LE 5.2 – DA32435 – Dyab Asdi – 19305

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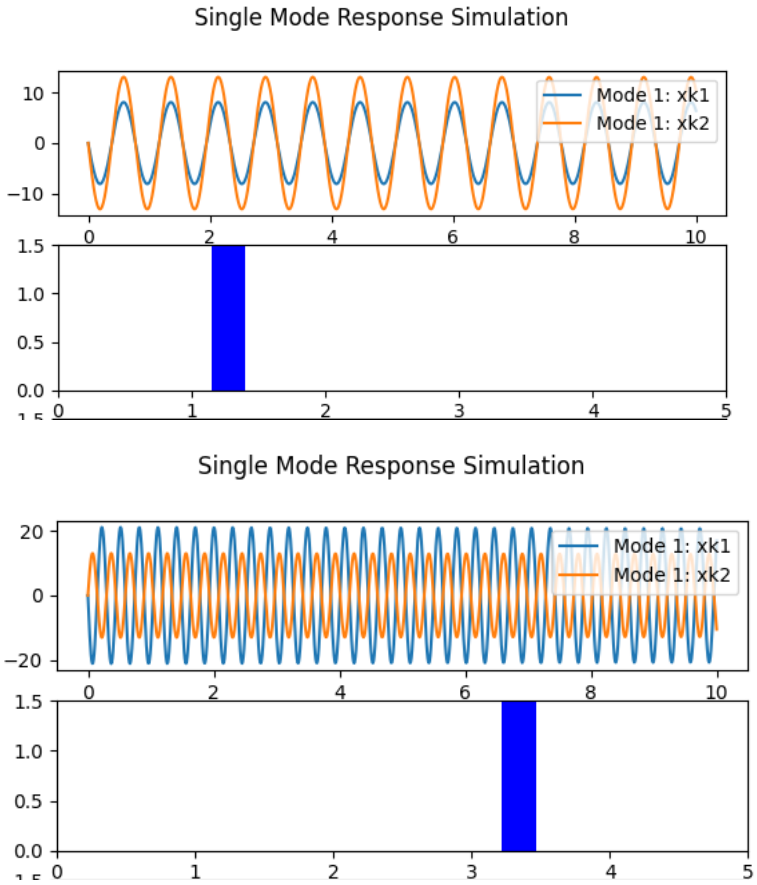
1)

Below are the plots of the Single Mode Response:



The initial conditions were determined by normalizing each of the eigenvectors, and using the ratios that we obtained from the second element of each eigenvector.

E-Values:

[-0.00201+21.144j -0.00201-21.144j -0.00029 +8.07639j -0.00029 -8.07639j]

Real Components of the Eigenvectors:

[3.82059031e-06 -8.48171050e-01 -6.18184498e-06 5.24198537e-01]

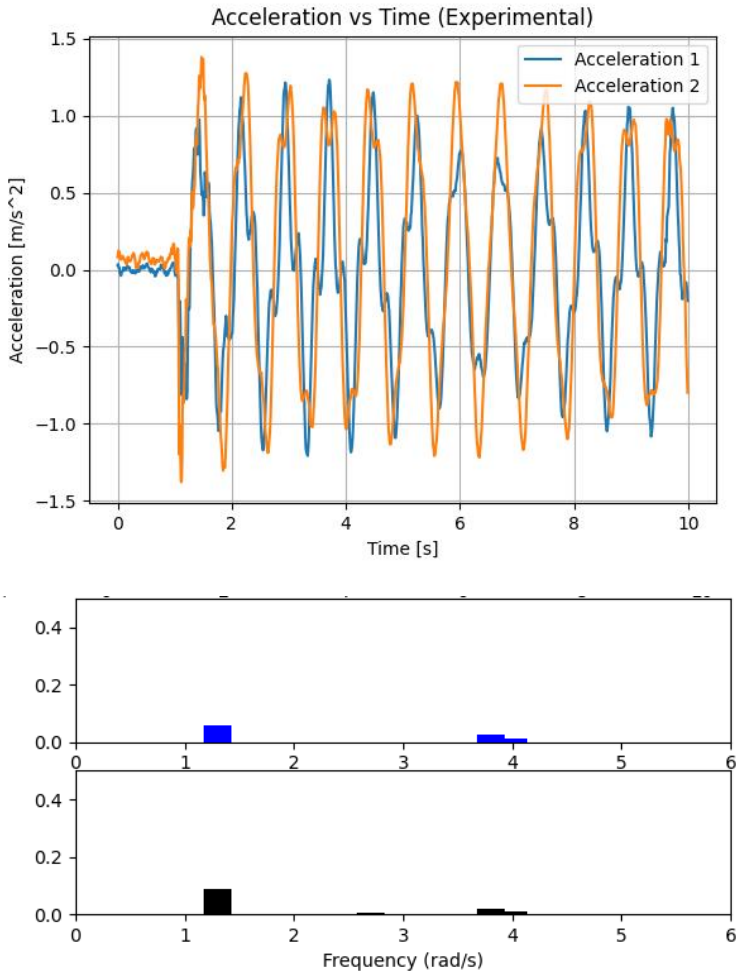
[3.82059031e-06 -8.48171050e-01 -6.18184498e-06 5.24198537e-01]

[-2.36125467e-06 5.24198537e-01 -1.45933564e-06 8.48171050e-01]

[-2.36125467e-06 5.24198537e-01 -1.45933564e-06 8.48171050e-01]

2)

Experimental Data Plots:



Comparison of Predicted Frequencies with ICs and Ratios:

Mode	Predicted Frequency (Hz)	Initial Condition	Ratio of Peaks
1	1.285	1, 1.618	0.064/0.031 = 2.065
2	3.365	1, -0.618	0.092/.023 = 4