

Abstract

In this paper, the use of *discrete wavelet transform* (DWT) and a statistical technique analysis for fault detection are presented. The detection procedure is based on a statistical analysis of the components of approximation and details from the measurement data collected in healthy state. Thus, the statistical characteristics obtained are then used to formulate an appropriate index of fault detection. The fault detection index sensitivity is evaluated in relation to confidential intervals established in healthy mode. This strategy is validated experimentally on a system of three reservoirs type DTS-200.