

Scheduling for PVC process operation with demand forecasting

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If the demand of products is not known, the reasonable scheduling is not possible. But currently in most of chemical plants scheduling is usually determined not by demand forecasting using well-found methods but by the intuition of an operator. The demand forecasting of PVC processes is more important than that of other chemical processes because various PVC products are produced in a PVC processes and their demands are unstable. Therefore, scheduling should be determined based on the products demand which had been correctly forecasted by reasonable methods.

In this study, time series model that depends on the past demand and its error is applied to the PVC demand forecasting. For this forecasting, classical models such as smoothing and decomposition methods and the probability time series model are used. Then, scheduling for PVC process operation is based on this forecasted demand. This scheduling results in profit increase due to the reduction of safety stock and efficient operations in stable conditions.