

# Bragg Grating

Week 2

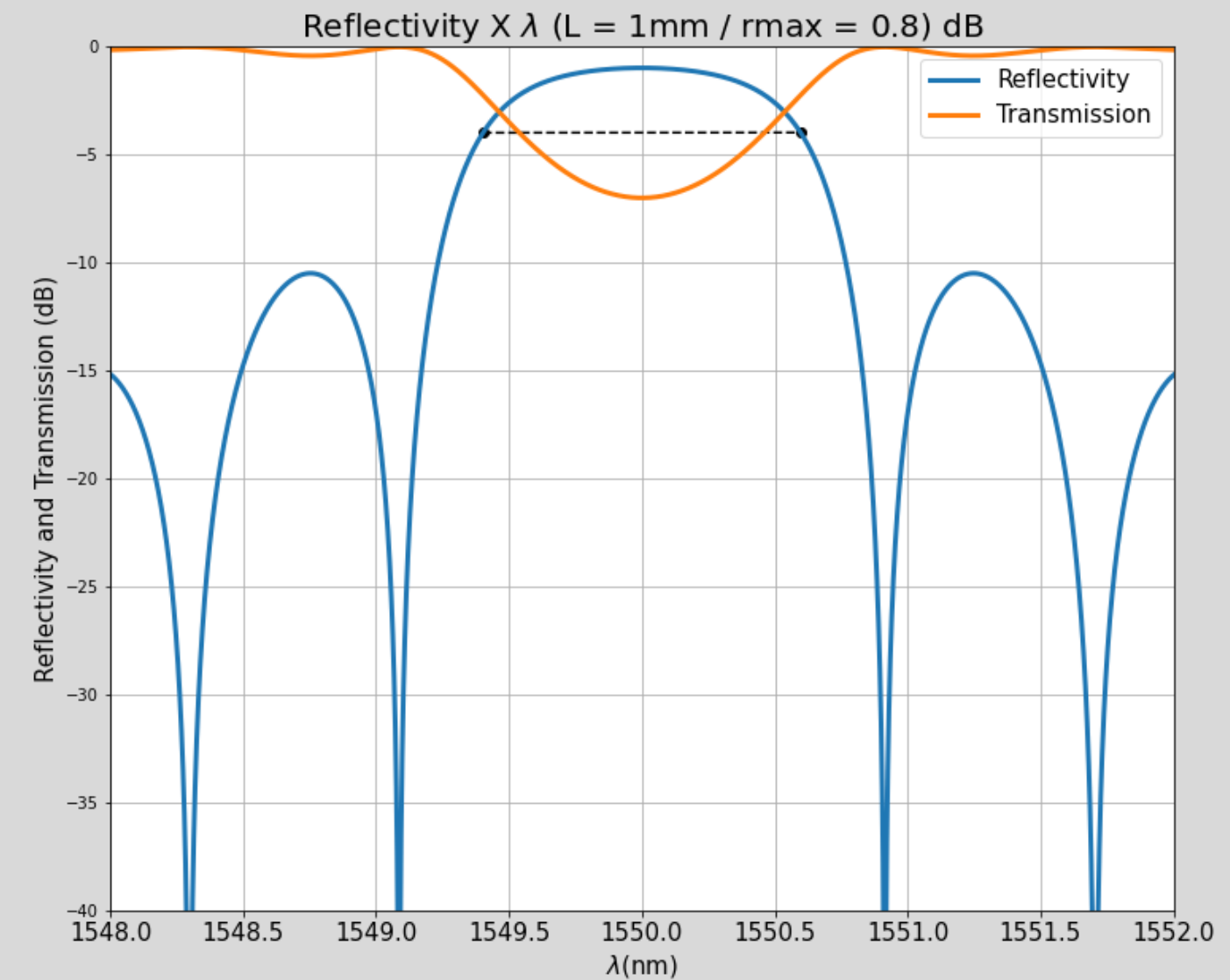
