Abstract

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Design and Performance Evaluation for 2×2Electro-Optic Switch Based on MZI at 1.55 μm

This paper introduces a 2?2 opto-electronic switch based on Mach-Zehnder interferometer (MZI) with a channel profile of Titanium (Ti) diffused in potassium niobate (KNbO3) at a wavelength of 1.55 ?m. The ion loss and the extinction ratio are the evaluation parameters. The KNbO3 crystal as a host while optimizing the Ti strip thickness to provide a remarkable switching performance. The designed switch has a high switching capability. Optimization leads to a lower switching voltage of 4 V, an ion loss of 0.044 dB and an extinction ratio of 20.9 dB.