

Progress and plans for Chinese surveys

GCDS Meeting,
Nice, France,
November 4th, 2010

Martin C. Smith
Kavli Institute for Astronomy and Astrophysics, Peking University

Kavli Institute for Astronomy and Astrophysics

- Lead by Doug Lin
- Affiliated with Peking University and their Department of Astronomy
- About 12 faculty, 8 postdocs, plus students
- Active line-up of meetings, workshops and schools

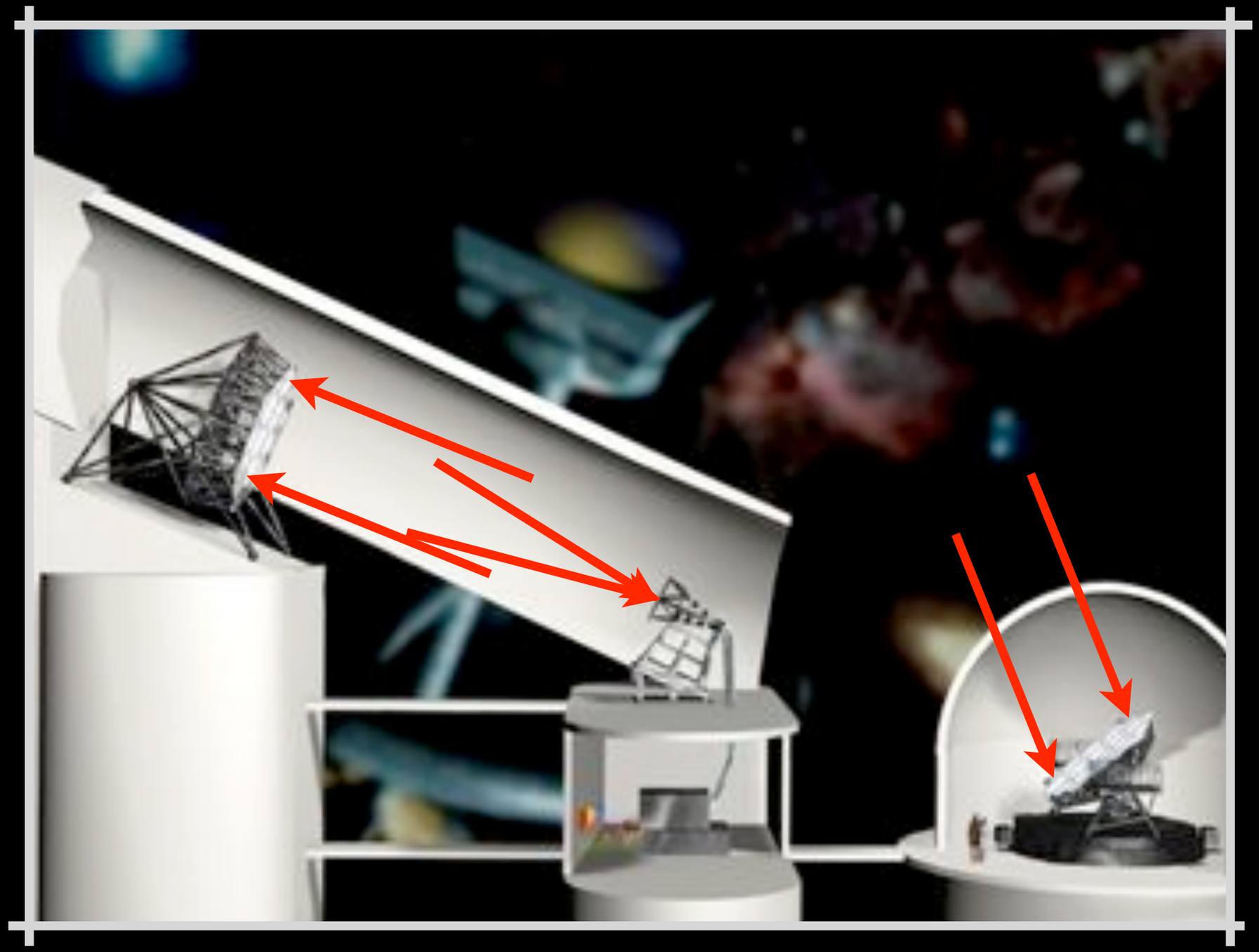


Now hiring!

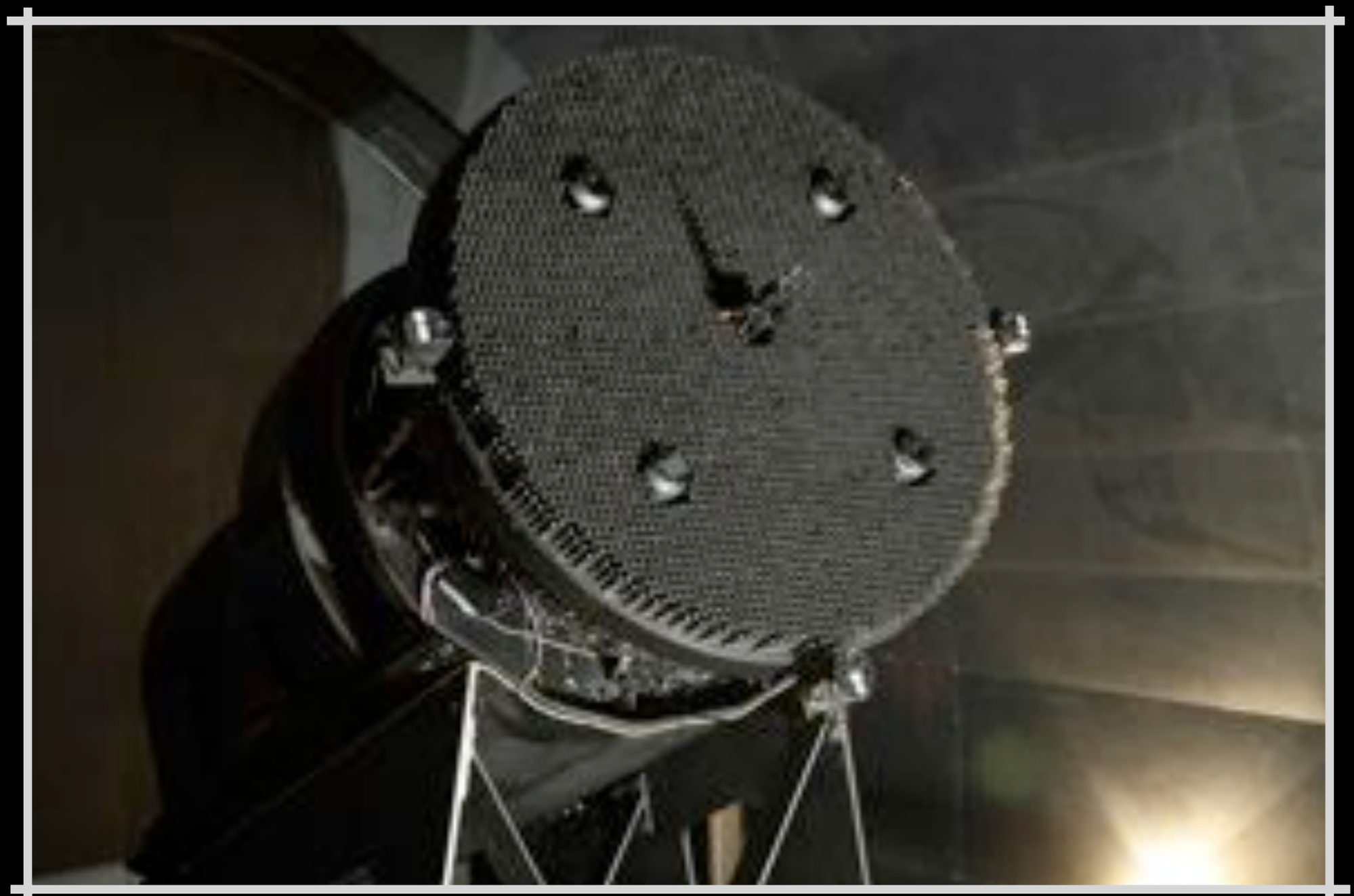
LAMOST (a.k.a. Guoshoujing Telescope)



