ROUTING IN ALL-OPTICAL THREE STAGE-CLOS INTERCONNECTION NETWORKS

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ABSTRACT

Permutation routing is a popular communication pattern in the interconnection networks. Most of the previously proposed routings algorithms on Multistage Interconnection Networks (MINs) work on 2×2 switches. We considered all-optical rearrangeable permutation routing for Clos Interconnection networks. The signal in the optical switch with the same wavelength will cause the crosstalk problem.In this paper, we proposed algorithm is to rearrange the same wavelength signals, so that no duplicate wavelength in any single middle switch. To avoid wavelength crosstalk, we use wavelength domain approach, and then to solve blocking condition by space domain approach.

KEYWORDS: Clos Interconnection Networks, Permutation Routing, Crosstalk