GGÜ 11

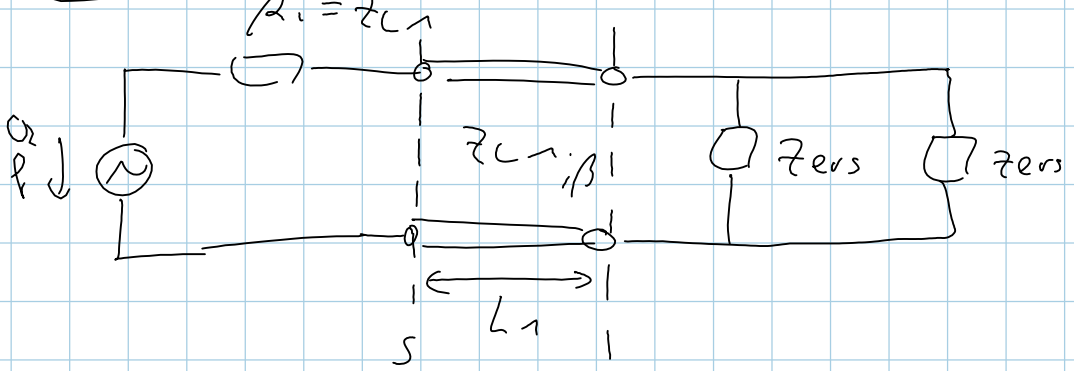
Dienstag, 28. Juni 2011
13:59

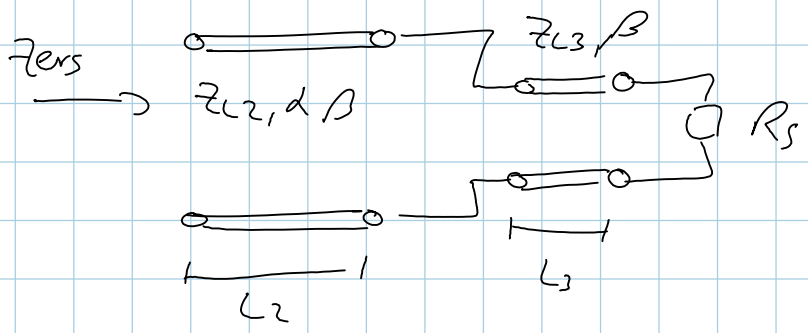
4.4

$\frac{w}{h} \longleftrightarrow f \longleftrightarrow Z_L$ Dispersion: $Z_L(f=0) \xrightarrow{f>3\,GHz} Z_L(f)$

$\varepsilon_{r\,eff}(\varepsilon_r; h; t; \frac{w}{h})$ $\qquad \varepsilon_{reff}(f=0) \xrightarrow{f>3\,GHz} \varepsilon_{r\,eff}(f)$

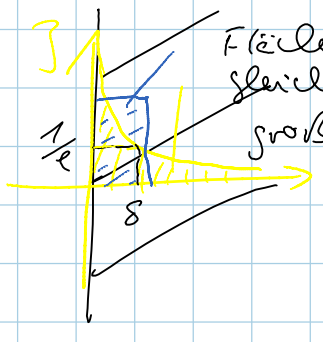
4.1.1

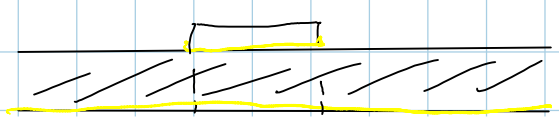


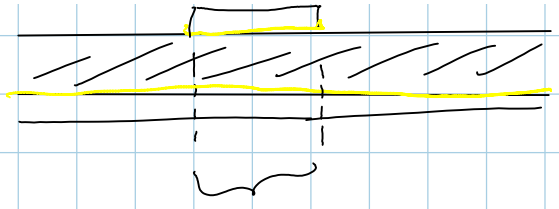


4.1.2)

$$\delta = \frac{1}{\sqrt{\pi f \kappa \mu_0}} = 0{,}661\,\mu m$$



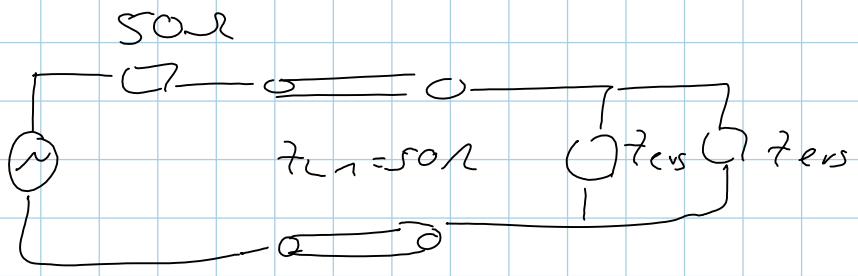




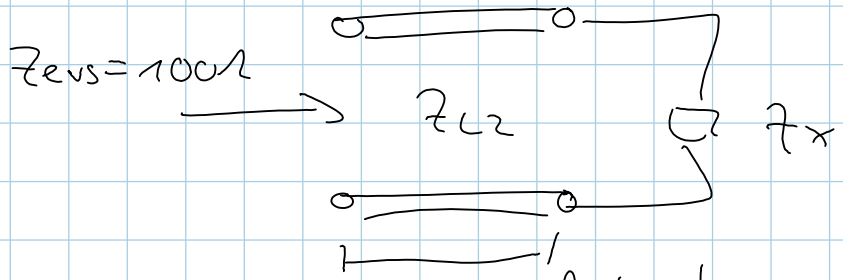
Stromführender Bereich

4.1.3)

$Z_{L1} = 50\,\Omega$



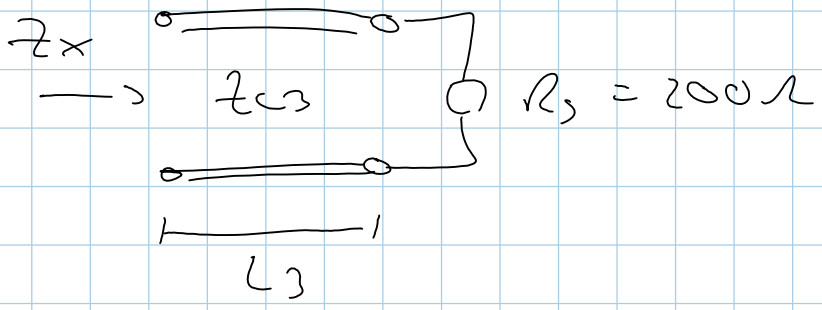
$Z_{evs} = 100\,\Omega$



$Z_{L2} = 100\,\Omega$

$Z_x = 100\,\Omega$

$r_2 = r_1 \cdot e^{-2j\beta L_2} = 0 \Rightarrow Z_{L2} = Z_x$



$$Z_{L3} = \sqrt{Z_x \cdot R_3} = 141\,\Omega$$

$$\frac{L_3}{\lambda_{\varepsilon 3}} = \frac{1}{4}$$

$$\lambda_\varepsilon = \frac{\lambda_0}{\sqrt{\varepsilon_{reff}}}$$

$Z_{L2} = 100\,\Omega$ $\quad \frac{w}{h} = 1$ $\quad$ (5.22 Schmidt)