207^{th} Eigenvector

$$N_e = 5 \qquad s = \frac{1}{2} \qquad m_s = \frac{1}{2}$$

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

$$E_{207} = \frac{1}{2}\left(-J + 2t + 3U + 34W - \sqrt{A_4}\right)$$

$$\begin{aligned}
|\Psi_{207}\rangle &= |5, \frac{1}{2}, \frac{1}{2}, \Gamma_{5,1}\rangle \\
&= C_{207,1}\left(|022u\rangle - |0u22\rangle - |20u2\rangle - |220u\rangle + |22u0\rangle + |2u02\rangle + |u022\rangle - |u220\rangle\right) \\
&+ C_{207,2}\left(|2duu\rangle + |2uud\rangle + |d2uu\rangle + |duu2\rangle + |u2du\rangle + |ud2u\rangle + |uu2d\rangle + |uud2\rangle\right) \\
&+ C_{207,3}\left(|2udu\rangle + |du2u\rangle + |u2ud\rangle + |udu2\rangle\right)
\end{aligned}$$

$$\begin{aligned}
C_{207-1} &= -\frac{1}{2}\sqrt{\frac{3}{2}}t \\
C_{207-2} &= \frac{J - 2t + U - 2W + \sqrt{A_4}}{4\sqrt{6}} \\
C_{207-3} &= -\frac{J - 2t + U - 2W + \sqrt{A_4}}{2\sqrt{6}} \\
N_{207} &= 2\sqrt{2C_{207,1}^2 + 2C_{207,2}^2 + C_{207,3}^2}
\end{aligned}$$