56^{th} Eigenvector

$\boldsymbol{N_e = 4 \qquad s = 1 \qquad m_s = 1}$

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

$$E_{56} = \frac{J}{2} - t + U + 5W$$

$$\begin{aligned} |\Psi_{56}\rangle &= |4,1,1,\Gamma_{3,1}\rangle \\ &= C_{56,1}\left(|2uu\rangle\right) \\ &+ C_{56,2}\left(|u2u\rangle - |uu2\rangle\right) \end{aligned}$$

$$\begin{aligned} C_{56-1} &= \sqrt{\frac{2}{3}} \\ C_{56-2} &= \frac{1}{\sqrt{6}} \\ N_{56} &= \sqrt{C_{56,1}^2 + 2C_{56,2}^2} \end{aligned}$$