LAMOST

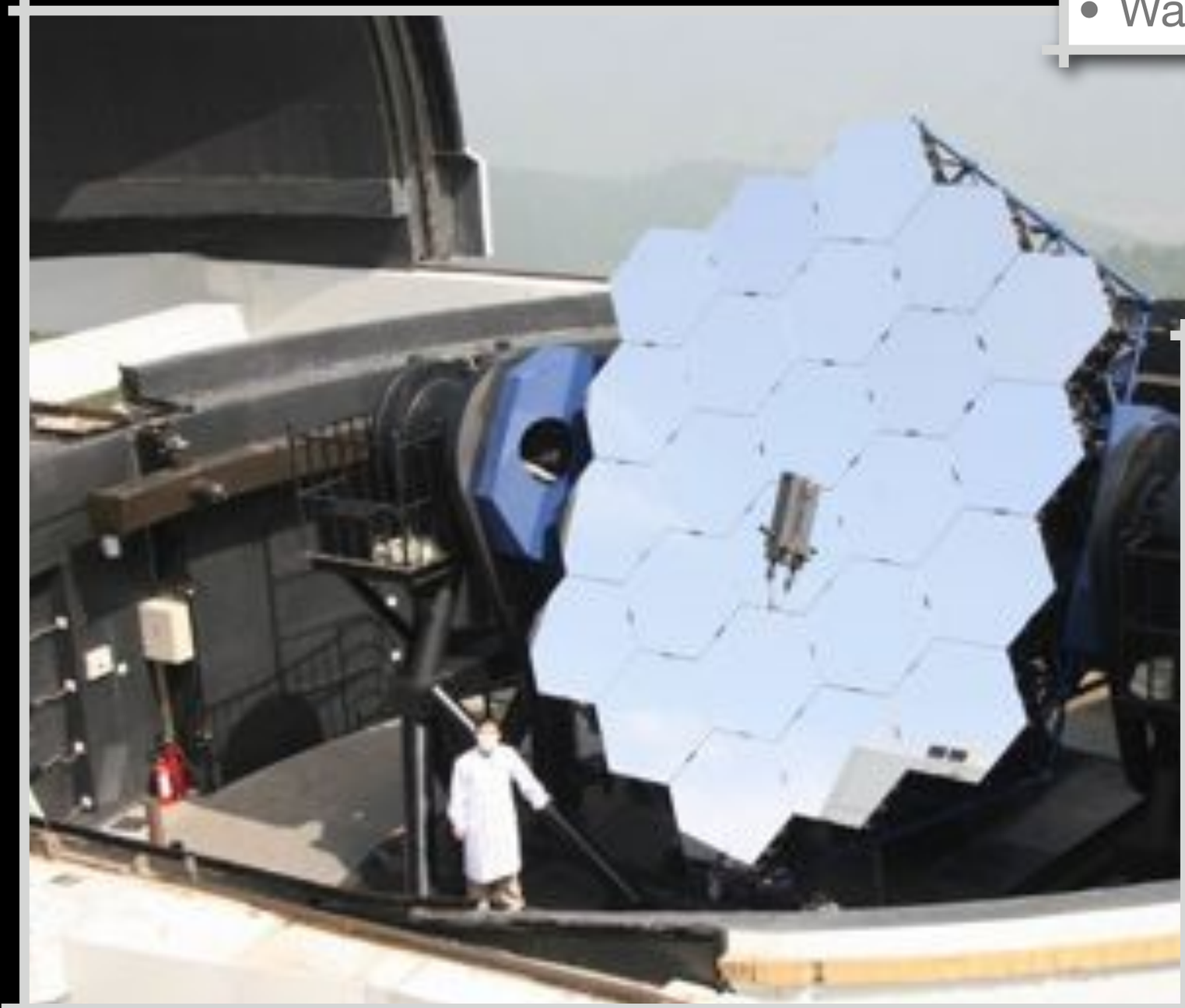


LAMOST



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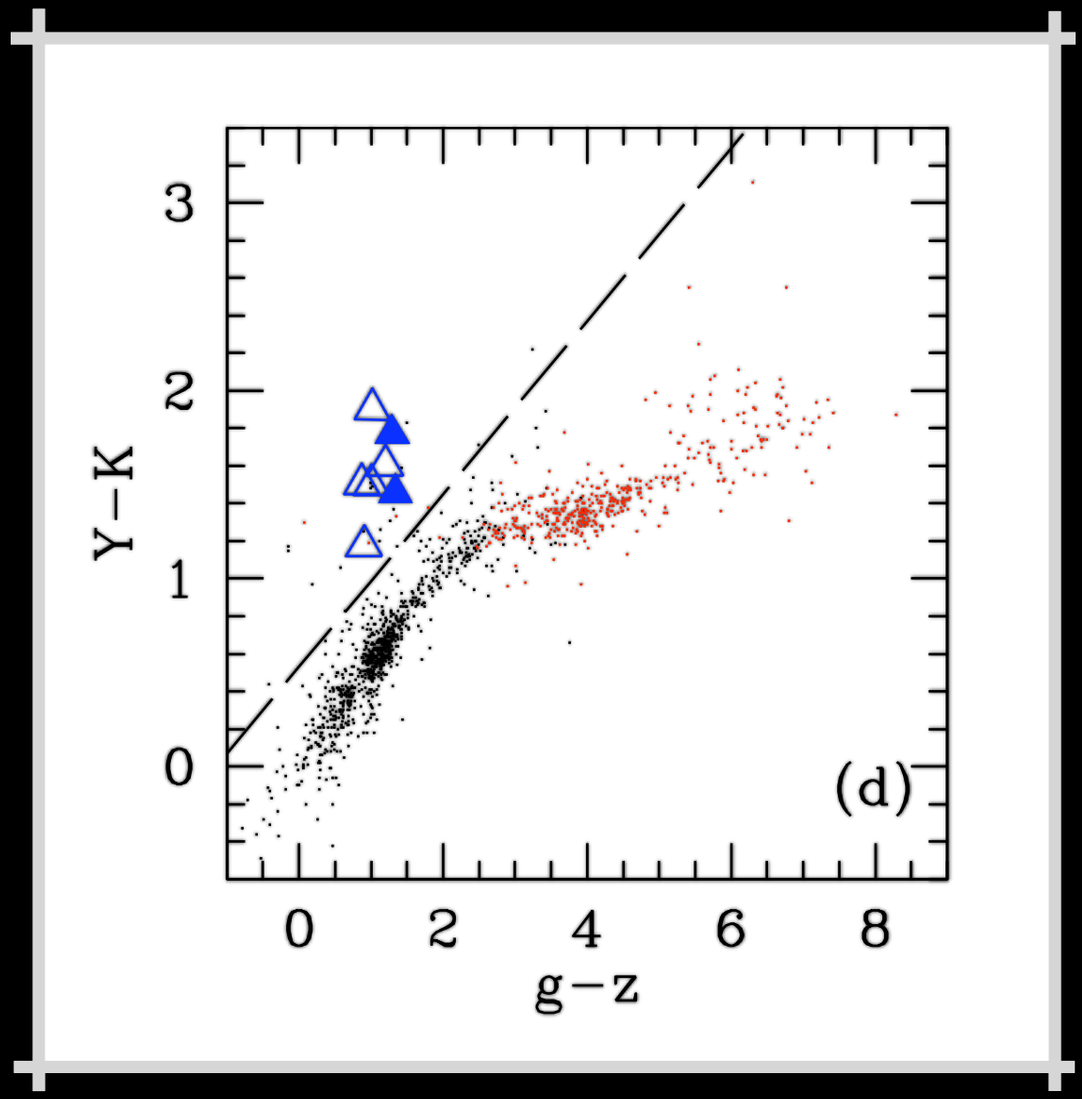
