

Diskretna Fourierova transformacija (DFT)

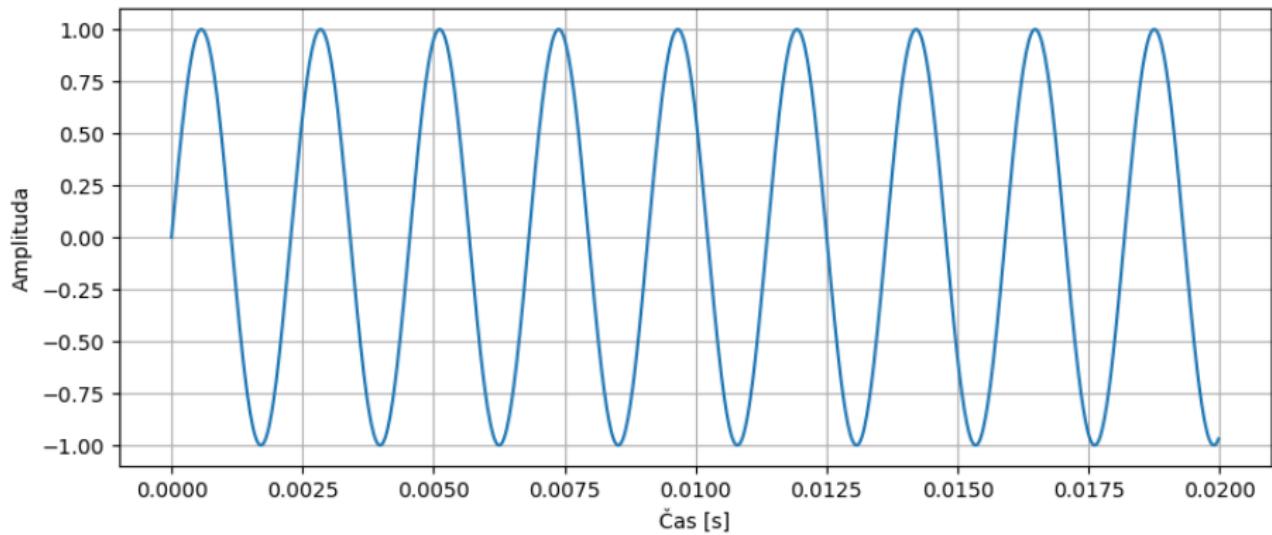
Projektna naloga

Amanda Babič, Manca Kavčič

