

9.5 + xcredit for animation
10 \Rightarrow 10/15

Lab4 - Modeling Optical Waveguides

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Figures follow on the next pages. Extra credit files are attached in the assignment submission and will also output from running the accompanying Matlab code.

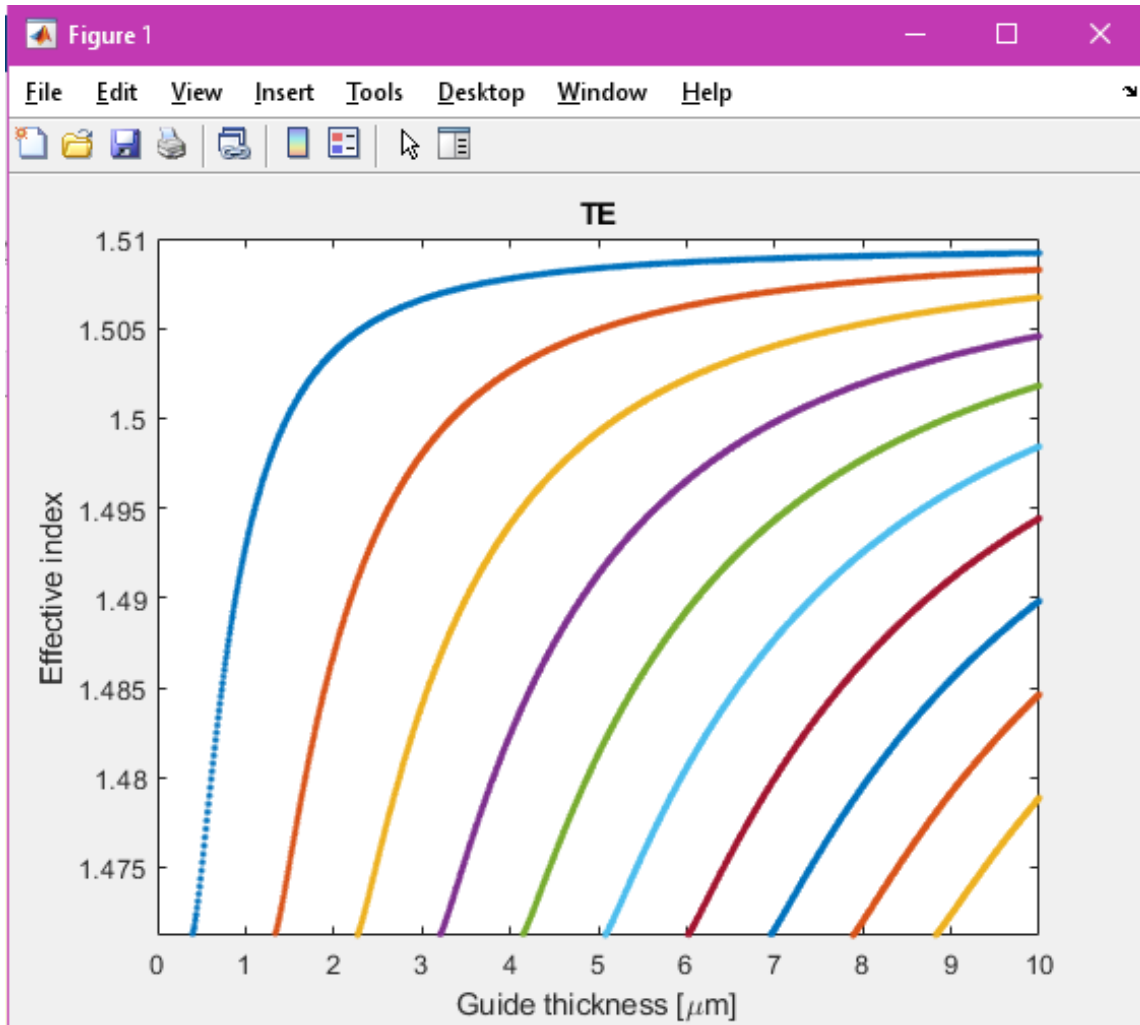


Figure 1: Graph of effective index as a function of waveguide thickness from 0 to 10 microns for TE modes

✓ wavelength? indexes?