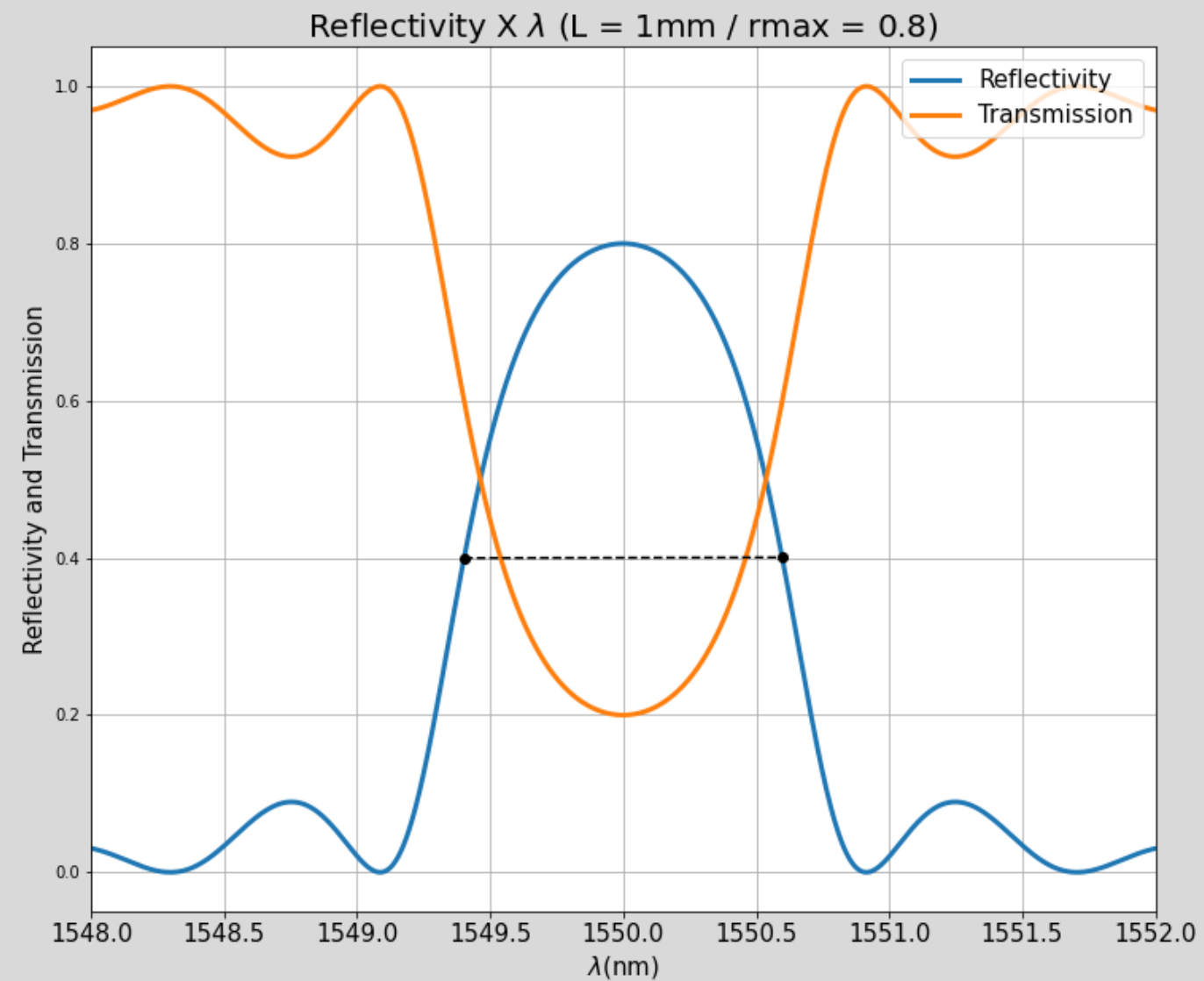
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# OBJECTIVES

