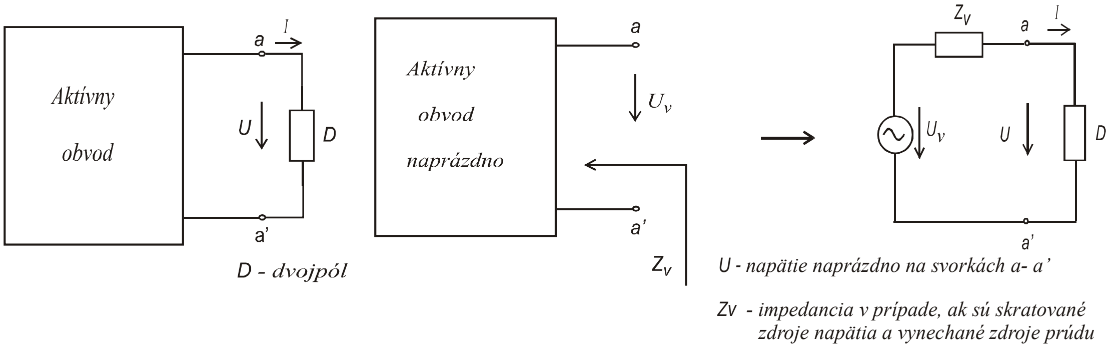
ERRATA ku knihe TEÓRIA OBVODOV

Kapitola 1

Str.18

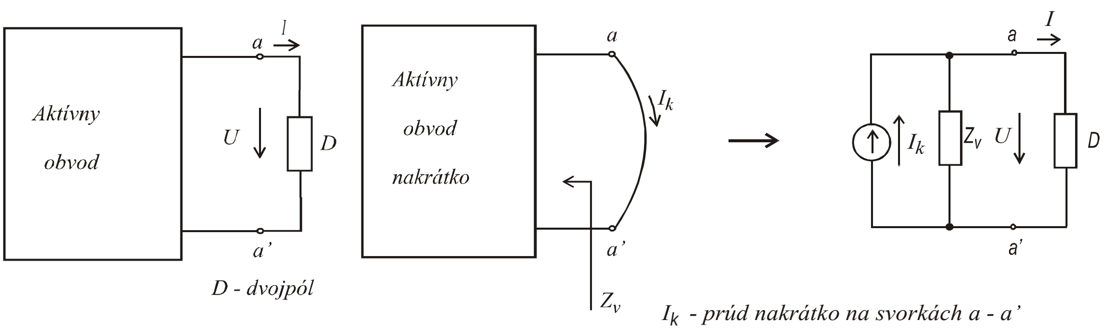
$$u(t) = \frac{d\varphi(t)}{dt}, \tag{1.5}$$

Str. 24



Obr.1.20

Str. 25



Obr.1.21

Str.27

inverzná:

$$f(t) = \frac{1}{j2\pi} \int_{\sigma - j\infty}^{\sigma + j\infty} F(p) e^{pt} dp \tag{1.19}$$

Kapitola 2

Str.29

...že rovnica (2.3) má práve n koreňov, ktoré vo všeobecnosti môžu byť komplexne združené, viacnásobné alebo reálne. Za predpokladu existencie n rôznych koreňov...

Str.30

... ; koreň $p_i = +\sigma_i$ ...

$$y_1(t) = \sum_{i=1}^{n} k_i e^{\pm\sigma_i t} \tag{2.7}$$

Str.33

$$f(t) = \frac{1}{j2\pi} \int_{\sigma - j\infty}^{\sigma + j\infty} F(p) e^{pt} dp \tag{2.10}$$

$$\frac{1}{j2\pi} \int_{\sigma - j\infty}^{\sigma + j\infty} F(p) dp$$

Str.34

$$\left(b_n \frac{d^n}{dt^n} + b_{n-1} \frac{d^{n-1}}{dt^{n-1}} + \ldots + b_1 \frac{d}{dt} + b_0 \right) c e^{pt} = \left(a_m \frac{d^m}{dt^m} + a_{m-1} \frac{d^{m-1}}{dt^{m-1}} + \ldots + a_1 \frac{d}{dt} + a_0 \right) e^{pt}$$

Str.40

... $\Delta\tau$ a výška $x(\tau)$ ako to znázorňuje obr. 2.6a

Odozva na vstupný signál $x(t)$je daná súčtom odoziev na jednotlivé impulzy (obr.2.6c). Teda platí

$$y(t) = \sum_{k=1}^{t} y_\tau(t) \qquad \text{kde } \tau = k\Delta\tau,\ k = 1,2,3... \tag{2.35}$$

$$\lim_{\Delta\tau \to 0} \delta(t-\tau) x(\tau) \Delta\tau$$

Str.41

$$y_\tau(t) = \lim_{\Delta\tau \to 0} (t-\tau) x(\tau) \Delta\tau \tag{2.36}$$

$$y(t) = \lim_{\Delta\tau \to 0} \sum_{k=1}^{t} h(t-\tau) x(\tau) \Delta\tau \ \text{ pre } \tau = k\Lambda\tau$$

