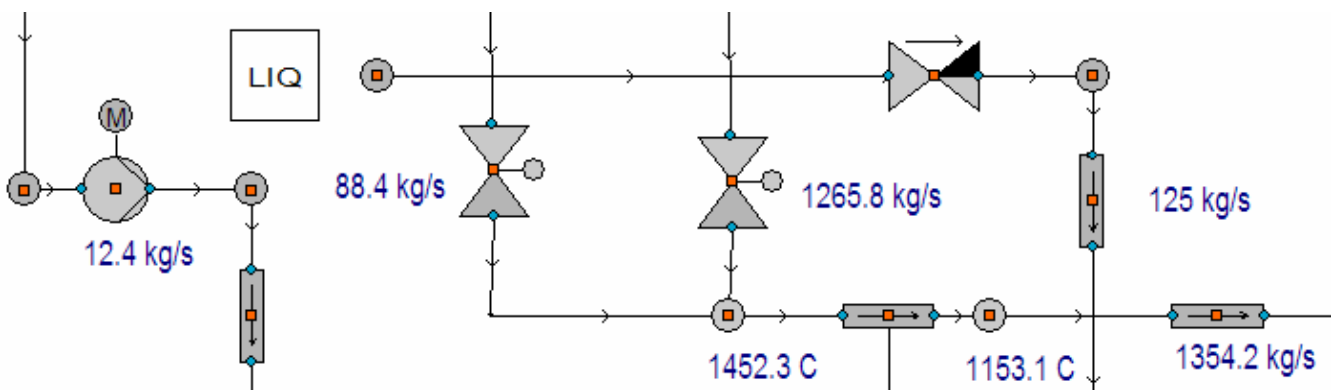


PROCESS PERFORMANCE OPTIMIZATION USING ITERATIVE REGRESSION TUNING

Kalle Halmevaara Heikki Hyötyniemi



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Abstract: A novel methodology, called Iterative Regression Tuning, for simultaneous tuning of multiple controllers is implemented in this report. Results from the first industrial scale application of the method are presented. A dynamical simulator representing a realistic power plant process is applied as the test case. The report presents a comprehensible overview of the proposed tuning technique, the related algorithms and the application possibilities of the method.

Keywords: controller tuning, process performance assessment, dynamic simulation, iterative optimization, multivariate statistical methods, computationalism, statistical testing, multiobjective optimization

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