What is an ultra-diffuse galaxy?
- A galaxy that has very few stars for its given radius (low surface brightness).
- Appears very dim in optical images.

Our Question: Why are UDGs so diffuse?
- Are there other characteristics of the galaxy that could explain its diffuseness?
- Could the galaxy’s motions explain its diffuseness?

What is HI gas and how do we observe it?
- Can observe gas in the galaxy in radio wavelengths.
- HI gas is atomic hydrogen that emits at a wavelength of 21 cm.

How do we process radio data?
- Remove interference in CASA.
- Create radio images.
- Fit spectrum and compare.

What are AGC 749290’s Characteristics?
- The gas in the galaxy extends past the stars.
- The optical extent of the stars is misaligned from the gas content observed in radio wavelengths.
- Gas and stars are normally in the same disk, but these stars do not follow the gas, which is odd.

How is AGC 749290 moving?
- When a source is moving away from an observer, the waves become elongated, making them appear redder than they actually are (redshift).
- Variations in redshift can be observed for a single galaxy and are indicative of rotation.

Future Work
- Further compare this galaxy to typical sources based on different properties such as color, dark matter content, and gas mass ratios.

Acknowledgements and References
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- Ball et al. 2018, AJ, 155, 65