

RESEARCH PAPERS

化工过程系统的柔性分析扩展算法

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收稿日期 修回日期 网络版发布日期 接受日期

摘要

An extended algorithm of flexibility analysis with a local adjusting method for flexibility region of chemical processes, which is based on the active constraint strategy, is proposed, which fully exploits the flexibility region of the process system operation. The hyperrectangular flexibility region determined by the extended algorithm is larger than that calculated by the previous algorithms. The limitation of the proposed algorithm due to imperfect convexity and its corresponding verification measure are also discussed. Both numerical and actual chemical process examples are presented to demonstrate the effectiveness of the new algorithm.

关键词

[flexibility analysis](#) [extended algorithm](#) [active constraint strategy](#)

分类号

DOI:

An Extended Algorithm of Flexibility Analysis in Chemical Engineering Processes

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Received Revised Online Accepted

Abstract

An extended algorithm of flexibility analysis with a local adjusting method for flexibility region of chemical processes, which is based on the active constraint strategy, is proposed, which fully exploits the flexibility region of the process system operation. The hyperrectangular flexibility region determined by the extended algorithm is larger than that calculated by the previous algorithms. The limitation of the proposed algorithm due to imperfect convexity and its corresponding verification measure are also discussed. Both numerical and actual chemical process examples are presented to demonstrate the effectiveness of the new algorithm.

Key words [flexibility analysis](#); [extended algorithm](#); [active constraint strategy](#)

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