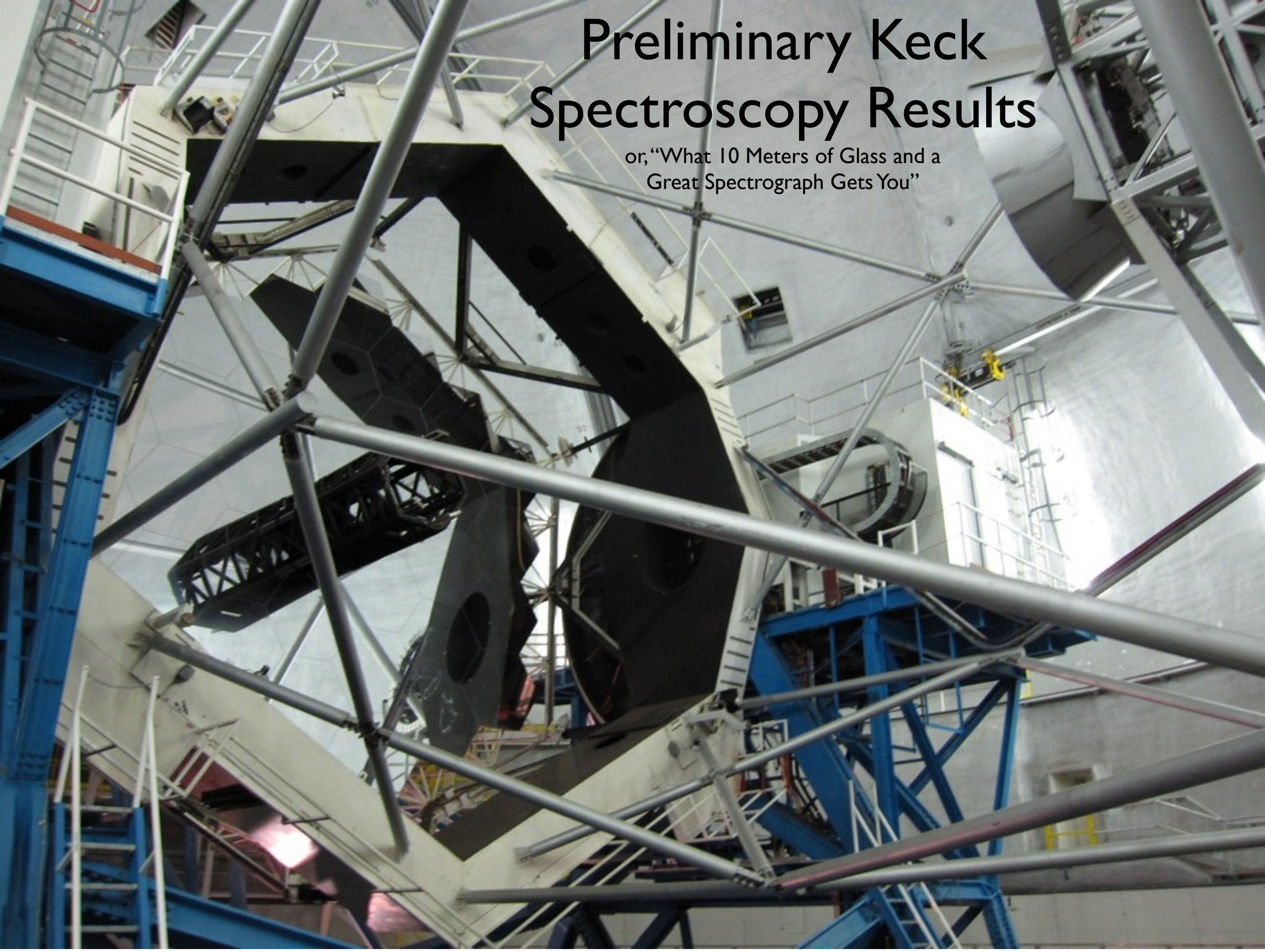
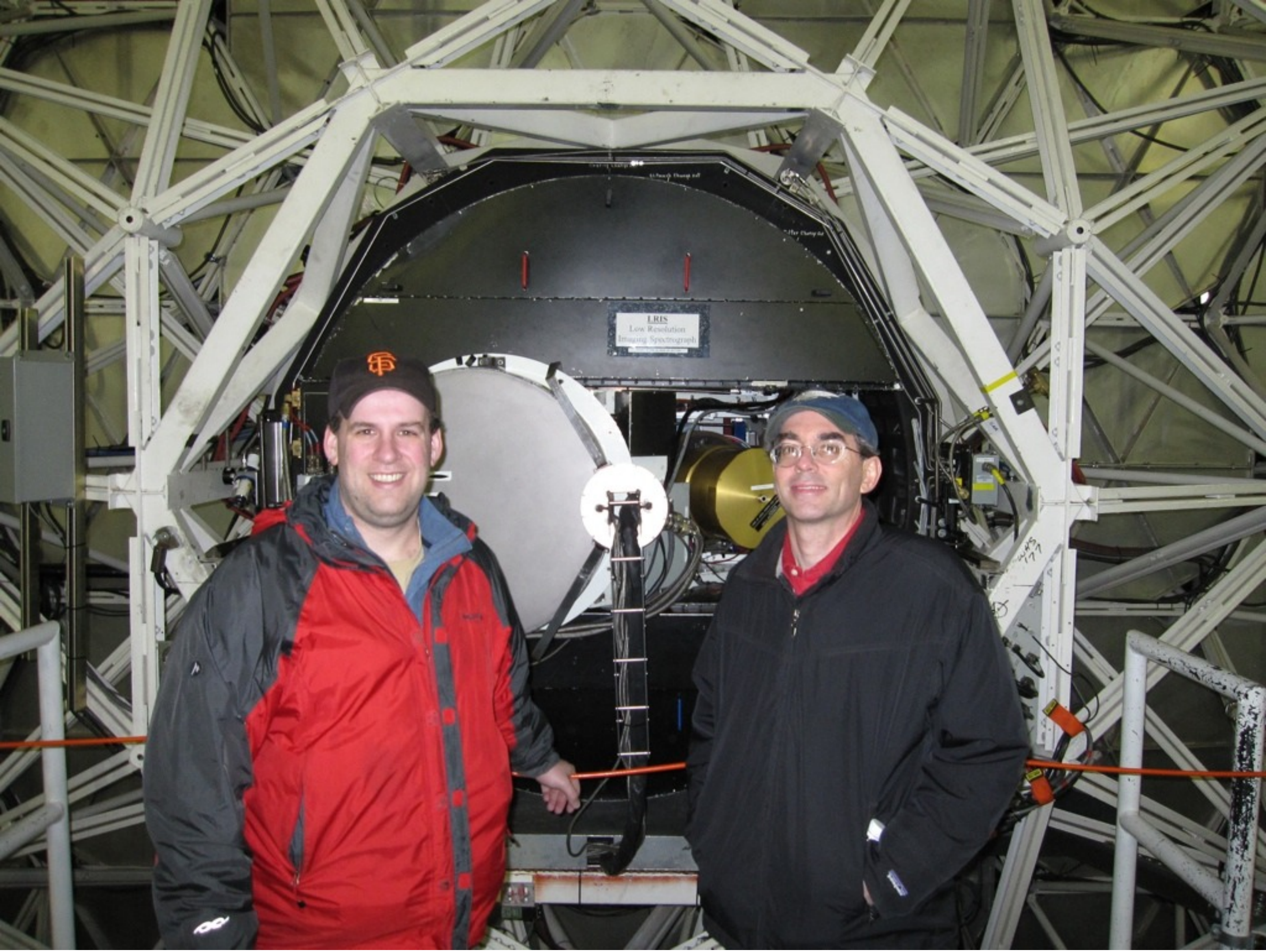
Preliminary Keck Spectroscopy Results

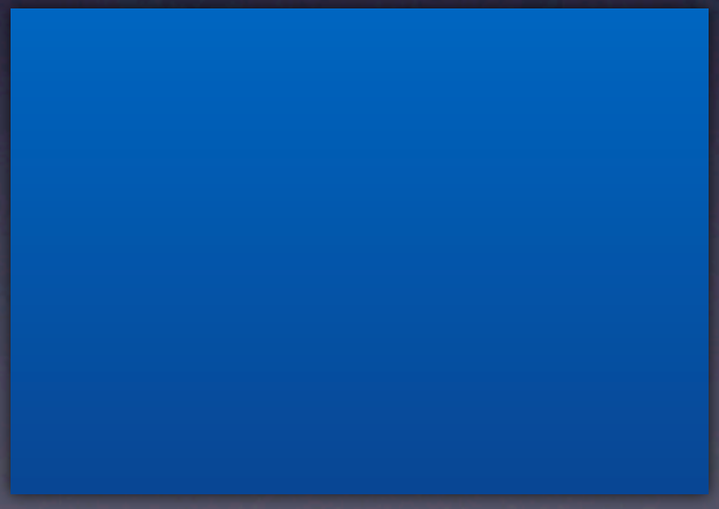
or, "What 10 Meters of Glass and a Great Spectrograph Gets You"