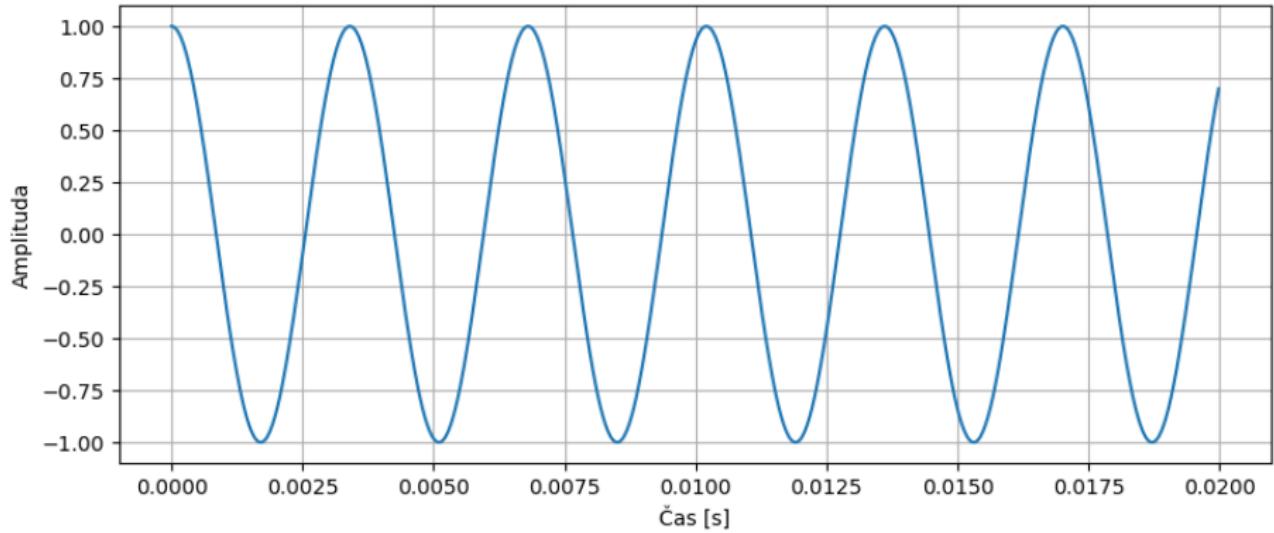
Fakulteta za matematiko in fiziko

20. januar 2026

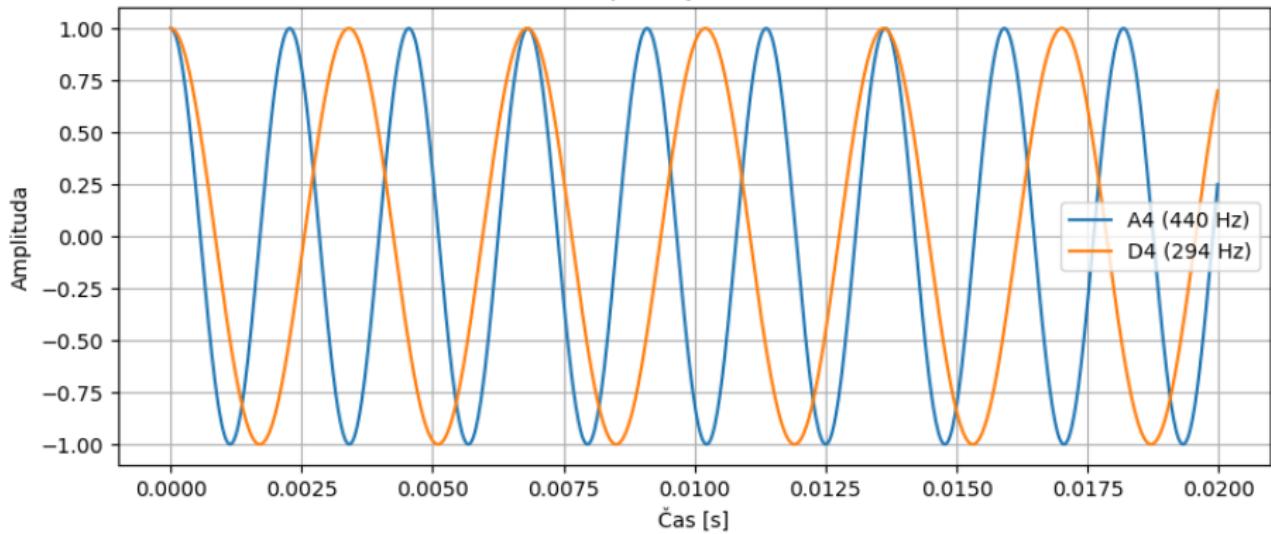
