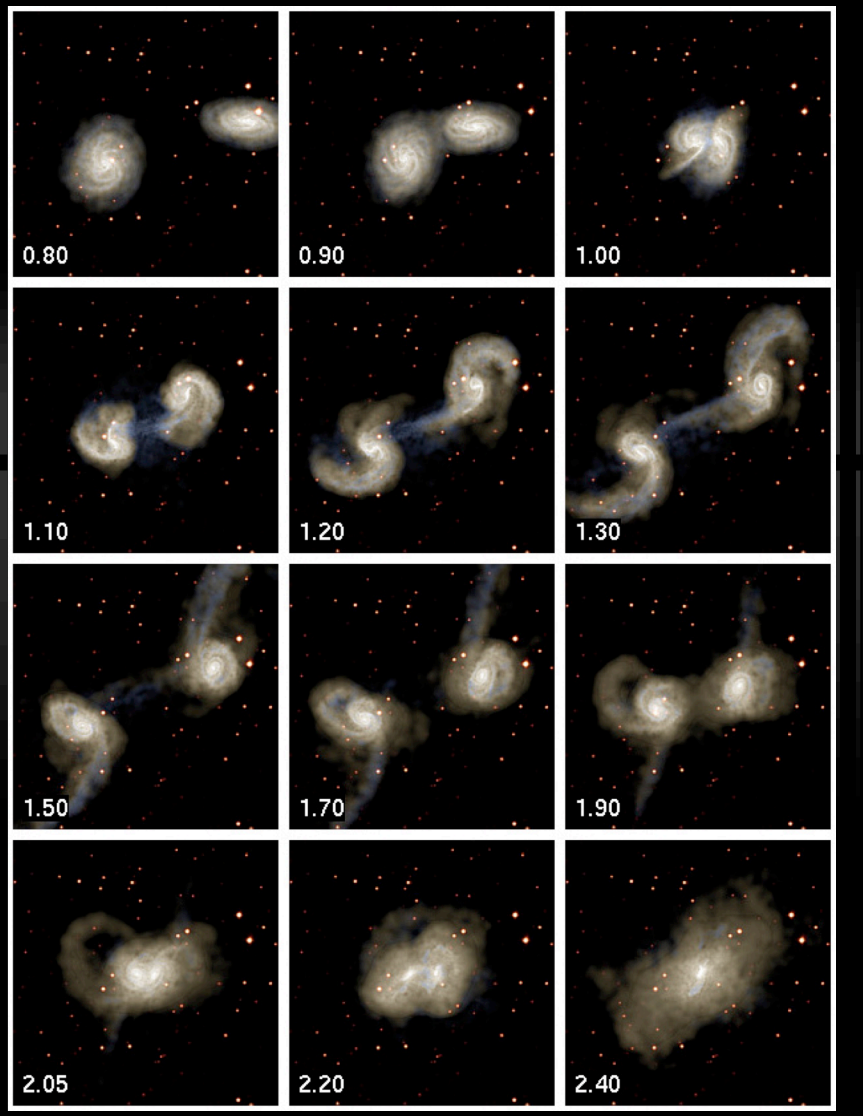
Star Formation in the Tadpole Galaxy (UGC20124)

Presentation by: Nuria Wright-Garba
Mentor: Dr. Lisa Chien
Northern Arizona University

