ABSTRACT

Multiple Signal Classification (MUSIC) is one of the methods used to estimate delay. Process of MUSIC algorithm using spatial smoothing method. Spatial smoothing is the conventional solution of the signal coherence.

In this final task will be performed algorithm simulation-based on multiple signal classification (MUSIC) which detect the arrival of the signal in function of time. The process is done by using preprocessing spatial smoothing technique. Spatial smoothing technique consists of the spatial smoothing preprocessing (SSP) and the modified spatial smoothing preprocessing (MSSP). Both preprocessing techniques are compared to determine the level of signal accuracy and spectrum that coming in specific signal.

Simulation results by using SSP and MSSP as correlation matrix can to overcome the problem of coherent signals with the different signal detection. Signal detection depend on the parameters that used in simulation. In the same value of signal is acquired MUSIC-MSSP algorithm have an incisive spectrum power level and able to detect the signal more accurately than MUSIC-SSP algorithm.

Keywords: Multipath, Multiple Signal Classification (MUSIC), spatial smoothing, Delay