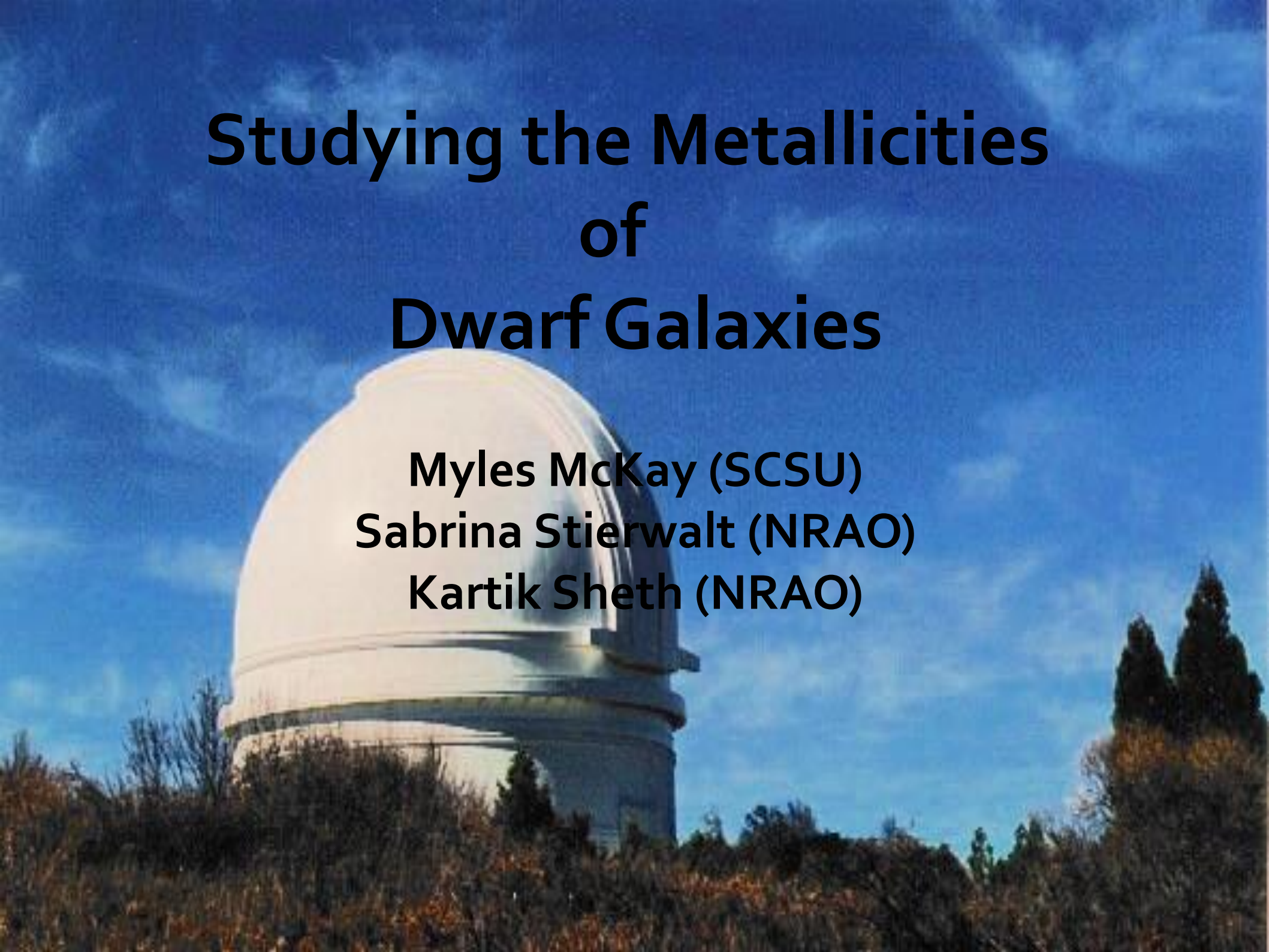


Studying the Metallicities of Dwarf Galaxies

**Myles McKay (SCSU)
Sabrina Stierwalt (NRAO)
Kartik Sheth (NRAO)**



What is a Dwarf?

NO DEFINITION!

