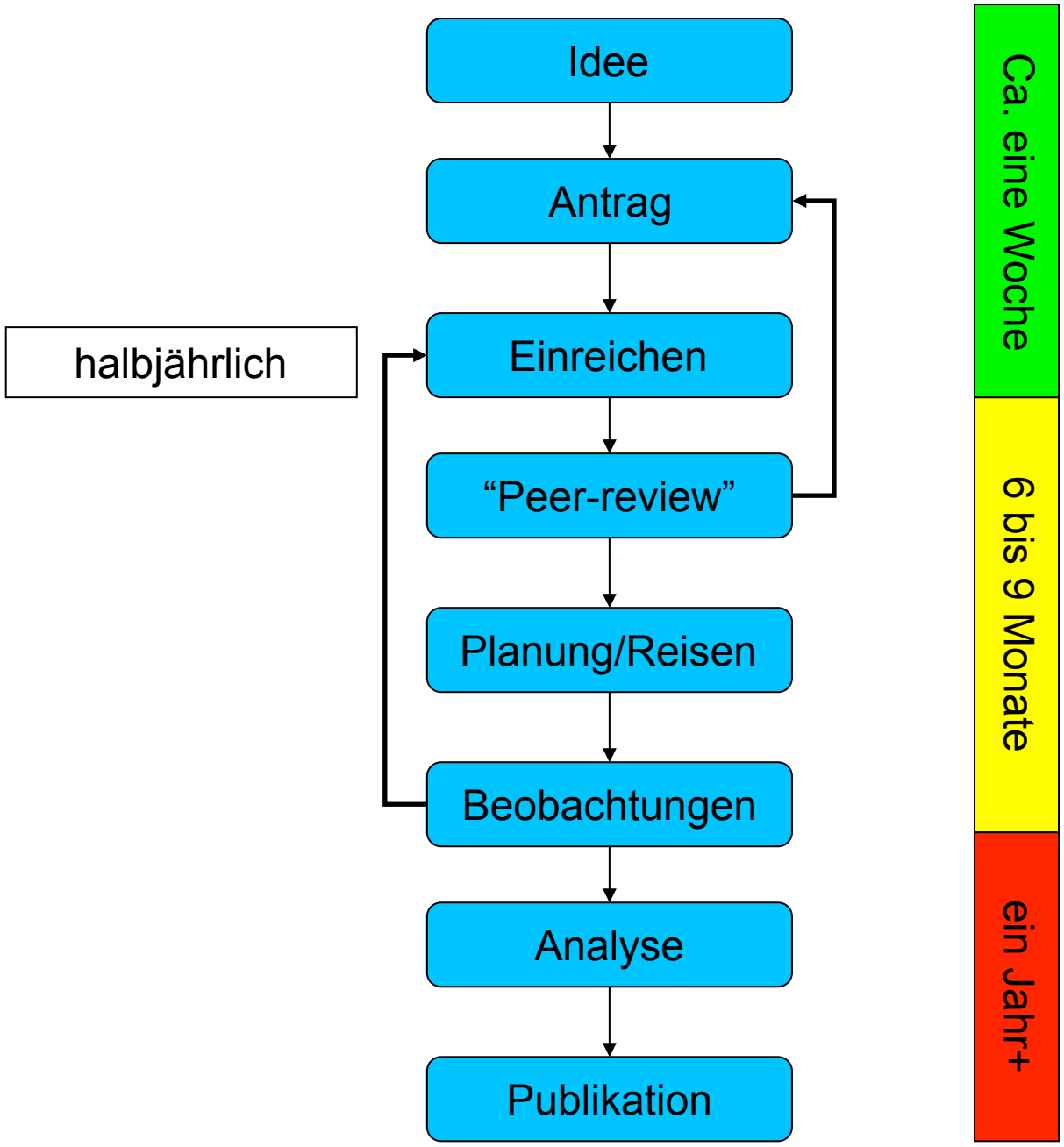
Beobachtungen mit dem ESO/VLT

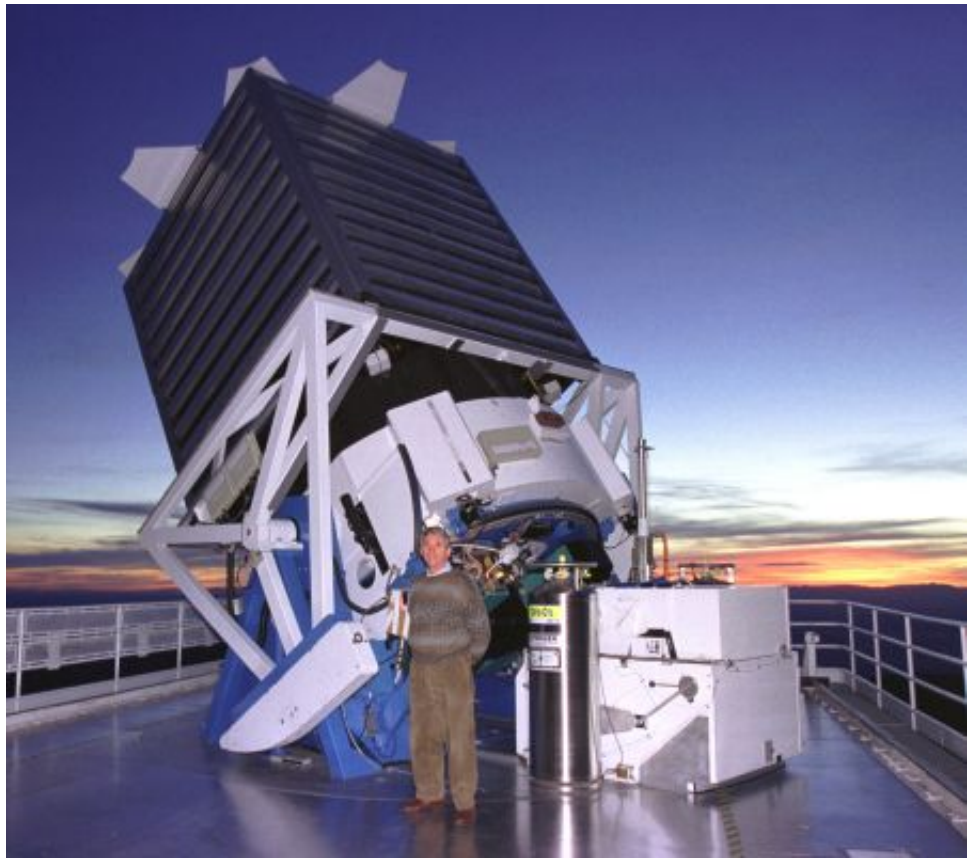
Bilder: www.eso.org/public/images

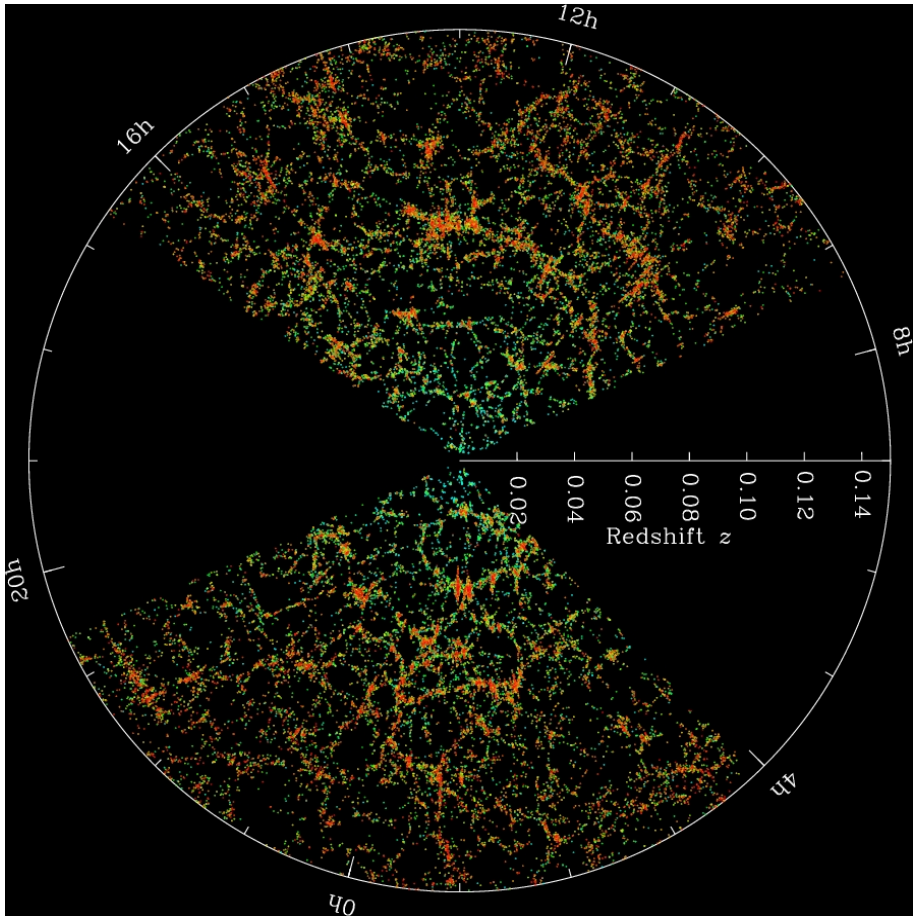
Typischer Ablauf (time-line)



