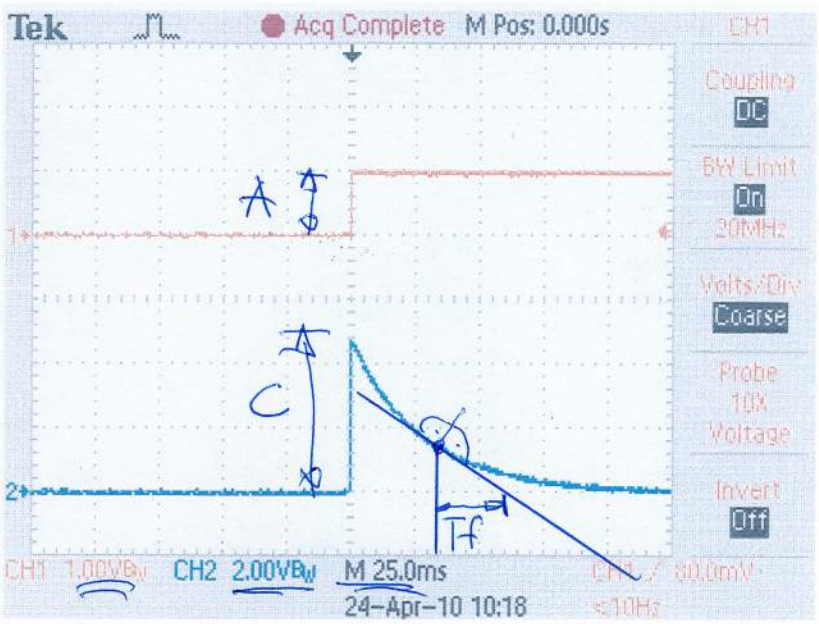
sk 14

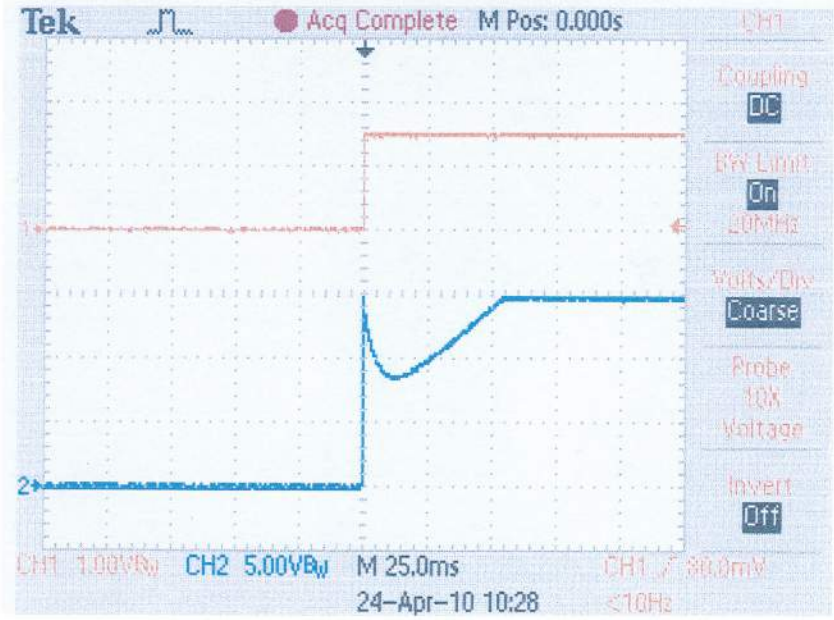


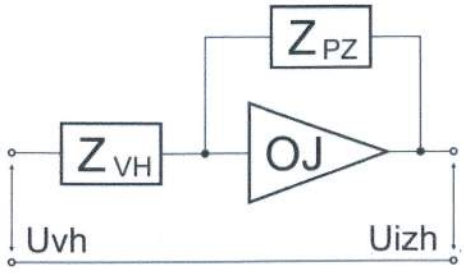
$Tf = 27{,}5\,ms$

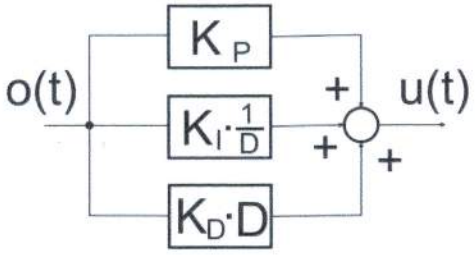
$C = 4{,}8\,V$

$A = 1\,V$

$K_D = C \cdot Tf \cdot \frac{1}{A}$







$$K_{ID}(t) = K_P\, o(t) + K_I \cdot D^{-1} o(t) + K_D \cdot D\, o(t)$$

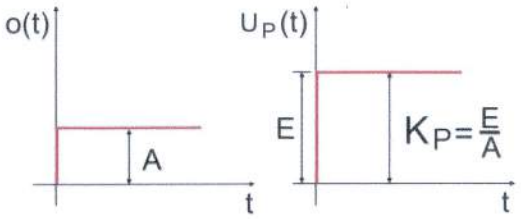
$Z_{VH} = R_{VH}$

$Z_{PZ} = R_{PZ}$

$Uizh = \frac{Z_{PZ}}{Z_{VH}} \cdot Uvh$

$Uizh = \frac{R_{PZ}}{R_{VH}} \cdot Uvh$

$\frac{R_{PZ}}{R_{VH}} = K_P$



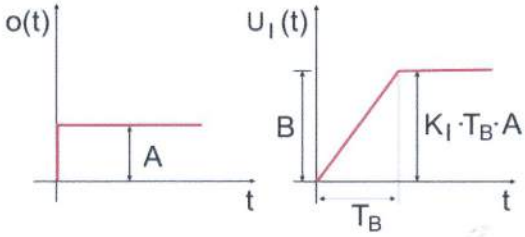
P