Kapitola 3

Str.47

$$F(j\omega) = \mathrm{Re}\{F(j\omega)\} + j\,\mathrm{Im}\{F(j\omega)\} \tag{3.9}$$

Str.48

$$\ln\left\{|F(j\omega)|e^{j\varphi(\omega)}\right\} = \ln|k| + \sum_{i=1}^{M}\left\{\ln|j\omega - p_{0i}| + j\varphi_{0i}(\omega)\right\} - \sum_{j=1}^{N}\left\{\ln|j\omega - p_{xj}| + j\psi_{xj}(\omega)\right\} \tag{3.11}$$

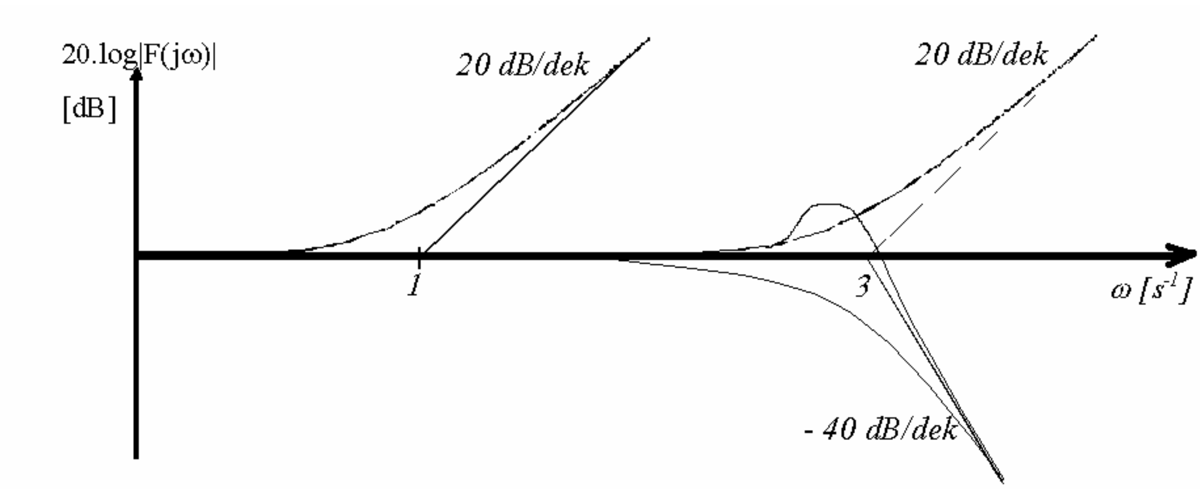
Str.49

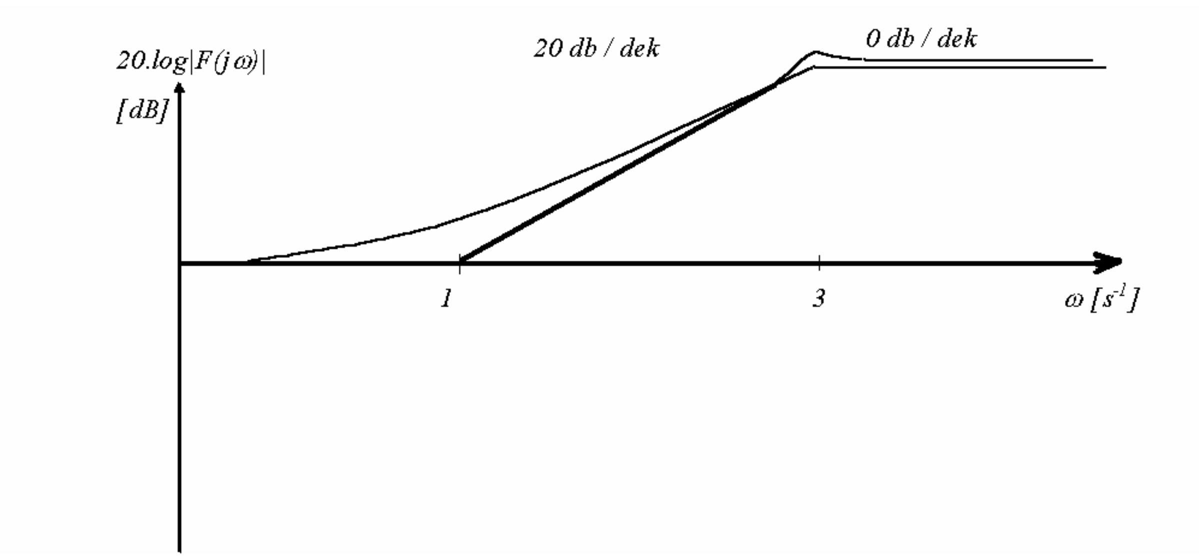
$$(p + \sigma_{0i} + j\omega_{0i})(p + \sigma_{0i} - j\omega_{0i}) = p^2 + 2\cdot p\cdot\sigma_{0i} + \sigma_{0i}^2 + \omega_{0i}^2$$