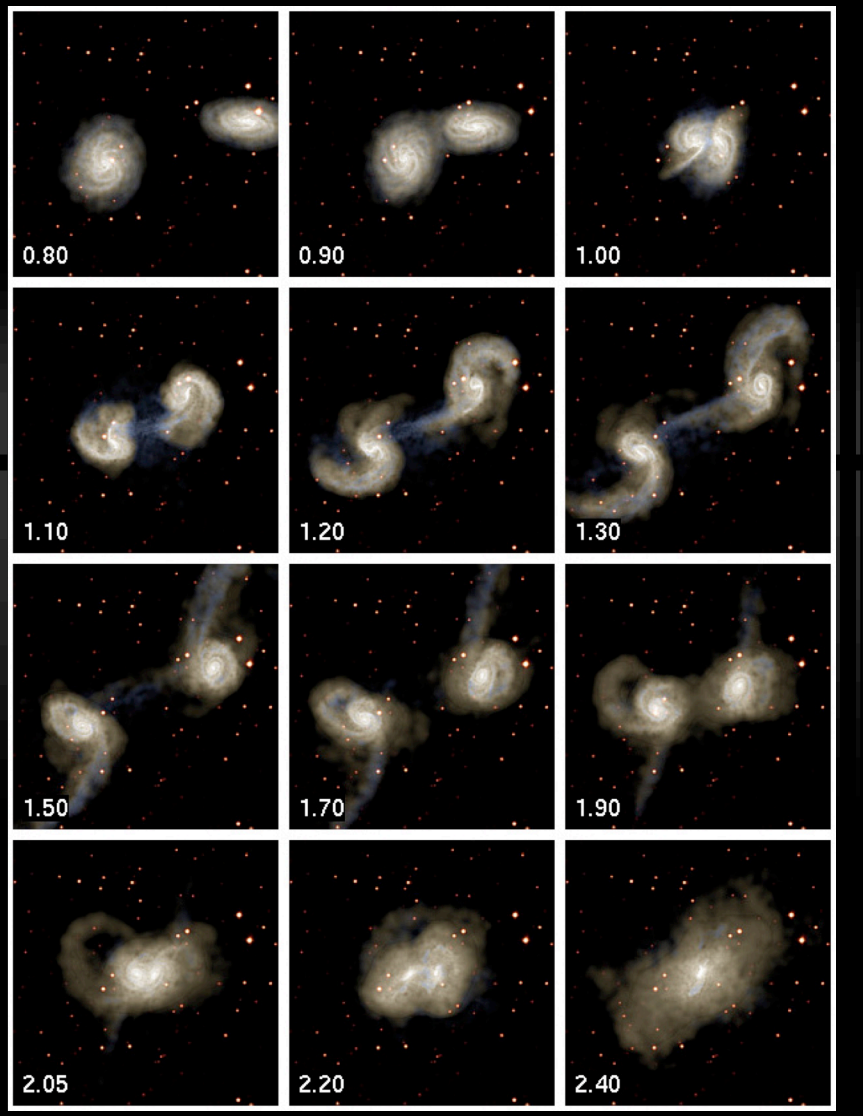
Mergers & Star Formation



(V. Springel 1999)

Mergers & Star Formation

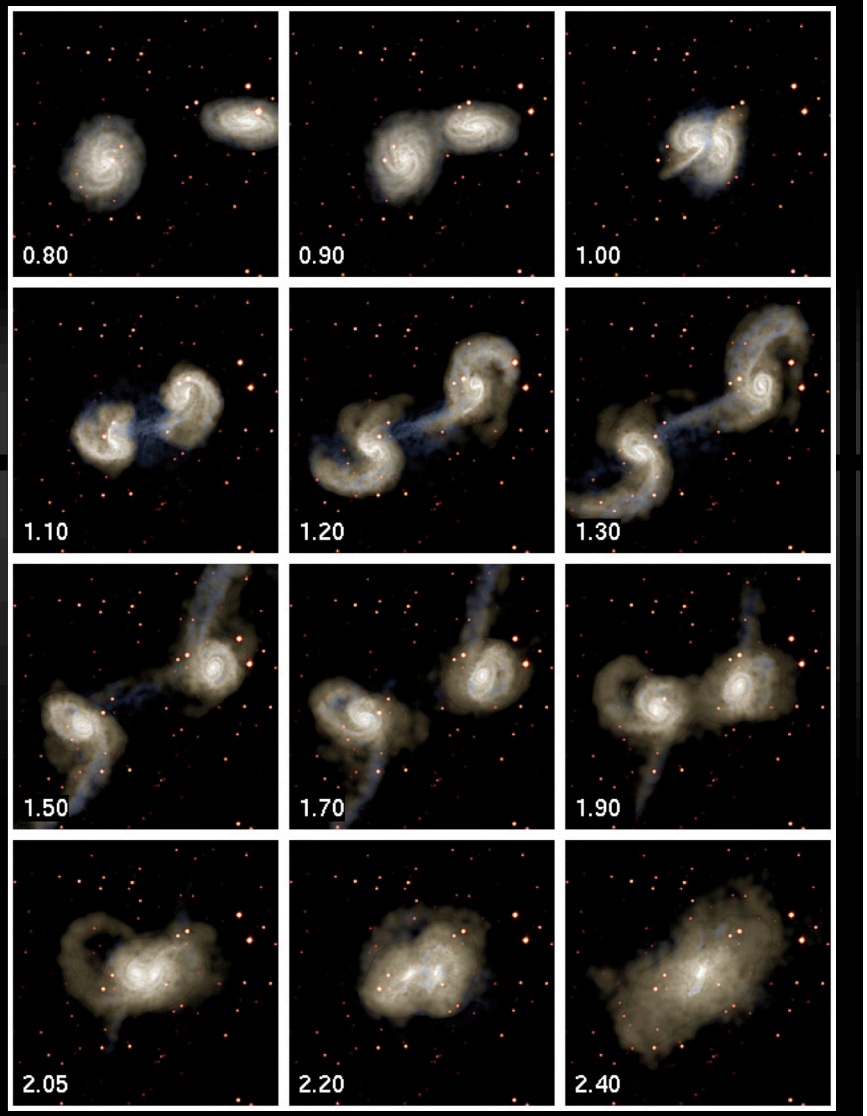
- Galaxy mergers are a common cause of star formation



