SOMS Friday Seminar

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Process Data Mining of Batch Profiles

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ABSTRACT

Batch processes are widely used in the process industry for manufacturing small volume, specialty chemicals such as pharmaceuticals, biochemicals, polymers, etc. Typically a fixed recipe is followed where specified amounts of raw materials are charged to the reactor and treated in various batch phases for specified (often lengthy) durations. Variables considered important for product quality are often controlled to a prespecified trajectory.

Typically for such batch processes, online measurements on easily measurable variables such as temperatures, pressures, and flows are stored in a huge data base for numerous past batches. The data base is an immediate candidate for data mining for understanding the sources of variability affecting the process and its effect on the final product quality. In this talk we will describe the development of a tailor-made exploratory data mining tools for characterizing the variability in the batch profiles in a manner that facilitates process understanding, a must for successful process improvement initiatives.

Refreshments provided after seminar