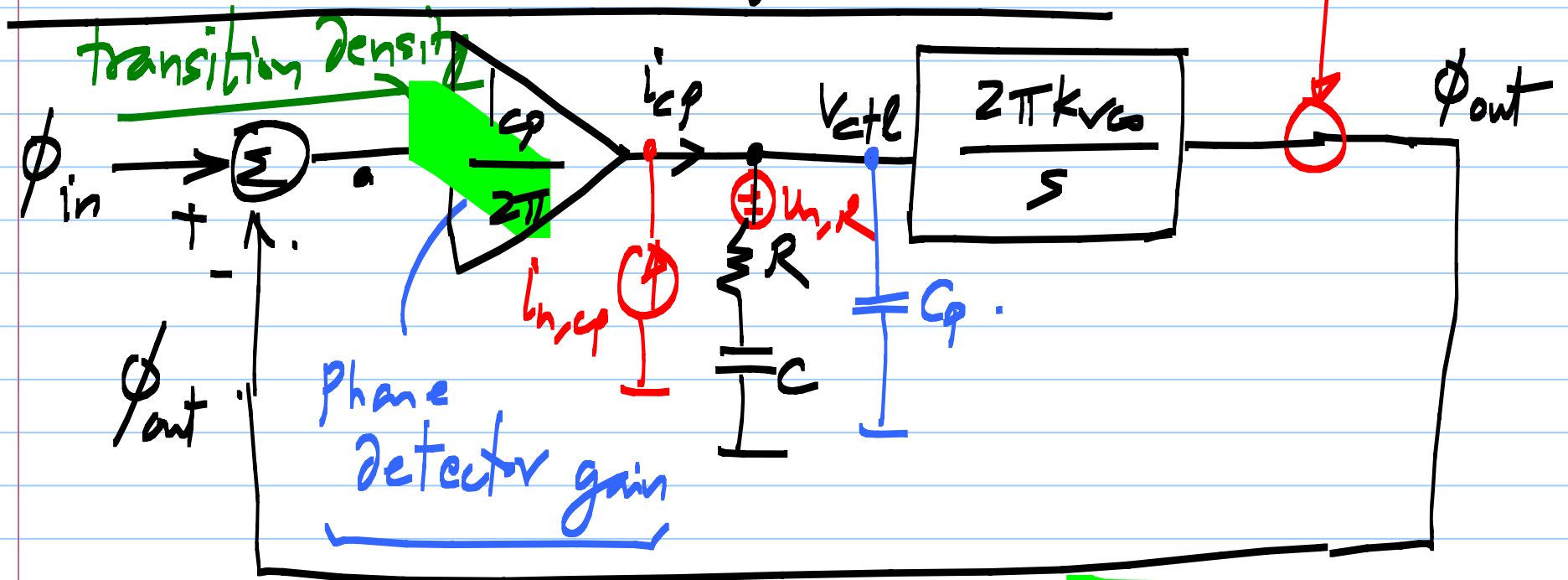
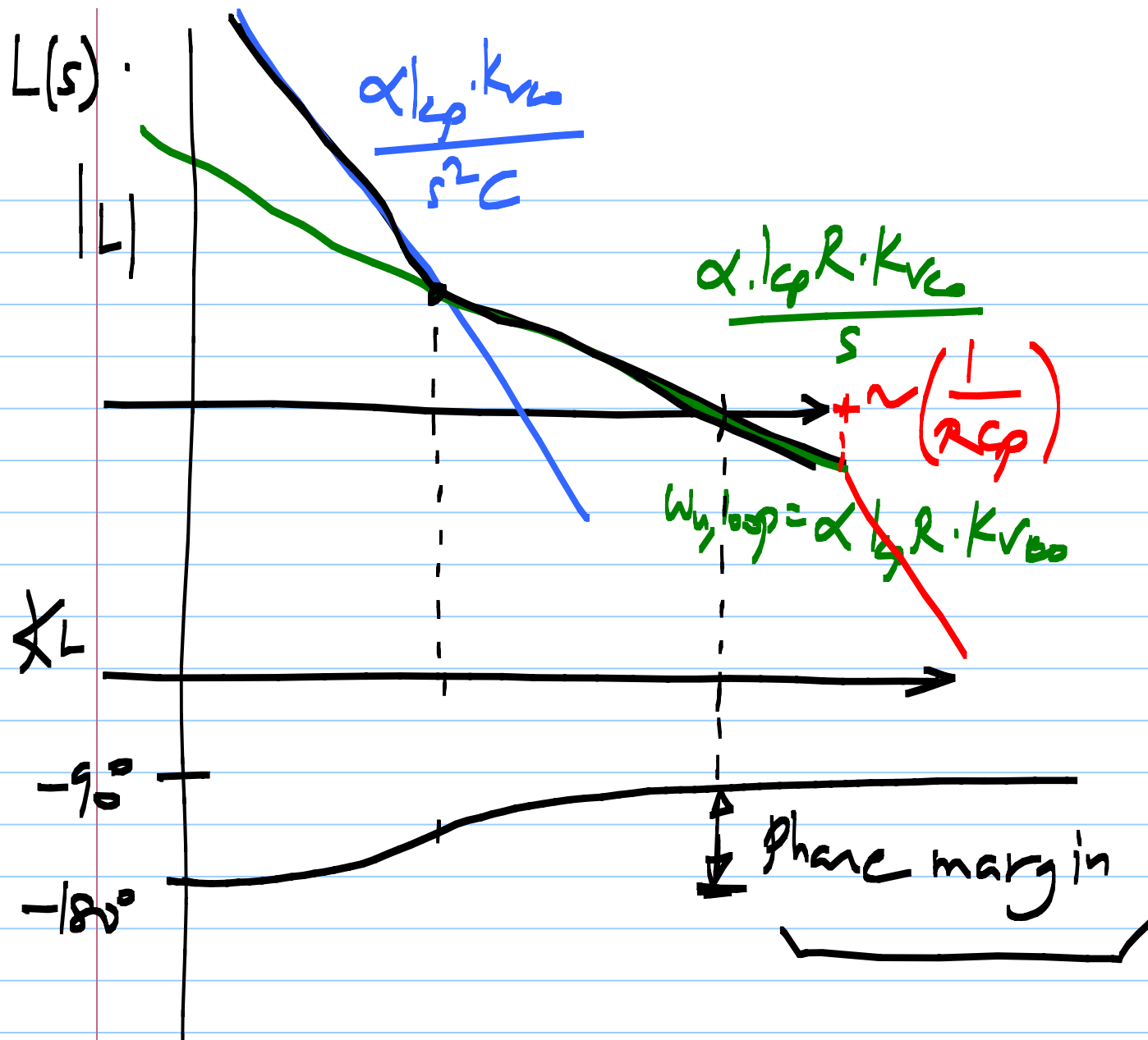
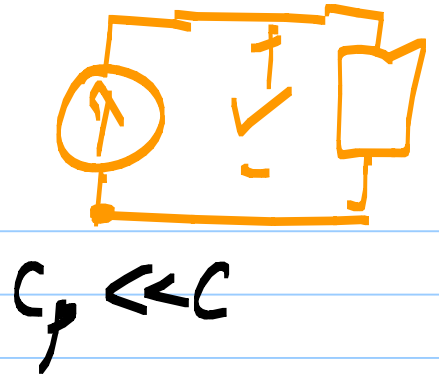