- ~4m aperture
- 4,000 fibers
- 20 sq degree field of view
- Wavelength 370-900 nm





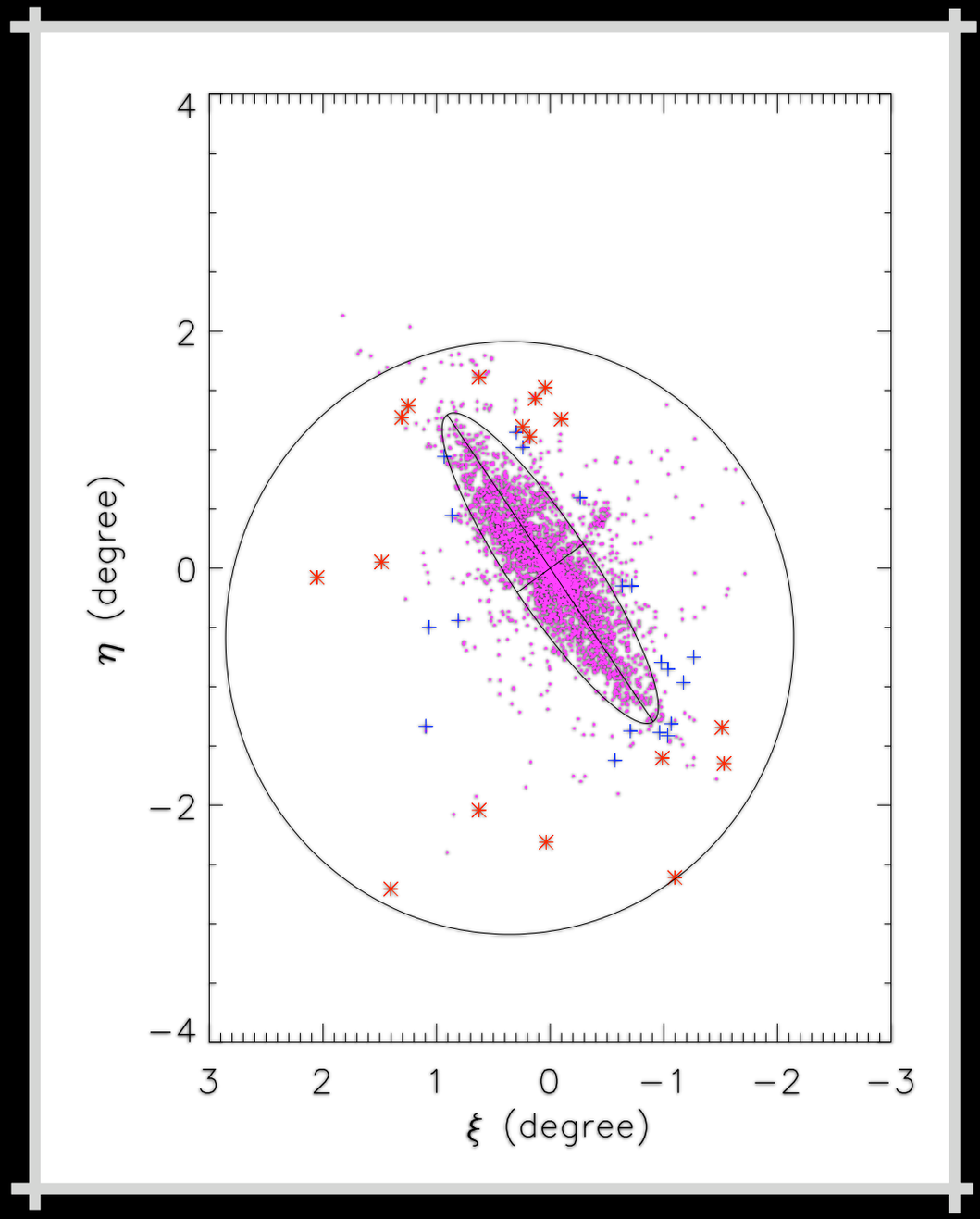
But how will LAMOST perform?

