Abstract
The aim of CHEM project is to develop and implement an advanced Decision Support System (DSS) for process monitoring, data and event analysis, operation support in industrial processes. The system is a synergistic integration of innovative software tools based on statistical, system theoretic, and artificial intelligence. This paper presents the results of this 3 year project. It summarises the principles used in the different toolboxes, presents the integration methodology and the results obtained on different processes either with individual toolboxes or with sets of toolboxes.

Keywords: On-line Fault Detection, Diagnosis, Decision and Scheduling