Mixed-Product Run-by-Run Process Control

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Abstract

This paper developed a technique for controlling mix-product semiconductor processes. The ANOVA and the time series model is constructed by history data and then the extended Kalman filter is used to estimate the disturbances and update the parameters of the time series model simultaneously. The simulation results demonstrate that the performance of the proposed method is better than time series controller, Double Exponentially Weighted Moving Average (D-EWMA) controller, and time-varying EWMA controller.

Keyword：ANOVA, time series model, extended Kalman filter

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