Application of Principal Component Analysis on a Hydrotreating Process

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Principal Component Analysis or PCA is a well-established technique for monitoring and disturbance detection of multivariate process, as it enables variability assessment through dimensionality reduction. PCA was applied to a hydroprocessing pilot plant to monitor the overall process variability. Contribution plots around points of increased variability were used to analyze process variability and its association with process variables. The methodology monitored successfully the set of 42 variables and diagnosed significant disturbances and their causes.

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