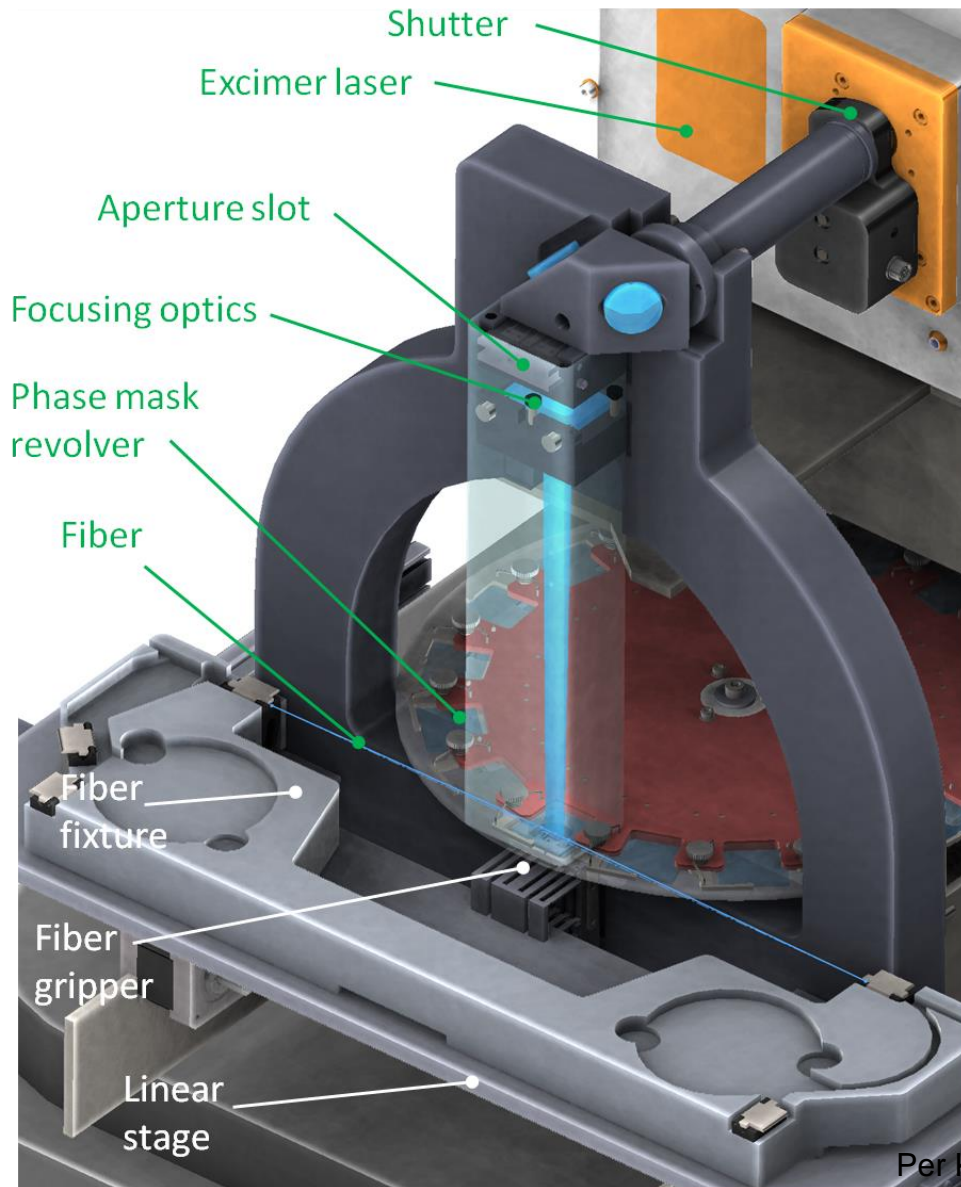




## *PRODUCTION OF FIBER BRAGG GRATINGS*

# NORIA FBG manufacturing solution

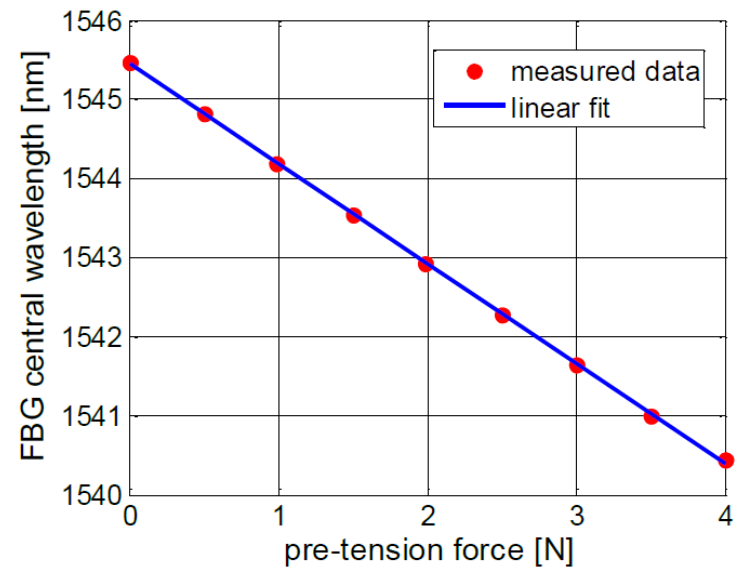


# FIBER HANDLING

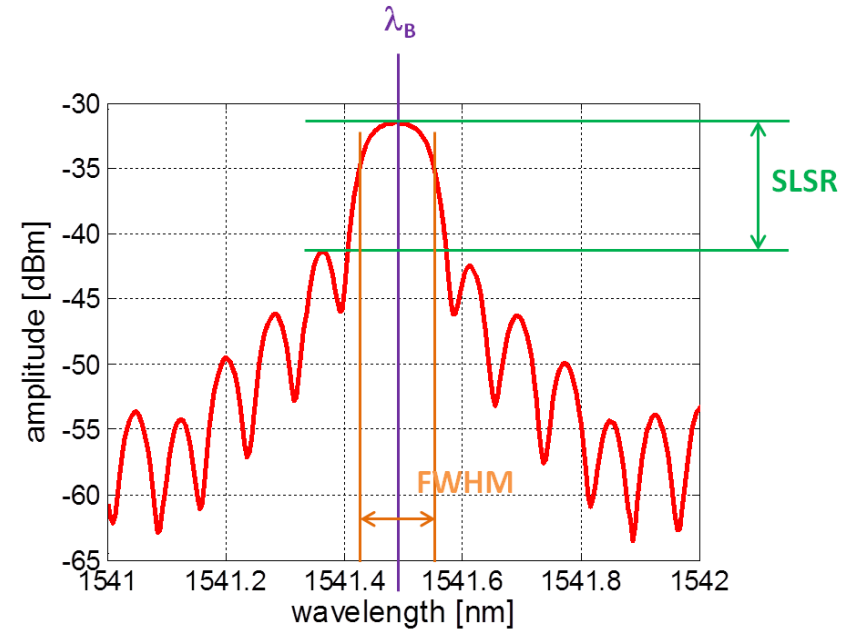
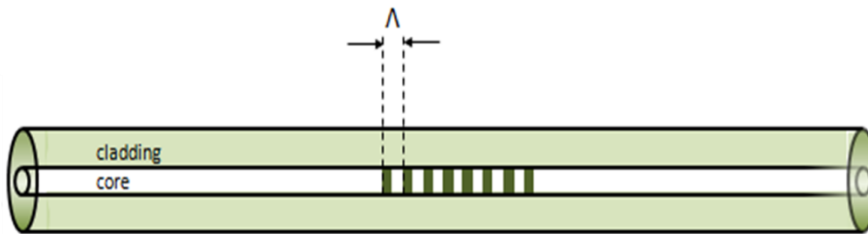
fiber fixture including active tension control



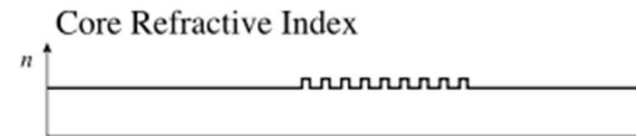
5nm  $\lambda_B$  correction with 4N pretension



