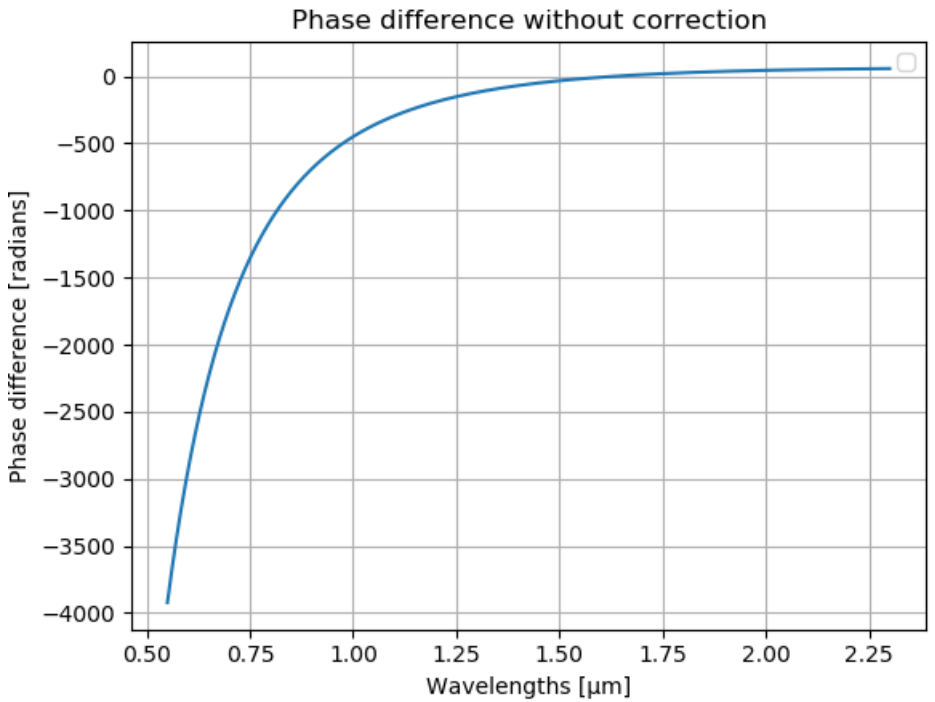
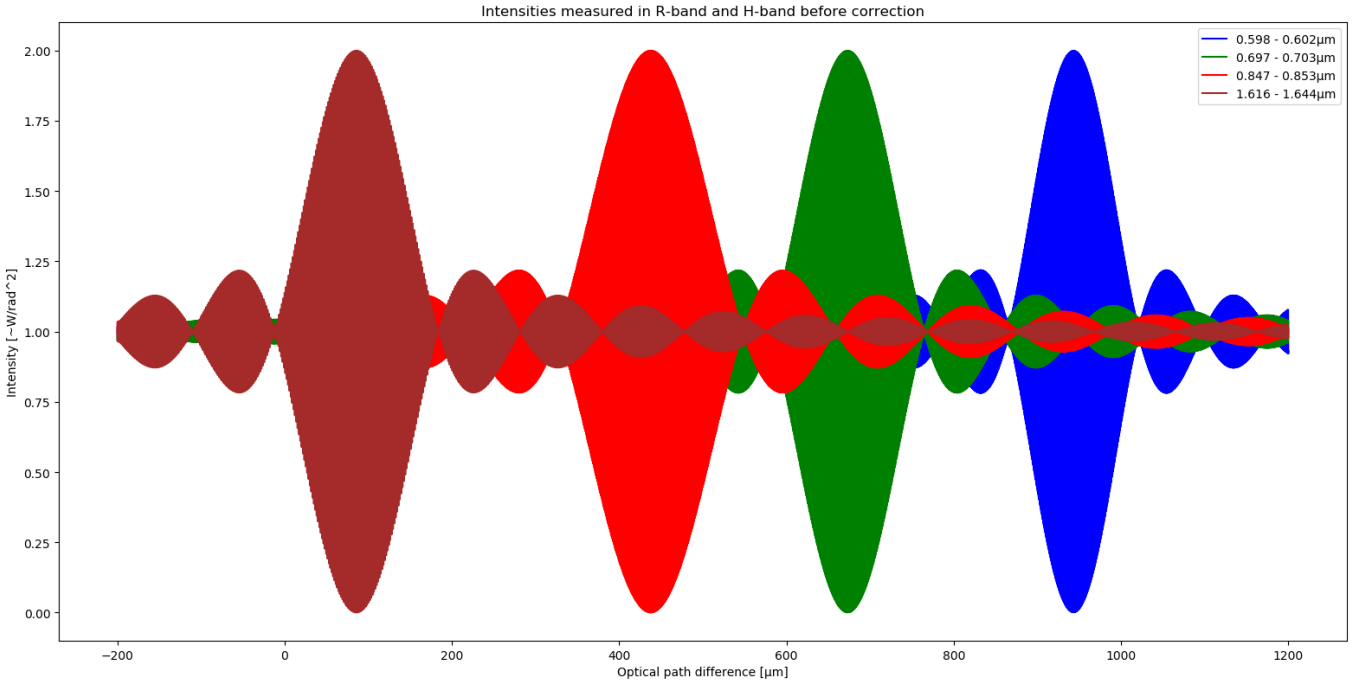
