

# Demonstration of Digital Optical D Flip Flop based on Photonic Micro-ring Resonator

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**Abstract**—In this paper, we demonstrated an optical D-type flip-flop based on the electro optic switching effect of silicon microring resonator. The operation of the flip flop has been verified by simulation using a clock signal of 10 Gbps and data signal of 1 Gbps. The results of the proposed flip-flop have been presented by the timing diagrams.

**Keyword**—Optical; flip-flop; micro-ring resonator



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