Sloan Digital Sky Survey

www.sdss.org/

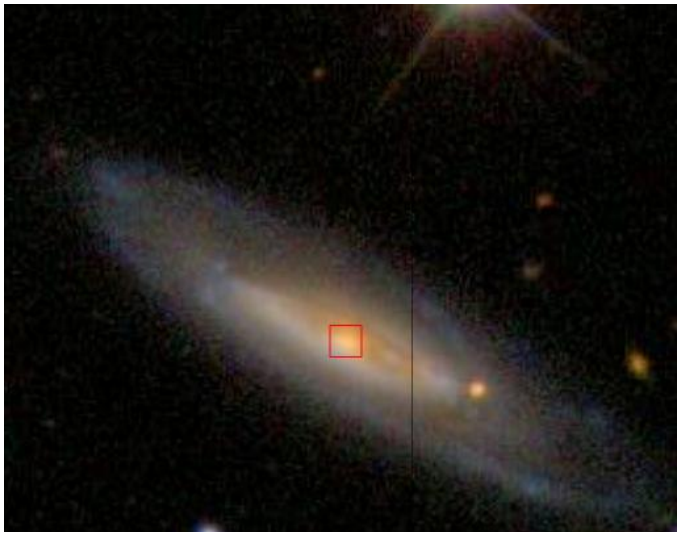


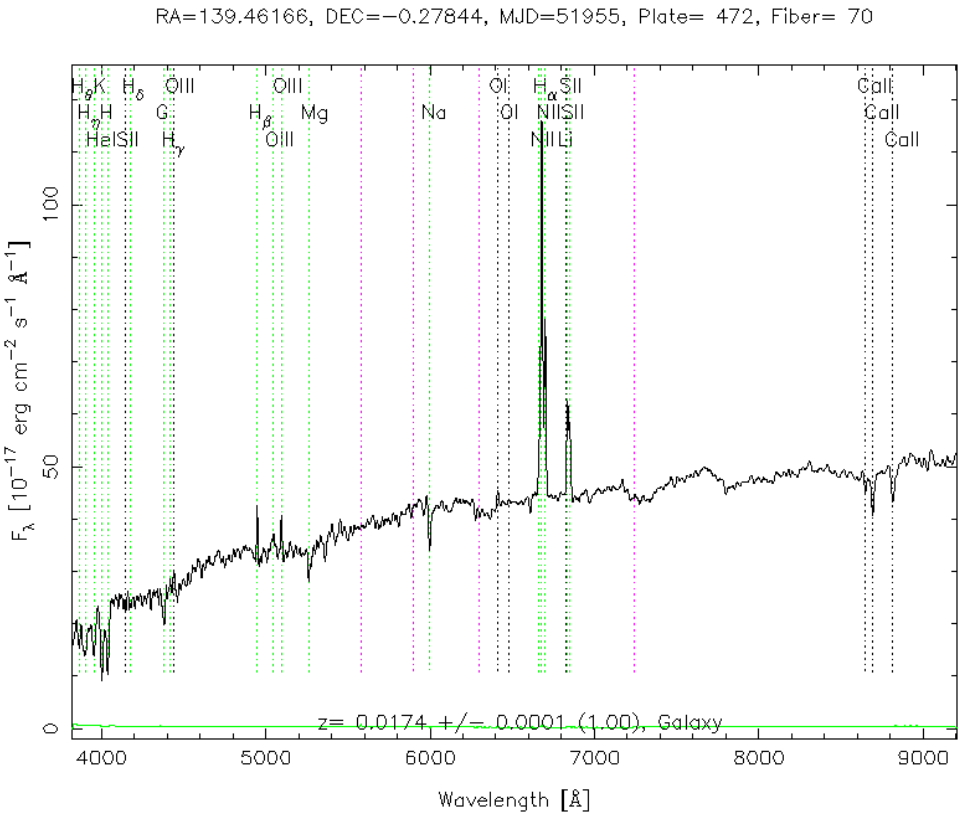


SDSS: Galaxien

www.galaxyzoo.org/

“Hanny’s voorwerp”



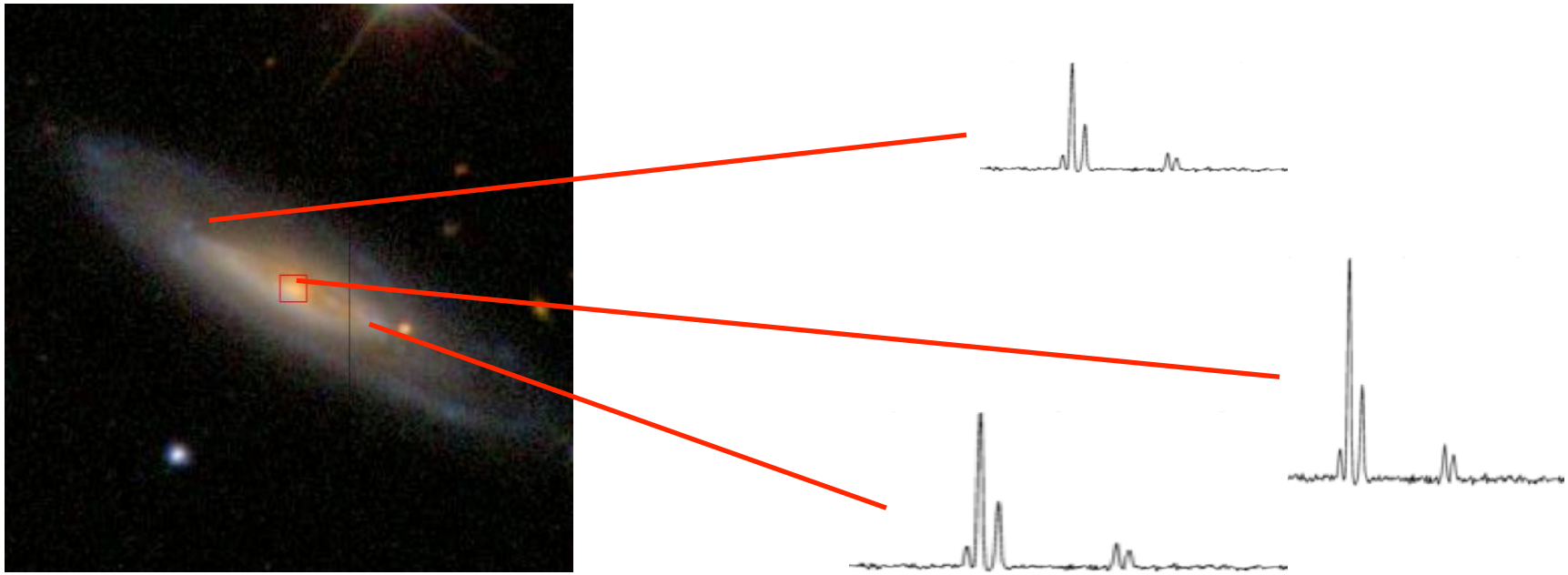


- Nur ein Spektrum pro Galaxie

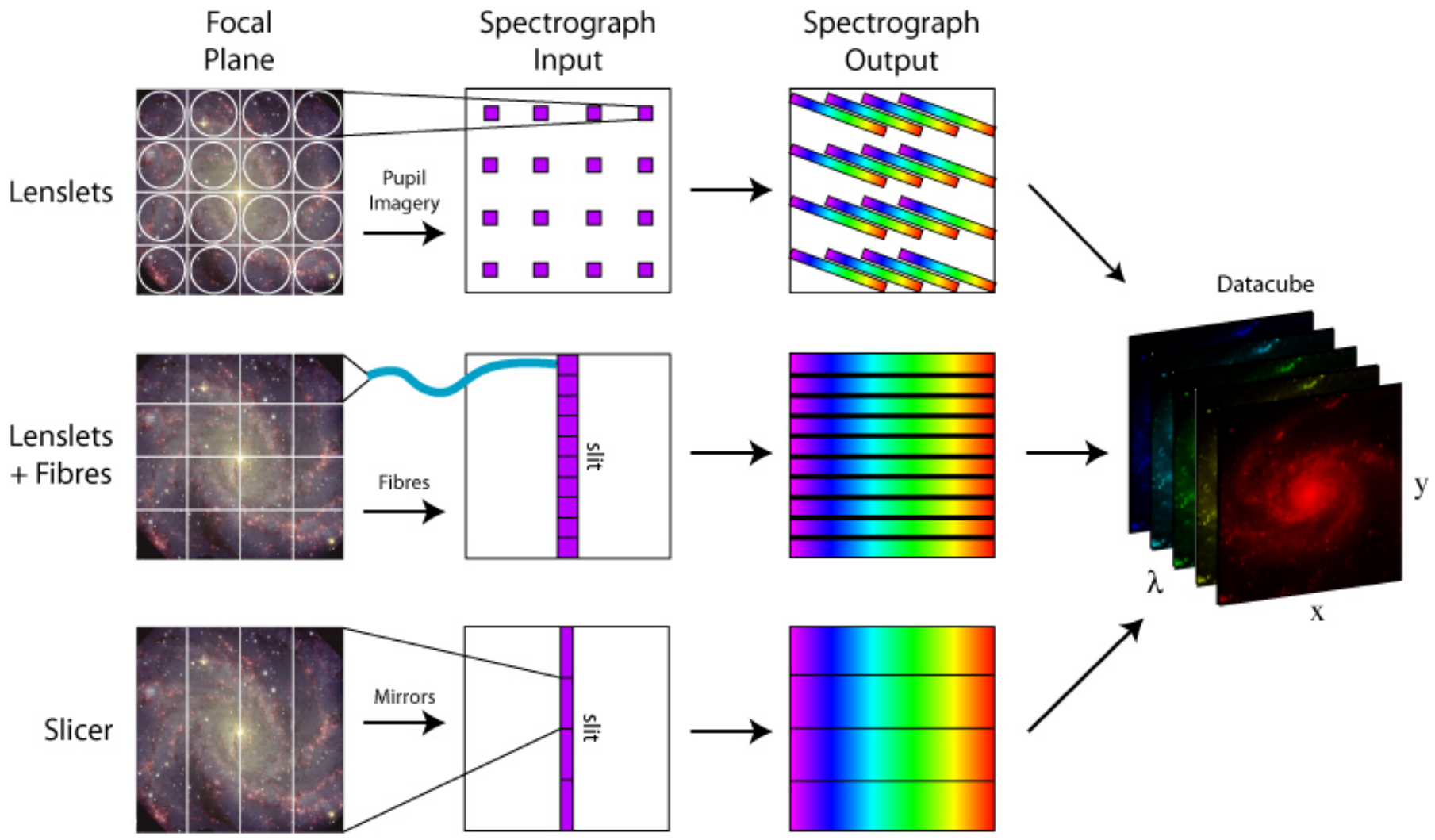
Idee

- Nur ein Spektrum pro Galaxie in SDSS.
- Damit wird die ganze Galaxie bestimmt.
- Unsere Idee ist es aber, die Galaxien mit Hilfe von ***IFS*** (1600 Spektren) zu beobachten

