



Interested in our work?
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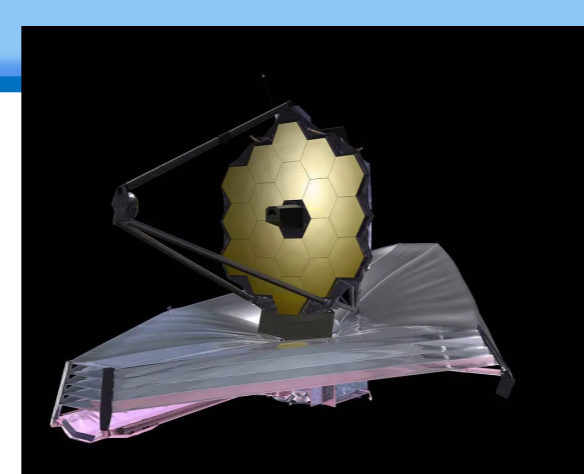
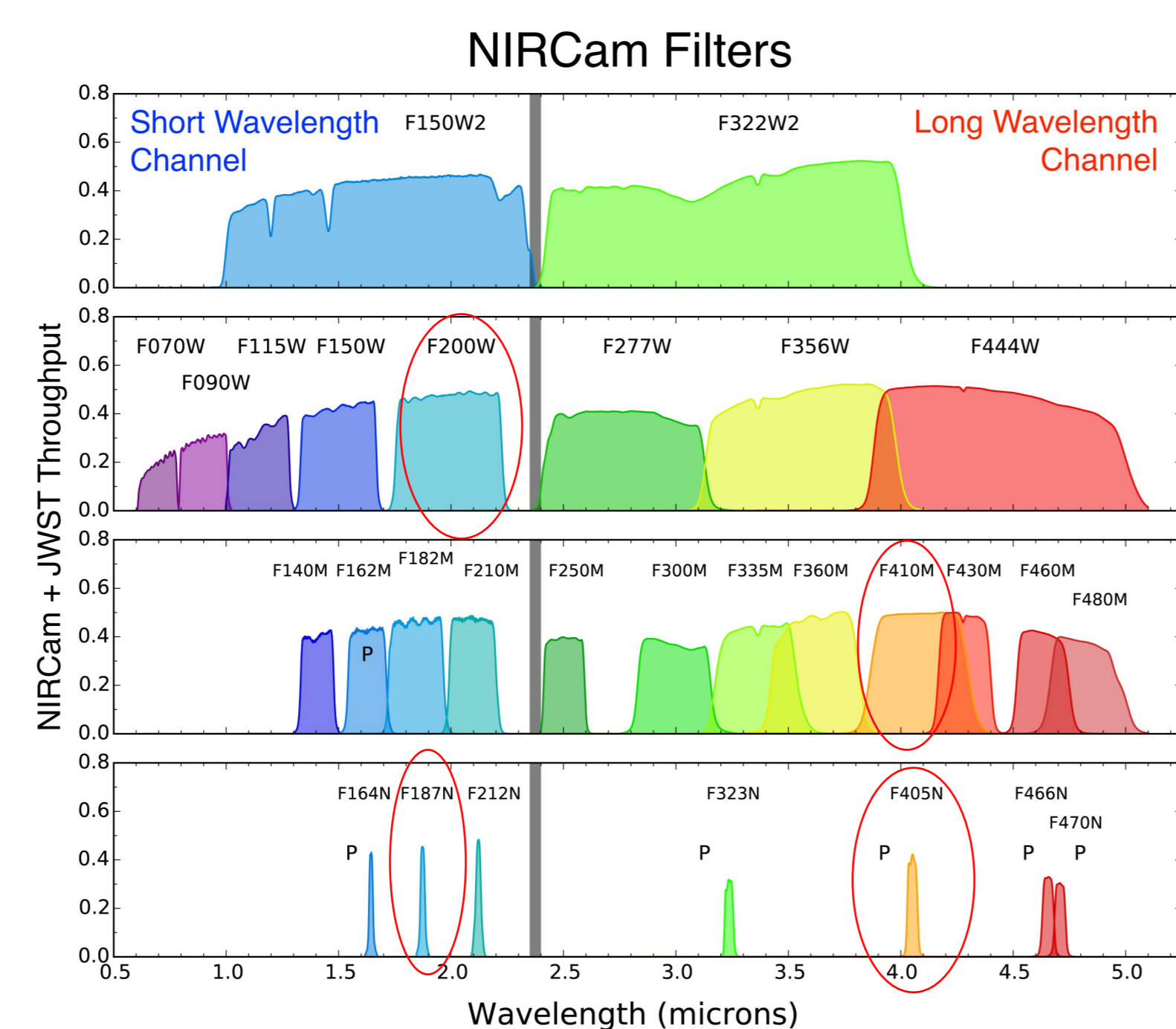
