Bragg Grating

Week 1

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OBJECTIVES

- Plot graphics based on the reference.
- Recreate theoretical graphics using INTERCONNECT.

THEORY

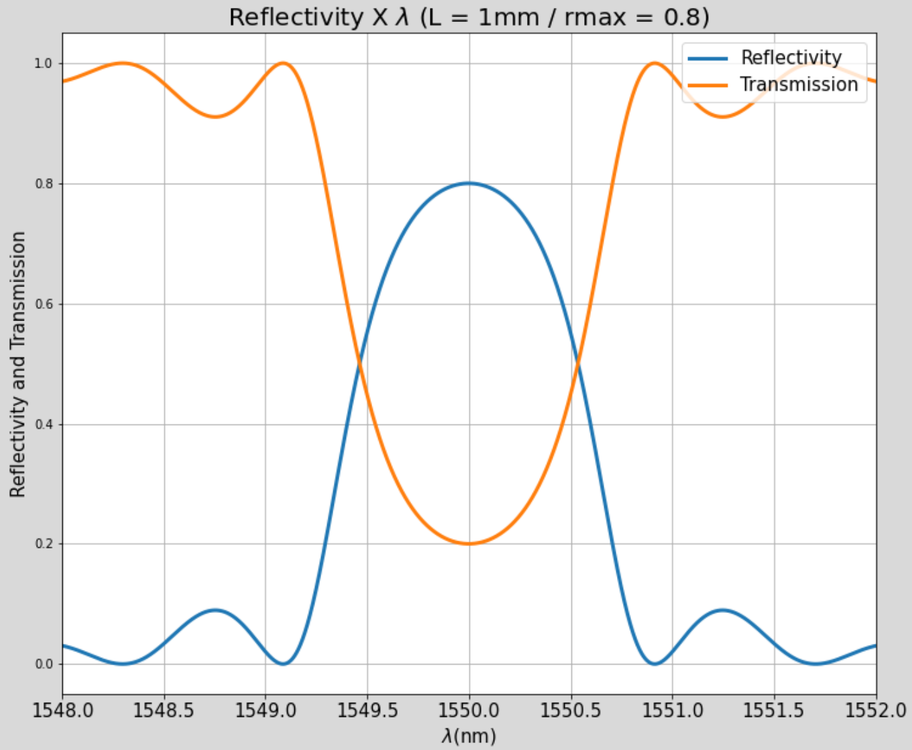
The bragg grating used in this project is an Uniform fiber bragg grating. With this component we can reflect the light in the desired wavelength, working as an filter.

The Parameters we can optimize and rmax and length.

