

ADDITIVE MODEL STRUCTURE SELECTION FOR THE FAULT DETECTION IN DYNAMIC SYSTEMS

Summary – this paper presents a nonlinear dynamic systems identification method based on additive regression models with knowledge discovery data. In particular, the model order and input delay choices, and iterative algorithm are proposed in an attempt to estimate additive models structure. The final part of this work contains an illustrative example regarding the application of proposed approach in order to demonstrate the sensitivity of faults in the analyzed structure. All research has been carried out based on archival process data recorded in the Lublin Sugar Factory S.A.