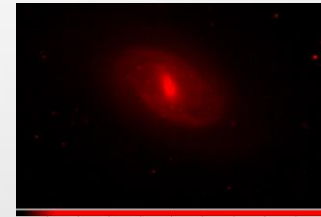
Milky Way Galaxy

$10^{11} M^*$



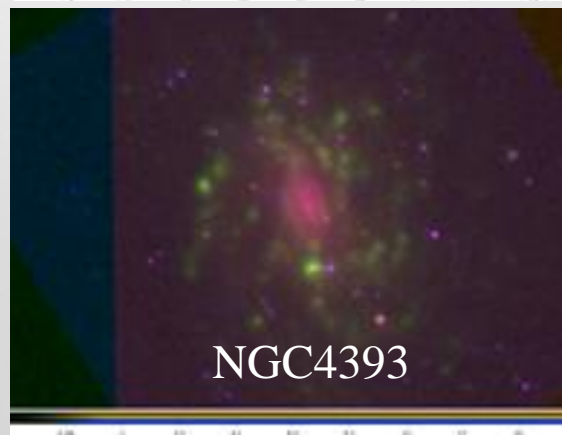
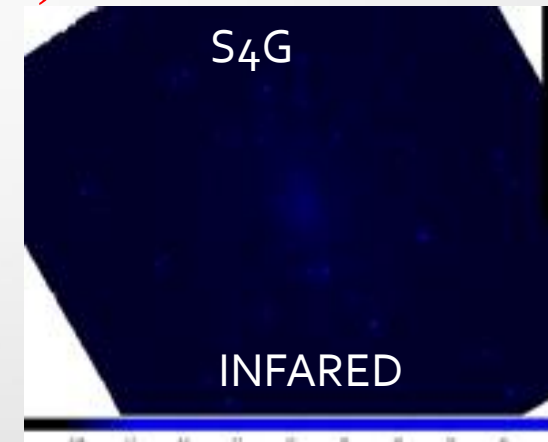
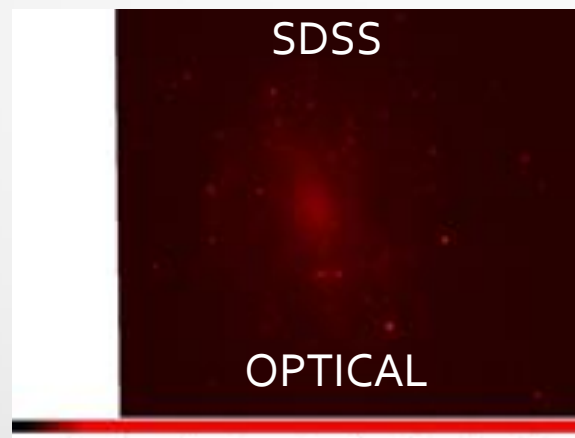
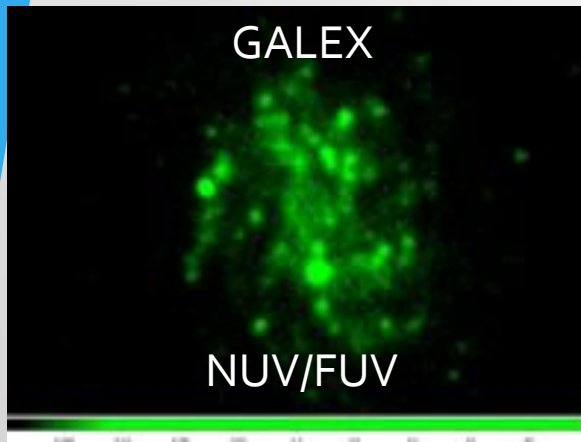
NGC4413

$10^8 M^*$ or less



Why study dwarf galaxies?

- Most numerous extragalactic population in the local universe
- Maybe the building blocks of more massive galaxies
- Dwarf galaxies may be analogs to gas-rich galaxies at high redshift.
- **Insufficient star formation(some)**

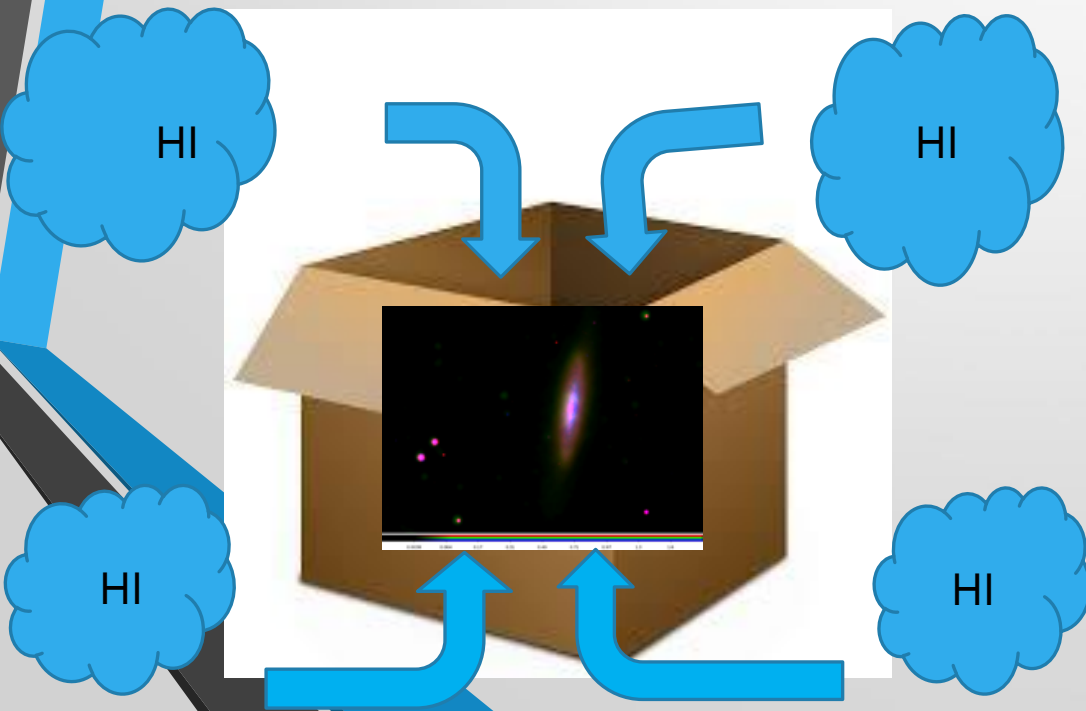


What affects the development?

