

# **Performance Enhancement by using EEG Sparse Representation for Motor Imagery based BCI systems**

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## **Abstract**

Brain-computer interface system(BCIs) is very helpful to people who are suffering from severe motor diseases. For the high performance BCIs, we proposed a sparse representation based classification (SRC) scheme for motor imagery (MI) based BCIs. We analyze eight different data sets acquired from our motor imagery based BCI experiment. We use a CSP filtering for feature extraction. We compare proposed method with two widely used classification methods, LDA and SVM. From the results, the SRC method shows improved classification accuracy than the other two classification methods.