

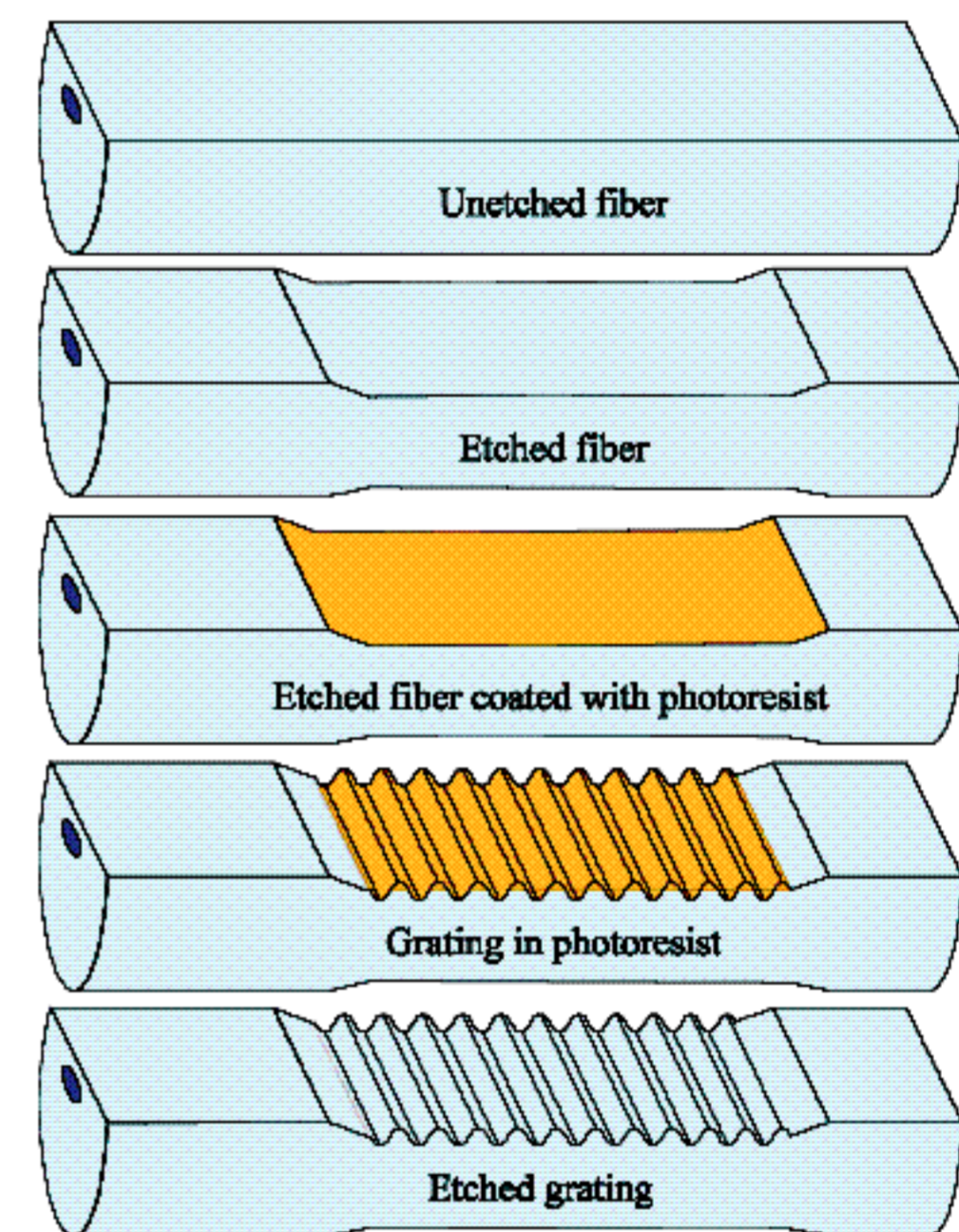
