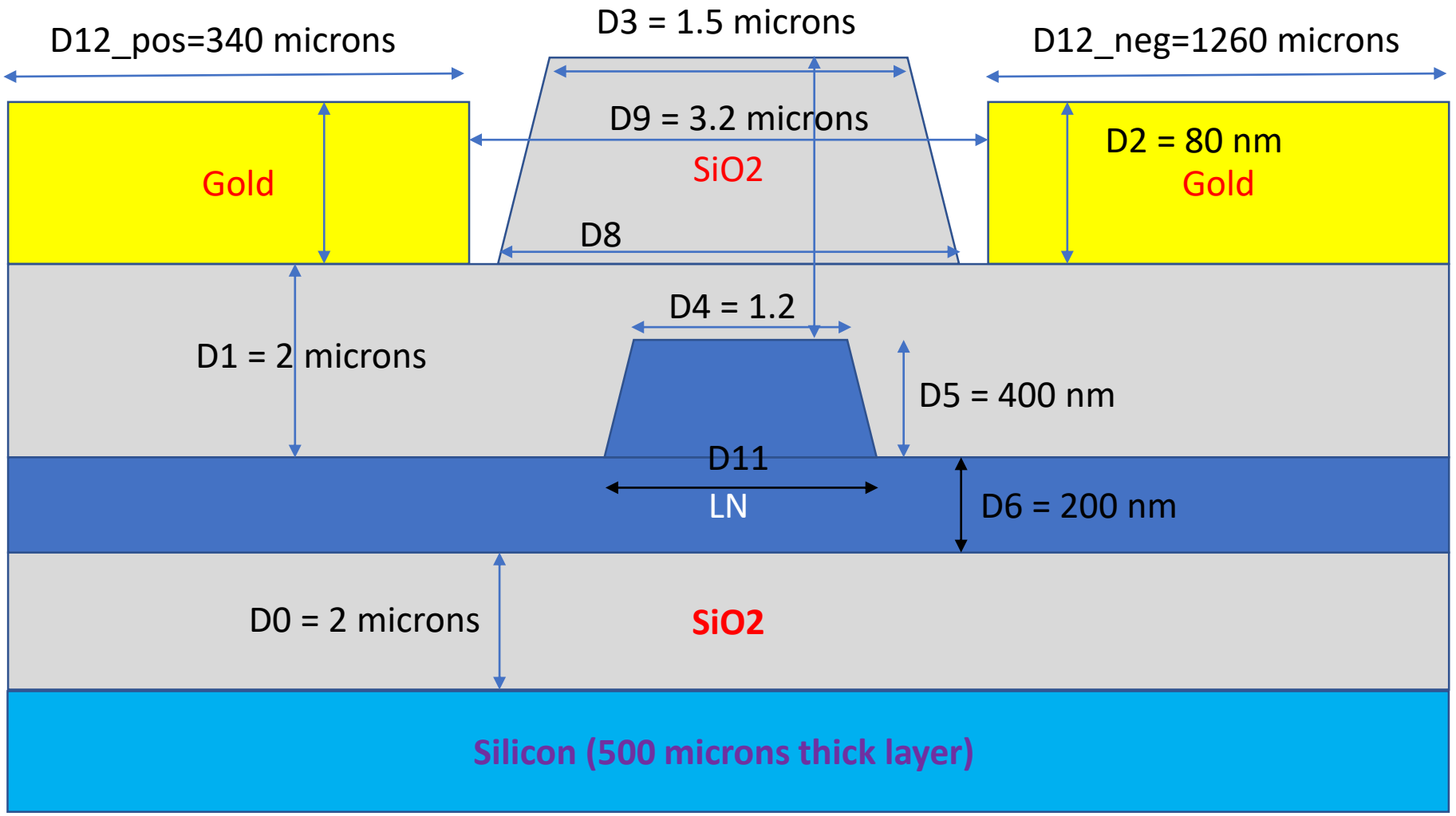
