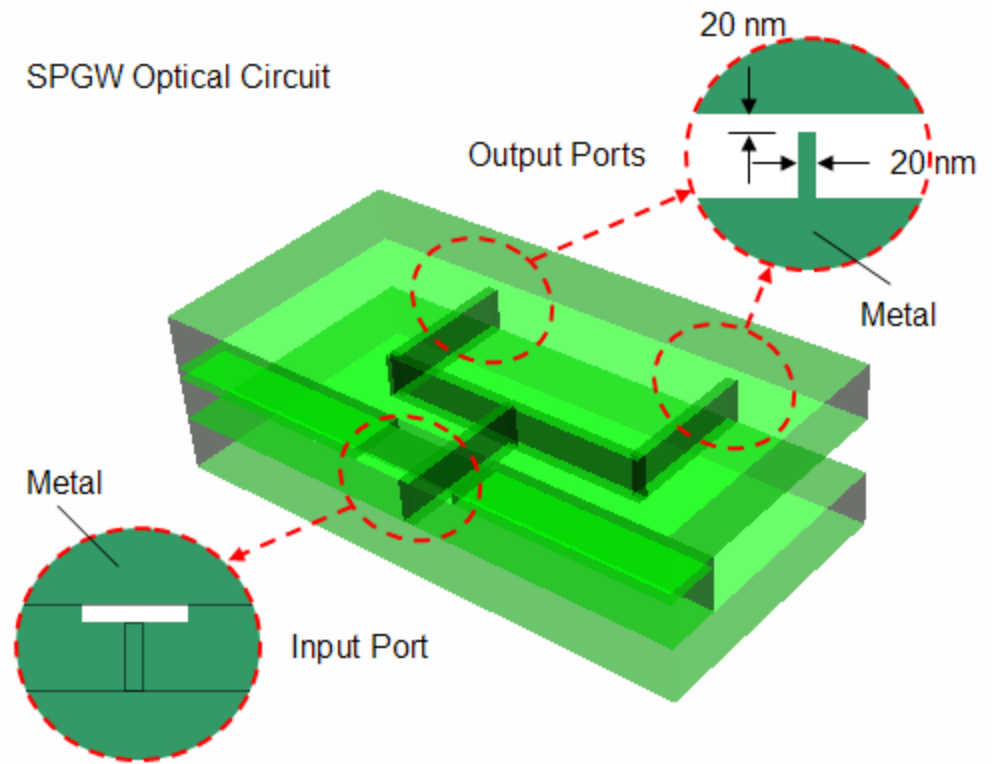


# Simulation of Sub-wavelength Surface Plasmon Gap Waveguide Optical Circuit

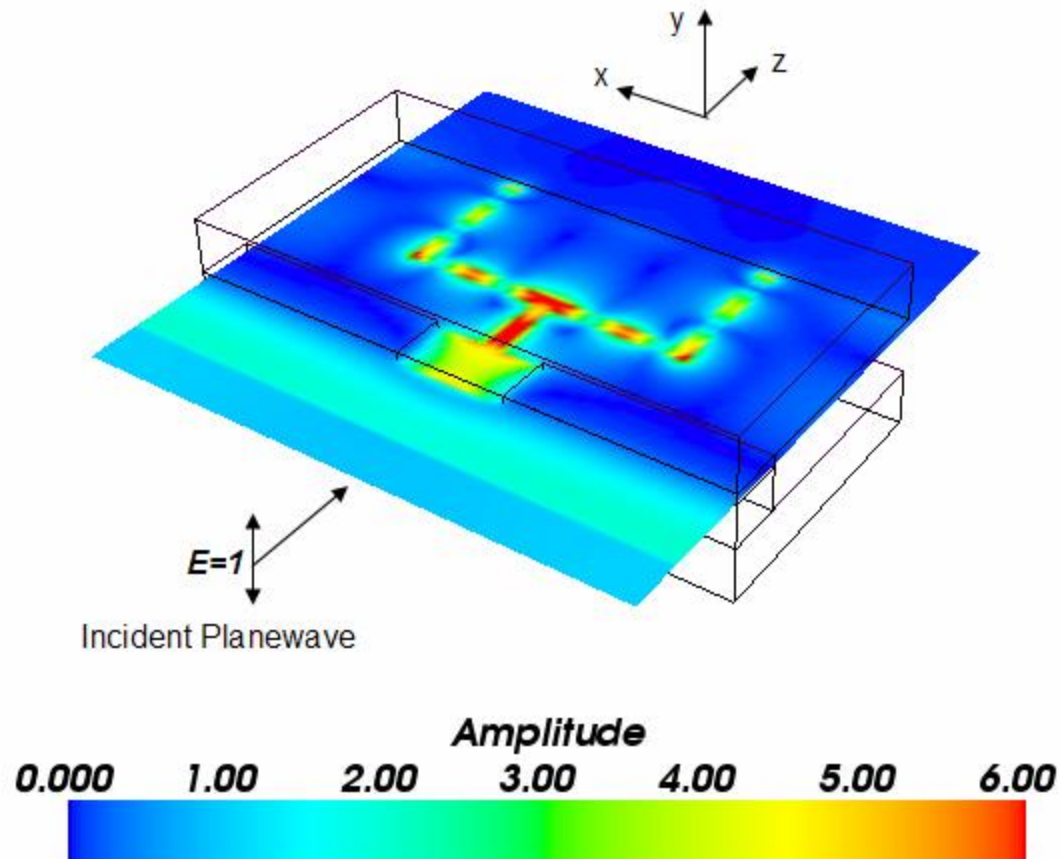
# Simulation Setup

The construction of nano-scale optical circuits is one of the promising applications of surface plasmons, where the light can be strongly confined and guided through structures that are much smaller than the wavelength, overcoming the diffraction limit faced by conventional dielectric waveguides and photonic crystals. It is a path to future miniaturization of optical devices.

The SPGW on the right is made of a metal having complex refractive index =  $0.12+i3.54$ . The wavelength to be simulated is 573nm. The space between the ridge and the top plate is used to confine and guide the light. Note its dimension (20nm) is much smaller than the wavelength.



# Z-Slice of E-Field Amplitude



# Y-Slice of E-Field Amplitude