LRIS
Low Resolution
Imaging Spectrograph

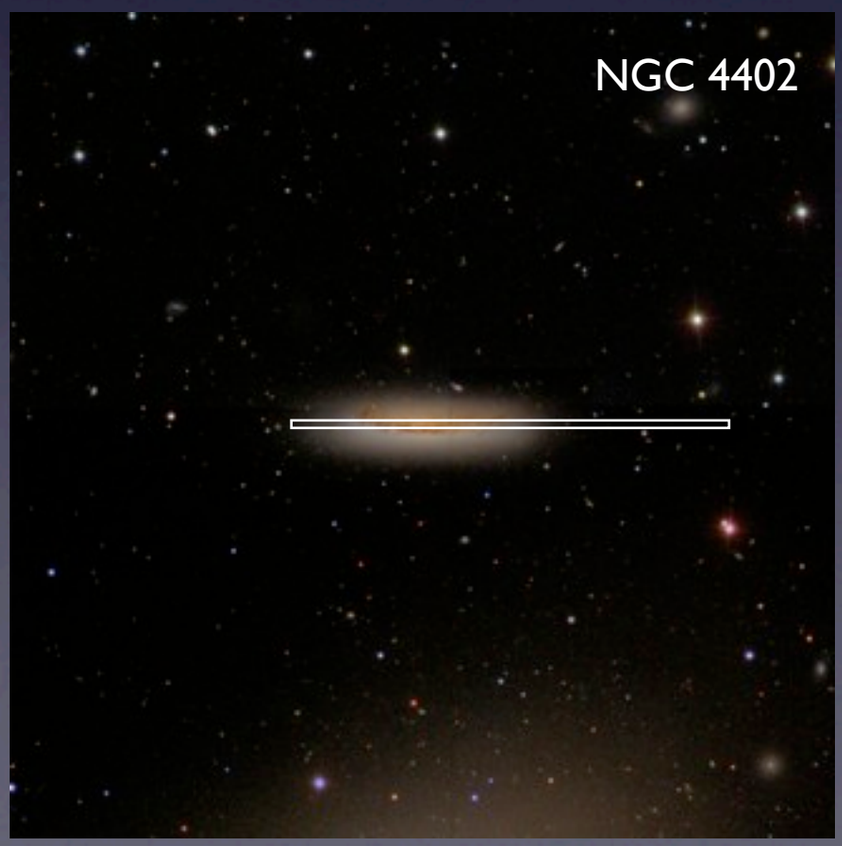
Hugh holding the slit plate

Jeff holding the slit plate

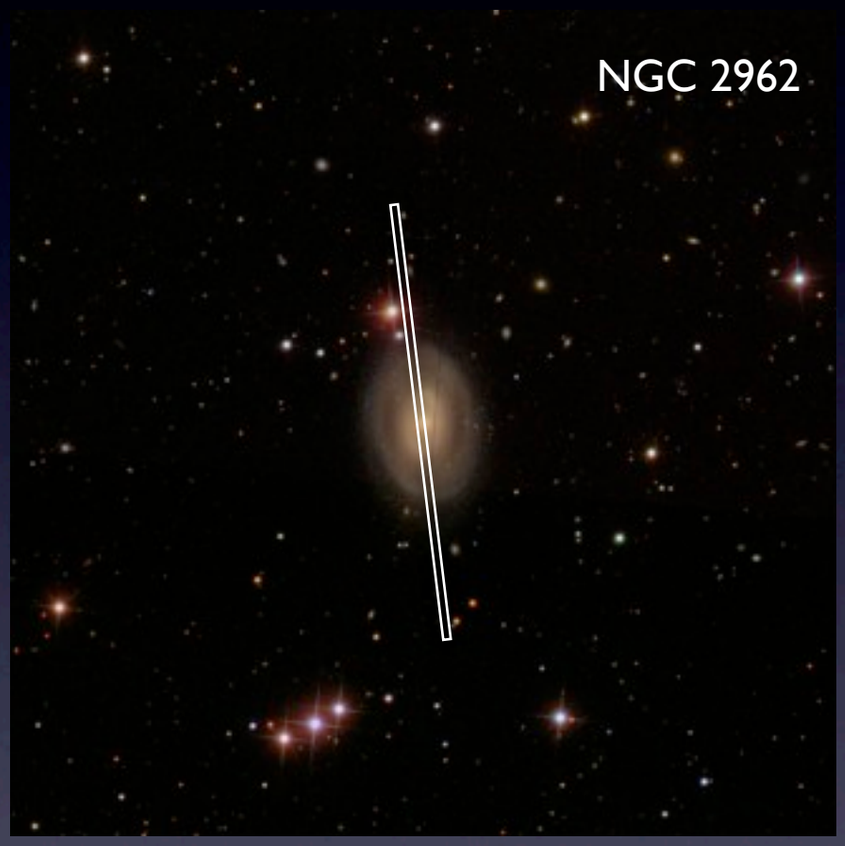


Jeff and Hugh dropping the slit plate on the ground (not pictured)

