
# SOAR Integral Field Unit Spectrograph

IAG/USP

LNA LABORATÓRIO NACIONAL DE ASTROFÍSICA

FAPESP

# SIFS Spectrograph

The motivation of the instrument is to best exploit SOAR's excellent angular resolution in cases where complex extended objects or objects in crowded fields are studied and also for stellar spectroscopy without vignetting the seeing disk in non-optimal seeing conditions.

Main specs:

- 1300 fibers IFU (26 x 50 microlens array, 1mm pitch)
- Two plate scales (prepared to install a third one to be used with SAM)

  0.15"/pixel (with tip-tilt), field 3.9x7.5"
  0.3"/pixel, field 7.8x15"
- Fiber bundle: 14m length - "blue" fibers (50µm core)

Bench spectrograph

VPH gratings:

700 grooves/mm

1500 grooves/mm

2200 grooves/mm

2600 grooves/mm

3000 grooves/mm

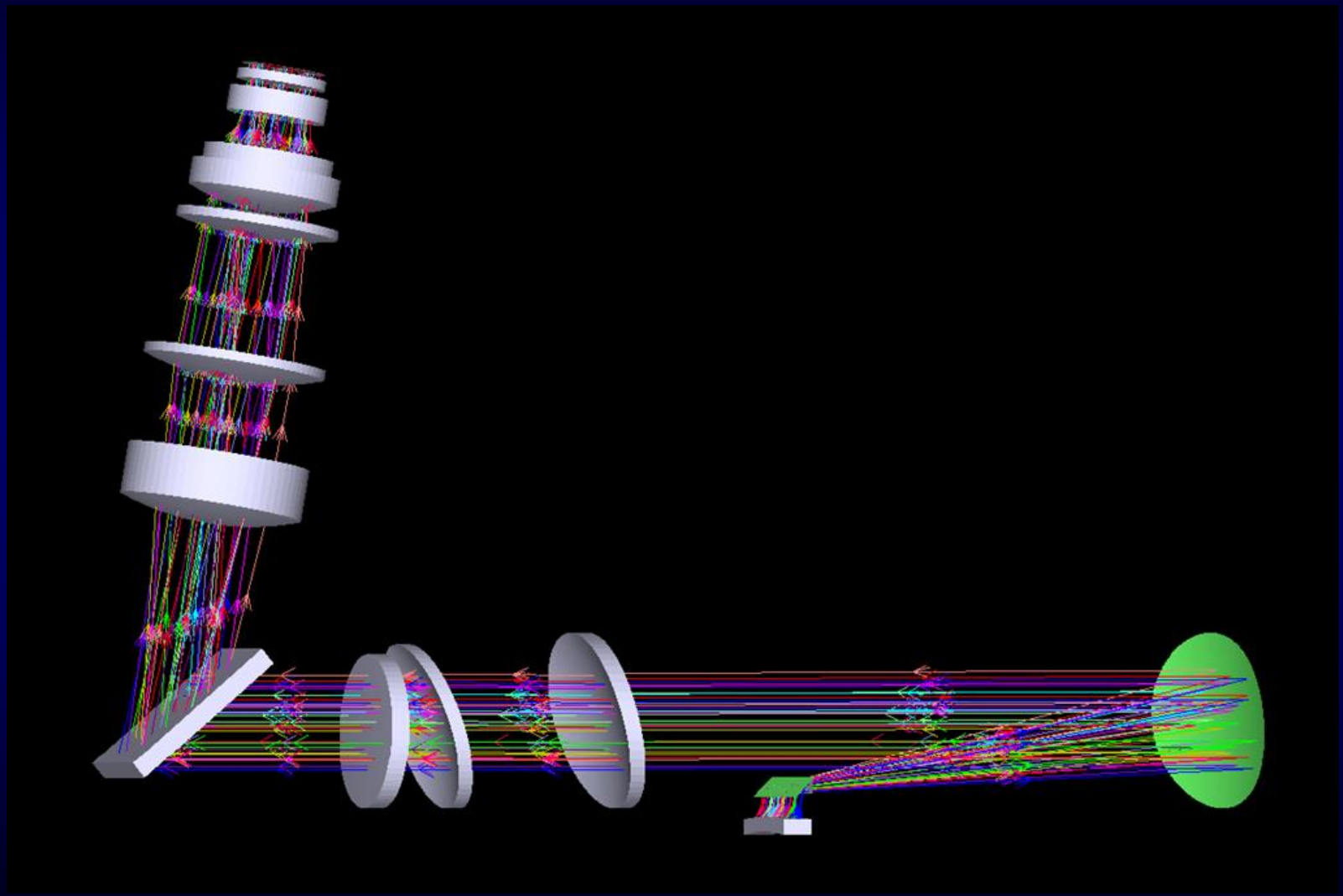
R~3700 – 25000 (2 pixels)

