Feature Extraction and Classification Based on the Bayes Test for Minimum Error

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Abstract : Classification with a dimension reduction based on Bayesian approach is proposed in this paper . The first step is to generate a sample (parameter) of fault-free mode class and faulty mode class. The second, in order to obtain good classification performance, a selection of important features is done with the discrete karhunen-loeve expansion. Next, the Bayes test for minimum error is used to classify the classes. Finally, the results for simulated data demonstrate the capabilities of the proposed procedure.