- Commissioning is now underway
- Science quality spectra are being taken and (limited) publications are now beginning to appear
  - **Quasars**: A number of new quasars behind M31(Huo et al. 2010); another sample selected using UKIDSS data (Wu et al. 2010)



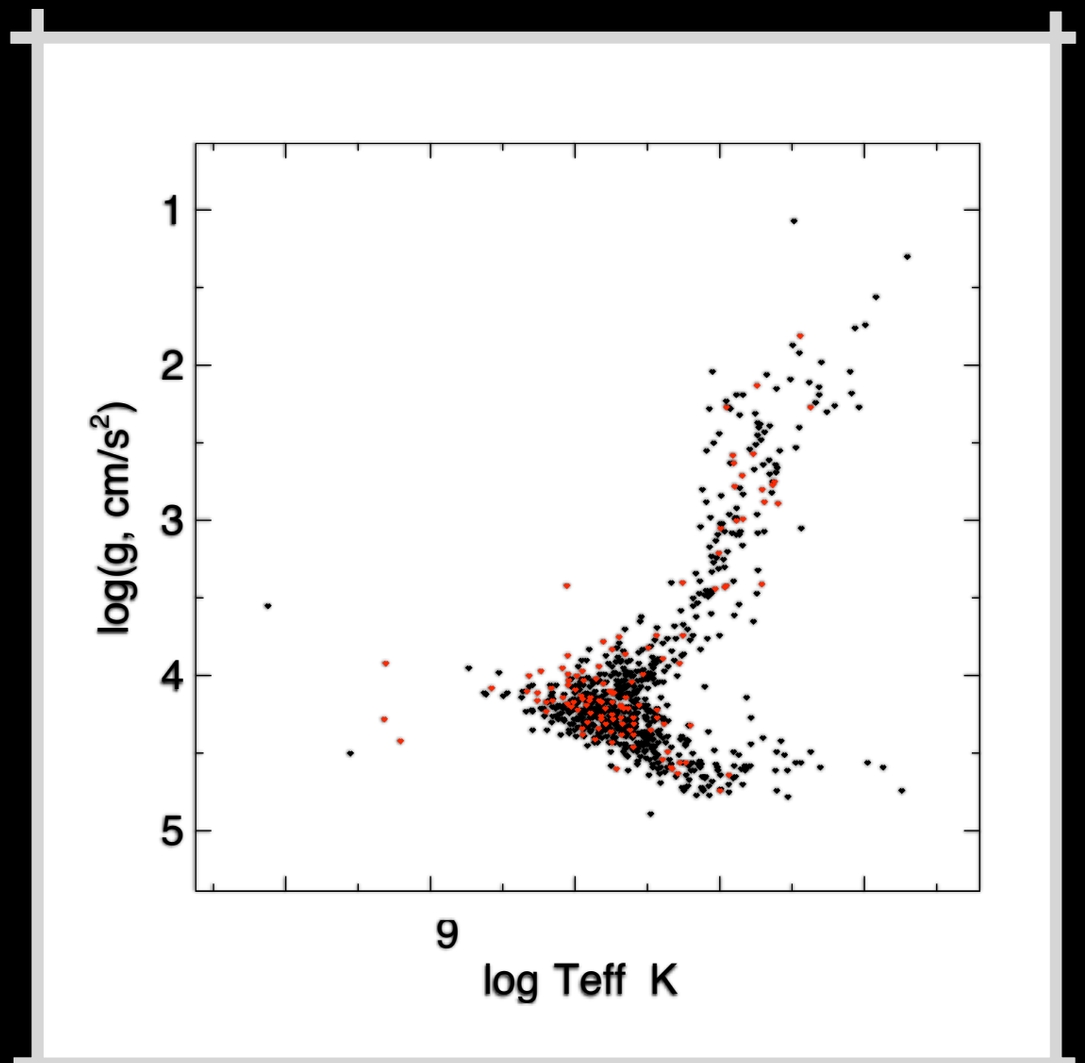
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  - **PNe**: Around 20 new PNe out to projected distance of ~40 kpc (Yuan et al. 2010)
  - **Stars**: There is also a number of stellar spectra...



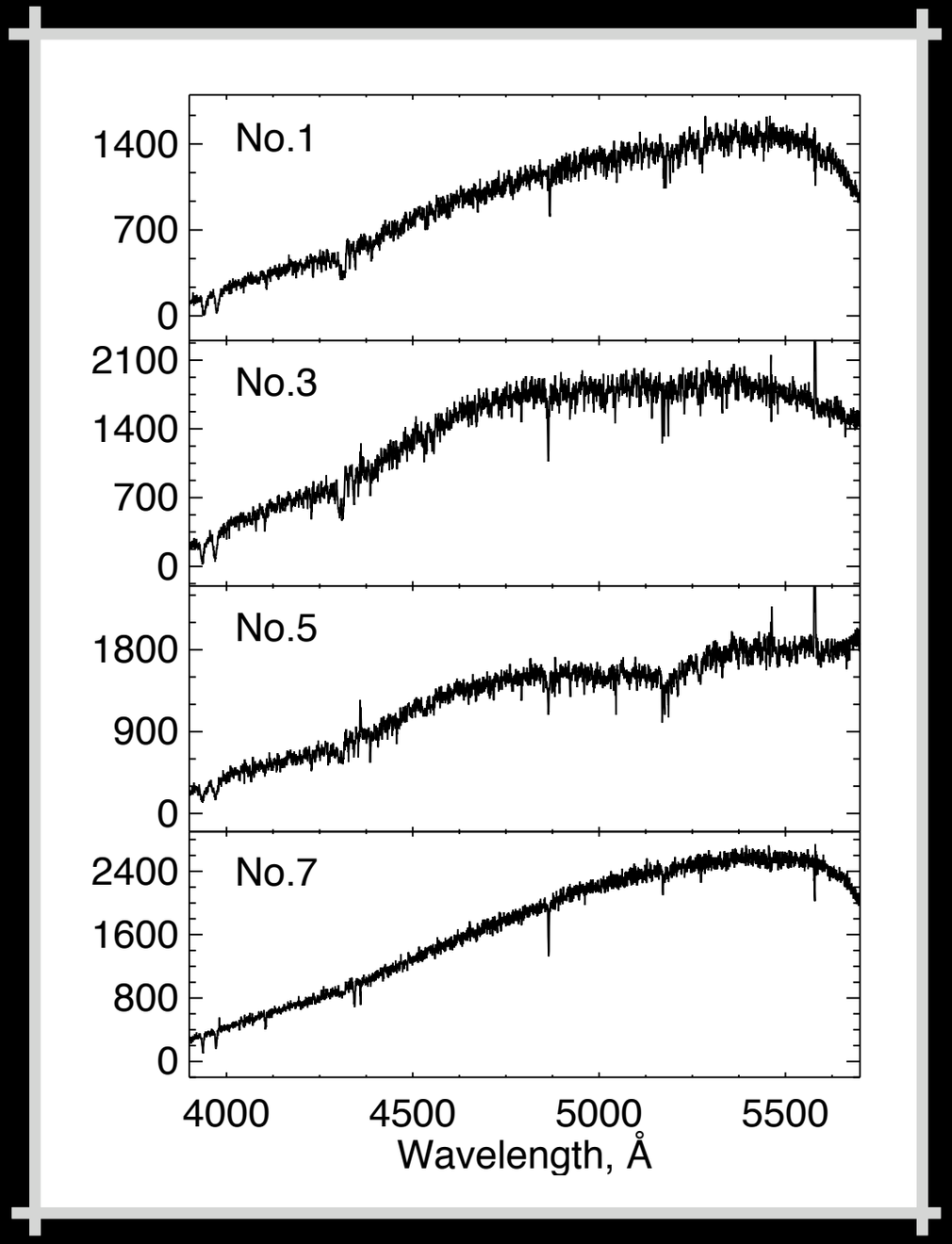
The good...

