Linear Circuits Transfer Function: An Introduction to Fast Analytical Circuits Techniques

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Compilation of on-line reviewers comments, readers comments, typos, mistakes and errors found by readers (or by the author himself)

1st Edition, 1st print

Acknowledgement: The measurement company name *Rohde & Schwarz* is misspelled.

Chapter 1

Page 26: there is an extra space character after point 5.

Page 30: the right-side of equation (1.75) misses V_{in}:

$$V_{th}(s) = V_{in}(s)\frac{\frac{1}{sC_1}}{\frac{1}{sC_1}+R_1} = \frac{V_{in}(s)}{1+sR_1C_1}$$

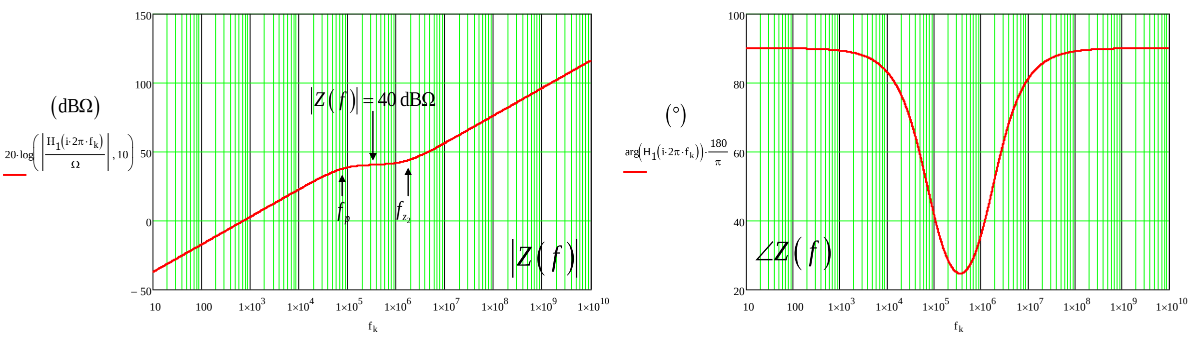
Chapter 2

Page 53: for an unknown reason, the *s* in equation (2.47) has disappeared:

$$H(s) = \frac{1+\frac{s}{\omega_z}}{1+\frac{s}{\omega_p}}$$

Page 76: Figure 2.37

The figure does not properly display some of the symbols:



$$Z(s) = R_0\frac{\frac{s}{\omega_{z_1}}\left(1+\frac{s}{\omega_{z_2}}\right)}{1+\frac{s}{\omega_p}}$$

$R = 100\ \Omega$ $\quad f_p = 79.6$ kHz

$L_1 = 10\ \mu H$ $\quad f_{z_1} = 75.8$ kHz

$L_2 = 200\ \mu H$ $\quad f_{z_2} = 1.67$ MHz

Page 78:

Between equations 2.136 and 2.137: the right term obviously is the *numerator* polynomial.

Page 115:

In problem 10, I want to determine the input-to-output transfer function of a simple op-amp having a resistance R_f and a capacitor C_f forming the feedback network. I have well considered the impact of the finite open-loop gain A_{OL} in the analysis of the dc gain G_0, but I actually overlooked its impact when determining the pole position. Besides, I stated that the resistance was R_f because V_{out} was also 0 V since the (-) pin was grounded. Actually, V_{out} is not zero since any finite value for V_{out} brings a 0-V for ε considering an infinite A_{OL} (*Muito obrigado Décio*!).

The complete transfer function considering A_{OL} for both the gain and the pole is therefore:

$G_0 = -\frac{R_f}{R_i}\frac{1}{\frac{\frac{R_f}{R_i}+1}{A_{OL}}+1}$ and a pole located at: $\omega_p = \frac{1}{C_f\left(R_f \,\|\, \left[R_i\left(1+A_{OL}\right)\right]\right)}$

Chapter 3

Page 126: above equation (3.38), …then rearrange *in the* form… A space was missing.

Chapter 5

Page 428:

The gains H^{23} and H^{123} are equal to 1 and not 0. In the described configuration, $V_{in} = V_{out}$ but it forces an infinite current in the source meaning these arrangements have no physical meanings in these cases. I inserted a small resistance for convergence issues and it mislead me. Fortunately, some of the factored terms were already equal to 0 and there is no impact on the final result.