Abstract

This paper covers delay-and-sum beamformer and Filter and sum beamformer - Minimum Variance Distortion-less Response (MVDR) beamformer. Both the beamformers were simulated and tested in terms of noise source separation at various frequencies and computational complexity using MATLAB. Even though Generalized Side-Lobe Cancellers (GSC), Superdirectivity and Post-Filtering are also available. It actually covers two-sensor array beamforming which can be extended to multisensory array. MVDR beamformer gave better results as compared to delay-and-sum beamformer, as it adopts to noise condition and also improves the beamformer output, but has a higher computational complexity. Seeing the simulation results, MVDR proves to be a better option for implementing on smart phone applications.

References

1. Carroll and Heiser, G. 2010. An analysis of power consumption in a smartphone, in
Dual Microphone Beamforming Algorithm for Acoustic Signals


Index Terms

Computer Science  Algorithms

Keywords

Beamformer, MVDR, array, noise