

## 156<sup>th</sup> Eigenvector

$$N_e = 4 \quad s = 1 \quad m_s = 1$$

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

$$E_{156} = \frac{A_{16}}{3}$$

$$\begin{aligned} |\Psi_{156}\rangle &= |4, 1, 1, \Gamma_{5,1}\rangle \\ &= C_{156,1} (|02uu\rangle + |0uu2\rangle + |20uu\rangle + |2uu0\rangle - |u02u\rangle - |u20u\rangle + |uu02\rangle + |uu20\rangle) \\ &+ C_{156,2} (|0u2u\rangle - |2u0u\rangle - |u0u2\rangle + |u2u0\rangle) \\ &+ C_{156,3} (|duuu\rangle - |uduu\rangle + |uudu\rangle - |wuwu\rangle) \end{aligned}$$

$$C_{156-1} = -\frac{1}{6}t (3J + 6U + 60W - 2A_{16})$$

$$C_{156-2} = -4t^2$$

$$\begin{aligned} C_{156-3} &= \frac{1}{8} (-J^2 - 4UJ - 40WJ + 32t^2 - 4U^2) \\ &+ \left( -\frac{1}{18} (30W - A_{16}) (3J + 6U + 30W - A_{16}) \right) \end{aligned}$$

$$N_{156} = 2\sqrt{2C_{156,1}^2 + C_{156,2}^2 + C_{156,3}^2}$$