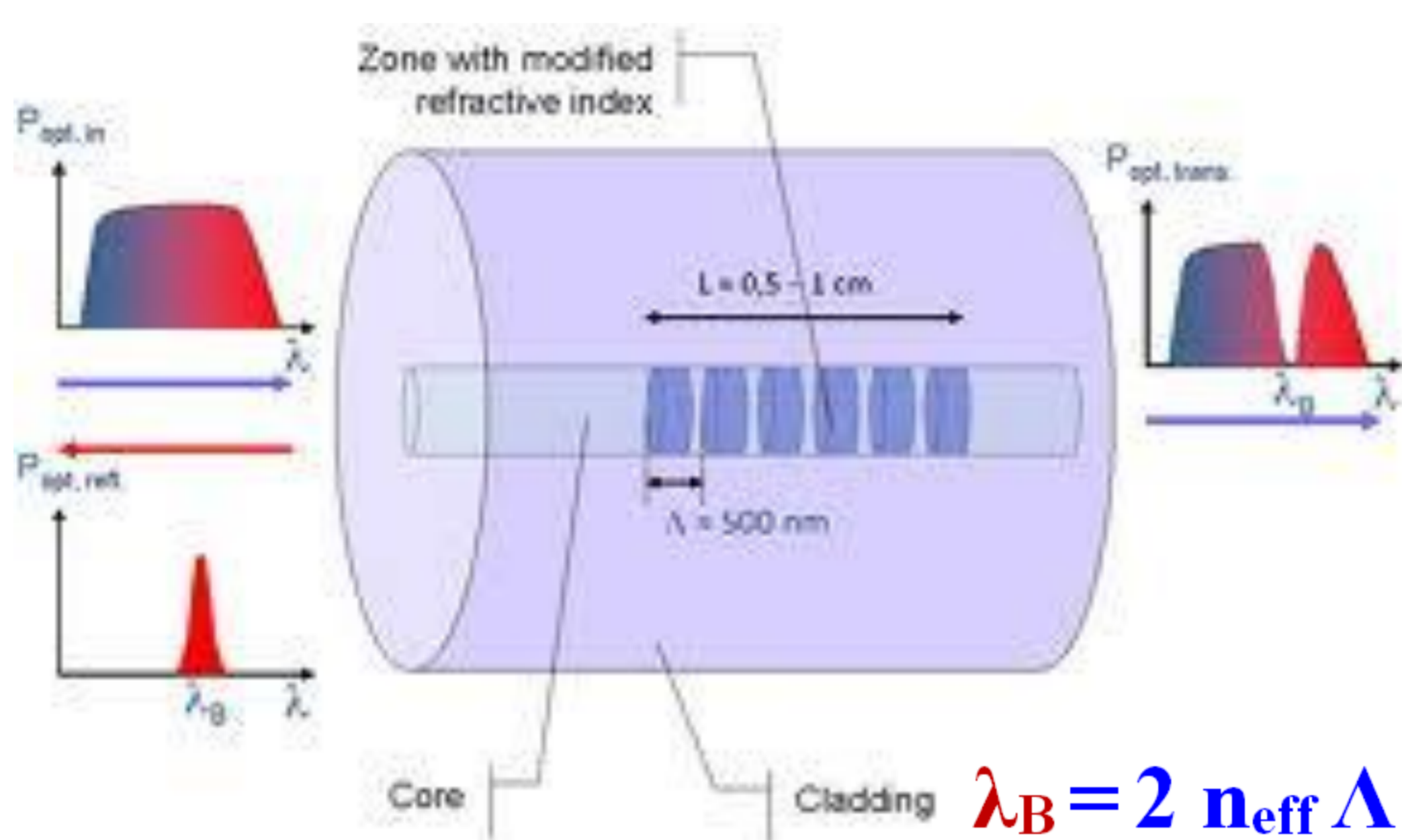
A Novel Optical Wavelength Filter