Ton A4

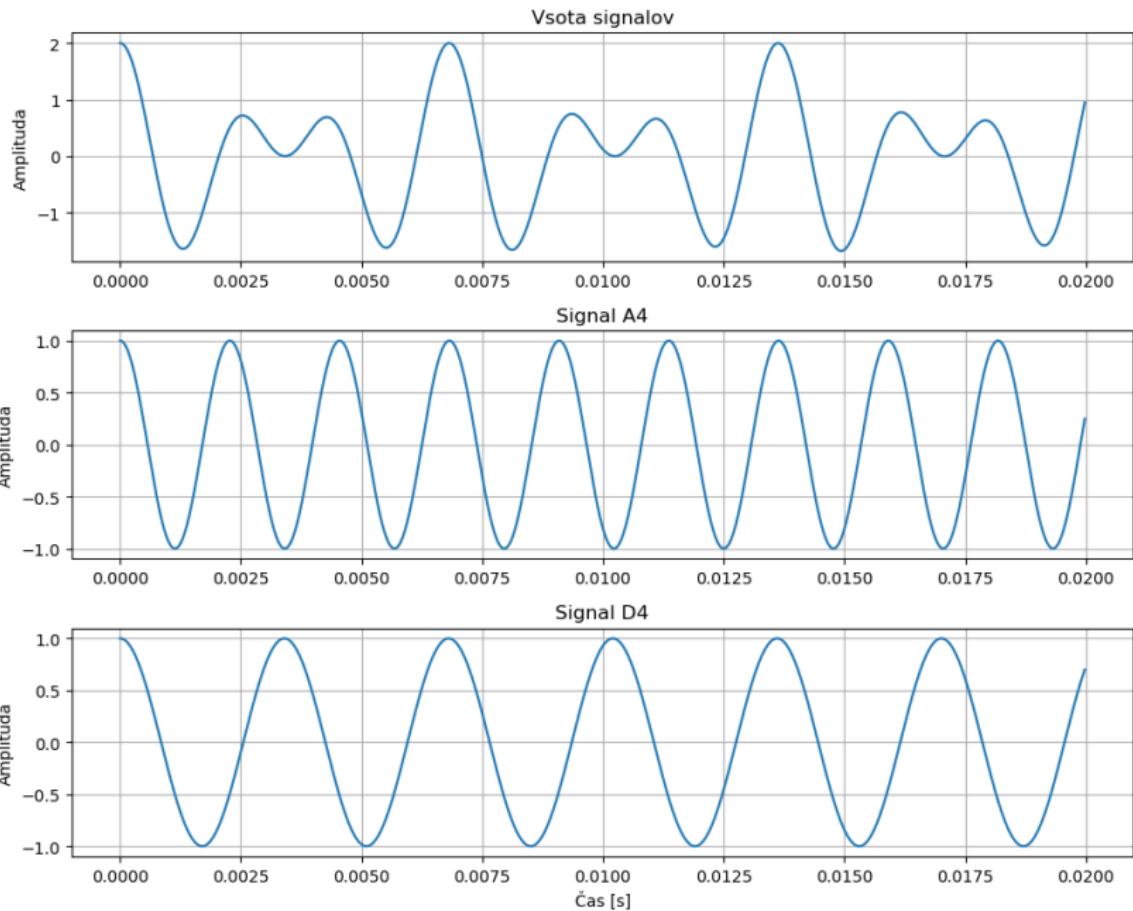


Ton D4

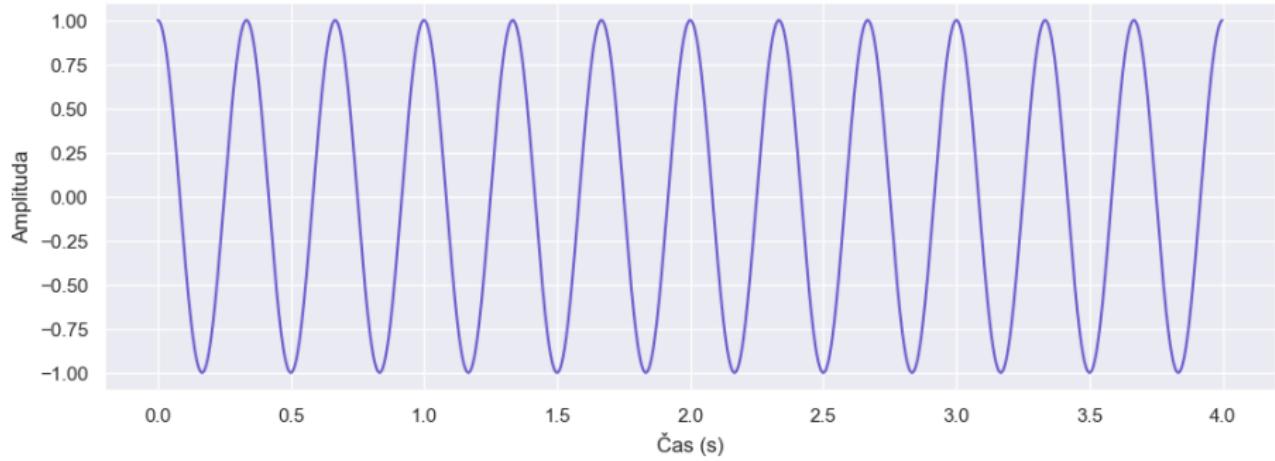


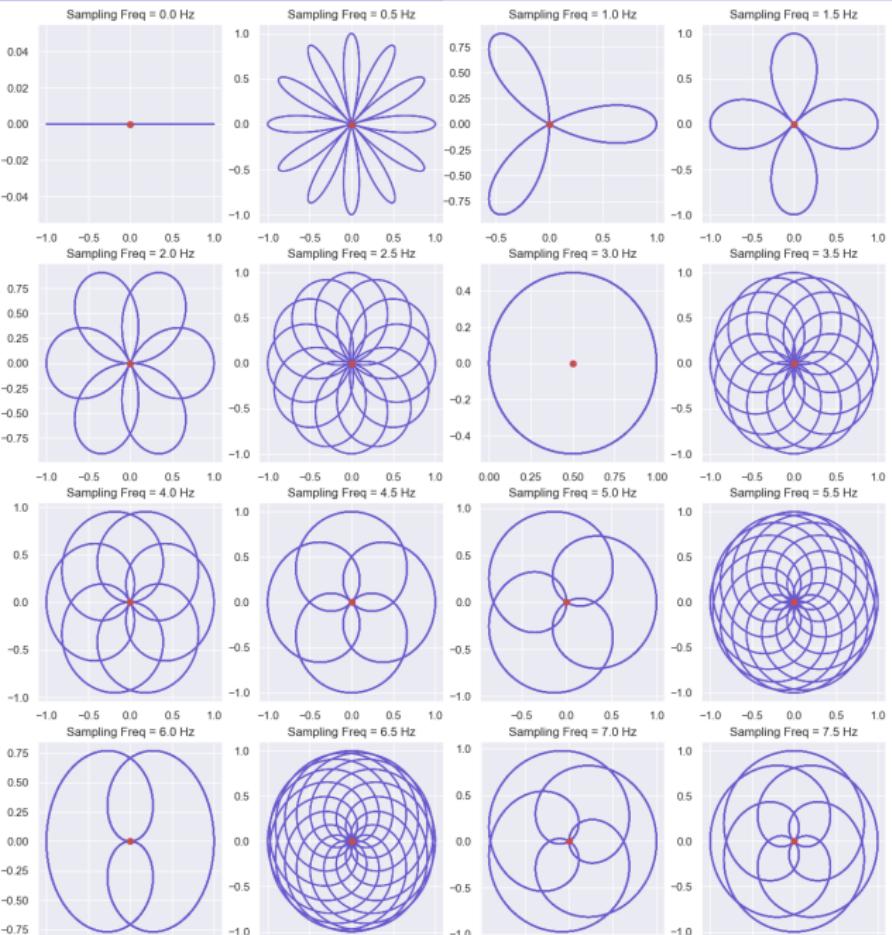
