BASICS ABOUT PHOENIX

Telescope:	KPNO 4 m, 2.1 m
Wavelength range:	1 to 5 microns
Wavelength coverage:	0.51 percent = 1500 km s^{-1}
Limiting magnitude:	~10 at K and H at S/N~10 in 1 hour on the 2.1 m. (Also see Exposure Time Calculator.)
Throughput:	~9 percent (excluding telescope and slit losses)
Slit loss:	Geometric with plate scale and seeing
Slit width:	2 pixel = 0.34", 4 pixel = 0.70" at 4 m 2 pixel = 0.7", 4 pixel = 1.4" at 2.1 m
Slits available:	2, 3, 4 pixel, no slit (i.e. open), 2 pixel pin hole
Slit length:	28" at 4m, 54" at 2.1 m
Resolution:	2 pixel ~ 75000, 4 pixel = 50000
Inverse Linear Dispersion:	wavenumbers per pixel = wavenumber /[1.11 x 10^5 tan (grating angle)]
Flexure:	~1 km s^{-1} per hour at high airmass on an equatorial telescope.
Blaze angle/grating:	63.4 degree, 31 groove per mm echelle.
Order separation:	Order sorting filters (table and specifications)
Cross dispersed:	No
Scattered light:	~2 percent in cores of opaque telluric lines

Detector Array:	Aladdin II InSb 1024 x 1024, 1024 x 256 used. 27 micron pixels
ADU per electron:	9.2 e^-
Dark current:	0.15 e^-/second
Read noise:	40 e^-
Computer control:	Wildfire
Data format:	FITS
Acquisition:	IR imaging mode with circular FOV equal slit length through order sorting filter
Guiding:	Visible/IR dichroic
Instrument scientist:	Ken Hinkle (hinkle@noao.edu; 520-318-8298)

National Optical Astronomy Observatories, 950 N. Cherry Avenue, P.O. Box 26732, Tucson, AZ 85726, Phone: (520) 318-8000, Fax: (520) 318-8360

Updated: 2012 Feb