Assignment 8 - Acoustic Localisation by EE22B025

STEP 1 OUTPUT:

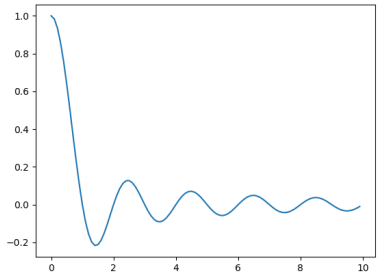


Figure 1: Plot showing the Sinc function with Nsamp = 200, C = 2, SincP = 1, dist_per_samp = 0.1

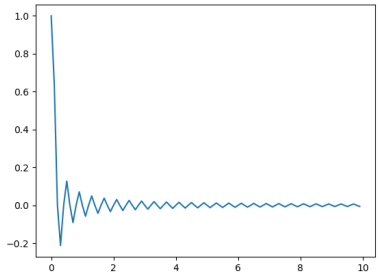
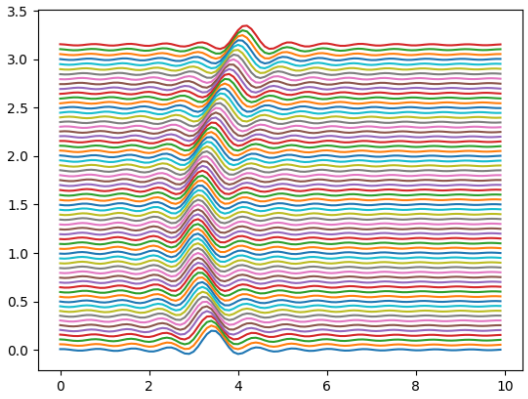
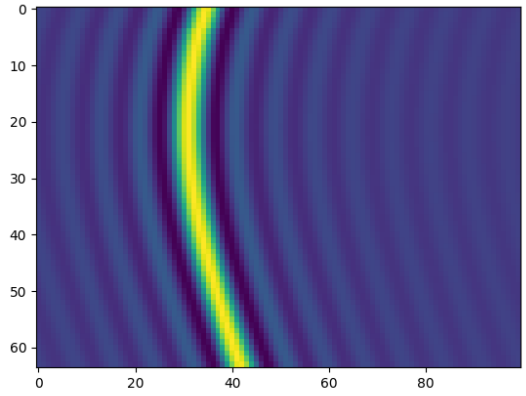


Figure 2: Plot showing the Sinc function with Nsamp = 200, C = 2, SincP = 5, dist_per_samp = 0.1

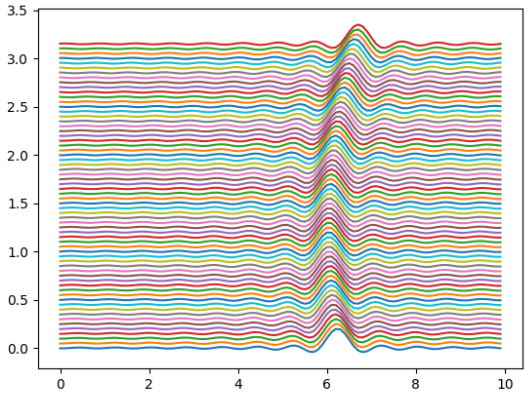
STEP 2 OUTPUT :

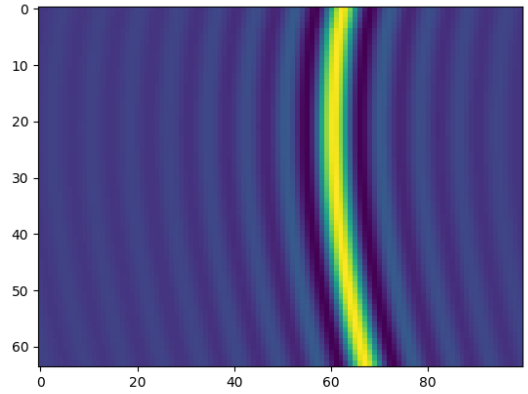
- When the Obstacle is at (3,-1) :





- When the Obstacle is at (6,-1) :