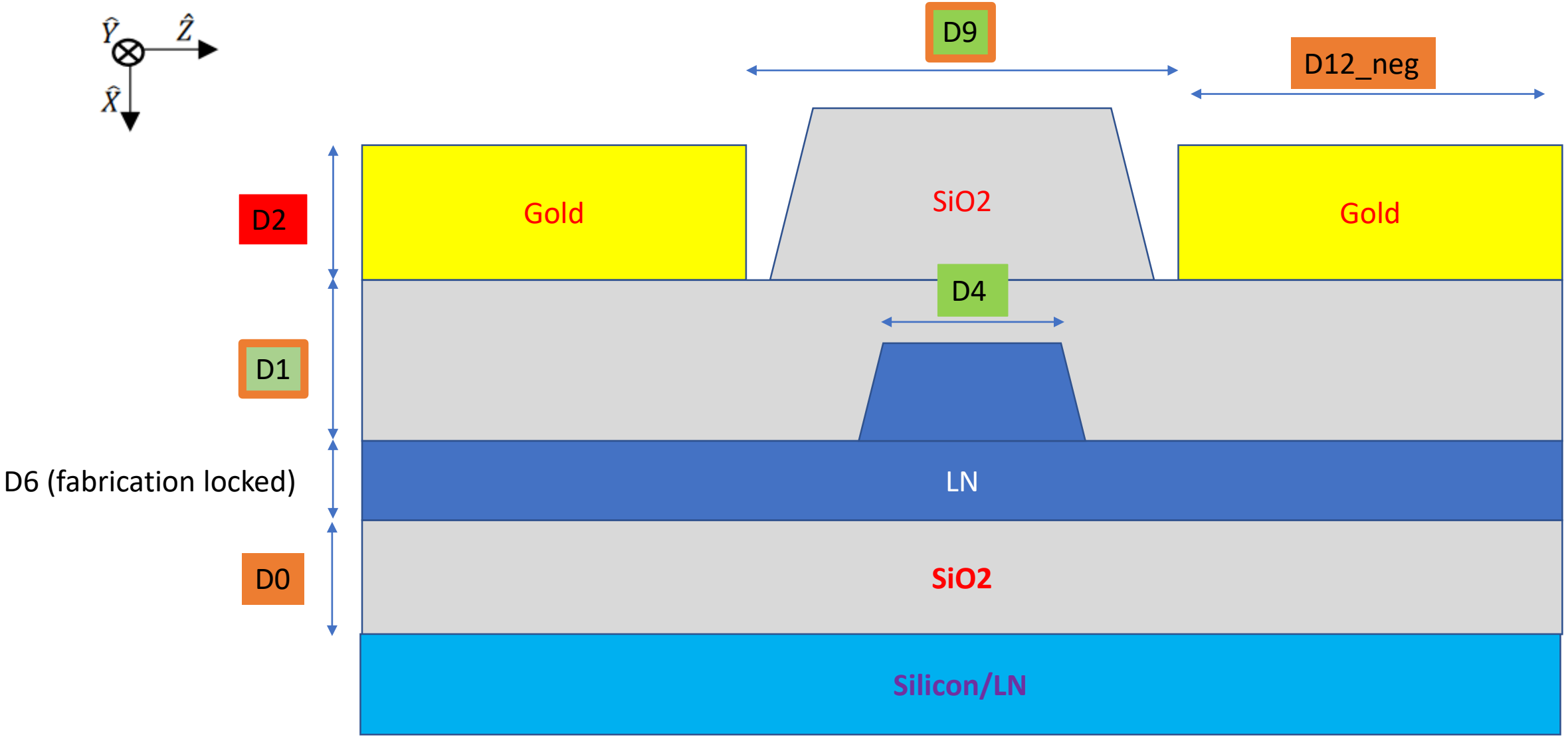
LNOI Modulator