Open box Scenario

External

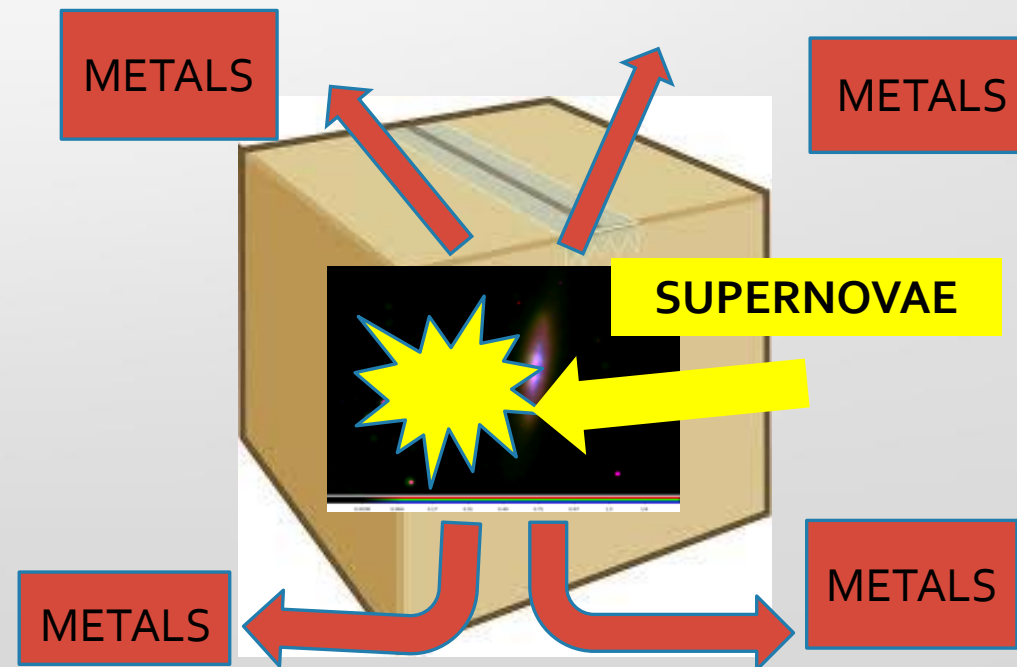
- Inflow of HI gas.



