50^{th} Eigenvector

$\boldsymbol{N_e = 4 \qquad s = 0 \qquad m_s = 0}$

Irred. Representation : $\boldsymbol{\Gamma_{3,1}}$

$$E_{50} = \frac{1}{2}\left(-J + t + 3U + 9W + \sqrt{A_4}\right)$$

$$\begin{aligned} |\Psi_{50}\rangle &= |4,0,0,\Gamma_{3,1}\rangle \\ &= C_{50,1}\left(|202\rangle - |220\rangle\right) \\ &+ C_{50,2}\left(|d2u\rangle - |du2\rangle - |u2d\rangle + |ud2\rangle\right) \end{aligned}$$

$$\begin{aligned} C_{50-1} &= -\frac{J - t + U - W + \sqrt{A_4}}{2\sqrt{2}} \\ C_{50-2} &= -\frac{t}{\sqrt{2}} \\ N_{50} &= \sqrt{2C_{50,1}^2 + 4C_{50,2}^2} \end{aligned}$$