D8 = 1.5 + 2*0.400*cot(72) = 1.5 + 0.26 = 1.76 microns

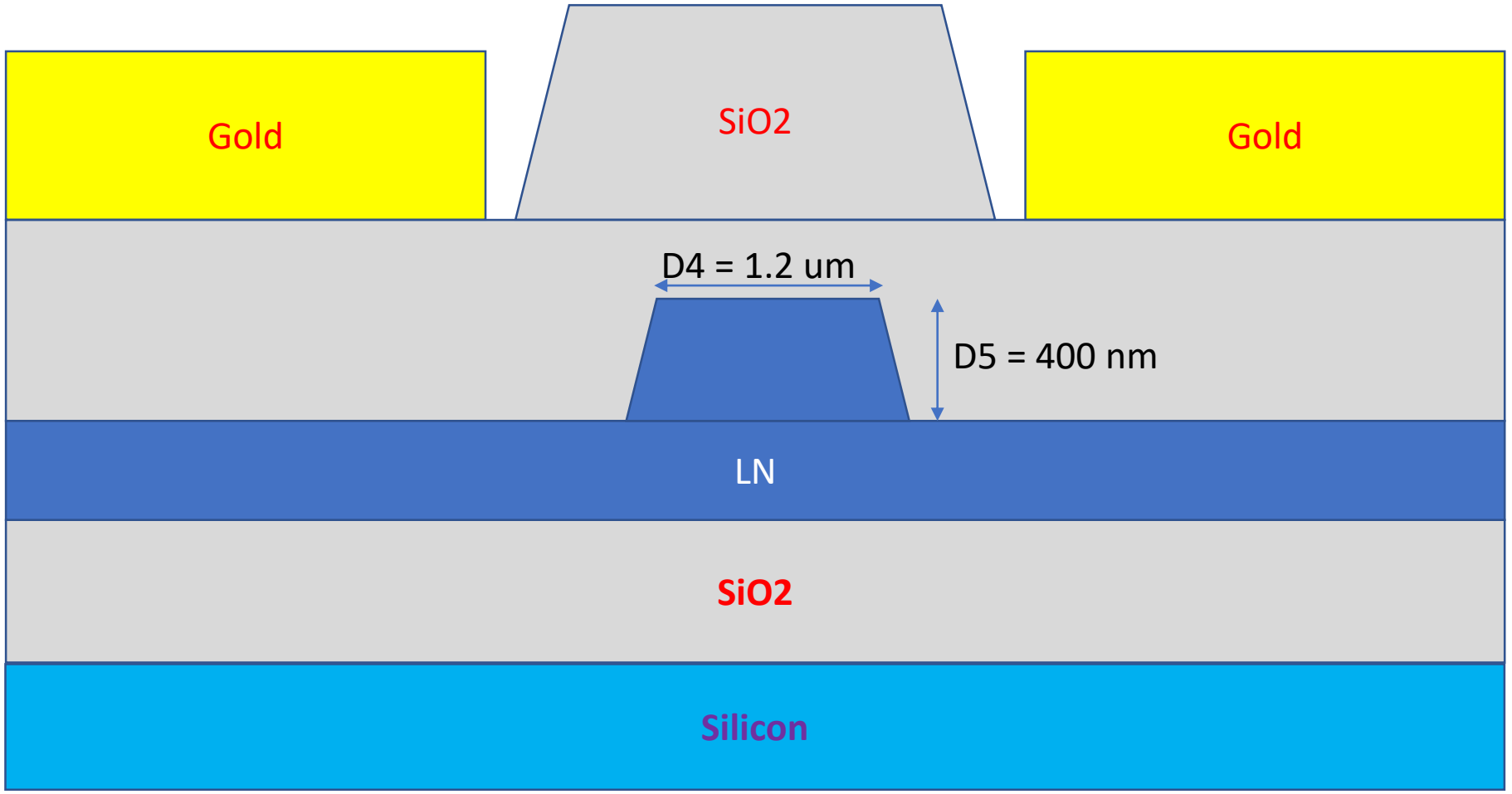
D11 = 1.2 + 2*0.400*cot(72) = 1.2 + 0.26 = 1.46 microns

