157,3} (|duuu\rangle + |uduu\rangle - |uudu\rangle - |uud\rangle) \end{aligned}$$

$$C_{157-1} = 4t^2$$

$$C_{157-2} = \frac{1}{3}t (J + U - 2W + 2 \cos(\theta_3) \sqrt{A_2})$$

$$\begin{aligned} C_{157-3} &= \frac{1}{8} (-J^2 - 4UJ - 40WJ + 32t^2 - 4U^2) \\ &+ \left(-\frac{1}{72} (60W - A_{11}) (6(J + 2(U + 5W)) - A_{11}) \right) \end{aligned}$$

$$N_{157} = 2\sqrt{C_{157,1}^2 + 2C_{157,2}^2 + C_{157,3}^2}$$