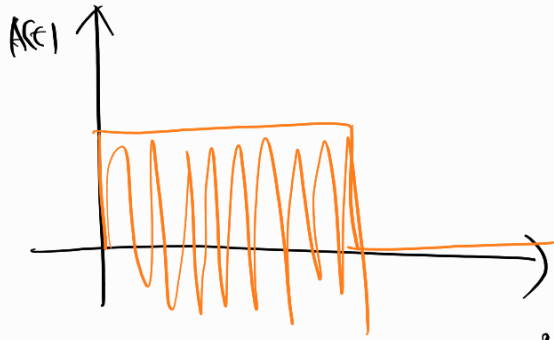
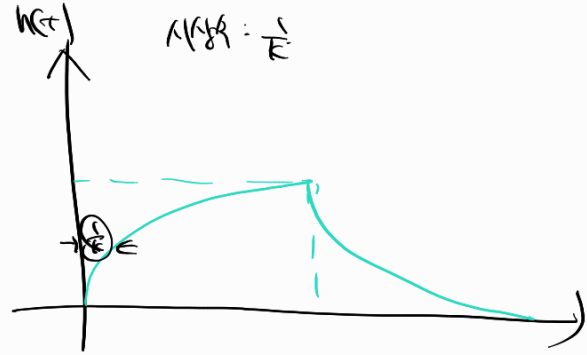


$Q = \frac{\omega}{\Gamma} \approx \omega \tau \Rightarrow Q \approx \text{avg. n. of photons in cavity at any time}$

$\frac{1}{\Gamma}$: avg. up / avg. down



\Rightarrow



$$\text{trans } \alpha \approx - \frac{g^2 \delta_g}{\delta(0 - \delta_g)} \approx - \frac{g^2 \delta_g}{\delta^2}$$

$$H = \underbrace{\frac{\delta \epsilon}{2} \sigma_z}_{\text{plate.}} + \frac{\Omega_{eff}}{2} \sigma_x + \frac{\Omega_{eff}}{2} \sigma_y$$

plate.