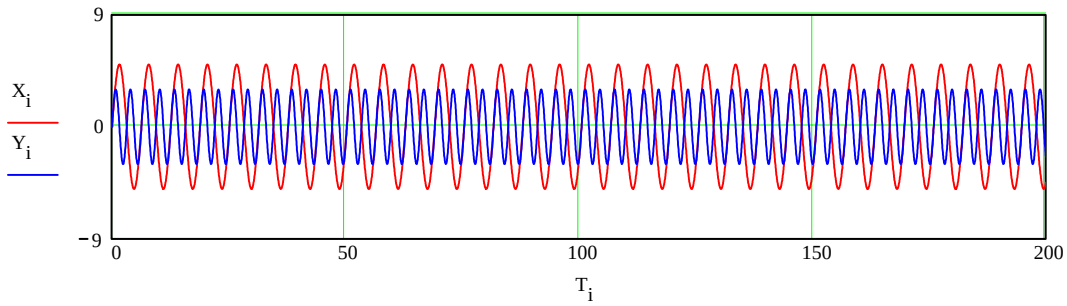
NAMES _____

INTEGER

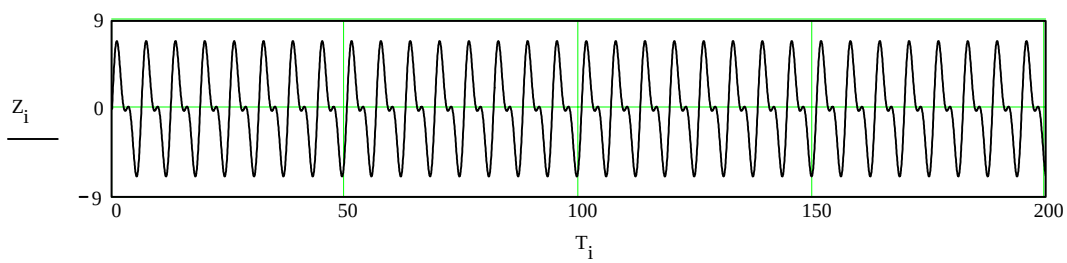
Note: ω_1 is the reference frequency and ω_2 is the target frequency.

$A_1 := 5 \quad A_2 := 3 \quad \omega_1 := 1 \quad \omega_2 := 2 \quad timebins := 5000 \quad i := 0, 1 .. (timebins - 1) \quad T_i := \frac{i}{25}$

$X_i := A_1 \cdot \sin(\omega_1 \cdot T_i) \quad Y_i := A_2 \cdot \sin(\omega_2 \cdot T_i) \quad Z_i := X_i + Y_i$



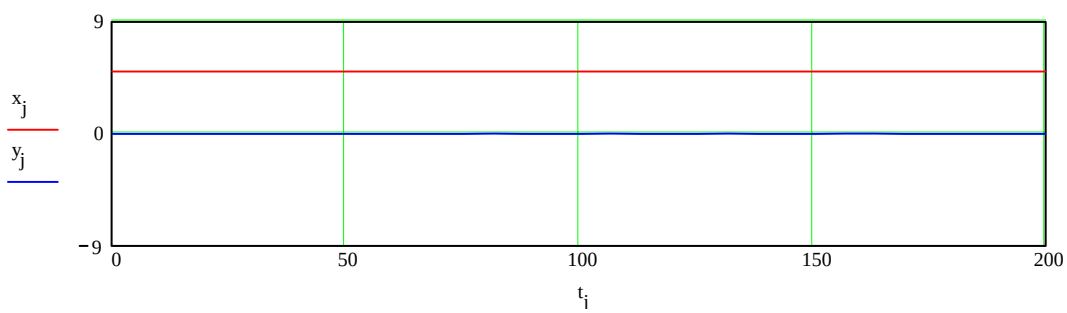
(Fig 1)



