Abstract

Discrimination of rehabilitation diseases based on electromyogram (EMG) signals is a hot topic among the biomedical society. Although many attempts have been made to obtain the informative features from the recorded EMG signals, specialists have still not satisfied with the achieved results. Therefore, this paper is aimed at introducing an effective way to enhance the classification rate among the three groups including: myopathy, neuropathy, and control simulated subjects. In this way, first, the empirical mode decomposition (EMD) is applied to the simulated signals in order to decompose each signal to its natural components. The resulted decomposed signal is used to classify these three groups. The achieved comparison results between the suggested method and other conventional method exhibit the superiority of our method in terms of classification accuracy among these groups. In addition, applying the paired T-test on the results supports the significance of our evolution (P