Abstract

This paper deals with the identification of MIMO cement mill process using Non-linear Autoregressive with Exogenous Inputs (NARX) models with wavelet network. NARX identification, based on a sequence of input/output samples, collected from a real cement mill process is used for black-box modeling of non-linear cement mill process. The NARX model is considered for two inputs and two outputs of seven hours of data with sample time of five
seconds. In order to assess the suitability of identified model, Model validation tests are performed by means of auto-correlation function and cross-correlation function. The fitness of NARX identified model is compared with ARX model. The identified NARX model is converted to discrete transfer function and the dynamic characteristic of the identified model are evaluated and results are given.

Reference

- Fortuna, L., Nunnari, G. and Gallo A. 1992, “Model order reduction techniques with applications in electrical engineering”, Springer-Verlag,

Index Terms
Key words

MIMO
Identification
Cement mill

System
NARX