

10/4/15

Lec 36

Maximum power transfer

$$P_r = \frac{|V_{th}|^2}{2 \cdot |Z_{th} + Z_L|^2} \cdot \text{Re}[Z_L]$$

minimize

$(R_m + R_L)^2 + (X_m + X_L)^2 \rightarrow$ minimum value \Rightarrow when $X_L = -X_m$

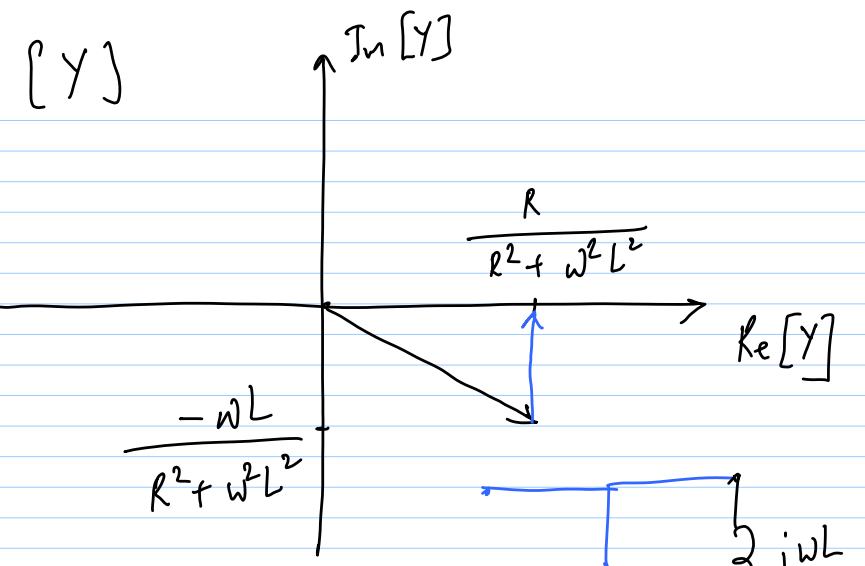
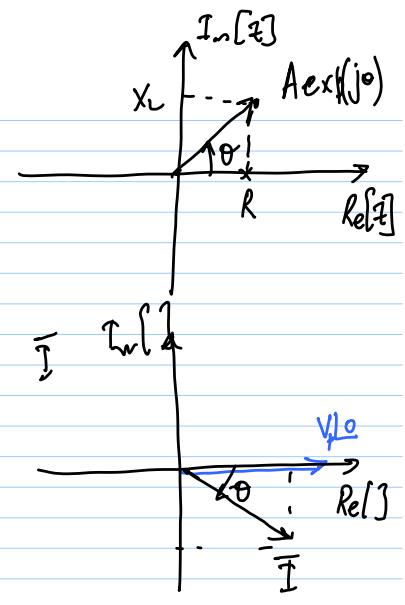
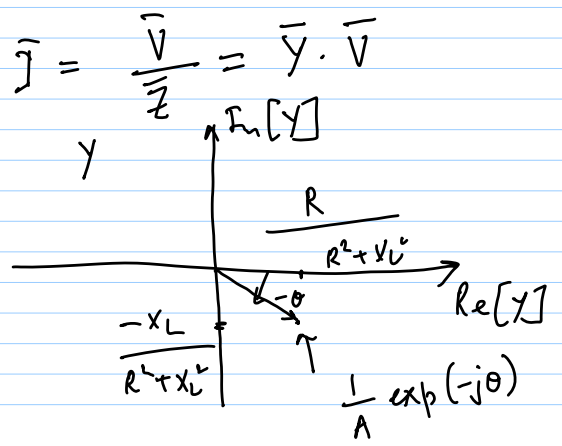
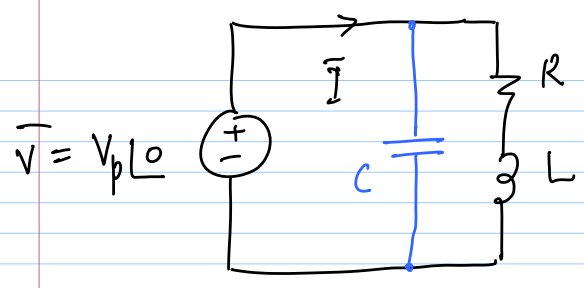
$$X_L = -X_m$$

$$P_r = \frac{|V_{th}|^2 \cdot R_L}{2 (R_m + R_L)^2}$$

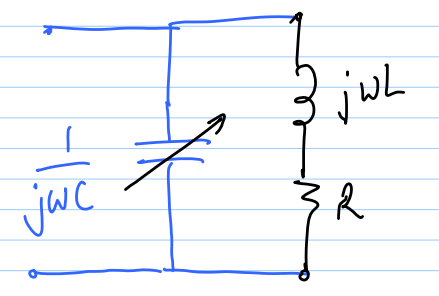
$$R_L = R_m \text{ for max. } P_r$$

$$Z_L = Z_m^*$$

"conjugate matching"



$$Y_{new} = Y_{orig} + jwC$$



Locus Diagrams