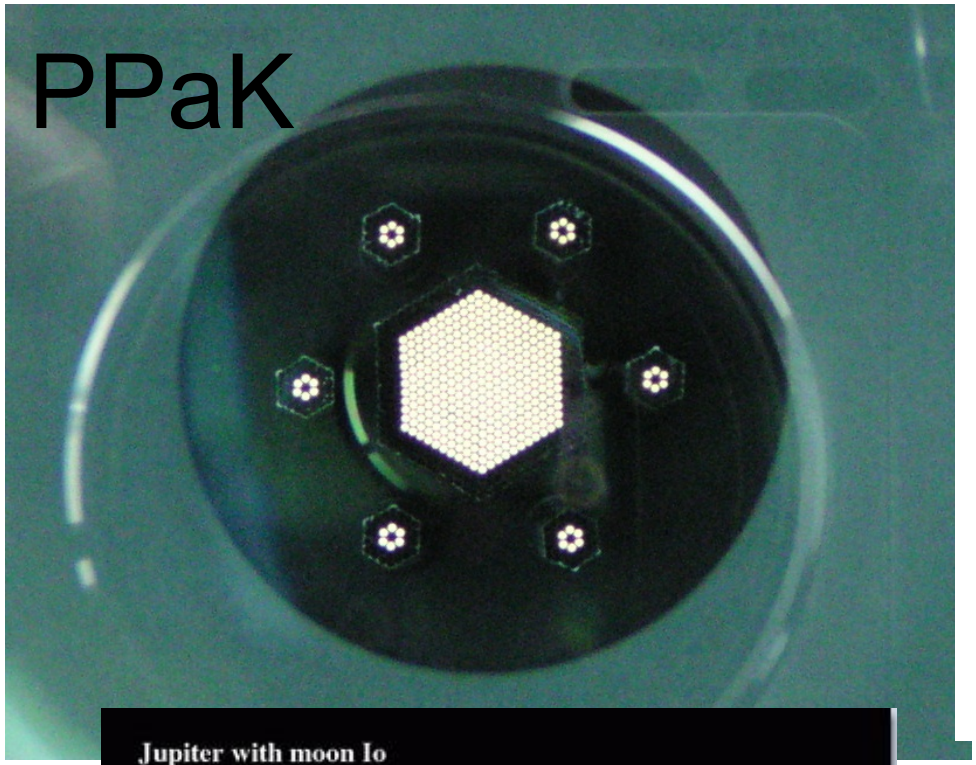
  ⇒ d.h. man bekommt Spektren für jeden Punkt in einer Galaxie.

