

## OPTIMIZATION OF RSM CALIBRATION MODELS FOR MULTIPLE PROCESSES, IN THE SUGAR INDUSTRY

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### ABSTRACT

The measurements of Response surface methodology, combined with data analysis techniques, are widely used for quality control in food production processes. This paper presents a methodology to optimize the calibration models of RSM in four different stages, in a sugar factory. The models were designed for quality monitoring, particularly °Brix and Sucrose, and both common parameters in the sugar industry. The proposed models improve the prediction for the test set (unseen data), compared to the previously published models, resulting in a more accurate quality assessment of the intermediate products of the process, in the sugar industry.

**KEYWORDS:** Quality Control, Calibration Models, Brix and Sucrose & Quality Monitoring