Preparation Assignments

Due Monday, September 9

Is it possible for the input impedance of a lossless transmission line with a resistive (real) load to look like a short circuit ($Z_{in} = 0$)?

Is it possible for the input impedance of a lossless transmission line with an open circuit load to look like a short circuit ($Z_{in} = 0$)?

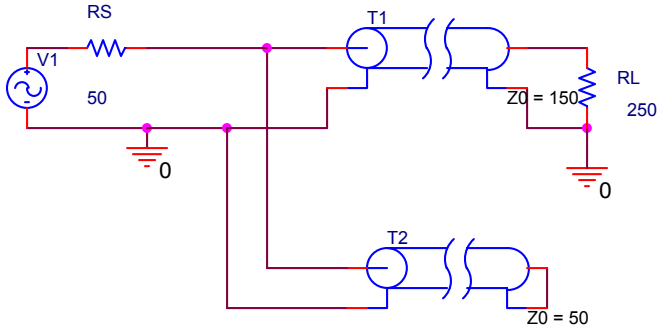
What condition is necessary for the input impedance of a transmission line to be identical to the load impedance ($Z_{in} = Z_l$)? (Zero length transmission lines are not possible.)

Due Wednesday, September 11

Using formulas 2.25 and 2.29, determine the attenuation constant (α), phase constant (β) and line impedance (Z_o) for the lossy lumped parameter model with l = 1E-6 [H/m], c = 1.11E-11 [pF/m], r = 2.3 [Ω/m], g = 0.

Does the line impedance differ significantly from our lossless model?

Due Monday, September 16



For the above circuit, both transmission lines are 200 [m] in length and have a propagation velocity of 2.5E8 [m/s]. Determine the reflection coefficient looking from T1 to the load (RL), looking from T1 to the source (RS), and the propagation delay of T1.

Due Monday, September 18

Do well on Quiz 1.