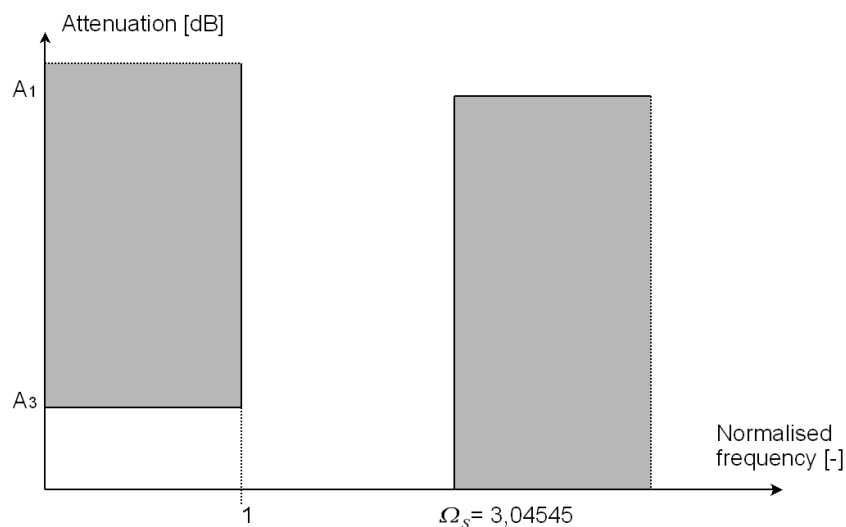


Serie 8: Determination of the L and C components of a Chebyshev filter

a) The specifications of the low-pass filter with respect to the attenuation are given below :

Pass-band : $A_3 = 1$ dB ; Stop-band: $A_1 = 30$ dB



Calculate the L and C components of the Chebyshev low-pass filter. The topology with 2 parallel capacitors and one series inductor is chosen. The resistor R_s of the voltage source is equal to 1 Ohm.

b)

Calculate the L and C components of the Chebyshev band-pass filter associated to the low pass filter whose components have been calculated in a). It is recalled that this band-pass filter will fulfill the specifications determined in question a) of Serie 7.

c)

Draw the gain in dB of the band-pass filter whose components have been calculated in b).