Observations

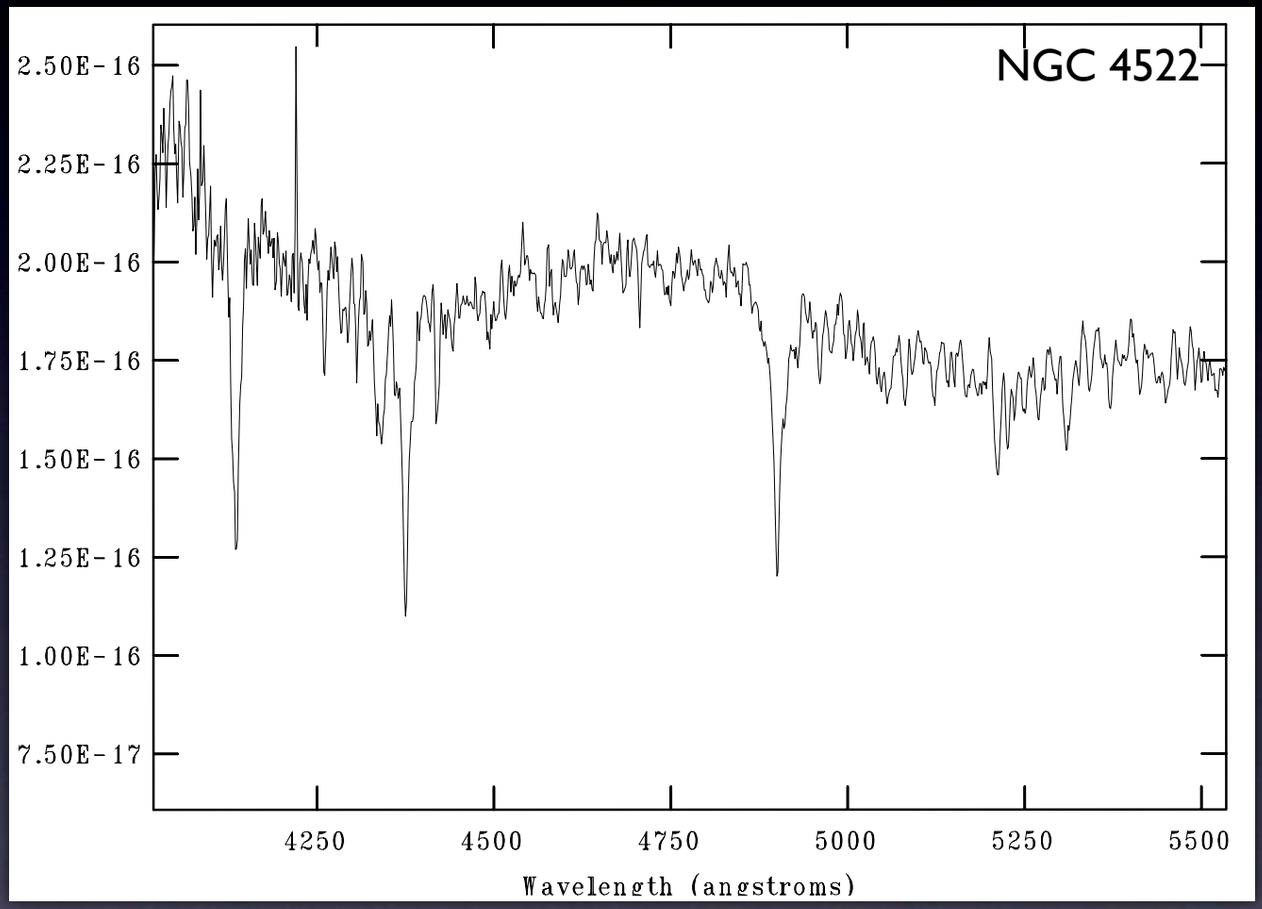


Observations

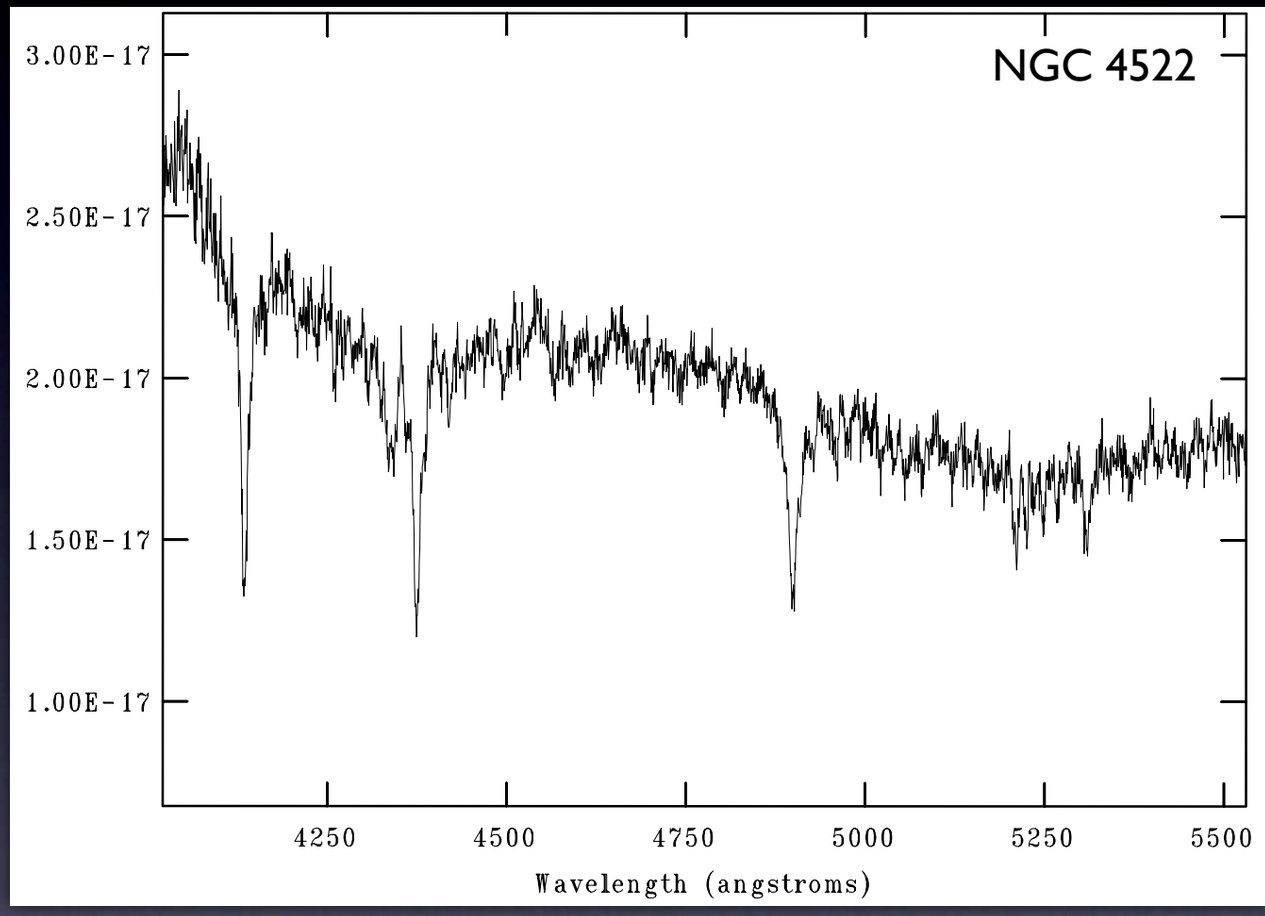


NGC 4522

Sparsepak

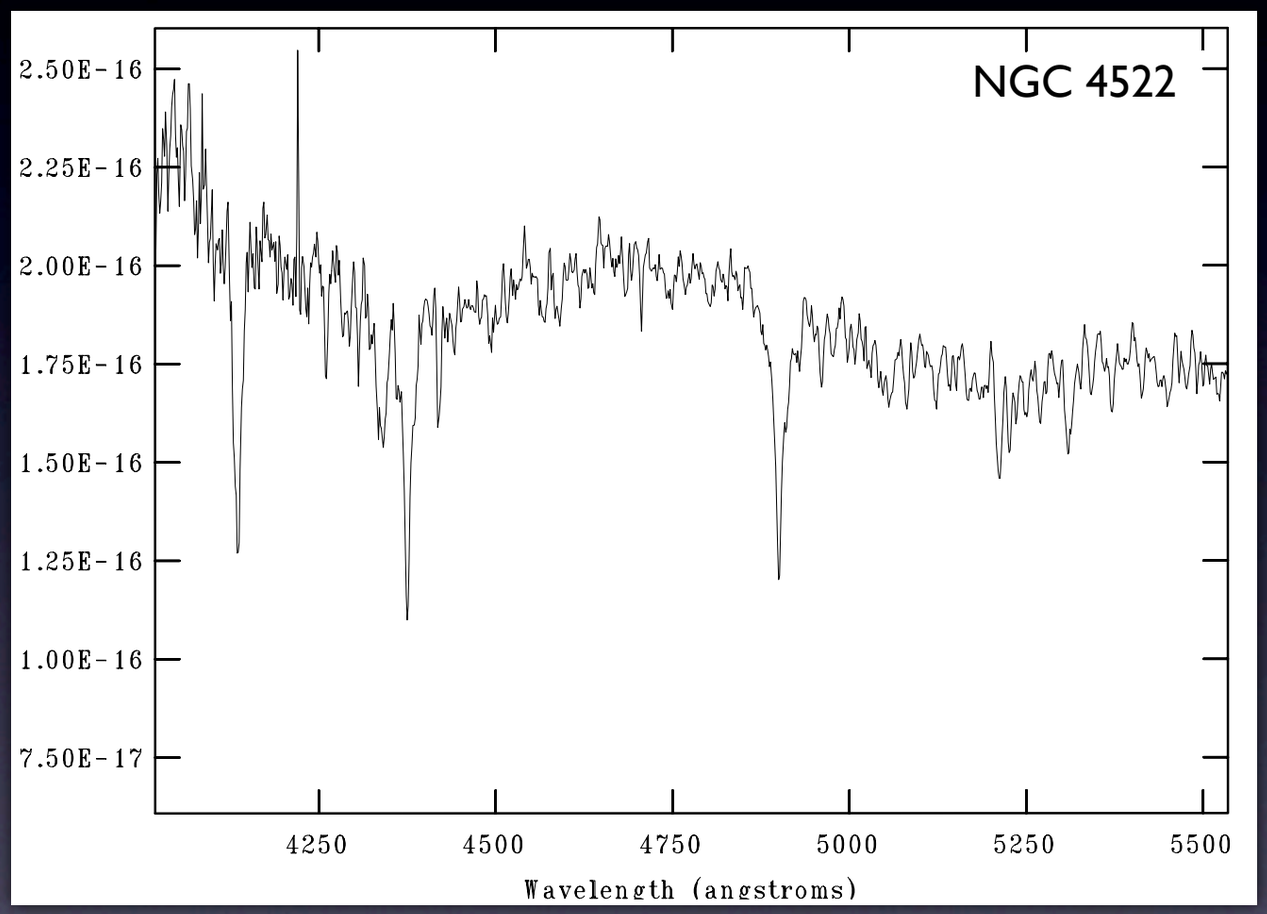


Keck LRIS

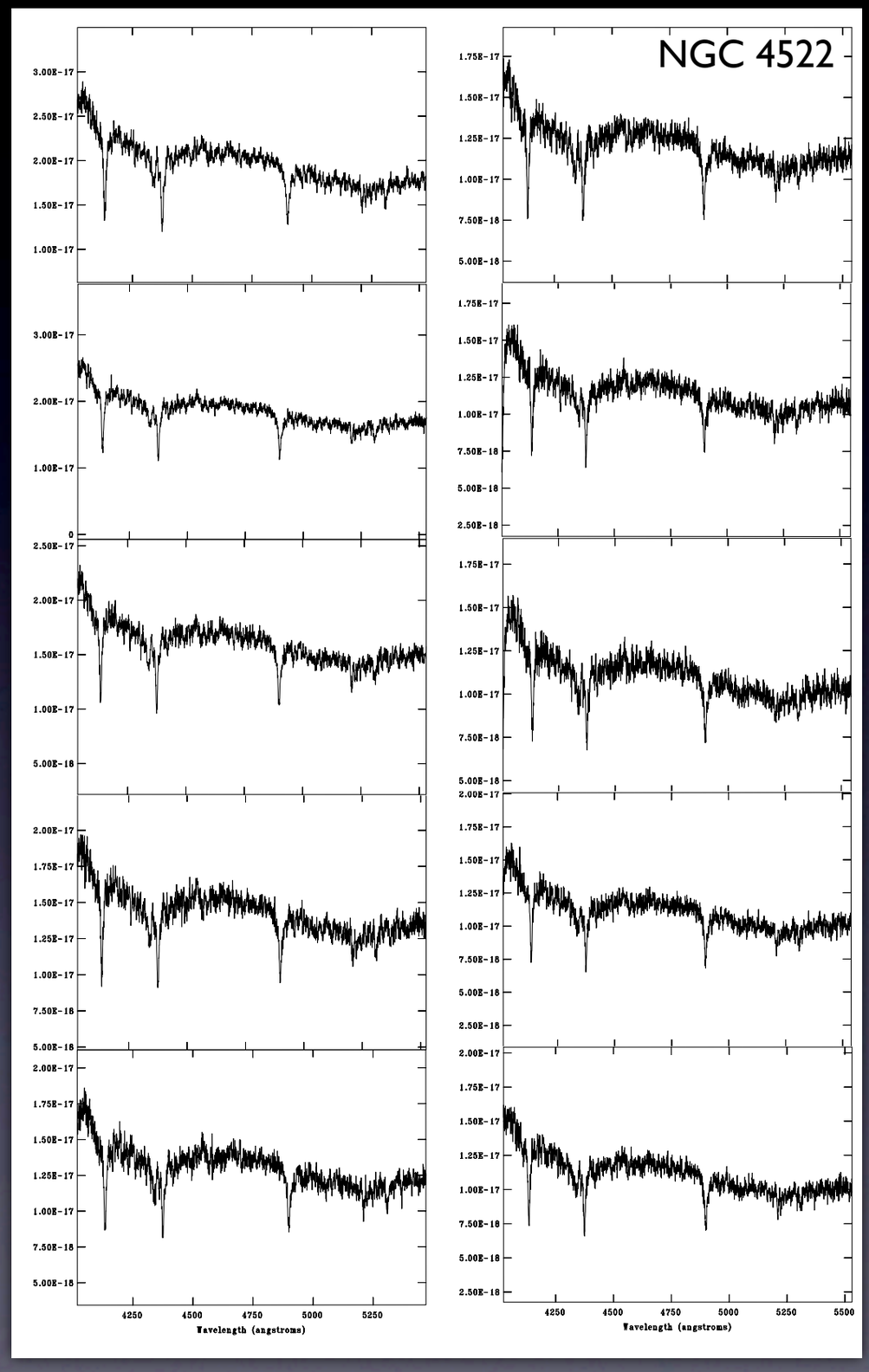


1/10 of the radial area
(~2 % collecting area)

