notebook

December 7, 2024

[1]:
```
!pip install qutip-qip
```

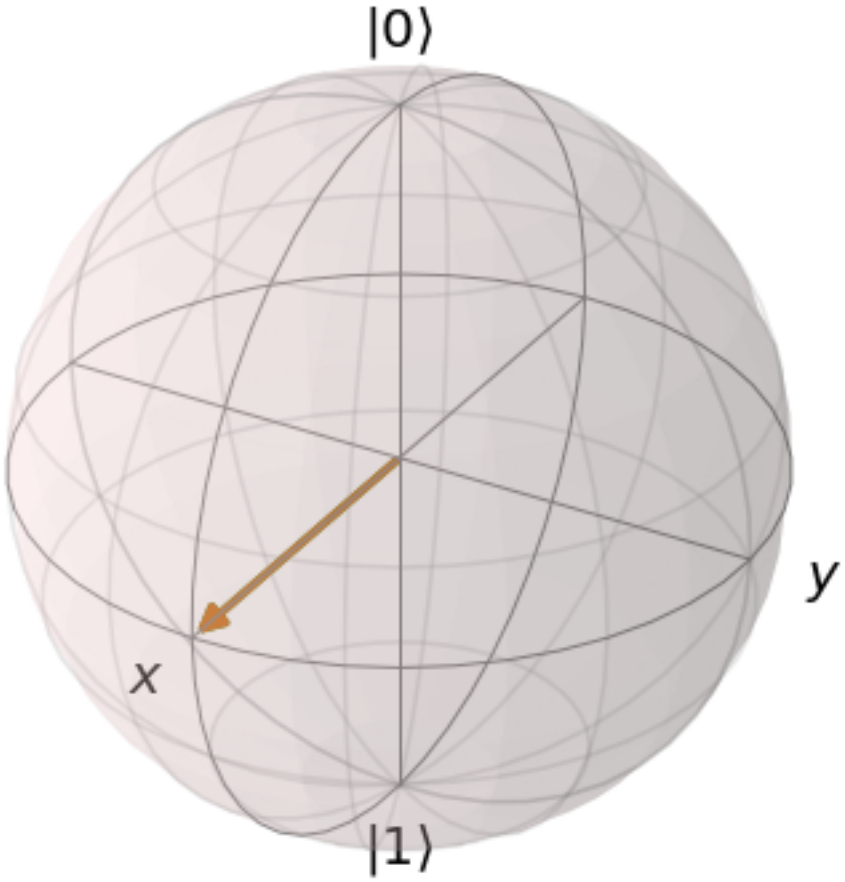
```
Requirement already satisfied: qutip-qip in
/home/nathan/anaconda3/lib/python3.9/site-packages (0.4.0)
Requirement already satisfied: qutip>=4.6 in
/home/nathan/anaconda3/lib/python3.9/site-packages (from qutip-qip) (5.0.4)
Requirement already satisfied: numpy>=1.16.6 in
/home/nathan/anaconda3/lib/python3.9/site-packages (from qutip-qip) (1.26.4)
Requirement already satisfied: scipy>=1.0 in
/home/nathan/anaconda3/lib/python3.9/site-packages (from qutip-qip) (1.13.1)
Requirement already satisfied: packaging in
/home/nathan/anaconda3/lib/python3.9/site-packages (from qutip-qip) (21.0)
Requirement already satisfied: pyparsing>=2.0.2 in
/home/nathan/anaconda3/lib/python3.9/site-packages (from packaging->qutip-qip)
(3.0.4)
```

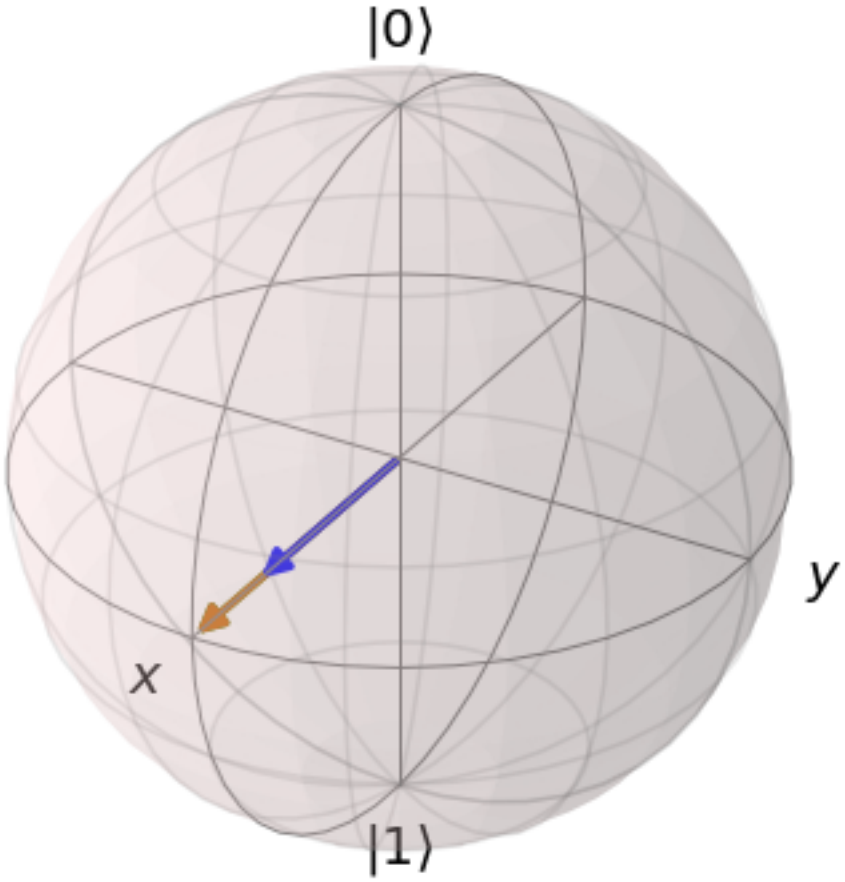
[2]:
```
import qutip as qt
from qutip_qip.circuit import QubitCircuit
import matplotlib.pyplot as plt
import numpy as np
```

[11]:
```
# Problem 2
Psi = (qt.ket("0") + qt.ket("1")).unit()
r = (1, 0, 0)

b = qt.Bloch()
b.add_states(Psi)
b.add_vectors(r)
b.show()

r = (0.7, 0, 0)
b.add_vectors(r)
b.show()
```


|0⟩
y
x
|1⟩


|0⟩
y
x
|1⟩

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