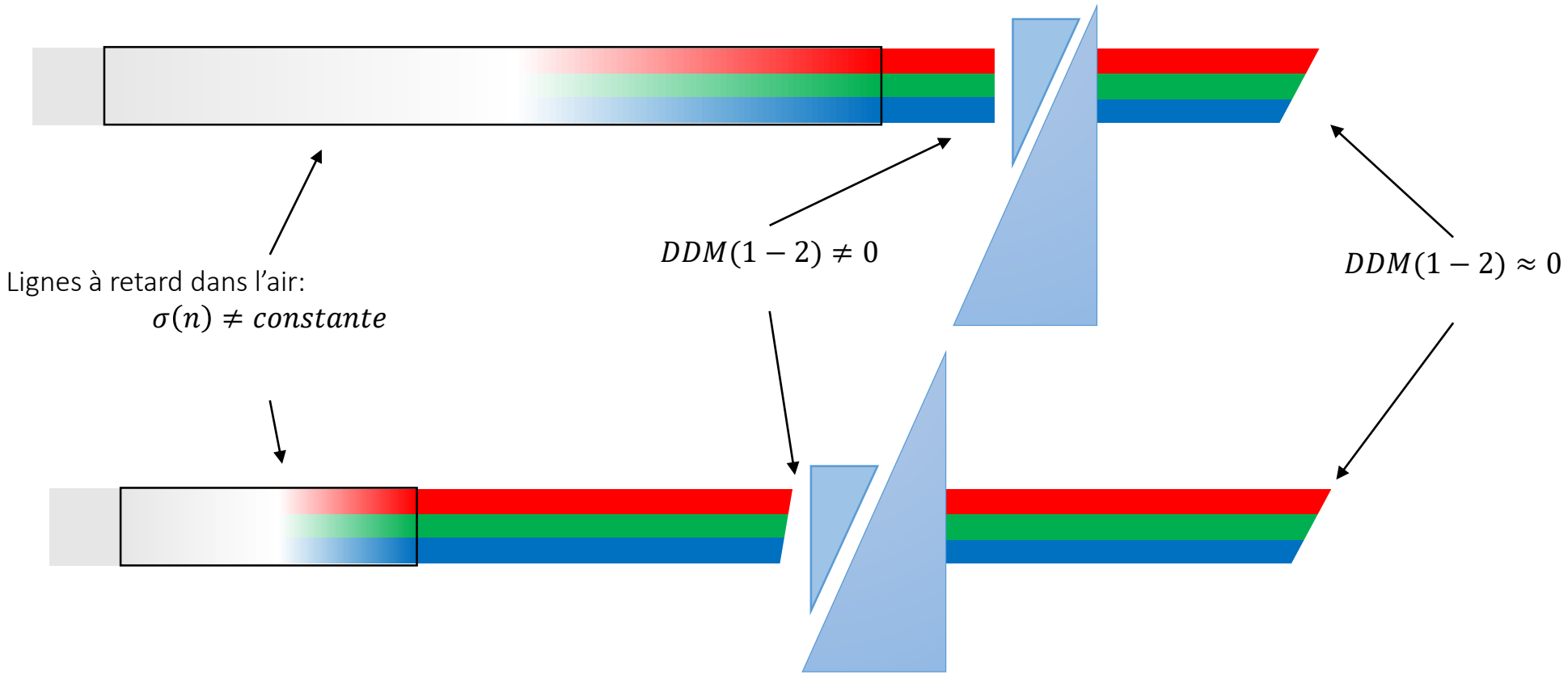
Compensation of longitudinal chromatism

