

# INTRODUCTION TO QUANTUM TOMOGRAPHY

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UTS: **QSI**

## QUANTUM STATE TOMOGRAPHY

$$|\psi\rangle \rightarrow \begin{pmatrix} \cos \theta/2 \\ e^{i\phi} \sin \theta/2 \end{pmatrix}$$

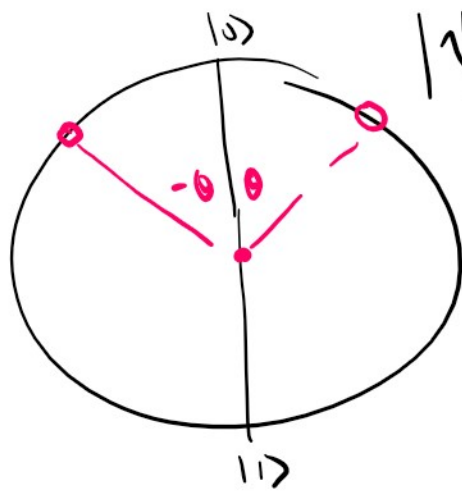
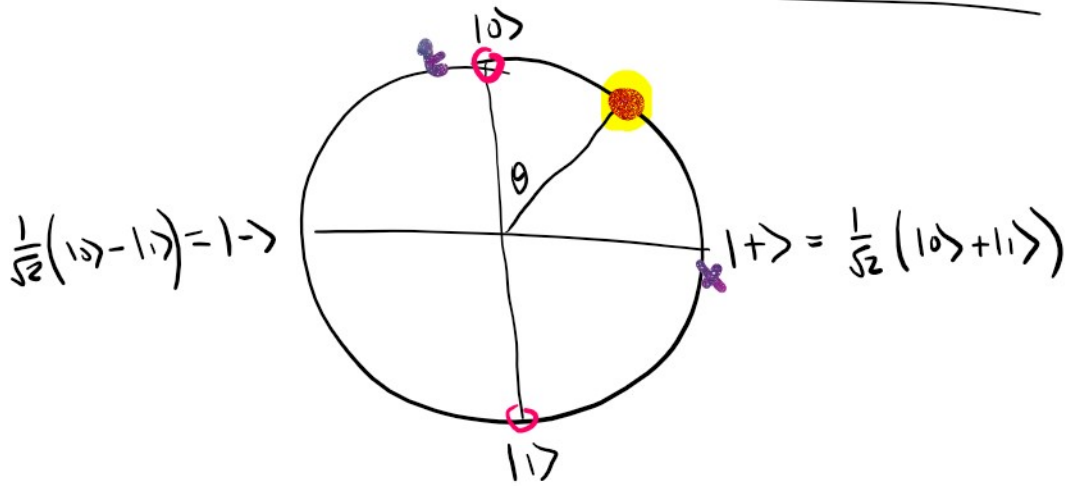
( $b_s$ )



10 (6H, 4T)

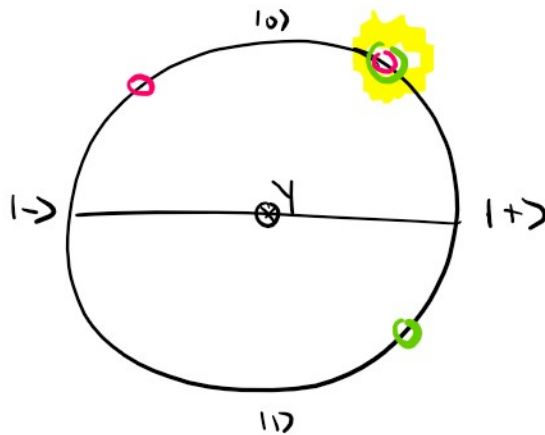
100 (60H, 40T)

100 (00π, π01)

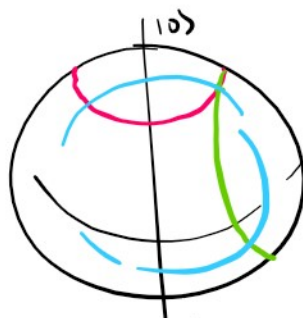


$|\psi\rangle = \cos \frac{\theta}{2} |0\rangle + \sin \frac{\theta}{2} |1\rangle$

$\cos^2 \frac{\theta}{2}$



1000  
1001  
1010  
i  
1111





$n$  qubits  $\rightarrow d = 2^n$   
 $\downarrow$  read  
 $\sim 2d$   
 convey  $n$  bits  
 of information

