

## 71<sup>st</sup> Eigenvector

$$N_e = 3 \quad s = \frac{1}{2} \quad m_s = \frac{1}{2}$$

Irred. Representation :  $\Gamma_{3,2}$

$$E_{71} = \frac{1}{2} \left( -J - 2t + U + 10W + \sqrt{A_4} \right)$$

$$\begin{aligned} |\Psi_{71}\rangle &= \left| 3, \frac{1}{2}, \frac{1}{2}, \Gamma_{3,2} \right\rangle \\ &= C_{71,1} (|002u\rangle + |00u2\rangle - |02u0\rangle - |0u20\rangle - |200u\rangle + |2u00\rangle - |u002\rangle + |u200\rangle) \\ &+ C_{71,2} (|0duu\rangle + |0uud\rangle - |d0uu\rangle - |duu0\rangle - |u0du\rangle + |ud0u\rangle + |uu0d\rangle - |uud0\rangle) \\ &+ C_{71,3} (|0udu\rangle + |du0u\rangle - |u0ud\rangle - |udu0\rangle) \end{aligned}$$

$$C_{71-1} = \frac{1}{2} \sqrt{\frac{3}{2}} t$$

$$C_{71-2} = \frac{J - 2t + U - 2W - \sqrt{A_4}}{4\sqrt{6}}$$

$$C_{71-3} = -\frac{J - 2t + U - 2W - \sqrt{A_4}}{2\sqrt{6}}$$

$$N_{71} = 2\sqrt{2C_{71,1}^2 + 2C_{71,2}^2 + C_{71,3}^2}$$