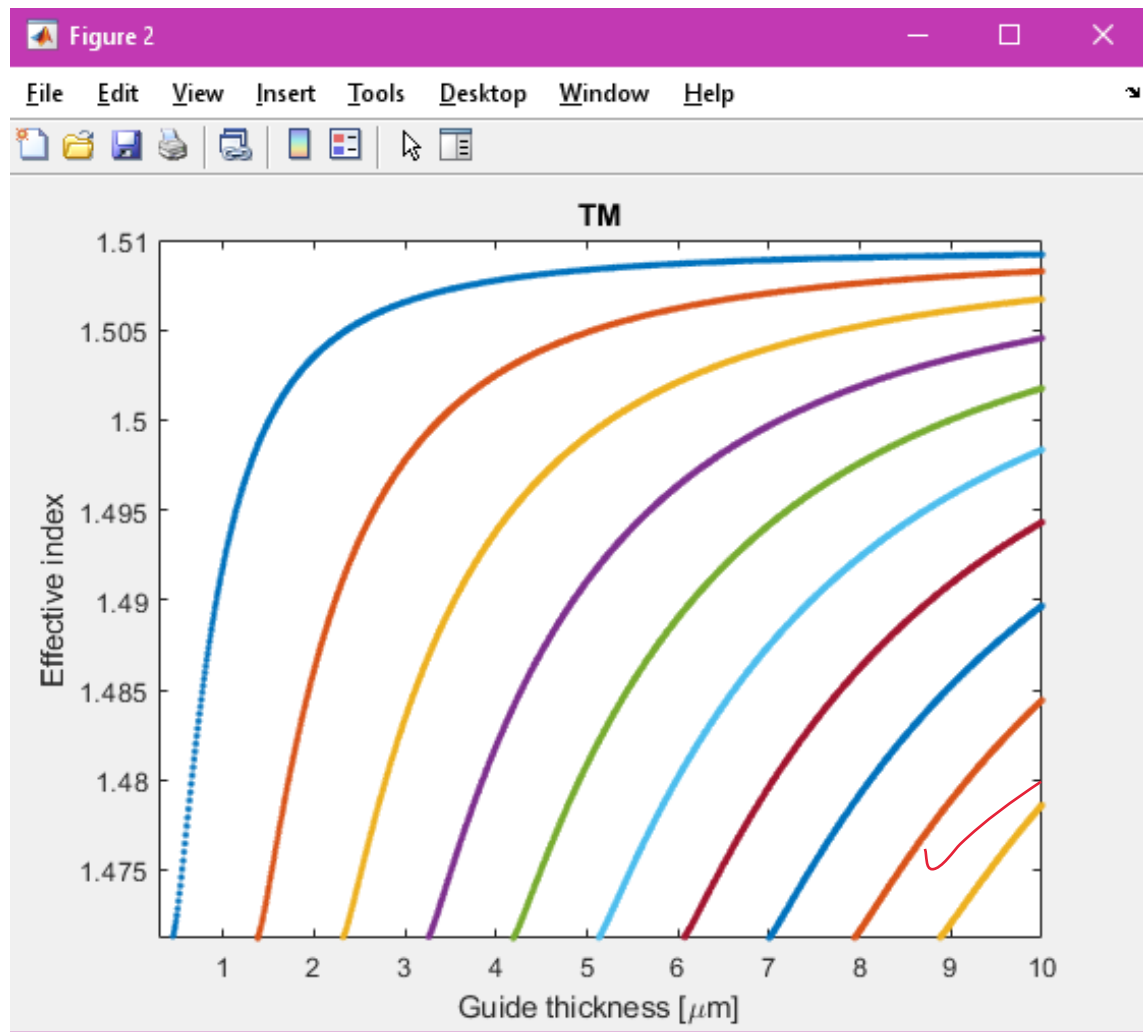


Figure 2: Graph of effective index as a function of waveguide thickness from 0 to 10 microns for TM modes

