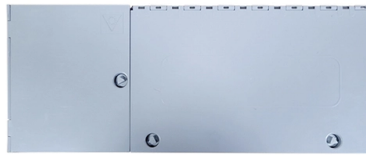


Customization Process for Anti-tracking of Reconfigurable Optical Add-Drop Multiplexers for Campus Network Use



AI Overview

Anti-tracking customization in Reconfigurable Optical Add-Drop Multiplexers (ROADMs) involves configuring tunable wavelength routing, dynamic channel allocation, and optical signal obfuscation to prevent unauthorized monitoring in campus networks.

Understanding ROADMs in Campus Networks

A ROADM is a reconfigurable optical add-drop multiplexer that allows individual or multiple wavelength channels to be dynamically added, dropped, or passed through a fiber without optical-to-electrical conversion . In campus networks, ROADMs enable flexible bandwidth allocation, efficient traffic routing, and support for multiple services over a single fiber infrastructure . Key components include optical filters, couplers, multiplexers/demultiplexers, and tunable micro-optics or micro-actuators .

Anti-Tracking Customization Principles

To implement anti-tracking in a ROADM, the following strategies are typically applied:

- Dynamic Wavelength Assignment ROADMs can be configured to randomly or pseudo-randomly switch wavelengths for specific channels, making it difficult for an external observer to track a particular signal . This involves programming the Opto-VLSI processor or tunable filters to periodically change the drop/add wavelengths....

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