Sparsepak

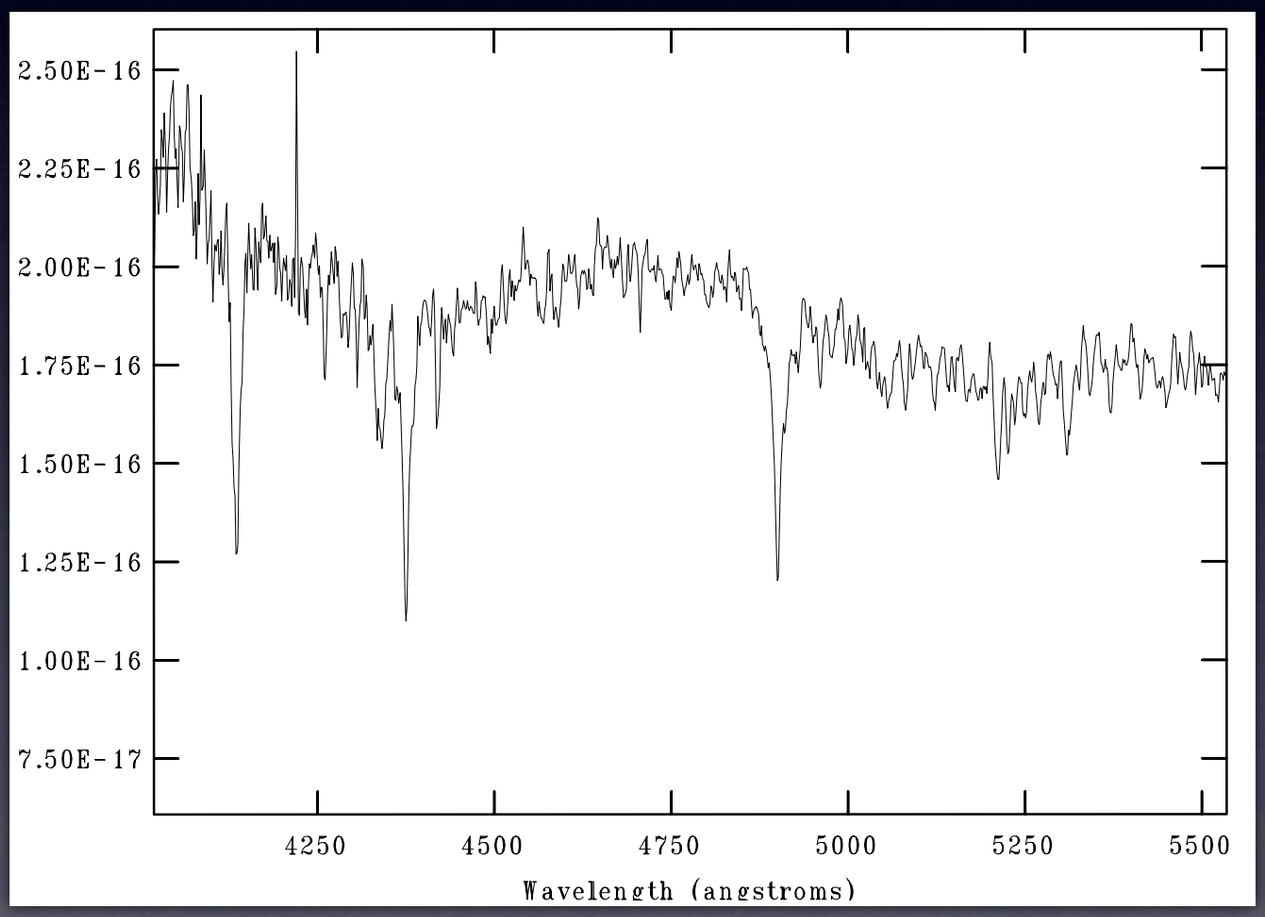


Keck LRIS

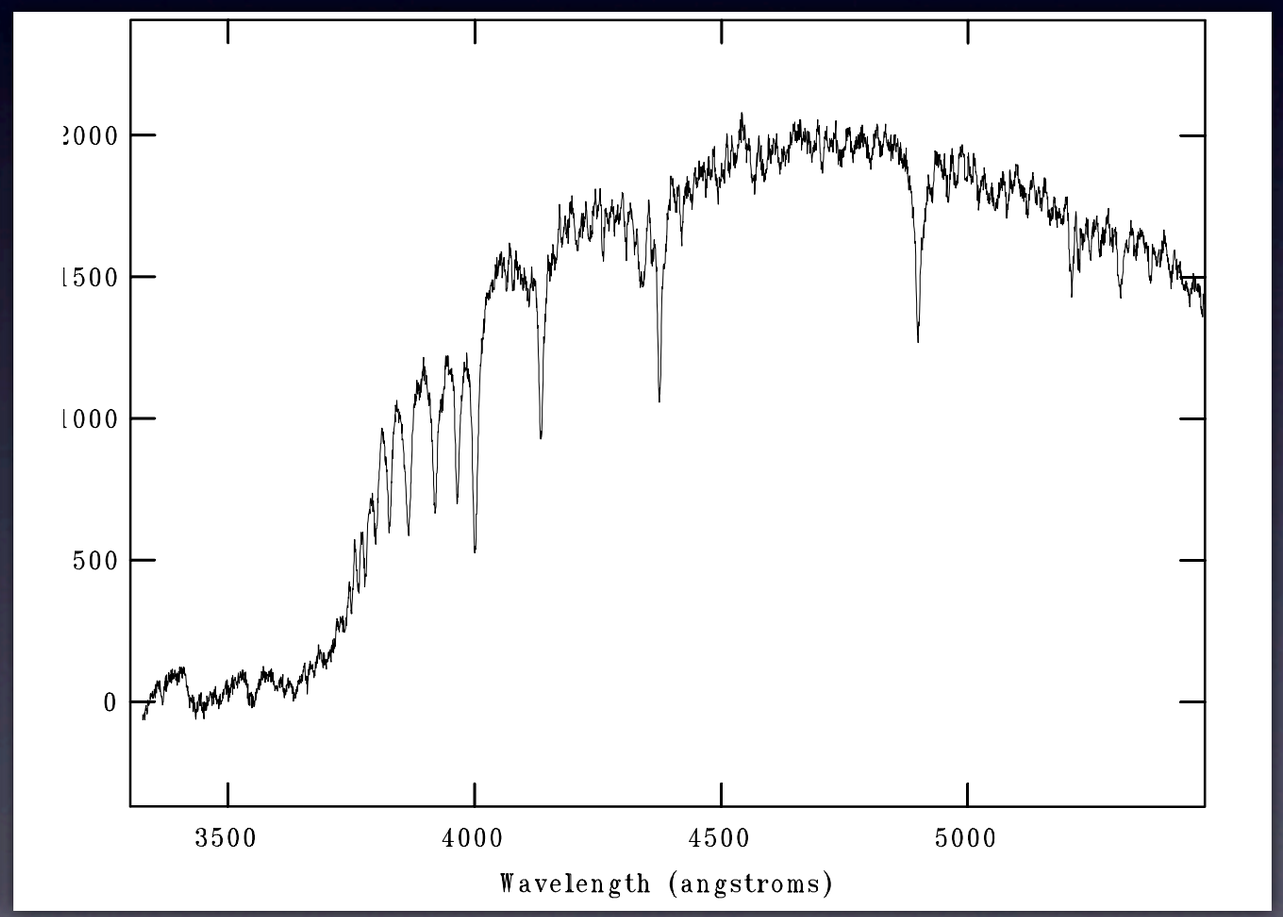


NGC 4522

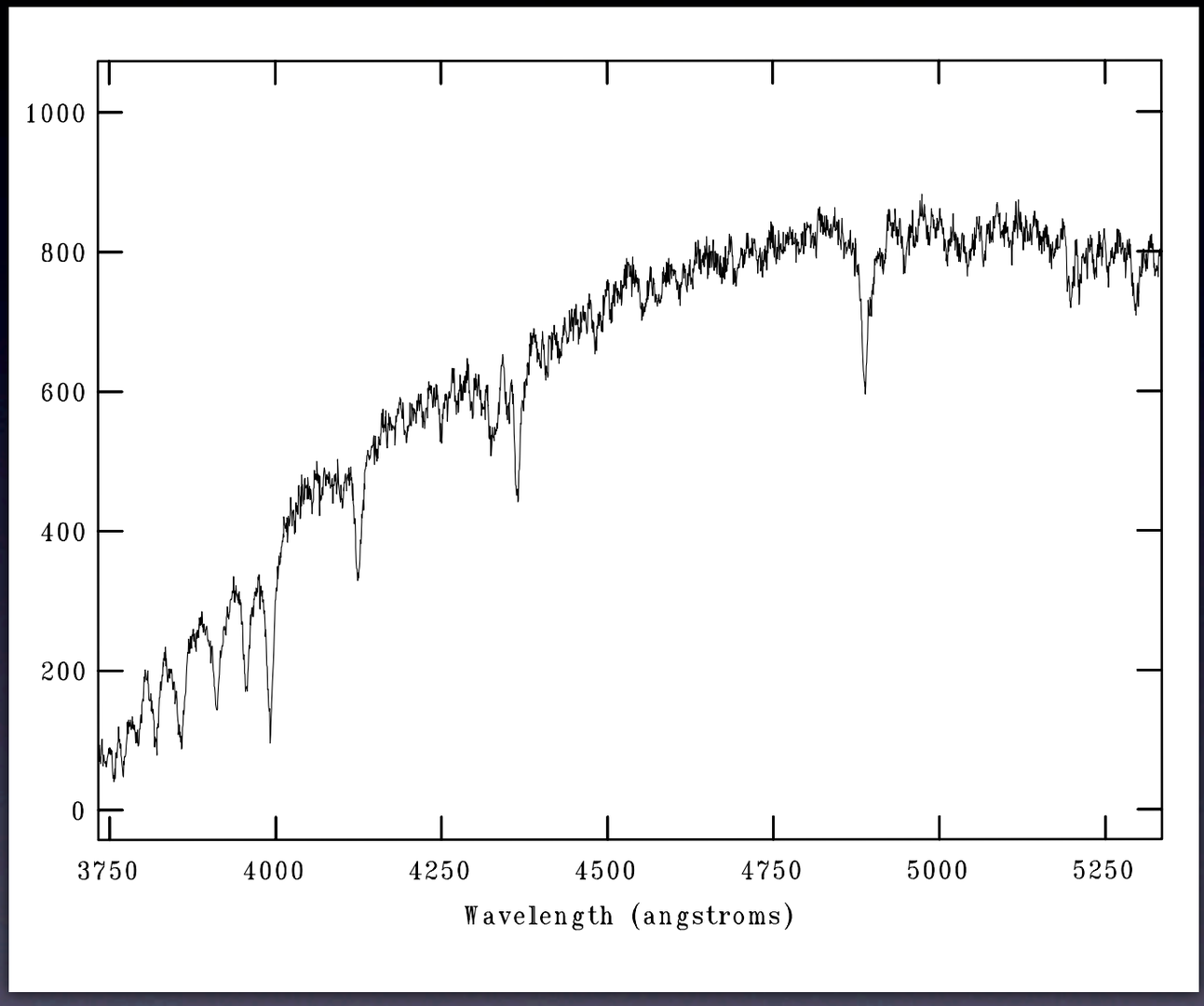
Sparsepak



Keck LRIS



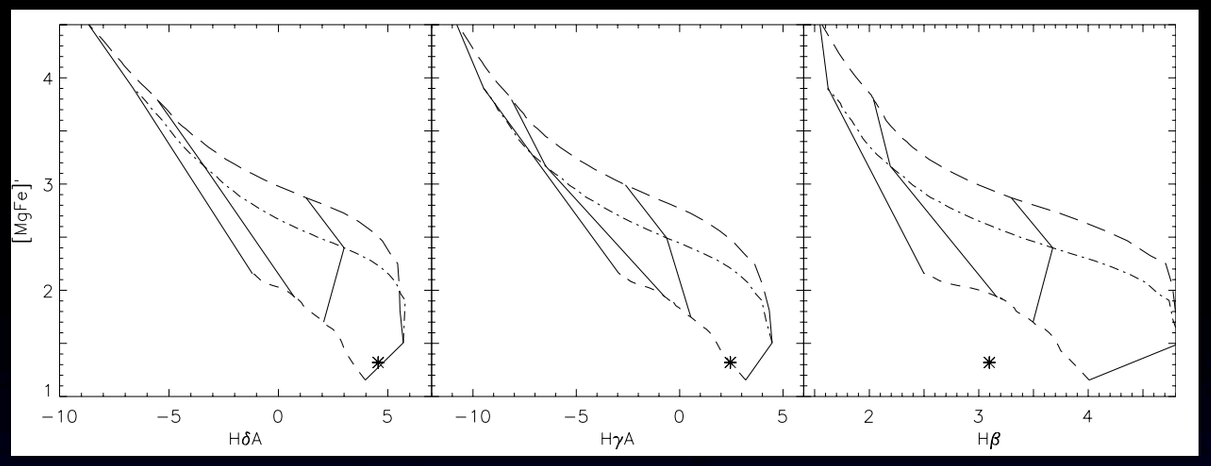
NGC 4330: Upturn



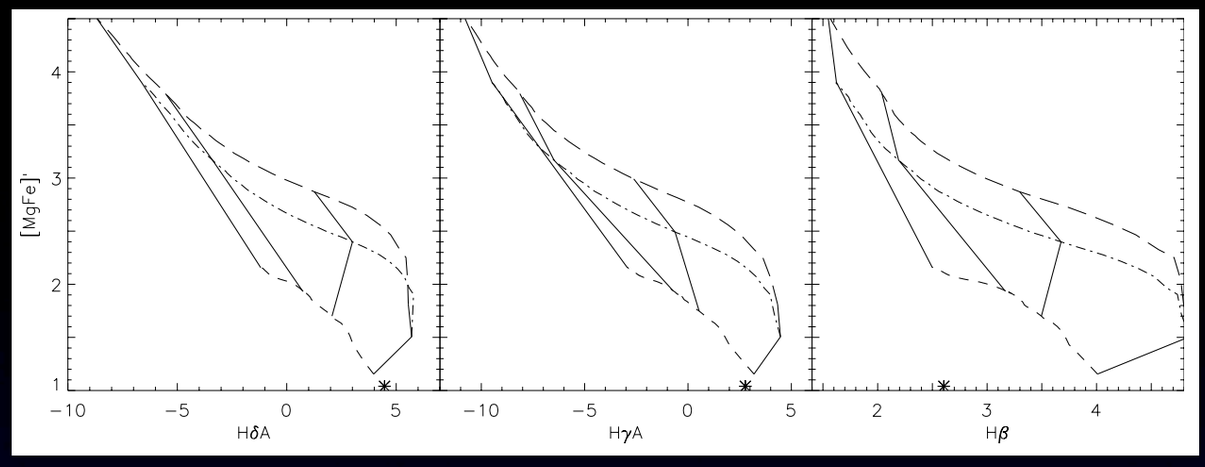
5” - 10” from nominal truncation radius

NGC 4330: Upturn

