

GENERAL DESCRIPTION

The Model 608 Prism Predisperser is a small prism monochromator that may be used with many McPherson UV-Vis-IR scanning monochromators. Throughout its range (185 to 2600-nm), it eliminates multiple order effects and reduces stray light by narrowing the bandwidth of broad sources used for monochromator illumination.



The predisperser employs a 500-micron fixed width entrance slit, a fused silica prism, a 6-inch focal length collimating and focusing mirror and diverting mirrors.

The Model 608 Prism Predisperser mounts directly to the entrance slit assembly. Efficient optical coupling between the predisperser and the monochromator is achieved by using the entrance slit of the monochromator as the exit slit of the predisperser. The predisperser is scanned through the wavelength range by a precision cam that provides linear wavelength change with a uniform rotation drive shaft. Using the optional connecting shaft, the drive can be coupled directly to the monochromator wavelength drive for synchronized scanning throughout the wavelength range of the predisperser.

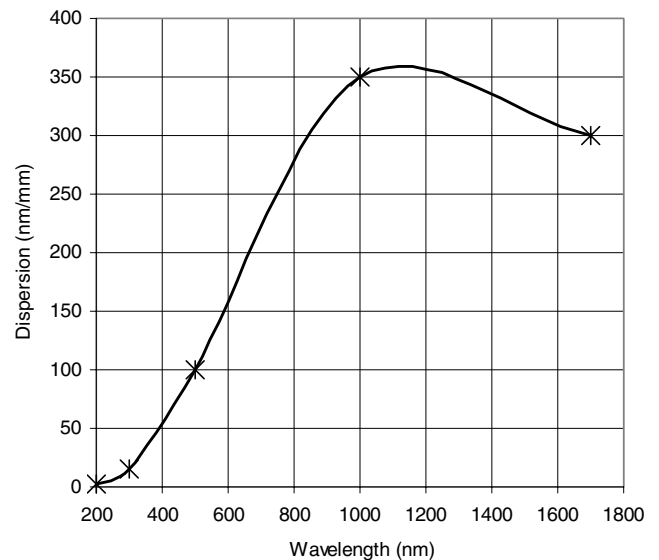
A wavelength counter that indicates wavelength in nanometers is supplied with the Model 608.

It is easy to make your single monochromator a double!

The Model 608 prism predisperser fits directly to McPherson Models 218, 2051, 207, 2061, 209 and 2062. Simply bolt the Model 608 on and couple to the primary monochromator drive system. At the users preference an independent drive system can be used.

This easy to install system provides double monochromator stray light rejection in a manner adaptable to existing instruments.

The variation of Dispersion due to Refractive Index across the working range of the Prism Predisperser



GENERAL DESCRIPTION

The Model 303 Prism Spectrometer is a 250-mm focal length Czerny-Turner. It uses a prism in Littrow configuration for refraction. This geometry delivers an $f/3.5$ aperture ratio system with excellent throughput. Prism instruments do not have multiple diffracted orders like gratings and are capable of providing extremely low dispersions. This unit may be used with slits and a scanning motor as a conventional scanning monochromator (as predisperser, etc.) or with a wide exit focal plane array like CCD in the Visible or bolometer array in the Infrared.

Throughput and Dispersion of this system vary with the index of refraction of the material selected for the prism. Typical prism materials include SiO₂, ZnSe, NaCl and occasionally KRS-5. Use of different prism materials enables operation in a very wide wavelength range. Prism material and wedge angle are generally selected to meet the Dispersion requirement in the wavelength region of interest.

Since the refractive index of materials vary with wavelength the Prism Spectrometer does not have a linear wavelength readout. We provide these instruments with a calibrated look up table based on actual and instrument specific data, not theoretical calculations. The look up table can be applied to software used for scanning or for wavelength axis calibration of focal plane arrays.



Model 303
Prism Spectrometer

APPLICATIONS

- a tunable sharp cut filter in UV Raman applications
- Vis-NIR wide range spectrograph with no multiple orders
- MWIR or LWIR spectrograph with no multiple orders and low dispersion for wide wavelength coverage.

The variation of Dispersion due to Refractive Index of two prism materials commonly used in the Model 303

