

SOI Rib Waveguides:

Single mode condition: (300×300 nm silicon waveguide with SiO₂ cladding)

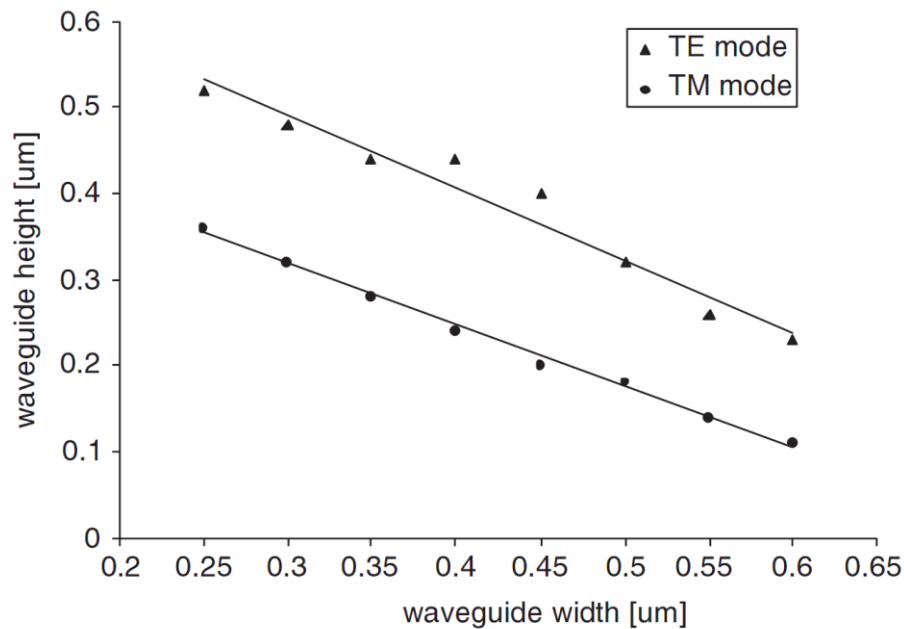


Figure 2.13 Single mode condition for strip waveguides

Reported Loss Values:

- ❑ 3.6 dB/cm & 0.013 dB/bend ($R=2\mu\text{m}$) for 445×220 nm [Vlasov & McNab, *OE* 12, 1622 (2004)]
- ❑ 2.4 dB/cm for 500×220 nm with DUV 248nm [P. Dumon et al., *PTL* 16, 1328 (2004)]
- ❑ 2.8 dB/cm for 450×220 nm with DUV 193nm [S. K. Selvaraja et al., *LEOS Annual meeting* 2007]
- ❑ 1.7 dB/cm & 0.005 dB/bend ($R=6.5\mu\text{m}$) for 510×226 nm [F. N. Xia et al., *Nature Photonics* 1, 65 (2007)]
- ❑ 1 dB/cm for $W=0.5$ μm [K. K. Lee et al., *OL* 26, 1888 (2001)]

TE / TM mode profile: (300×300 nm silicon waveguide with SiO₂ cladding)

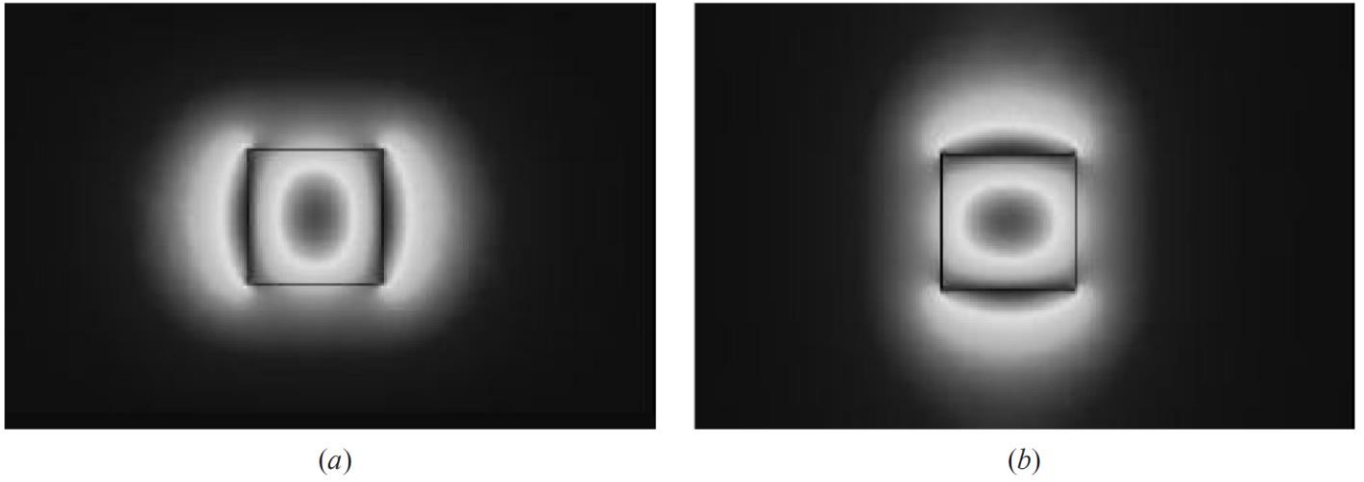


Figure 2.14 Field profiles for: (a) TE; (b) TM polarisation in a small strip silicon waveguide