Enhanced Constraint-Based Optical Network (ECON) for Enhancing OSNR

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Abstract : With the constantly rising demands of the multimedia services, the requirements of long haul transport network are constantly changing in the area of optical network. Maximum data transmission using optimization of the communication channel poses the biggest challenge. Although there has been a constant focus on this area from the past decade, there was no evidence of a significant result that has been accomplished. Hence, after reviewing some potential design of optical network from literatures, it was understood that optical signal to noise ratio was one of the elementary attributes that can define the performance of the optical network. In this paper, we propose a framework termed as ECON (Enhanced Constraint-based Optical Network) that primarily optimize the optical signal to noise ratio using ROADM. The simulation is performed in Matlab and optical signal to noise ratio is extracted considering the system matrix. The outcome of the proposed study shows that optimized OSNR as compared to the existing studies.

Keywords : component, optical network, reconfigurable optical add-drop multiplexer, optical signal-to-noise ratio
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