THz Band Pass Filters

THz Band Pass Filters are designed to transmit radiation in the wavelength range 20-3000 µm. The filters are fabricated from thin metal foil with holes. Configuration of the holes depends on the required wavelength.

The filters settle the problems of quasioptical filtration of radiation in THz range. They also permit to get high degree of monochromatization while the aperture ration of device is also high. The Band Pass Filters are highly recommended when it is important to have high spectral resolution with high aperture ratio as well as small overall dimensions and weight of the device.

Applications:

- THz spectroscopy;
- Imaging;
- THz testing devices;
- Astronomy, space based astronomy, and astrophysics;
- Materials research;
- Sensors and detectors;
- Electro-optic research.

Features:

- Any pass band in the range from 0.1 to 15 THz (from 3000 to 20 µm);
- High transmittance (60-90%) in pass band;
- Low transmittance (<4%) in stop bands ;
- Available in cryostats and electro-optic assemblies;
- Damage threshold is 65-100 W/cm^2 (in the range from 0.1 to 15 THz);
- Mounted in holders.

Part Number Designation for Tydex Band Pass Filters: BPF <frequency, THz>-<aperture, mm>

Sizes and Shapes

Round filters with clear aperture/outer diameter 24/31, 35/44, and 47/60 mm and pass band 0.3, 0.5, 1.0, 3.0, 10.0, and 15.0 THz are available from stock. Alternate sizes and custom designs are available upon request.

Transmission Curves

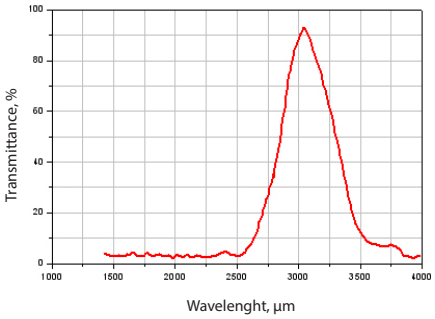

Fig.1 Transmission of BPF0.1

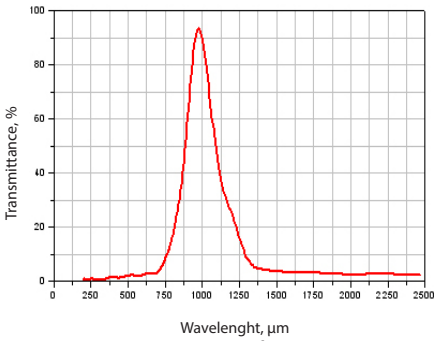

Fig.2 Transmission of BPF0.3

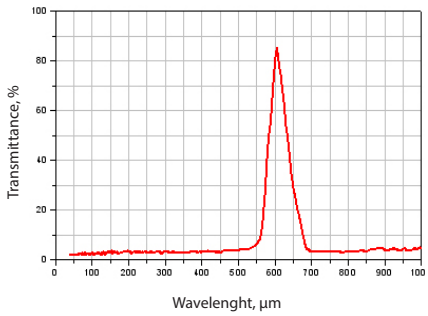

Fig.3 Transmission of BPF0.5

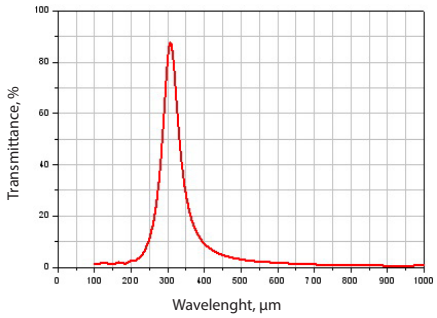

Fig.4 Transmission of BPF1.0

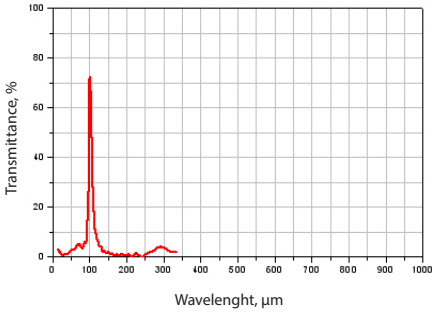

Fig.5 Transmission of BPF3.0

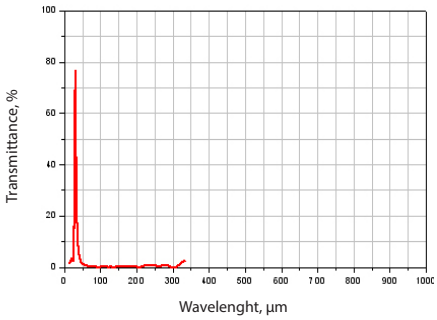

Fig.6 Transmission of BPF10.0

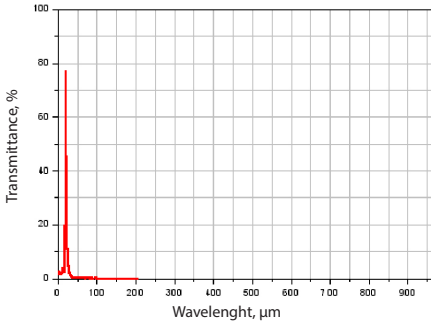

Fig.7 Transmission of BPF15.0

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