Abstracts

Analysis of LiNbO/sub 3/ Optical Modulator Using Coplanar-Type Electrodes

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A comprehensive study is presented for the coplanar-type TW electrode of the Ti:LiNbO/sub 3/ optical modulator, taking the anisotropy of the LiNbO/sub 3/, the effect of the SiO/sub 2/ buffer layer, the overlay and the electrode thickness into consideration. Accurate hybrid-mode computations reveal that the figure of merit Deltaf/Vpi is affected significantly by the electrode thickness and the overlay, and that the modulator performance can be improved by utilizing these effects advantageously. Also, numerical computations show that there exist the upper frequency limit f/sub u/, where mode coupling occurs. Therefore, special care should be taken for the choice of the thickness of the LiNbO/sub 3/.

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