- Calculate FWHM on the plots
- Compare different interconnect analysis.

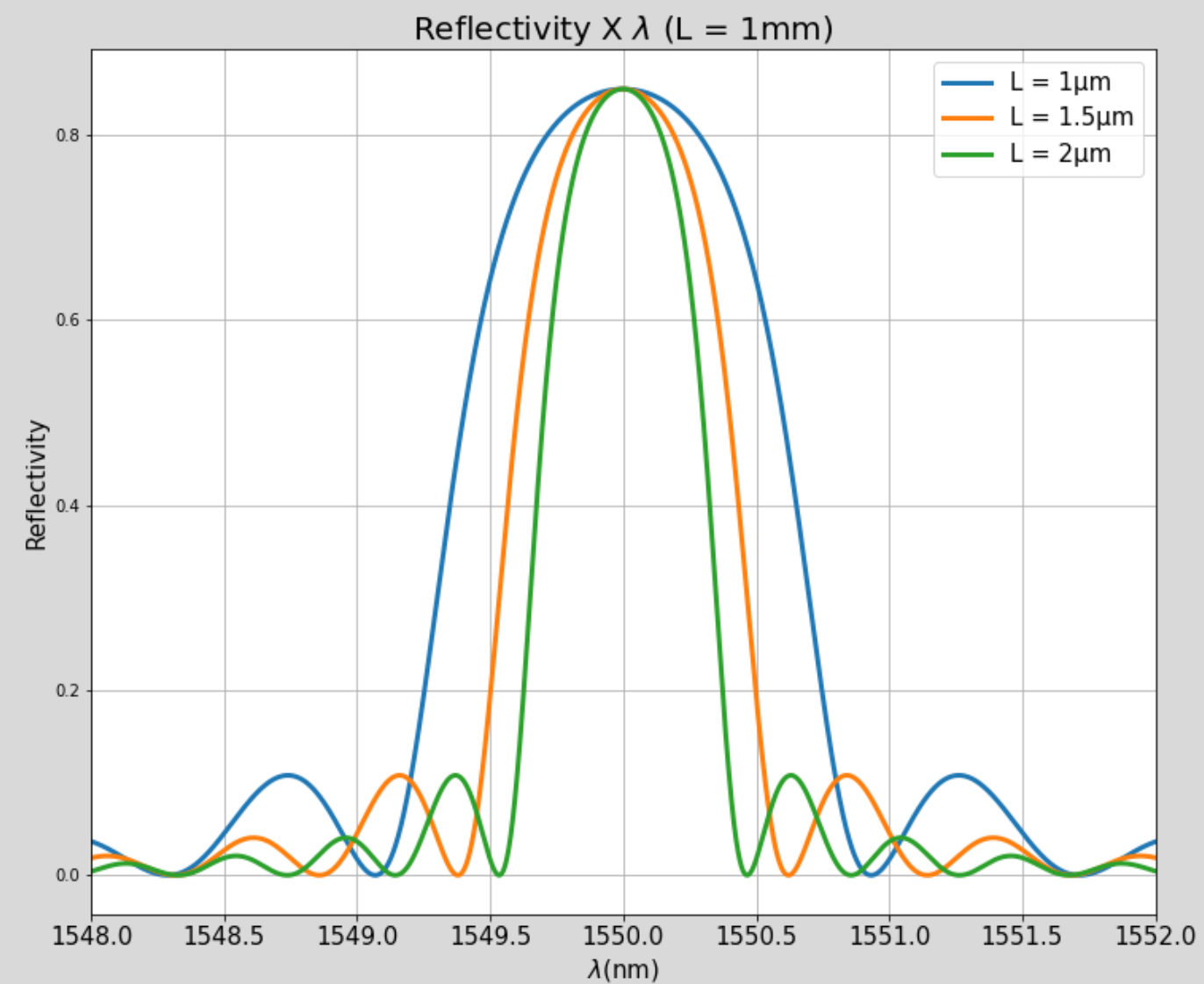
