

ABSTRACT

Recording quality is one way to be a famous musician. Parameter of the good record is when there is no reverberation effect and noise. To reduce the reverberation effect and noise, can be used Minimum Phase and All-Pass Components dereverberation in analytical techniques and applications using Cepstrum Filtering Techniques and Microphone Array with Matlab simulations.

The test is performed with a total of 30 signal inputs and piano music sound by wave format which is tested on three types of room (small, medium, and large) with hamming window length of 1024, and $\alpha = 0.7-0.9$. The measurement results objectively show that for all types of songs and music in small rooms, the average value of MSE for the music signal is 0.0139109 and for the piano signal is 0.012583. While in medium rooms, the average MSE value for the music signal is 0.0133082 and for the piano signal is 0.0124766. In the large rooms, the average value of MSE for the music signal is 0.0136359 and for the piano signal is 0.012541. Meanwhile, result of ACR subjective measurement is obtained 2,96889 for the music signal and 3,03778 for the piano signal in the small room. In the medium room is obtained 3,48444 for the music signal and 3,47111 for the piano signal, while the large room is obtained 2,55333 for the music signal and 2,63556 for the piano signal. So, Minimum-phase and All-pass Component dereverberation method effectively is applied in a medium room, because the measurement results is obtained objectively has the smallest MSE value and subjectively has the largest ACR value.

Keyword: Reverberasi, Minimum Phase, All-Pass Component, Cepstral, MSE, and ACR.