(V. Springel 1999)

Mergers & Star Formation

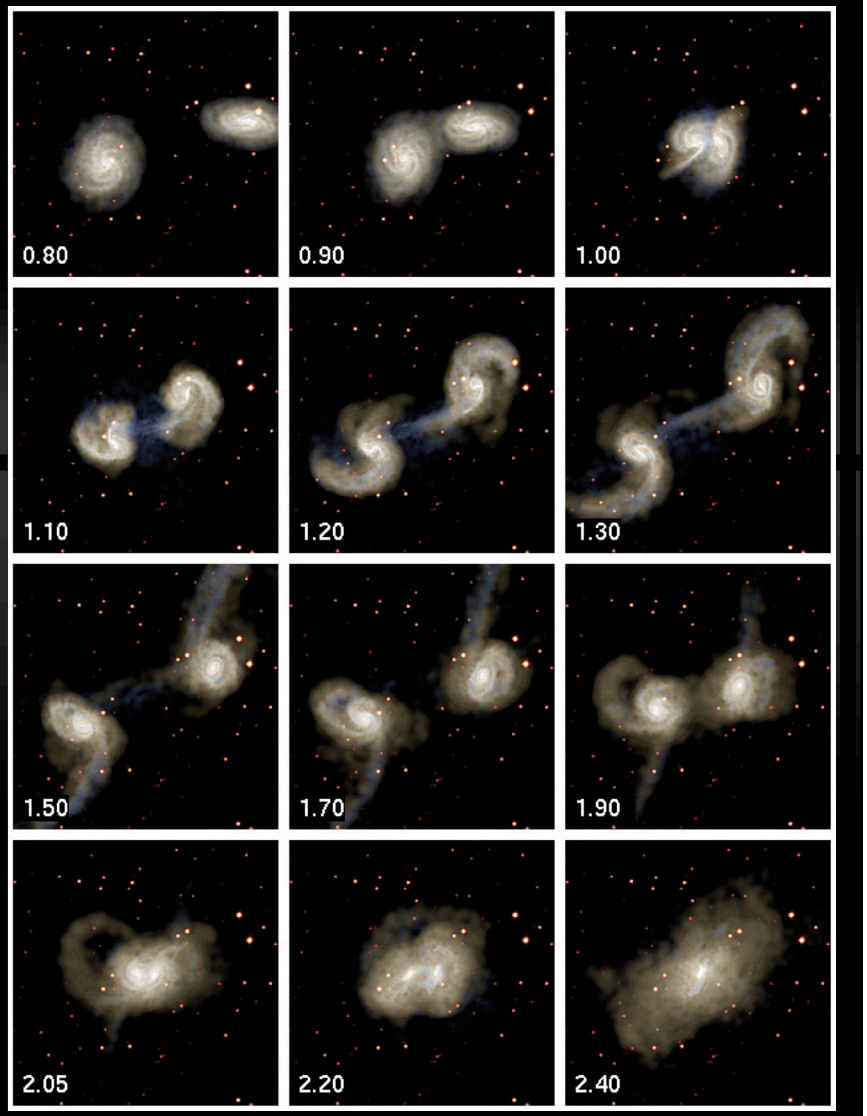
- ✓ Galaxy mergers are a common cause of star formation
- ✓ Pressure and density quickly reach critical points, causing cluster formation