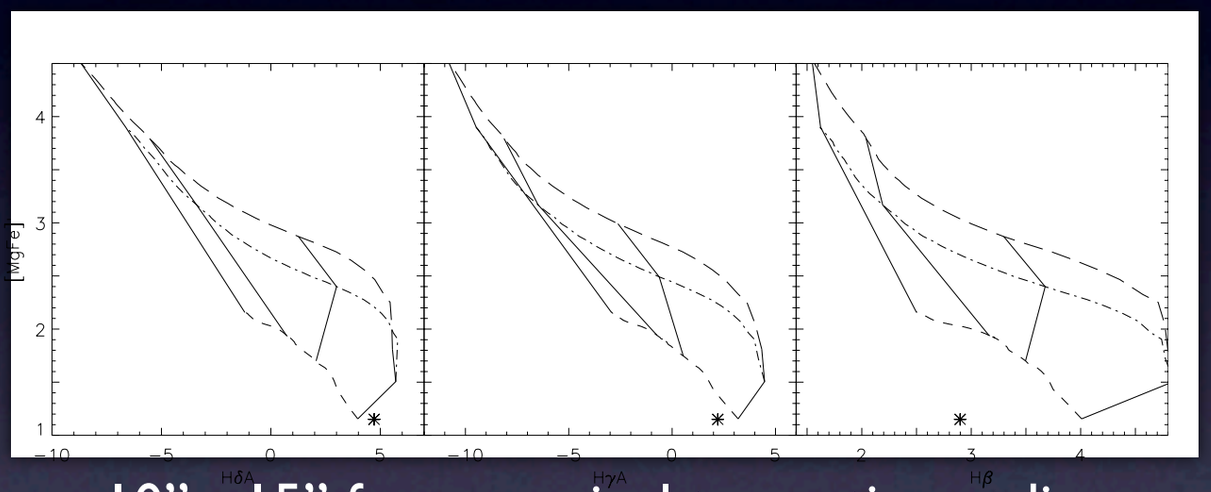
Models assume truncation + a 2% burst



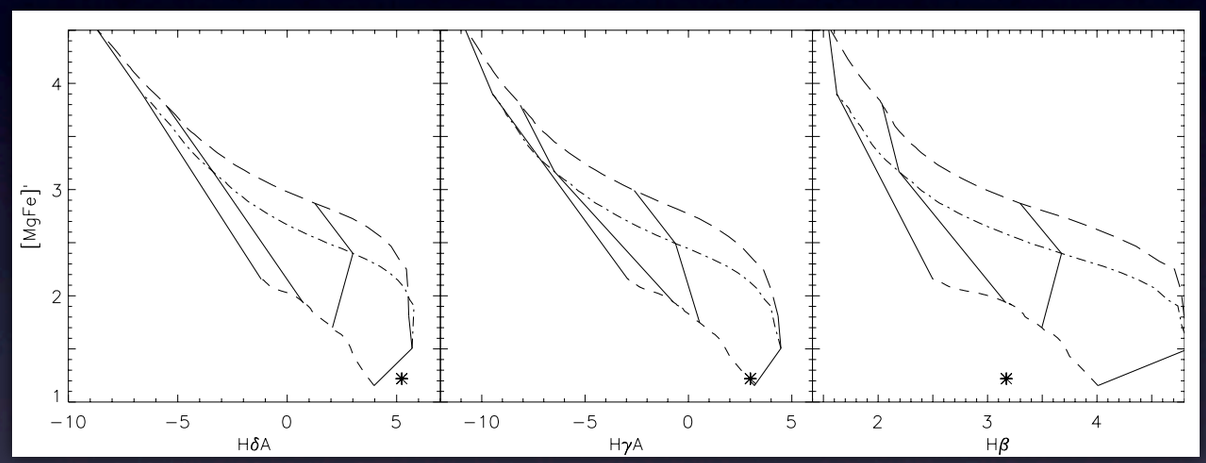
5” - 10” from nominal truncation radius



15” - 20” from nominal truncation radius



10” - 15” from nominal truncation radius

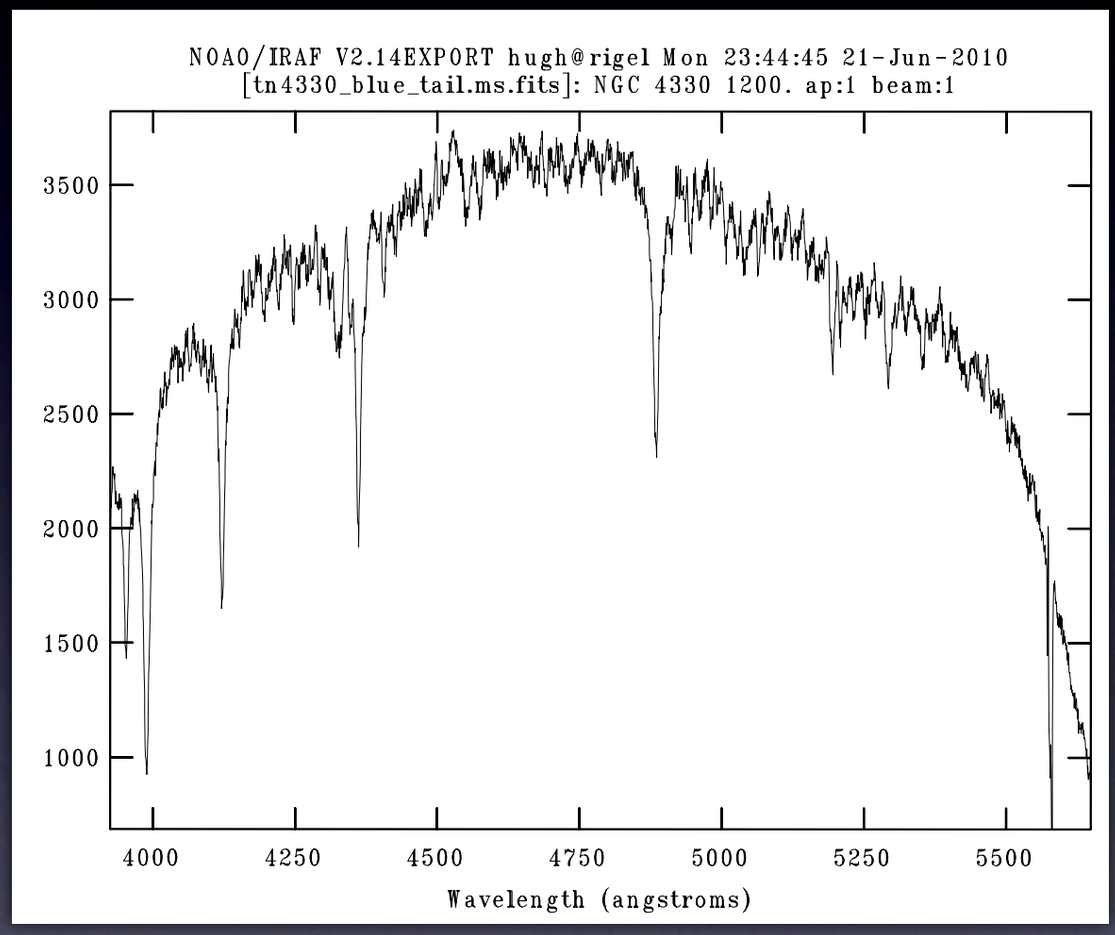


20” - 25” from nominal truncation radius

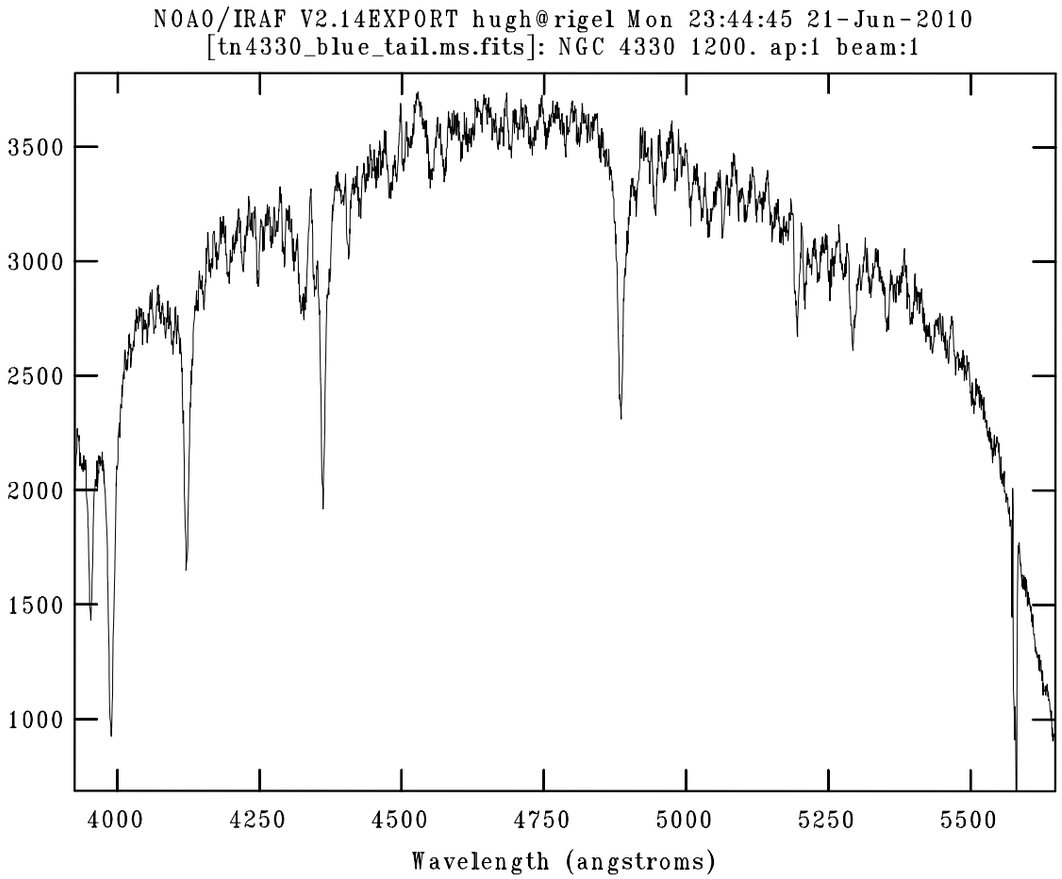
Preliminary Thoughts

- No apparent gradient within first 25” (2kpc) from stripping radius
- Hβ surprisingly weak (compared to Hγ and Hδ)
  - emission fill-in?
  - complex stellar population (e.g. a big burst?)
- Young quenching age: ~50 Myr, assuming 2% Burst + stripping
  - Older, if there was a burst at the time of quenching (as suggested by GALEX)