$rmax = \tanh^2(kL)$

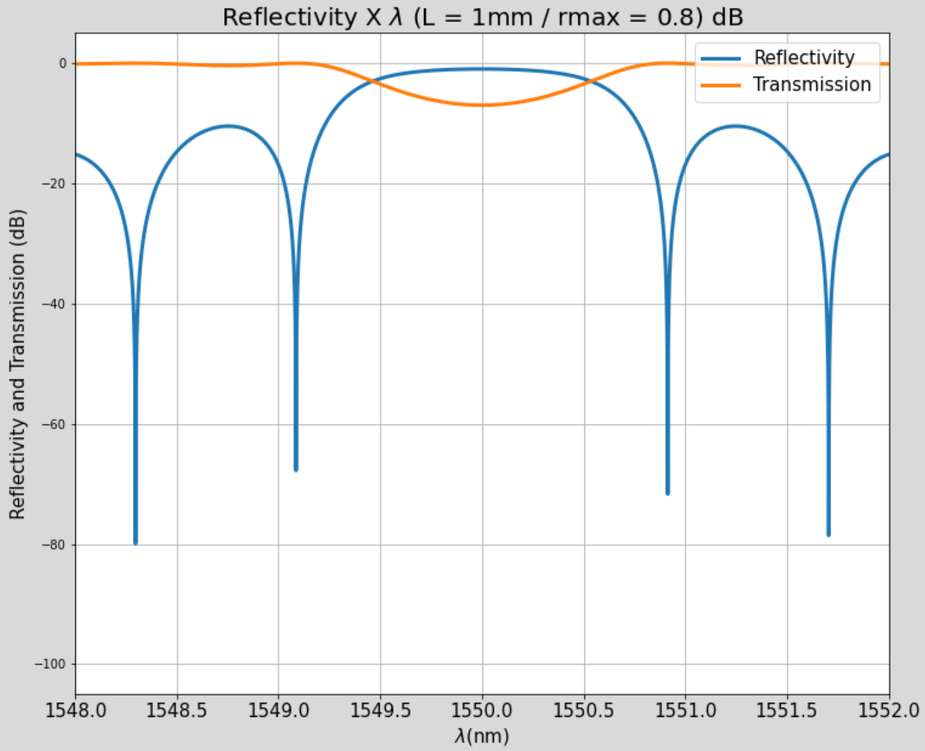
THEORETICAL GRAPHIC

L = 1mm and rmax = 0.8



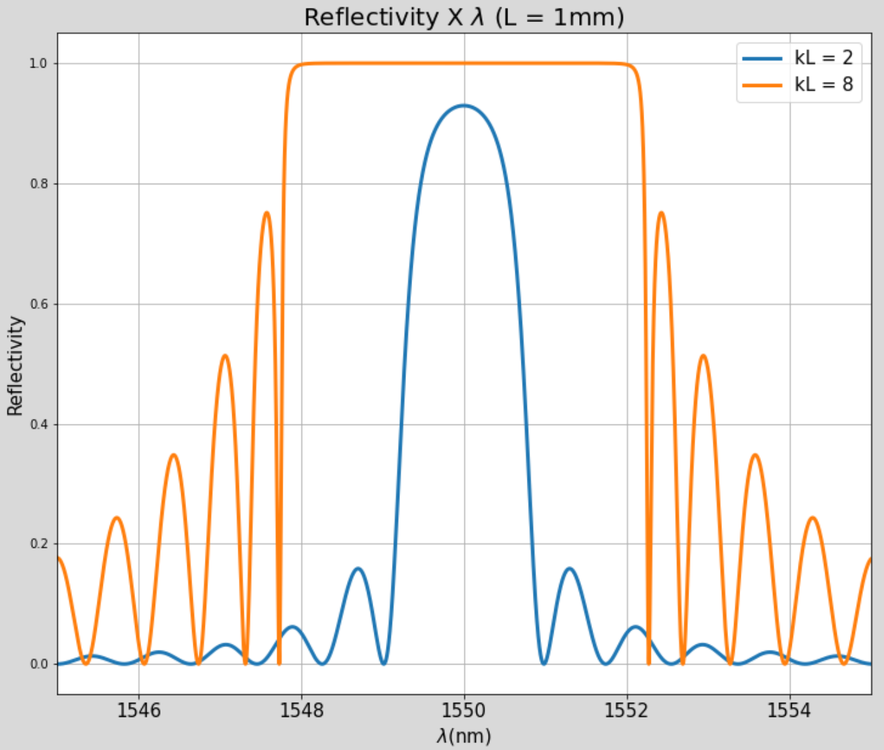
THEORETICAL GRAPHIC

L = 1mm and rmax = 0.8 (dB)