Detectors:

Two 2k x 4k E2V CCD or

One 4k x 4k E2V CCD

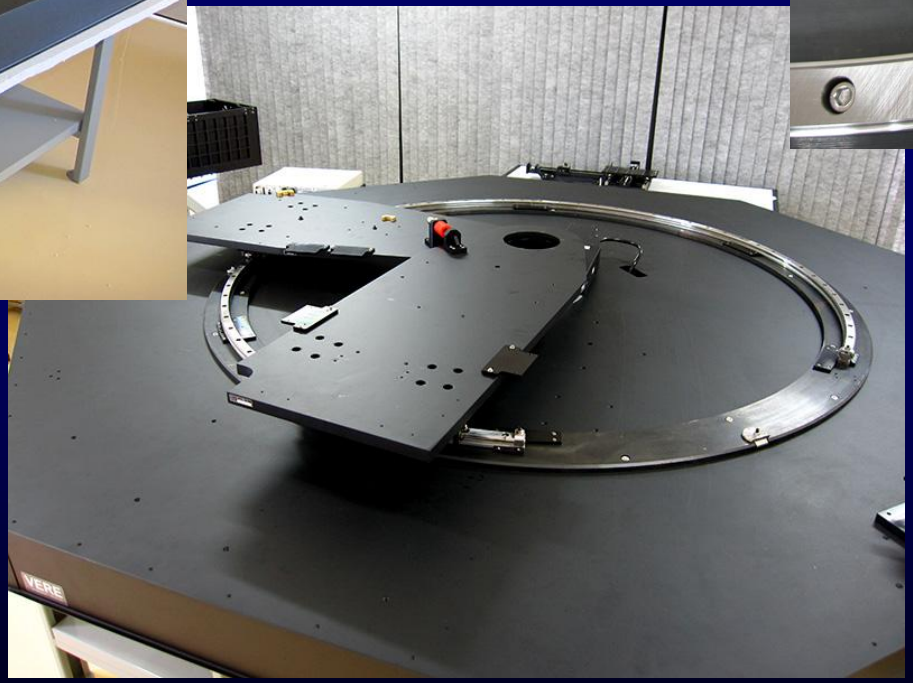
# Optical Layout



# Integration and tests

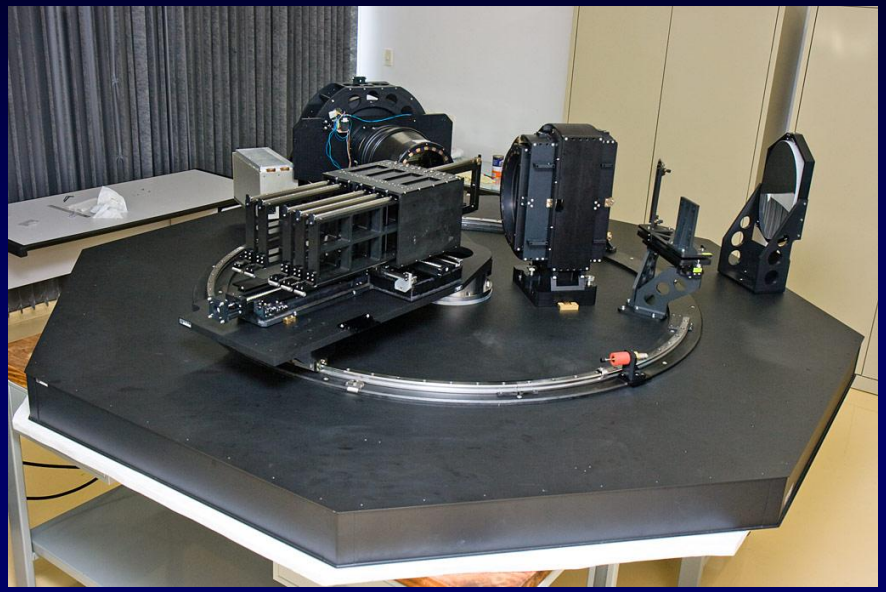
2009B

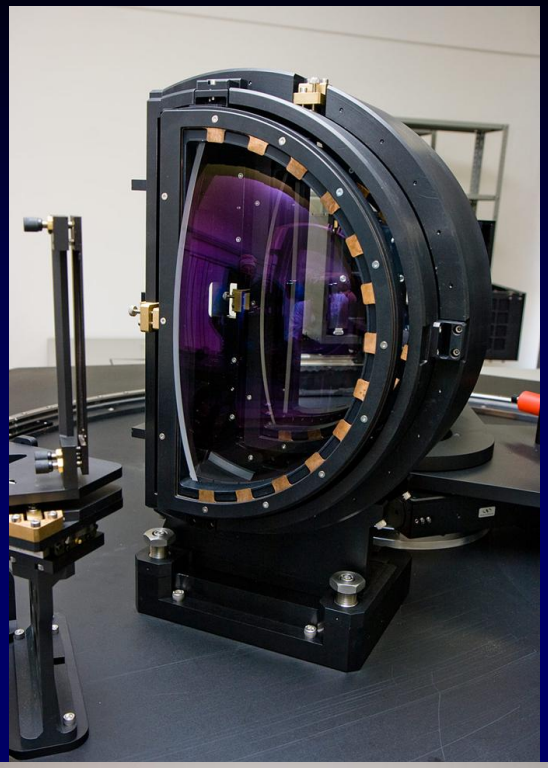
# Integration and tests

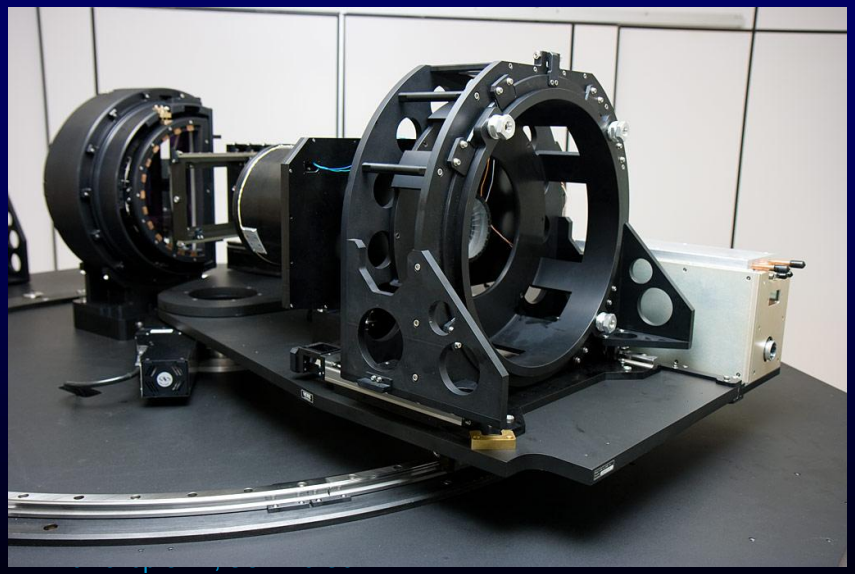