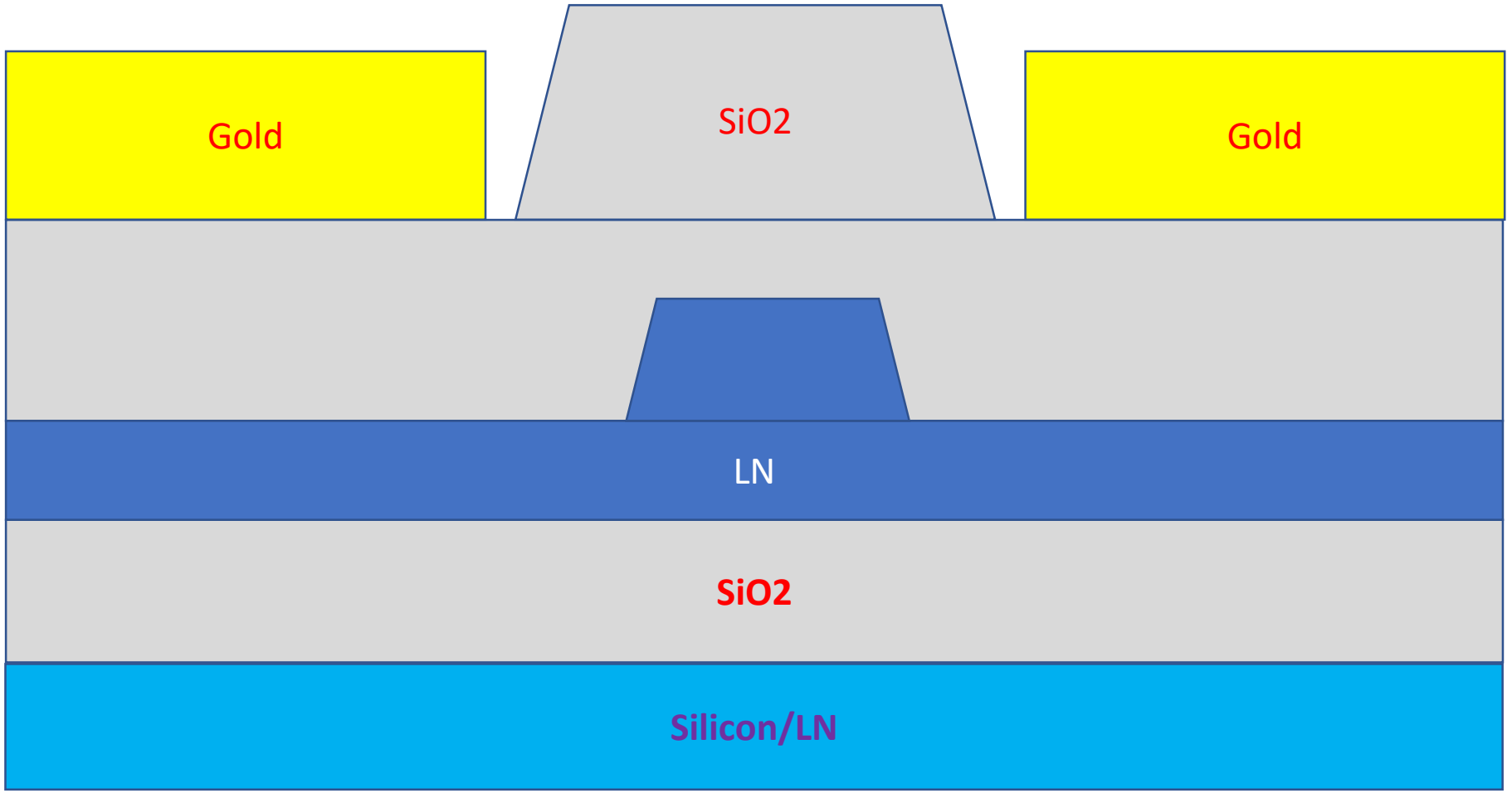


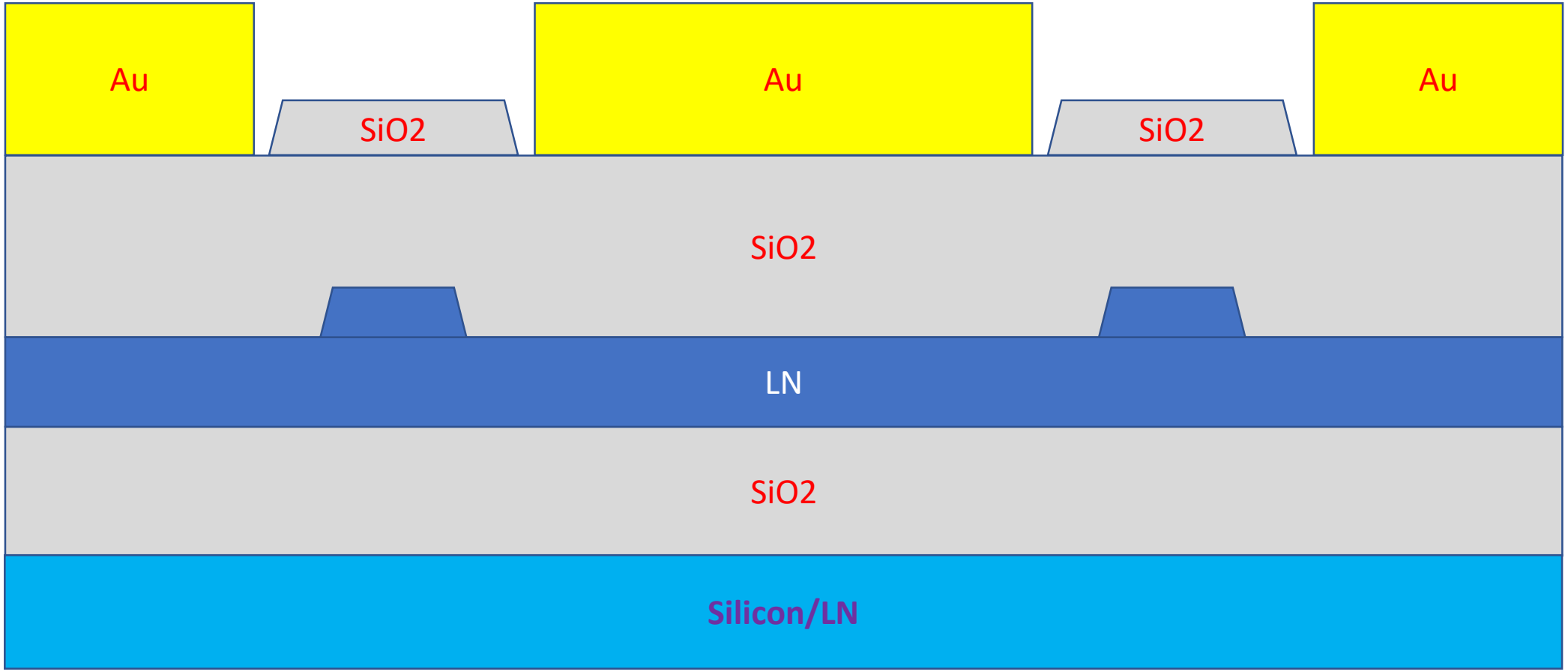

$\hat{Y}$
$\hat{Z}$
$\hat{X}$
D9
D12_neg
D2
Gold
SiO2
Gold
D4
D1
D6 (fabrication locked)
LN
D0
SiO2
Silicon/LN