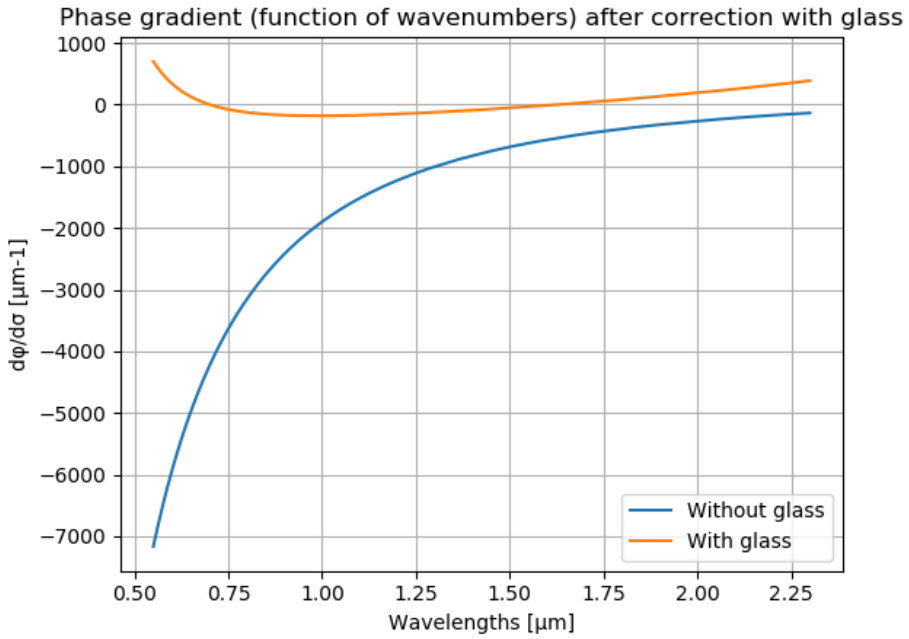


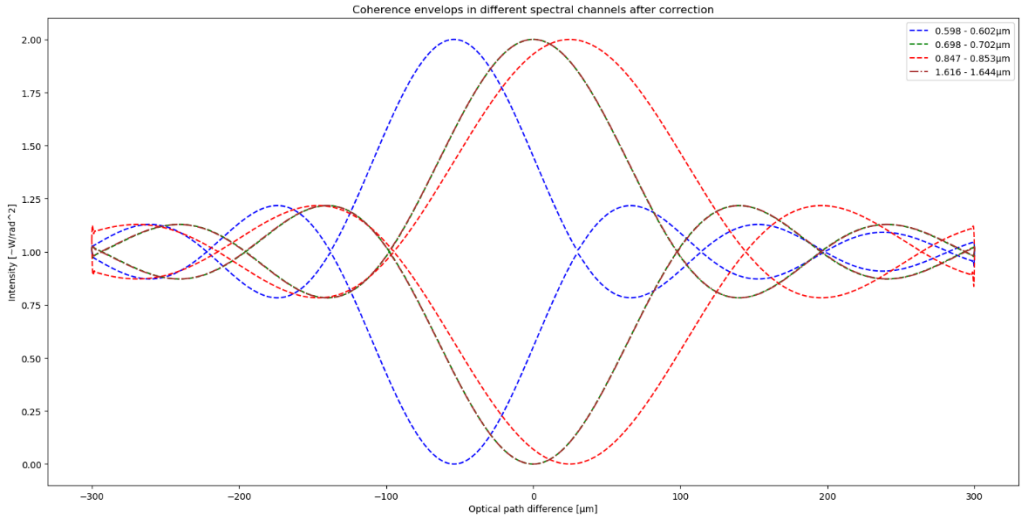



Lignes à retard dans l'air:
$\sigma(n) \neq constante$
$DDM(1-2) \neq 0$
$DDM(1-2) \approx 0$

