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小波检测汽液两相流动密度波不稳定性的分行特征

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摘要 结合小波变换和分解良好的时频局部化特性与分形理论,从非线性复杂系统出发,通过未经简化和抽象的研究对象去认识其内在规律性的非线性特性,对汽液两相流动密度波不稳定性同时进行时频分析和非线性分析,并检测脉动参数的分行特征。

关键词 [汽液两相流动](#) [密度波不稳定性](#) [小波分析](#) [分行特征](#)

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Detection of Fractal Characters in Density Wave Oscillation of Vapor Water Two Phase Flow With Wavelet Transform

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Abstract A new research method is employed to study vapor water two phase flow. This method combines the time frequency localization of wavelet transform and fractal theory. It studies the density wave oscillation of vapor water two phase flow based on the analysis method of nonlinear complex system. This novel method not only studies original objects directly, but also does the time frequency and nonlinear analysis at the same time. The fractal characters of the oscillation parameters of vapor water two phase flow are detected by wavelet functions from the original experiment data.

Key words [vapor water two phase flow](#) [density wave oscillation](#) [wavelet transform](#) [fractal characters](#)

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