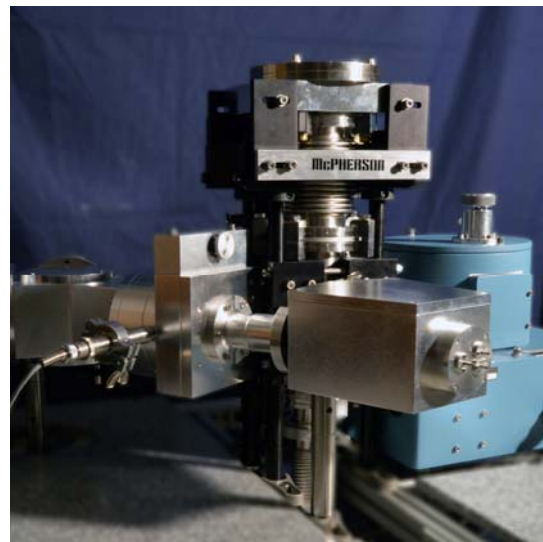


## CCD-Vacuum UV Absorbance Spectrophotometer

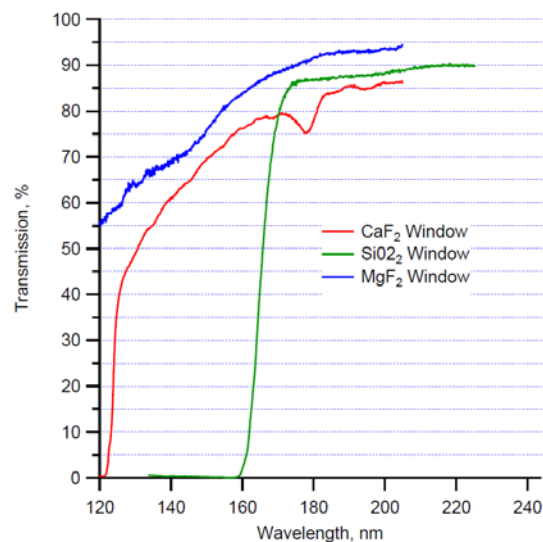
The McPherson CCD-based Vacuum Absorption Spectrometer is a unique research instrument specifically for measurement of optical linear absorption spectra of samples held in an Advanced Research Systems (ARS) Conflat™-interface closed cycle cryostat or other sample holder built to identical dimensions. It is designed to operate at atmospheric pressure (air or inert gas purge) or under high  $10^{-6}$  torr vacuum, as sample and wavelength requires. Expected use of the system is under vacuum.

The McPherson CCD-based Vacuum Absorption Spectrometer works over a wavelength range of 120 to 1000nm, through the use of two light sources (deuterium lamp and tungsten incandescent lamp) and two diffraction gratings (1200 l/mm short wavelength grating and 600 l/mm long-wavelength grating). All reflective optics eliminates chromatic aberration or the need for refocusing over the wide wavelength range. Light passing through the sample is dispersed by a McPherson 234/302 spectrometer and measured with a CCD, allowing fast acquisition over a wide wavelength range with high spectral and temporal resolution.

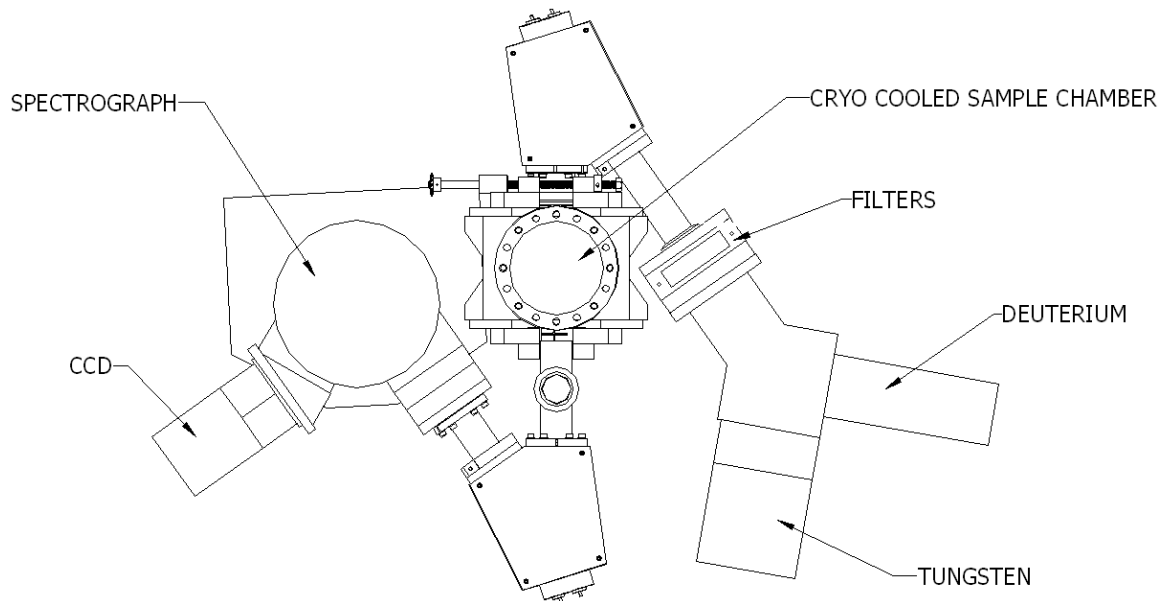


### Specifications

Wavelength Range	120 to 1000 nm
Resolution	0.2 to 5 nm
Slit Width	0.01 to 1 mm (w precision micrometer)
Sample Holder	1X cryogenic, 3X ambient temp
Vacuum	10E-6 torr
Light Sources	Deuterium and Tungsten
Detector	Back illuminated TE-cooled CCD



## General Layout



## Polarization and Birefringent Samples

Images of transmission measurements from a MgF2 window showing polarization induced effects of sample rotation  $\pm 45^\circ$  from the empirically determined position of minimum oscillations