(V. Springel 1999)

Mergers & Star Formation

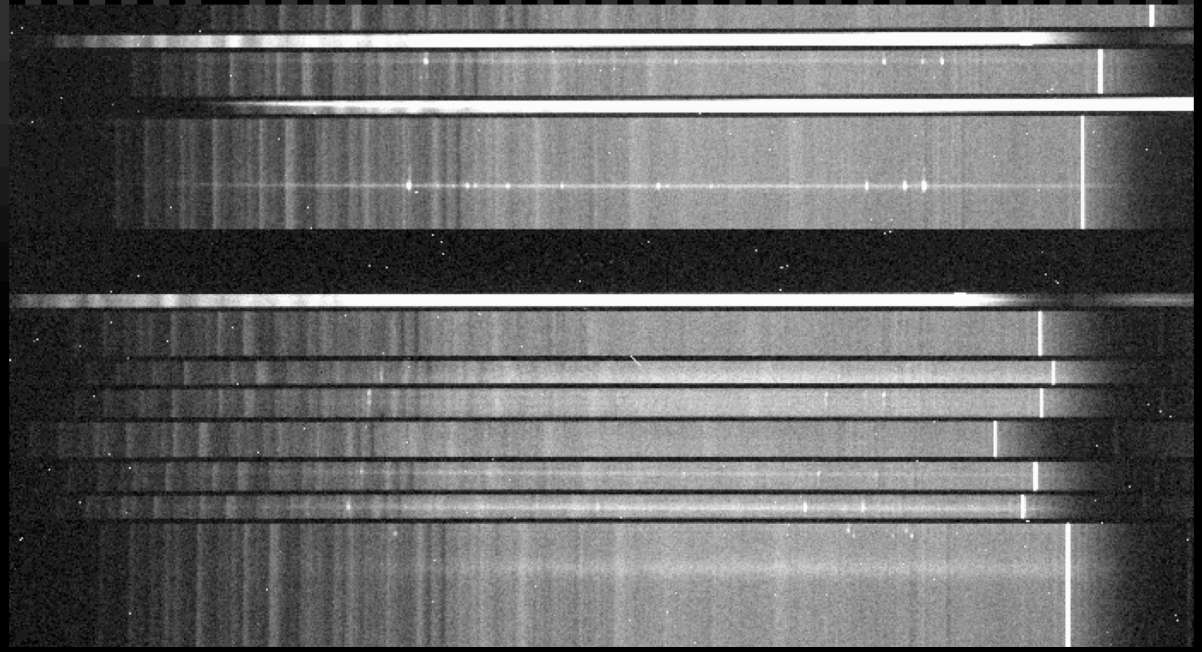
- Galaxy mergers are a common cause of star formation
- Pressure and density quickly reach critical points, causing cluster formation
- Studying mergers leads to a deeper understanding of star formation and visa versa



(V. Springel 1999)

