MULTIVARIATE SPC METHODS TO MONITOR COMPLEX PRODUCT-PROCESS PARAMETERS

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Abstract

Multivariate quality control problems involve the evaluation of a process based on the simultaneous behavior of quality characteristics and process parameters. Generally, not all of these quality characteristics are equally important. Multivariate methods for monitoring processes with multivariate measurements in both product quality characteristics space and process parameters space are considered. Our approach to build up such control charts consists to monitor the stable level of variability of the process according to the directions settled by the eigenvectors of a generalized PCA based on the leading variables.