

## 叶片类截面数据特征点精确识别方法 Accurate Recognition Method for Cross-section Data Feature Points of Blades

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关键词: 叶片 特征识别 小波模极大值 特征尺度因子

摘要: 利用小波模极大值方法可很好地对特征进行识别,并能抑制噪声的影响。利用该方法对叶片截面数据进行特征识别时,某些重要的局部特征在细尺度下会消失,导致数据特征点不能完整识别,针对该情况提出特征尺度因子的概念,以了解数据中所含特征的差异性。特征尺度因子越大意味着可分解尺度数越多,相反则意味着可分解尺度数越少,当数据点的特征差异较大时,可将其分为几段分别进行识别,最后再将各段特征点汇总。实验证明,特征尺度因子可以很好地体现特征的信息并指导特征识别,有效保证了数据中特征个数的完整性。Wavelet modulus maximum method can be used to recognize the features and restrain the noise. However, some important local features would disappear in the finest scales when using this method to recognize the whole cross-section data. The concept of characteristic scale factor was proposed to find out the differences of the features contained in the cross-section data. When the characteristic scale factor was larger, the numbers of the decomposable scales would become more and more, and vice versa. The cross-section data can be divided into several sections to be recognized respectively when the features of the cross-section data differed considerably. And the feature points of each section would be integrated finally. The experimental results show that the shape-scale factor can reflect the information contained in the signal well and guide features recognition. This recognition method can ensure the integrity of the feature numbers effectively.

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