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A TWO STEP SCHEME TO IDENTIFICATION AND CONTROL

ZHU Yu-Cai, M.H. Driessen, A. Damen and P. Eykhoff

Group Measurement and Control, Department of Electrical Engineering
Eindhoven University of Technology
P.O. Box 513, 5600 MB Eindhoven, the Netherlands

Abstract

If a process in open loop is unstable or nearly unstable, has some nonlinearities or is slightly time-variant, a straightforward approach of direct identification and control based on the estimated dynamics might be very difficult.
Therefore it is proposed to first apply a primary feedback loop, based on rough a priori knowledge for stabilizing the process, for reducing the effects of nonlinearity and/or of time variation. Next the standard identification and control strategy can be applied to the closed loop system.
The paper discusses some theoretical aspects of such an approach, compares it with the direct method and presents case study results.

Reference

Zhu, Y.C. and M.H. Driessen (1988)
A new scheme for identification and control, EUT Report, Department of Electrical Engineering, Eindhoven University of Technology, The Netherlands.