

$$\text{for } \omega t = \pi/2 = \pi/2$$

$$\text{Re}(\alpha(t)) = a_0 \cos(\omega t)$$

$$= c(\omega t) a_0 - i s(\omega t) a_0$$

suppose $\alpha = a_0 \cos$

$$\alpha(t) = e^{-i\omega t} a_0$$

$$e^{-i\omega t} \frac{1}{2} |e^{-i\omega t} \alpha\rangle$$

$$e^{-i\omega t} \frac{1}{2} |e^{-i\omega t} \alpha\rangle$$

width is fixed

oscillator