Abstracts

Integrated Optical Switch Matrix for Single-Mode Fiber Networks

M. Kondo, Y. Ohta, M. Fujiwara and M. Sakaguchi. "Integrated Optical Switch Matrix for Single-Mode Fiber Networks." 1982 Transactions on Microwave Theory and Techniques 30.10 (Oct. 1982 [T-MTT] (Special Issue on Optical Guided Wave Technology)): 1747-1753.

Design analysis and experiments on optical directional coupler switch integration into an LiNbO/sub 3/ chip with arrayed fiber pigtails has been made at 1.3 µm wavelength. A limitation for high integration was discussed by taking into account radiation losses at connecting waveguides between switch elements and at the input/output curved waveguide, switching voltage, and crosstalk caused by applied electric field leakage. An optimum designed low-loss 4 X 4 switch matrix with arrayed fiber pigtails at 1.3 µm wavelength has been developed. Its insertion loss was measured to be as low as 6 dB.

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