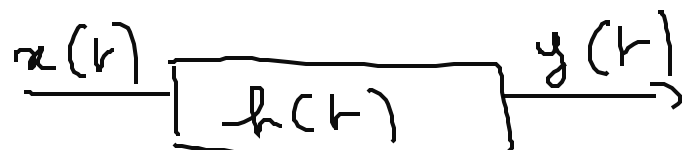


11.1



$$h(t) = \delta(t) + a \delta(t - t_0)$$

$$x(t) = C \cdot \sin(2\pi f_0 t + \phi) \quad \phi \in [0, 2\pi[$$

① $x(t)$ stationnaire au 2nd ordre.

$$\begin{aligned} \text{②} \quad E(x(t)) &= C \cdot E(\sin(2\pi f_0 t + \phi)) \\ &= C \int_0^{2\pi} \sin(2\pi f_0 t + \phi) \cdot \frac{1}{2\pi} d\phi \\ &= \frac{C}{2\pi} [\cos(2\pi f_0 t + \phi)]_0^{2\pi} = 0 \end{aligned}$$

$$\begin{aligned} \bullet C_x(t, t-z) &= C^2 \cdot E(\sin(2\pi f_0(t+\phi)) \cdot \sin(2\pi f_0(t-z))) \\ &= \frac{C^2}{2} \cos(2\pi f_0 z) \cdot \text{indépendante de } t \\ &= C_x(z) \end{aligned}$$

$$\bullet P_{\text{moy}} = C_x(0) = \frac{C^2}{2} < \infty \text{ finie}$$

$x(t)$ Processus stationnaire au 2^e ordre.