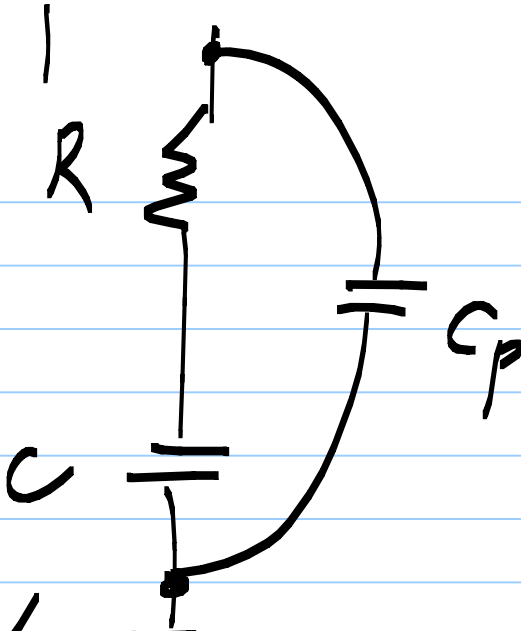
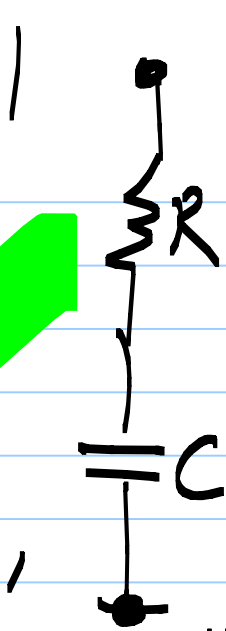
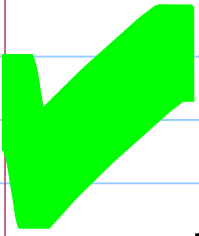


