FAULT ISOLATION BASED ON HSFNN APPLIED TO DAMADICS BENCHMARK PROBLEM

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The present paper is concerned with the application of a hierarchical structure of fuzzy neural networks (HSFNN) to fault isolation on a pneumatic servo-motor actuated valve that is the benchmark considered for all the DAMADICS (Development and Application of Methods for Actuator Diagnosis in Industrial Control Systems) project partners. The adoption of a hierarchical structure of fuzzy neural networks for fault isolation purposes aims the development of an architecture that can localise abrupt and incipient single and multiple faults correctly or at least with a minimum misclassification rate and be easily trained, from only single abrupt fault symptoms.