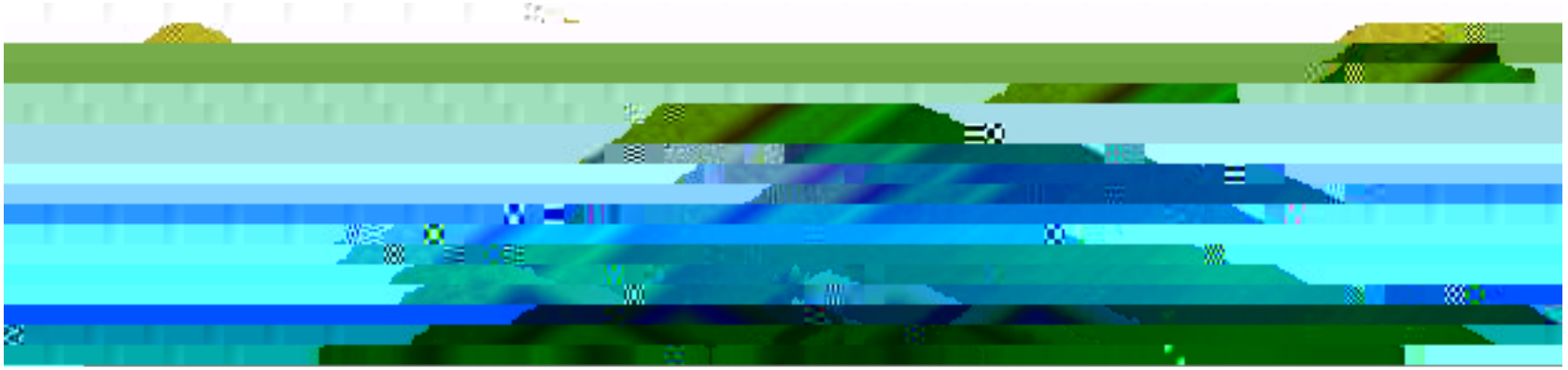
Projective measurements

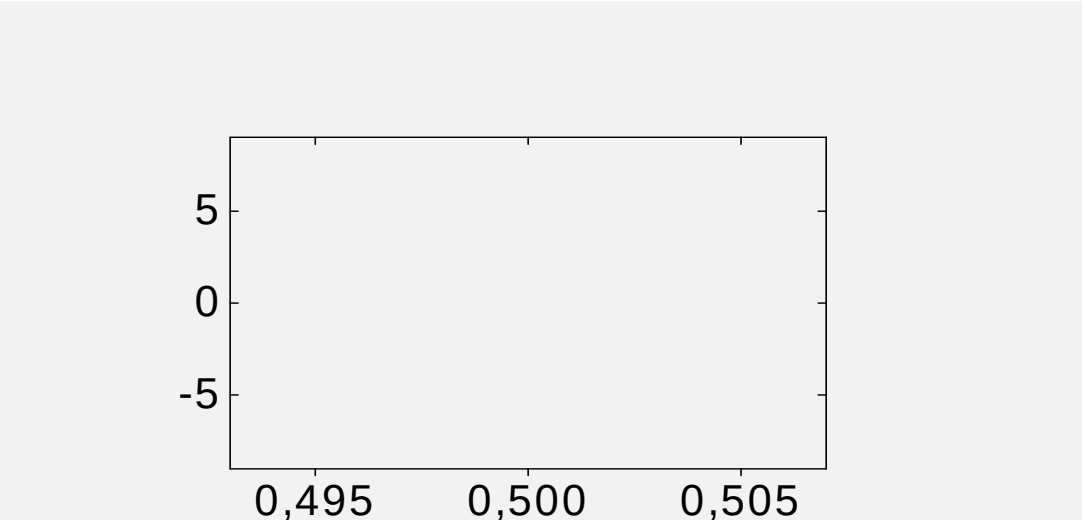
- **State after measurement:**

1. before and after measurement

The flux qubit

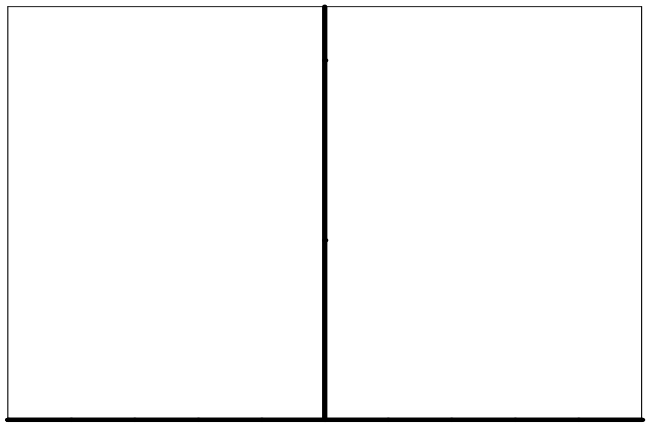


The flux qubit

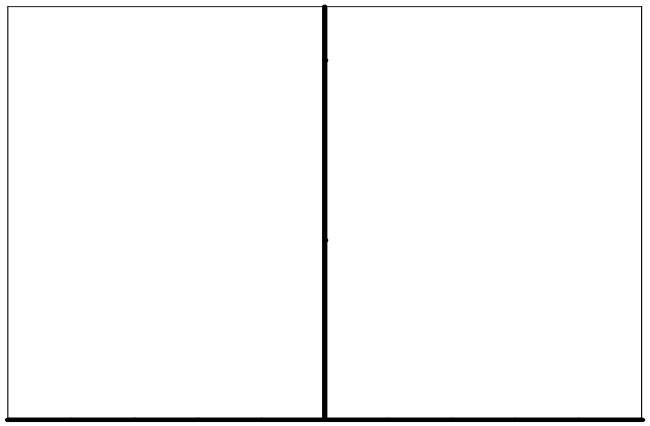


Measurement with a DC-SQUID

The driven Duffing oscillator

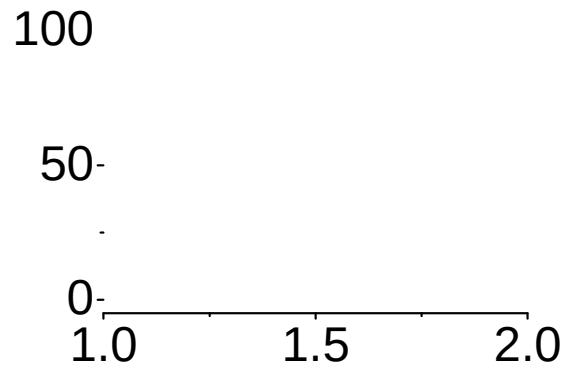


The driven Duffing oscillator

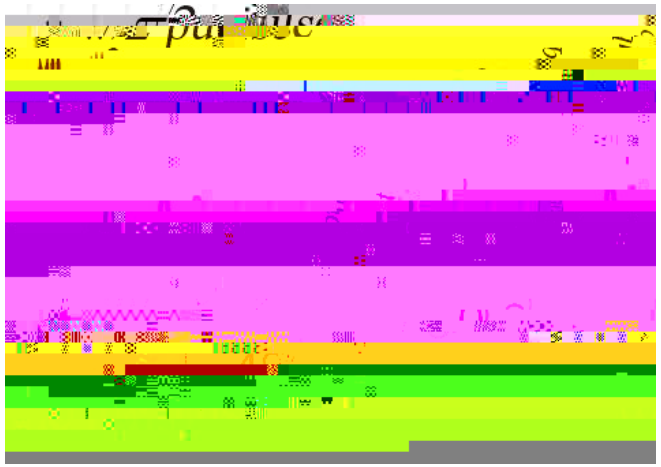


The driven Duffing oscillator

Measurement protocol


100
50
0
1.0
1.5
2.0

Test of projection: repeated measurements



Preparation:

O

$m_1 = h$

$\left|\psi_{post}\right\rangle \approx \left|\mathbf{g}\right\rangle$

$m_1 = l$

$\left|\psi_{post}\right\rangle \approx \left|\mathbf{e}\right\rangle$

A

m1TjnETnQn0=4=Tfn013.8=.88=Tdn([(=)-.1275

Conclusions and perspectives

Efficient and projective measurement of a superconducting qubit

Non-optimal tuning of the detector: weak measurements, Bayes laws