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PROJETO 1 : ***Análise espectral por transformadas de fourier***
Curso: Física Estatística Computacional Prof. F. C. Alcaraz
Data de entrega: 23/03/2024

1 Transformada de Fourier discreta

2 Gerando séries

$$y_i = a_1 \cos(\omega_1 t_i) + a_2 \sin(\omega_2 t_i), t_i = i \cdot \Delta t, i = 1, \cdots, N \tag{1}$$

A $N = 200, \Delta t = 0.04, a_1 = 2, a_2 = 4, \omega_1 = 4\pi(Hz), \omega_2 = 2.5\pi(Hz)$

B $N = 200, \Delta t = 0.04, a_1 = 3, a_2 = 2, \omega_1 = 4\pi(Hz), \omega_2 = 2.5\pi(Hz)$

C $N = 200, \Delta t = 0.4, a_1 = 2, a_2 = 4, \omega_1 = 4\pi(Hz), \omega_2 = 0.2\pi(Hz)$

D $N = 200, \Delta t = 0.04, a_1 = 3, a_2 = 2, \omega_1 = 4\pi(Hz), \omega_2 = 0.2\pi(Hz)$