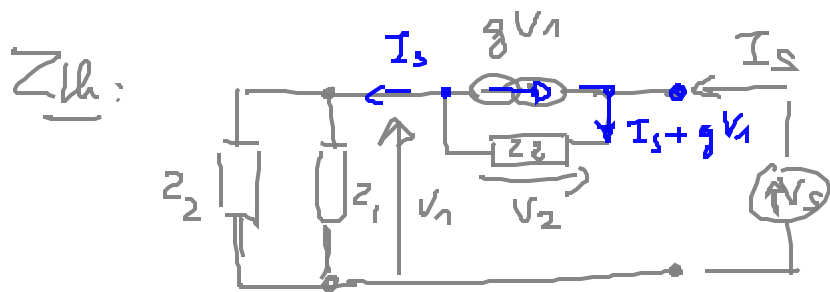


$$V_{LH} = V_1 + V_2$$

$$= V_1 + (gV_1 \cdot z_2)$$

$$\text{or } V_1 = \frac{z_1}{z_1 + z_2} \cdot e$$

$$V_{LH} = (1 + g z_2) \cdot \frac{z_1}{z_1 + z_2} \cdot e$$



$$V_S = V_1 + V_2$$

$$V_2 = z_2 \cdot (I_s + gV_1)$$

$$V_1 = \frac{z_2 z_1}{z_1 + z_2} I_s$$

$$V_S = \frac{z_1 z_2}{z_1 + z_2} I_s + z_2 I_s + g z_2 \left( \frac{z_1 z_2}{z_1 + z_2} \right) I_s$$

$$Z_{LH} = \frac{V_S}{I_s} = \left( \frac{z_1 z_2}{z_1 + z_2} \right) (1 + g z_2) + z_2$$