(THE FABRICATION OF THE SURFACE-RELIEF FIBER BRAGG GRATING FILTER)

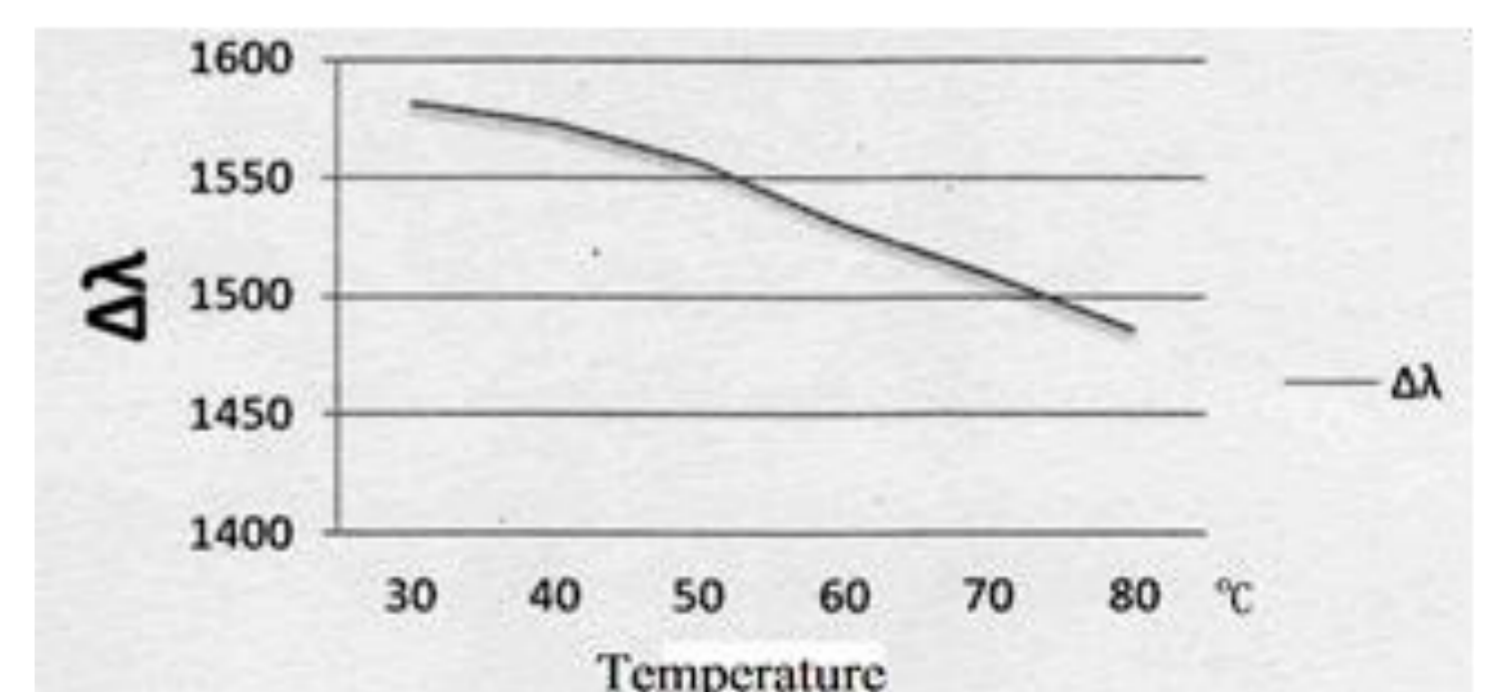
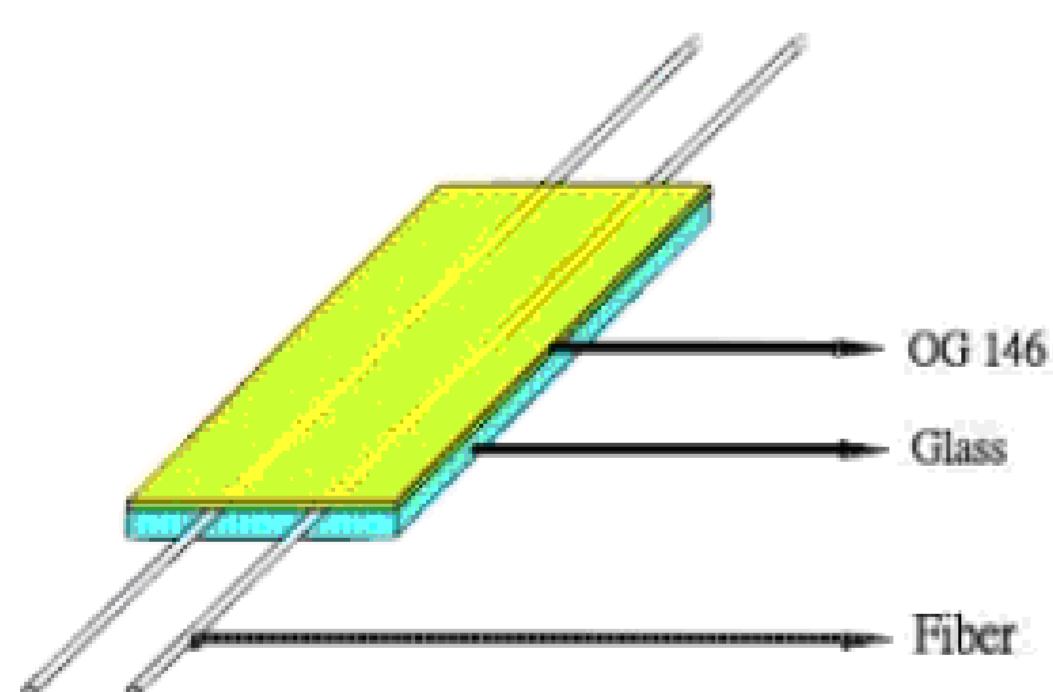
Taiwan Invention Patent, Pat. No. I390262

The invention proposed a process to rapidly replicate the optical wavelength filter with surface-relief Bragg grating by using holographic interference techniques, soft Lithography, and micro molding.

The optical wavelength filter can act as a temperature sensor which can be applied in high-energy gamma-ray irradiation, nuclear power plant environment.



- Tradition process: photosensitive optical fiber by Excimer laser
- Our Invention: surface-relief grating fabricated by MEMs
- Advantage: low cost, rapid replicate process



- Experimental results show that, there is no change of device characteristics after the high-energy gamma-ray irradiation.
- The reflected optical wavelength varies with the surrounding temperature