

SPINS Lab 2

Quantum Mechanics

Fall 2020

Table templates

Unknown state $|\psi_1\rangle$

Probabilities	Axis		
Result	x	y	z
Spin up			
Spin down			

Unknown state $|\psi_2\rangle$

Probabilities	Axis		
Result	x	y	z
Spin up			
Spin down			

Unknown state $|\psi_3\rangle$

Probabilities	Axis		
Result	x	y	z
Spin up			
Spin down			

Unknown state $|\psi_4\rangle$

Probabilities	Axis		
Result	x	y	z
Spin up			
Spin down			

State $|\psi\rangle$ with magnet $B = \underline{\hspace{2cm}}$

Probabilities	Axis		
Result	x	y	z
Spin up			
Spin down			

Spin 1/2 Interferometer

Beams used		Theory		Experiment	
SG1	SG2	\mathcal{P}_+	\mathcal{P}_-	\mathcal{P}_+	\mathcal{P}_-
$ +\rangle$	$ +\rangle_x$				
	$ -\rangle_x$				
	$ +\rangle_x, -\rangle_x$				
$ -\rangle$	$ +\rangle_x$				
	$ -\rangle_x$				
	$ +\rangle_x, -\rangle_x$				