

ASSIGNMENT 8 : Image Reconstruction

For the Original Problem Statement:

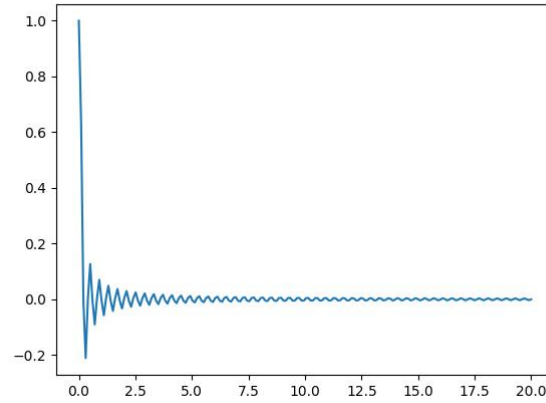


Figure 1: Sinc pulse generated by the source

For the test cases mentioned:

- Respective mic numbers, and Nsamp have been mentioned in the image description.

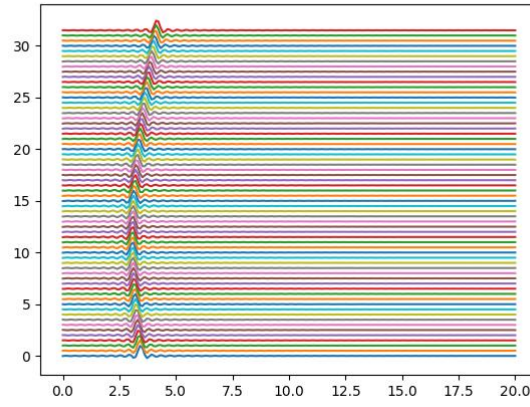


Figure 2: Reflected waves received by the mics

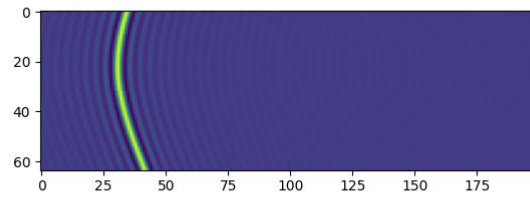


Figure 3: Reflected waves received by the mics (using heatwaves)

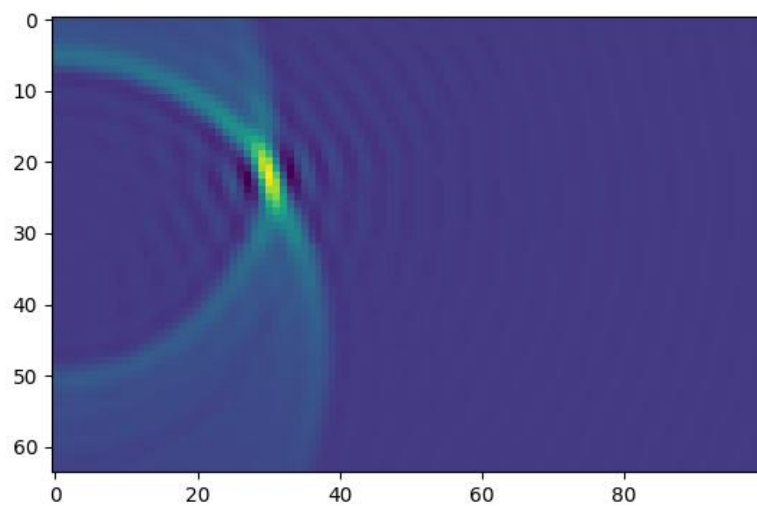


Figure 4: Reconstructed image

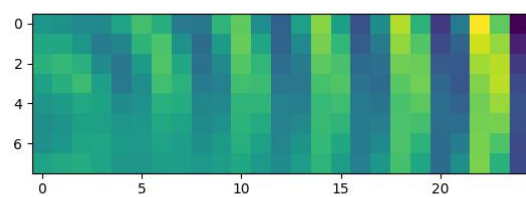


Figure 5: Reconstructed image for $N_{\text{samp}} = 50$, $N_{\text{mics}} = 8$

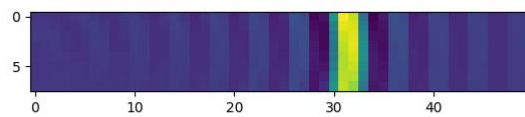


Figure 6: Reconstructed image for $N_{\text{samp}} = 100$, $N_{\text{mics}} = 8$

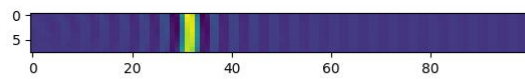


Figure 7: Reconstructed image for $N_{\text{samp}} = 200$, $N_{\text{mics}} = 8$

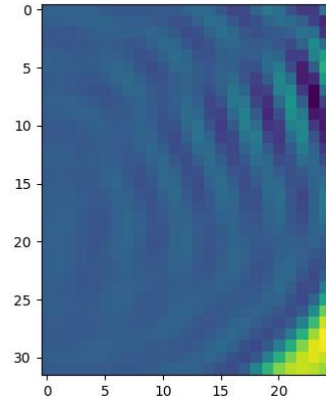


Figure 8: Reconstructed image for $N_{\text{samp}} = 50$, $N_{\text{mics}} = 32$

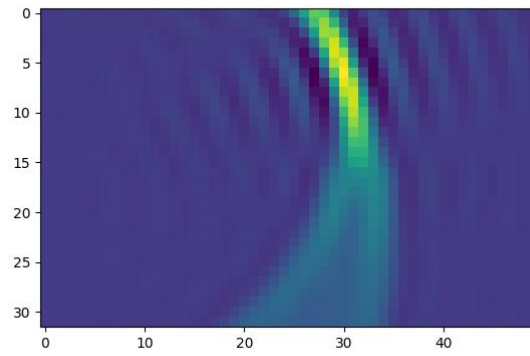


Figure 9: Reconstructed image for $N_{\text{samp}} = 100$, $N_{\text{mics}} = 32$