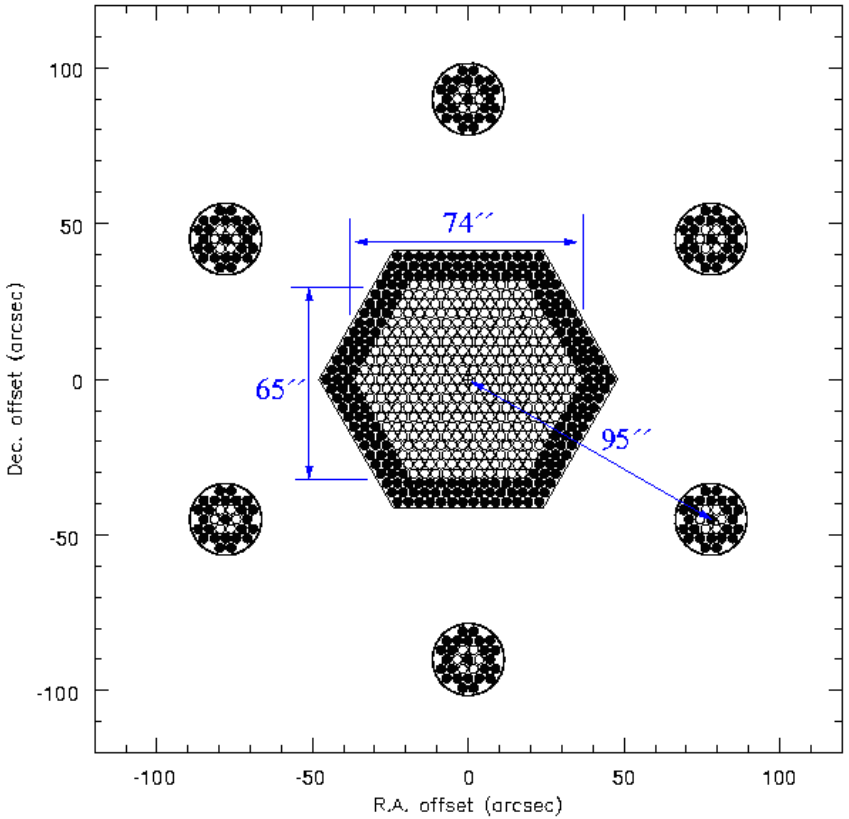


Integral Field Spectroscopy

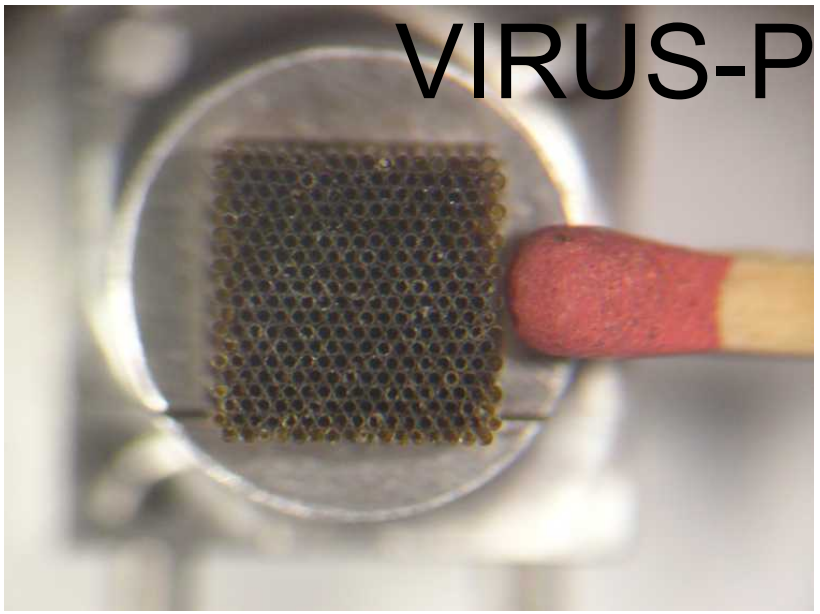


IFS Beispiele

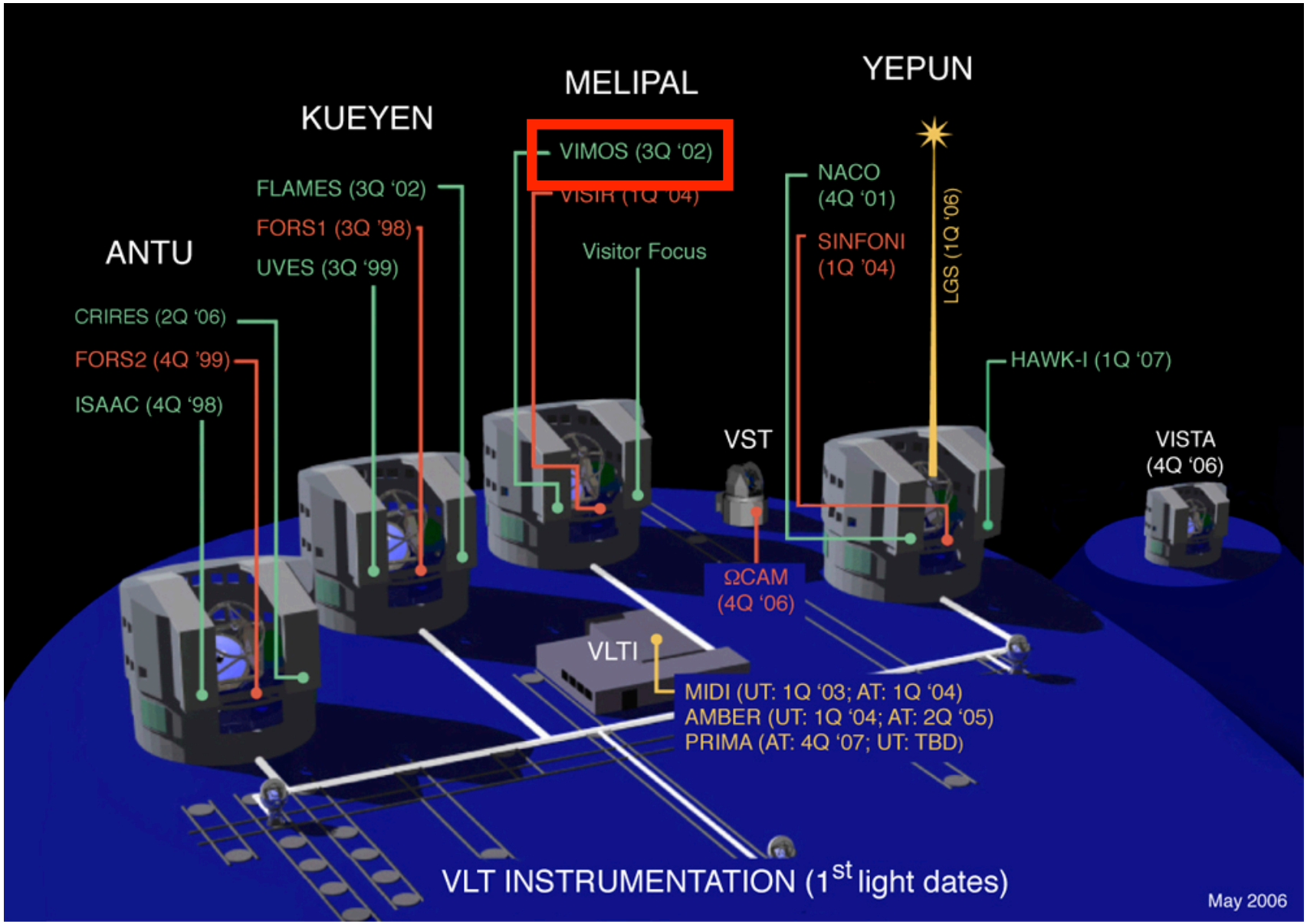




AIP



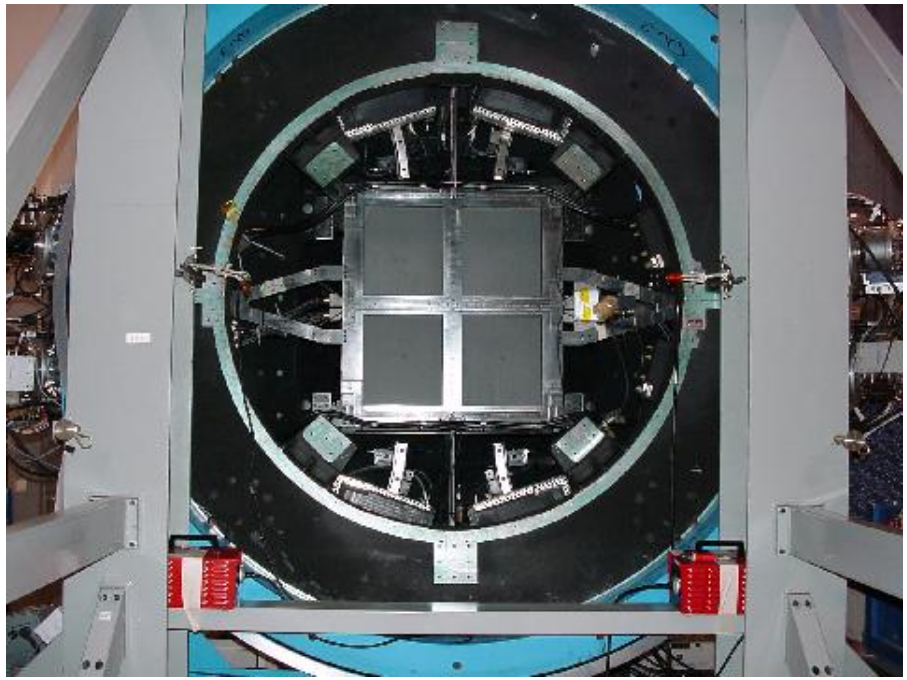
Gibt es den richtigen IFS am VLT ?

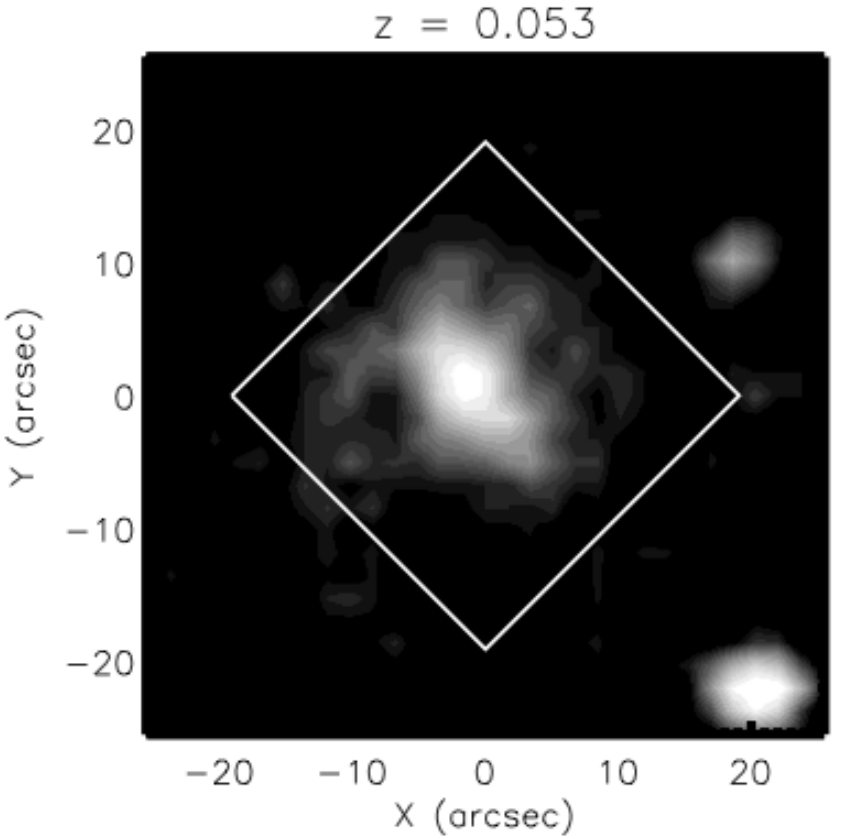


Antrag

Beobachtungen von 24 SDSS Galaxien mit den VIMOS IFS

Antrag war erfolgreich !

