

ABSTACT

Electroencephalogram (EEG) is a tool used to record the electrical activity of the human brain. Signals are generated by EEGs in small order so that proper algorithm is required to determine the signal activity on the active brain. From previous studies many different methods used to find out the activity are summarized in the method of spatial filtering. Among the many spatial filters, such as laplacian, Principal Component Analysis (PCA), Independent Component Analysis (ICA), Common Average Refrence (CAR), Linear Discriminan Analysis (LDA) there is an algorithm that best discriminates a function in brain signals Common Spatial Pattern Algorithm (CSP). However, the CSP has a disadvantage that the CSP considers all EEG signals on the channel to have correlation and interrelationship with each other so that CSPs are difficult to distinguish between EEG signals corresponding to the noise signal.

To overcome this weakness various methods have been done such as RCSP, ACSP, KCSP, etc. In this Final Project will improve the performance of CSP algorithm using Energy Selection calculation on channel, to separate the active brain signal with noise. So that the brain signals recorded by EEG can see the number of active channel motor imagery signal.

The results of testing this research system that with the channel signal selection motor imagery can see the number of imagery motor channel definitely without terpengaruh by noise signal.