

## SYSTEM ENGINEERING

化工过程分离循环系统的多目标模糊优化研究

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摘要

Separation-recycle system is an important part in chemical process, and its optimization is a multiobjective problem. In this paper the process optimization procedure is proposed. The fuzzy optimization algorithm with the concept of relative importance degree (RID) is utilized to transfer multi-objective optimization (MO-O) model into a single-objective optimization (SO-O) framework. The treatment of process condensate in synthesis ammonia plant is taken as example to illustrate the optimization procedure, and the satisfactory result demonstrates feasibility and effectiveness of the suggested method.

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### Multi-objective Fuzzy Optimization Algorithm for Separation-Recycle System

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**Abstract**

Separation-recycle system is an important part in chemical process, and its optimization is a multiobjective problem. In this paper the process optimization procedure is proposed. The fuzzy optimization algorithm with the concept of relative importance degree (RID) is utilized to transfer multi-objective optimization (MO-O) model into a single-objective optimization (SO-O) framework. The treatment of process condensate in synthesis ammonia plant is taken as example to illustrate the optimization procedure, and the satisfactory result demonstrates feasibility and effectiveness of the suggested method.

**Key words** [multi-objective; fuzzy optimization; relative importance degree](#)

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