Gathering & Reduction

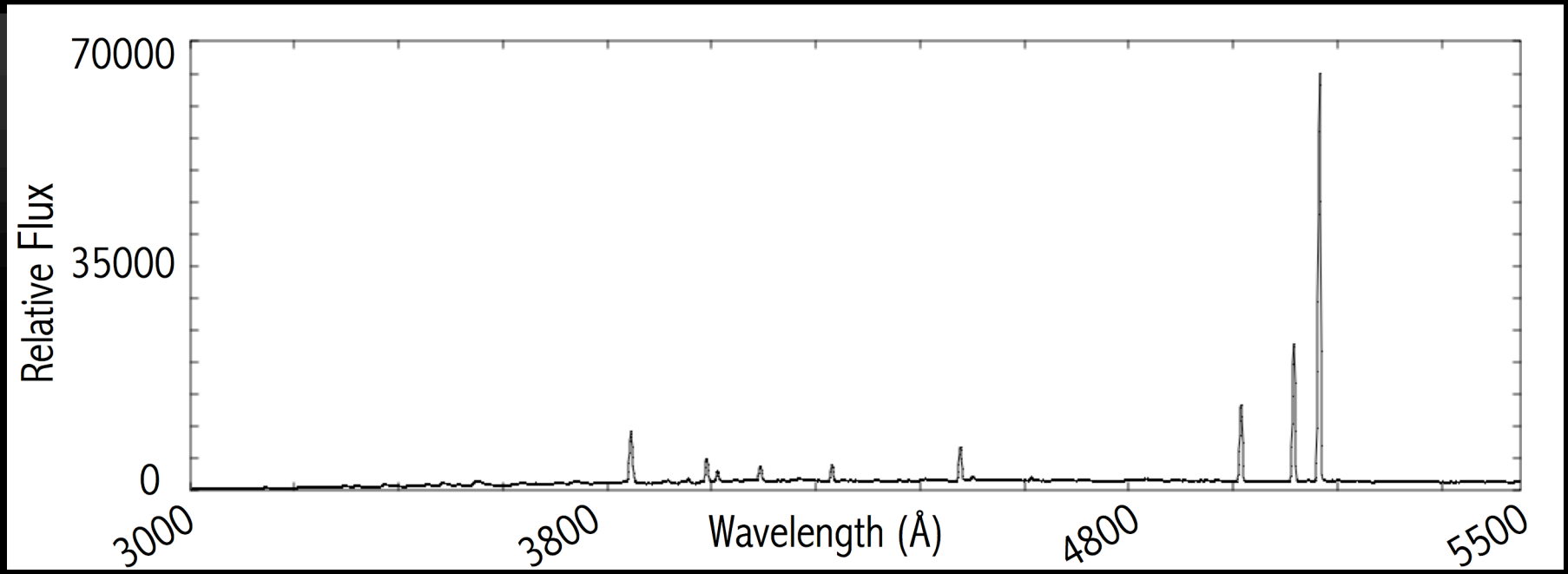
- ✓ UV/Visible Multi-object Spectroscopy
- ✓ Gathered with Keck I Telescope on Mauna Kea, Hawaii
- ✓ Low Resolution Imaging Spectrometer (LRIS)
- ✓ Data reduced using IRAF (Image Reduction and Analysis Facility)



Analysis

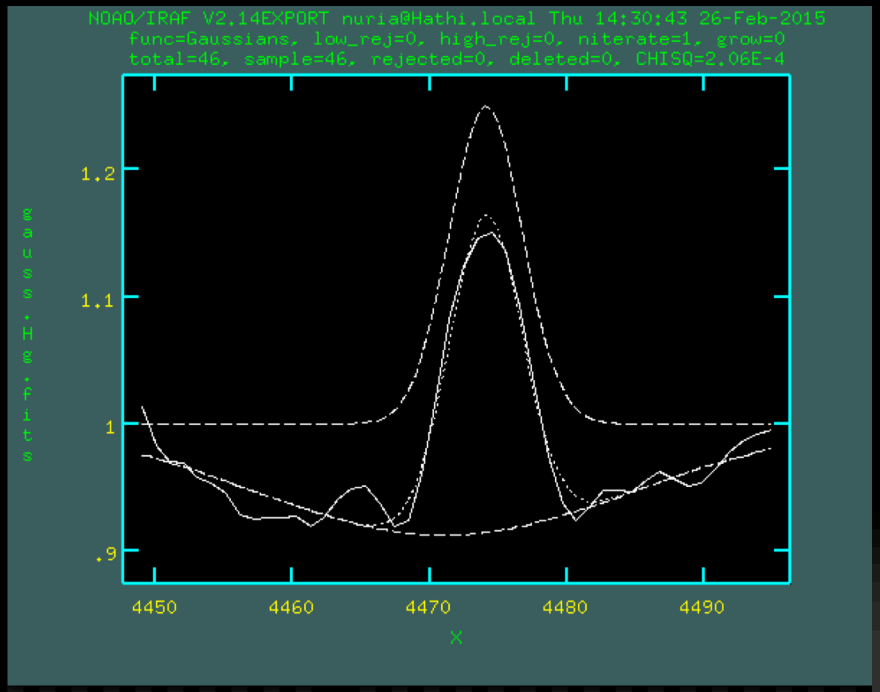
- ✓ Normalize continuum emission
- ✓ Measure equivalent widths of Hβ line
- ✓ Determine ages

