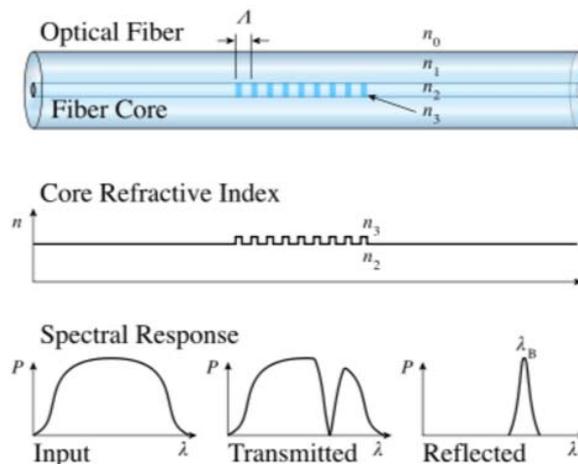


## Fiber Gratings

### Fiber Bragg Gratings (FBGs) & Long Period Gratings (LPGs)

A fibre grating is a region of fibre whose refractive index has been permanently modified by exposing to light. Such exposure, if carried out with an interferometer or phase mask, allows a periodically varying refractive index grating or pattern to be “written” into the core of optical fibre. These “in-fibre” components are spectrally selective, which allow only specific wavelengths to be reflected or rejected, and are thus suitable for performing many tasks such as filtering and reflecting, in a highly efficient, low loss manner.

We have the capability to fabricate Fibre Bragg Gratings (FBGs) and Long-Period Gratings (LPGs). An in-house designed Fibre Grating Fabrication System with sophisticated software for fabrication process control has been setup, allowing various types of fibre gratings to be fabricated including complex grating structures such as Moiré, sampled, chirped and phase shift gratings. For the first time, we have also demonstrated the possibility of directly writing gratings on an optical fibre coated with standard off-the-shelf coating, with the resulting reflectivity and index change found to be equivalent to that of a fibre grating fabricated with bare fibre.



Our FBG system can make gratings with typical characteristics:

- wavelength response is mainly in C band and L band;
- depth can be higher than 30dB;
- bandwidth is around 0.5-1 nm, depending on the depth of grating.
- simple recoating

#### Applications

- Notch filters
- Optical multiplexers and demultiplexers
- Optical circulators
- Optical add-drop multiplexers (OADM)
- Fiber Grating sensors sensitive to strain and temperature
- FBGs used as reflectors in fiber lasers to make cavities

We can also fabricate customized fiber gratings! We are also open to heavily customised gratings, like tilted gratings or chirped gratings. Just let us know your requirements and the details in the ordering information below.

#### Ordering information:

1. Wavelength
2. Grating pitch
3. Depth
4. Bandwidths and tolerances
5. Chirp
6. Simple recoating