Sovpadanje A4 in D4

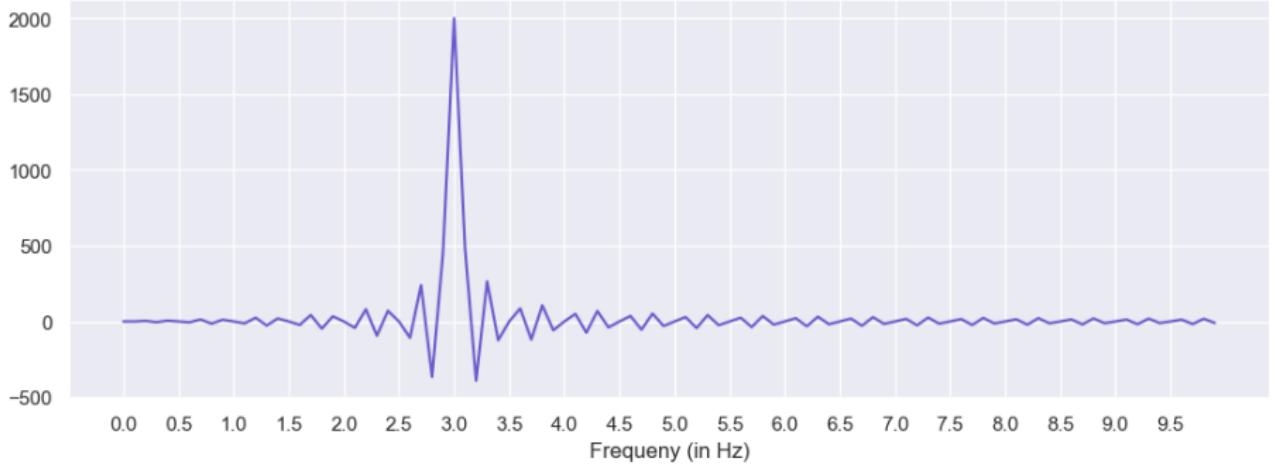




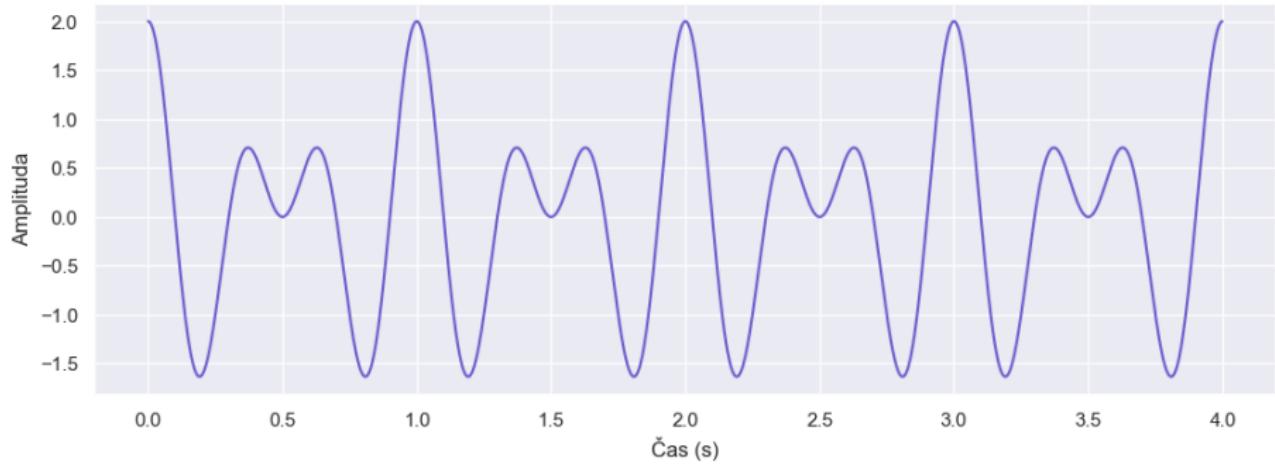
