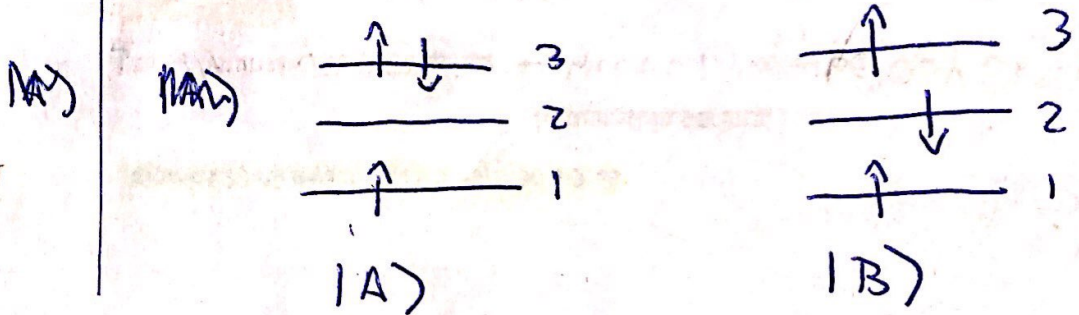


hola

$$|\psi\rangle = \frac{1}{\sqrt{2}} \left(\begin{array}{c} |1, 3, \bar{3}\rangle \\ |A\rangle \end{array} + \begin{array}{c} |1, \bar{2}, 3\rangle \\ |B\rangle \end{array} \right) \equiv \frac{1}{\sqrt{2}} (|A\rangle + |B\rangle)$$



$$\begin{aligned} \langle \psi | \hat{H} | \psi \rangle &= \frac{1}{2} \left(\langle A | + \langle B | \right) \hat{H} \left(|A\rangle + |B\rangle \right) \\ &= \frac{1}{2} \left(\underbrace{E_{|A\rangle}} + \underbrace{\langle A | \hat{H} | B \rangle + \langle B | \hat{H} | A \rangle}_{2 \langle A | \hat{H} | B \rangle} + E_{|B\rangle} \right) \end{aligned}$$

$$E_{|\psi\rangle} = \frac{E_A + E_B}{2} + \langle A | \hat{H} | B \rangle$$

$$\langle A | \hat{H} | B \rangle = \langle 13\bar{3} | \hat{H} | 1\bar{2}3 \rangle$$

$$|A\rangle = |13\bar{3}\rangle = |1\bar{3}\bar{3}\rangle$$

$$|B\rangle = |1\bar{2}3\rangle = -|13\bar{2}\rangle$$

CH2V

$$\frac{|1, 3, \bar{2}\rangle}{\sqrt{2}}$$

$$\langle 13\bar{3} | H | 13\bar{2} \rangle$$

$$\langle 13\bar{3} | \hat{O}_1 | 13\bar{2} \rangle = h_{\bar{3}\bar{2}} = h_{32} = h_{23}$$

$$\langle 13\bar{3} | \hat{O}_2 | 13\bar{2} \rangle = \sum_k \langle \bar{3}k | \bar{2}k \rangle$$

$$= \textcircled{\alpha} \quad \textcircled{\beta} \quad \textcircled{\gamma}$$

$$= \langle \bar{3}1 | \bar{2}1 \rangle + \langle \bar{3}3 | \bar{2}3 \rangle + \langle \bar{3}\bar{2} | \bar{2}\bar{2} \rangle$$

$$\textcircled{\alpha} \langle \bar{3}1 | \bar{2}1 \rangle - \langle \bar{3}1 | 1\bar{2} \rangle \dots \text{so on} \dots$$

$$\textcircled{\beta} \langle \bar{3}3 | \bar{2}3 \rangle = \langle \bar{3}3 | \bar{2}3 \rangle - \langle \bar{3}3 | 3\bar{2} \rangle \rightarrow 0$$

$$\textcircled{\gamma} \langle \bar{3}\bar{2} | \bar{2}\bar{2} \rangle = \langle \bar{3}\bar{2} | \bar{2}\bar{2} \rangle - \langle \bar{3}\bar{2} | \bar{2}\bar{2} \rangle = 0$$

$$= \left[\langle \bar{3}1 | \bar{2}1 \rangle + \langle \bar{3}3 | \bar{2}3 \rangle + \langle \bar{3}\bar{2} | \bar{2}\bar{2} \rangle \right]$$

$$\langle 13\bar{3} | H | 13\bar{2} \rangle = h_{23} +$$