

# Noise Analysis

# Optomechanical Cavity

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*Modeling Quantum Hardware: open dynamics and control*  
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# Strong Measurement

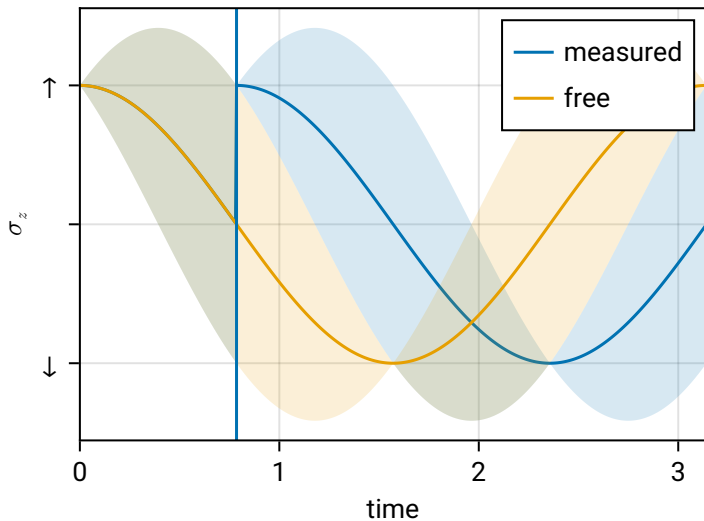
Projective Measurement:

# Qbit System

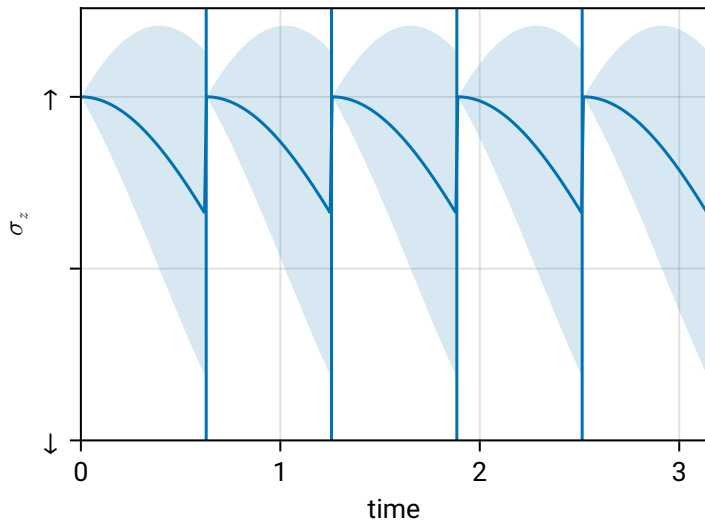
$$H = \sigma_x$$

$$C = \sigma_z$$

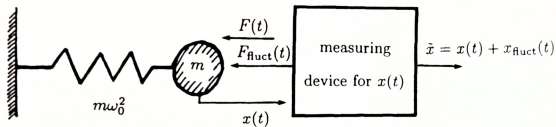
# Measurement



# Discrete Zeno

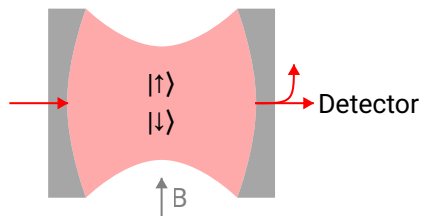


# Weak Measurement



**Fig. 8.4** Detection of a classical force by monitoring the coordinate of an oscillator on which it acts.

# Rabi Oscillations Setup



$$H = g (a^\dagger a)(\sigma^+ \sigma^-)$$

$$+ g_s (\sigma^+ + \sigma^-)$$

$$- i\beta(a^\dagger - a)$$

$$J = \kappa a$$

$$C = \sqrt{\kappa\eta} a$$

Coupling

Magnetic

Optic

Dissipation

Measurement

# Time evolution

