

Objectives

The objectives of this thesis are the following:

- To contribute to the study and development of fault diagnosis systems that interact in on line mode with chemical plants in order to improve its functioning from the point of view of productivity, product quality, operation safety and environmental impact minimisation.
- To propose and apply new ways of integrating techniques for the development of a robust fault diagnosis system, that interacts with the chemical plant in real time.
- To participate in the development of an information system support integrating the FDS module with the scheduling system.
- To give conclusions in relation to the use of different chemical process models. Commercial process simulators are included as well as the use of black-box models.
- To take into account, during the fault diagnosis system development and implementation, the control strategies applied to the chemical plant.
- To consider case studies at different scales: academic scenarios, pilot plant scale cases and industrial applications.

