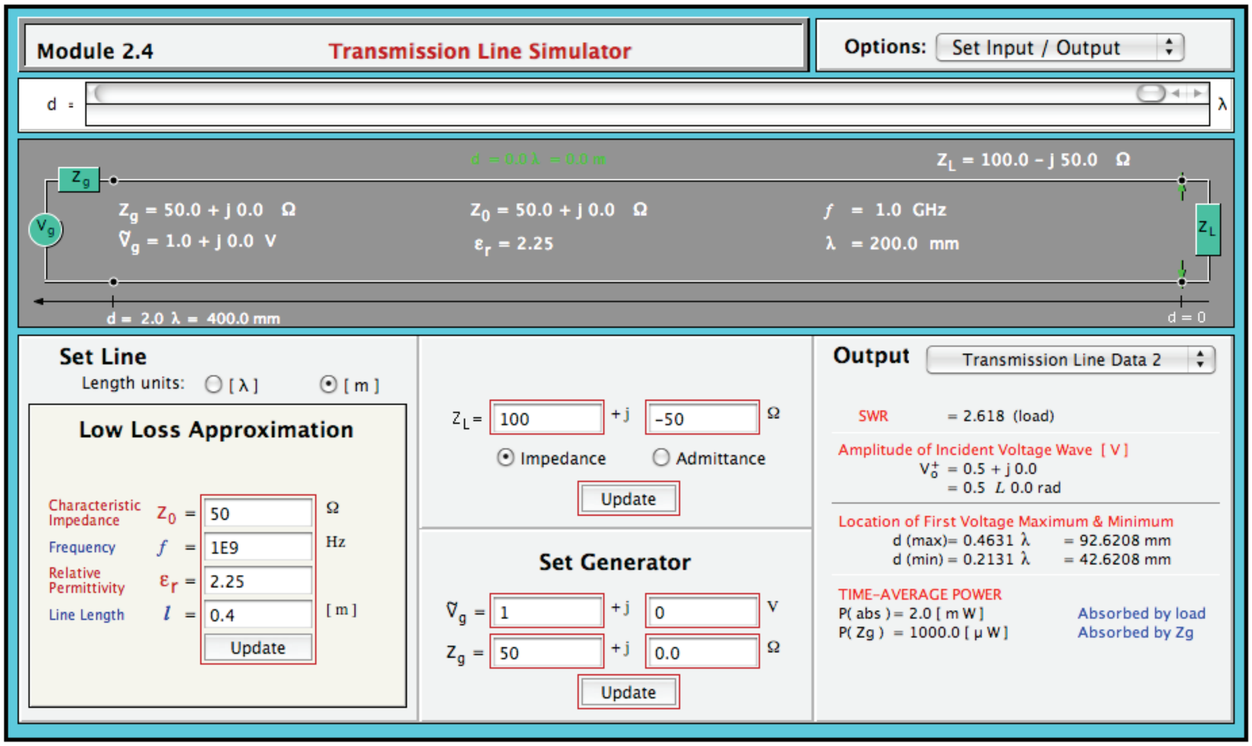
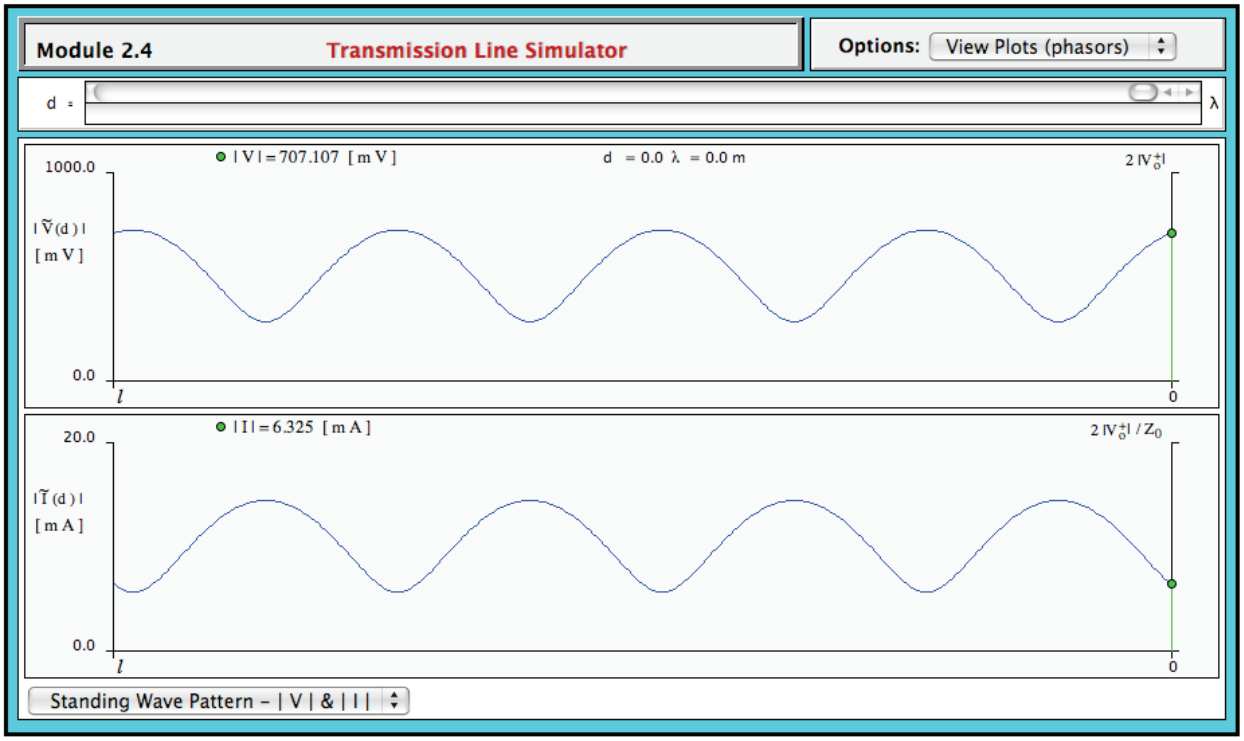
2.25 Apply Module 2.4 to generate plots of the voltage standing-wave pattern for a 50 Ω line terminated in a load impedance $Z_L = (100 - j50)$ Ω. Set $V_g = 1$ V, $Z_g = 50$ Ω, $\varepsilon_r = 2.25$, $l = 40$ cm, and $f = 1$ GHz. Also determine S, d_{max}, and d_{min}.

Solution:




Module 2.4
Transmission Line Simulator
Options:
View Plots (phasors)
d =
λ
| V | = 707.107 [m V]
d = 0.0 λ = 0.0 m
1000.0
$2|V_0^+|$
$|\tilde{V}(d)|$
[m V]
0.0
l
0
| I | = 6.325 [m A]
20.0
$2|V_0^+|/Z_0$
$|\tilde{I}(d)|$
[m A]
0.0
l
0
Standing Wave Pattern – | V | & | I |