Detecting Process Variability in the Multivariate Normal Process Using Artificial Neural Network Approach

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ABSTRACT

The several correlated quality characteristics have effect on the product quality, that are often referred to as multivariate quality-control problems. At automatic production system, use advanced inspection equipment make it easy to measure many parameters on each product manufactured. In the feature, the computerize process quality control system is a very important issue. In this research, first we propose a neural network-based quality-control procedure as an alternative variability to traditional control methods. The focus of the research is on the detection of change in the process variability. The performance of the constructed network is evaluated based on average run length. Following the simulation study indicates that the performance of the proposed neural network approach is better than traditional control procedures.

Keywords: Multivariate Quality Control; Artificial Neural Network; Control of Process Variability

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REFERENCES