Abstract

PCA based temperature controller was used to control Ethanol concentration produced in Yeast fermentation process. The controller was designed at a specific operating point and its disturbance rejection performances were studied. Substrate inlet temperature proved to be the most significant disturbance input from the analysis of open loop responses. Q-statistic (SPE) of process measurements confirmed that in the face of disturbances and noise the process could be held to the specific operating condition using the controller designed in subspace.

References

- M. Galluzzo, B. Cosenza, A. Matharu, "Control of a nonlinear continuous


**Index Terms**

Computer Science  
Control Systems

**Keywords**

Principal Component Analysis  
bioreactor  
subspace