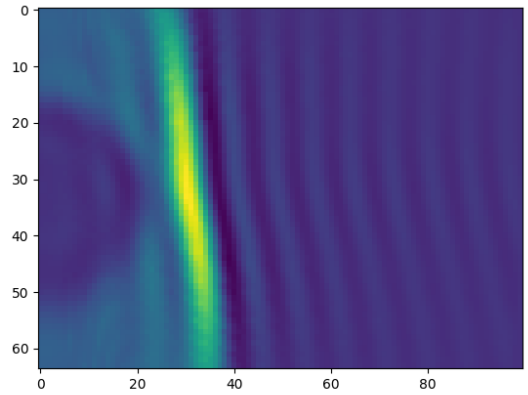




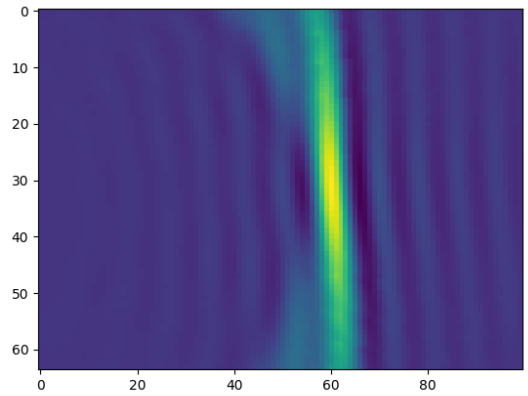
STEP 3 OUTPUT :

CHANGING OBSTACLE LOCATION :

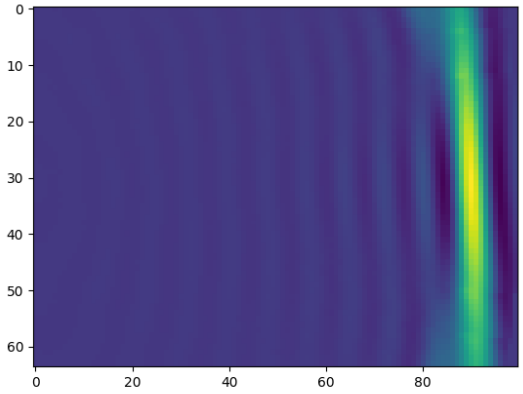
- Plot of reconstructed image when obstacle is at (3,-1)



- Plot of reconstructed image when obstacle is at (6,-1)

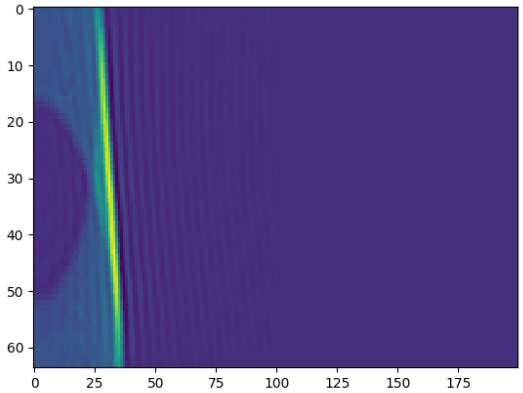


- Plot of reconstructed image when obstacle is at (9,-1)

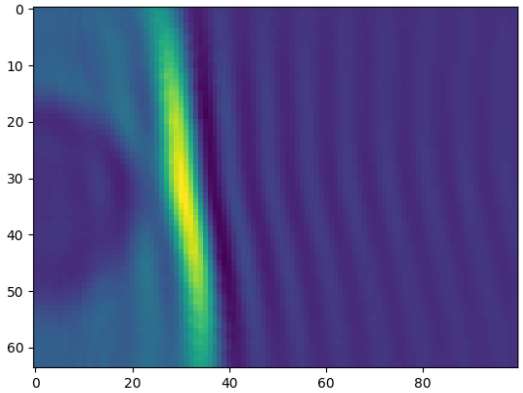


CHAGING C :

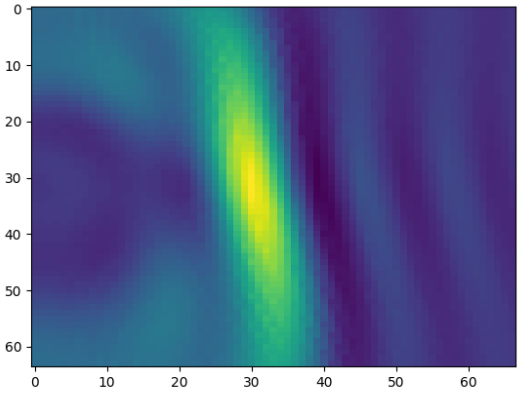
- Plot of reconstructed image when C = 1