D8 = 1.5 + 2*0.400*cot(72) = 1.5 + 0.26 = 1.76 microns

D11 = 1.2 + 2*0.400*cot(72) = 1.2 + 0.26 = 1.46 microns

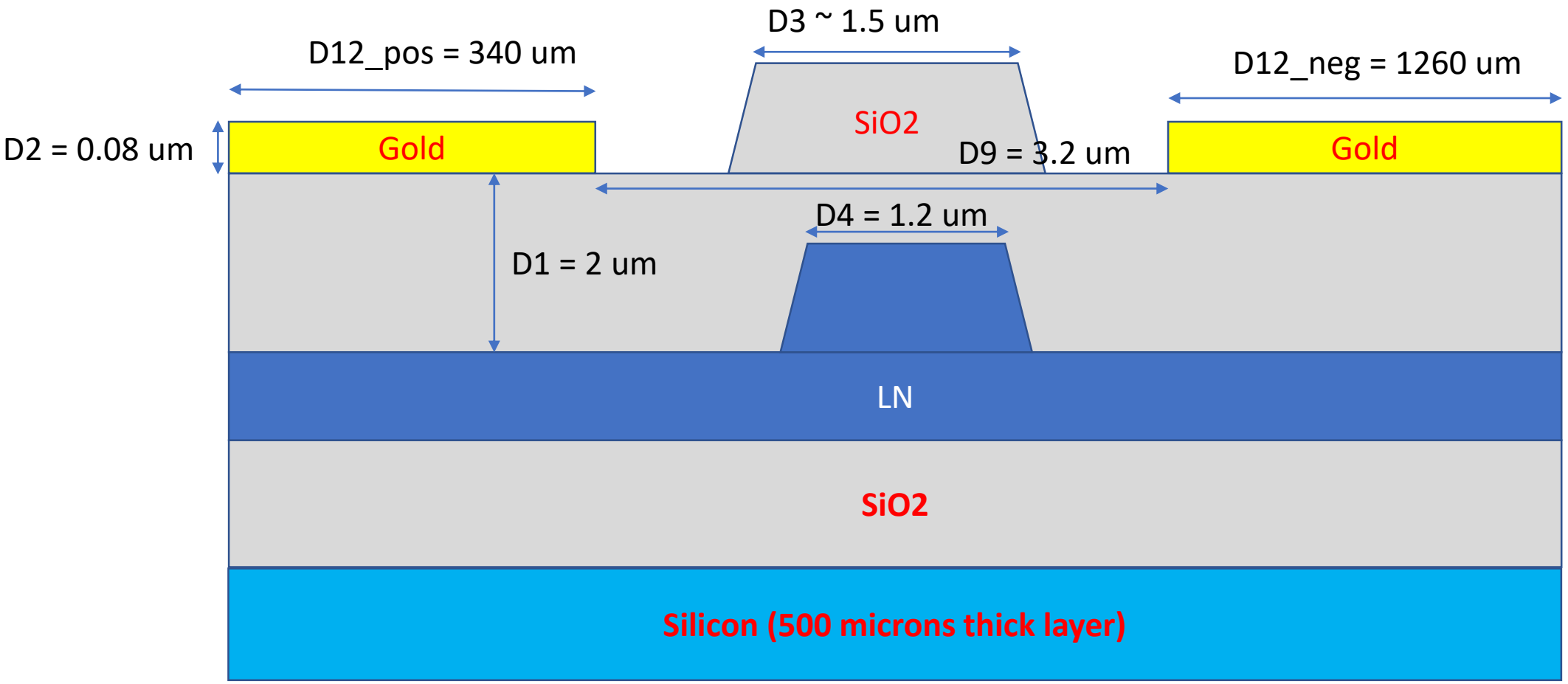



Gold
SiO2
Gold
LN
SiO2
Silicon/LN

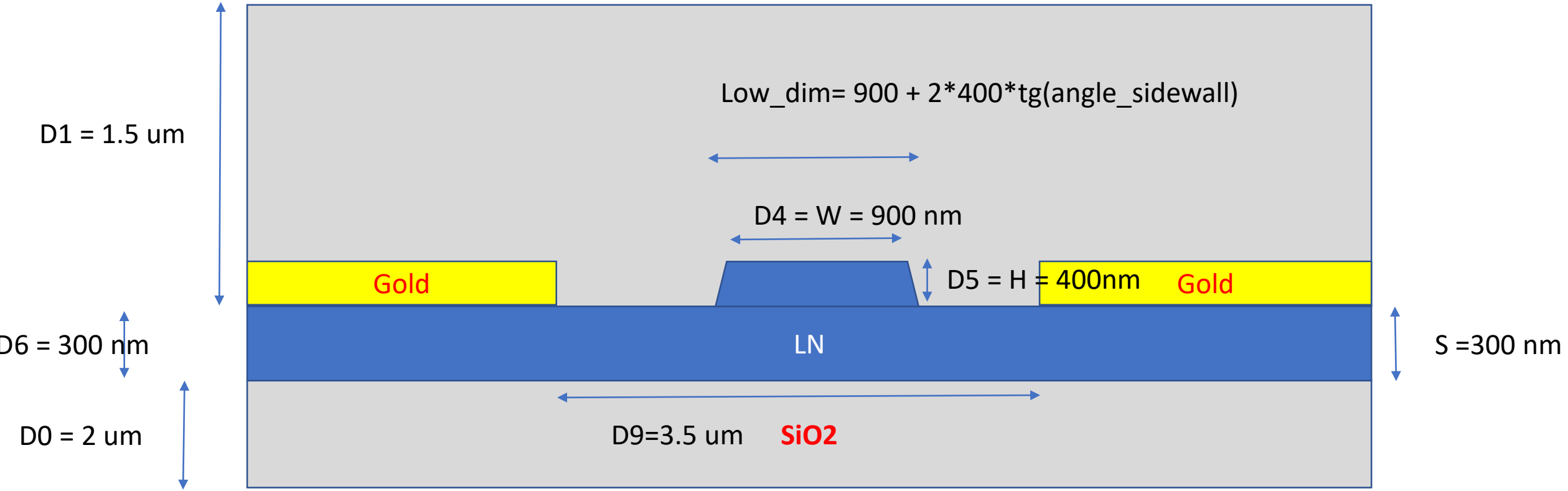

Au
SiO2
Au
SiO2
Au
SiO2
LN
SiO2
Silicon/LN

Cross-sectional layout of the modulator

D8 = 1.5 + 2*0.400*cot(72) = 1.5 + 0.26 = 1.76 microns



Nanophotonic lithium niobate electro-optic modulators (PAPER)