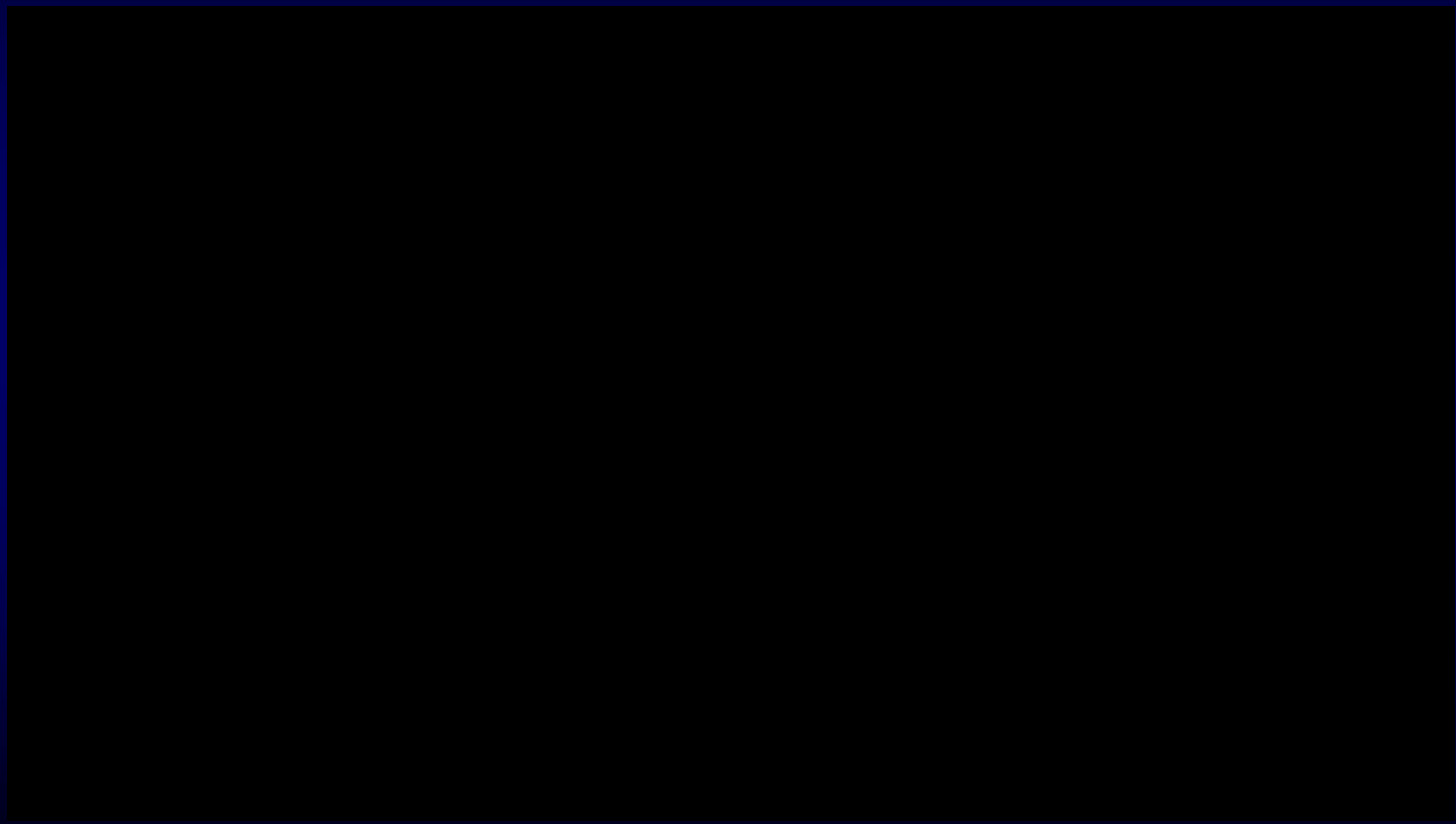
# Integration and tests

# Integration and tests



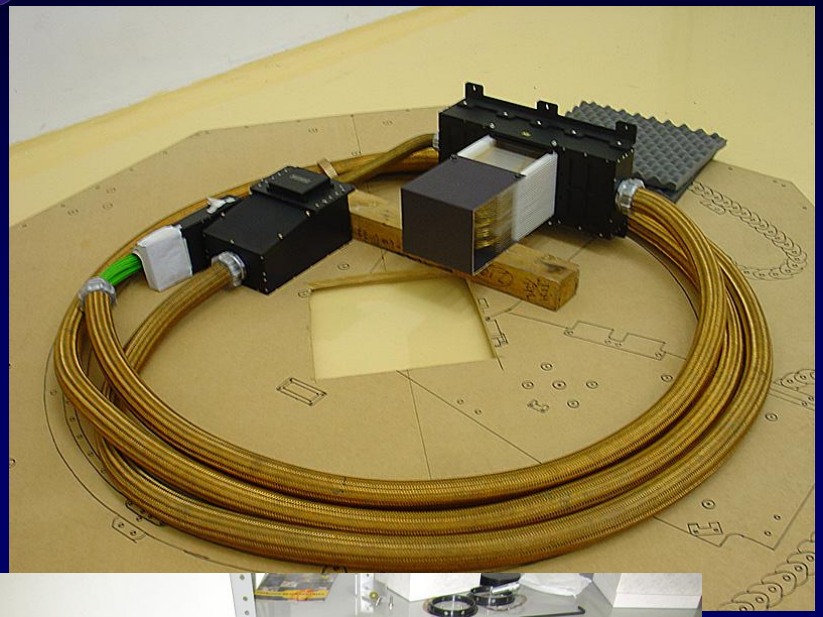


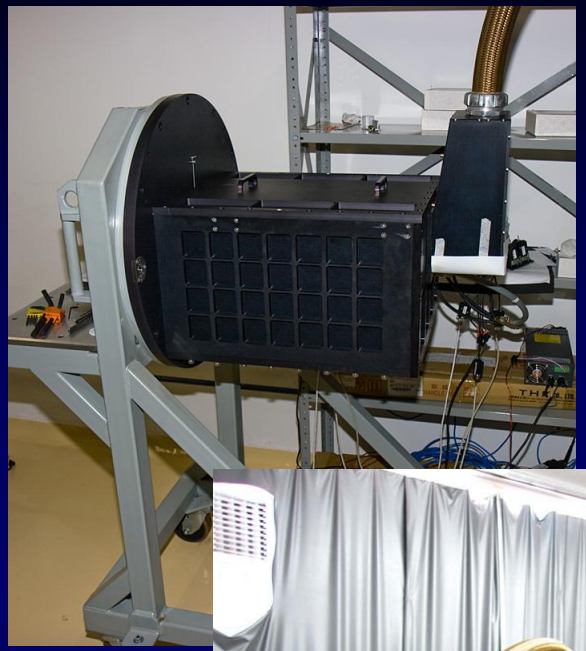


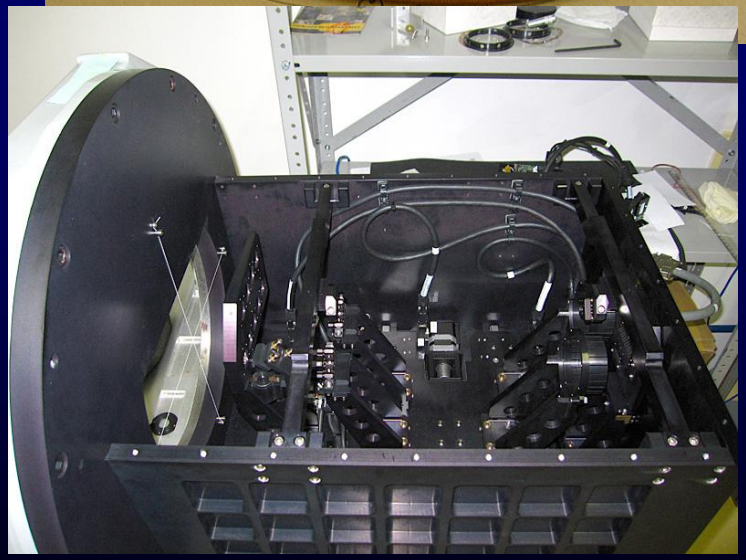


# Integration and tests


# Integration and tests







# December 2009



# Comissioning

## 12/2009 - 2010

- **December:**
  **Spectrograph re-assembled in SOAR and installed on the telescope structure. Optical pre-alignement.**
- **January:**
  **Spectrograph optics aligned. Fiber cable installed.**
- **February:**
  **Fore optics electronics cables checked and fixed.**
- **March:**
  **Optical alignement re-checked. Brazilian people aborted trip to Chile because of earthquake.**
- **Abril:**
  **Fore optics alignement. Mask alignement. First light through telescope.**
- **2010B: shared risk science observations ??**

# Comissioning