

Tow pole circuit (Vierpole)

Some basic ideas:

The R, L and C two pole circuits are fundamentals in electronics. The different combinations of these components allow signal processing such as modulation and filtering.

The two pole network are characterized by their so called transfer function H

$$\underline{H}(j\omega) = \frac{\underline{U}_s}{\underline{U}_e}$$

\underline{U}_s and \underline{U}_e stands for the input excitation and the exit response. This ration depends on the frequency, as the input and the electrical component are frequency dependent.

Literature:

- 1- Define what is a two pole network
- 2- What is a passive filter? Cite and explain few examples of applications.
- 3- How can we characterize mathematically a filter. Emphasize the frequency dependant and discuss the limits of low and high frequency limits.
- 4- What is a decibel and a bode diagram?

Manipulation:

We propose to study tree type of passive filters. The goal if is to find each time the type, cut-off frequency, attenuation, impedance, pole number or pole and the bandwidth.