

The condition monitoring and fault diagnosis of gears is a very important in industrial machinery. In this paper, we propose a new method, by combining the fuzzy entropy of LMD-SVD and Multilayer Perceptron (MLP) neural network to overcome the problem of identification and classification faults in gearbox system. The LMD process allows the vibration signal to decompose into series of Product functions (PF). The result obtained from fuzzyEn of LMD are defined as the input vectors of the SVD. This SVD is used to reduce the dimension of the feature vectors. Last, the reduced feature vectors are chosen as input of MLP network for fault diagnosis and fault classification. The obtained results through experimental results, show that the proposed method can accurately extract and classify the gear fault features.