EHB 351 FINAL

SORU-2

Alp Alpant
0401 500 28

A. $A \rightarrow x_c(t) \cdot \cos(w_c t + \theta)$

$C \rightarrow x_c(t) \cdot \sin(w_c t + \theta)$

$A \rightarrow A_c(1 + m x(t)) \cos w_c t \cdot \cos(w_c t + \theta)$

$\rightarrow$ [AGS, $f = W$] $\rightarrow B$

$A_c \cos w_c t \cdot \cos(w_c t + \theta) + A_c m x(t) \cdot \cos w_c t \cdot \cos(w_c t + \theta)$

$\frac{A_c}{2}\left(\cos(2w_c t + \theta) + \cos\theta\right) + \frac{A_c m x(t)}{2}\left(\cos(2w_c t + \theta) + \cos\theta\right)$

$A(t)$

$\cos(-\theta) = \cos\theta$

$\cos^2 x = \frac{\cos 2x + 1}{2}$

$B(t) = \frac{A_c}{2}\cos\theta + \frac{A_c m x(t)}{2} \cdot \cos\theta$

$B \rightarrow [\,(\,)^2\,] \rightarrow = (B(t))^2 = \frac{A_c^2}{4}\left(\frac{\cos 2\theta + 1}{2}\right) + \frac{A_c^2 m^2 x(t)^2}{4} \cdot \left(\frac{\cos 2\theta + 1}{2}\right)$

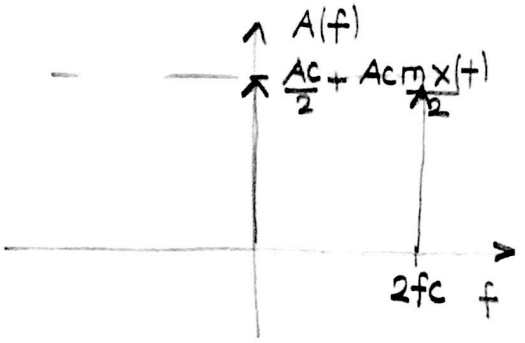
$C \rightarrow A_c(1 + m x(t)) \cos w_c t \cdot \sin(w_c t + \theta)$, $\sin(w_c t + \theta) = \cos\left(w_c t + \theta - \frac{\pi}{2}\right)$

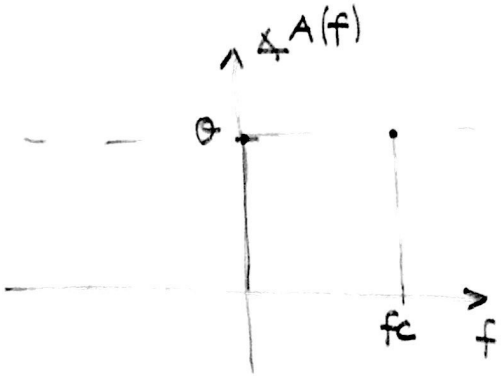
$C(t) = \frac{A_c}{2}\left(\cos\left(2w_c t + \theta - \frac{\pi}{2}\right) + \cos\left(\theta - \frac{\pi}{2}\right)\right) + \frac{A_c m x(t)}{2}\left(\cos\left(2w_c t + \theta - \frac{\pi}{2}\right) + \cos\left(\theta - \frac{\pi}{2}\right)\right)$

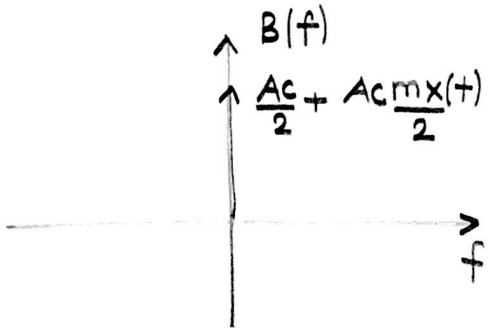
$C \rightarrow$ [AGS, $f = W$] $\rightarrow D$

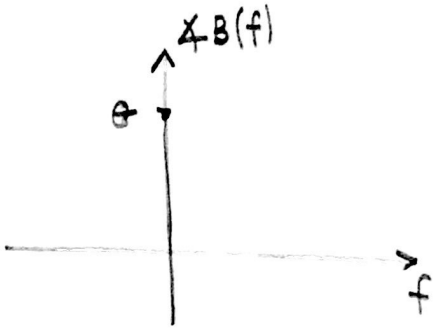
$D(t) = \frac{A_c}{2}\cos\left(\theta - \frac{\pi}{2}\right) + \frac{A_c m x(t)}{2}\cos\left(\theta - \frac{\pi}{2}\right)$

$D \rightarrow [\,(\,)^2\,] \rightarrow = (D(t))^2 = \frac{A_c^2}{4}\left(\frac{\cos(2\theta - \pi) + 1}{2}\right) + \frac{A_c^2 m^2 x(t)^2}{4}\left(\frac{\cos(2\theta - \pi) + 1}{2}\right)$

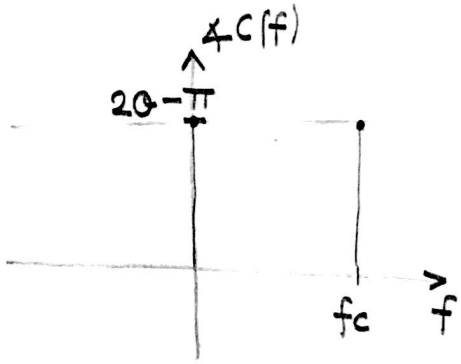

A(f)
Ac/2 + Acmx(t)/2
2fc
f

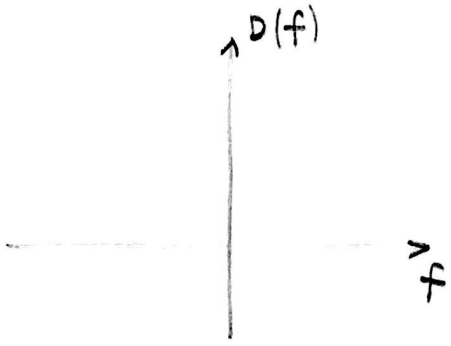

∠A(f)
0
fc
f

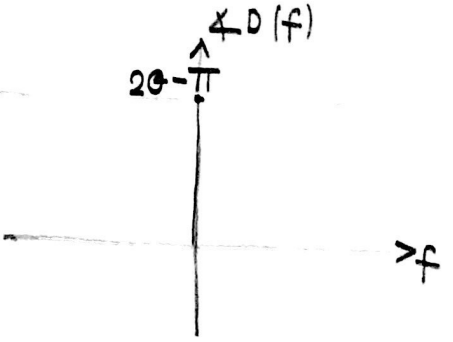

B(f)
Ac/2 + Acmx(t)/2
f


∠B(f)
0
f


C(f)
f


∠C(f)
2θ-π
fc
f


D(f)
f


∠D(f)
2θ-π
f