

EMD消噪在取样光栅滤波器设计中的应用

作者：朱丹丹, 王鹏

单位：燕山大学

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摘要：

通过改变取样光栅的各参数来仿真其反射谱，调试出四种基于取样光纤光栅的光学梳状滤波器。为了优化取样光栅梳状滤波器进行滤波分析和降噪处理的方法。该方法是将经验模态分解得到的固有模态函数，分为信号分量起主导作用模态与噪音分量主导作用模态，并利用反映信号主要结构的模态对信号进行重构实现去噪。文中最后以一种含噪声的反射谱为例，进行降噪后

关键词：经验模态分解；取样光栅；梳状滤波器；反射谱

Design of sampled grating comb filter based on EMD Denoise

Author's Name:

Institution:

Abstract:

By changing the parameters of sampled fiber grating and simulating its reflective spectrum. Four optical comb filters based on sampled optimization the design of sampled grating comb filter, a filtering analysis and denoising method by using EMD was proposed. This obtained by EMD into two mode. One of the mode was that signal components mode play dominant role, the other mode was that noise component play dominant role was removed. It can denoise reflective spectrum through restructuring signal including noise was denoised as an example. The smooth reflective spectrum can be got after denoising.

Keywords: EMD; Sampled grating; Comb filter; Reflective spectrum

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