



$$Z = \frac{1}{\frac{1}{\omega \omega L} + i\omega C}$$

$$Z = \frac{i\omega L}{1 - \omega^2 LC} = \frac{i\omega L}{1 - \left(\frac{\omega}{\omega_0}\right)^2}$$

below reson

$$\omega < \omega_0$$

$\delta\omega$ is neg.

$$\omega = \frac{\omega_0}{x} \quad \delta\omega = \frac{\omega_0}{x} - \omega_0 = \frac{\omega_0}{x} (1 - x)$$

$$\delta\omega = \omega - \omega_0 = \frac{\omega}{x} - \omega_0 = \frac{\omega - \omega_0}{x}$$

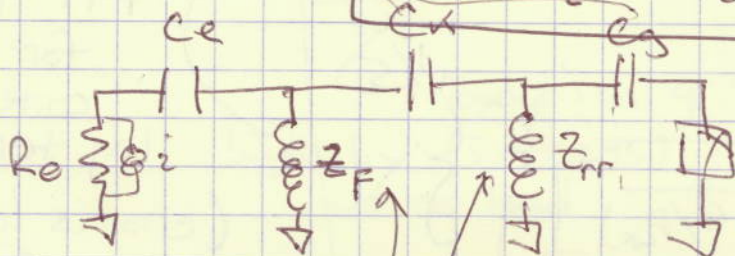
$$= \frac{i\omega L}{1 - x^2} =$$

$$= \frac{i\omega L}{1 - (1 + \delta\omega)^2} = \frac{i\omega L}{1 - 1 - 2\delta\omega + \delta\omega^2}$$

$$= \frac{i\omega L}{-2\delta\omega} = -\frac{1}{2} (i\omega L) \frac{1}{\delta\omega}$$

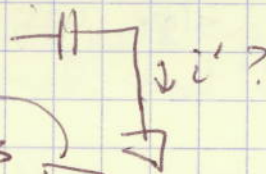
small cap's

$$Z = -\frac{1}{2} i Z_0 \frac{1}{\delta\omega}$$

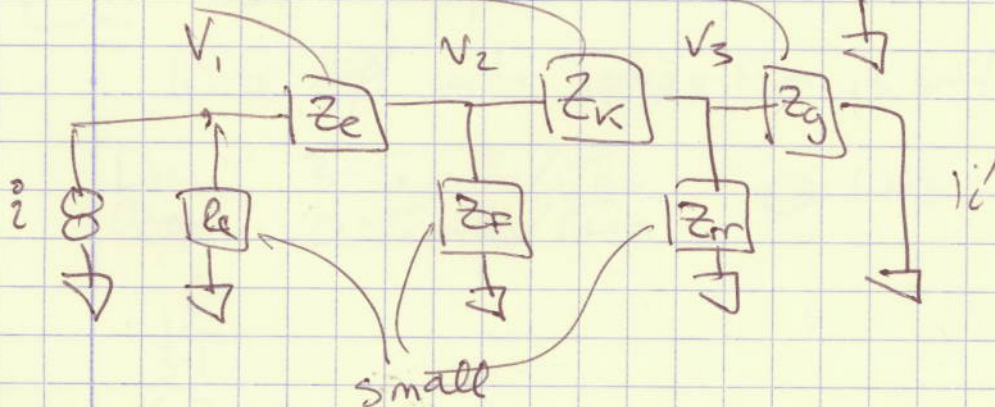


big

big C's



$\frac{i'}{i}$ determ. R trans



$$V_1 = iR_e \quad V_2 = iR_e \frac{Z_F}{Z_e} \quad V_3 = iR \left(\frac{Z_F}{Z_e} \right) \left(\frac{Z_R}{Z_F} \right)$$