Residenc Time Mathematics Simulate of Repessed Meal in Extraction

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ABSTRACT

This research is mainly intended to monitor and simulate mathematically the change of residence time of solid particles under different operational conditions. By using axial dispersion model and CSTR in series model we were able to describe the response of solid concentration variation at different axial positions to a pulse input at the inlet of the extraction column. Laser beams were used to continuously monitor the solid concentrations, and nonlinear regressions were then used to fit the mathematical models against experimental data.By fixing other operation conditions, it was found that the dispersion coefficient D increased with agitation speed. Increasing liquid flow rate had similar effect on D The dimensionless dispersion number D/uL ranged from 0.01 to 0.04 for this extraction column under normal operational conditions.Established mathematical models can used in future engineering designs of such extraction systems.

Keywords : 油菜籽粕 ; 庫尼萃取塔 ; 滯留時間

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