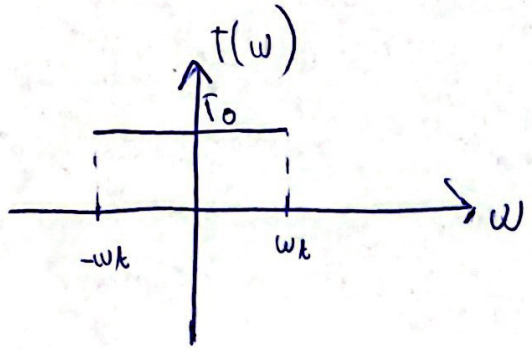
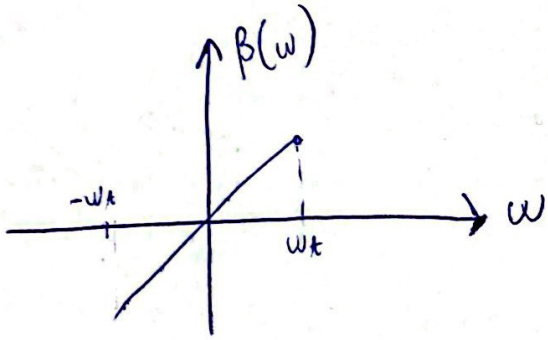
ES. RISPOSTA IMPULSIVA FILTRO PASSA BASSO IDEALE



$T_0 = 1$ PER UNITÀ ESERCIZIO

$$H(\omega) = T(\omega)\, e^{-j\beta(\omega)} = \begin{cases} e^{-j\beta(\omega)} & |\omega| < \omega_t \\ 0 & |\omega| > \omega_t \end{cases}$$



$$h(t) = F^{-1}\left[H(\omega)\right] = \frac{\omega_t}{\tilde{\pi}} \frac{\text{sen}\left(\omega_t (t-t_0)\right)}{\omega_t (t-t_0)}$$

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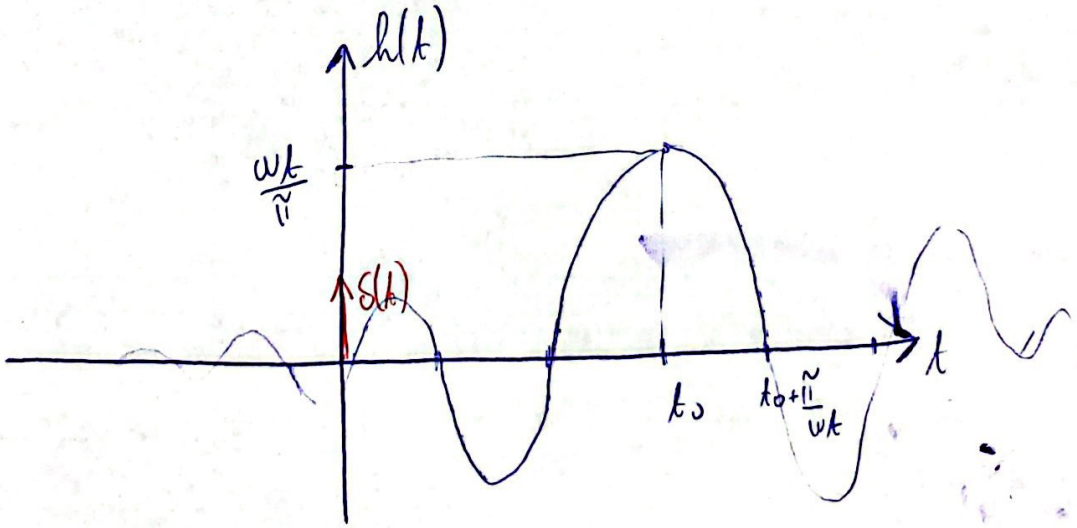
$$x(t) = \frac{X_0 \omega_m}{\tilde{\pi}} \frac{\text{sen}(\omega_m t)}{\omega_m t}$$



NOTA: $h(t) \neq 0$ IN $t < 0$ → NON È VERIFICATA LA CONDIZIONE DI FISICA REALIZZABILITÀ (RISPOSTA ANTICIPATIVA, IRREALIZZABILE) ⇒ INFATTI FILTRO IDEALE