# THEORETICAL GRAPHIC

FWHM = 1.19nm



# THEORETICAL GRAPHIC

## L variation



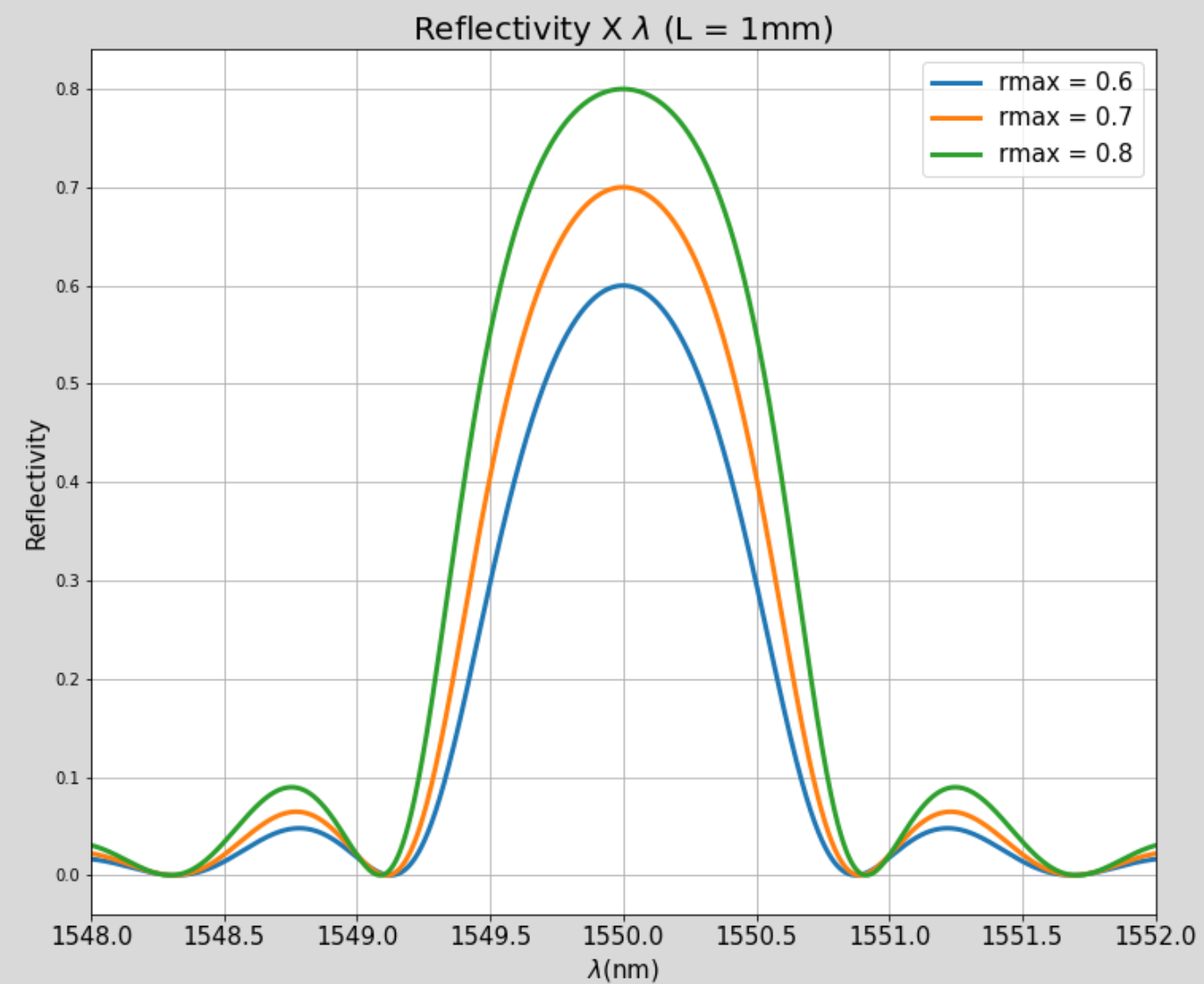