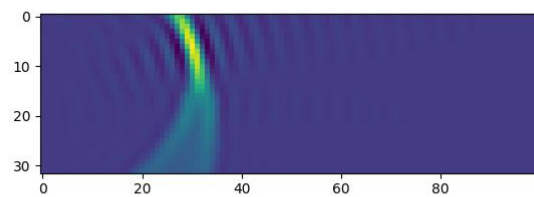


Figure 10: Reconstructed image for $N_{\text{samp}} = 200$, $N_{\text{mics}} = 32$

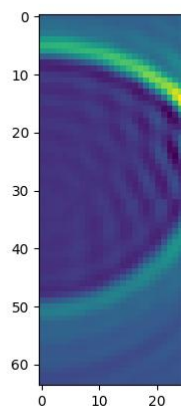


Figure 11: Reconstructed image for $N_{\text{samp}} = 50$, $N_{\text{mics}} = 64$

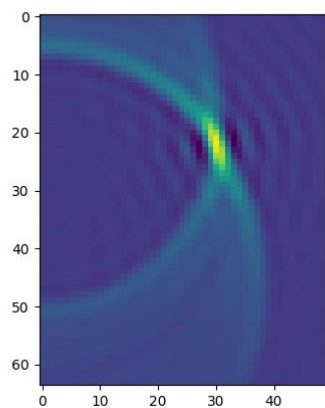


Figure 12: Reconstructed image for $N_{\text{samp}} = 100$, $N_{\text{mics}} = 64$

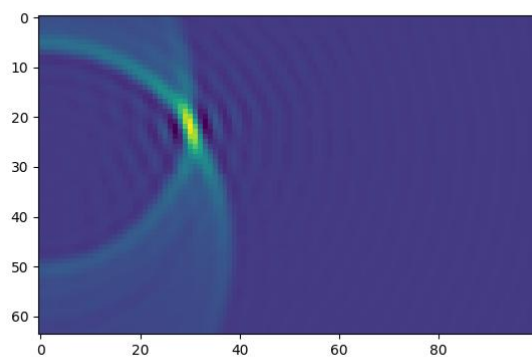


Figure 13: Reconstructed image for $N_{\text{samp}} = 200$, $N_{\text{mics}} = 64$

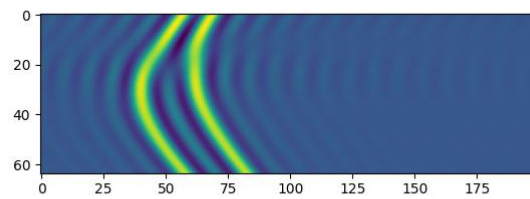


Figure 14: **Additional test case 1** : given data

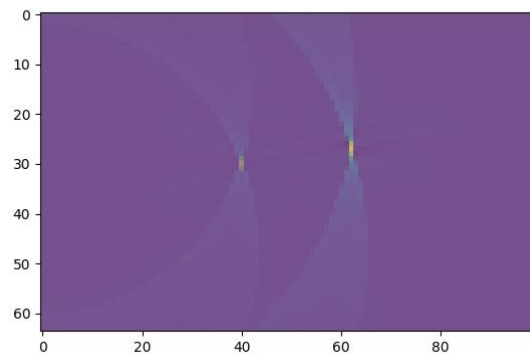


Figure 15: **Additional test case 1** : reconstructed image

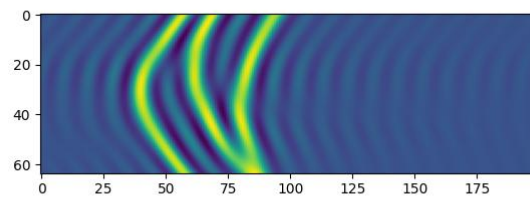


Figure 16: **Additional test case 2** : given data

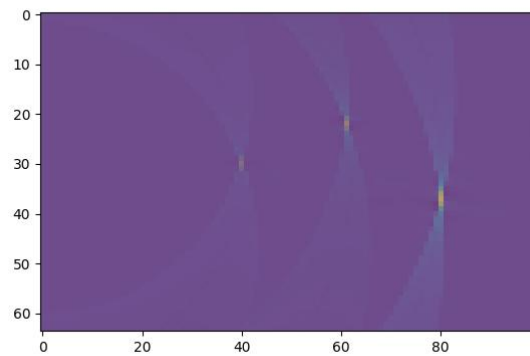


Figure 17: **Additional test case 2** : reconstructed image