

104th Eigenvector

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

Irred. Representation : $\Gamma_{5,1}$

$$E_{104} = \frac{A_{16}}{3}$$

$$\begin{aligned} |\Psi_{104}\rangle &= |4, 1, -1, \Gamma_{5,1}\rangle \\ &= C_{104,1} (|02dd\rangle + |0dd2\rangle + |20dd\rangle + |2dd0\rangle - |d02d\rangle - |d20d\rangle + |dd02\rangle + |dd20\rangle) \\ &+ C_{104,2} (|0d2d\rangle - |2d0d\rangle - |d0d2\rangle + |d2d0\rangle) \\ &+ C_{104,3} (|dddu\rangle - |ddud\rangle + |dudd\rangle - |uddd\rangle) \end{aligned}$$

$$C_{104-1} = -\frac{1}{6}t (3J + 6U + 60W - 2A_{16})$$

$$C_{104-2} = -4t^2$$

$$\begin{aligned} C_{104-3} &= \frac{1}{8} (-J^2 - 4UJ - 40WJ + 32t^2 - 4U^2) \\ &+ \left(-\frac{1}{18} (30W - A_{16}) (3J + 6U + 30W - A_{16}) \right) \end{aligned}$$

$$N_{104} = 2\sqrt{2C_{104,1}^2 + C_{104,2}^2 + C_{104,3}^2}$$