Abstract

This article addresses a fuzzy logic approach to calculate the optimum minimum allowable composition difference (\( \Delta \)) 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 \( \Delta \) 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 \( \Delta \). This method is very simple and more convenient than the methods previously published; as the decision is taken without calculating TAC for every assumed \( \Delta \).

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 the 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

Index Terms
Computer Science Fuzzy Systems

Keywords
Mass exchange network Fuzzy Approach Mass Integration Process synthesis
Process Optimization
Multi-objective decision making