101$^{\text{st}}$ **Eigenvector**

N_e $=$ 4 $\qquad s = 1 \qquad m_s = -1$

Irred. Representation : $\Gamma_{4,3}$

$$E_{101} \;\; = \;\; \frac{J}{2} + U + 10W$$

$$
\begin{aligned}
|\Psi_{101}\rangle \;\; &= \;\; |4, 1, -1, \Gamma_{4,3}\rangle \\
&= \;\; \frac{1}{2\sqrt{2}} \left(|02dd\rangle - |0dd2\rangle + |20dd\rangle - |2dd0\rangle + |d02d\rangle + |d20d\rangle + |dd02\rangle + |dd20\rangle \right)
\end{aligned}
$$