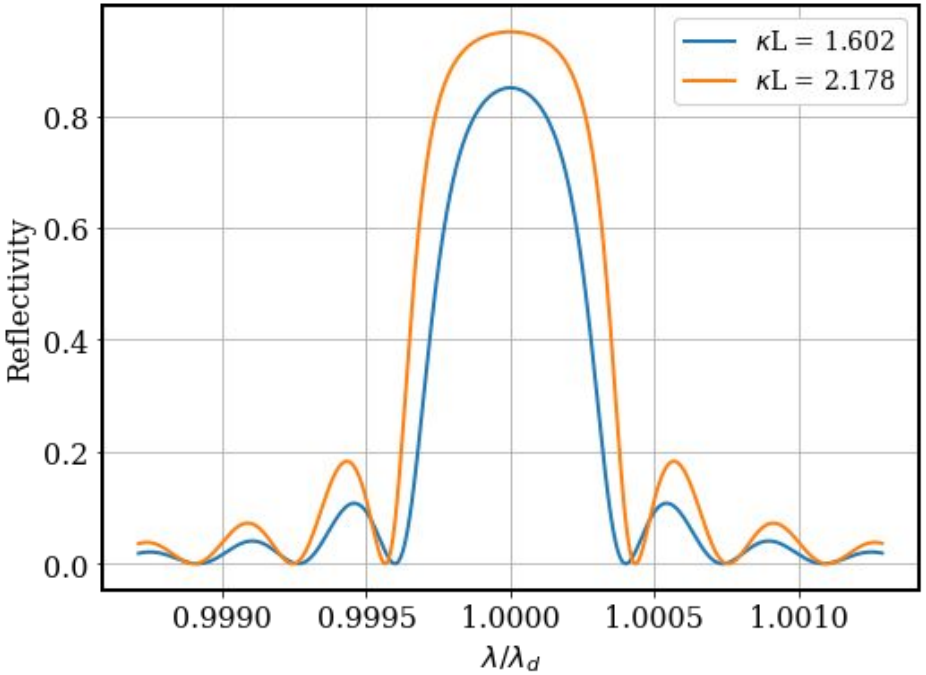
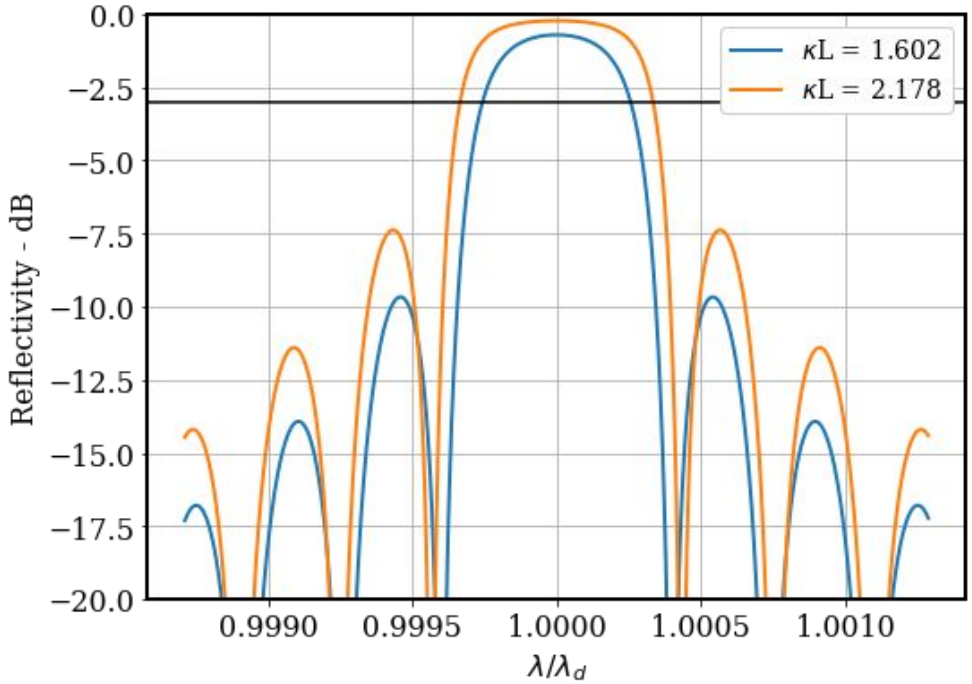
BRAGG GRATING

