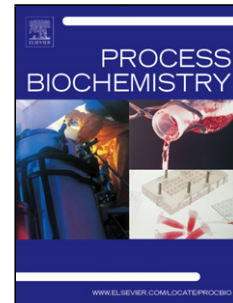


## Accepted Manuscript

Title: Modelling of the oxygen level response to feed rate perturbations in an industrial scale fermentation process

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- A study of dynamics in an industrial production-scale fermentor is presented.
- Feasibility of perturbation-based control in this type of process is shown.
- A model of feed and dissolved oxygen dynamics in the process is suggested.
- The model can be incorporated into perturbation-based control strategies.
- A simple example of how an observer can track the metabolic state of the process is given.

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