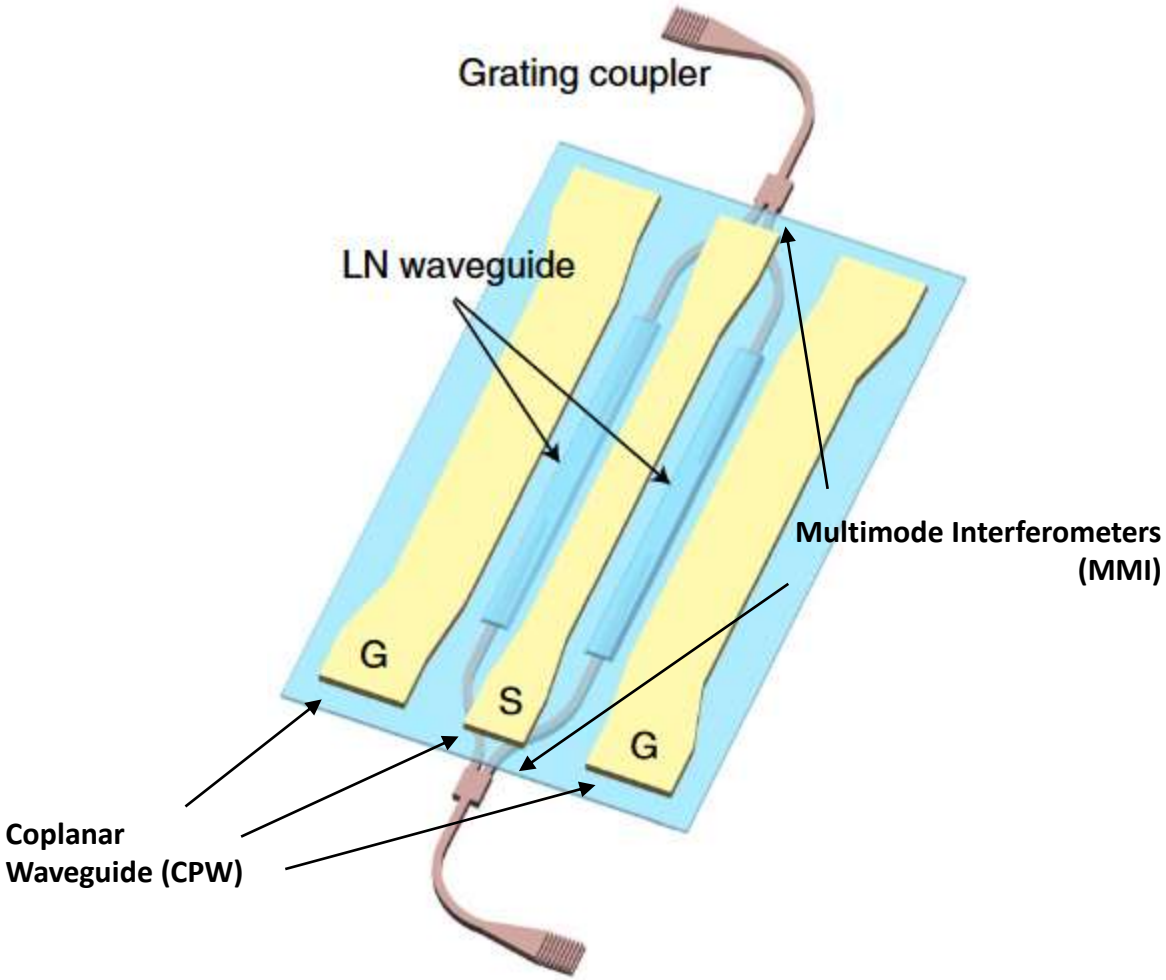


