World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Residual Evaluation by Thresholding and Neuro-Fuzzy System: Application to Actuator

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Abstract : The monitoring of industrial processes is required to ensure operating conditions of industrial systems through automatic detection and isolation of faults. In this paper we propose a method of fault diagnosis based on neuro-fuzzy technique and the choice of a threshold. The validation of this method on a test bench "Actuator Electro DAMADICS Benchmark". In the first phase of the method, we construct a model represents the normal state of the system to fault detection. With residuals analysis generated and the choice of thresholds for signatures table. These signatures provide us with groups of non-detectable faults. In the second phase, we build faulty models to see the flaws in the system that are not located in the first phase.

Keywords : residuals analysis, threshold, neuro-fuzzy system, residual evaluation
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020