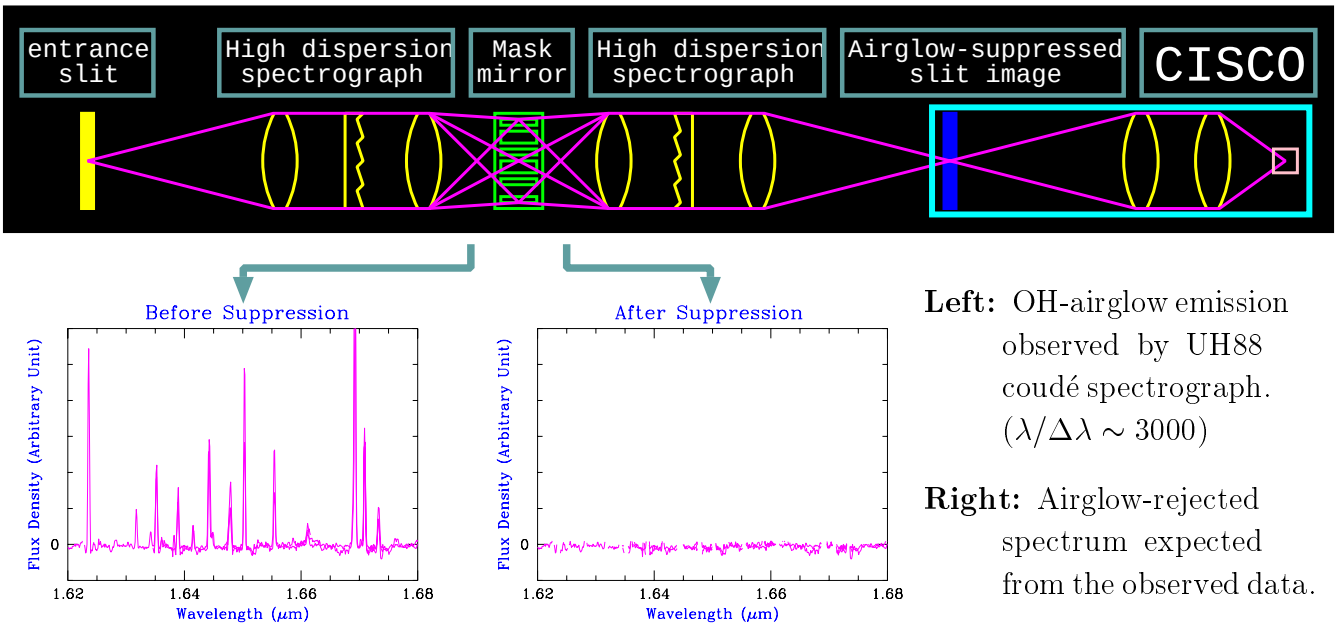
OH-airglow Suppressor (OHS)

● Principle

OHS is a pre-optics system capable of eliminating more than 150 lines of the brightest OH airglow emission lines between 1 and 2 μm, which is installed on the Nasmyth platform. Spectroscopic observations under the reduced background condition by a factor of 30 or more will be made with a separate back-end spectrograph/camera called CISCO, which is also used at the Cassegrain focus.



Left: OH-airglow emission observed by UH88 coudé spectrograph. ($\lambda/\Delta\lambda \sim 3000$)

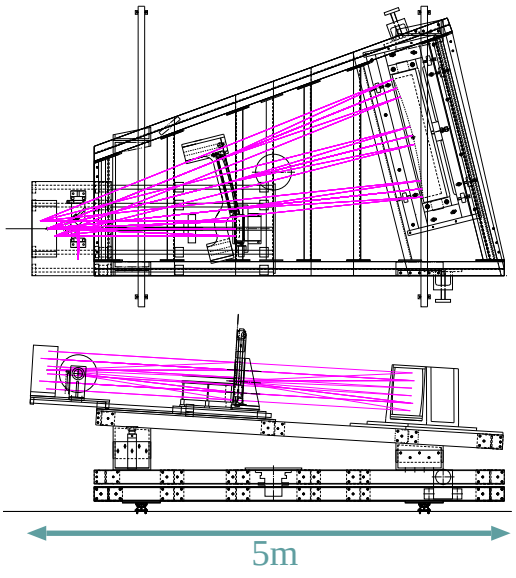
Right: Airglow-rejected spectrum expected from the observed data.

● Specifications and Expected Performance

The expected sensitivity gain is 1.5 mag at H-band calculated from the suppression factor of 30 and the throughput of 0.5.

	CISCO only	OHS+CISCO
Field of View	$2' \times 2'$	$20'' \times 20''$(suppressed area: $1'' \times 20''$)
Pixel scale	$0''.12$/pix	$0''.12$/pix
Resolving Power ($1''$slit)	zJ: 300, JH: 280, K: 400	zJ: 300, JH: 280 (on the mask: 5500)
Limiting Mag. (H-band)	22.7mag (imaging)	24.2mag (slit imaging)
(1h, $0''.6\phi$, S/N=10)	20.5mag (spectroscopy)	22.0mag (spectroscopy)

OHS



CISCO (Cooled Infrared Spectrograph and Camera for OHS)

The construction of CISCO is near completion, and becomes almost ready for test observations using the IR Simulator Telescope of NAO-J at Mitaka. It is scheduled to ship to Hilo in April 1998.

The fabrication OHS itself will be started by three months. The first light of OHS is scheduled in the summer of 1999.