

自动化

采用相移法测量长站距OPGW光缆的色散

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摘要:

色散是影响光通信系统性能的重要因素之一,对长距离、高速光通信系统的影响更严重。为此介绍了用相移法测量长距离光纤复合架空地线(optical fiber composite overhead ground wire, OPGW)线路色散的原理和方法,结合给定的252 km长距离OPGW线路,搭建了测试系统,进行了线路色散的实际测量。对测试结果的分析表明,该段OPGW线路在运行时需要进行色散补偿,需补偿的色散大小根据系统通信速率来确定。

关键词:

Measurement of Chromatic Dispersion for Long Distance Optical Fiber Composite Overhead Ground Wire by Phase-Shift Method

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Abstract:

Chromatic dispersion is one of the important factors impacting the performance of optical communication system and it affects long distance and high-speed optical communication system more severely. For this reason, the principle and concrete manner to measure chromatic dispersion of long distance optical fiber composite overhead ground wire (OPGW) by phase-shift method is presented. Taking a given long distance OPGW with length of 252 km as test object, a testing system is set up and actual chromatic dispersion measurement is carried out. Analysis on testing results shows that during its operation the dispersion compensation is necessary for the tested OPGW, and the dispersion compensation extent of OPGW should be decided according to the rate of optical communication system.

Keywords:

收稿日期 2010-01-08 修回日期 2010-03-12 网络版发布日期 2010-07-13

DOI:

基金项目:

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