

#Correctable Errors $:= \sum_{j=0}^t \binom{n}{j} 3^j$

size of the subset of errors

choices for j qubits

choices for j errors X, Y, Z

$$\sum_{i=1}^{\# \text{ Correctable Errors}} \underbrace{\dim(\mathcal{Q}_i \mathcal{C})}_{2^k} \leq \underbrace{\dim((\mathbb{C}^2)^{\otimes n})}_{2^n}$$
$$\sum_{j=0}^k \binom{n}{j} 3^j 2^k \leq 2^n.$$

End of Assignment #8