Str.50

$$20\cdot\log(\sigma_{0i}^2 + \omega_{0i}^2) + 20.\log\sqrt{(-\Omega^2+1)^2 + 4\varsigma^2\Omega^2} = K_2 + 10.\log\left(4\varsigma^2\Omega^2 + (1-\Omega^2)^2\right) \tag{3.17}$$

Str.58 – 59





Obr.3.11a) a Obr.3.11b)

Kapitola 4

Str.70

$$U_i - U_j \overset{!}{=} 0$$

Str.71

$$I_4 = \hat{y}_{41} U_1 + \hat{y}_{42} U_2 + \hat{y}_{43} U_3 + \hat{y}_{44} U_4 \tag{4.20}$$

$$I_2 = \hat{y}_{21} U_1 + \hat{y}_{22} U_2 + \left(\hat{y}_{23} + \hat{y}_{24}\right) U_3 \tag{4.23}$$

$$I_3' = I_3 + I_4 = \left(\hat{y}_{31} + \hat{y}_{41}\right) U_1 + \left(\hat{y}_{32} + \hat{y}_{42}\right) U_2 + \left(\hat{y}_{33} + \hat{y}_{34} + \hat{y}_{43} + \hat{y}_{44}\right) U_3$$

Str.72

$$[Y_R] = \begin{bmatrix} \hat{y}_{11} & \hat{y}_{12} & \hat{y}_{13} + \hat{y}_{14} \\ \hat{y}_{21} & \hat{y}_{22} & \hat{y}_{23} + \hat{y}_{24} \\ \hat{y}_{31} + \hat{y}_{41} & \hat{y}_{32} + \hat{y}_{42} & \hat{y}_{33} + \hat{y}_{34} + \hat{y}_{43} + \hat{y}_{44} \end{bmatrix} \tag{4.24}$$

Str.73

Po dosadení do rovnice (4.25) pre I_1, I_4, I_3 dostávame:

Str.74

$$\left[\hat{Y}_1\right] = [A] - [B] \cdot [D]^{-1} [C] \tag{4.35}$$

Kapitola 5

Str.91

$$k_i = \frac{Y(p)\left(p^2 + \omega_{0i}^2\right)}{p} /_{p^2 = -\omega_{0i}^2}$$

Str.94

$$\underset{p\to\infty}{\mathrm{rez}}\left[Y_1(p)/\,p\right]=\lim_{p\to\infty}\left[\frac{p^3+p}{\left(3p^2+1\right)\cdot p}\right]=\frac{1}{3} \tag{5.38}$$

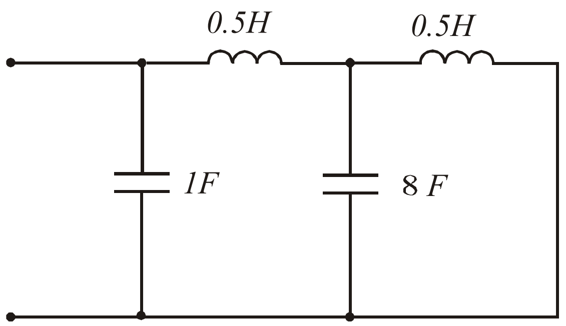
Str.102

Priebeh admitančnej funkcie RC dvojpólov je rastúci, v počiatku nadobúda hodnotu nulovú, alebo konštantu, v nekonečne má hodnotu nekonečne veľkú, alebo konštantu.

Str. 103

$$k_i = Z(p)\left(p+\sigma_{xi}\right)/_{\,p=-\sigma_{xi}} \tag{5.52}$$

Str.109

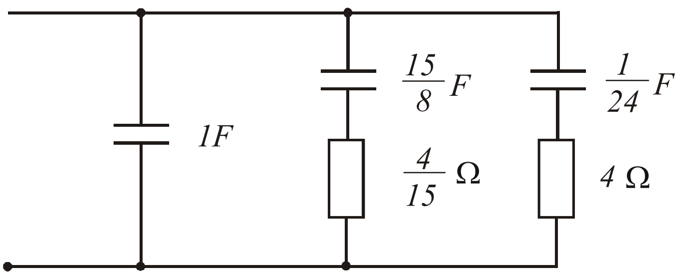


Obr. 5.19 Realizovaný dvojpól v 1. Cauerovovom kánonickom tvare

Str. 112

$$Y(p)=1p+\frac{\frac{15}{4}p}{p+2}+\frac{\frac{1}{4}p}{p+6}$$

Str. 113



Obr. 5.25 Model impedancie RC dvojpólu v 2. Fosterovom kánonickom tvare

Kapitola 6

Str. 146

$$G(p) = \cosh g_o(p) + \sinh g_o(p) \cdot \frac{1}{2} \cdot \left(\frac{R}{Z_o(p)} + \frac{Z_o(p)}{R} \right) \quad (6.121)$$

