210^{th} Eigenvector

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

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

$$E_{210} \;=\; \frac{1}{2}\left(-J + 2t + 3U + 34W - \sqrt{A_4}\right)$$

$$\begin{aligned}
|\Psi_{210}\rangle &= |5, \frac{1}{2}, \frac{1}{2}, \Gamma_{5,2}\rangle \\
&= C_{210,1}\left(|022u\rangle - |02u2\rangle - |202u\rangle + |20u2\rangle - |2u02\rangle + |2u20\rangle + |u202\rangle - |u220\rangle\right) \\
&+ C_{210,2}\left(|2duu\rangle - |d2uu\rangle - |uu2d\rangle + |uud2\rangle\right) \\
&+ C_{210,3}\left(|2udu\rangle + |2uud\rangle - |du2u\rangle + |duu2\rangle - |u2du\rangle - |u2ud\rangle - |ud2u\rangle + |udu2\rangle\right)
\end{aligned}$$

$$\begin{aligned}
C_{210-1} &= \frac{1}{2}\sqrt{\frac{3}{2}}t \\
C_{210-2} &= -\frac{J - 2t + U - 2W + \sqrt{A_4}}{2\sqrt{6}} \\
C_{210-3} &= \frac{J - 2t + U - 2W + \sqrt{A_4}}{4\sqrt{6}} \\
N_{210} &= 2\sqrt{2C_{210,1}^2 + C_{210,2}^2 + 2C_{210,3}^2}
\end{aligned}$$