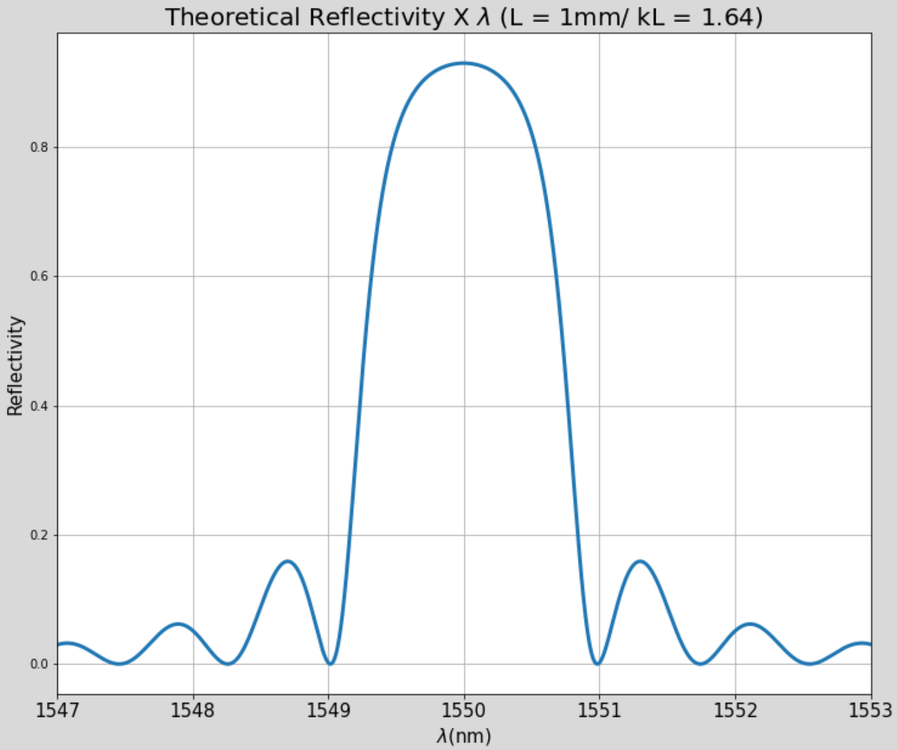
THEORETICAL GRAPHIC

Diferent kL values test



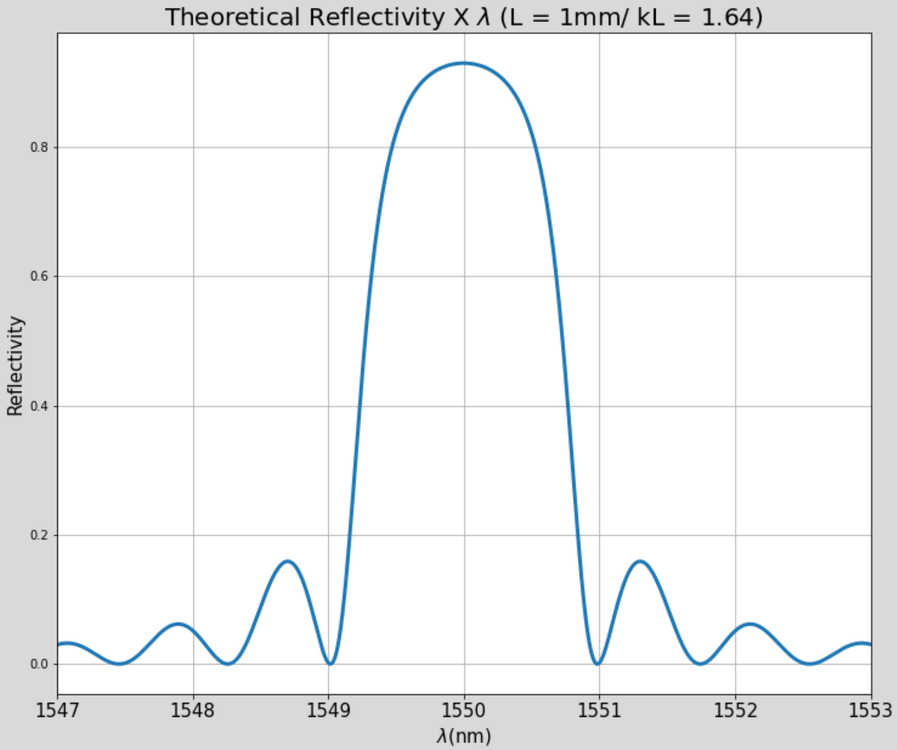
THEORETICAL GRAPHIC

L = 1mm and kL = 1.64



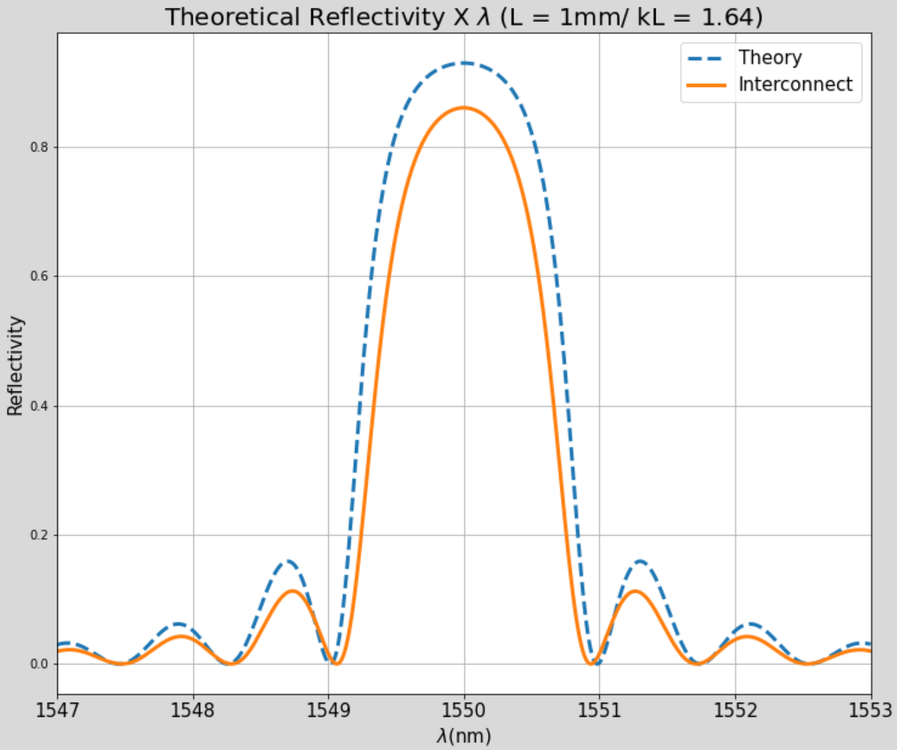
THEORETICAL GRAPHIC

L = 1mm and kL = 1.64



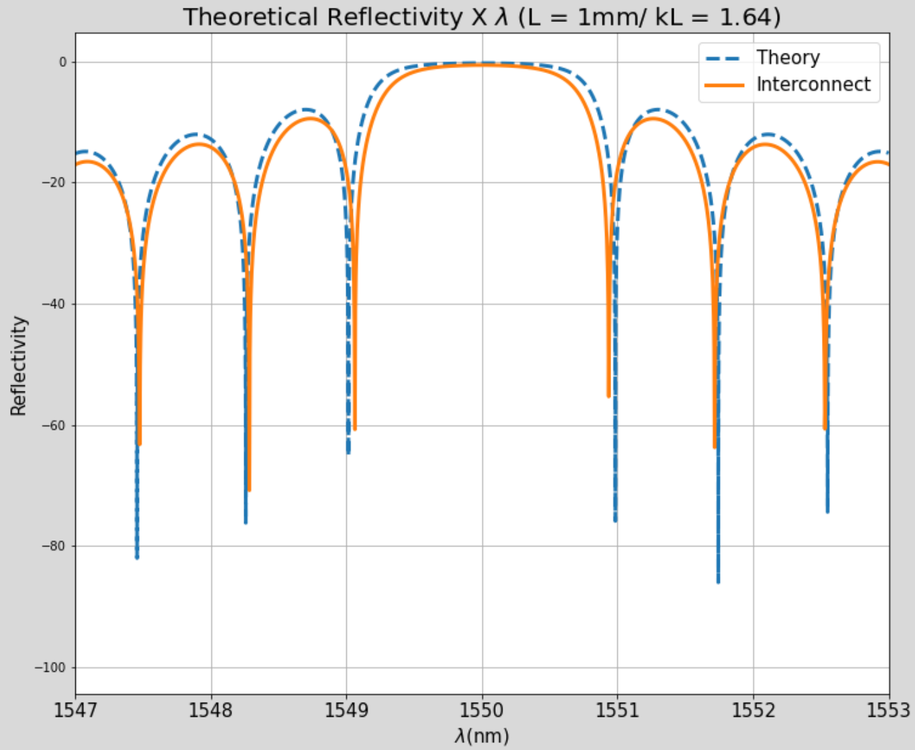
INTERCONNECT AND THEORY COMPARISON

L = 1mm and kL = 1.64



INTERCONNECT AND THEORY COMPARISON

L = 1mm and kL = 1.64 (dB)



CONCLUSION

As we can see in previous slides, the theoretical values are very close to the simulated ones. Therefore, the results are satisfactory.