- **The good:** Stellar spectra showing reliable parameters, analysed using the ULySS analysis package (Wu et al. 2010)
  - Taken at a resolution of R = 2,000
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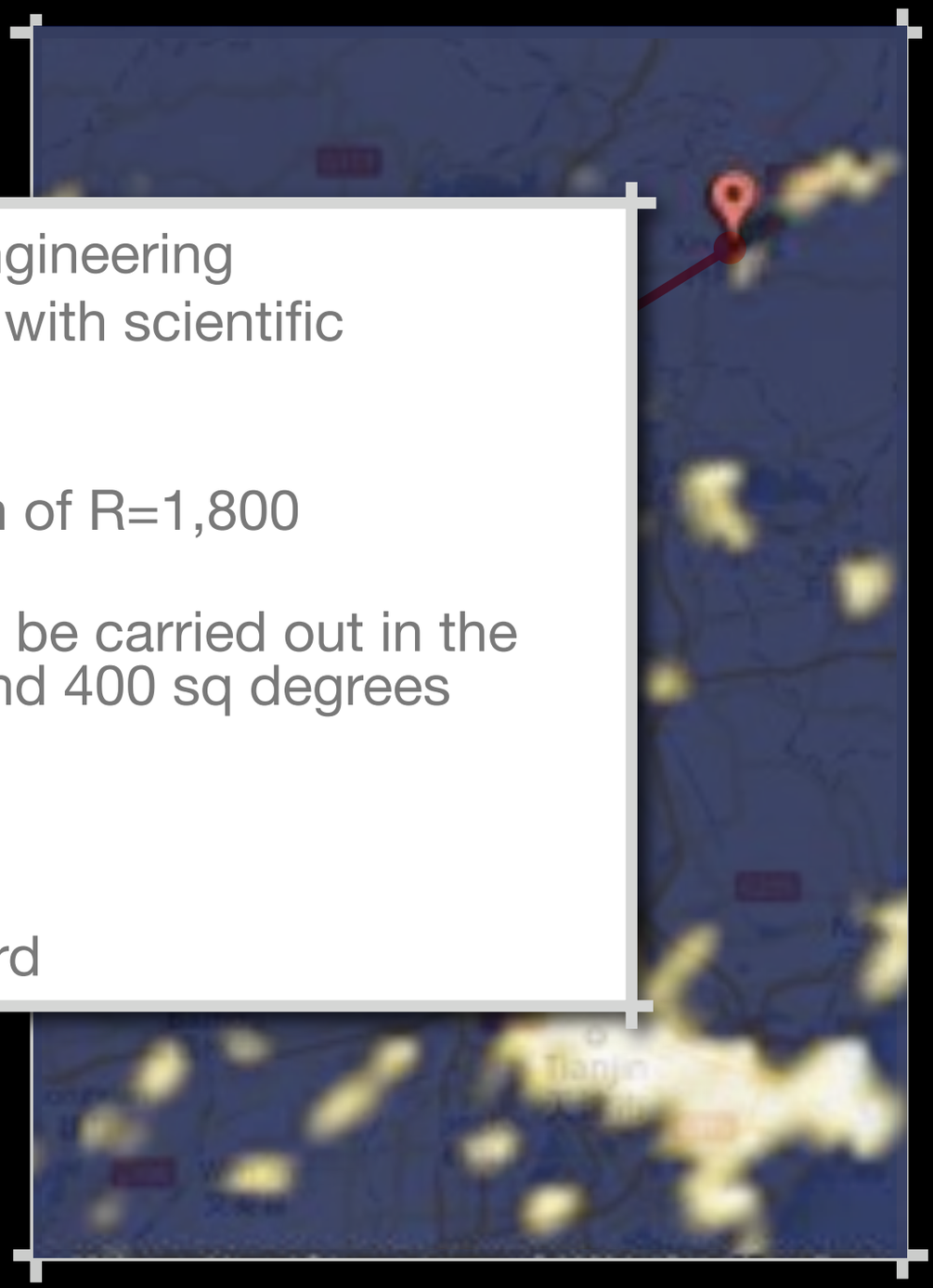
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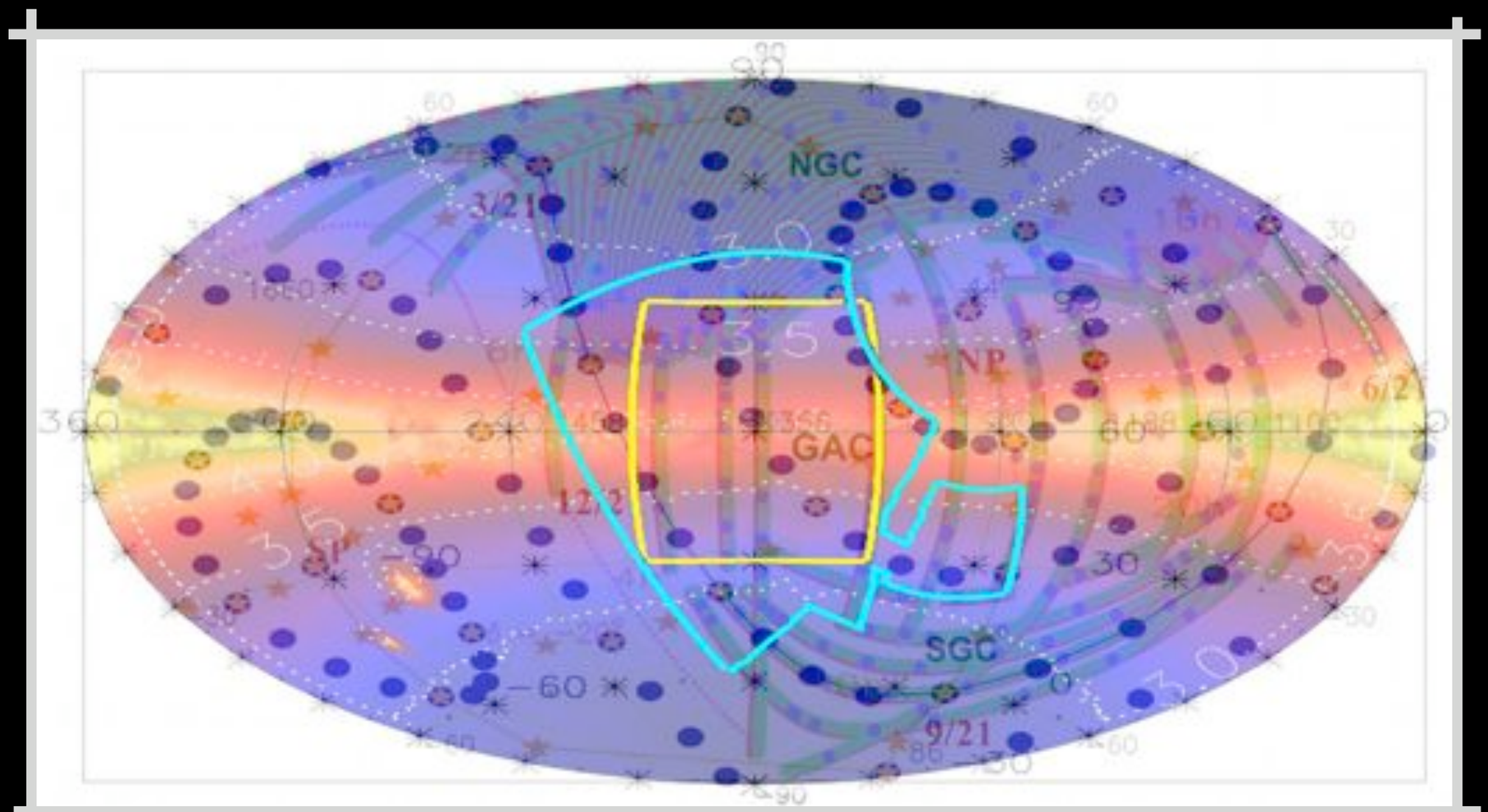