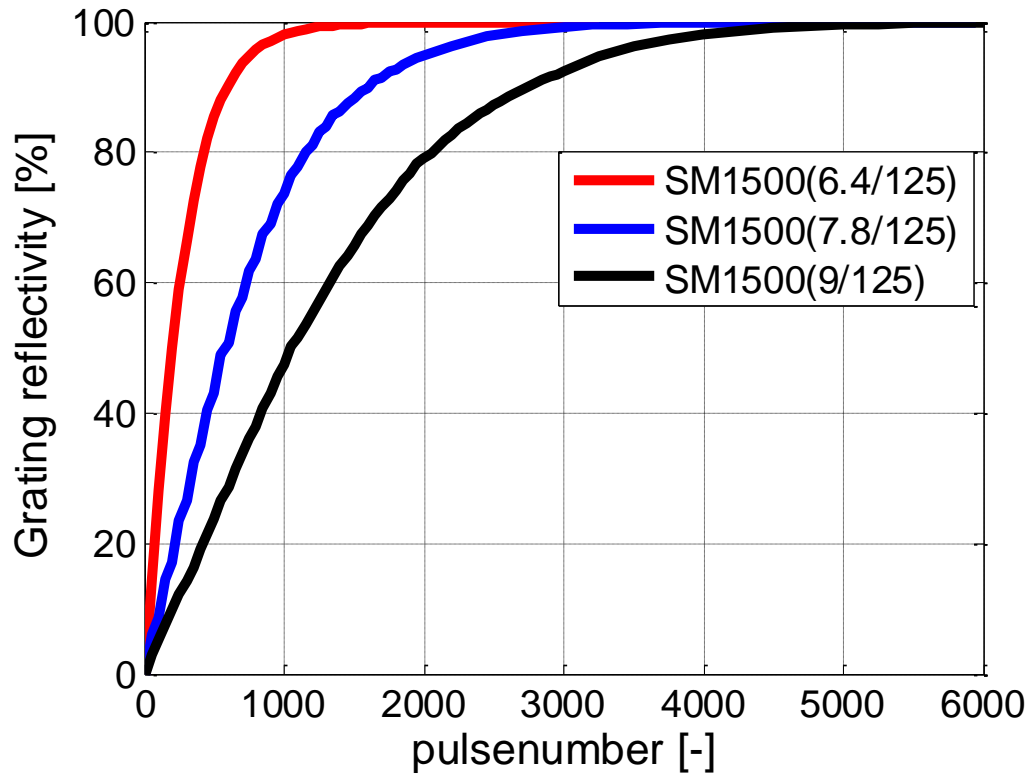
# GRATING PROPERTIES



- modulation of the refractive index ( $n \sim 10^{-4}$ )
- pitch ( $\Lambda$ ) 300 – 550 nanometer
- length  $\sim 1 - 10$  mm

