MIKE

MAGELLAN INAMORI KYOCERA ECHELLE
HIGH RESOLUTION ECHELLE SPECTROGRAPH

MIKE is the double arm high-resolution optical spectrograph installed on Magellan Clay telescope in Nasmyth East port. The two arms (Blue and Red) can be used either simultaneously or separately. The spectrograph delivers full wavelength coverage from about 3350-5000 (blue) and 4900-9500A (red) in its standard configuration. Several different slit widths are available.

BASIC PARAMETERS

Camera	Pixel scale, ("/pix)	Spectral Resolution, (0.35" slit)	Wavelength,Range, (Angstroms)	Peak efficiency, (%)
Blue arm	**0.12**	83000	3350-5000	18
Red arm	**0.13**	65000	4900-9500	13

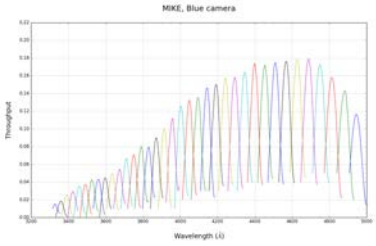
SLIT SELECTION

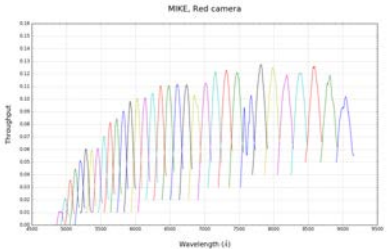
MIKE has 22 available slits (both single slits and pairs of slits)

Single slits					
0.35	0.5	0.7	1.0	1.5	2.0

Slit pairs					
0.35x0.35	1.0 x 0.35	1.00 x 0.50	1.00 x 0.70	1.00 x 1.00	1.50 x 0.35
1.50 x 0.50	1.50 x 0.70	1.50 x 1.00	1.50 x 1.50	2.00 x 0.35	2.00 x 0.50
2.00 x 0.70	2.00 x 1.00	2.00 x 1.50	2.00 x 2.00		

SPECTROSCOPIC PERFORMANCE





ATMOSPHERIC DISPERSION

MIKE is used in a gravity invariant mode, since it is mounted on the Nasmyth East platform and does not rotate with the instrument rotator. The slit orientation on the sky cannot be changed. The figure on the right shows the atmospheric dispersion (3500-9000A) across and along the slit as a function of zenith angle for MIKE in its standard position (tilted by 30 degrees) .

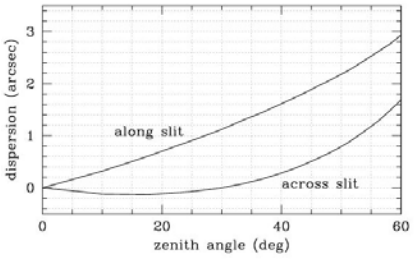
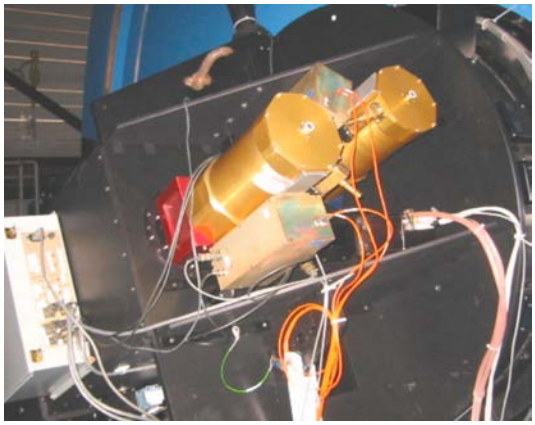


Fig. 3 Atmospheric dispersion

DATA REDUCTION

MIKE has a dedicated data reduction pipeline (within the context of CarPy distribution) developed at Carnegie Observatories. It allows to perform fully automatic data reduction and spectral extraction.

For more information: http://www.lco.cl/telescopes-information/magellan/instruments/mike



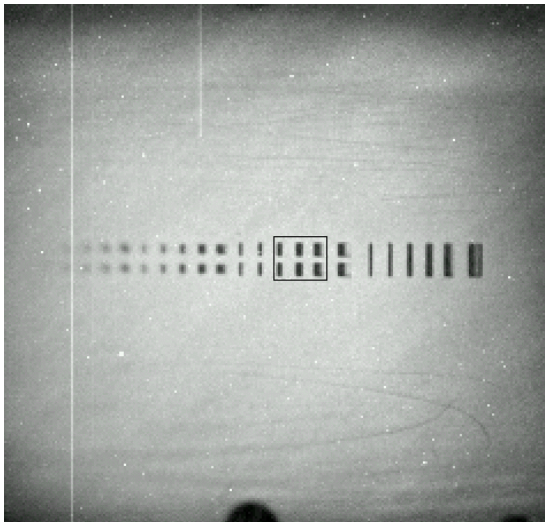


Fig.1 MIKE slit viewer

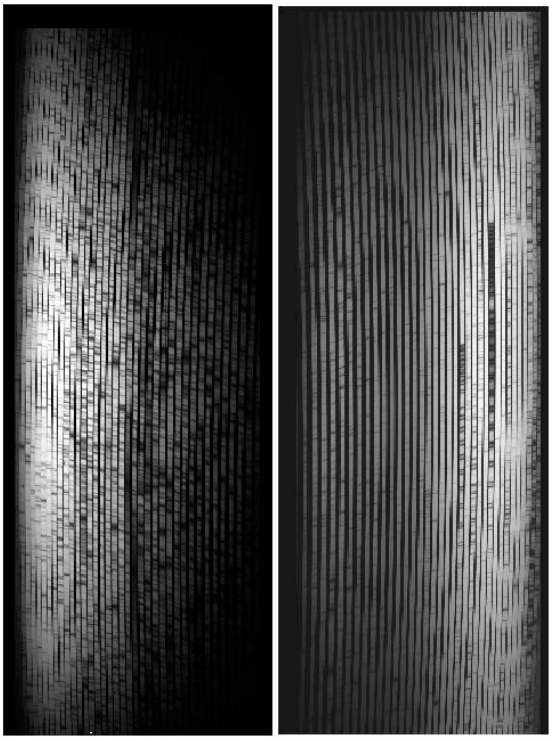


Fig.2 2D-images from the Blue camera (left) and the Red one (right)