Člen 1. reda: $f_m = \frac{1}{2\,\pi\,\tau}$ $f_m = \frac{1}{2\,T_a}$ $f_m = \frac{0.35}{T_r}$ $f(\varphi) = \frac{\tan(\varphi)}{2\,\pi\,\tau}$ $\overbrace{f_{m.sk}^{-2} = f_{m.1}^{-2} + f_{m.2}^{-2} + \ldots}^{isto\ velja\ za\ sestevanje\ Tr\ ,Ta}$

Formule za napetostne delilnike:

Odziv na sinus $\underline{G} = \frac{\underline{Y}}{\underline{X}} = G\,e^{j\,\varphi}$

Formule za R delilnik: $a = \frac{R_2}{R_1 + R_2}$ $\tau = a\,R_1\,C$ $u_{iz} = a\,u_{vh}\left(1 - e^{-\frac{t}{\tau}}\right)$ $T_a = \tau * \ln(1/m)$

Formuli za RC delilnik: $if\ R_1 C_1 = R_2 C_2\ velja$ $\frac{\underline{U_{iz}}}{\underline{U_{vh}}} = \frac{R_2}{R_1 + R_2} = \frac{C_1}{C_1 + C_2}$

- podkompenziran ($R_1 C_1 < R_2 C_2$)
- nadkompenziran ($R_1 C_1 > R_2 C_2$)

Formuli za CR delilnik $if\ R_v \to \infty\ velja$ $\frac{U_{izh}}{U_{vh}} = \frac{C_1}{C_1 + C_2}$ $else$ $\frac{U_{iz}}{U_{vh}} = j\,\omega\,R_v C_1$

Lastnosti za RLC delilnik:

- prenosni faktor $k = \frac{u_{iz}}{u_{vh}} = \frac{1}{a_0} = \frac{R_2}{R_1 + R_2}$
- lastna kotna frekvenca nedusenega nihanja: $\omega_0 = \sqrt{\frac{a_0}{a_2}} = \sqrt{\frac{R_1 + R_2}{R_2 L C}}$
- stopnja dusenja: $\zeta = \frac{R_1 C + L/R_2}{2\sqrt{L C (R_1 + R_2)/R_2}}$
  - podkriticno, kriticno in nadkriticno. Idealno je 0.8-0.9
- Odziv na sinus:
  - Relativna frekvenca $\nu = \frac{\omega}{\omega_0}$ $a_0 = \frac{R_1 + R_2}{R_2}$
  - amplitudna karakteristika $\frac{\hat{u_{iz}}}{\hat{u_{vh}}} = \frac{1}{a\sqrt{(1 - \nu^2)^2 + (2\,\nu\,\zeta)^2}}$
  - fazna karakteristika $\varphi = -\arctan\frac{2\,\nu\,\zeta}{1 - \nu^2}$

Tokovni delilnik:

- prenosni faktor $k = \frac{u_{iz}}{i} = \frac{R_a R_s}{R_a + R_s}$

Watmeter: $P = U\,I\cos(\varphi)$

Termoprevodnik $U_{eff} = k\,\Delta T$

Referenčno območje – sprememba kazanja = mejni pogrešek, Nazivno območje – E = 2*M

sprememba kazanja = variacija Občutljivost = $S=\frac{dx}{dy}$ $X=\sqrt{X_1^2+X_2^2+...}=\sqrt{\sum X_a^2}$

$X_0-enosmerna\ komponenta$ $X_a=efektivna\ vrednost\ izmenicne\ komponente$ $X-efektivna$

Effektivna valovitost $r=\frac{X_a}{|X_0|}$ Harmonsko popacenje $h_{iec}=\frac{\sqrt{X^2-X_1^2}}{X_1^2}=\frac{\sqrt{X_1^2+X_2^2+...}}{X_1^2}$

Temenski faktor $C=\frac{x_{min}}{X}$ Usmerjena vrednost $X_r=\frac{1}{T}\int_0^T |x(t)|\,dt$

Oblikovni faktor $F=\frac{X}{X_r}$ Tekoca usmerjena vrednost $\overline{X}=\frac{1}{\Delta t}\int_{t-\Delta t}^{t} x(t)\,dt$

Sinus: $F=\frac{2}{\pi}\hat{x}$ $X=\frac{\hat{x}}{\sqrt{2}}$ $F_0=\frac{\pi}{2\sqrt{2}}$ $C_0=\sqrt{2}$

Enkratno prozenje na osciloskopu: $0.8\,T_s\leqslant Tr'\leqslant 1.6\,T_s$ $f_m=B\,n\simeq 25\,B$

Stevilo amplitudnih stopenj

$m=1+\int_{X_{min}}^{X_{max}}\frac{dx}{2\,E(x)}$ $m=1+\frac{1}{2a}\ln\frac{a\,x_{max}+b}{a\,x_{min}+b}$, $E=\pm(a\,x+b)$ $m=\frac{U_d}{s}(x)$, $ENOD=\log_{10}(m)$

Mnozina informacije $S=\log_2 m$ Informacijski pretok: $I=\frac{S}{T_m}$, $T_m\sim cas\ ene\ meritve$

Kapaciteta merilnega kanala $C_k=\frac{S_{max}}{T_m}$, $S_{max}=S(m_{max})$, $x_M-x_m=x_D$

$E=x_i-x$ standardni odklon $s(x)=\frac{\sqrt{\sum_{i=1}^{n}(x_i,j-\overline{x})^2}}{n-1}$ varianca $v=s^2$ nelinearnost $n=e_{MAX}$

Zdruzen experimentalni odklon $s_p=\sqrt{\frac{(n_1-1)s_1^2(x)+(n_2-1)s_2^2(x)+...+(n_n-1)s_n^2(x)}{\sum n_i-1}}$

Interval zaupanja $\mu=\overline{x}\pm(z|t)\sigma(\overline{x})$, $\sigma(\overline{x})=s\frac{(x)}{\sqrt{n}}$, $u(x)=(z|t)*\sigma(x)$ - z/t odvisno od razporeditve

Instrument: $M=\frac{\pm r}{100}x_r$, $u(R)=M\frac{(R)}{\sqrt{3}}$, $m=\frac{M}{x_i}$ locljivost $M=\frac{\Delta G}{2}$

stevilo prostostnih stopenj $\nu=n-1$, $\nu_{sk}=u_c^4(y)*(\sum u_i^4/\nu_i)^{-1}$

Celotna st. negotovost $u_c(y)=\sqrt{\sum_{i=1}^{N}[c_i u(x_i)]^2+2\sum_{i=1}^{N-1}\sum_{j=i+1}^{N}c_i c_j r(x_i,x_j)u(x_i)u(x_j)}$, $r=\frac{u(x_{1,}x_2)}{u(x_1)u(x_2)}$

$\sigma_{enakomerna}=M/\sqrt{3}$, $\sigma_{trikotna}=M/\sqrt{6}$, $\sigma_{trapez}=M*\sqrt{1+\beta^2}/\sqrt{6}$, $\sigma_{gauss}=M/z$, $z\simeq 3$

Tu pa tam: $E_{din}=\frac{U_0}{2}\,e^{\frac{-t}{\tau}}$ $e_{din}\leqslant\frac{w}{10}$ $X(dBm)=10\log_{10}\frac{P}{P_{ref}}=20\log_{10}\frac{U}{U_{ref}}$