

流体力学与传递现象

气固流化床混沌动力结构突变分析

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摘要

关键词

[流化床](#) [突变理论](#) [压力脉动](#) [混沌](#)

分类号

Analysis of gas-solids fluidized bed by chaotic dynamic structural catastrophe theory

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Abstract

A new method called structural catastrophe analysis was applied to the analysis of pressure fluctuation time series with chaotic and fractal characteristics in gas-solids fluidized bed. In every type of fixed bed, bubbling bed, turbulent bed, fast fluidized bed and pneumatic conveying stage, pressure fluctuation signals were sampled and dynamic exponents were solved. The changes of T_{mean} and T_{max} in different types of fluidized bed were analyzed and summarized. It was concluded that T_{mean} and T_{max} can indicate different types of fluidized, and T_{max} can also be recognized as a new characteristic parameter in addition to correlation parameters, LE exponent and K entropy.

Key words

[fluidized bed](#) [catastrophe theory](#) [pressure fluctuation](#) [chaos](#)

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