

催化、动力学与反应器

加氢渣油催化裂化14集总动力学模型的建立

王建平, 许先焜, 翁惠新, 方向晨, 胡长禄, 韩照明

华东理工大学石油加工研究所 ; 抚顺石油化工研究院

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摘要 以加工加氢渣油的茂名石化3#重油催化裂化装置(RFCC)的工业数据为基础,针对加氢渣油的特点,提出了以渣油4组分作为划分原料集总的催化裂化14集总动力学模型,通过分步求解法求取动力学参数,并应用工业实测数据进行验证,验证结果表明该模型不仅能较好地预测催化裂化产品分布,而且还能较准确预测主要产品性质,较好地反映了加氢渣油催化裂化反应规律,可为工业装置操作的优化提供指导。

关键词 [加氢渣油](#) [催化裂化](#) [动力学模型](#) [集总](#)

分类号

Establishment of 14 lumps model for fluid catalytic cracking of hydrotreated residuum

WANG Jianping, XU Xiankun, WENG Huixin, FANG Xiangchen, HU Changlu, HAN Zhaoming

Abstract

According to the commercial data of 3# residual fluid catalytic cracking(RFCC) processing hydrotreated residuum in Maoming Petrochemical Company and the characteristics of hydrotreated residuum, a kinetic model with 14 lumps for hydrotreated residuum fluid catalytic cracking based on the SARA composition of the residuum stock was established. Its kinetic parameters were determined by the stepwise-method. The results were verified with commercial data, which showed that the model could predict not only the distribution of products, but also the quality of the main products and describe the reaction process of hydrotreated residuum fluid catalytic cracking. The model could be useful in optimizing the operation of a commercial unit.

Key words [hydrotreated residuum](#) [fluid catalytic cracking](#) [kinetic model](#) [lump](#)

DOI:

通讯作者 翁惠新 hbjiang@ecust.edu.cn; wangxianti2002@sohu.com

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