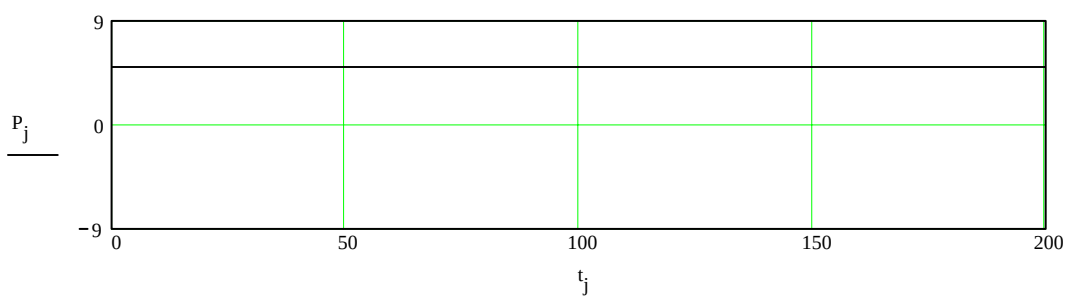
(Fig 2)

$\phi := \frac{\pi}{2} \quad j := 0, 1 .. 399 \quad t_j := 2 \cdot \pi \cdot j$

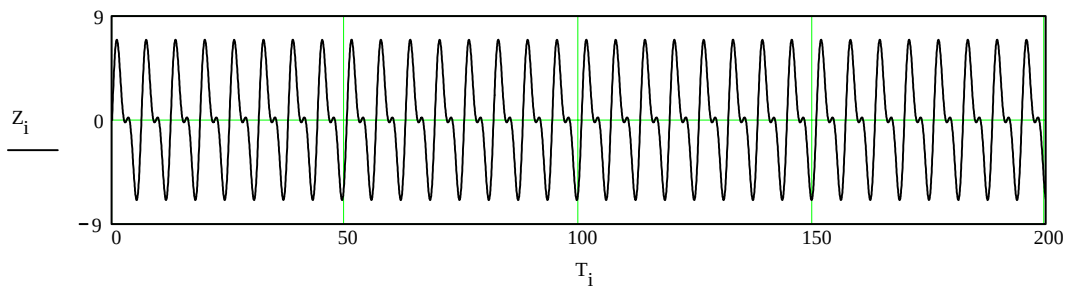
$x_i := A_1 \cdot \sin(\omega_1 \cdot t_i + \phi) \quad y_i := A_2 \cdot \sin(\omega_2 \cdot t_i) \quad P_i := x_i + y_i$



(Fig 3)



(Fig 4)

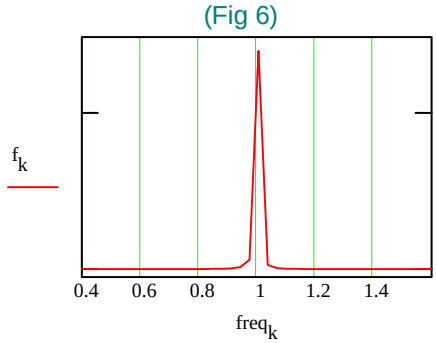
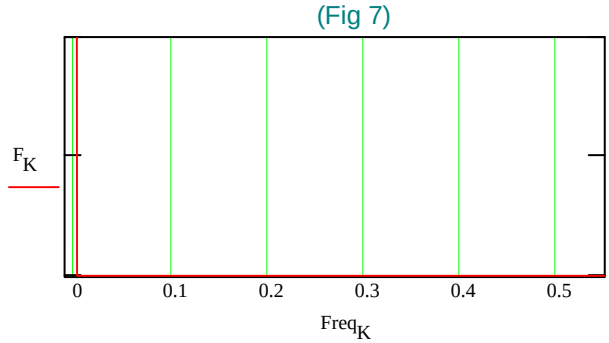


(Fig 5)

$$f_{nyquist} := \left| \frac{\frac{1}{T_1 - T_2}}{2} \right| \qquad freqbins := \frac{timebins}{2} \qquad k := 0, 1 .. freqbins - 1 \qquad K := 0, 1 .. 250$$

$$Freq_K := K \cdot \frac{\left(\frac{1}{4 \cdot \pi}\right)}{200} \cdot 2 \cdot \pi \qquad freq_k := k \cdot \frac{f_{nyquist}}{freqbins} \cdot 2 \cdot \pi \qquad f := \overrightarrow{(|\ cfft(Z)\ |)^2} \qquad F := \overrightarrow{(|\ cfft(P)\ |)^2}$$

(Fig 6)



(Fig 7)