

시간 영역의 빔출력과 후보 신호 사이의 비교를 통한 소음원의 위치 추정

Noise source localization using comparison between candidate signal and beamformer output in time domain

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ABSTRACT

The objective of this research is estimating the location of interested sound source by using the similarity between a beamformer output in time domain and the candidate signal. The waveform of beamformer output at the location of sound source is similar with the waveform emitted by that source. To estimate the location of sound source by using this feature, we define quantified similarity between candidate signal and beamformer output. The candidate signal describes the signal which is generated by interested source. In this paper, similarity is defined by four methods. The two methods use time vector comparison, and the other two methods use time-frequency map or linear prediction coefficients. To figure out the results and performance of localization by using similarities, we demonstrate two conditions. The one is when two pure tone sources exist and the other condition is when several bird sounds exist. As a consequence, inner product with two time-vectors and structural similarity with spectrograms can estimate the locations of interest sound source.