On-line Estimation of Reactor Key Performance Indicators: An Industrial Case Study

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Abstract
On-line monitoring of key performance indicators of chemical processes is a crucial factor for fast operator response to abnormal operating conditions and for the long term optimization of the process operating point. While the scientific background for the design of such estimation algorithms has been well developed, the realization in the industrial environment is hardly documented. In this paper, the design and the implementation of on-line key performance indicators for a industrial Ketene reactor are described. The benefits of the on-line performance estimation were an additional 5% of productivity potential.

Keywords: performance indicators, soft sensors, on-line estimation