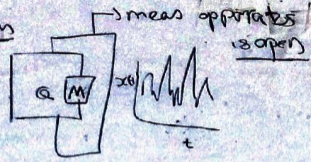
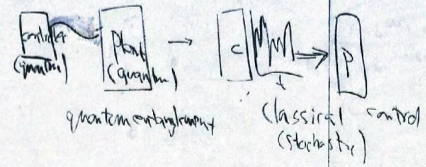


old problem



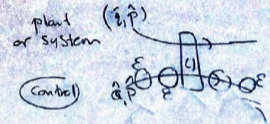
meas. problem

input - problem



Two systems (\hat{q}, \hat{p}) | (\hat{a}, \hat{p})

impulsive interaction



$\Phi(q)$ is Gaussian mean \bar{x} + var. σ

$$\rho_{act}^s = U(\bar{x}) \rho_m U(\bar{x})$$

$$\rho = \frac{4\sigma^2 k^2}{\hbar^2}$$

control input state $|\Phi\rangle$

$$\hat{a}|\Phi\rangle = \alpha|\Phi\rangle$$

$$\Phi_c = \langle \alpha | \Phi \rangle$$

$$\rho_{act}^{system} = U(\hat{u}^\dagger \rho_{in} \hat{u})$$

$$= \int_{-\infty}^{\infty} dx P(x) \hat{u}^\dagger(x) \rho_{in} \hat{u}(x)$$

$$P(x) = |\Phi_c(x/k)|^2$$