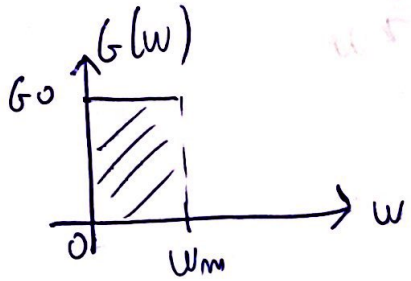
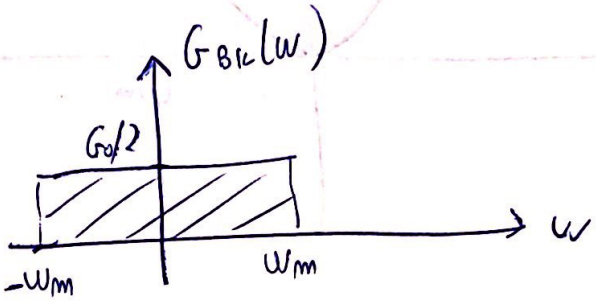
ES. 5 (POTENZA FINITA 3)

- UN COROLLARIO DI ES. 4





- SI CALCOLA LO SPETTRO DI POTENZA IN USCITA AD UNA RETE LINEARE
- IN PARTICOLARE SI CONSIDERA UNA RETE DERIVATRICE

$$x(t) \rightarrow \boxed{d/dt} \rightarrow \dot{x}(t)$$

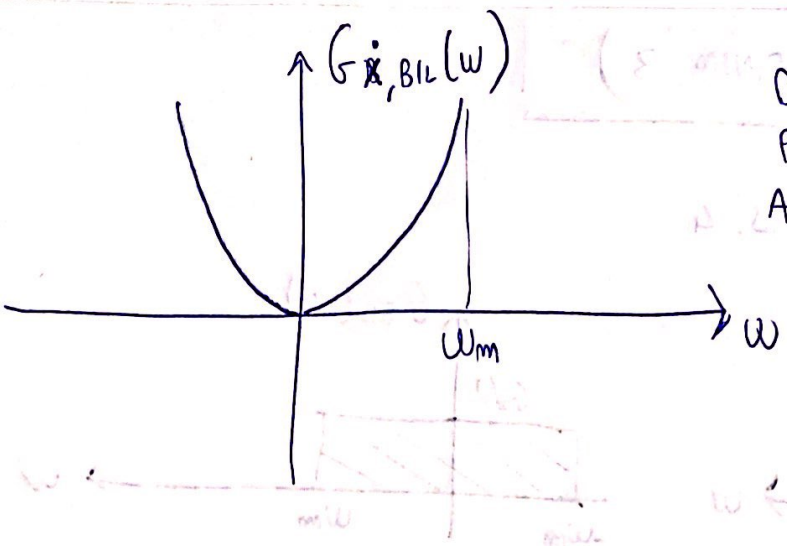
($x(t)$ ES. 4 ∴ CON STESSO SPETTRO POTENZA)

$$G_{x,BIL}(w) = \begin{cases} G_0/2 & 0 \leq |w| \leq w_m \\ 0 & |w| > w_m \end{cases}$$

$$\rightarrow G_{\dot{x},BIL} = |H(w)|^2 \, G_{x,BIL}(w)$$

$$= |jw|^2 \, G_{x,BIL}(w)$$

$$= \begin{cases} w^2 G_0/2 & 0 \leq |w| \leq w_m \\ 0 & |w| > w_m \end{cases}$$



DENSITÀ SPETTRALE DI POTENZA IN USCITA AL DERIVATORE.

$$X_{EFF} = \sqrt{P} \rightarrow P_{\dot{x}} = \int_0^{w_m} G_x(w)\,dw$$

$$= G_0 \int_0^{w_m} w^2\,dw$$

$$= G_0 \frac{w_m^3}{3} =$$

$= G_0 w_m$

$$= P \frac{w_m^2}{3}$$

$$= X_{EFF}^2 \frac{w_m^2}{3}$$

$$\dot{X}_{EFF} = \sqrt{P_{\dot{x}}} = X_{EFF} \frac{w_m}{\sqrt{3}}$$