Continuous-Discrete Time Prediction-Error Identification Relevant for Linear Model Predictive Control - DTU Orbit (08/11/2017)

Continuous-Discrete Time Prediction-Error Identification Relevant for Linear Model Predictive Control

A Prediction-error-method tailored for model based predictive control is presented. The prediction-error method studied are based on predictions using the Kalman filter and Kalman predictors for a linear discrete-time stochastic state space model. The linear discrete-time stochastic state space model is realized from a continuous-discrete-time linear stochastic system specified using transfer functions with time-delays. It is argued that the prediction-error criterion should be selected such that it is compatible with the objective function of the predictive controller in which the model is to be applied. The suitability of the proposed prediction error-method for predictive control is demonstrated for dual composition control of a simulated binary distillation column.

General information

State: Published
Organisations: Department of Applied Mathematics and Computer Science , Scientific Computing, Department of Chemical and Biochemical Engineering, CAPEC-PROCESS
Authors: Jørgensen, J. B. (Intern), Jørgensen, S. B. (Intern)
Pages: 4752-4758
Publication date: 2007

Host publication information

Title of host publication: Proceedings of the European Control Conference (ECC '07)
Publisher: IEEE
ISBN (Electronic): 978-3-9524173-8-6
BFI conference series: European Control Conference (5010925)
Main Research Area: Technical/natural sciences
Conference: European Control Conference 2007, Kos, Greece, 02/07/2007 - 02/07/2007
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007