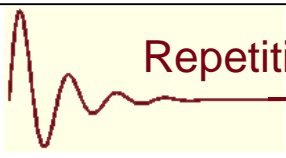
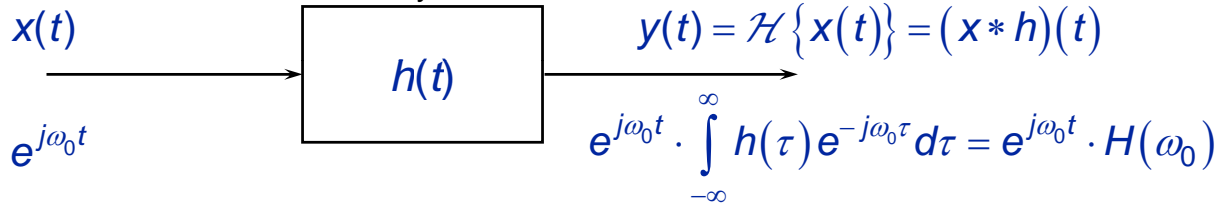


Repetition/förtydligande, periodisk insignal till LTI-system



(Stabilt) Energifritt
LTI-system



$$\sum_{k=-\infty}^{\infty} C_k \cdot e^{jk\omega_1 t}$$

$$\sum_{k=-\infty}^{\infty} C_k \cdot e^{jk\omega_1 t} \cdot H(k\omega_1) = \sum_{k=-\infty}^{\infty} D_k \cdot e^{jk\omega_1 t}$$

där $D_k = C_k \cdot H(k\omega_1)$

$$\begin{aligned} \sin(\omega_0 t) \\ = \frac{1}{2j} e^{j\omega_0 t} - \frac{1}{2j} e^{-j\omega_0 t} \end{aligned}$$

$$\begin{aligned} \frac{1}{2j} e^{j\omega_0 t} H(\omega_0) - \frac{1}{2j} e^{-j\omega_0 t} H(-\omega_0) \\ = |H(\omega_0)| \sin(\omega_0 t + \arg H(\omega_0)) \end{aligned}$$

$$\underline{X_0 + \hat{X}_k \sin(k\omega_1 t + \varphi_k)}$$

$$\underline{X_0 H(0) + \hat{X}_k |H(k\omega_1)| \sin(k\omega_1 t + \varphi_k + \arg H(k\omega_1))}$$