Closed box Scenario

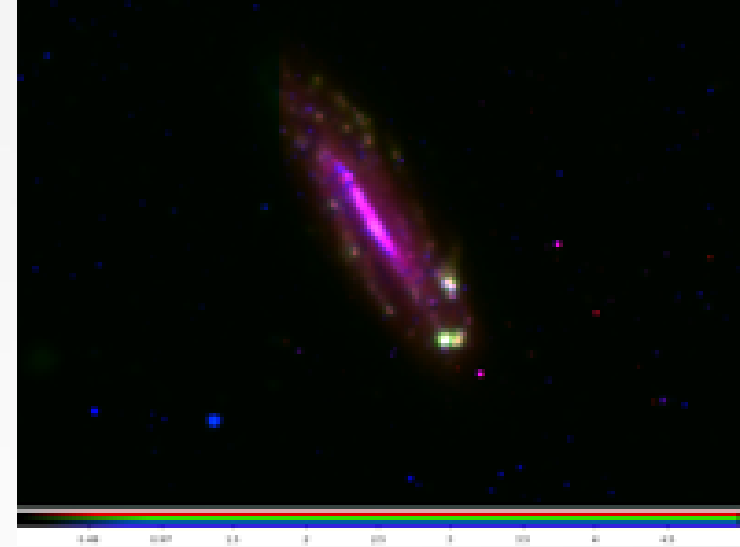
Internal

- Supernovae driven winds
- Ram-pressure stripping

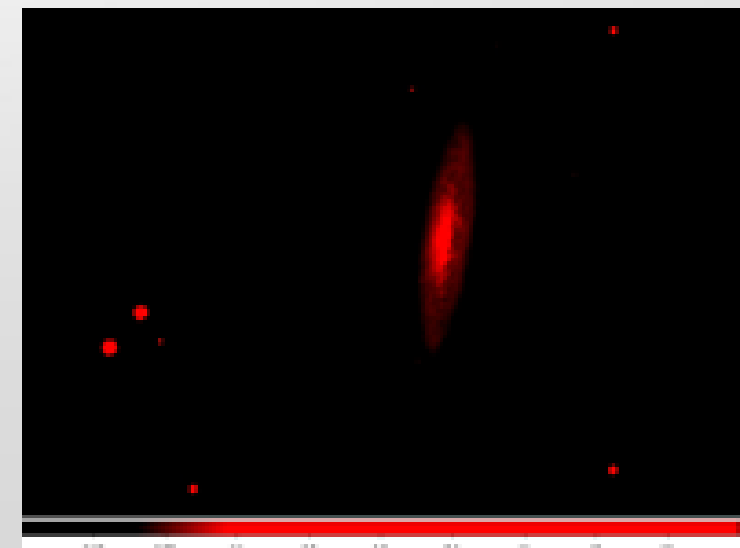
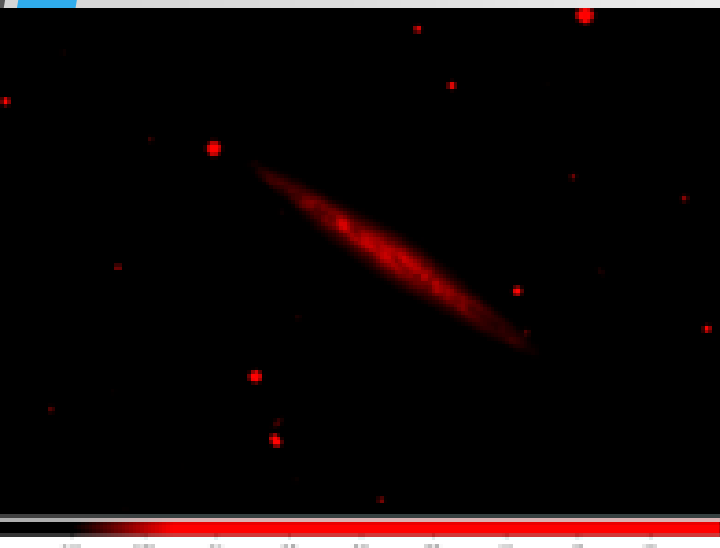




