

ABSTRACT

This work deals with the application of one class classifiers in fault detection. The faults to be detected are related parametric faults. The transfer function of each circuit was generated and the outputs signals were analyzed. Pattern recognition and one class classifications tools are employed to perform the analysis. The multiclass classifiers are able to classify the circuit output signal in one of the trained classes. They present a good performance when the fault classes do not overlap or when they are not presented to fault classes that were not presented in the training. The one class classifier committee may classify the output signal in one or more fault classes and may also classify them in none of the trained class faults. It presents comparable performance in relation to multiclass classifier, but also is able to detect overlapping fault classes and show fault situations that were no present in the training (unknown faults).

Keywords: Faults detect; One class classifiers; Parametric fault; Impulse response; Analog circuits.