Str. 152 Tab.6.3 v prílohe

Kapitola 7

Str. 159

$$\frac{E(p)\cdot E(-p)}{M(p)\cdot M(-p)} = 1 + \frac{N(p)\cdot N(-p)}{M(p)\cdot M(-p)} = \frac{M(p)\cdot M(-p) + N(p)\cdot N(-p)}{M(p)\cdot M(-p)} \quad (7.14)$$

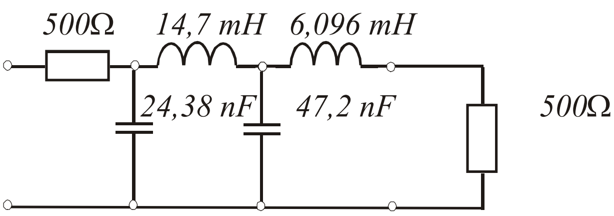
Str. 160

Porovnaním rovníc (7.16) a (7.13) dostávame: *stupeň E(p) ≥ stupeň M(p)*

Str. 166 veta medzi rov.(7.42) a rov. (7.43)

a riešením rovnice (7.39) je:

Str.171



Obr. 7.11 Zapojenie navrhnutého DP filtra

Str.174

$$A_{\min} = 10\log\left(1 + \varepsilon^2 T_n^2(\Omega_k)\right) \quad (7.52)$$

Str. 175

$$T_n(\Omega_k) = \sqrt{\frac{10^{\frac{A_{\min}}{10}} - 1}{10^{\frac{A_{\max}}{10}} - 1}} \quad (7.53)$$

$$\cosh\left(n\cdot \operatorname{arccosh}(\Omega_k)\right)=\sqrt{\frac{10^{\frac{A_{min}}{10}}-1}{10^{\frac{A_{max}}{10}}-1}} \tag{7.54}$$

$$n\geq \frac{\operatorname{arccosh}\sqrt{\left(\frac{10^{\frac{A_{min}}{10}}-1}{10^{\frac{A_{max}}{10}}-1}\right)}}{\operatorname{arccosh}(\Omega_k)} \tag{7.55}$$

Str. 186

$$G(s)=G_0(s-\alpha_0)\prod_{i=1}^{\frac{n-1}{2}}\frac{s^2-2\alpha_{0i}s+\alpha_{0i}^2+\beta_{0i}^2}{s^2+\Omega_{\infty i}^2} \tag{7.89}$$

$$G_0=-\frac{1}{\alpha_0}\prod_{i=1}^{\frac{n-1}{2}}\frac{\Omega_{\infty i}^2}{\alpha_{0i}^2+\beta_{0i}^2} \tag{7.90}$$

Str. 187

$$k_1=k^n\prod_{i=1}^{\frac{n-1}{2}}\left[\frac{1-\Omega_{0i}^2}{1-k^2\Omega_{0i}^2}\right]^2 \tag{7.92}$$

Kapitola 8

Str.213

$$\tau(\Omega)=\tau_0\cdot\frac{1}{1+\Omega^2} \tag{8.11}$$

Príloha 1.

$$\begin{bmatrix}U_1(p)\\U_2(p)\\.\\0\end{bmatrix}=p\begin{bmatrix}L_{11}&L_{12}&.&L1n\\L_{21}&L_{22}&.&L_{2n}\\.&.&.&.\\L_{n1}&L_{n2}&.&L_{nn}\end{bmatrix}.\begin{bmatrix}I_1(p)\\I_2(p)\\.\\I_n(p)\end{bmatrix}+\begin{bmatrix}R_{11}&R_{12}&.&R_{1n}\\R_{21}&R_{22}&.&R_{2n}\\.&.&.&.\\R_{n1}&R_{n2}&.&R_{nn}\end{bmatrix}.\begin{bmatrix}I_1(p)\\I_2(p)\\.\\I_n(p)\end{bmatrix}+\frac{1}{p}\begin{bmatrix}D_{11}&D_{12}&.&D_{1n}\\D_{21}&D_{22}&.&D_{2n}\\.&.&.&.\\D_{n1}&D_{n2}&.&D_{nn}\end{bmatrix}.\begin{bmatrix}I_1(p)\\I_2(p)\\.\\I_n(p)\end{bmatrix}$$