Metallicity

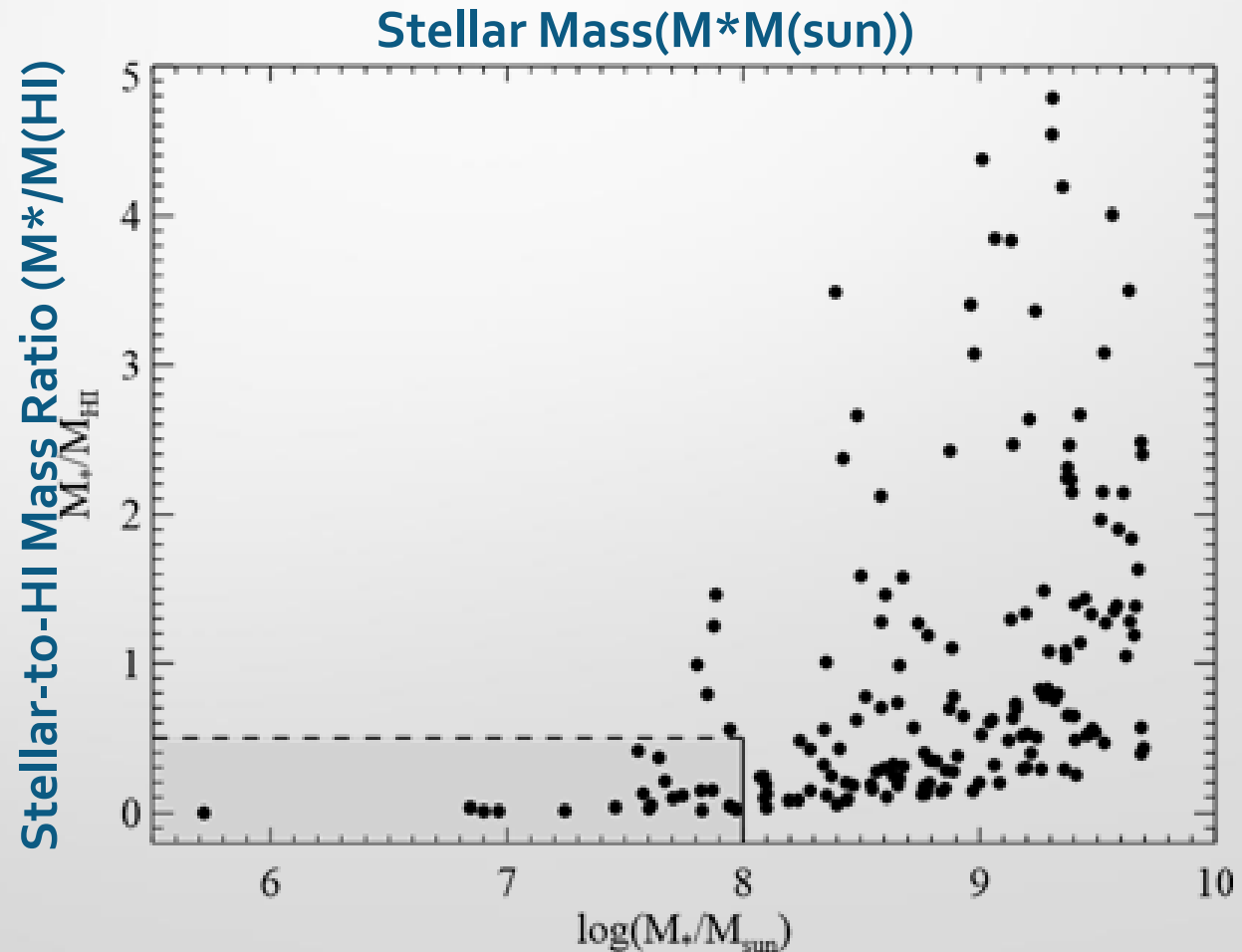


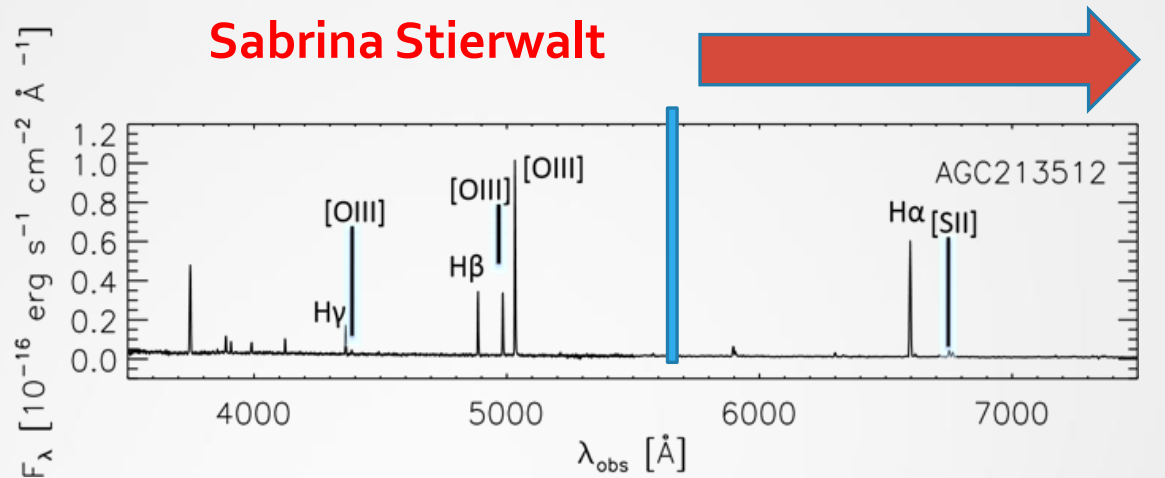
- **Metallicity (Z)**- The proportion of its matter made up of chemical elements other than H and He.
- Using **Palomar** data to measure the metallicity.





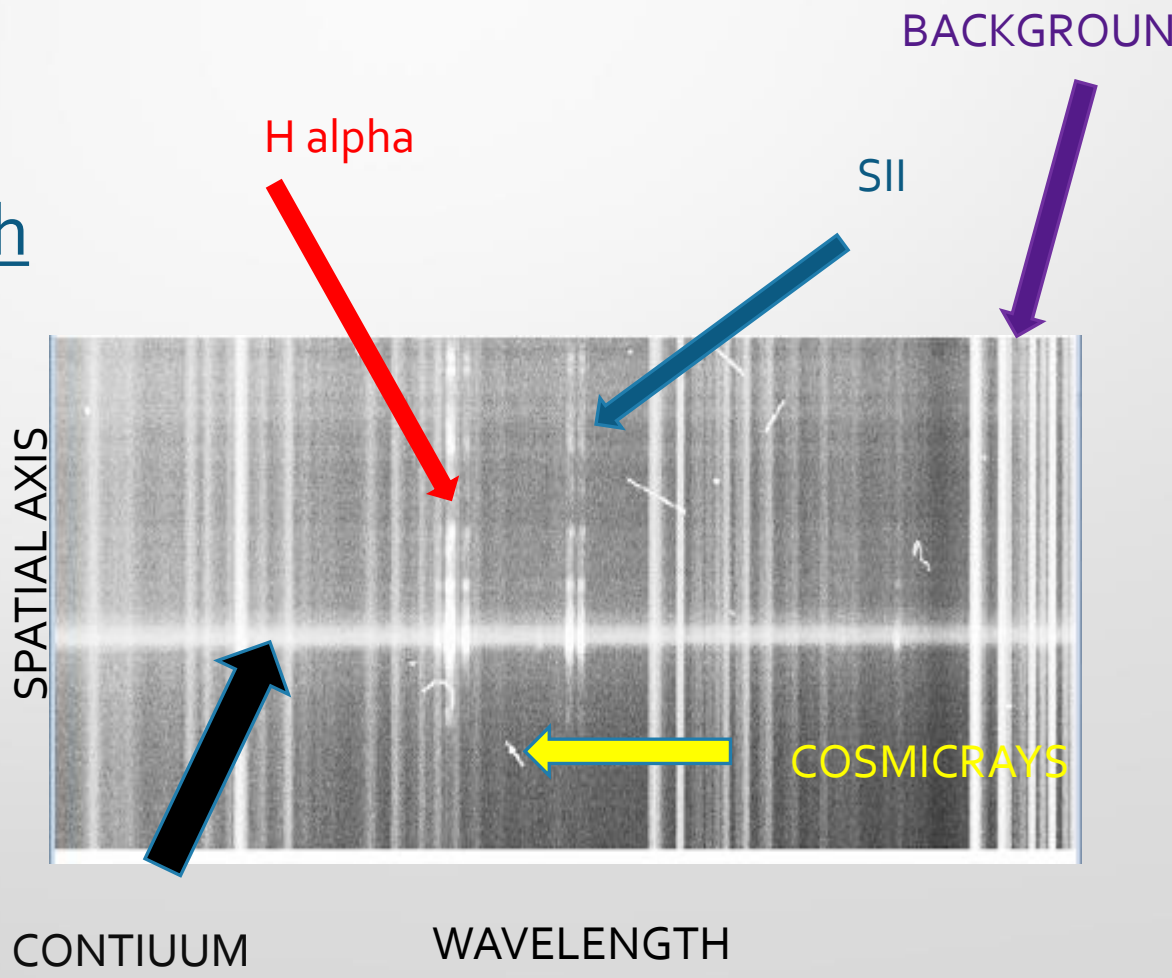
- Spitzer (S⁴G)
(Kartik Sheth)
- Galaxies that have lowest stellar mass
- Lowest stellar/HI mass
- 19 galaxy sample





