

论文与报告

工业过程广义稳态优化控制研究

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摘要

基于广义稳态和稳态集合的中心名义值概念, 给出了工业过程广义稳态优化控制问题的数学描述, 并就该问题的存在性给予了充分性证明; 此外, 对处理工业过程广义稳态优化控制问题的一种等效方法展开了深入讨论, 给出了具体算法步骤, 并对一个化工过程的广义稳态优化算例进行了仿真计算; 结果表明, 文中关于广义稳态优化控制问题的定义是正确的, 算法是有效的.

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分类号

Study on Optimizing Control of Generalized Steady State for Industrial Processes

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Abstract

According to the definitions of the generalized steady state and the nominal central value of steady-state sets, the problem of generalized steady-state optimizing control for industrial processes is stringently described. The existence of the problem is also proved for the sufficiency. On the other hand, an equivalent method for optimizing control of the generalized steady state is deeply discussed, and an algorithm for solving the problem is given. Based on the algorithm, a generalized steady state of a chemical engineering process is calculated. The conclusion shows that the definition about optimizing control for generalized steady state is suitable, and that the algorithm is effective.

Key words [Chaos](#) [unique ergodicity](#) [generalized steady state](#) [industrial processes](#) [steady-state optimizing](#)

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