Correction with one glass

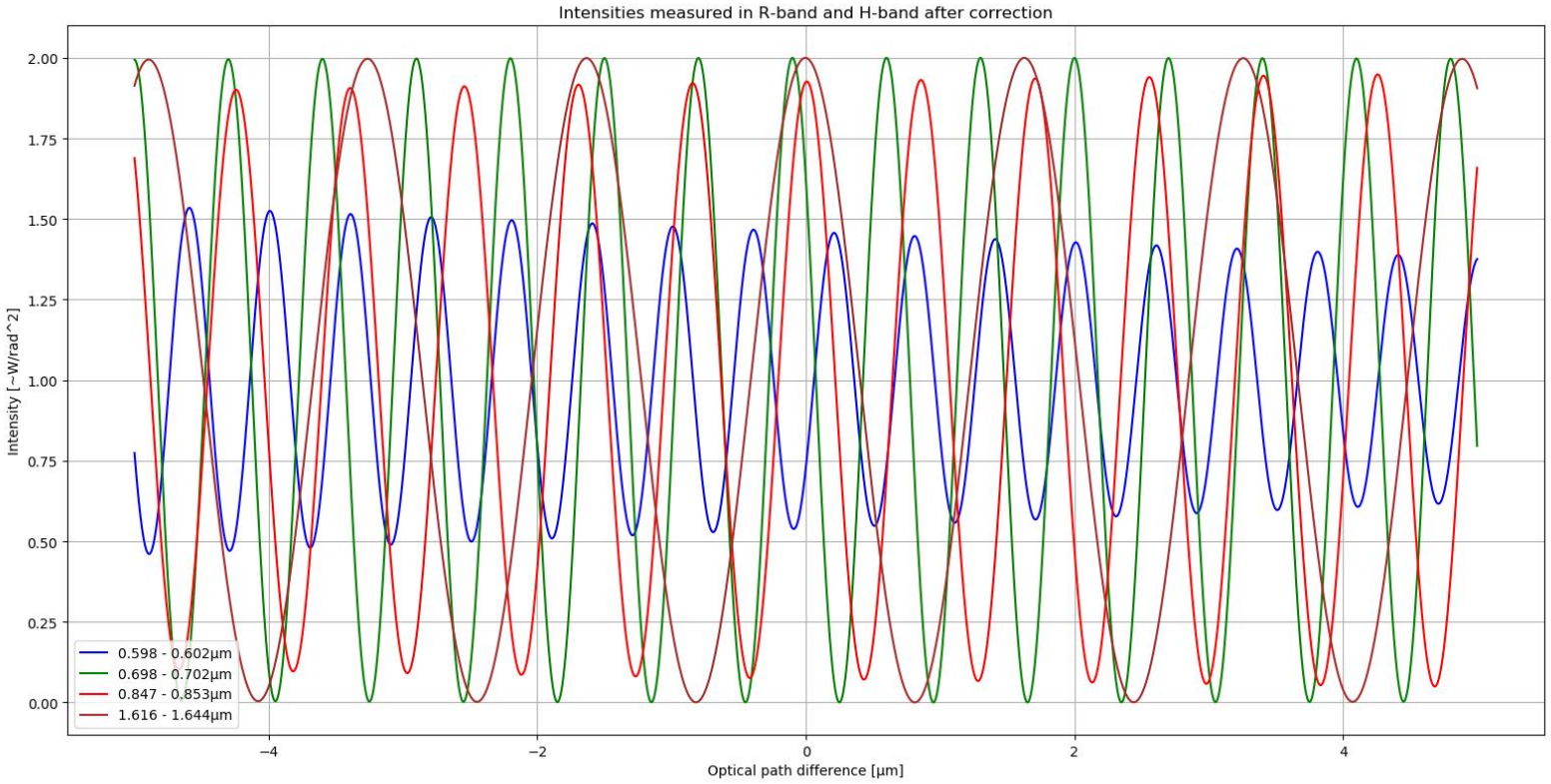
Correction of OPD H-R



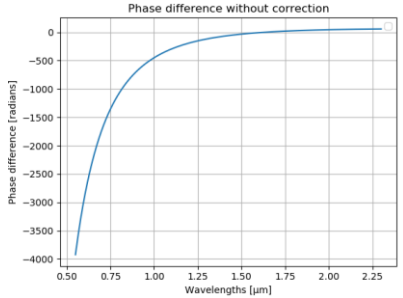


Correction with one glass

Correction of OPD H-R

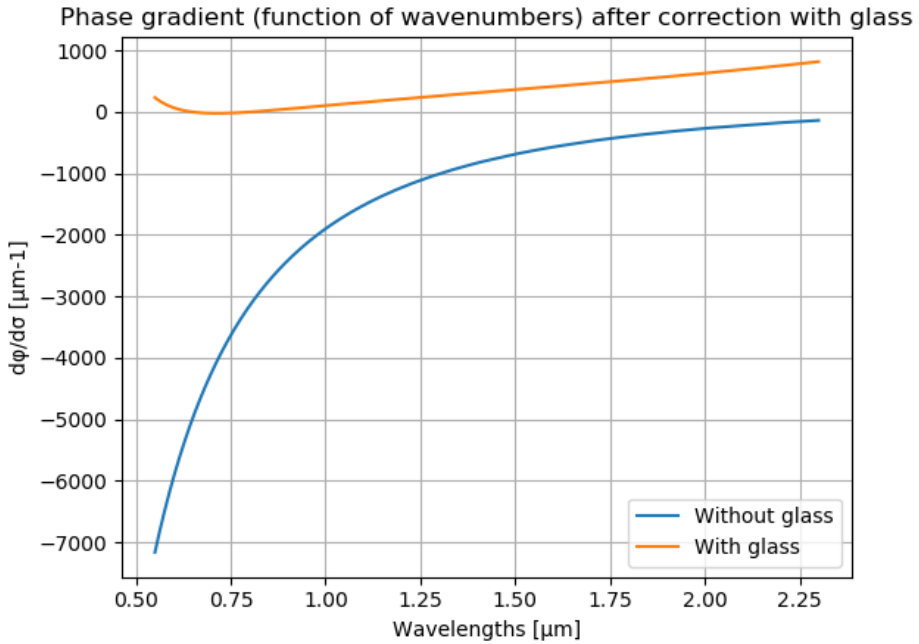


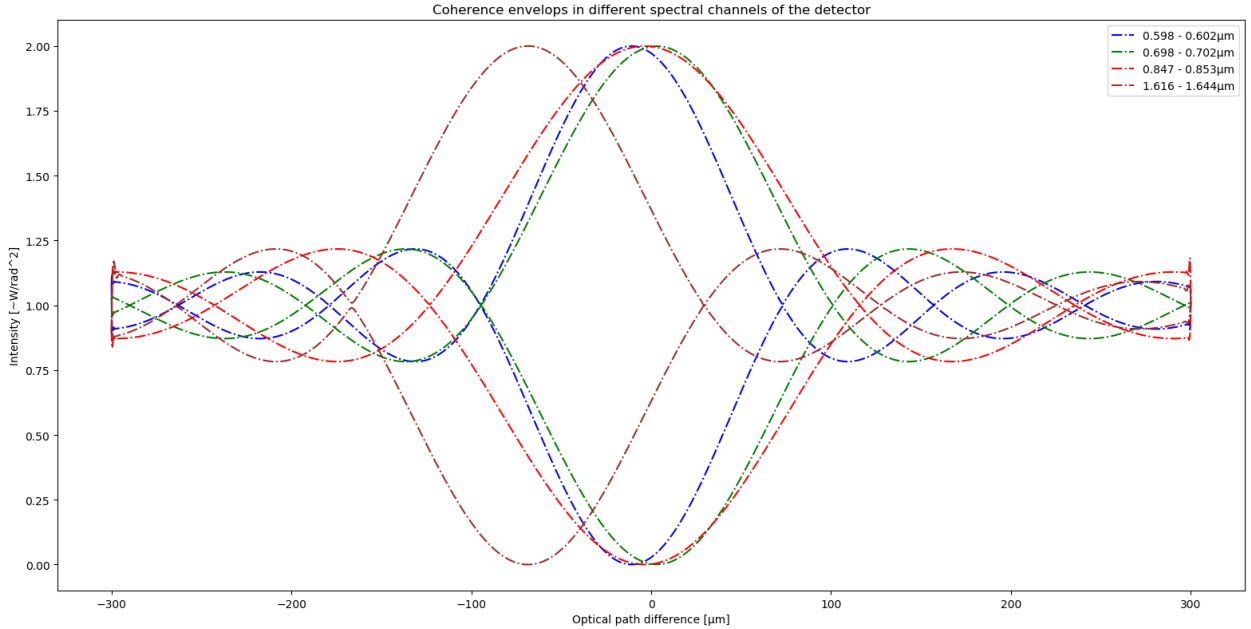
Bad contrast in short wavelength



Correction with one glass

Correction of dispersion in R-band

