

## Eight Channel Optical Add Drop Multiplexer Based on Ring Resonator Using LNOI Channel Waveguides

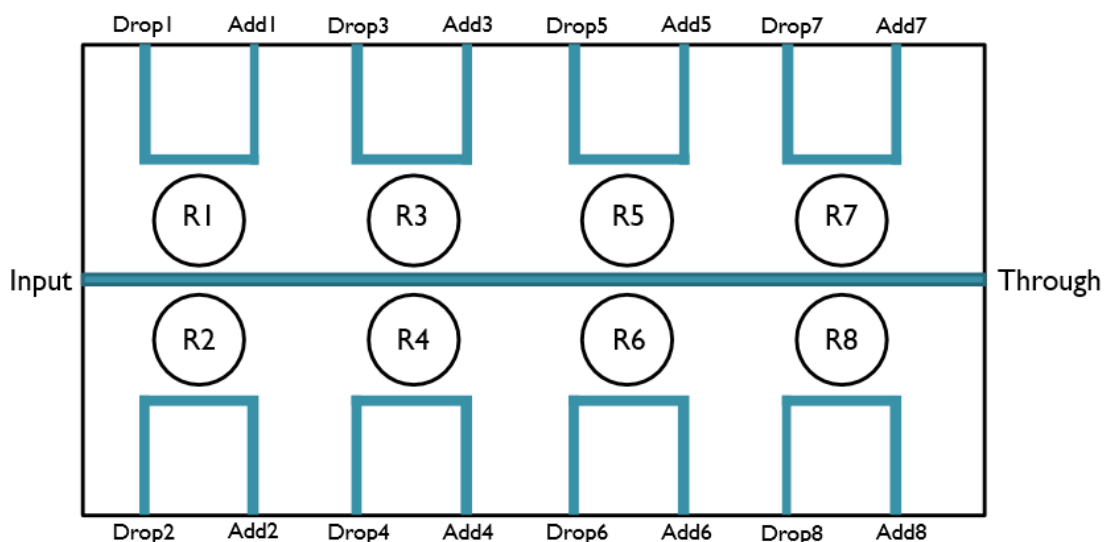
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In this paper we report on an eight channel optical add drop multiplexer based on ring resonator using Lithium Niobate on Insulator (LNOI) channel waveguides. The PIC of 8-channel OADM is made of eight cascaded ring resonators and the free spectral range (FSR) of each is 6.4 nm. The OADM drops every eighth channel of the DWDM system with the channel spacing of 100 GHz (0.8 nm) in C-band. The insertion loss at the drop port is maximum 1.2 dB and the Q-factor is 1636. The data rate is 10 Gbps and hence this pic can be used in DWDM-GPON network to enhance the performance.

The OADM is designed and simulated using mode-solver tool and the PIC is designed using s-parameters and simulated using Interconnect tool by Lumerical. The block diagram of PIC is shown in figure, it has input port, through port and 8 add and drop ports. It can be used as Multiplexer as well as Demultiplexer in 8 channel DWDM systems.



**Figure:** The block diagram of 8 channel OADM

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