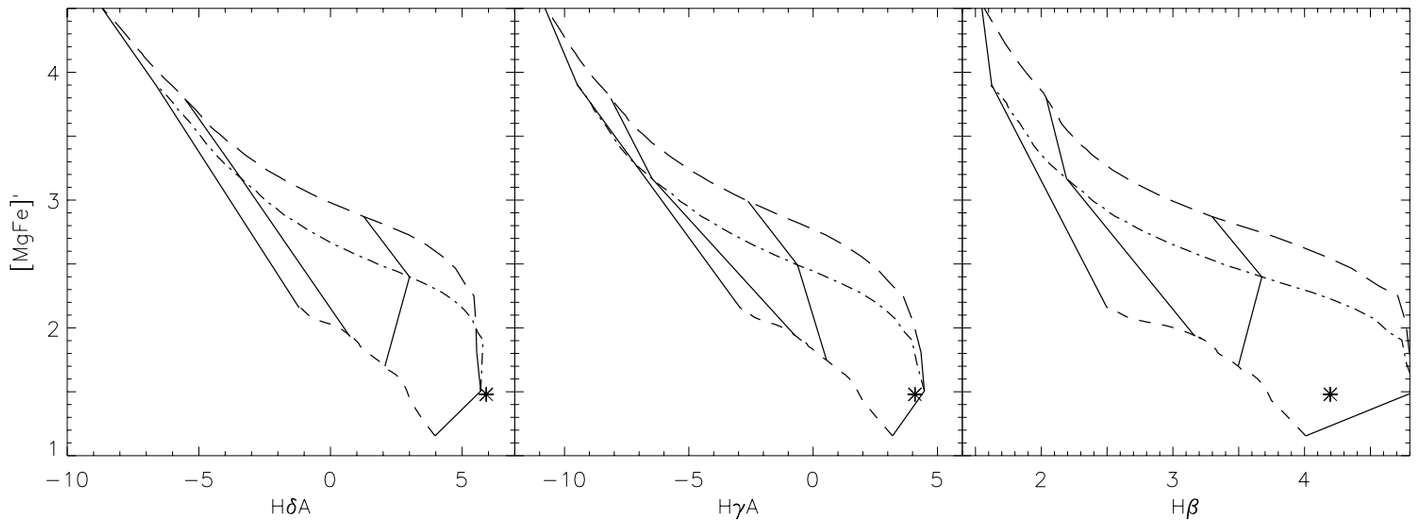
NGC 4330: Tail Side IN DISK



NGC 4330: Tail Side IN DISK



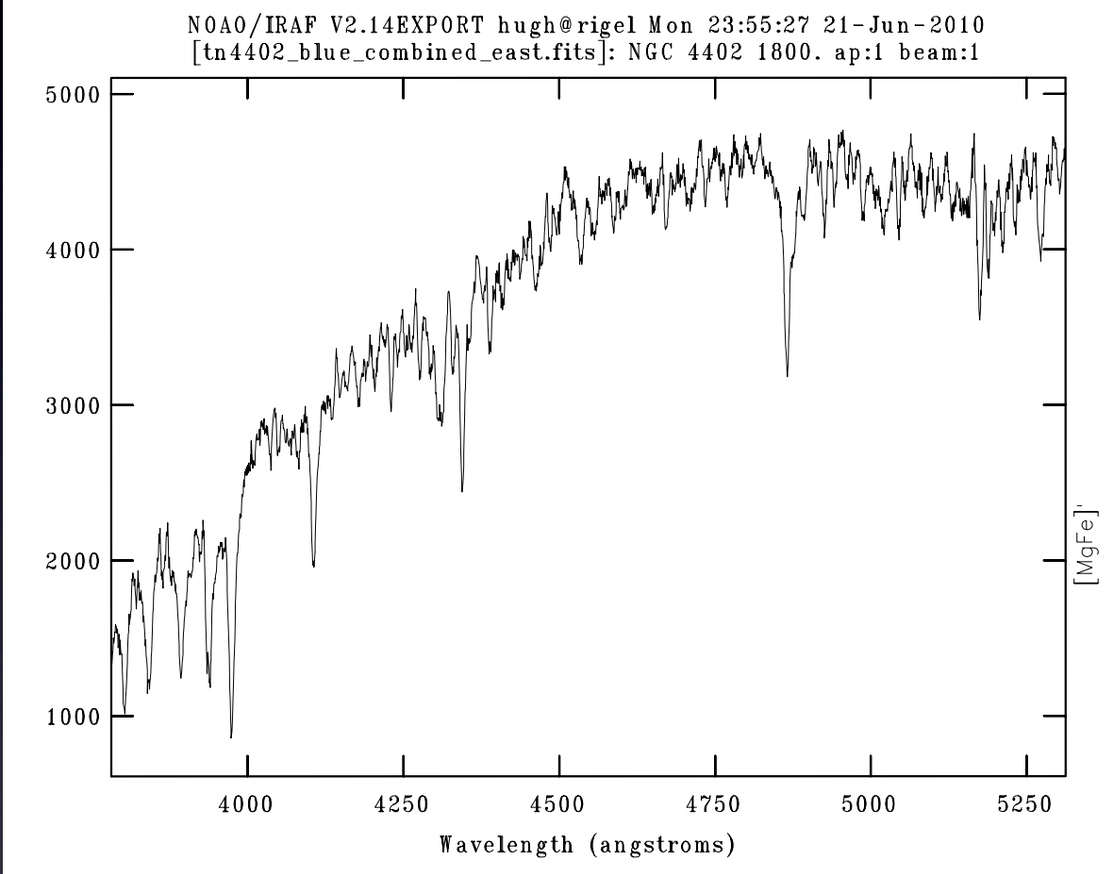
Models assume truncation + a 2% burst



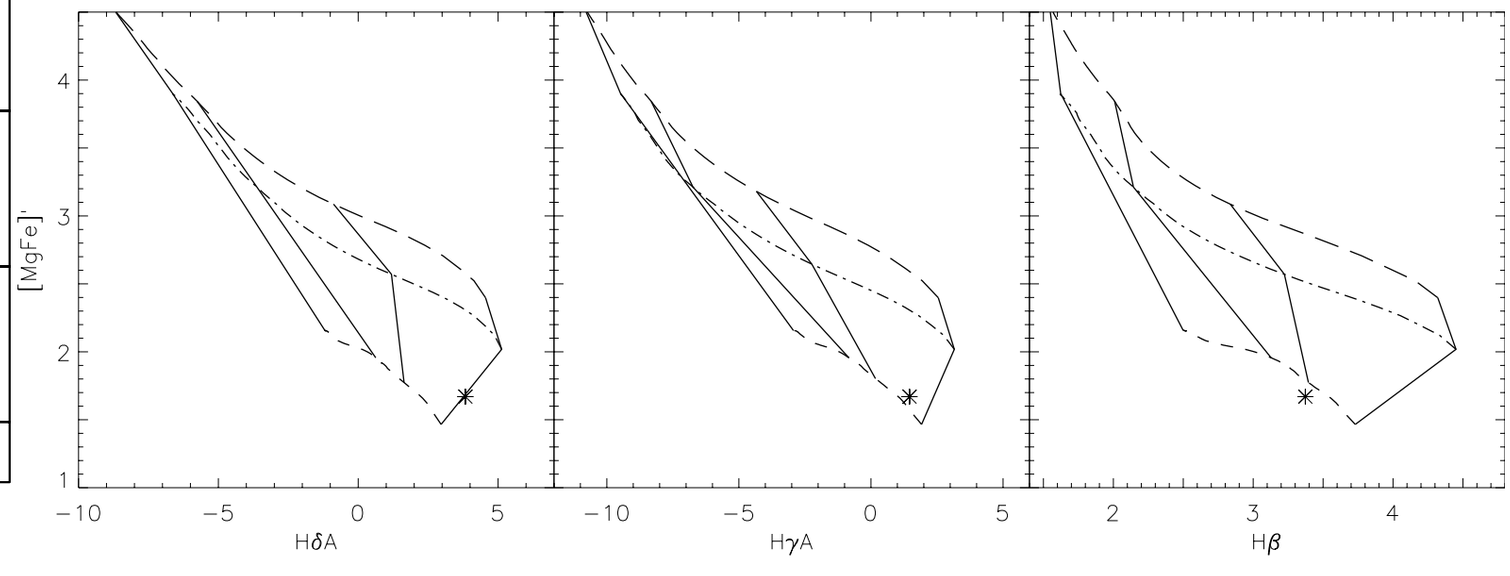
Preliminary Thoughts

- Stronger Balmer absorption lines than any Virgo outer disk I've ever observed
- Star formation going on very recently
  - ~50 Myr assuming a 2% burst; GALEX analysis will be helpful here

NGC 4402: Leading Edge



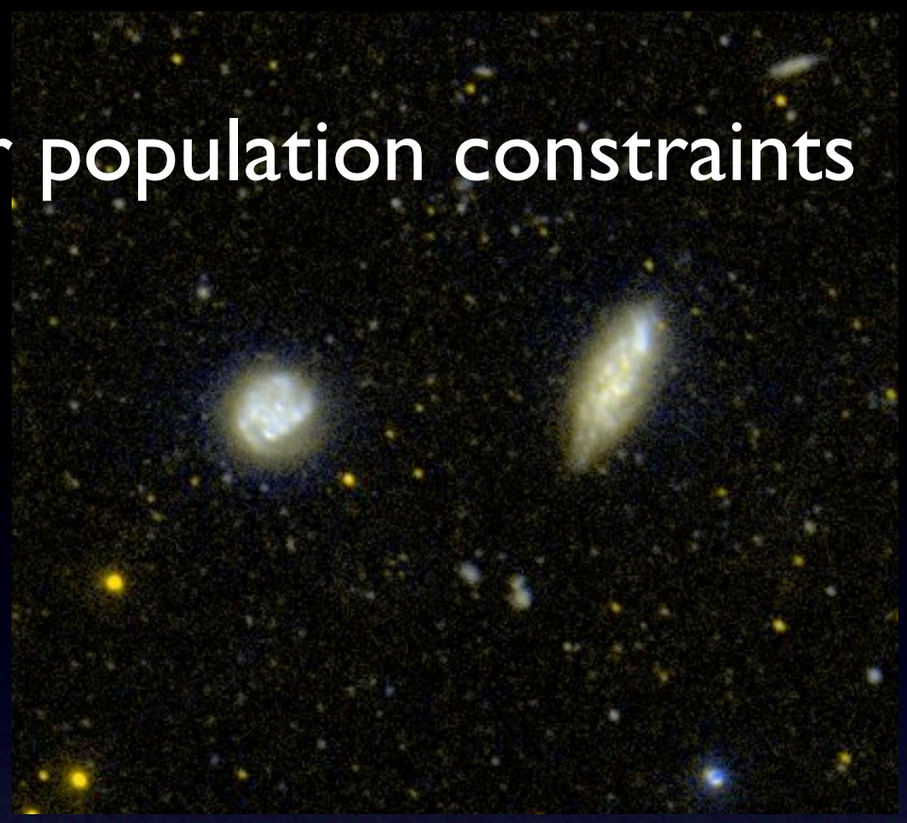
- Models assume *simple stripping*
- Spectrum is from the inner-most gas-free disk (0”-15”/ 0-1 kpc beyond the nominal stripping radius)