Kosinusni val s frekvenco 3 Hz

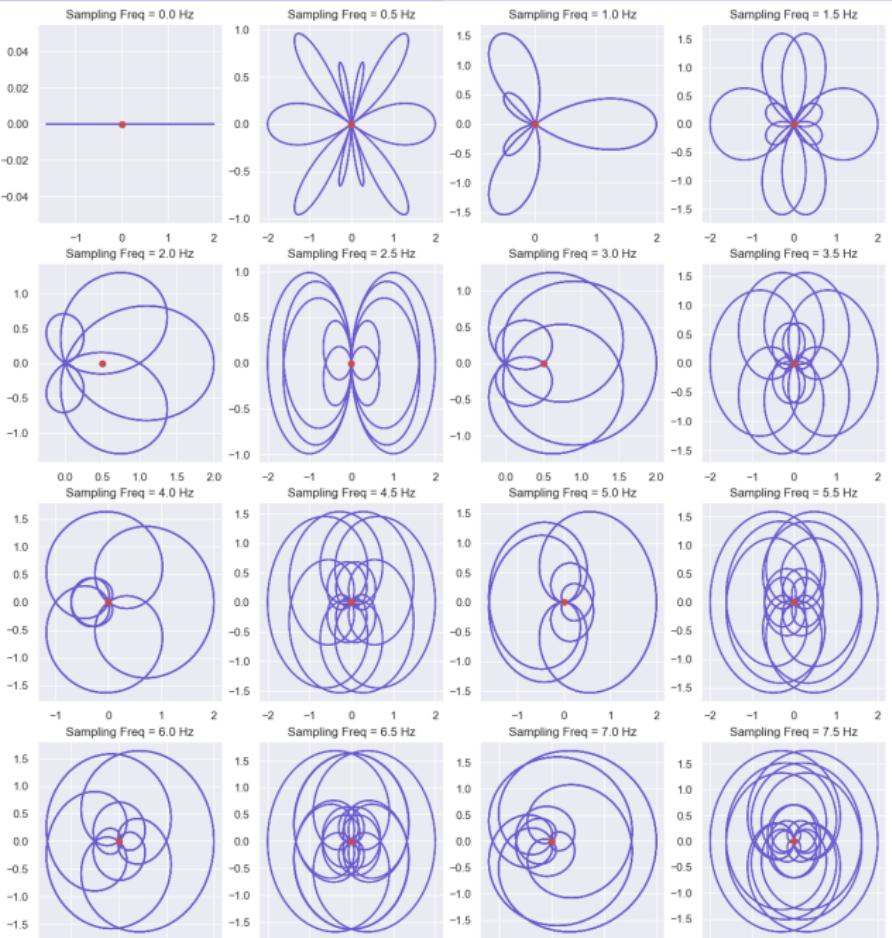


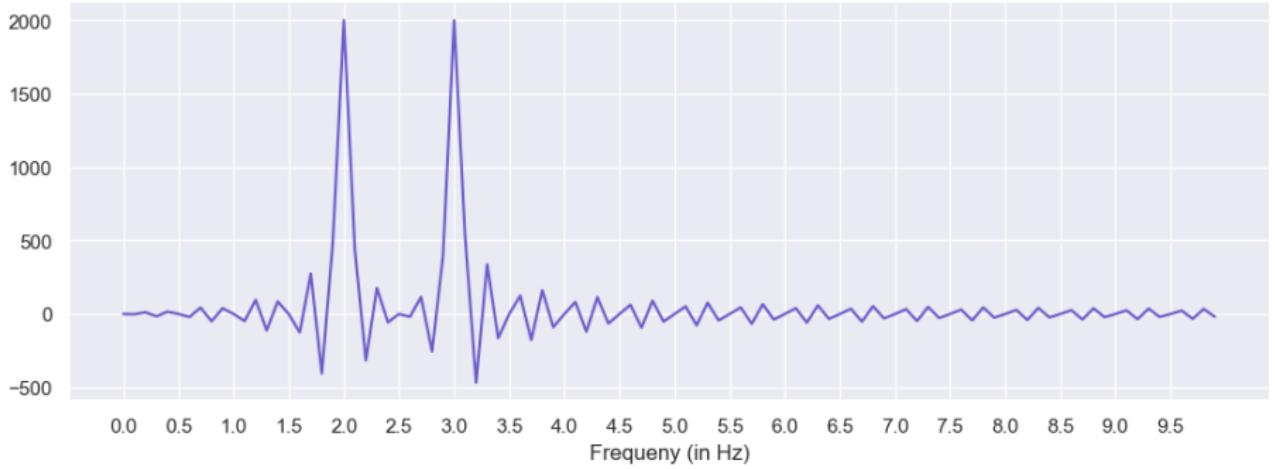


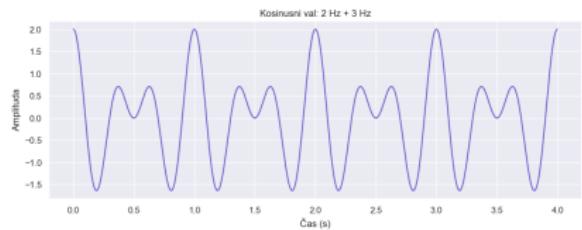
