

Research on routing and wavelength assignment techniques in WDM networks

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Abstract: This topic focuses on researching routing and wavelength assignment techniques in Wavelength Division Multiplexing (WDM) networks to meet the demand for high-speed, large-scale data transmission. The objective is to build models and academic methods to optimize performance and minimize errors during the forwarding and resource allocation process. The research methodology includes synthesizing WDM theory, conducting experimental simulations on network models, and implementing practical applications. The expected outcome is a significant contribution to the future development of data transmission technology, improving system performance and unlocking potential for new applications.

Keywords: WDM, Routing, Wavelength Assignment, Transmission Network, Experimental Research