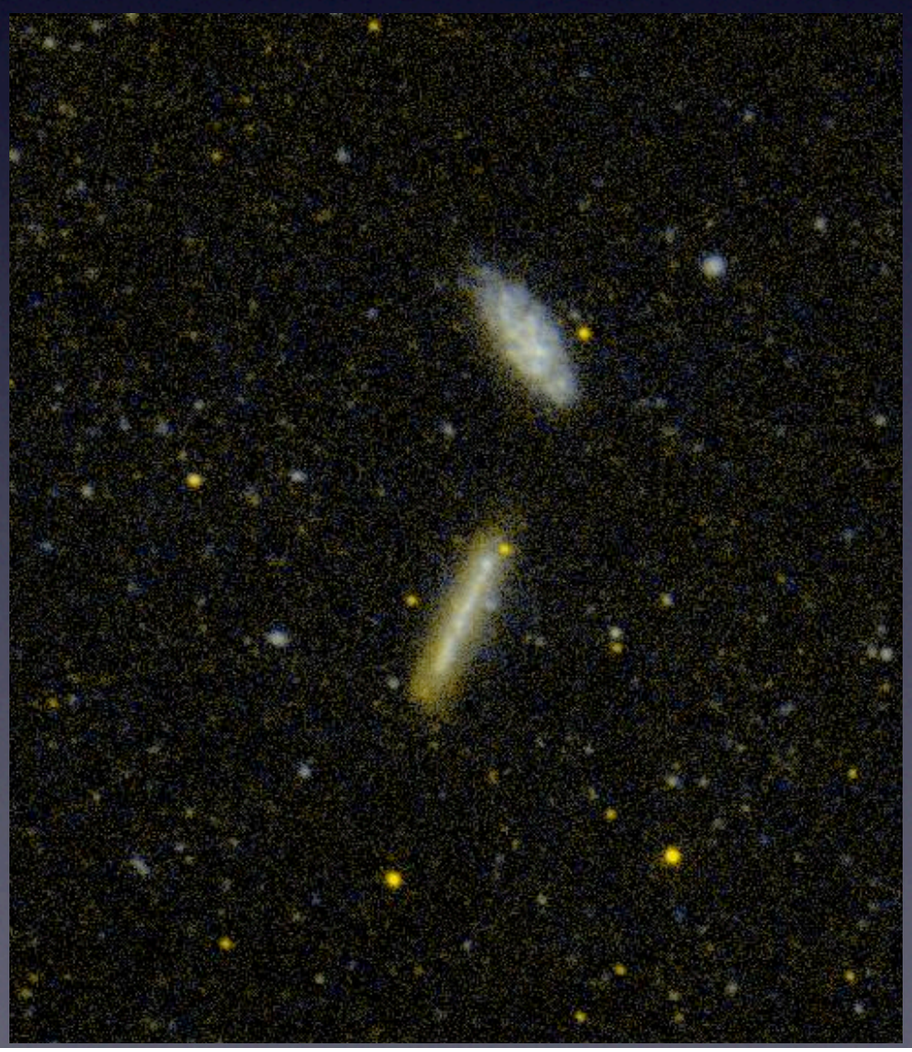


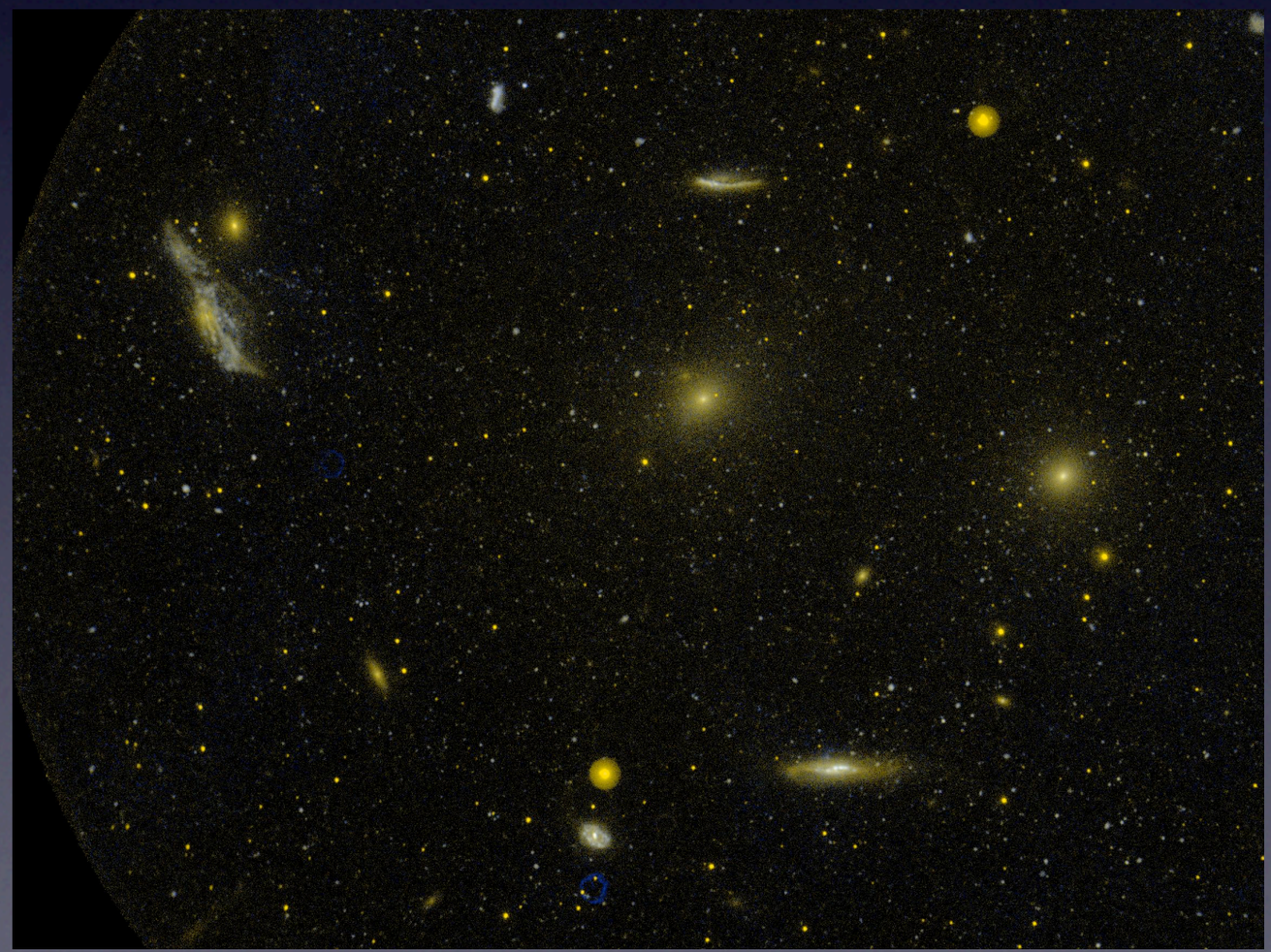
Preliminary Thoughts

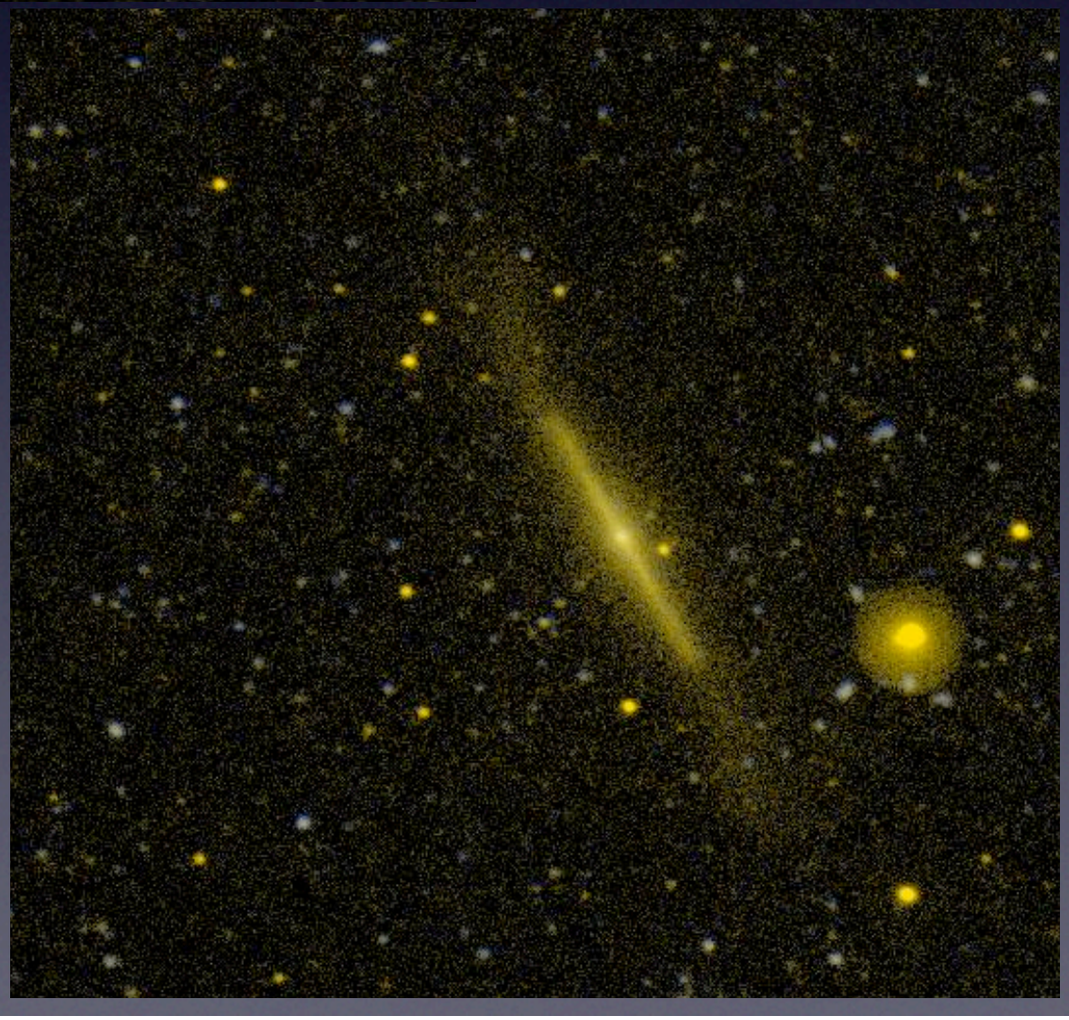
- Young quenching age: ~50-100 Myr ago assuming simple stripping
- Possible gradient will be particularly interesting here

GALEX offers additional stellar population constraints









Next Steps

1. Finalize reduction process and work out final problems
2. Measure photometry from GALEX and SDSS on one "test case" to try more complex stellar population modeling
   - NGC 4330?
   - NGC 4522?
3. Look at possible population gradients leveraging both Keck and GALEX simultaneously
   - Starvation?
   - Two-zone stripping?