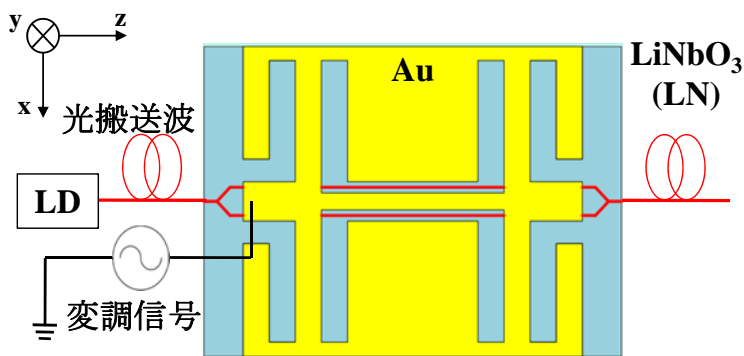


共振型LN光変調器に関する研究

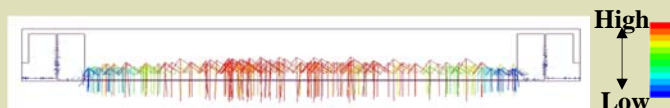
CPW $\lambda/2$ 共振器を用いたMZ型光変調器



(a) 構造図



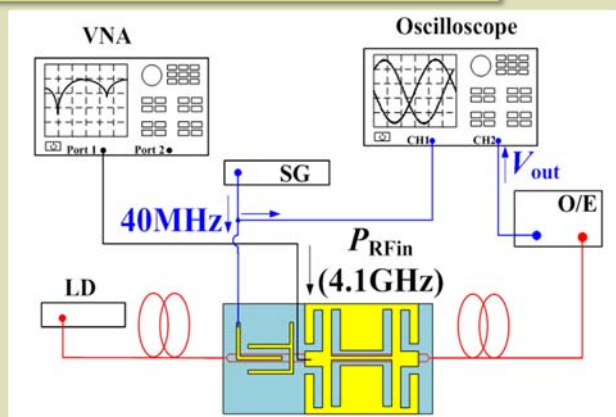
(b) 試作した光変調器



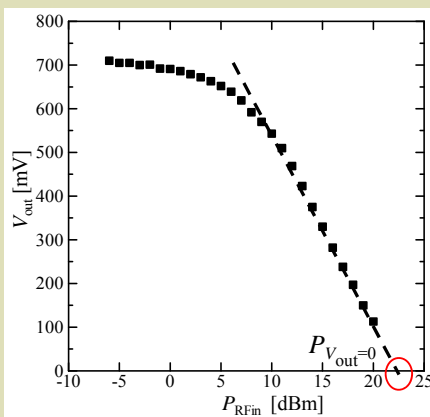
(c) 電界強度分布

特許
特開 2010-243822
特開 2012-18202

半波長電圧 V_{π} の評価



(a) 測定系



(b) P_{RFin} に対する V_{out}

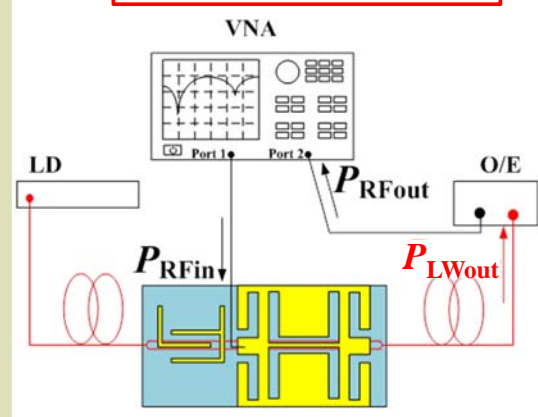
$$V_{\pi} = \frac{\pi \times 20 (10^{(P_{V_{out}=0}/10-3)})^{1/2}}{2 \times 2.405}$$

$P_{V_{out}=0}$: $V_{out}=0$ の時の P_{RFin}

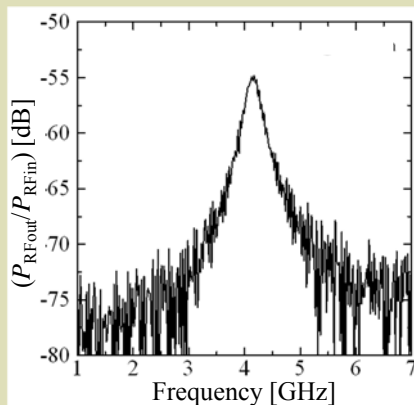
$V_{\pi}=5.5V$

変調度 M の評価

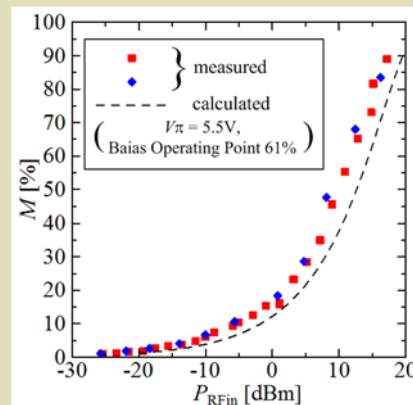
$$\text{変調度: } M = \sqrt{\frac{P_{RFout} Z}{P_{LWout} Z_L \eta}}$$



(a) 測定系



(b) P_{RFout}/P_{RFin}



(c) 変調度 M