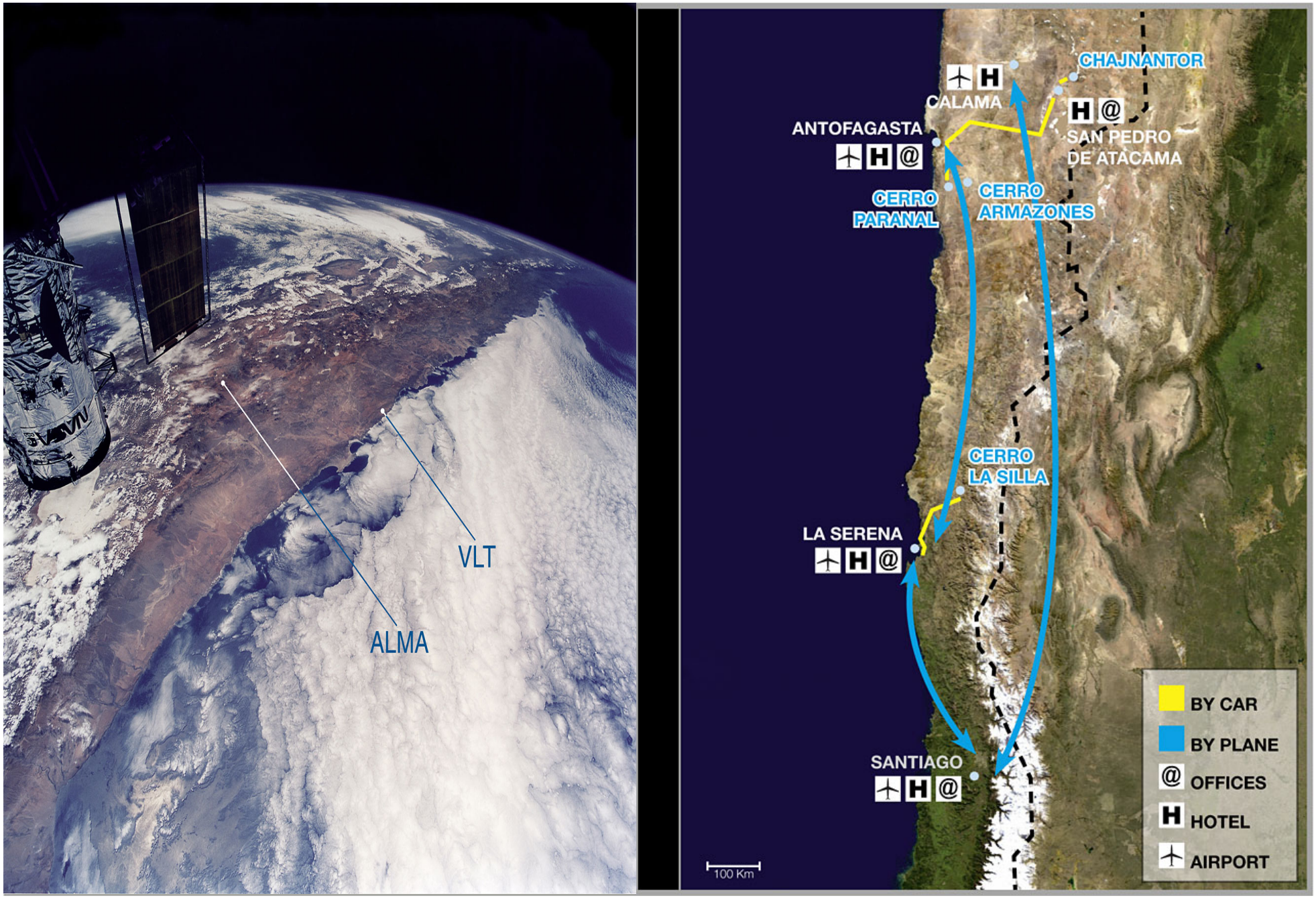




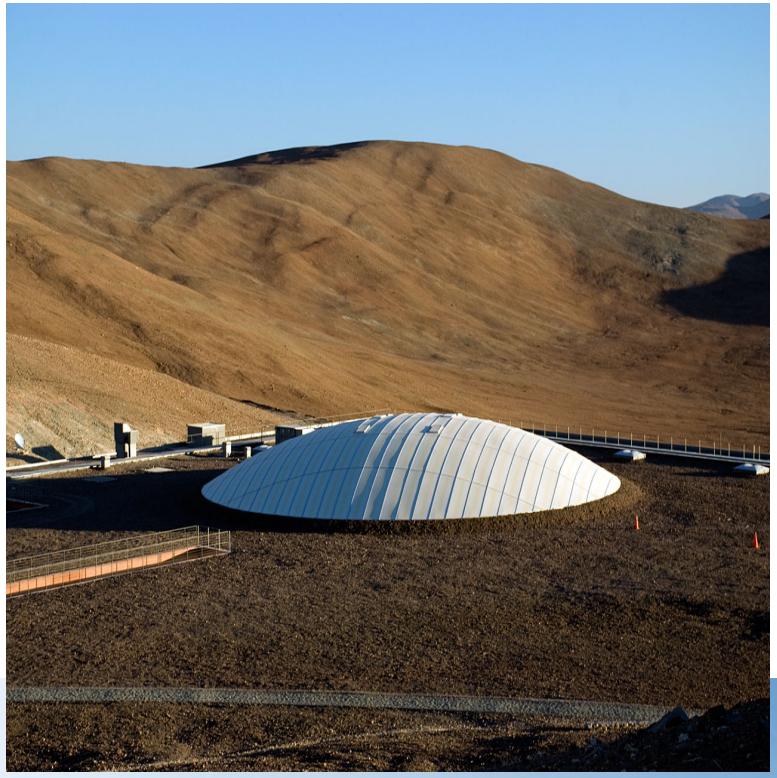
Blickfeld: 27 x 27 Bogensekunden

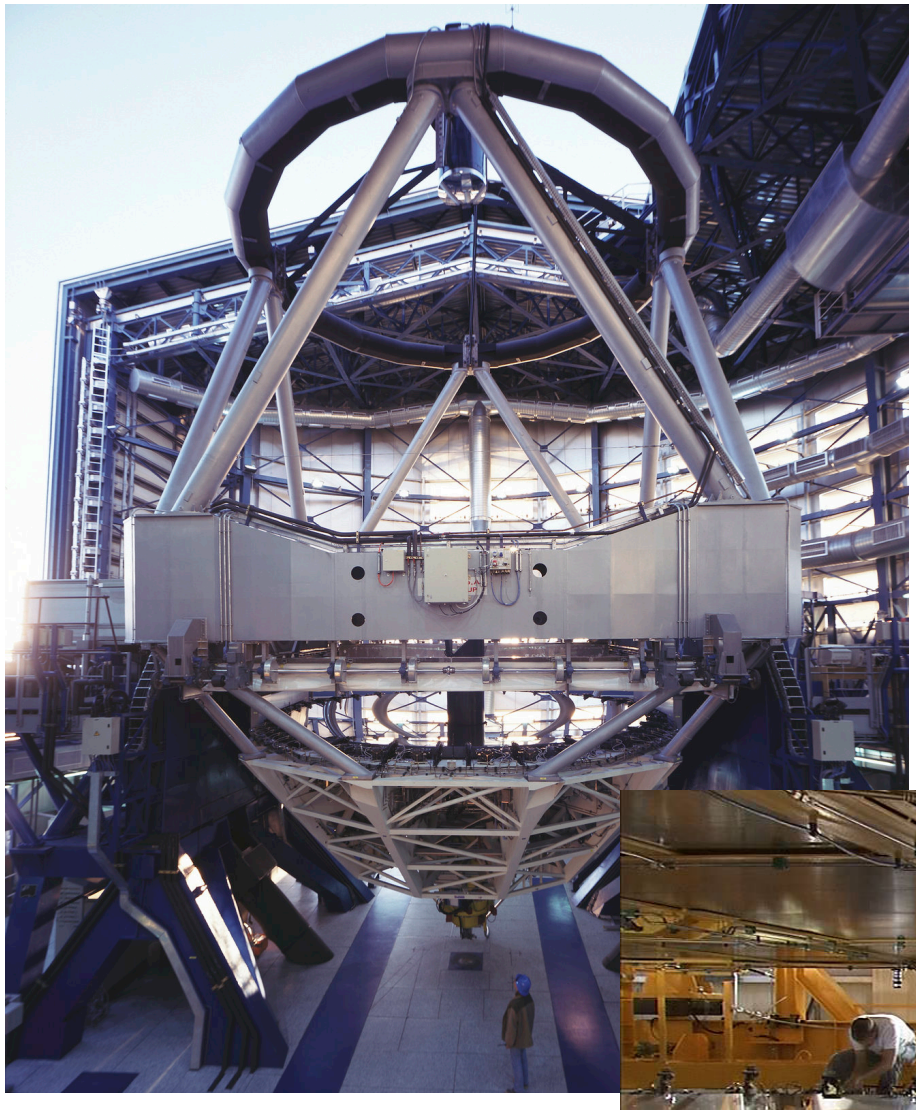
1600 Spektren, 500 bis 900 nm, $R \sim 720$