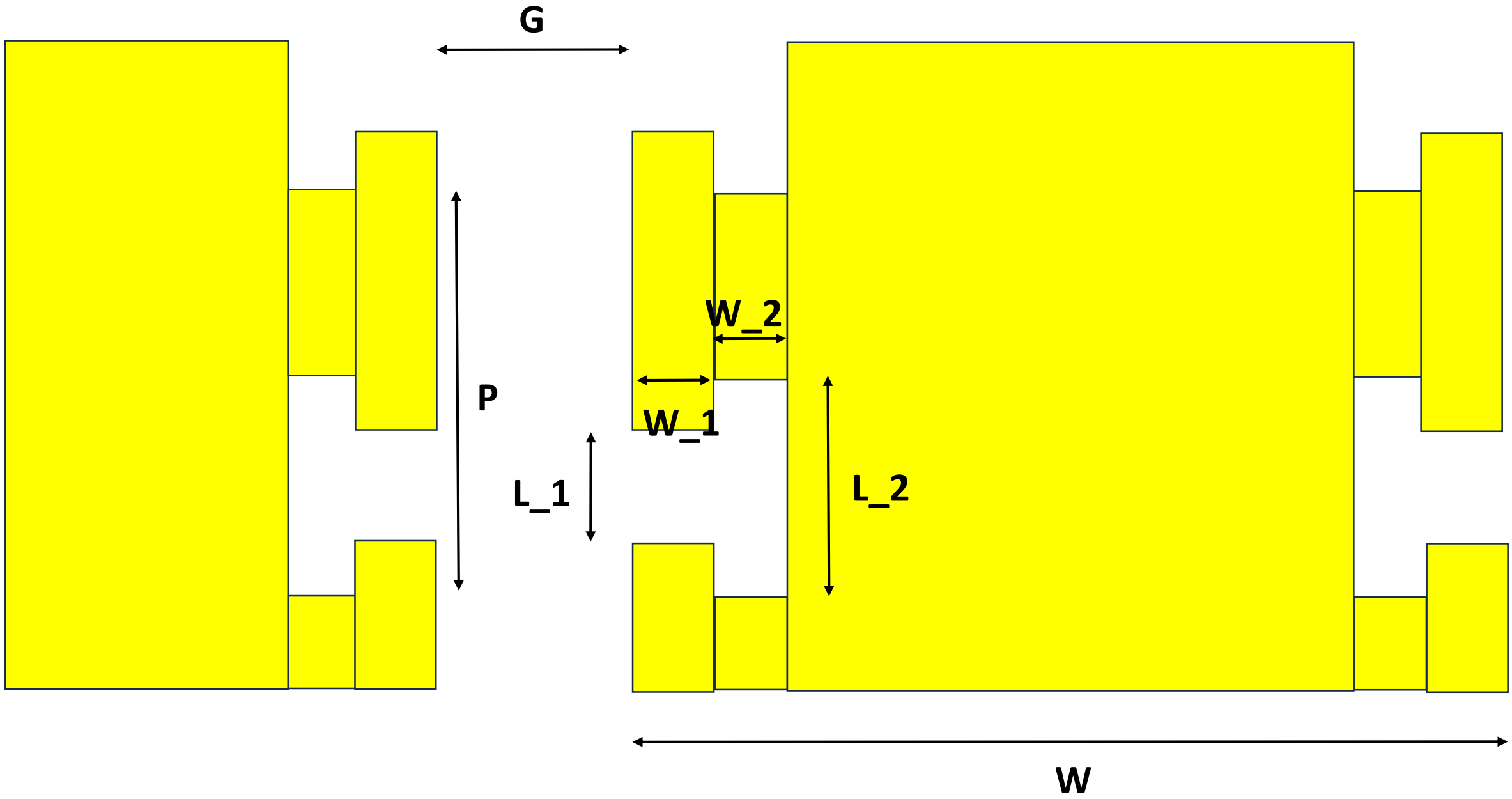
CLAIM:

