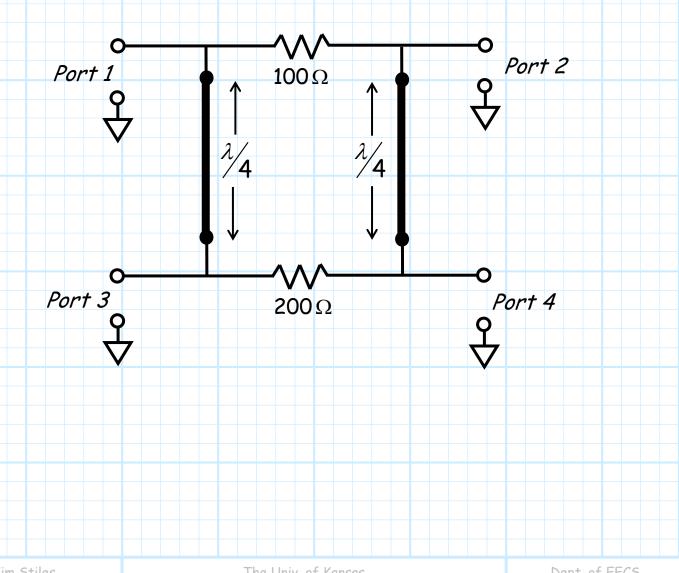
## Special Problem 4.3-12

Carefully (very carefully) consider the symmetric 4-port network below.

The two transmission lines have a characteristic impedance of  $Z_{o} = 50 \,\Omega$  . The bottom conductor for each transmission line is connected to ground and is not shown.

Use odd-even mode analysis to determine the value of admittance parameter  $Y_{11}$ .



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