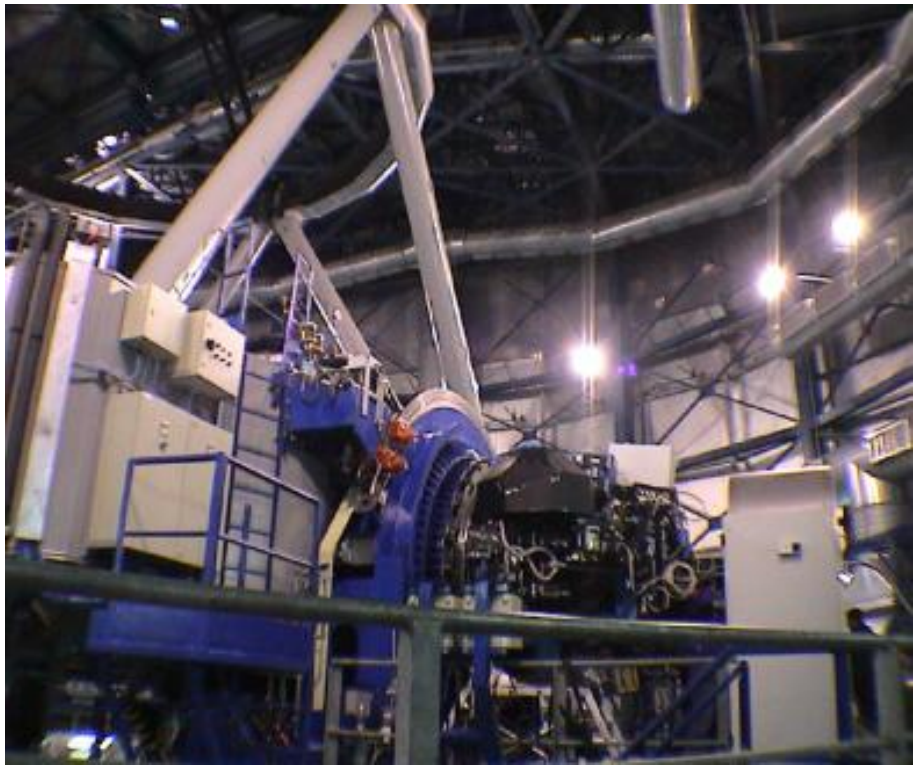
Reise: Nach Chile

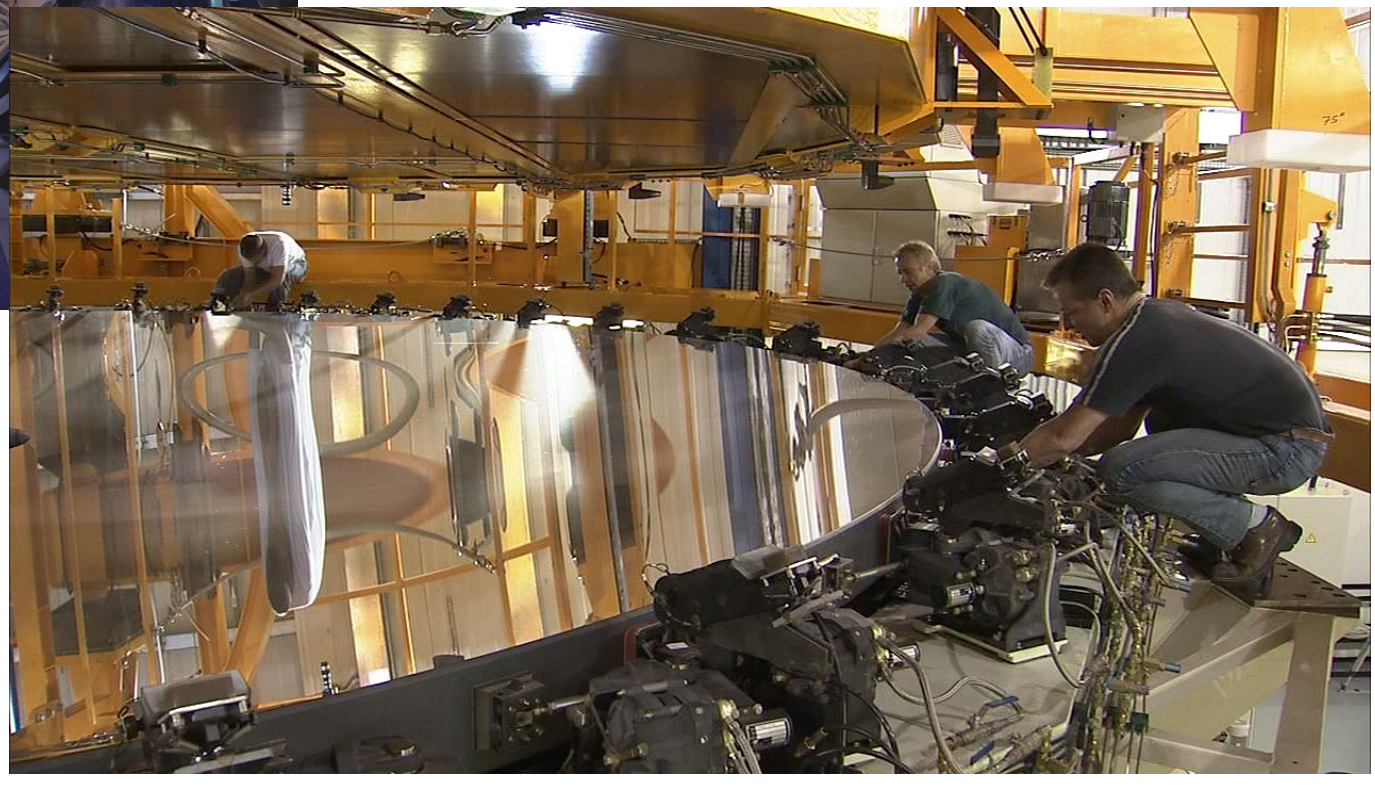


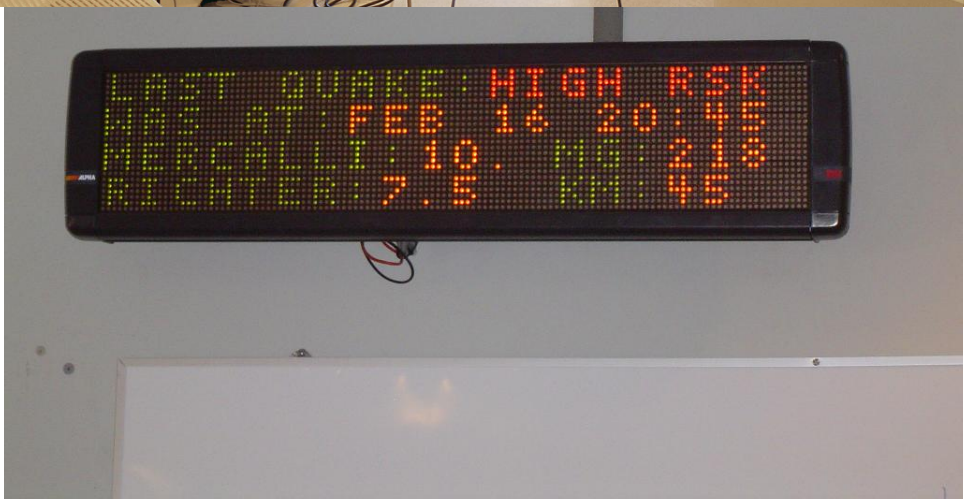
Reise: von Santiago nach Paranal







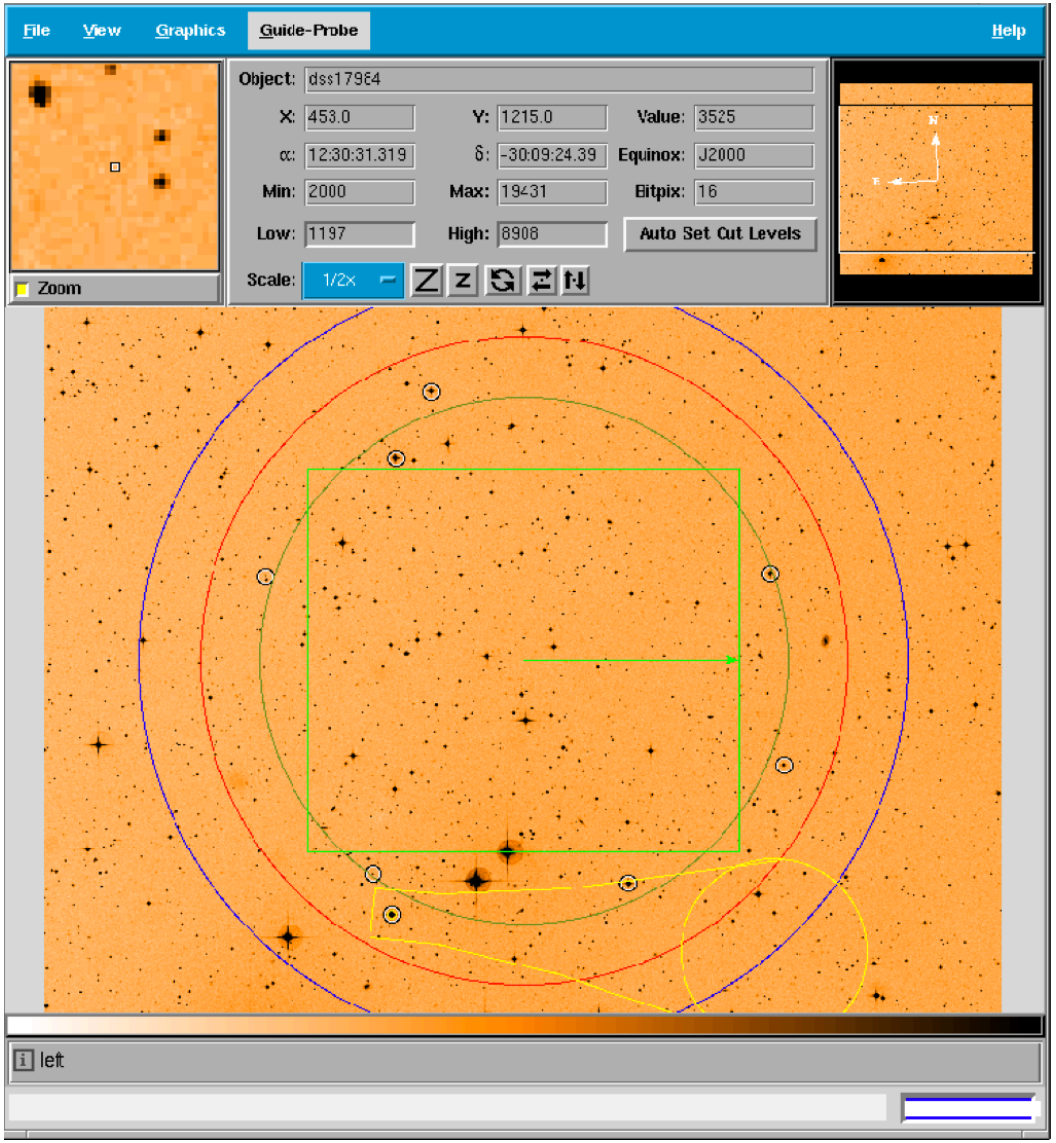


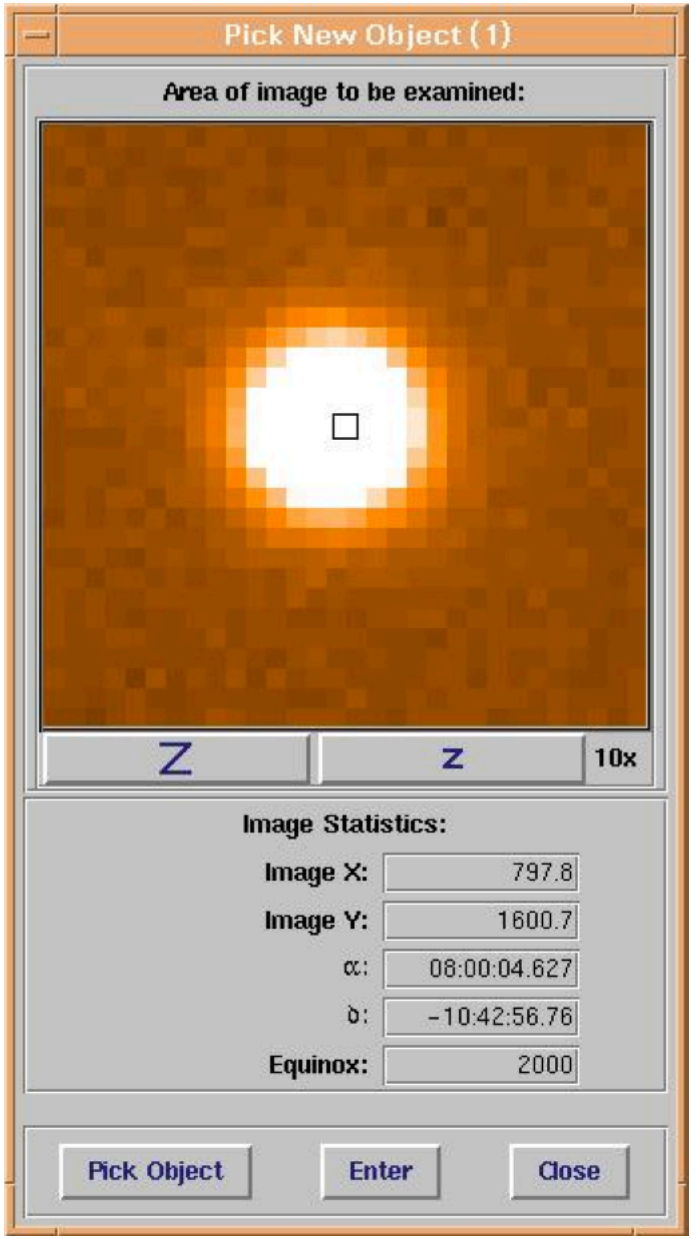

LAST QUAKE: HIGH RSK
WAS AT: FEB 16 20:45
MERCALLI: 10. MG: 218
RICHTER: 7.5 KM: 45

Beobachtungsdetails

