

## SureBlock<sup>®</sup>

## **Ultra Narrow-band Notch Filters**



### Features:

- Ultra narrow rejection bandwidth
- Highly repeatable performance
- Environmentally stable at high temperature and humidity
- No degradation over time, even under high • power illumination conditions

## **Applications:**

- Low Frequency /THz-Raman Spectroscopy
- Structural Studies of Nanomaterials •
- Biomedical and Solid State Laser Systems
- Wide-band Notch Filter Replacement

### 785nm Raman Filter Comparison 0.0 5.5cm<sup>-1</sup> transition -1.0 width at 50% -2.0 **Optical Density** -3.0 Ondax Notch Filter #1 -4.0 Ondax Notch Filter #2 -5.0 Semrock LP02-785RE -Estimated Notch #1 + Notch #2 -6.0 55cm<sup>-1</sup> transition -7.0 width at 50% -8.0 -20 -10 0 10 20 30 40 50 60 70 80 90 100 Raman Shift (cm<sup>-1</sup>)

### High Transmission on Both Sides of Notch Wavelength



### Ondax SureBlock<sup>™</sup> vs. Semrock RazorEdge

70%

Standard: 9 mm in 1" mount, Custom sizes available

80%

90%

Available at standard Raman wavelengths: 488, 514, 532, 633, 78Xnm. Custom wavelengths are available on demand. **Specifications:** Parameter 488nm 514nm 532nm 633nm 78Xnm Spectral Transition Width <10cm<sup>-1</sup> <10cm<sup>-1</sup> <10cm<sup>-1</sup> <10cm<sup>-1</sup> <10cm<sup>-1</sup> (center to 50% transmission) Optical Density at Laser Line (each filter) >4 >4 >4 >4 >4

65%

60%

Ondax's SureBlock<sup>™</sup> ultra narrow-band notch filters are the ideal

solution for highly selective wavelength applications like low frequency/THz-Raman spectroscopy. With laser line attenuation greater than 99.99% (optical density: OD 4) and spectral transition width of <10 cm<sup>-1</sup>, SureBlock<sup>™</sup> filters can dramatically improve the ability of any Raman system to resolve low frequency Raman scattering. High transmittance on both sides of the notch enables both Stokes and anti-Stokes Raman spectra to be observed simulta-

Free Space Aperture Diameter

Typical Transmission Efficiency (each filter)

neously.

Ultra Narrow Notch Transition to 50% Transmission

## www.ondax.com

# SureBlock<sup>™</sup> Ultra Narrow-band Notch Filters

## Ultra-Low Frequency Raman Spectroscopy

Combine Ondax's NoiseBlock<sup>™</sup> ASE Suppressor and two SureBlock<sup>™</sup> Notch Filters or replace your existing large bandwidth filters to create a compact, ultra-low frequency Raman spectrocopy system.



Ondax SureBlock<sup>™</sup> Notch filters are reflective volume holographic gratings (VHGs), produced in a proprietary glass designed for long lifetime, high efficiency and excellent transmission. Ondax's fabrication process is highly stabilized to ensure excellent part-to-part repeatability.

### **Captured Raman Spectra**

Sulfur spectra (below) clearly showing both Stokes and anti-Stokes shifts with strong suppression of amplified spontaneous emission (ASE) noise near the excitation wavelength.



## Superior low-frequency Raman scattering can also be observed. Sharp, identifiable spectra near $10 \text{ cm}^{-1}$ are visible in a measurement of L-Cystine (below).





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