

$$\left\{ \rho_X = \begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}, \rho_Y = \begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & \hbar \\ 0 & 0 & 0 \end{pmatrix}, \rho_C = \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix} \right\};$$

$$\{\rho_X \cdot \rho_Y - \rho_Y \cdot \rho_X = \hbar \rho_C, \rho_X \cdot \rho_C = \rho_C \cdot \rho_X, \rho_Y \cdot \rho_C = \rho_C \cdot \rho_Y\}$$