Palomar Double Spectrograph

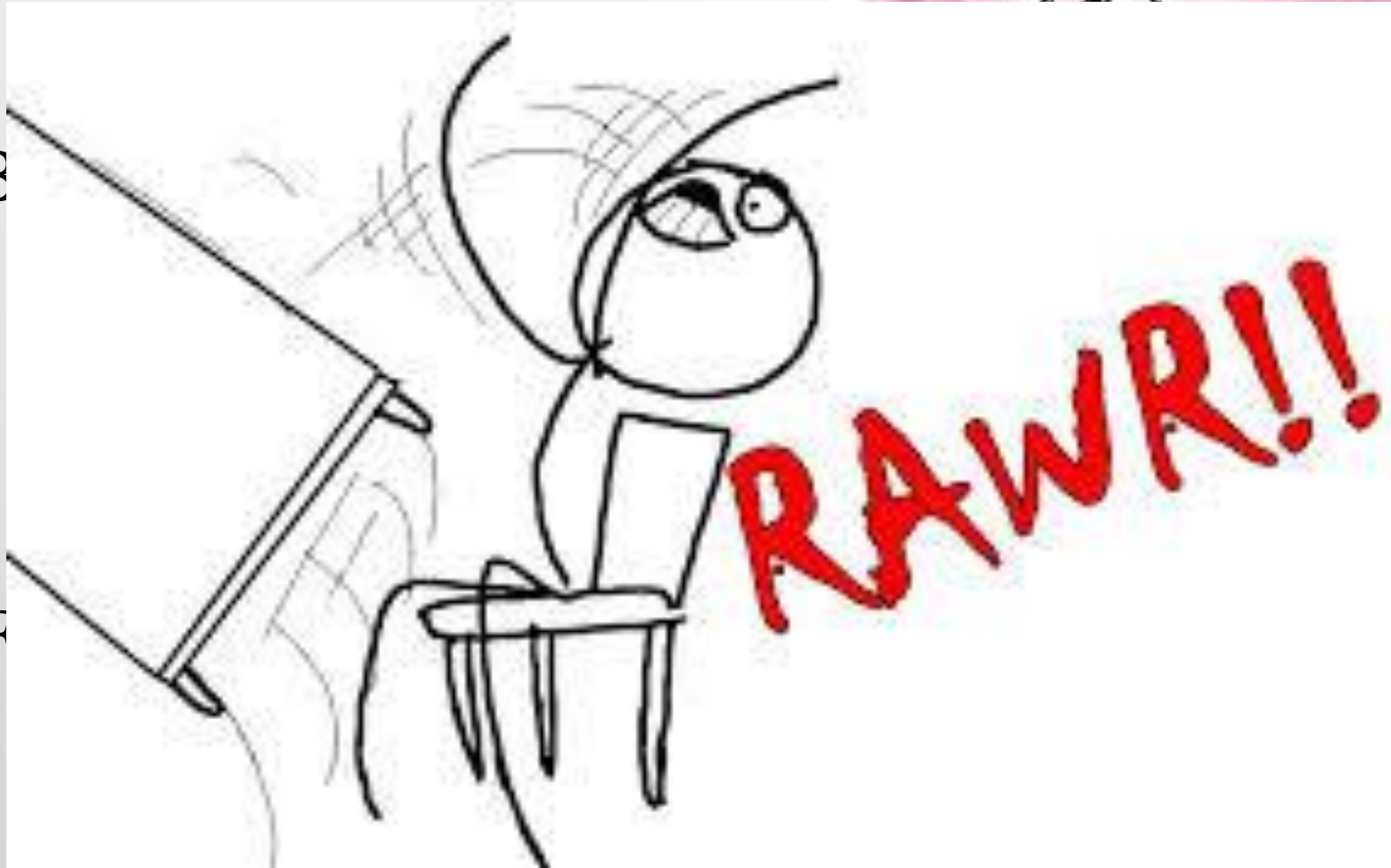
- Made metallicity measurements
- Used IRAF to reduce data
- Measure the Halpha, OIII, and SII.