L = 1  $\mu$ m -> FWHM = 1.28nm

L = 1.5  $\mu$ m -> FWHM = 0.85nm

L = 2  $\mu$ m -> FWHM = 0.64nm

# THEORETICAL GRAPHIC

## rmax variation



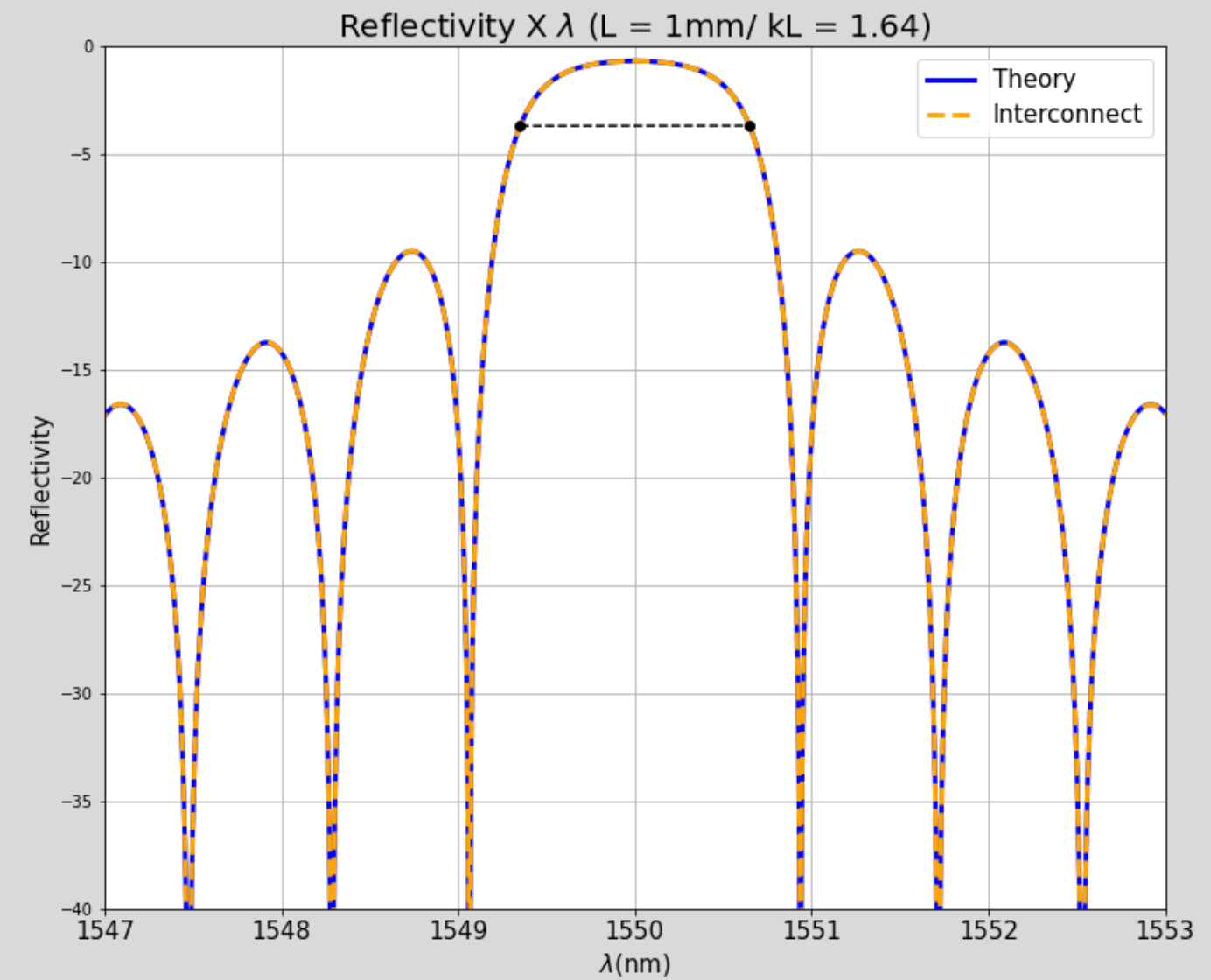
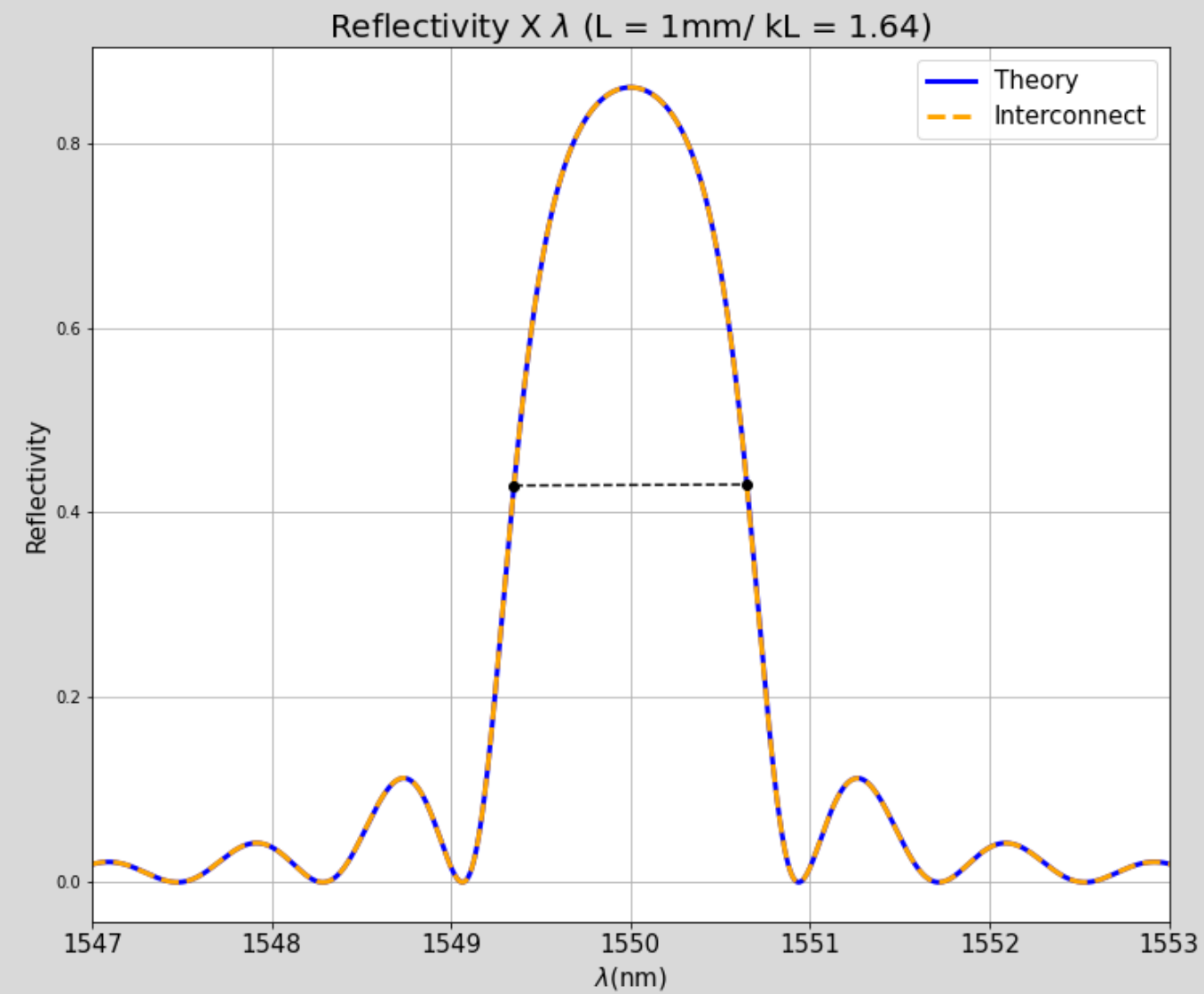
rmax = 0.6 -> FWHM = 0.96nm

