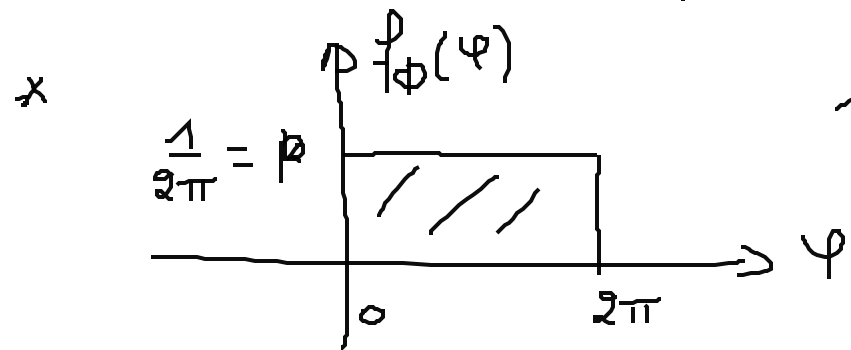


$$b) X(r, \omega) = A(\omega) \sin(2\pi f_0 r + \phi(\omega))$$

A et ϕ sont v. A indépendantes

$$* A(\omega) \in \mathcal{N}(0, \sigma^2)$$



$$\int_{-\infty}^{\infty} f_{\phi}(\varphi) d\varphi = 1$$

$$\int_0^{2\pi} p d\varphi = 1$$

$$p = \frac{1}{2\pi}$$

Exemples

$$A(\omega_1) = 1$$

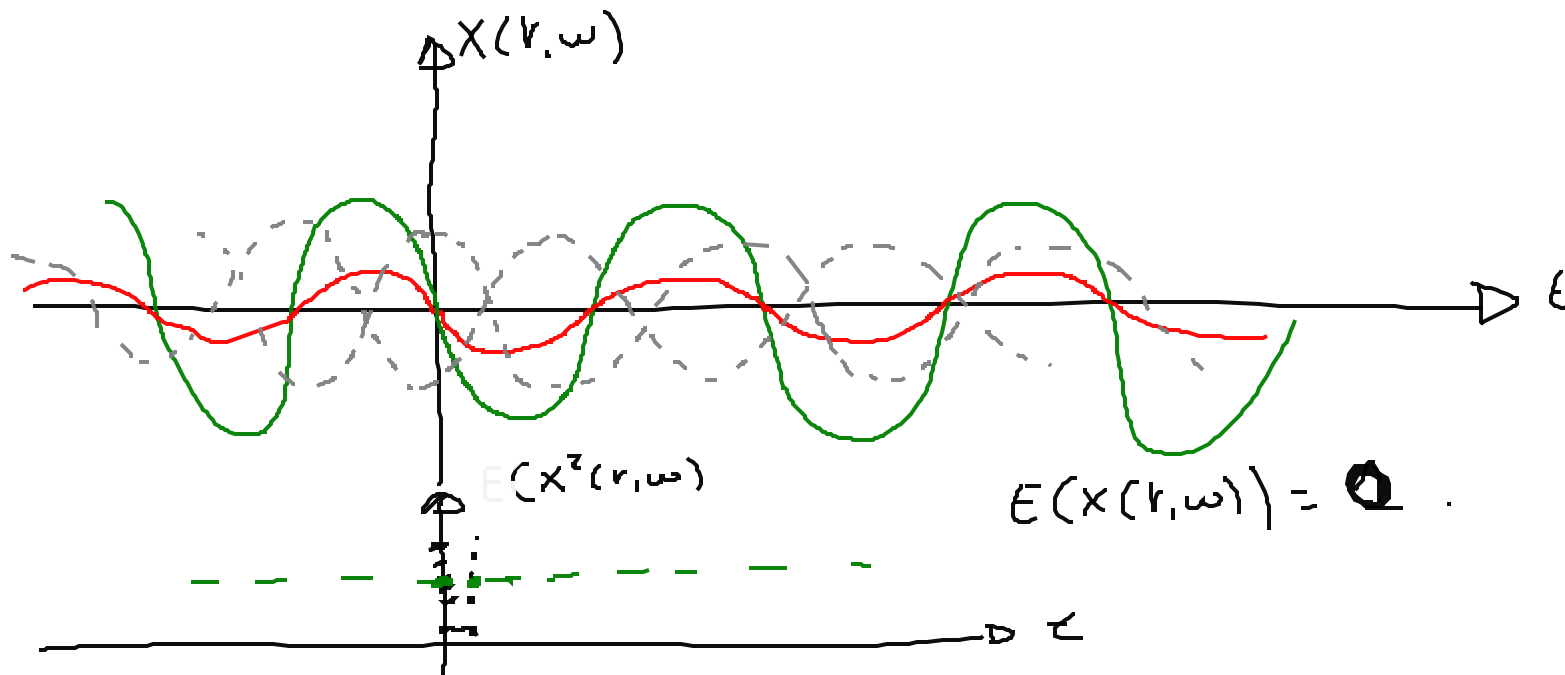
$$\phi(\omega_1) = \pi$$

$$\sin(2\pi f_0 r + \pi) = -\sin(2\pi f_0 r)$$

$$A(\omega_2) = -0,5$$

$$\phi(\omega_2) = 0$$

$$-0,5 \sin(2\pi f_0 r)$$



$$E(X(r, \omega)) = 0$$