

$$\begin{array}{|c|c|} \hline & \\ \hline 0 & \\ \hline \end{array} \rangle \mapsto \frac{1}{\sqrt{2}} \begin{array}{|c|c|} \hline & 0 \\ \hline & \\ \hline \end{array} \rangle + \frac{1}{\sqrt{2}} \begin{array}{|c|c|} \hline & 1 \\ \hline & \\ \hline \end{array} \rangle$$

$$\begin{array}{|c|c|} \hline & \\ \hline 1 & \\ \hline \end{array} \rangle \mapsto \frac{1}{\sqrt{2}} \begin{array}{|c|c|} \hline & 0 \\ \hline & \\ \hline \end{array} \rangle - \frac{1}{\sqrt{2}} \begin{array}{|c|c|} \hline & 1 \\ \hline & \\ \hline \end{array} \rangle$$