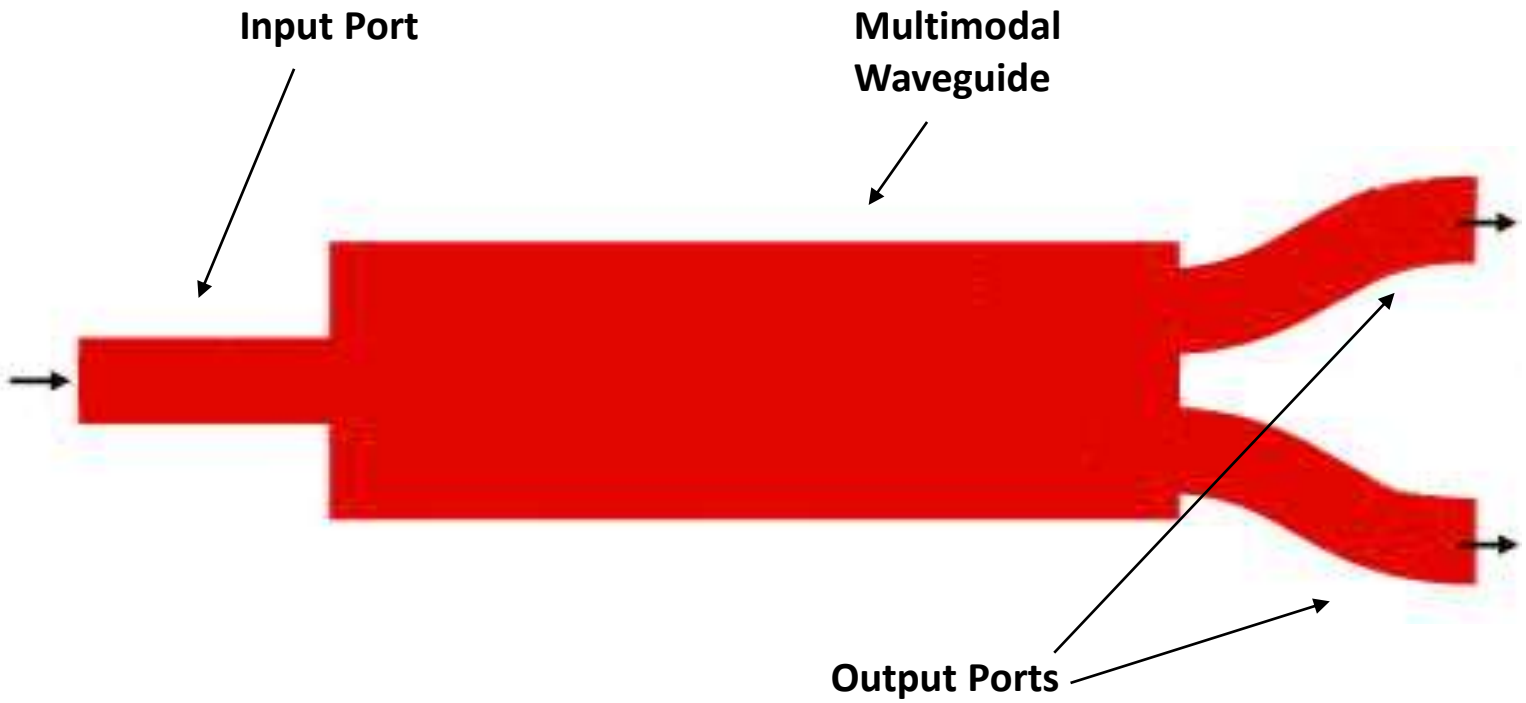
- V_pi: 1.8 V*cm (looks like it´s an experimental result)

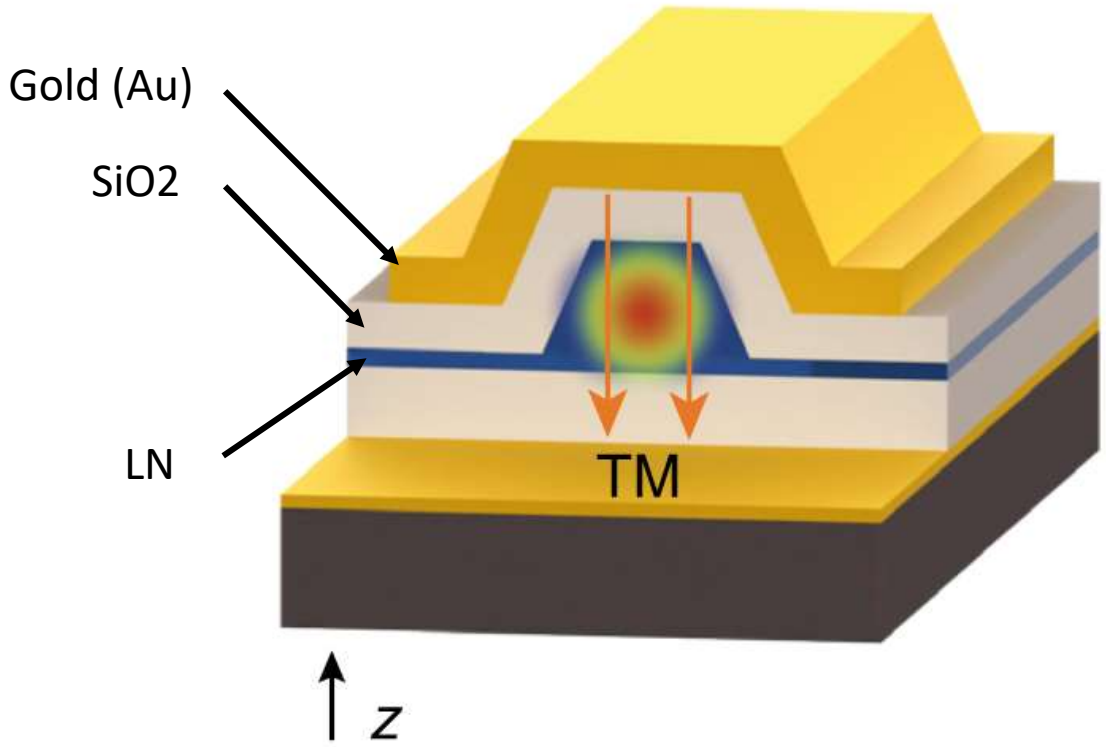
Assumptions:

- No sidewall angle (assumed 56.88º) (approx from the paper sketch)
- R_33 assume 30.9
- Lambda0=1480-1580nm


Grating coupler
LN waveguide
G
S
G
Multimode Interferometers
(MMI)
Coplanar
Waveguide (CPW)


G
P
W_2
W_1
L_1
L_2
W


Input Port
Multimodal
Waveguide
Output Ports


Gold (Au)
SiO2
LN
TM
z