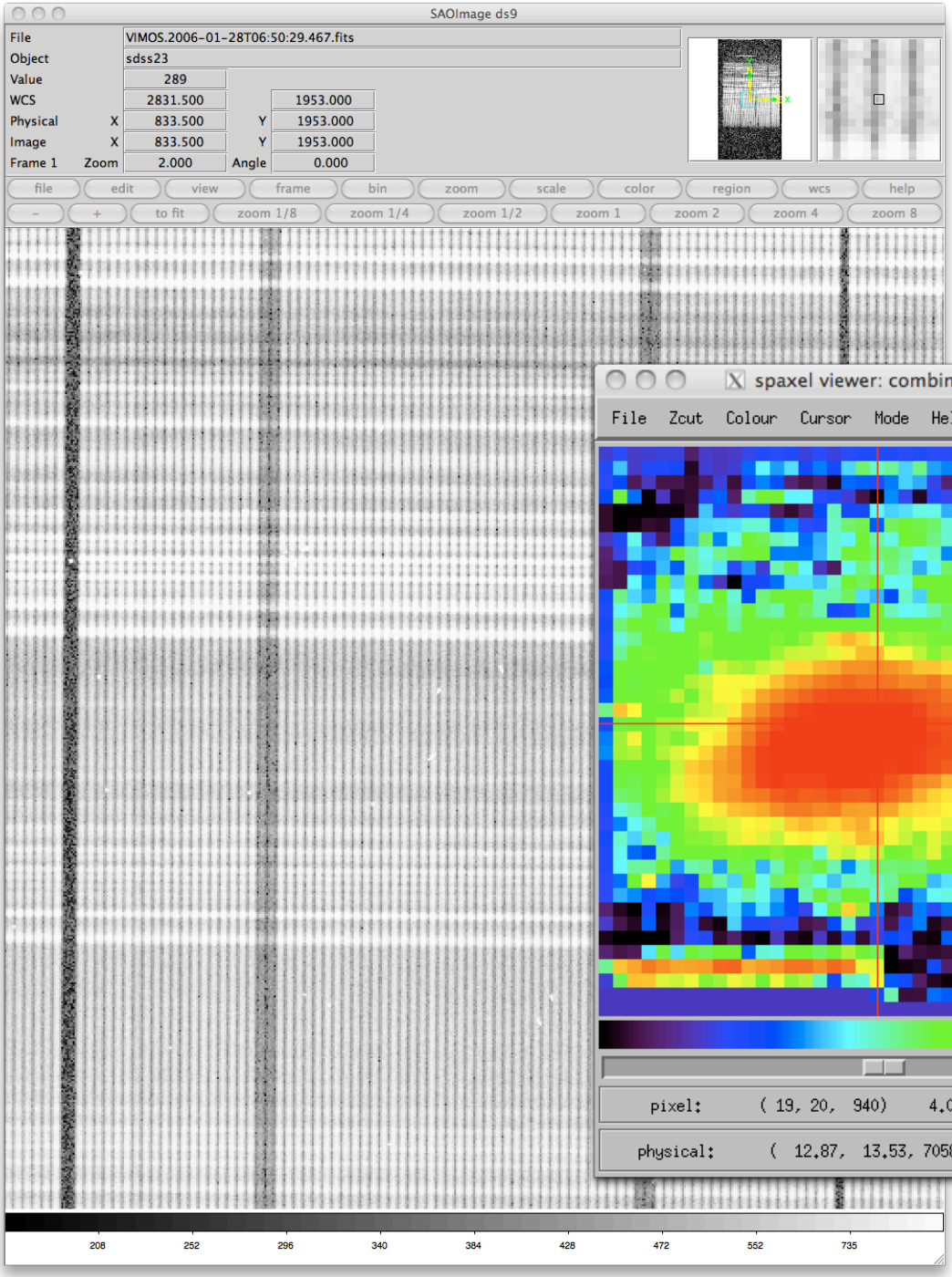
- IFS ist einfach: “point and click”
- Lange Belichtungszeit: 2 x 1800 sec
  - ~1 EUR / sec !
- Man darf nichts anfassen.
- Teleskop/Instrument wird kontroliert mit vorher festgelegten ‘*Observing Blocks’* (Textdokumente)
- Man sagt nur dem ‘telescope operator’ welches Textdokumente er durchführen soll.

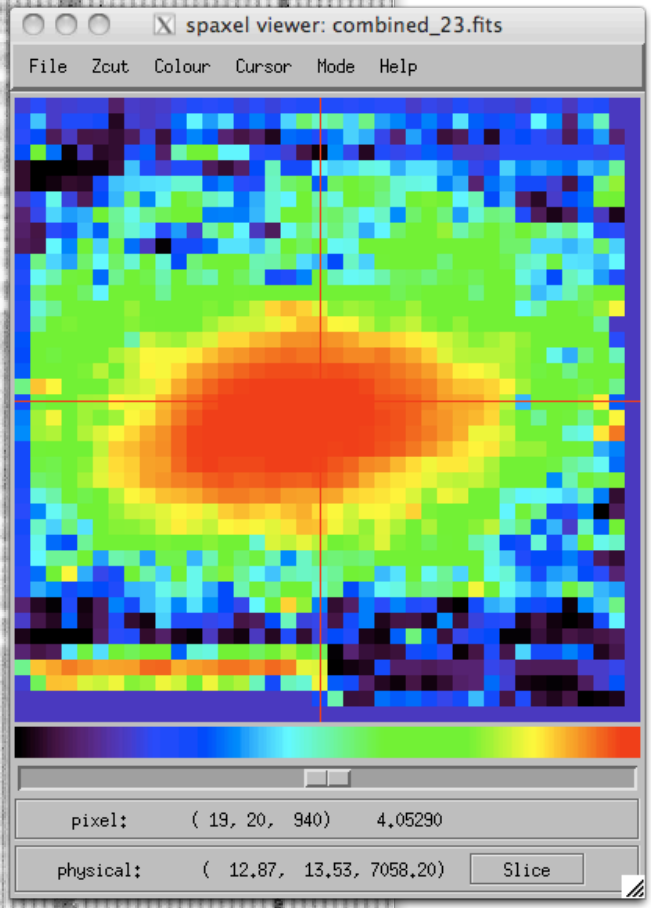
Was sieht man wirklich ?

