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Functional Data Analysis
of fNIRS Data

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Neuroscientists are interested by underlying functions in human brains and nerve systems. There are mainly two difficulties to organize groups of patients for such experiments. Firstly, the price of gathering the data. Secondly, the factors which influence the results has yet to be discovered. The fNIRS had been used as one of cheaper data gathering methods. In order to understand gender effect to fNIRS data functional ANOVA and MANOVA were used. By simulations the sample size and number of features are obtained to confident use of fMANOVA. The fMANOVA test is not stable but it could be a good indicator whether the samples have similar mean functions. The left frontal lobe has main differences between genders and that is in agreement with the knowledge of gender influence to experiments.