# 145$^{\text{th}}$ Eigenvector

$N_e \;\; = \;\; 4 \qquad s = 1 \qquad m_s = 0$

**Irred. Representation : $\Gamma_{5,3}$**

$$E_{145} \;\; = \;\; \frac{A_{17}}{3}$$

$$
\begin{aligned}
|\Psi_{145}\rangle \;\; = \;\; & |4, 1, 0, \Gamma_{5,3}\rangle \\
= \;\; & C_{145,1} \left( |02du\rangle + |02ud\rangle - |0d2u\rangle - |0u2d\rangle + |20du\rangle + |20ud\rangle - |2d0u\rangle - |2u0d\rangle \right. \\
& \left. + |d0u2\rangle + |d2u0\rangle - |du02\rangle - |du20\rangle + |u0d2\rangle + |u2d0\rangle - |ud02\rangle - |ud20\rangle \right) \\
+ \;\; & C_{145,2} \left( |0du2\rangle + |0ud2\rangle - |2du0\rangle - |2ud0\rangle - |d02u\rangle + |d20u\rangle - |u02d\rangle + |u20d\rangle \right) \\
+ \;\; & C_{145,3} \left( |duud\rangle - |uddu\rangle \right)
\end{aligned}
$$

$$
\begin{aligned}
C_{145-1} \;\; = \;\; & -\frac{t(J+U)}{3\sqrt{2}} \\
& + \left( \frac{t \left( -U + 2W + \left( \cos(\theta_3) + \sqrt{3}\sin(\theta_3) \right) \sqrt{A_2} \right)}{3\sqrt{2}} \right) \\
C_{145-2} \;\; = \;\; & 2\sqrt{2}t^2 \\
C_{145-3} \;\; = \;\; & -\frac{-8t^2 + (U+10W)^2 + \frac{A_{17}^2}{9} - \frac{2}{3}(U+10W)A_{17}}{\sqrt{2}} \\
N_{145} \;\; = \;\; & \sqrt{16C_{145,1}^2 + 8C_{145,2}^2 + 2C_{145,3}^2}
\end{aligned}
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