

一种改进的动态过程测量数据预处理方法

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摘要:

在动态过程测量数据分析中, 首先必须对测量数据进行预处理, 剔除并修正由干扰引起的测量异常值。一种改进的奇异谱分析数据预处理是通过使用奇异谱分析平滑的方法建立判断测量数据中异常值的基准, 再通过设立检验准则判断异常值并加以修补, 在实际动态过程测量数据预处理应用中效果明显。

关键词: 动态过程测量; 预处理; 坏值剔除; 奇异谱分析

An Improved Data Preprocessing Method in Dynamic Measurement

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Abstract:

In the data analysis of dynamic process test and measurement, the sampled data needs to be pretreated to identify and eliminate the abnormal data caused by accidental interference. An improved algorithm based on Singular Spectrum Analysis is presented. By means of singular spectrum analysis smoothing method, the algorithm establishes a benchmark to identify the abnormal data, and then with the 3 criterion, the abnormal data is eliminated and replaced by a reasonable one. The feasibility of this algorithm has been validated by practical dynamic process test application.

Keywords: dynamic process test and measurement; preprocessing; abnormal data erasing; singular spectrum analysis

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