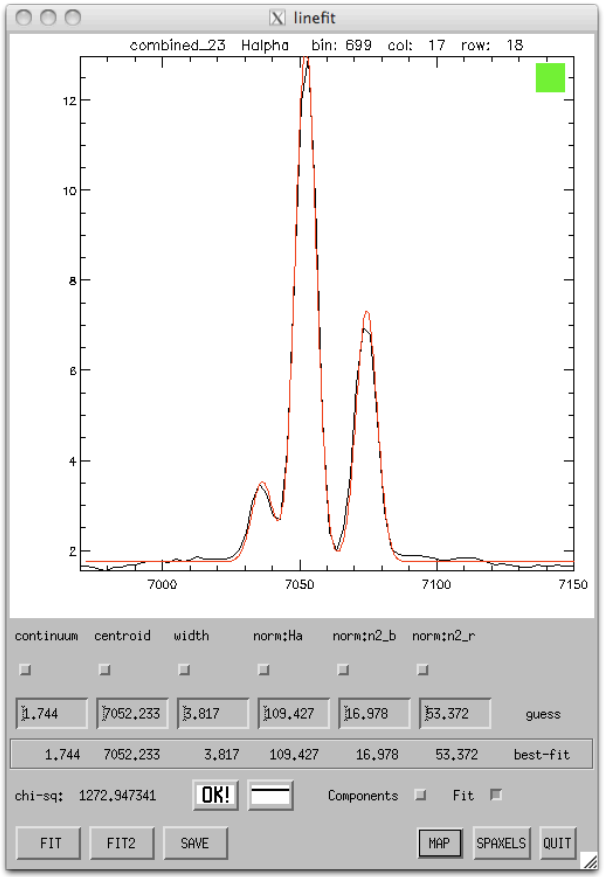




Datenreduktion & Analyse

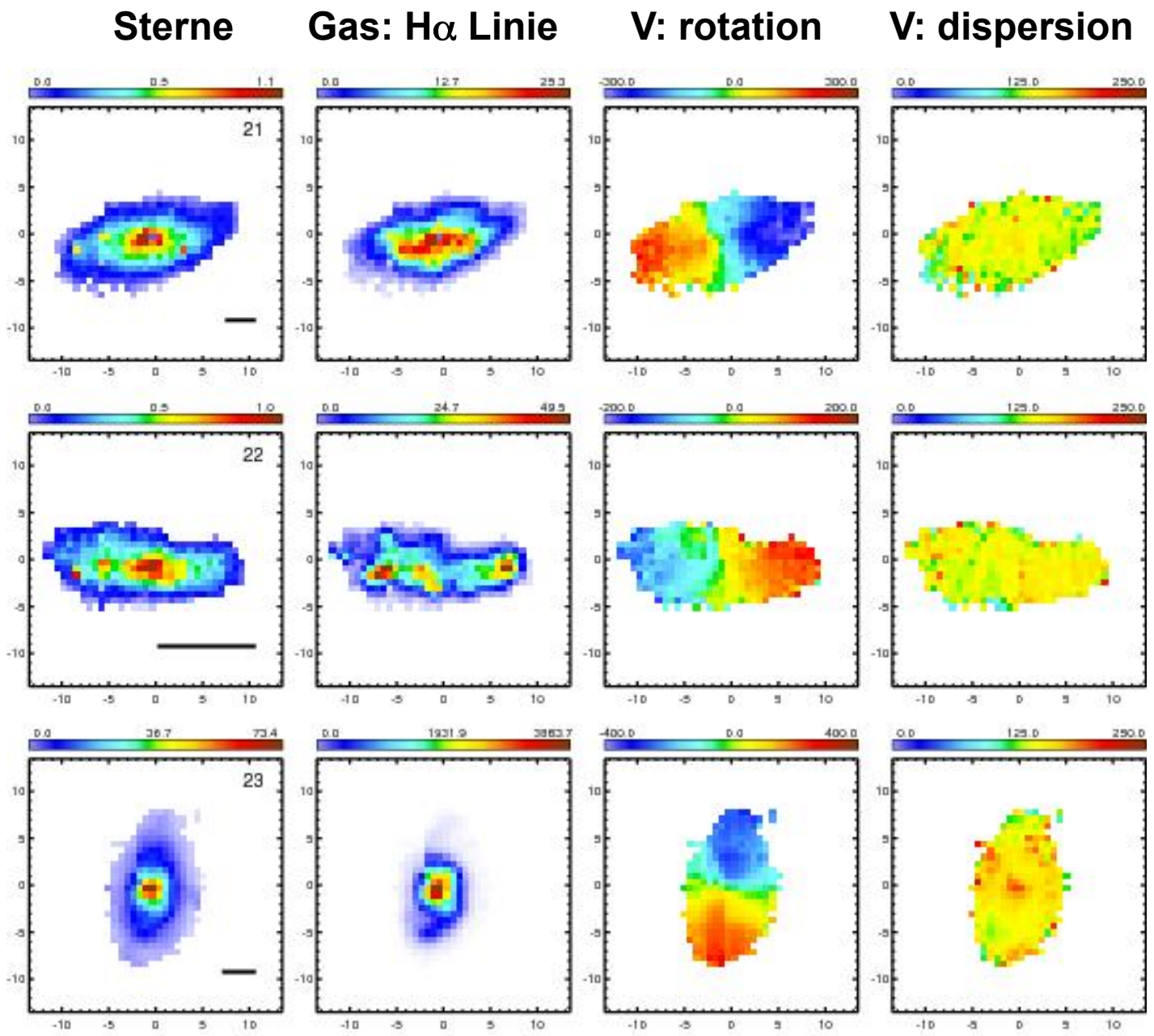






Ergebnisse

Ergebnisse



Ergebnisse

Mon. Not. R. Astron. Soc. **000**, 000–000 (0000) Printed 18 March 2011 (MN LATEX style file v2.2)

Beyond the fibre: Resolved properties of SDSS galaxies

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18 March 2011

ABSTRACT

We have used the integral field spectrograph VIMOS to map the emission line properties in a sample of 24 star forming galaxies selected from the SDSS database. We fit the Hα+[NII] emission lines in each spectrum to derive continuum, Hα flux, velocity and velocity dispersion maps. The Hα,Hβ, [NII] and [OIII] emission lines are also fit in summed spectra for annuli of increasing radius. We present plots showing the radial behaviour of EW[Hα], colour and emission line ratios. The strong fluctuations observed in these radial profiles demonstrate that extrapolations based on single aperture (3″ diameter) SDSS spectra to global galaxy properties can lead to large uncertainies for individual systems. We use our VIMOS maps to quantify the differences by taking the ratio of total Hα flux to that of a simulated SDSS fibre. A comparison of the flux ratios to colour-based SDSS extrapolations show that such aperture corrections are over-estimated, with no measured correlation to the true correction for individual galaxies. We examine various signatures of nuclear activity (line ratios, dispersion peaks, radio emission). Half of the galaxies in our sample are fully consistent with pure star forming systems.

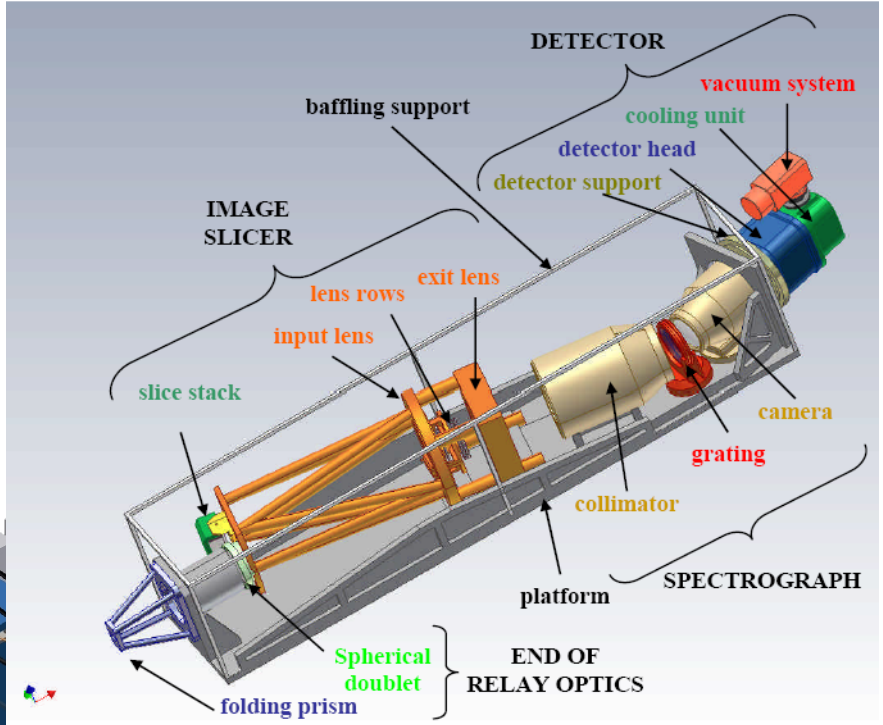
Key words: galaxies: – galaxies: evolution – galaxies: kinematics and dynamics – galaxies: structure.

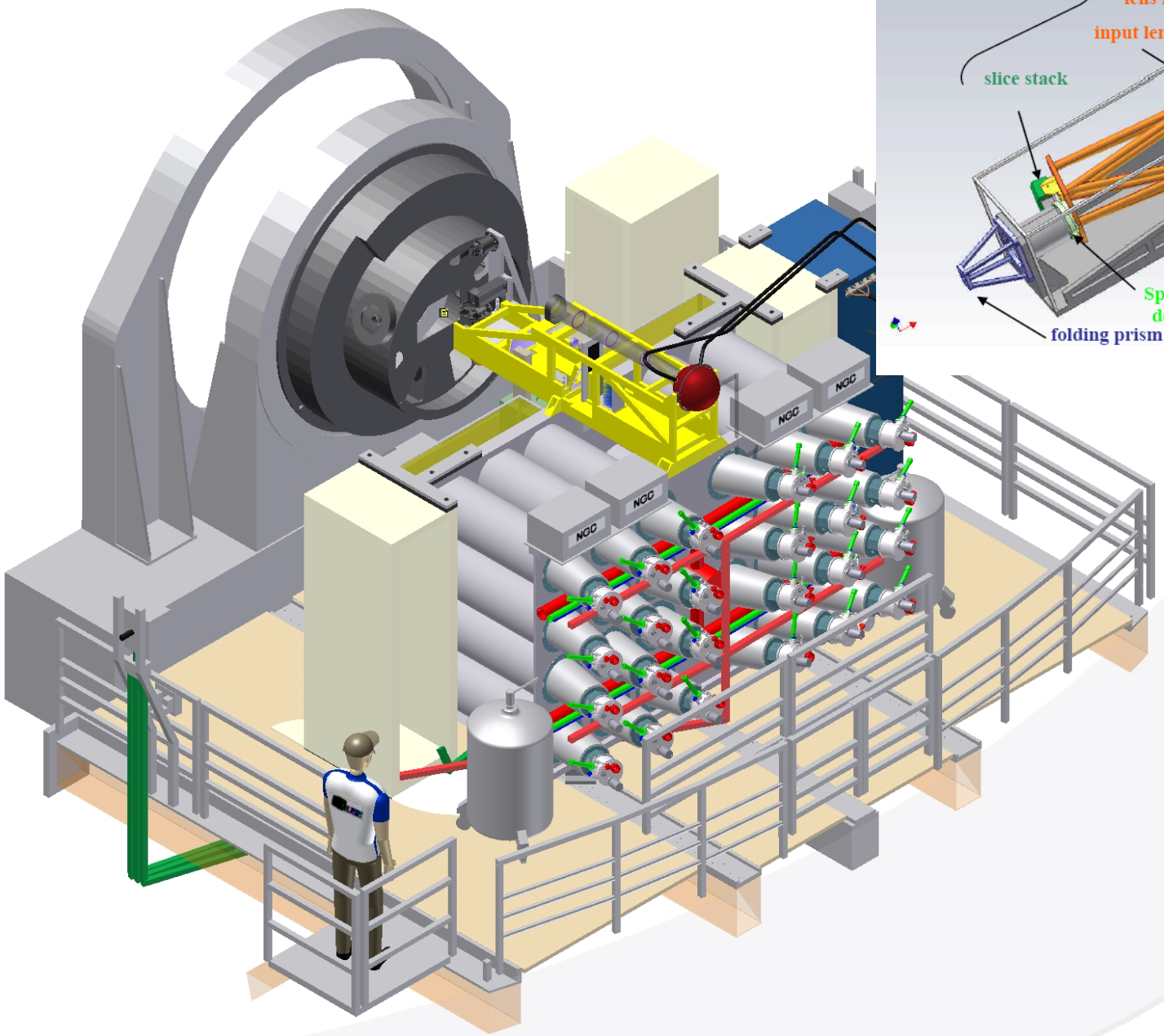
1 INTRODUCTION

The unprecedented large number of galaxies observed in the Sloan Digital Sky Survey (SDSS, York et al. 2000) has made SAURON (Bacon et al. 2001) to study early type galaxies, PINGS (Rosales-Ortega et al. 2010) to map the properties of disk galaxies and Califa (Sánchez et al. 2011) an ambi-

Ende

MUSE (super-VIMOS)





AIP