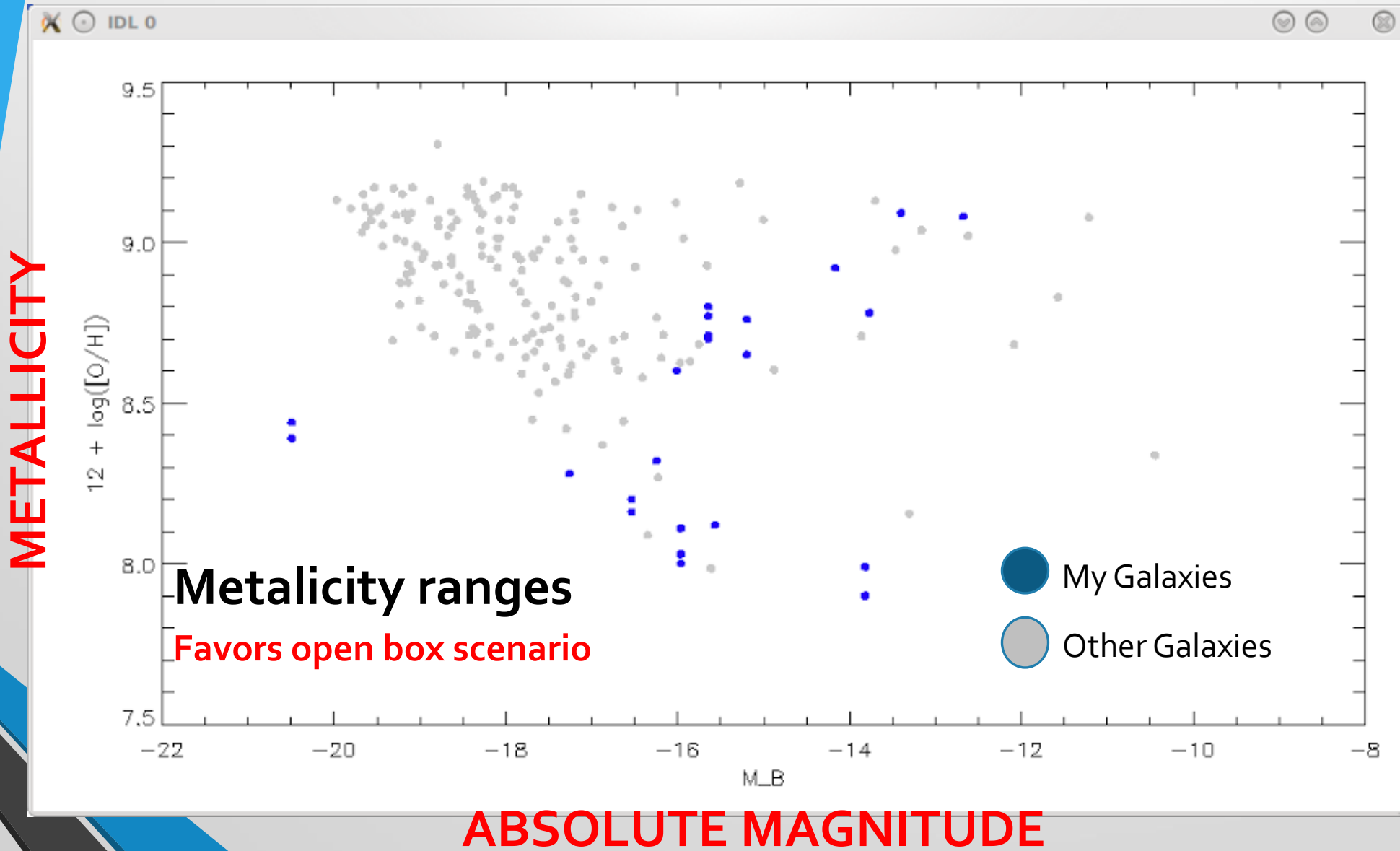
PROCESS

E

F

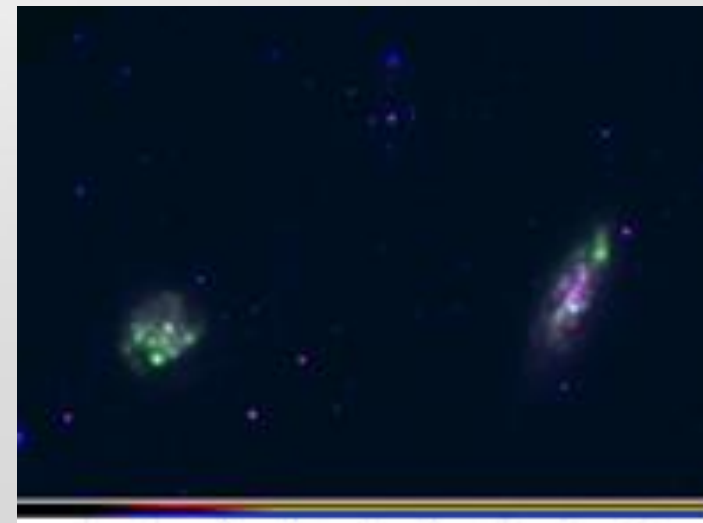
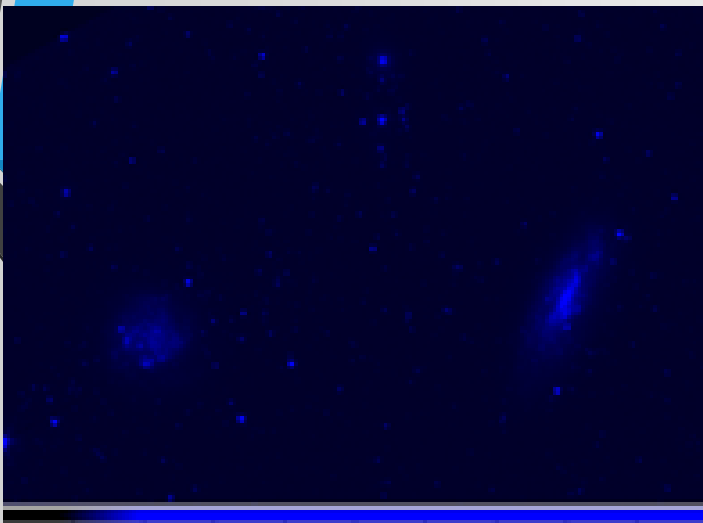
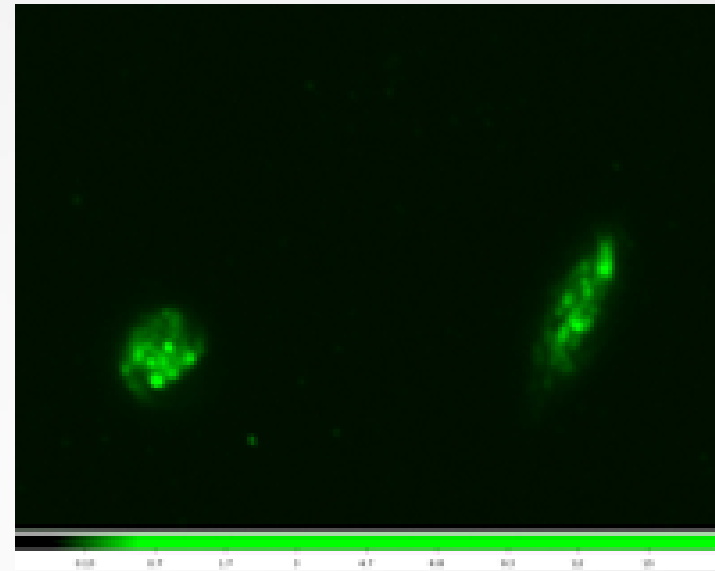
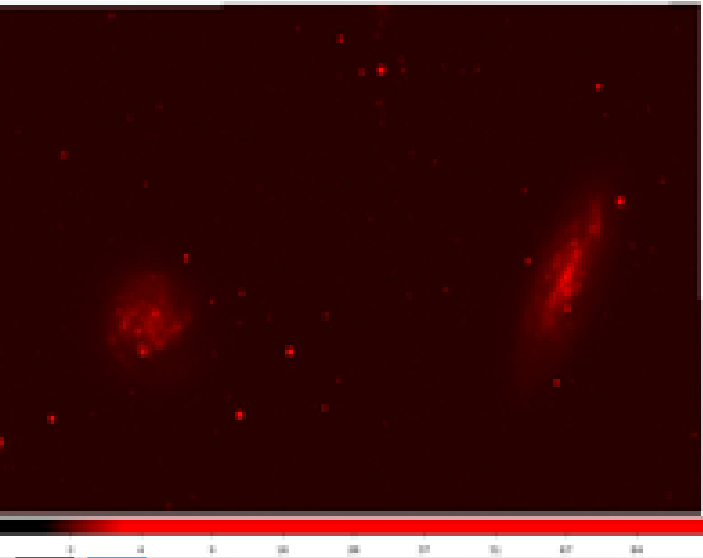


BEAUTIFUL PLOT



Future Work

- Locate these galaxies
- Study their surroundings
- Compare their environments



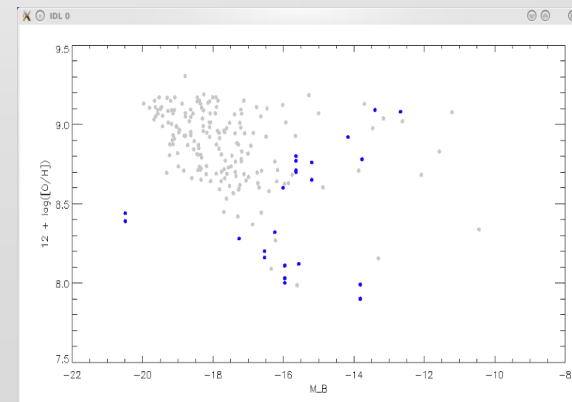
Conclusion

Low mass dwarf galaxies that have insufficient star formation are likely affected by their environment.

SUMMER
STUDENT



AND/OR



Acknowledgment

THANK YOU

National Radio Astronomy Observatory(NRAO)

National Science Foundation(NSF)

Mentors

National Astronomy Consortium (NAC) Cville Cohort



Questions?