

## 194<sup>th</sup> Eigenvector

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

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

$$E_{194} = \frac{1}{2} (-J + 2t + 3U + 34W - \sqrt{A_7})$$

$$\begin{aligned} |\Psi_{194}\rangle &= |5, \frac{1}{2}, \frac{1}{2}, \Gamma_{3,1}\rangle \\ &= C_{194,1} (|022u\rangle + |0u22\rangle + |20u2\rangle + |220u\rangle + |22u0\rangle + |2u02\rangle + |u022\rangle + |u220\rangle) \\ &+ C_{194,2} (|02u2\rangle + |202u\rangle + |2u20\rangle + |u202\rangle) \\ &+ C_{194,3} (|2duu\rangle - |2wud\rangle - |d2wu\rangle + |duu2\rangle + |u2du\rangle - |ud2u\rangle + |wu2d\rangle - |uud2\rangle) \end{aligned}$$

$$C_{194-1} = -\frac{t}{2\sqrt{2}}$$

$$C_{194-2} = \frac{t}{\sqrt{2}}$$

$$C_{194-3} = \frac{J + 2t + U - 2W + \sqrt{A_7}}{4\sqrt{2}}$$

$$N_{194} = 2\sqrt{2C_{194,1}^2 + C_{194,2}^2 + 2C_{194,3}^2}$$