phase domain model of the CDR

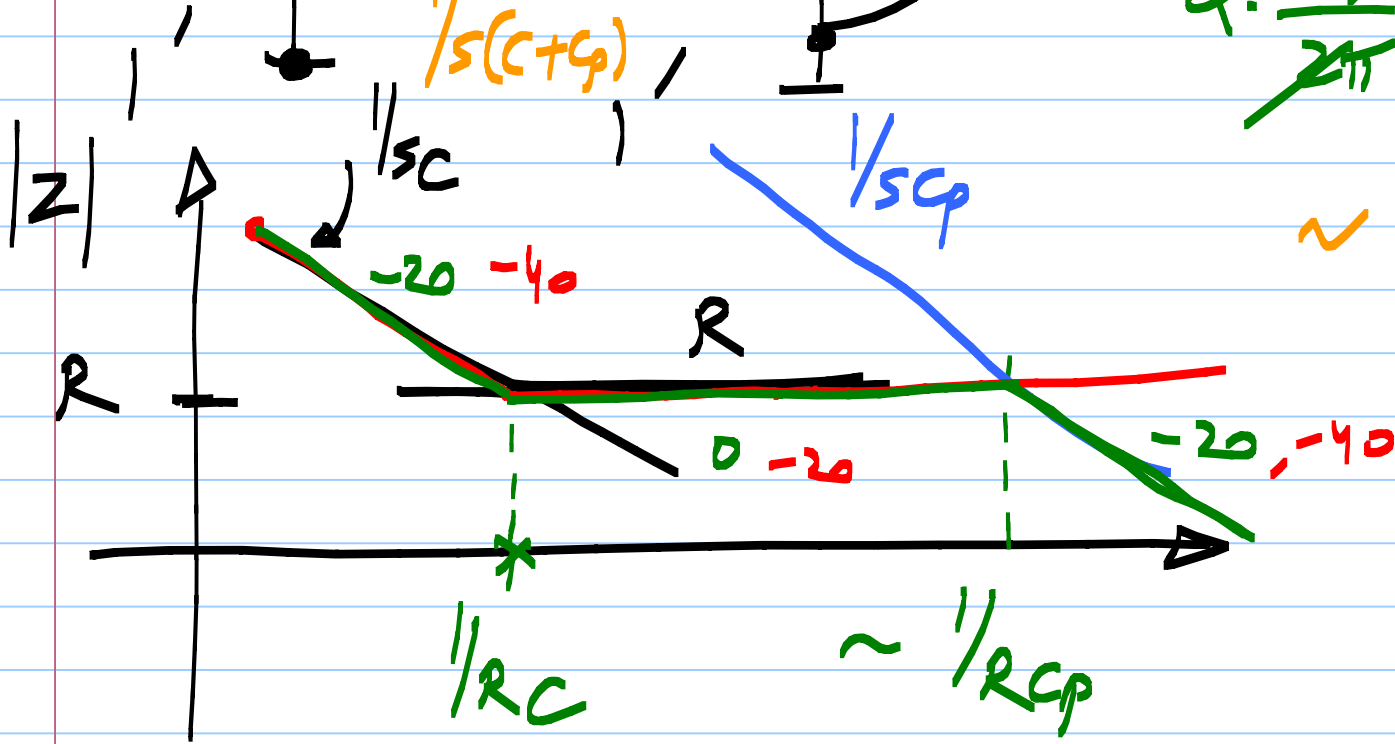


$$L(s) = \frac{\alpha I_{cp} \cdot K_{vco}}{s} \cdot \left(R + \frac{1}{sC} \right) = \frac{\alpha I_{cp} K_{vco} K}{s} \left(1 + \frac{1}{sCR} \right)$$





$$q. \frac{1}{s} \cdot \frac{20k\Omega}{s} \cdot (Z_{Lp})$$



$$\frac{R \cdot (C \parallel C_p)}{C + C_p}$$

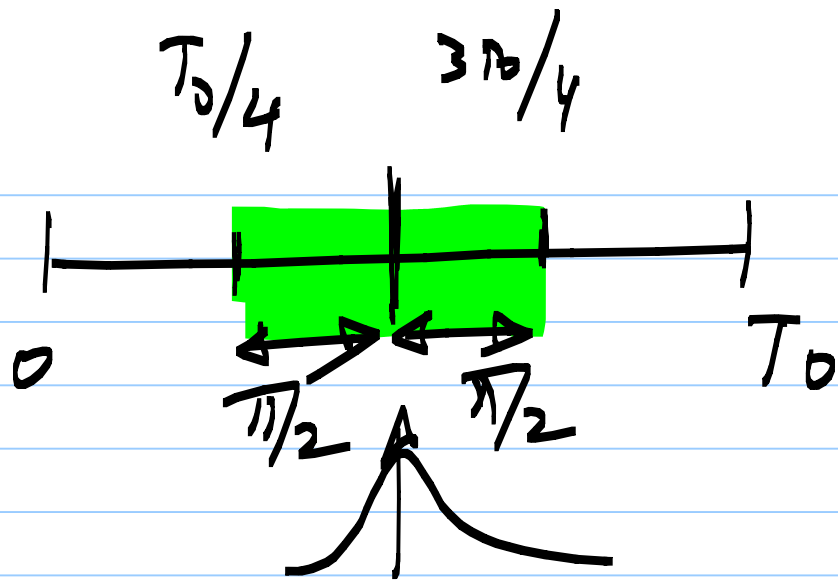
JTOL

Jitter tolerance: peak-to-peak jitter in the input that can be "tolerated" (i.e. $BER < \text{certain threshold}$)

Jitter transfer: JTRAN :

$$\left| \frac{\phi_{out}}{\phi_{in}} \right|$$

Jitter generation: JGEN:



$$\frac{\omega_0}{s} \left(1 + \frac{z_1}{s} \right)$$

CK. ideal position

$|\phi_{in}|$: such that

$$|\phi_{in} - \phi_{out}| < \frac{\pi}{2}$$

$$|\phi_{out} - \phi_{in}| < \frac{\pi}{2}$$

$\Delta\phi_{max}$

$$|\phi_{out} / \phi_{in}|$$