

RESEARCH PAPERS

同时发生初次和二次成核且为聚结控制的沉淀过程多定态及稳定性分析

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摘要 The possibility of multiplicity in an isothermal continuous mixed suspension-mixed product removal crystallizer is explored using the bifurcation theory. A process involving agglomeration controlled precipitation is considered in which secondary nucleation occurs simultaneously with primary nucleation. The determinant equations for the existence of multiple steady states are developed and the multiplicity boundaries dependent on the physical and kinetic properties and operational parameters of the process are obtained by resolving these determinant equations. The number of steady states in the precipitator for various multiplicity regions is determined and the linear stability of these steady states is analyzed by using the Routh criterion.

关键词 [precipitation](#) [mixed suspension-mixed product removal crystallizer](#) [agglomeration multiplicity](#) [stability](#)

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Analyses of Multiplicity and Stability Patterns of Agglomeration Controlled Precipitation with Both Primary and Secondary Nucleations

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Abstract The possibility of multiplicity in an isothermal continuous mixed suspension-mixed product removal crystallizer is explored using the bifurcation theory. A process involving agglomeration controlled precipitation is considered in which secondary nucleation occurs simultaneously with primary nucleation. The determinant equations for the existence of multiple steady states are developed and the multiplicity boundaries dependent on the physical and kinetic properties and operational parameters of the process are obtained by resolving these determinant equations. The number of steady states in the precipitator for various multiplicity regions is determined and the linear stability of these steady states is analyzed by using the Routh criterion.

Key words [precipitation](#); [mixed suspension-mixed product removal crystallizer](#); [agglomeration](#); [multiplicity](#); [stability](#)

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