Supervision of Fed-Batch Fermentations - DTU Orbit (11/11/2019)

Supervision of Fed-Batch Fermentations

Process faults may be detected on-line using existing measurements based upon modelling that is entirely data driven. A multivariate statistical model is developed and used for fault diagnosis of an industrial fed-batch fermentation process. Data from several (25) batches are used to develop a model for cultivation behaviour. This model is validated against 13 data sets and demonstrated to explain a significant amount of variation in the data. The multivariate model may directly be used for process monitoring. With this method faults are detected in real time and the responsible measurements are directly identified. The fault detection and identification is enabled through inspection of a few simple plots. Thus, the presented methodology allows the process operator to actively monitor data from several cultivations simultaneously.

General information
Publication status: Published
Organisations: Department of Chemical and Biochemical Engineering
Contributors: Gregersen, L., Jørgensen, S. B.
Pages: 69-76
Publication date: 1999
Peer-reviewed: No

Publication information
Journal: Chemical Engineering Journal
Volume: 75
Issue number: 1
ISSN (Print): 1385-8947
Original language: English
DOIs: 10.1016/S1385-8947(99)00018-2
Source: orbit
Source ID: 176035
Research output: Contribution to journal › Journal article – Annual report year: 1999 › Research