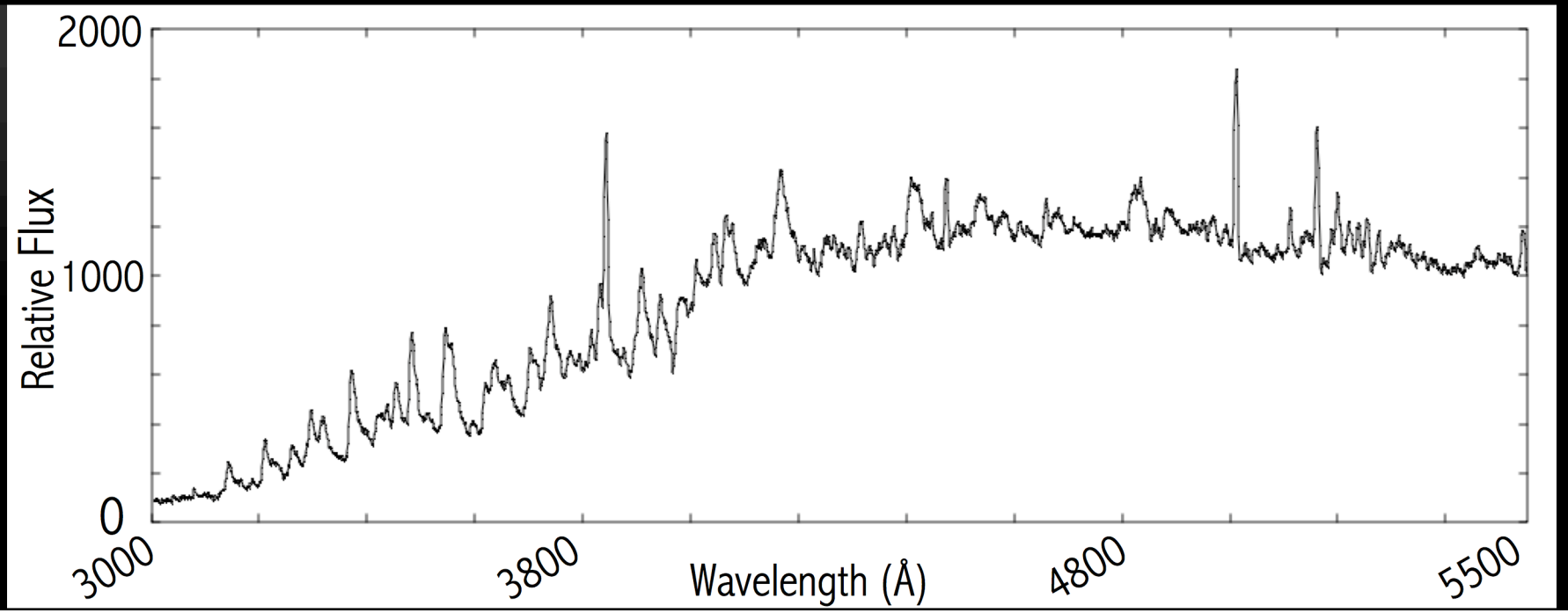
- ✓ Young Clusters
  - ✓ Emission
  - ✓ Quick to normalize
  - ✓ Equivalent width is easily measured