- Plot of reconstructed image when C = 2

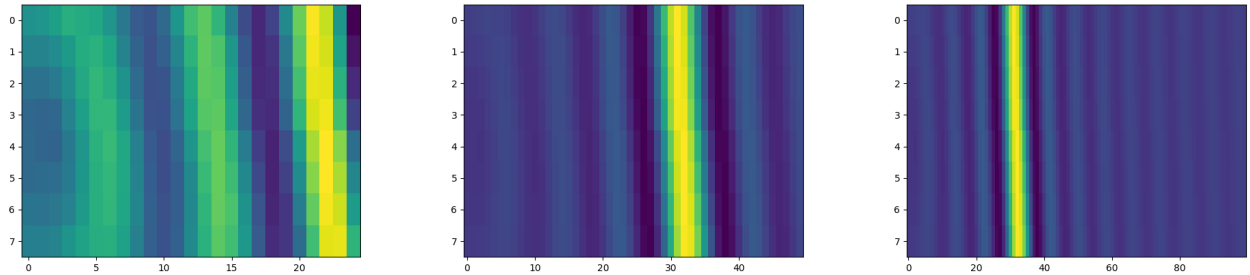


- Plot of reconstructed image when C = 3

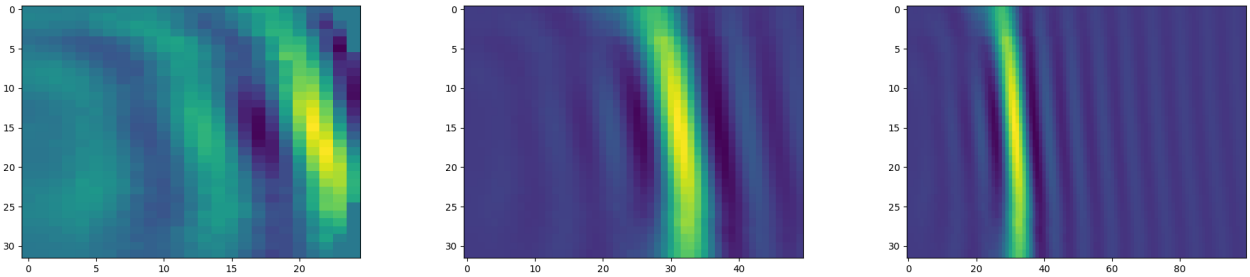


9 COMBINATIONS :

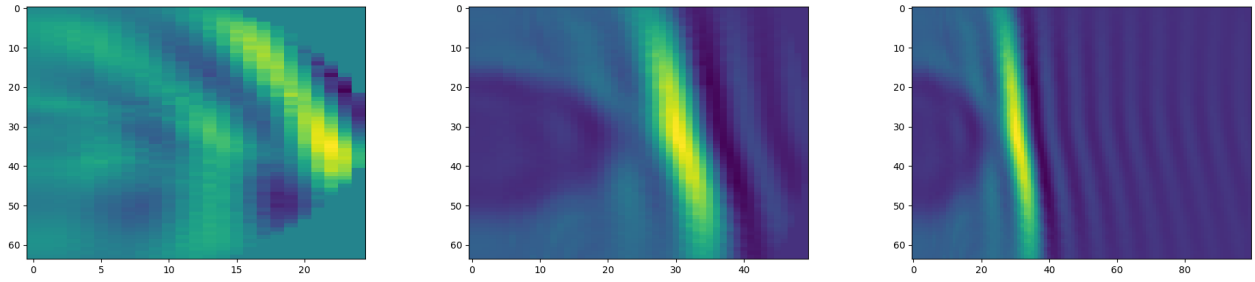
- For `Nmics = 8` along with `Nsamp = 50, 100 ,200` respectively:



- For `Nmics = 32` along with `Nsamp = 50, 100 ,200` respectively:



- For `Nmics = 64` along with `Nsamp = 50, 100 ,200` respectively:



RX2 FILE :

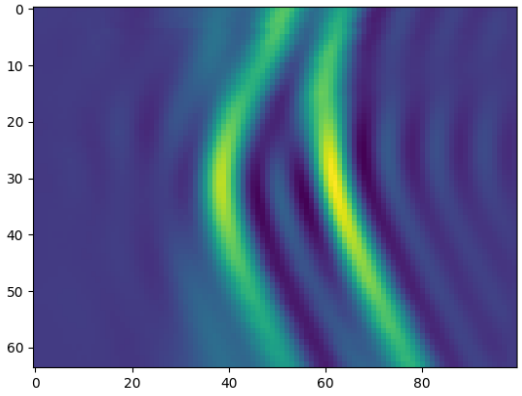


Figure 3: Plot showing the Heatmap corresponding to RX2 Dataset

RX3 FILE :

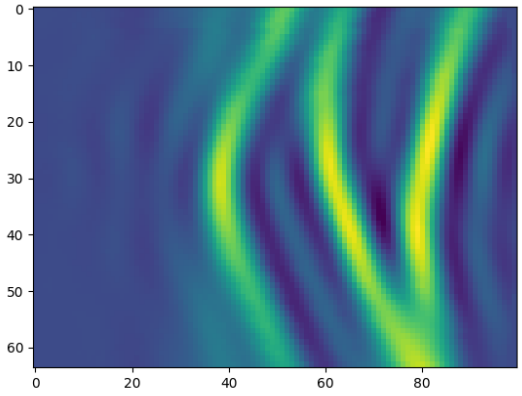


Figure 4: Plot showing the Heatmap corresponding to RX3 Dataset