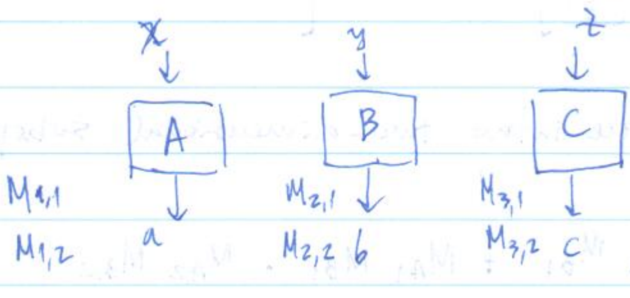
Monogamy of entanglement.

$(|00\rangle + |11\rangle) \otimes |\psi\rangle$ — maximally entangled — Third party

$|000\rangle + |111\rangle \rightarrow$ 50% $|00\rangle$, 50% $|11\rangle$

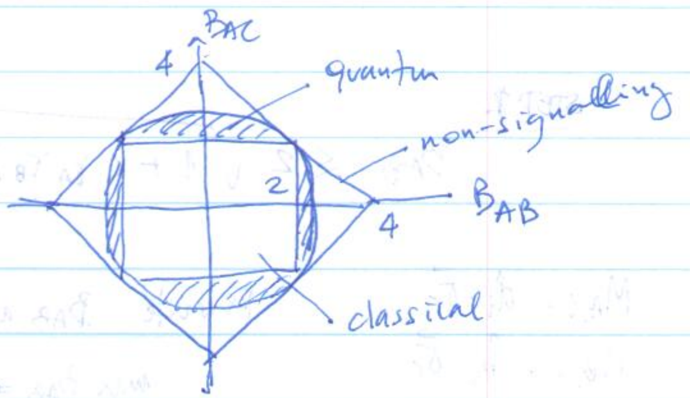
Concurrence. $C_{AB}^2 + C_{AC}^2 \leq C_{A(BC)}^2$



$a, b \in \{0,1\} \Rightarrow a, b \in \{-1, 1\}$ physical. notation.

$a \oplus b \Rightarrow a \cdot b$

Bell correlation functions. B_{AB}, B_{AC}, B_{BC}



PROVE
quantum circle:

$$B_{AB}^2 + B_{AC}^2 \leq 8$$

$\{M_{k,i}\}$ 3 qubit real coefficients.

$$M_{k,1} = \left[\begin{array}{c|c} I_d & 0 \\ \hline 0 & -I_d \end{array}\right]$$

$2d =$ dimension qubit space. $C^{2d} \otimes C^{2d} \otimes C^{2d}$

$$M_{k,2} = 2PP^\dagger - I_{2d} \qquad P = \begin{bmatrix} P_1 \\ \hline P_2 \end{bmatrix} \begin{matrix} d \\ d \end{matrix} \quad \text{column}$$

$$P^\dagger P = P_1^\dagger P_1 + P_2^\dagger P_2 = I_d$$

$\Rightarrow$ SINGULAR VALUE DECOMPOSITION $\quad P_1 = U_1^\dagger D_1 V \quad P_2 = U_2^\dagger D_2 V$.