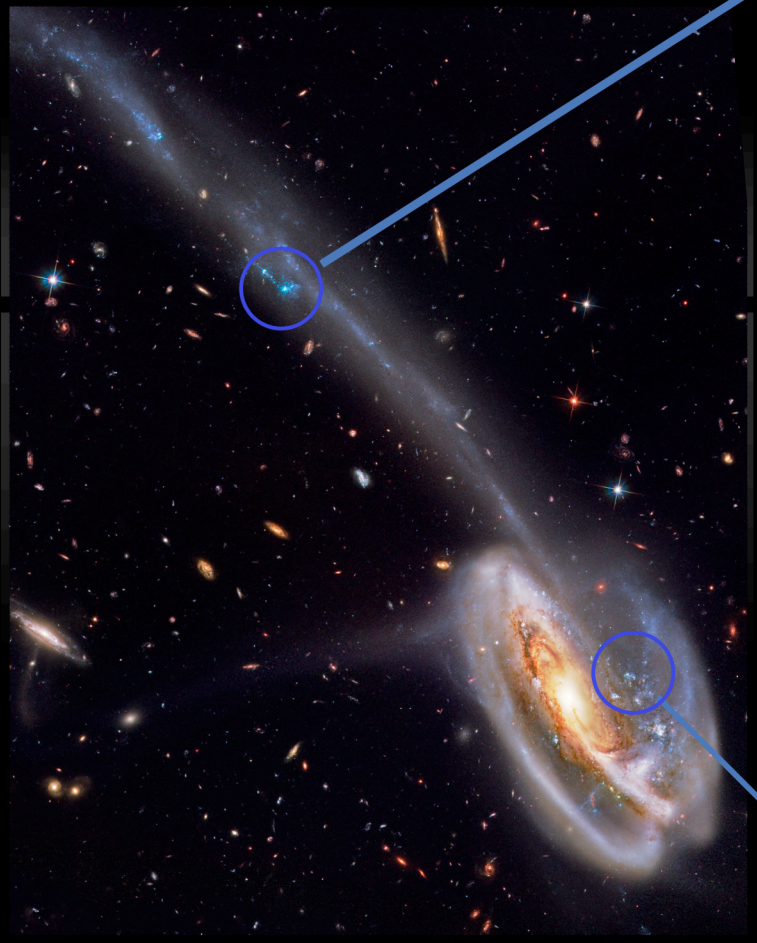
Analysis cont.

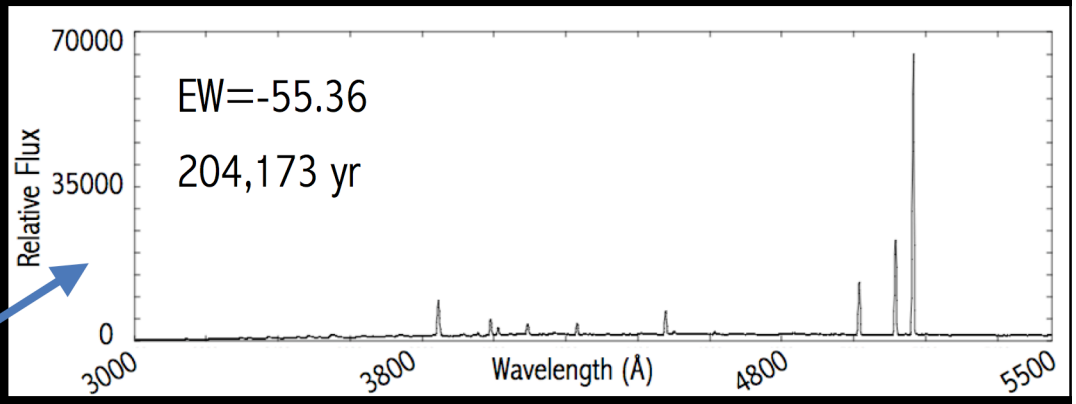
- ✓ Old Clusters
  - ✓ Composite
  - ✓ Absorption
  - ✓ Fit with a Gaussian profile