Moisés de Araújo Oliveira





L = 1.5 mm

rmax_1 = 0.85

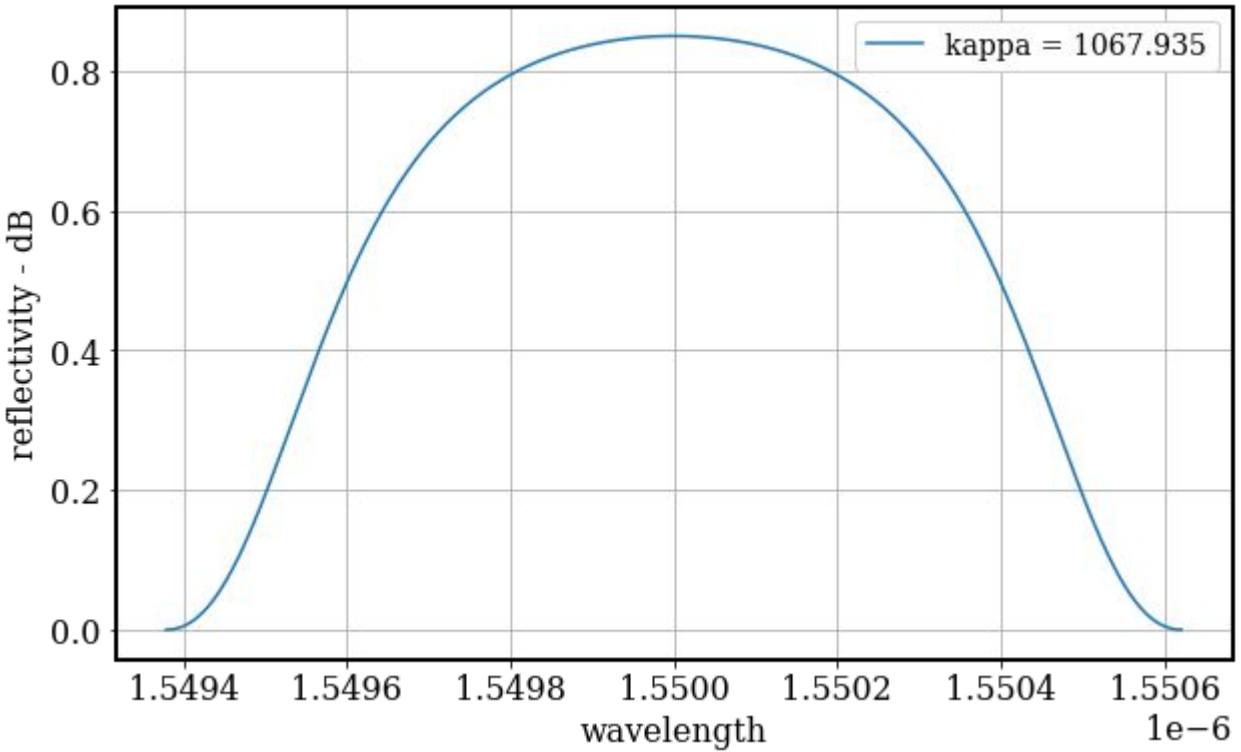
rmax_2 = 0.95

Bandedge

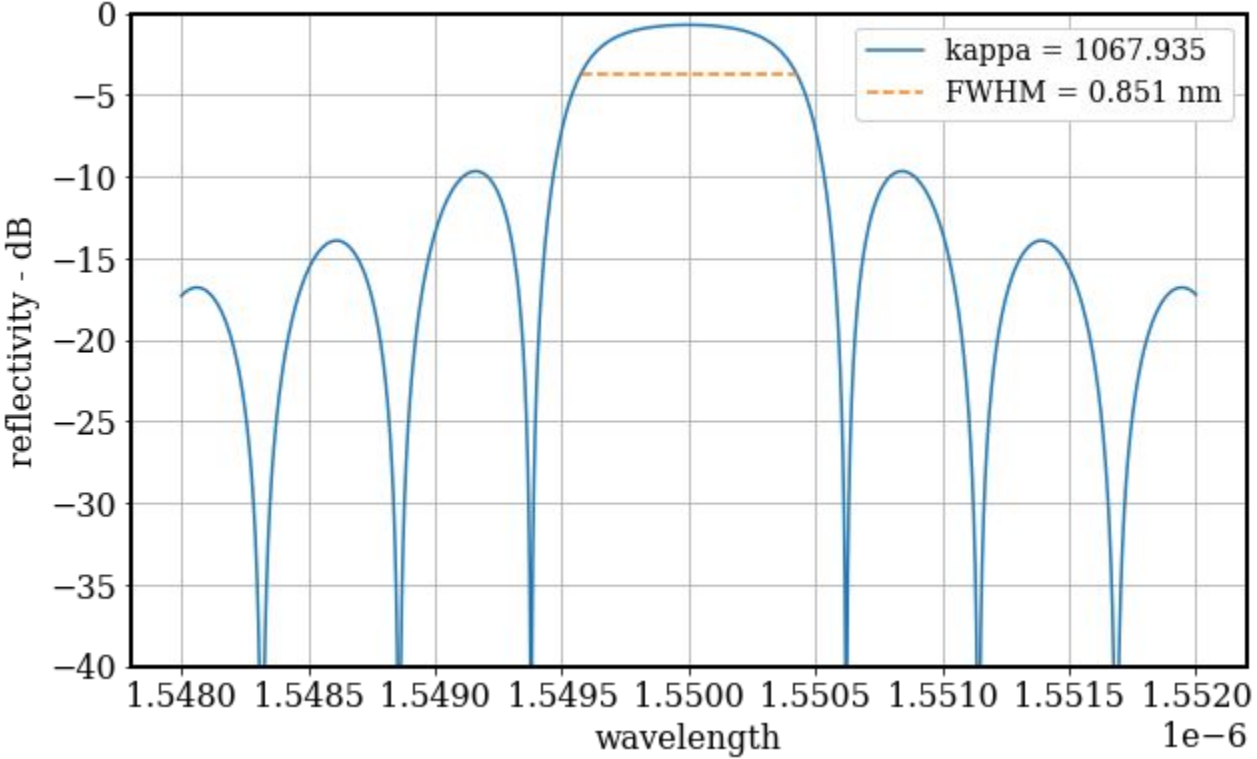
$$\lambda_{\text{band edge}} = \lambda_{\max} \pm \frac{v\overline{\delta n}_{\text{eff}}}{2n_{\text{eff}}} \lambda_D.$$

$$\frac{\Delta\lambda_{\text{band edge}}}{\lambda} = \frac{v\overline{\delta n}_{\text{eff}}}{n_{\text{eff}}}$$