$Z_{VH} = R_{VH}$

$Z_{PZ} = \frac{1}{C_{PZ} \cdot D}$

$Uizh = -\frac{1}{C_{PZ} \cdot R_{VH} \cdot D} \cdot Uvh$

$\frac{1}{C_{PZ} \cdot R_{VH}} = K_I$



$K_I = \frac{B}{T_B \cdot A}$

I

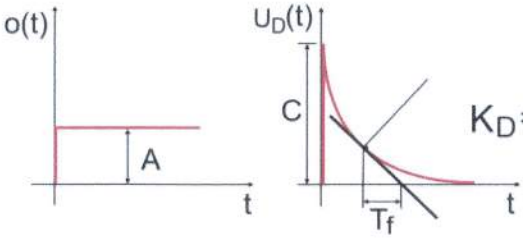
$Z_{PZ} = R_{PZ}$

$Z_{VH} = C_{VH}$

$Z_{VH} = \frac{1}{C_{VH} \cdot D}$

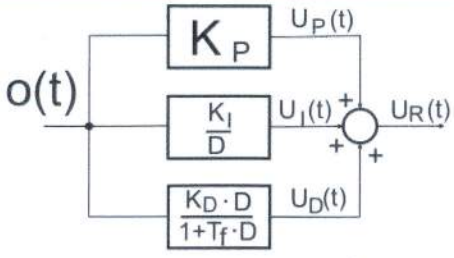
$Uizh = -\frac{R_{PZ}}{C_{VH}^{-1} \cdot D^{-1}} \cdot Uvh$

$C_{VH} \cdot R_{PZ} = K_D$



$K_D = C \cdot T_f \cdot \frac{1}{A}$

D



$$U_R(t) = K_P\, o(t) + K_I\, o(t) \cdot \frac{1}{D} o(t) + \frac{K_D \cdot D}{1 + T_f \cdot D} o(t)$$