

## E157 Lecture 11 Day Plan

Correction to rotation of Gamma on Smith Chart – CCW away from load, CW towards load

Any questions before quiz

Quiz + Team Quiz + Talk through solution

Lab 3: walkthrough of Prof. Spencer's process

Discussion of how to handle design project, labs 4 & 5.

Matched, lossless, reciprocal 3 port – is impossible:

- Matched  $\rightarrow S_{11}=S_{22}=S_{33}=0$ ,
- Reciprocal  $\rightarrow S_{12}=S_{21}, S_{13}=S_{31}, S_{32}=S_{23}$
- Lossless  $\rightarrow S$  unitary, so  $|S_{wx}|^2 + |S_{yz}|^2 = 1$  and  $S_{wx}^* S_{yz} = 0$  w  $wx=\{21,21,31\}, yz=\{31,32,32\}$
- 9 equations in only 6 unknowns, overconstrained

Check-in, office hours