rmax = 0.7 -> FWHM = 1.08nm

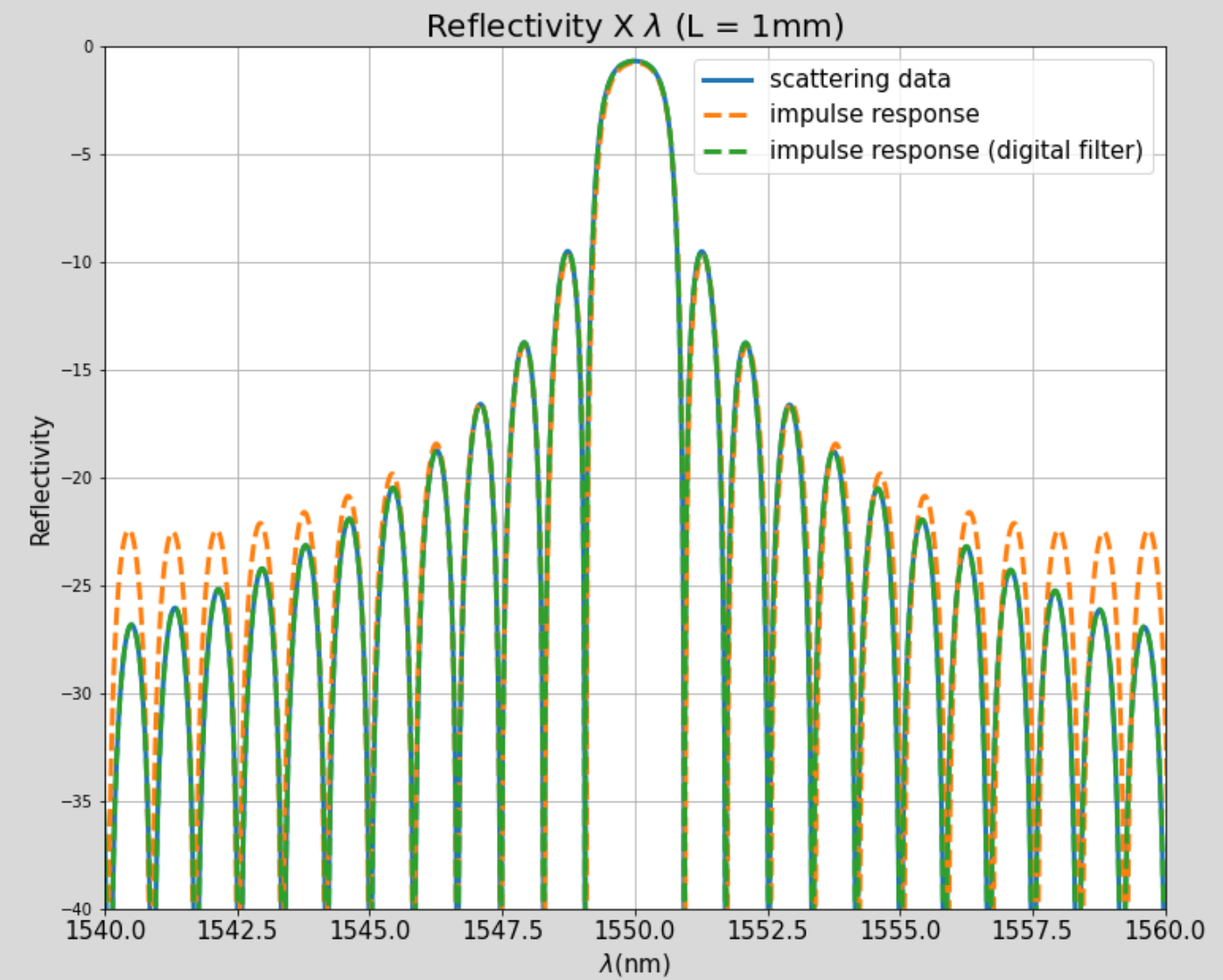
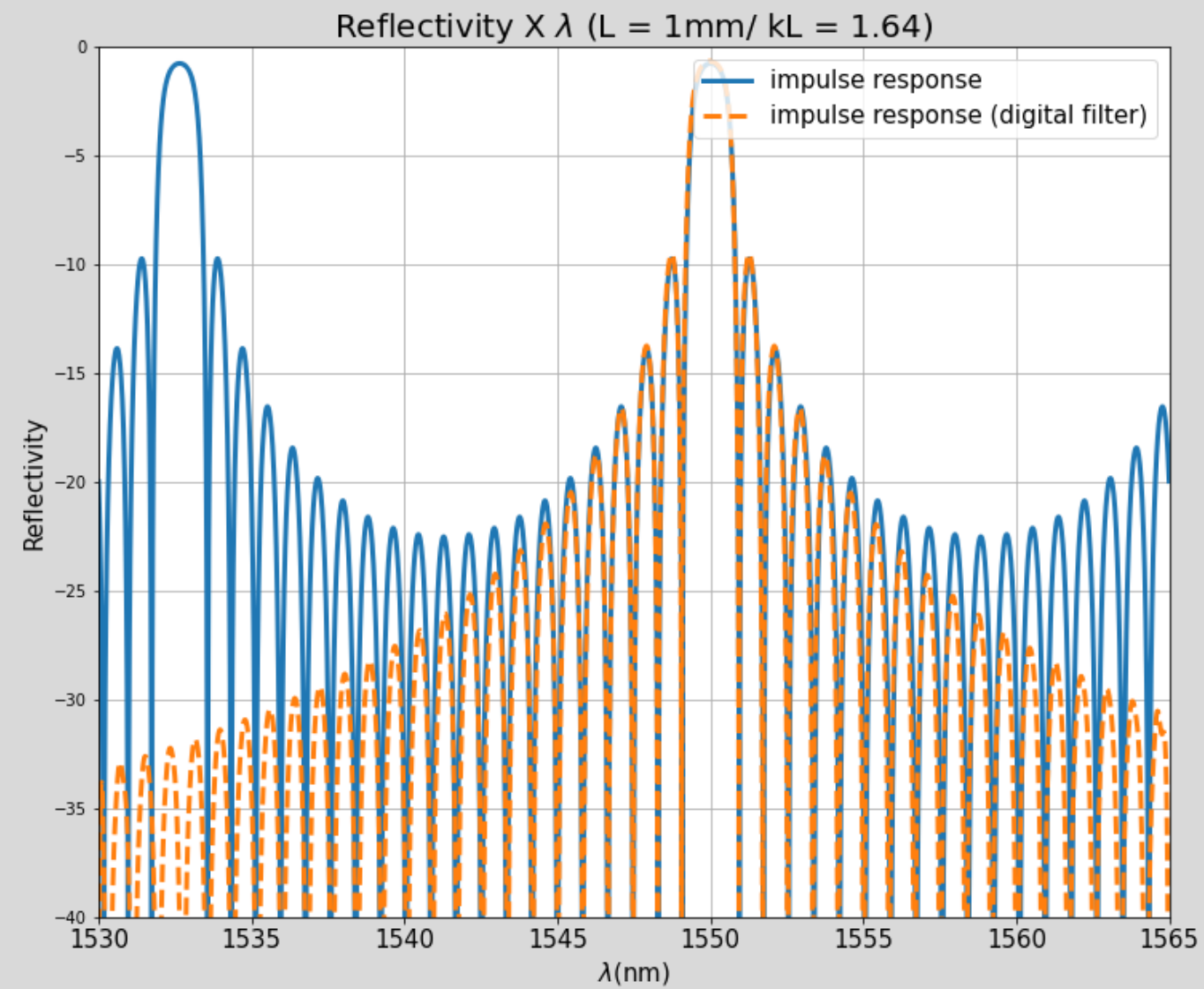
rmax = 0.8 -> FWHM = 1.20nm

# INTERCONNECT GRAPHIC

FWHM = 1.30nm



# DIFERENT ANALYSYS TYPE



# CONCLUSION

As we can see,  $r_{max}$  and  $L$  affects directly the value of FWHM, being  $L$  inversely proportional and  $r_{max}$  directly proportional.

Using impulse response method we have the signal being repeated periodically, and as we activate digital filter, we can remove that repetition. Using scattering data has similar results than using digital filter for this application.