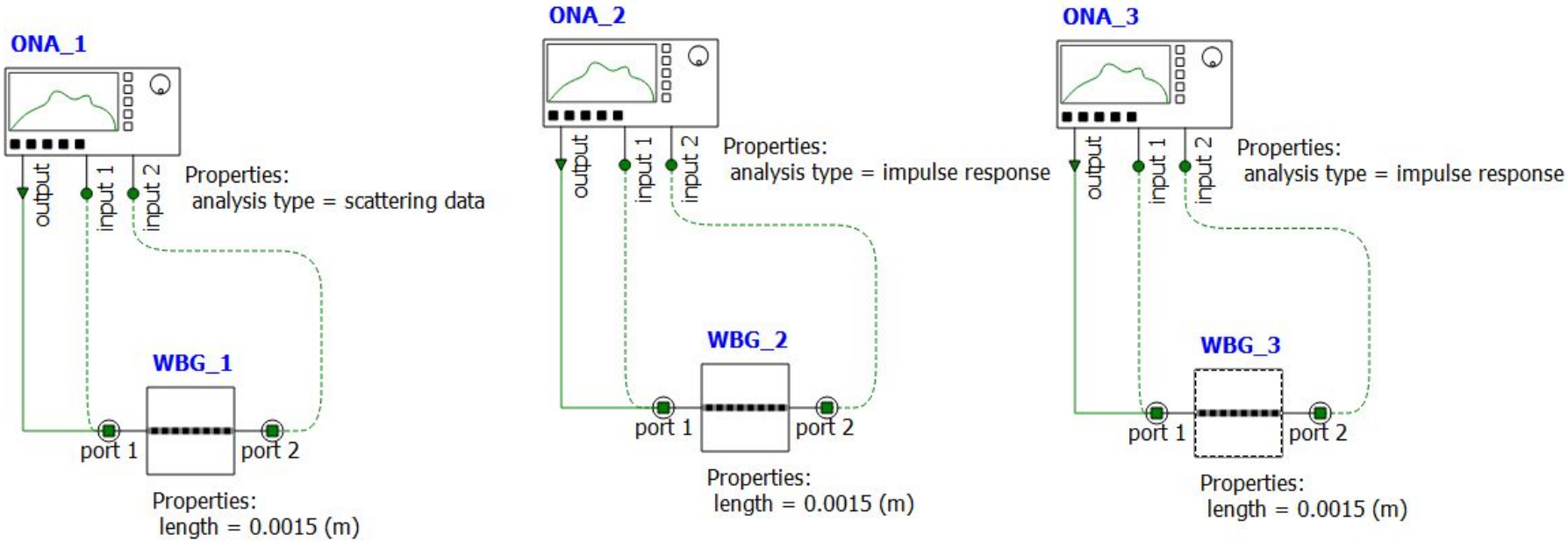
Band between the first zeros

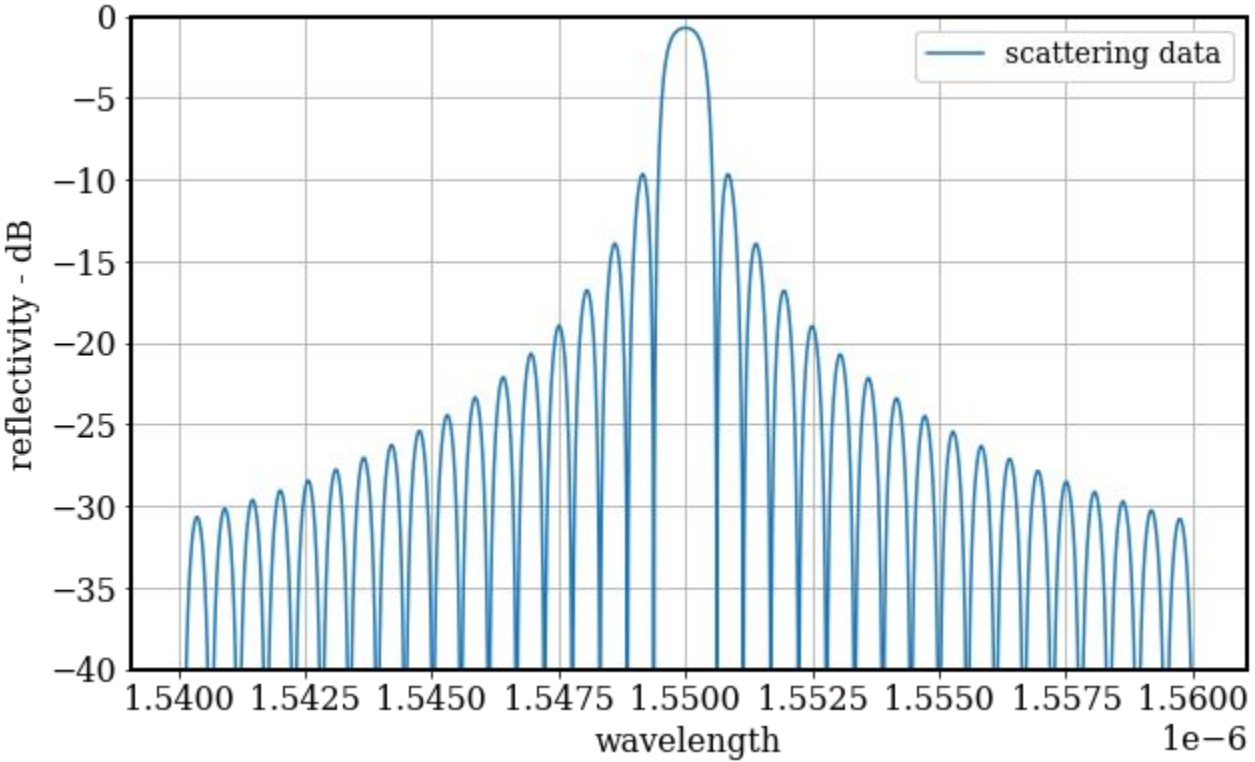


FWHM


kappa = 1067.935
FWHM = 0.851 nm
reflectivity - dB
0
−5
−10
−15
−20
−25
−30
−35
−40
1.5480
1.5485
1.5490
1.5495
1.5500
1.5505
1.5510
1.5515
1.5520
wavelength
1e−6

