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Inferential control of fatty acid fractionation column

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Inferential control is now considered as a good strategy to deal with the difficulties in providing on-line measurement for product properties. This paper presents the application of inferential control in a fatty acid fractionation column. Here, the product compositions are estimated on-line using an empirical inferential model based on Partial Least Squares (PLS) regression. A number of refinements to the standard PLS models were introduced to improve both the accuracy and robustness of the estimator. These schemes were evaluated against various process uncertainties including large and frequent disturbances. The results confirmed the superiority of this approach compared to the usually adopted tray temperature control system.