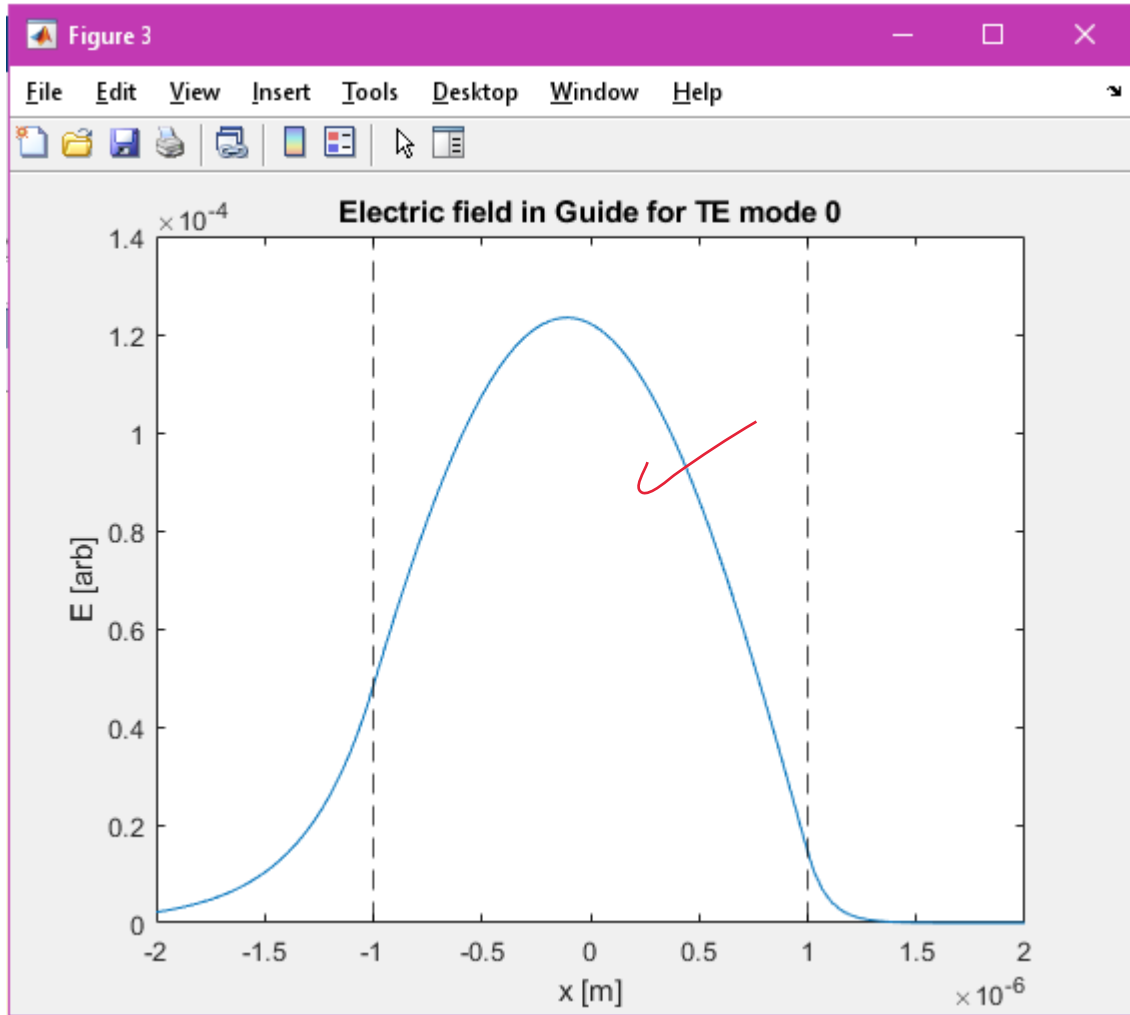


Figure 3: Plot of electric field of $m = 0$ mode for a 2 micron wide guide for 633 nm wavelength, cover index $n_1 = 1.0$, guide index $n_2 = 1.5095$, and substrate index $n_3 = 1.4711$. The left region is n_3 , the middle n_2 , and the right region is n_1