- Aggressive time-line to conclude engineering commissioning by the end of 2010, with scientific commissioning from January 2011
- We have converged* on a resolution of R=1,800
- Tentative plans* for a pilot survey to be carried out in the first months of 2011, covering around 400 sq degrees centred on l=200, b=50

✳NB. In the Chinese sense of the word

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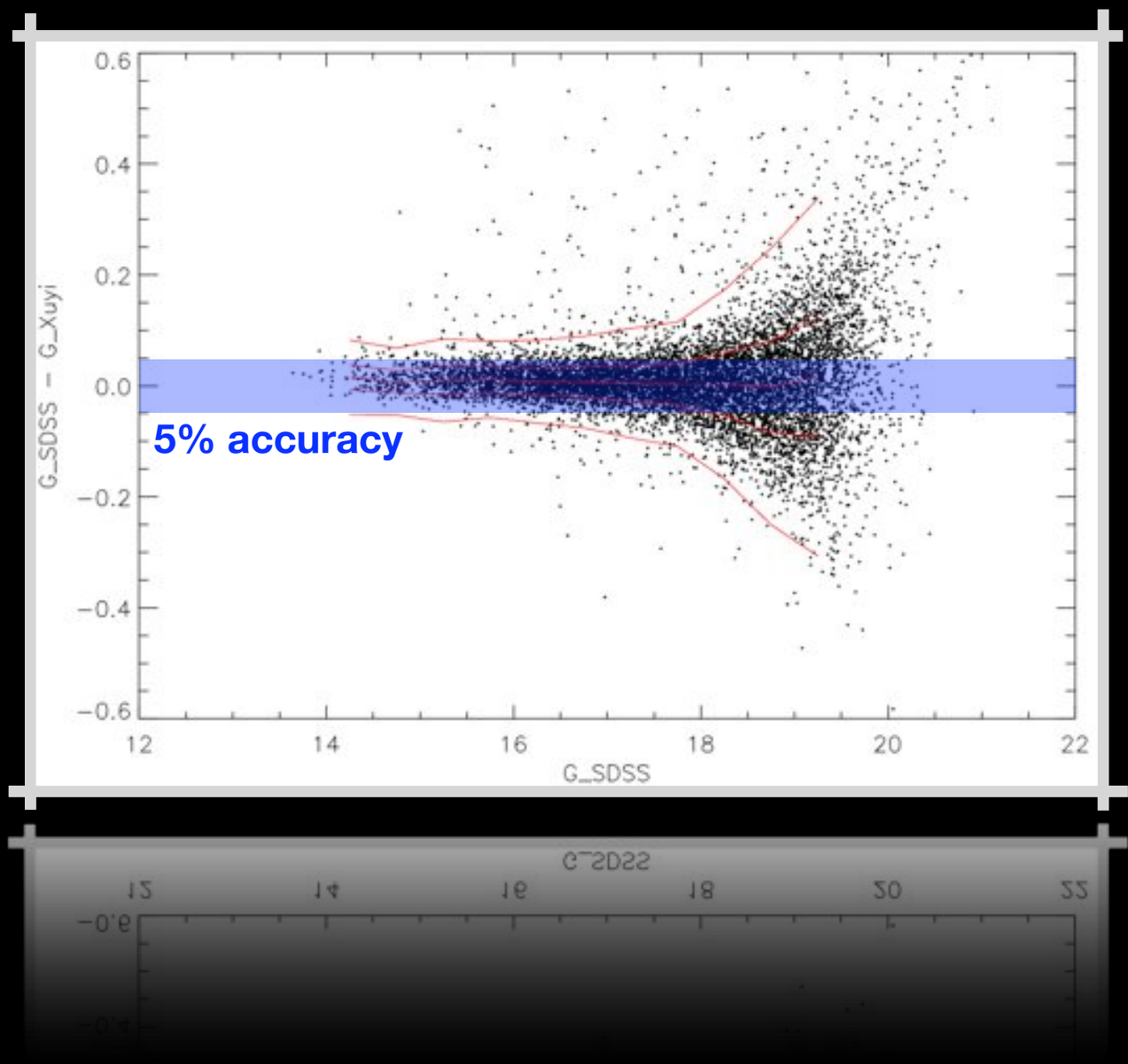