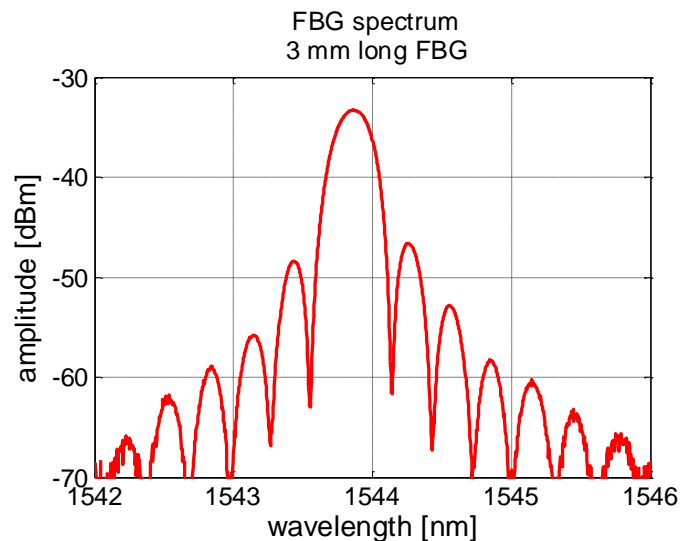
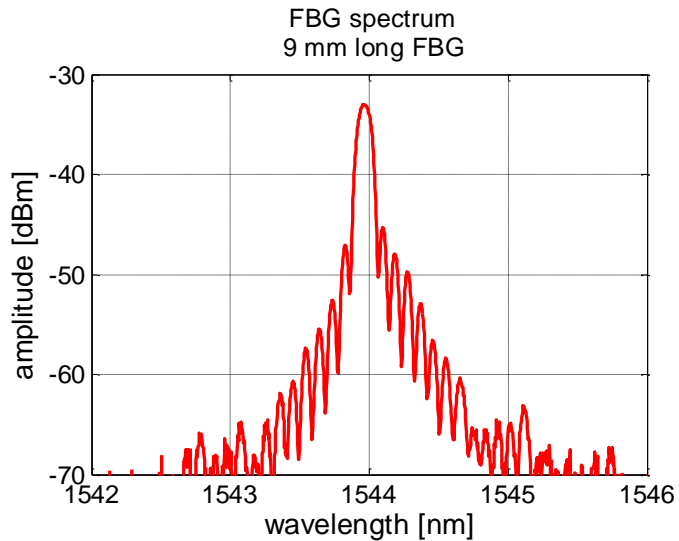


