Abstract

This article addresses a fuzzy logic approach to calculate the optimum minimum allowable composition difference (?o) to target the minimum total annualized cost (TAC) of a mass exchange network (MEN), which is based on combining composition interval diagram (CID) with fuzzy set theory. The value of ?o directly affect the TAC as a main constrain. By utilizing this decision algorithm it gives the opportunity to calculate the optimum composition difference by decision making from a wide range of assumed ?o. This method is very simple and more convenient than the methods previously published; as the decision is taken without calculating TAC for every assumed ?o.

References

design Tools.
Academic Press.
AIChE Journal, 1233-1244.
- Fábio J. J. Santos, H. A. (December 2010). Fuzzy Systems for Multicriteria Decision
the singularity of thge Kremser equation. Comp. & Chem. Eng., 2331-2335.
Taylor & Francis.
approach to the optimization of in-plant wastewater interception with mass and property
- Hallale, N., & Fraser, D. (2000). Capital and total cost targets for mass exchange
networks. Part 1: Simple capital cost models. Computers and Chemical Engineering,
1661-1679.

**Index Terms**

Computer Science

Fuzzy Systems

**Keywords**

Mass exchange network Fuzzy Approach Mass Integration Process synthesis
Process Optimization

Multi-objective decision making