Abstract

The use of support vector machine (SVM) in all aspects of process engineering activities, such as modeling, design, optimization and control has considerably increased in recent years. In this paper, a design procedure of support vector machine (SVM) based model identification and control strategy for a batch reactor process with input-output form is proposed. In order to implement the generic model control structure, straight model representation and identification methods are addressed in detail. The control of a simulated batch reactor mostly used in chemical and pharmaceutical industries illustrates the proposed design procedure and the properties of the SVM based model identification, for nonlinear systems. This non linear control is a generic model control (GMC). GMC is found to be well suited for a system when there is no significant rate of change of the set point.

Reference
GMC Design Based on SVM Model of Batch Reactor

- Li-Na Li, Chao-Zhen Hou, The Identification of Industrial Processes based on SVM, in: proceedings of first International Conference on Machine Learning and Cybernetics, Beijing, 4-5 Nov 2002

**Index Terms**

Power Engineering Control Systems

**Key words**

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batch reactor