

论文

基于非均匀取样布拉格光纤光栅 Interleaver 的设计

张兴娇, 叶志清

江西师范大学 物理通信与电子学院, 江西南昌330022

摘要:

对于光纤通信领域有限的带宽资源, 波分复用与解复用器件 Interleaver 是未来密集型波分复用(DWDM)光纤通信网中的关键器件。为此结合非均匀取样光栅 Interleaver 的基本设计原理, 运用耦合模理论和矩阵传输方法对非均匀取样光纤布拉格光栅的传输特性进行了数值模拟计算, 并设计了信道间隔为0.8nm的设计实例, 反射谱峰值均匀达到80%~95%, 传输通道间隔稳定均匀, 时延和色散均匀, 时延抖动小于200ps。

关键词: 非均匀取样 取样布拉格光纤光栅 Interleaver 矩阵传输方法

Design of optical Interleaver based on non-uniformly sampled FBG

ZHANG Xing-jiao; YE Zhi-qing

Institute of Physics Communication & Electronics, Jiangxi Normal University, Nanchang 330022, China

Abstract:

The Interleaver used in the multiplexer or demultiplexer is a key device of the future DWDM for the limited bandwidth resources in fiber-optic communication. Based on the coupling-mode theory, the transmission properties of non-uniformly sampled FBGs are numerically simulated with the transfer matrix method. The basic principle of optical Interleaver based on non-uniform sampled fiber gratings (SFBG) is introduced. The design example, whose channel interval is 0.8nm and the peak reflectivity is 80%~95%, is presented. The channel intervals are steady and uniform. The delay spectra of each channel are congruous, and the delay dither is less than 100ps.

Keywords: non-uniform sampling sampled Bragg fiber grating Interleaver transfer matrix method

收稿日期 1900-01-01 修回日期 1900-01-01 网络版发布日期

DOI:

基金项目:

通讯作者: 张兴娇

作者简介:

参考文献:

本刊中的类似文章

文章评论 (请注意: 本站实行文责自负, 请不要发表与学术无关的内容! 评论内容不代表本站观点.)

反馈人	<input type="text"/>	邮箱地址	<input type="text"/>
反馈标题	<input type="text"/>	验证码	<input type="text"/> 1338

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF (298KB)
- ▶ [HTML全文]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 非均匀取样
- ▶ 取样布拉格光纤光栅
- ▶ Interleaver
- ▶ 矩阵传输方法

本文作者相关文章

- ▶ 叶志清