60^{th} Eigenvector

$$\boldsymbol{N_e \;\; = \;\; 3 \qquad s = \frac{1}{2} \qquad m_s = -\frac{1}{2}}$$

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

$$E_{60} \;\; = \;\; \frac{1}{2}\left(-J - 2t + U + 10W - \sqrt{A_7}\right)$$

$$\begin{aligned}
|\Psi_{60}\rangle \;\; &= \;\; |3, \frac{1}{2}, -\frac{1}{2}, \Gamma_{5,2}\rangle \\
&= \;\; C_{60,1}\left(|020d\rangle - |02d0\rangle - |0d02\rangle + |0d20\rangle - |200d\rangle + |20d0\rangle + |d002\rangle - |d020\rangle\right) \\
&+ \;\; C_{60,2}\left(|0ddu\rangle + |0dud\rangle - |d0du\rangle - |d0ud\rangle - |du0d\rangle + |dud0\rangle - |ud0d\rangle + |udd0\rangle\right) \\
&+ \;\; C_{60,3}\left(|0udd\rangle - |dd0u\rangle + |ddu0\rangle - |u0dd\rangle\right)
\end{aligned}$$

$$\begin{aligned}
C_{60-1} \;\; &= \;\; -\frac{1}{2}\sqrt{\frac{3}{2}}t \\
C_{60-2} \;\; &= \;\; -\frac{J + 2t + U - 2W + \sqrt{A_7}}{4\sqrt{6}} \\
C_{60-3} \;\; &= \;\; \frac{J + 2t + U - 2W + \sqrt{A_7}}{2\sqrt{6}} \\
N_{60} \;\; &= \;\; 2\sqrt{2C_{60,1}^2 + 2C_{60,2}^2 + C_{60,3}^2}
\end{aligned}$$