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RESEARCH PAPERS

蒸馏塔/填料塔故障现象的模拟和诊断

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摘要 A digitally controlled three-dimensional gamma-scanning apparatus was developed and used to troubleshoot distillation column in the present investigation. In a 140 mm (ID) model column, various malfunctional phenomena, both rate and process related conditions and structural problems, which may be frequently encountered in the operation of tray and packing columns, were experimentally simulated and tested with the developed scanning system. The experimental results showed that the scanning spectra can fairly reflect the simulated phenomena. The salient feature of the scanning apparatus lies in that it integrates the so called grid scan and computer-assisted tomography scan in a single system. It was confirmed that the gamma-scanning technique can serve as an important on-line troubleshooting and maintenance tool.

关键词 gamma ray scanning distillation column troubleshooting

分类号

Troubleshooting Distillation Column by Gamma Ray Scanning Technique

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Abstract

A digitally controlled three-dimensional gamma-scanning apparatus was developed and used to troubleshoot distillation column in the present investigation. In a 140 mm (ID) model column, various malfunctional phenomena, both rate and process related conditions and structural problems, which may be frequently encountered in the operation of tray and packing columns, were experimentally simulated and tested with the developed scanning system. The experimental results showed that the scanning spectra can fairly reflect the simulated phenomena.The salient feature of the scanning apparatus lies in that it integrates the so called grid scan and computer-assisted tomography scan in a single system. It was confirmed that the gamma-scanning technique can serve as an important on-line troubleshooting and maintenance tool.

Key words gamma ray scanning distillation column troubleshooting

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