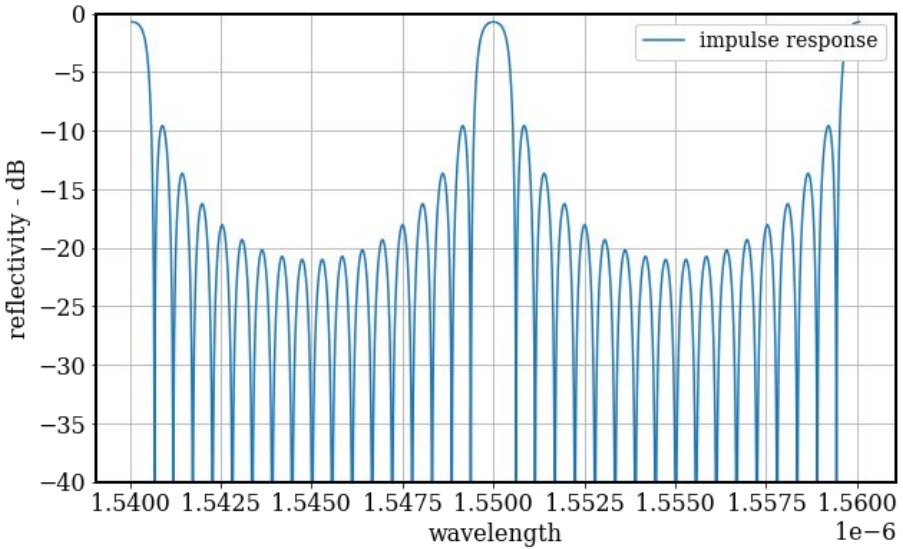
Interconnect





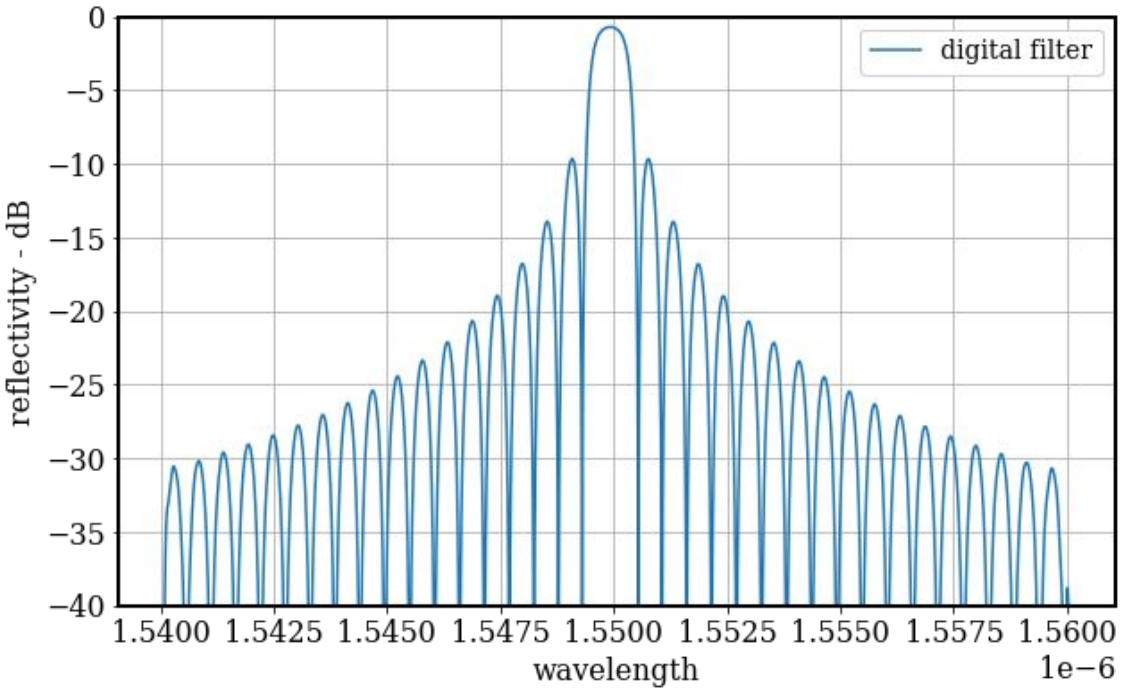
L = 1.5 mm

Effective index AC change = 0.000526898



Impulse response = True

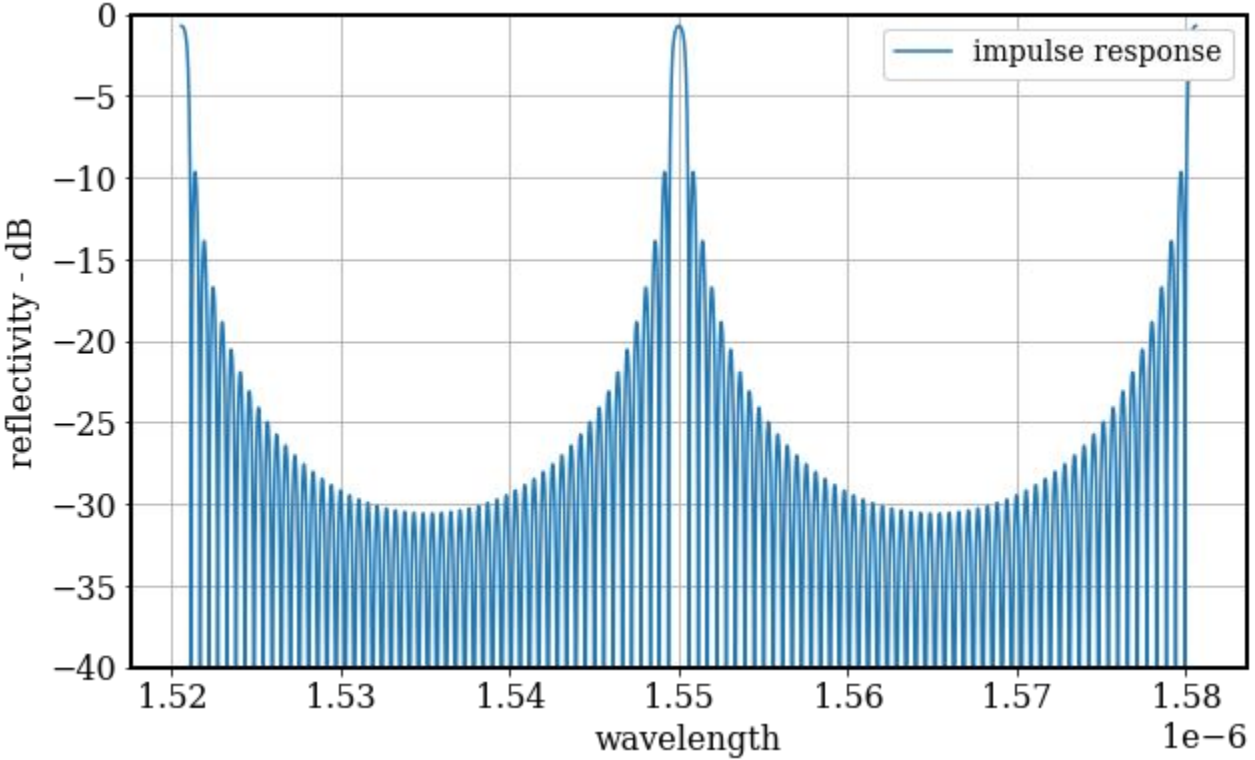