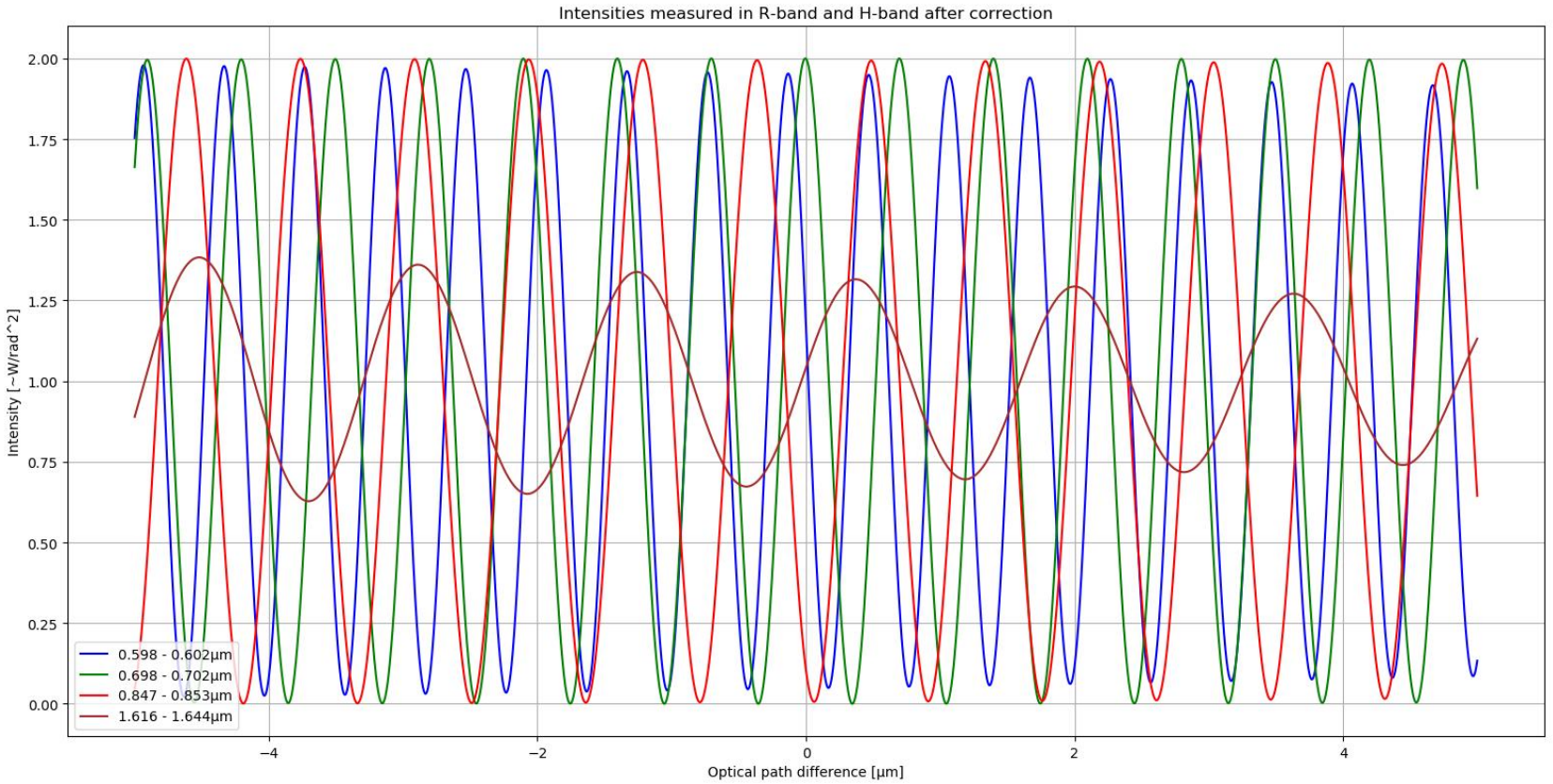




Correction with one glass

Correction of dispersion in R-band

Good contrast in science but low contrast in tracking



Phase limited development

$$\sigma X(\sigma) = \bar{\sigma} X(\bar{\sigma}) + \left(x_0 + \sum_{i=1}^{3} \frac{d(\sigma n_i)}{d\sigma}(\bar{\sigma}) x_i \right) * s + \sum_{k=2}^{\infty} \left(\frac{1}{k!} \sum_{i=1}^{3} \left(\frac{d^k(\sigma n_i)}{d\sigma^k}(\bar{\sigma}) x_i \right) * s^k \right)$$

→SVD ?

$$\sigma X(\sigma) = \bar{\sigma} X(\bar{\sigma}) + (x_0 + \boldsymbol{b_1} \cdot \boldsymbol{x}) s + (\boldsymbol{b_2} \cdot \boldsymbol{x}) a_2(\sigma) + (\boldsymbol{b_3} \cdot \boldsymbol{x}) a_3(\sigma) + \cdots$$