Abstract

We consider in this paper the fault diagnosis problem of a three tank system DTS-200 pilot plant. The presented approach is based on the analysis of the variogram, which is a graphical variance representation that characterizes the distribution of a measured dataset, and is used to extract the sensor fault parameters. These parameters are obtained by determining the best mathematical model that fits the empirical data. Nonlinear regression techniques are used to estimate the model coefficients. Experimental study is provided to illustrate the potential applicability of this method in process monitoring