# GRATING REFLECTIVITY

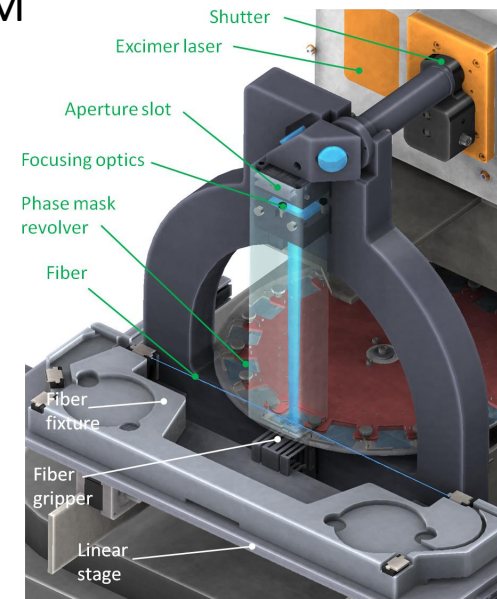


- ✓ DOSE INFLUENCE FOR 3 DIFFERENT FIBER TYPES
- ✓ SHORT WRITING TIME (SECONDS) USING 500Hz LASER REPETITION RATE

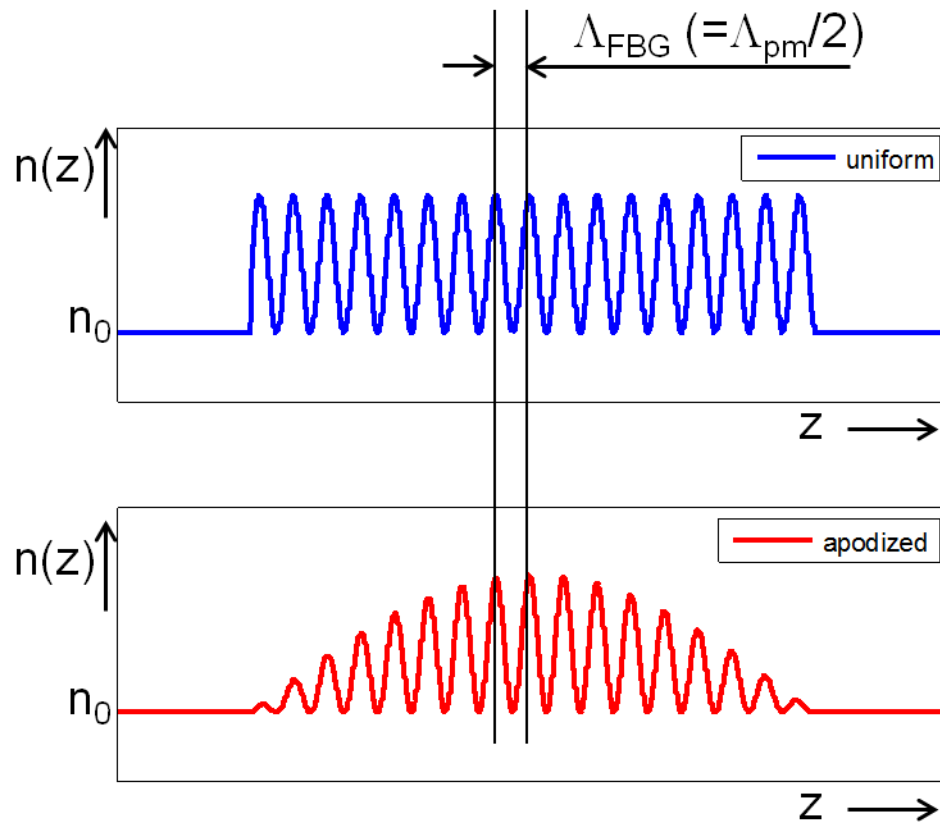
# GRATING SPECTRAL WIDTH



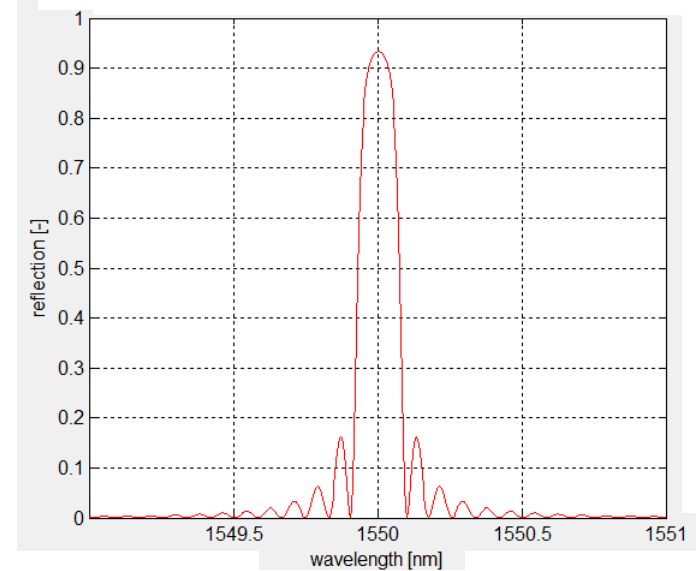
- ✓ LONG GRATING → SMALL SPECTRAL WIDTH
- ✓ SHORT GRATING → LARGE SPECTRAL WIDTH
- ✓ USE BLOCKING APERTURES TO CONTROL WIDTH OF BEAM



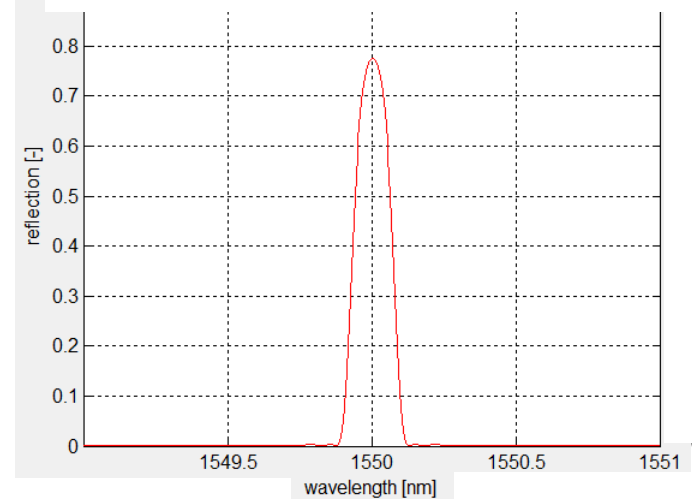
# GRATING APODIZATION



## UNIFORM ILLUMINATION



## APODIZED ILLUMINATION



# Thank you!