

Créé avec PTC Mathcad

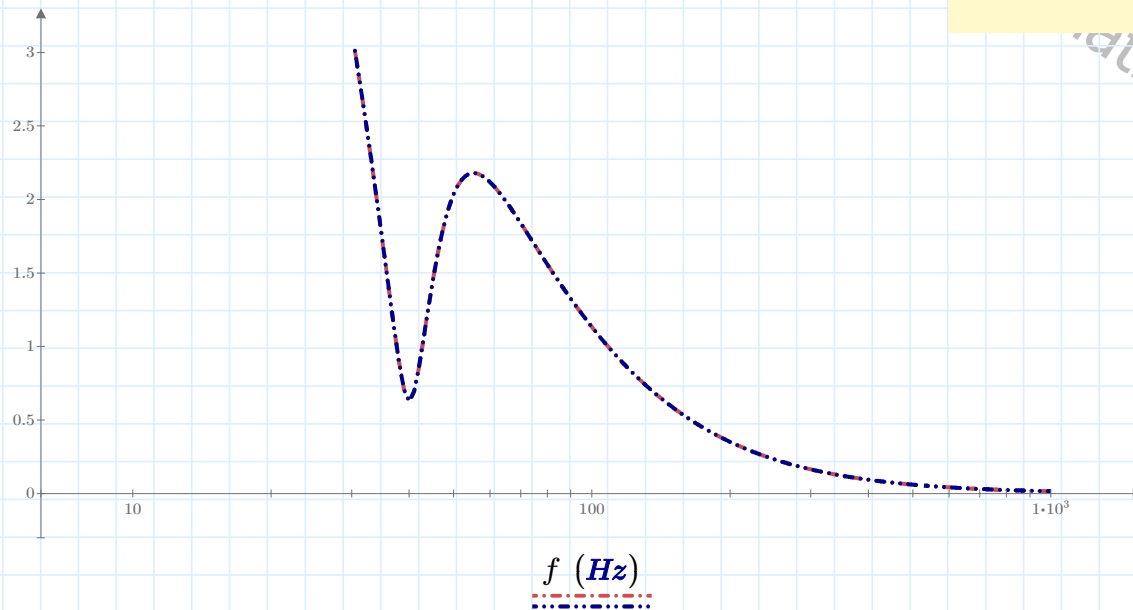
$$e_g := 10 \text{ V} \quad f := 10 \text{ Hz}, 11 \text{ Hz}.. 1000 \text{ Hz} \quad f_S := 19 \text{ Hz} \quad f_B := 40 \text{ Hz} \quad f_0 := \sqrt{f_S \cdot f_B} \quad h := \frac{f_B}{f_S}$$

$$Bl := 15.53 \frac{\text{N}}{\text{A}} \quad Q_{ES} := 0.178 \quad Q_{TS} := 0.166 \quad V_{AS} := 1094 \text{ L} \quad V_{AB} := 197 \text{ L} \quad \alpha := \frac{V_{AS}}{V_{AB}} \quad Q_L := 10$$

$$a_1 := \frac{1}{Q_L \cdot \sqrt{h}} + \frac{\sqrt{h}}{Q_{TS}} \quad a_2 := \frac{\alpha + 1}{h} + h + \frac{1}{Q_L \cdot Q_{TS}} \quad a_3 := \frac{1}{Q_{TS} \cdot \sqrt{h}} + \frac{\sqrt{h}}{Q_L}$$

$$x_d(f) := \frac{e_g \cdot \sqrt{2}}{Bl \cdot 2 \pi \cdot f_S \cdot Q_{ES}} \cdot \frac{1 + \frac{1}{Q_L} \cdot \frac{1j \cdot f}{f_B} + \left(\frac{1j \cdot f}{f_B}\right)^2}{1 + a_1 \cdot \left(\frac{1j \cdot f}{f_0}\right) + a_2 \cdot \left(\frac{1j \cdot f}{f_0}\right)^2 + a_3 \cdot \left(\frac{1j \cdot f}{f_0}\right)^3 + \left(\frac{1j \cdot f}{f_0}\right)^4}$$

$$x_m(f) := \frac{e_g \cdot \sqrt{2}}{Bl \cdot 2 \pi \cdot f_S \cdot Q_{ES}} \cdot \frac{\sqrt{\left(1 - \left(\frac{f}{f_B}\right)^2\right)^2 + \left(\frac{1}{Q_L} \cdot \frac{f}{f_B}\right)^2}}{\sqrt{\left(1 - a_2 \cdot \left(\frac{f}{f_0}\right)^2 + \left(\frac{f}{f_0}\right)^4\right)^2 + \left(a_1 \cdot \left(\frac{f}{f_0}\right) - a_3 \cdot \left(\frac{f}{f_0}\right)^3\right)^2}}$$



$x_m(f)$  (mm)  
 $|x_d(f)|$  (mm)