digital filter = False

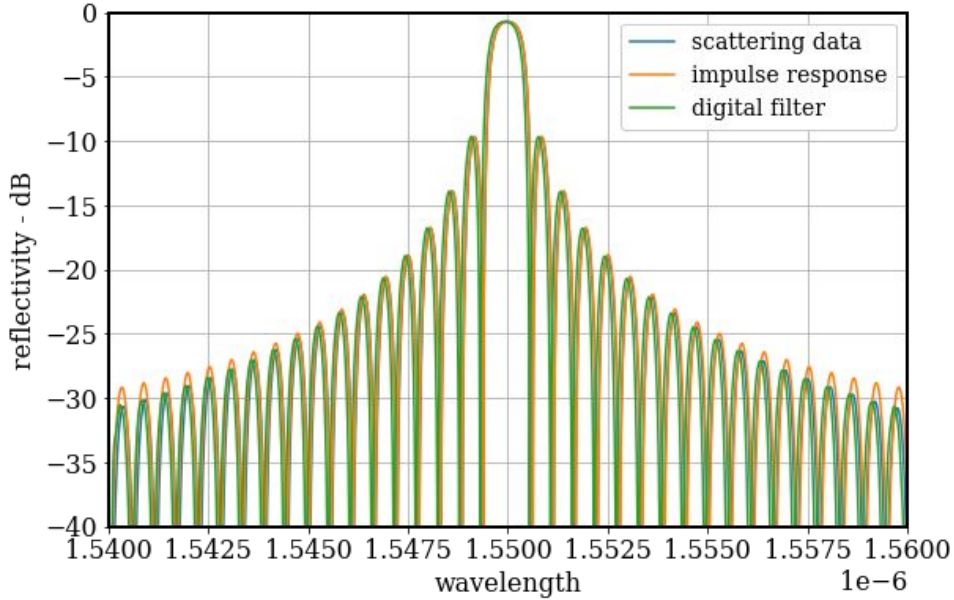


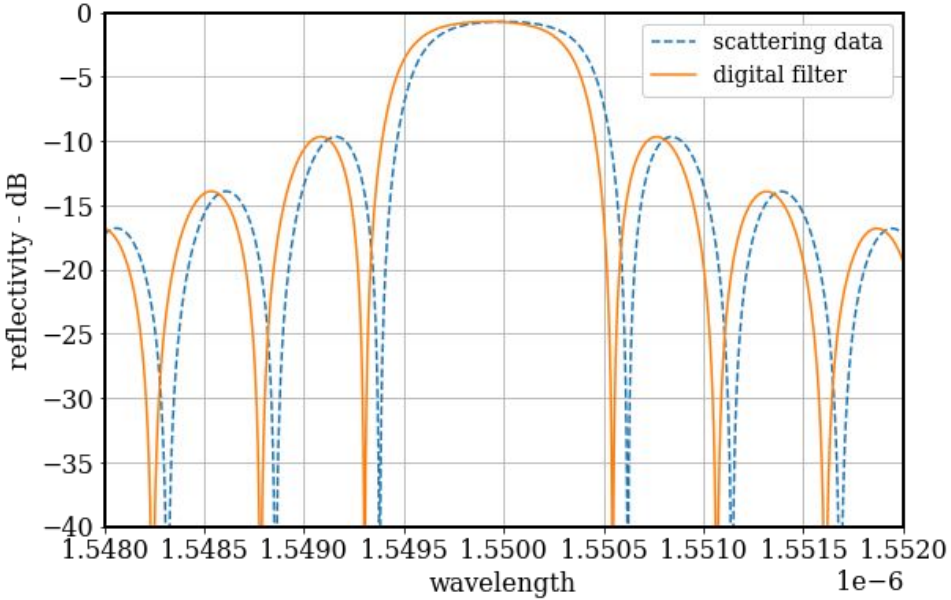
Impulse response = True

Digital Filter = True

Increasing the bandwidth of the Impulse response to 60nm




scattering data
impulse response
digital filter
reflectivity - dB
wavelength
1e−6


scattering data
digital filter
reflectivity - dB
wavelength
1e−6

Increasing the filter order