

Preparation Assignments

Due Wednesday, January 16

What properties of a transmission line affect propagation velocity?

What properties of a transmission line affect characteristic impedance?

What are the time domain expressions for the voltage and current propagating in a 100Ω transmission line with a velocity $.7c$ and frequency 150 MHz ?

Due Thursday, January 17

What is the standing wave ratio (SWR) of a transmission line terminated with a short circuit? with an open circuit? with a matched load?

What is the difference(s) between input impedance and characteristic impedance?

Due Monday, January 21

What are the electric and magnetic fields as function of both time and position for an electron oscillating linearly about an arbitrary point with frequency of 1 GHz and a displacement of 1 mm ?

Due Wednesday, January 23

A lossless transmission line is terminated with a resistive load. The line has a velocity of $.86c$ and is 10 meters long. At what frequency(s) will the input impedance be identical to the load impedance?

Will the input impedance ever look like an open circuit? like a short circuit?