

测量单格点 S_z

系统块, $\begin{cases} l=1, 2, \\ \end{cases}$

$$|S_z^0\rangle \rightarrow \text{msize} = 2 \quad (\text{格点 1})$$

$$\begin{cases} L_{\text{sys}} = 5 \\ L_{\text{env}} = 5 \\ L_{\text{sys-site}} = 1 \\ L_{\text{env-site}} = 1 \end{cases}$$

$$\begin{aligned} & 4 \left[\text{Tr} \right]_{4}^{l,2} \left(|S_z^0\rangle \otimes I \right) \left[\text{Tr} \right]_{4}^{l,2} \\ & 4 \left[\text{Tr} \right]_{4}^{l,2} \left[I(\text{msize}) \otimes S_z^1 \right] \left[\text{Tr} \right]_{4}^{l,2} \quad \text{msize} = 4 \quad (\text{格点 2}) \end{aligned}$$

$$8 \left[\text{Tr} \right]_{8}^{l,3} \left(\left(\left[\text{Tr} \right]_{4}^{l,2} \left(|S_z^0\rangle \otimes I \right) \left[\text{Tr} \right]_{4}^{l,2} \right) \otimes I \right) \left[\text{Tr} \right]_{8}^{l,3}$$

$$8 \left[\text{Tr} \right]_{8}^{l,3} \left(\left[\text{Tr} \right]_{4}^{l,2} \left[I(2) \otimes S_z^1 \right] \left[\text{Tr} \right]_{4}^{l,2} \otimes I \right) \left[\text{Tr} \right]_{8}^{l,3}$$

$$8 \left[\text{Tr} \right]_{8}^{l,3} \left[I(4) \otimes S_z^2 \right] \left[\text{Tr} \right]_{8}^{l,3} \quad \text{msize} = 8 \quad (\text{格点 3})$$

$$14 \left[\text{Tr} \right]_{16}^{l,4} \left(\left[\text{Tr} \right]_{8}^{l,3} \left(\left[\text{Tr} \right]_{4}^{l,2} \left(|S_z^0\rangle \otimes I \right) \left[\text{Tr} \right]_{4}^{l,2} \otimes I \right) \left[\text{Tr} \right]_{8}^{l,3} \otimes I \right) \left[\text{Tr} \right]_{16}^{l,4}$$

$$14 \left[\text{Tr} \right]_{16}^{l,4} \left(\left[\text{Tr} \right]_{8}^{l,3} \left(\left[\text{Tr} \right]_{4}^{l,2} \left[I_2 \otimes S_z^1 \right] \left[\text{Tr} \right]_{4}^{l,2} \otimes I \right) \left[\text{Tr} \right]_{8}^{l,3} \otimes I \right) \left[\text{Tr} \right]_{16}^{l,4}$$

$$14 \left[\text{Tr} \right]_{16}^{l,4} \left(\left[\text{Tr} \right]_{8}^{l,3} \left[I(4) \otimes S_z^2 \right] \left[\text{Tr} \right]_{8}^{l,3} \otimes I \right) \left[\text{Tr} \right]_{16}^{l,4}$$

$$14 \left[\text{Tr} \right]_{16}^{l,4} \left[I(8) \otimes S_z^3 \right] \left[\text{Tr} \right]_{16}^{l,4} \quad (\text{格点 4})$$

