

Acousto-Optic Tunable Filters

Acousto-optic tunable filters (AOTF) are used to pick and transmit a specific wavelength from a broadband or a multiline laser source efficiently. The transmitted wavelength of the narrow passband changes as the RF driver frequency changes.

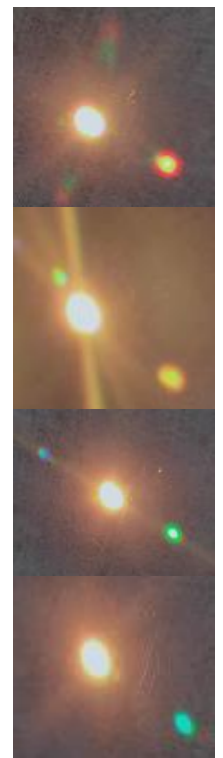
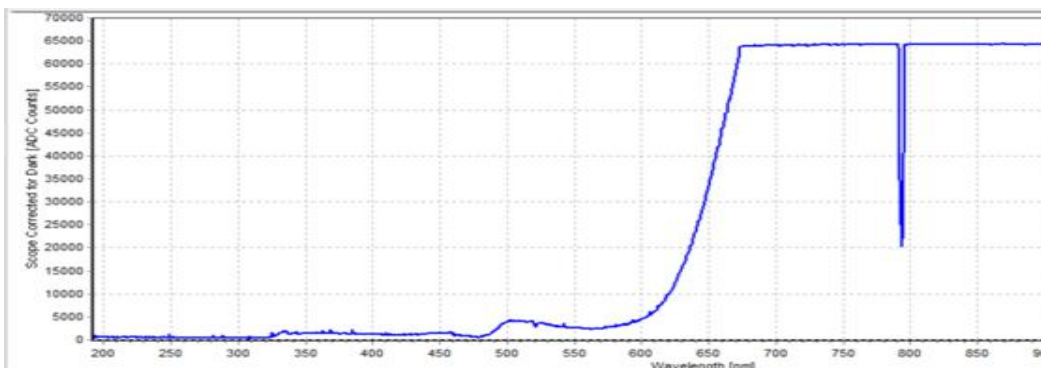
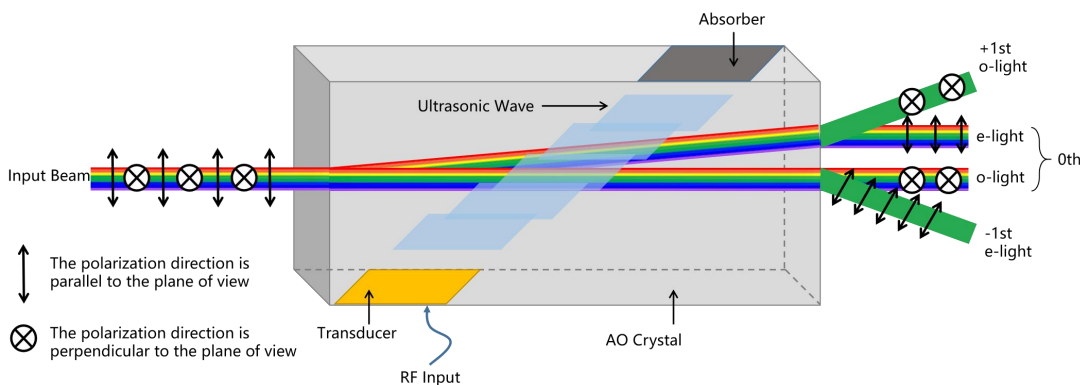
Compared with other types of filters, the primary advantage of acousto-optic tunable filters is its fast tuning speed. Wavelength tuning can be accomplished in tens of microseconds.

CATECH's acousto-optic tunable filters are fabricated using high quality TeO_2 crystals grown in-house. The products are suitable for a wide variety of wavelengths.



Applications

- Laser wavelength tuning
- Wavelength selection
- Laser-microscope
- Laser imaging
- Spectroscopy



Schematic diagram of AOTF

Acousto-Optic Tunable Filters

Acousto-Optic Tunable Filters Model Number: CATF-w-r-a-ms-f-c-h

| Wavelength (w) | Aperture (a) | Material (m) | Mode (t) | Resolution Bandwidth (f) | RF Connector (c) | Housing (h) |
|---------------------------|--|------------------------|-----------|--------------------------|---------------------------------|-------------|
| 450~650 nm 640~1100 nm | 015 (1.5 mm) 020 (2 mm) 025 (2.5 mm) | TE (TeO ₂) | S (Shear) | 10 nm | AF (SMA-F) AM (SMA-M) ... | B70 ... |

Typical Specifications

| Frequency | Wavelength | Transmission | Diffraction Efficiency | Bandwidth | VSWR |
|--------------|---------------|--------------|------------------------|-----------|---------|
| 95 ~ 180 MHz | 450 ~ 650 nm | ≥ 97% | ≥ 70% | ≤ 12 nm | < 3.5:1 |
| 48 ~ 86 MHz | 640 ~ 1100 nm | ≥ 97% | ≥ 70% | ≤ 12 nm | < 3.5:1 |

Housing dimensions(mm):

B70