Results

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35000
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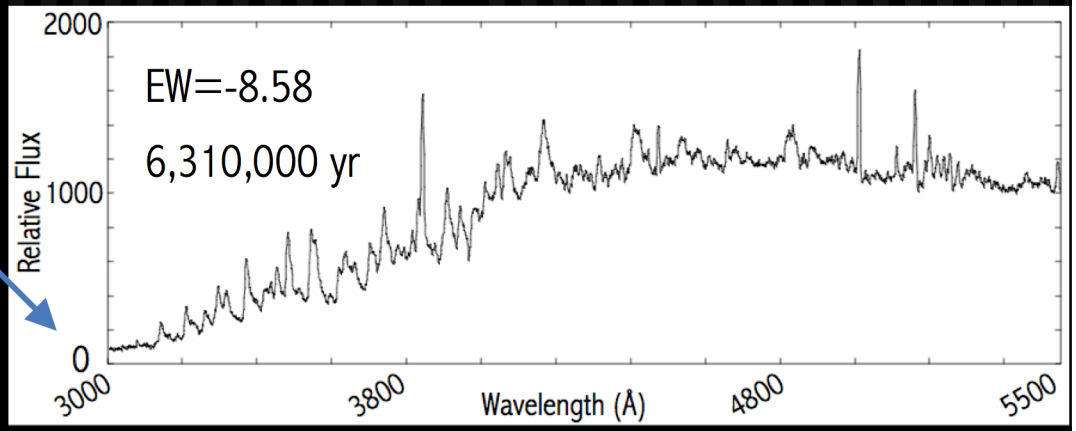
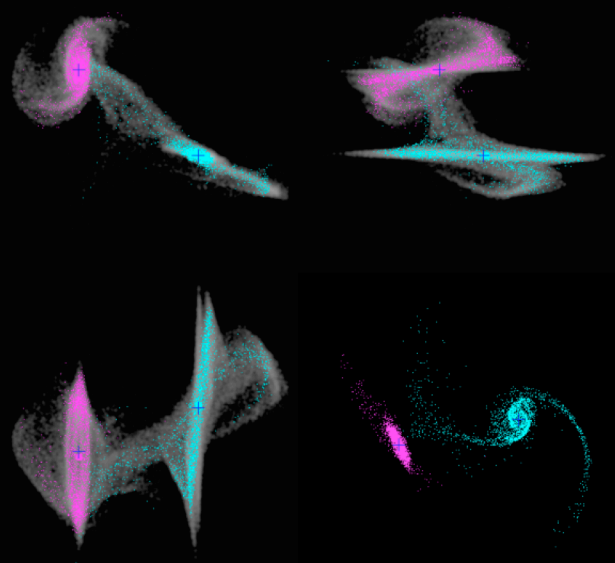
EW=-55.36
204,173 yr
3000
3800
Wavelength (Å)
4800
5500

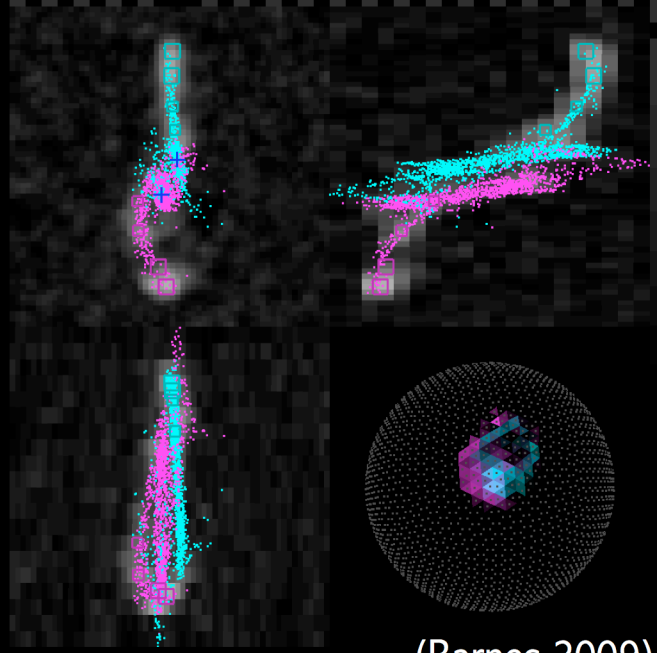

2000
1000
0
Relative Flux
EW=-8.58
6,310,000 yr
3000
3800
Wavelength (Å)
4800
5500

Future Plans

- ✓ Long-slit spectroscopy on Tadpole for measuring radial velocity in May
- ✓ Publication on ages and metallicities
- ✓ 3D model of the galaxy by Dr. Joshua Barnes (IfA, Hawaii)



(Barnes & Hibbard 2009)



(Barnes 2009)

Acknowledgements

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