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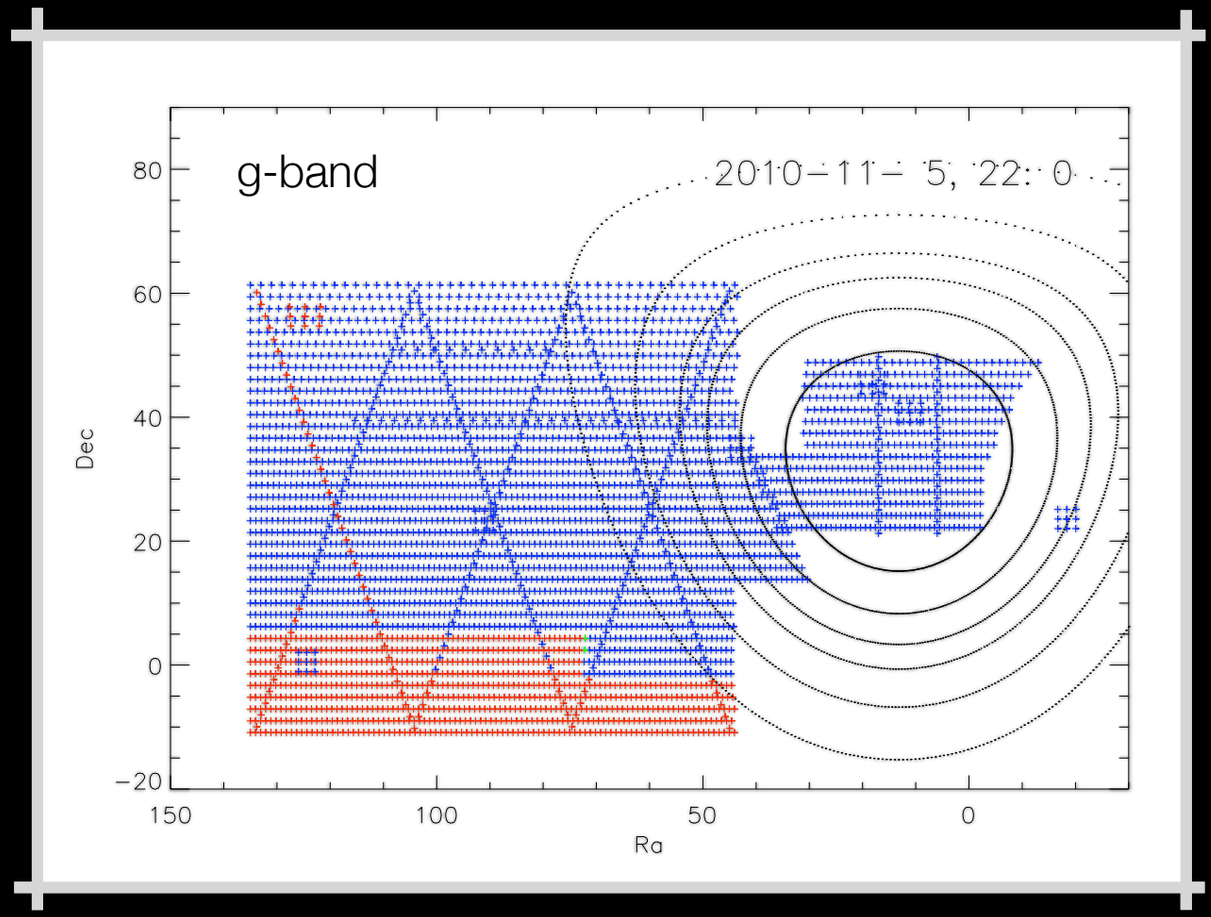
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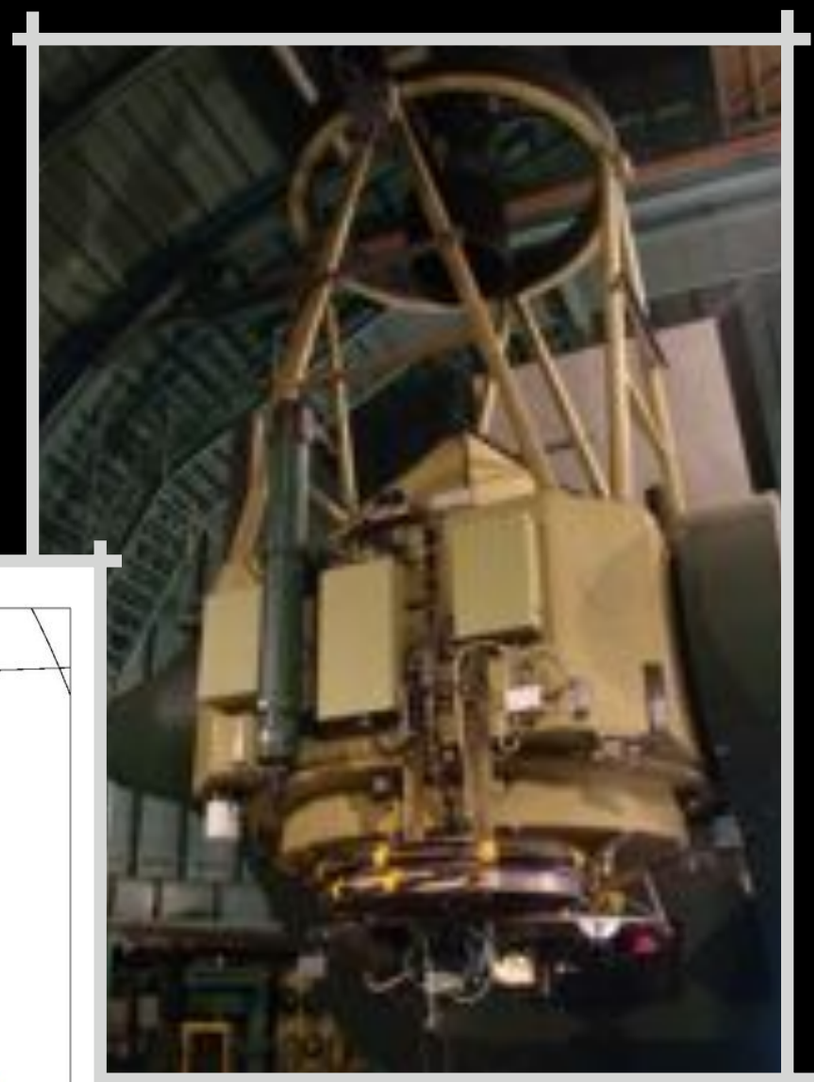
- Surveyed area around 90% complete in g & i, with r about 30% complete