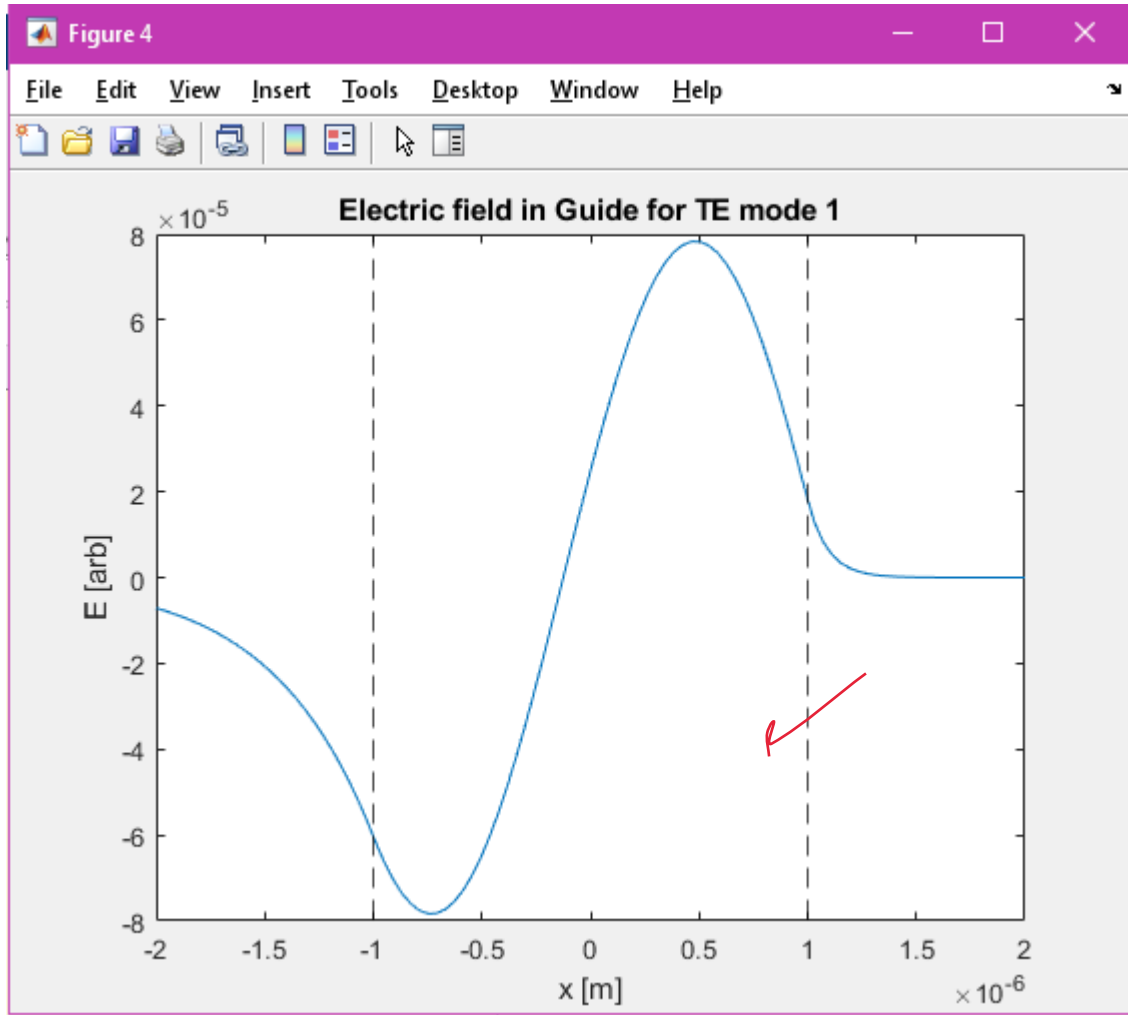


Figure 4: Plot of electric field of $m = 1$ mode for a 2 micron wide guide for 633 nm wavelength, cover index $n_1 = 1.0$, guide index $n_2 = 1.5095$, and substrate index $n_3 = 1.4711$. The left region is n_3 , the middle n_2 , and the right region is n_1