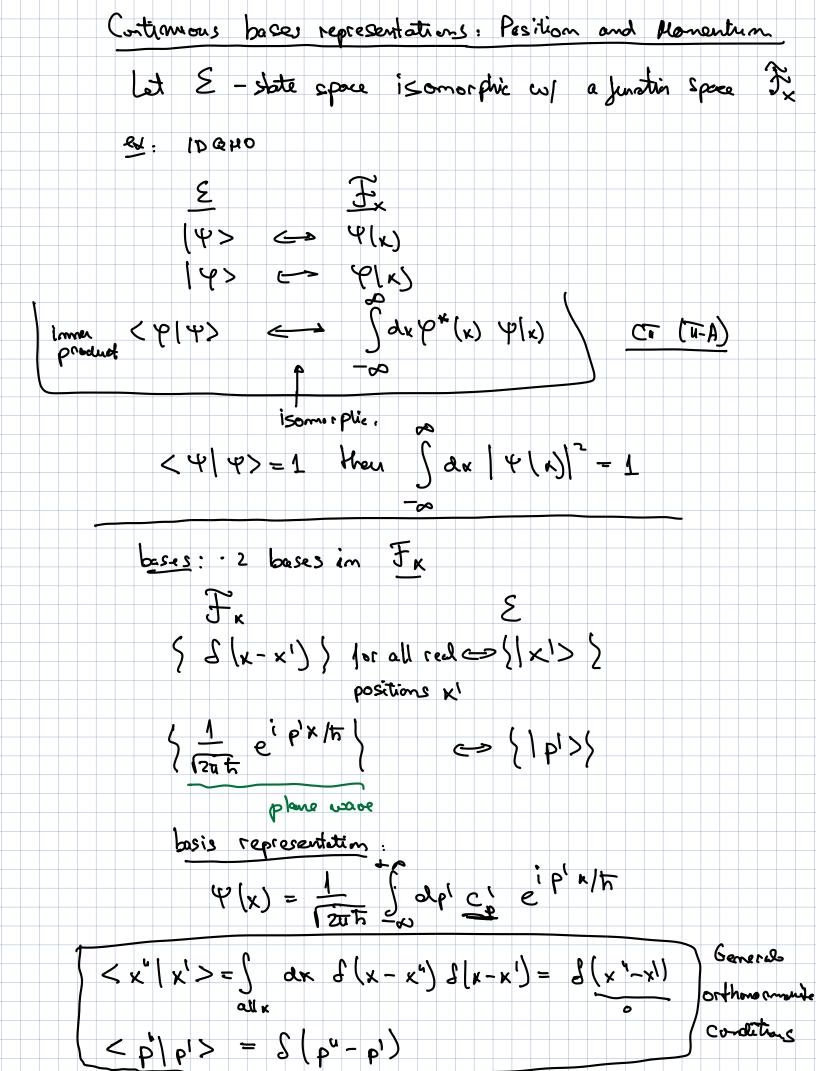


ex:
$$[\hat{x}, \hat{\rho}] = i\pi$$
 $[\hat{x}, \hat{h}] = 0$ $[\hat{\rho}, i\pi] = 0$

Q: $[\hat{x}, \hat{\rho}]^{3} = [\hat{x}, \hat{\rho}] \frac{d}{d\hat{\rho}} [\hat{\rho}^{3}] = i\pi$ $[\hat{\rho}, \hat{\rho}]^{2} = i\pi$



C) osurc relations

$$1 = \int_{-\infty}^{\infty} dx | x \times x | = \int_{-\infty}^{\infty} dp | p \times p |$$

$$x : (p|y) = (y| 1|y) = \int_{-\infty}^{\infty} (x | x | x | x | x | x | y | y | x |$$

$$= \int_{-\infty}^{\infty} (y|x|x|y) dx$$

$$= \int_{-\infty}^{\infty} (x|x|x|y) dx$$

$$= \int_{-\infty}^{\infty} (y|x|x|y) dx$$