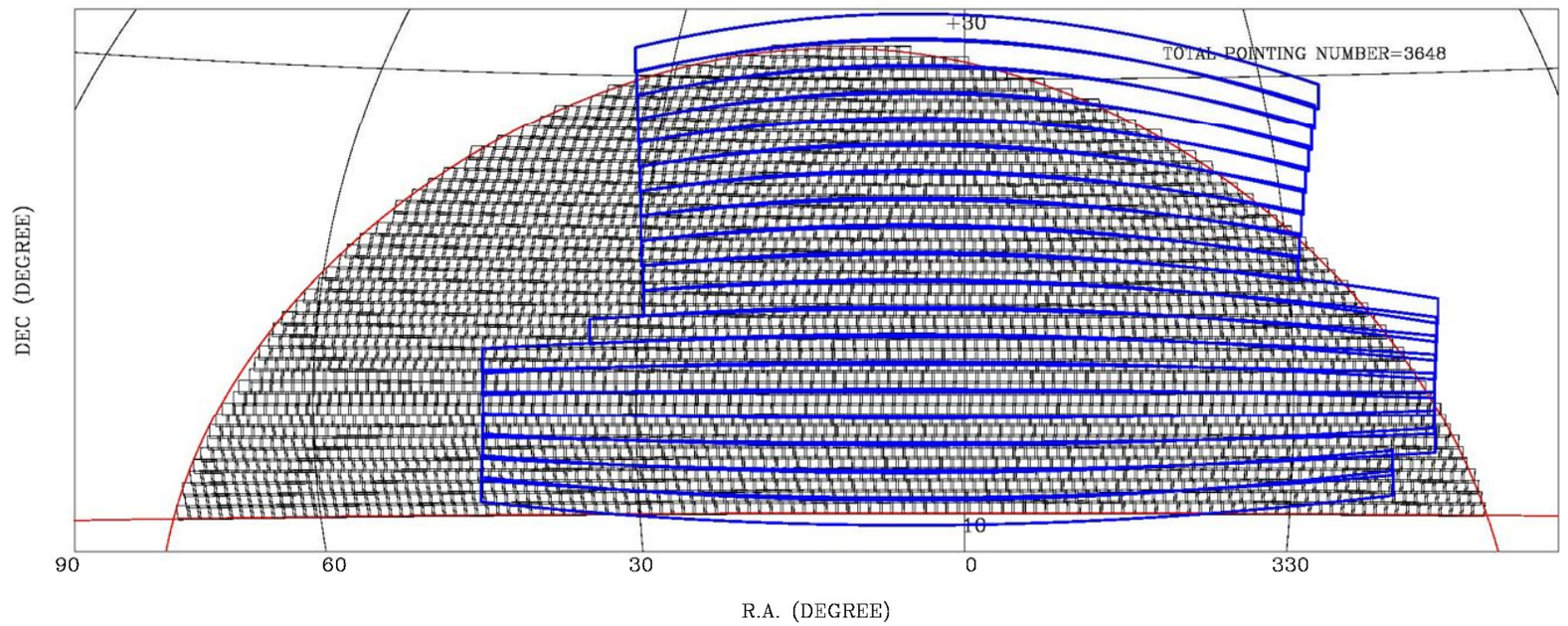
- Transient stripe of 300 sq deg



The South Galactic Cap U-band Sky Survey with the Bok 2.3m Telescope

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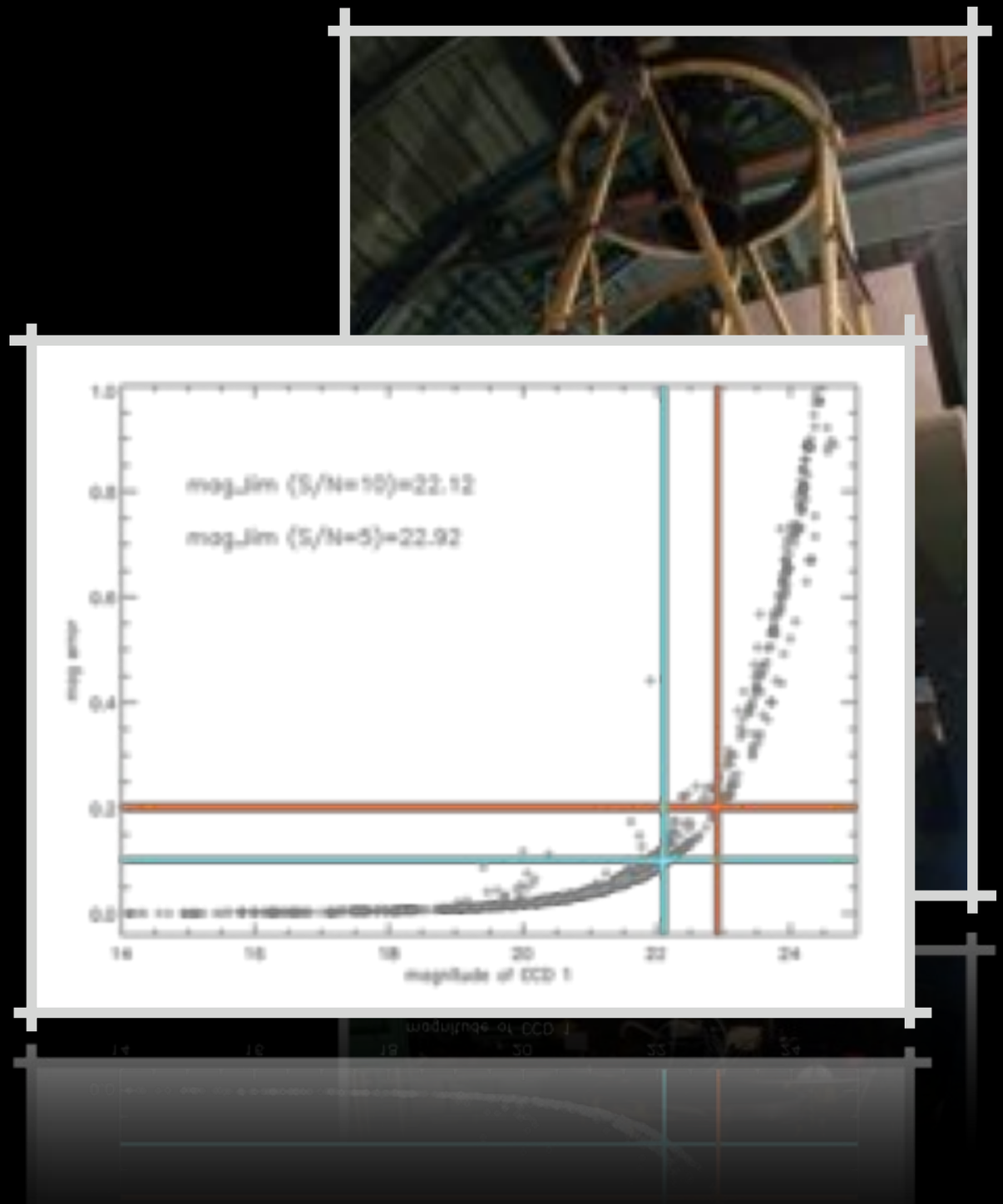


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- SDSS u-band only goes down to ~21, so we will go ~2.0 mag deeper

- BHBs out to around 120 kpc:
  - look at the profile of the outer halo
  - identify substructures
  - create samples for spectroscopic followup



A bright future

- LAMOST will give researchers in China access to world-class data
- Currently trying to stimulate this growth by developing a program to purchase time on a suite of 4-10m class telescopes
- Building towards the next decade, where we will play a role in major programs, in particular the Thirty Meter Telescope & potentially LAMOST South

Thirty Meter Telescope (TMT)