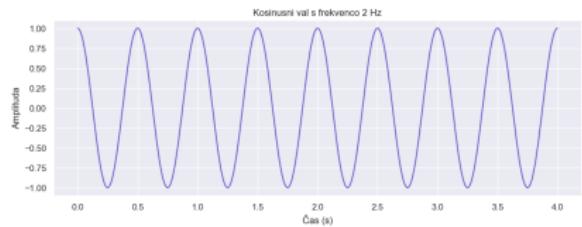
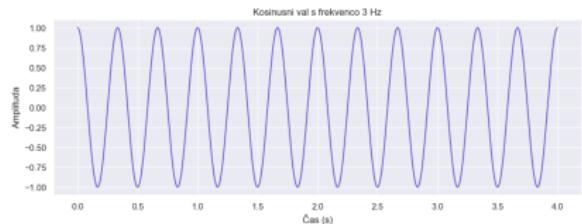


Kosinusni val: 2 Hz + 3 Hz





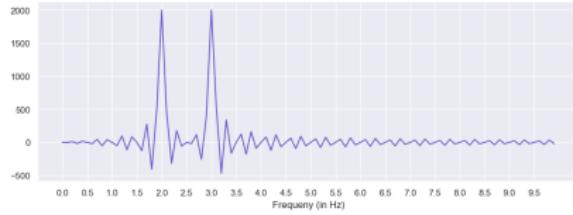
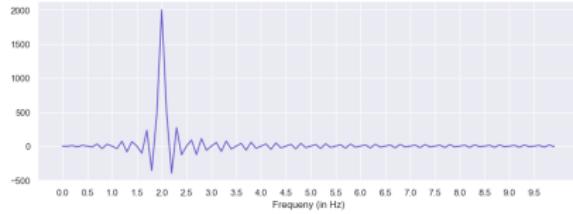
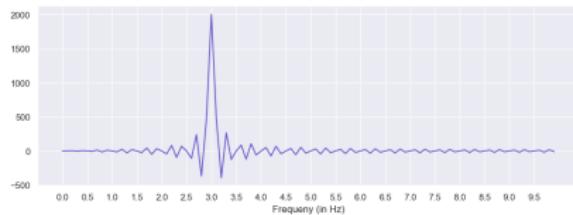




