Optimal design of DWDM broadband optical transmission network using ROADM

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Abstract: The study addresses the optimal design for broadband optical transmission networks (DWDM) based on a reconfigurable optical add-drop multiplexer (ROADM) system. In the context of increasing information demand, this issue has become urgent. The objective of the research is to optimize the performance and flexibility of DWDM networks by applying ROADM to efficiently manage transmission flows. The method combines theoretical and experimental research to evaluate effectiveness. The expected results will make a significant contribution to the information technology industry, improving the ability to handle information on a large scale.

Keywords: DWDM, ROADM, Optical transmission network, Network optimization, Free flow control