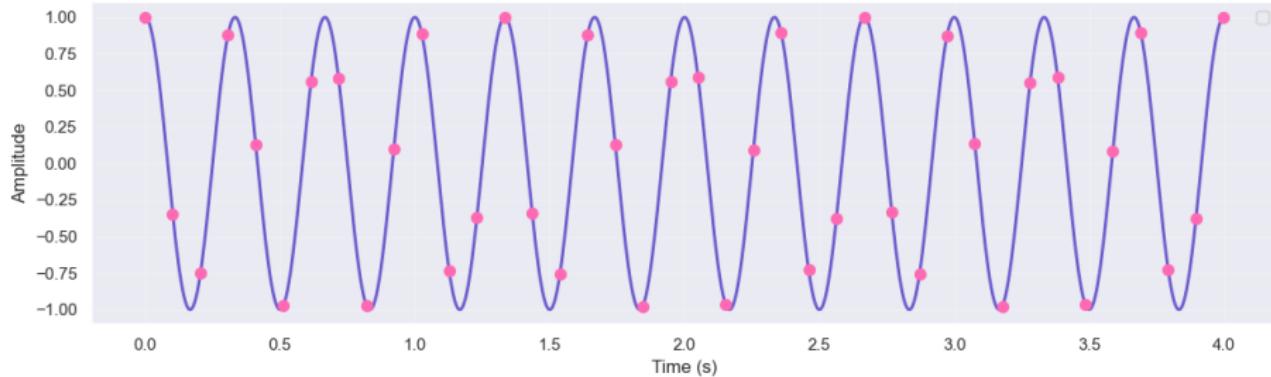
→
DFT

→
DFT

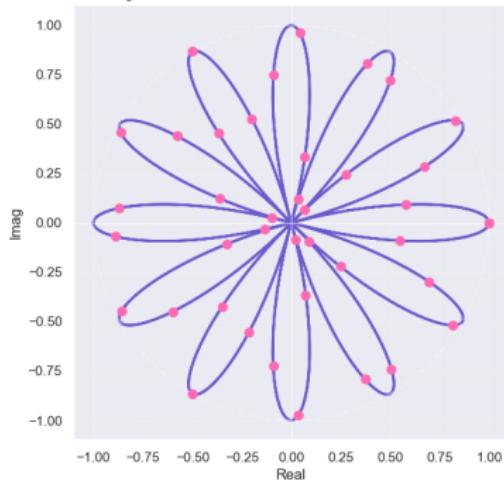
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DFT



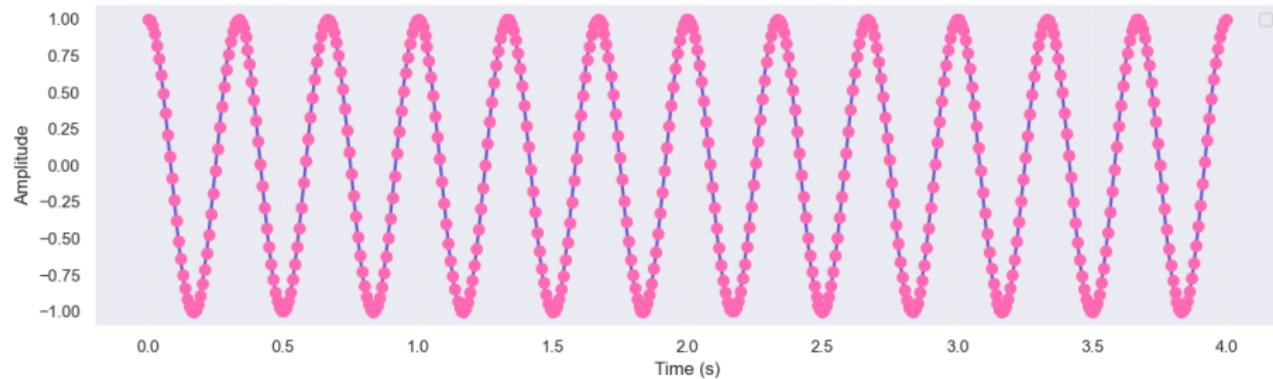
Kosinusni val (3 Hz) 40 enakomerno razporejenimi točkami



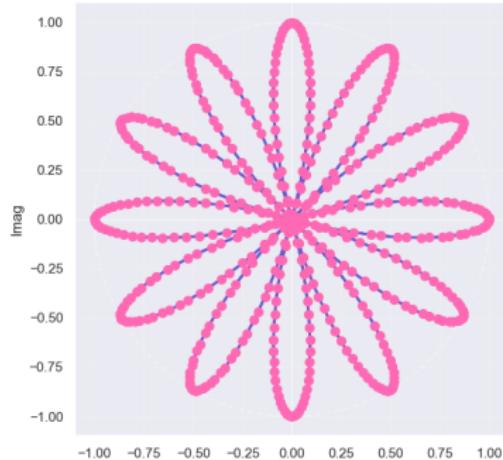
Signal 3 Hz zavit okoli krožnice s frekvenco 0.5 ciklov/s



Kosinusni val (3 Hz) 40 enakomerno razporejenimi točkami



Signal 3 Hz zavit okoli krožnice s frekvenco 0.5 ciklov/s



DFT:

$$X_k = \sum_{n=0}^{N-1} x_n \cdot e^{-2\pi i \frac{k}{N} n}$$

IDFT:

$$x_n = \frac{1}{N} \sum_{k=0}^{N-1} X_k \cdot e^{2\pi i \frac{k}{N} n}$$

$$k, n = 0, 1, \dots, N - 1$$