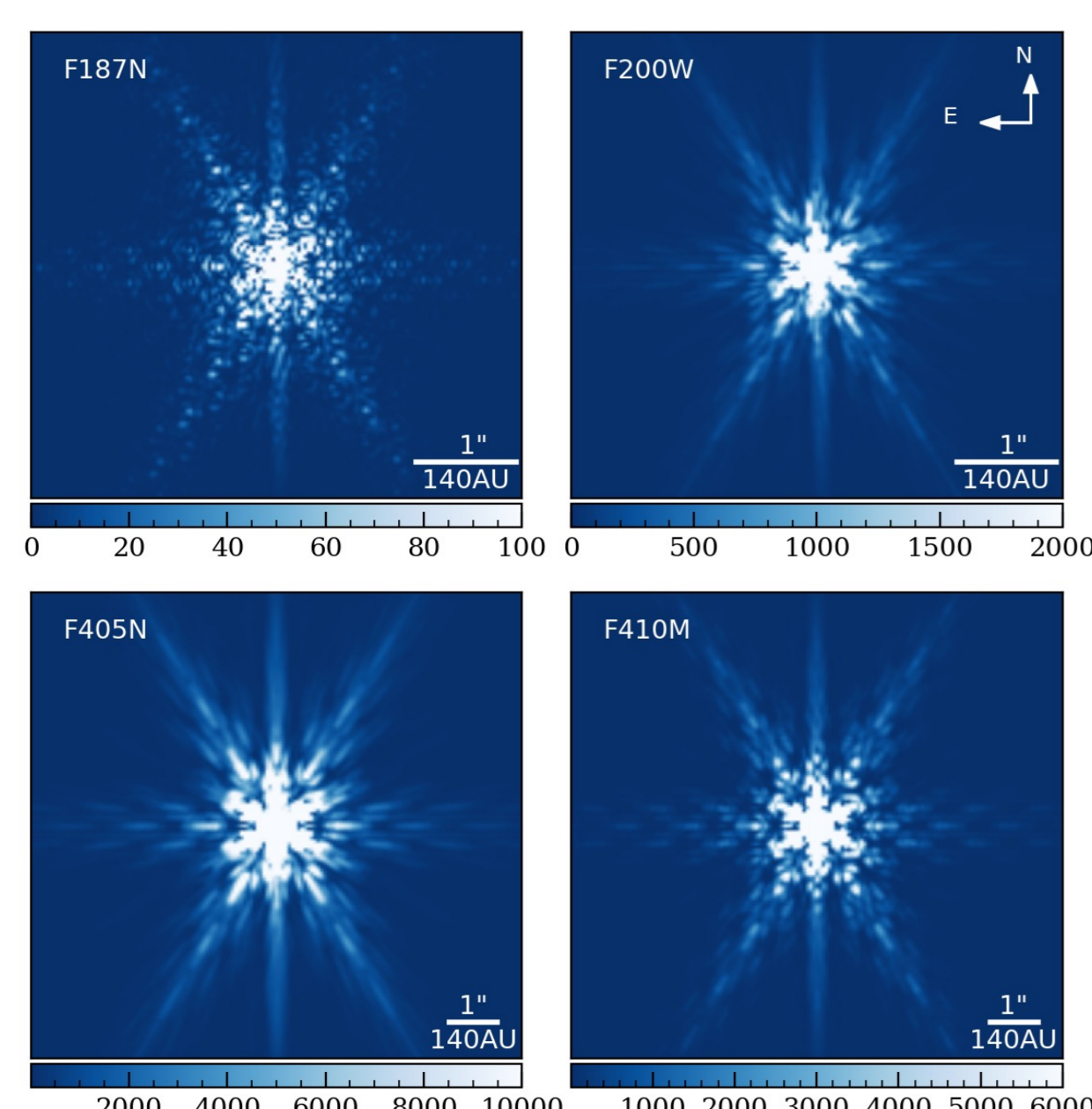
⁵ Space Science and Astrobiology Division, NASA's Ames Research Center, M.S. 245-6, Moffett Field, CA 94035, USA



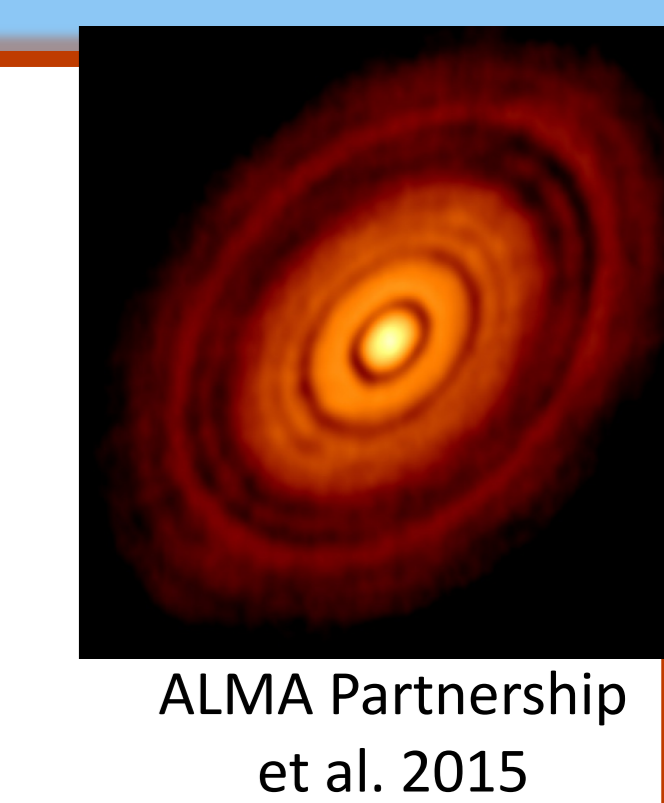
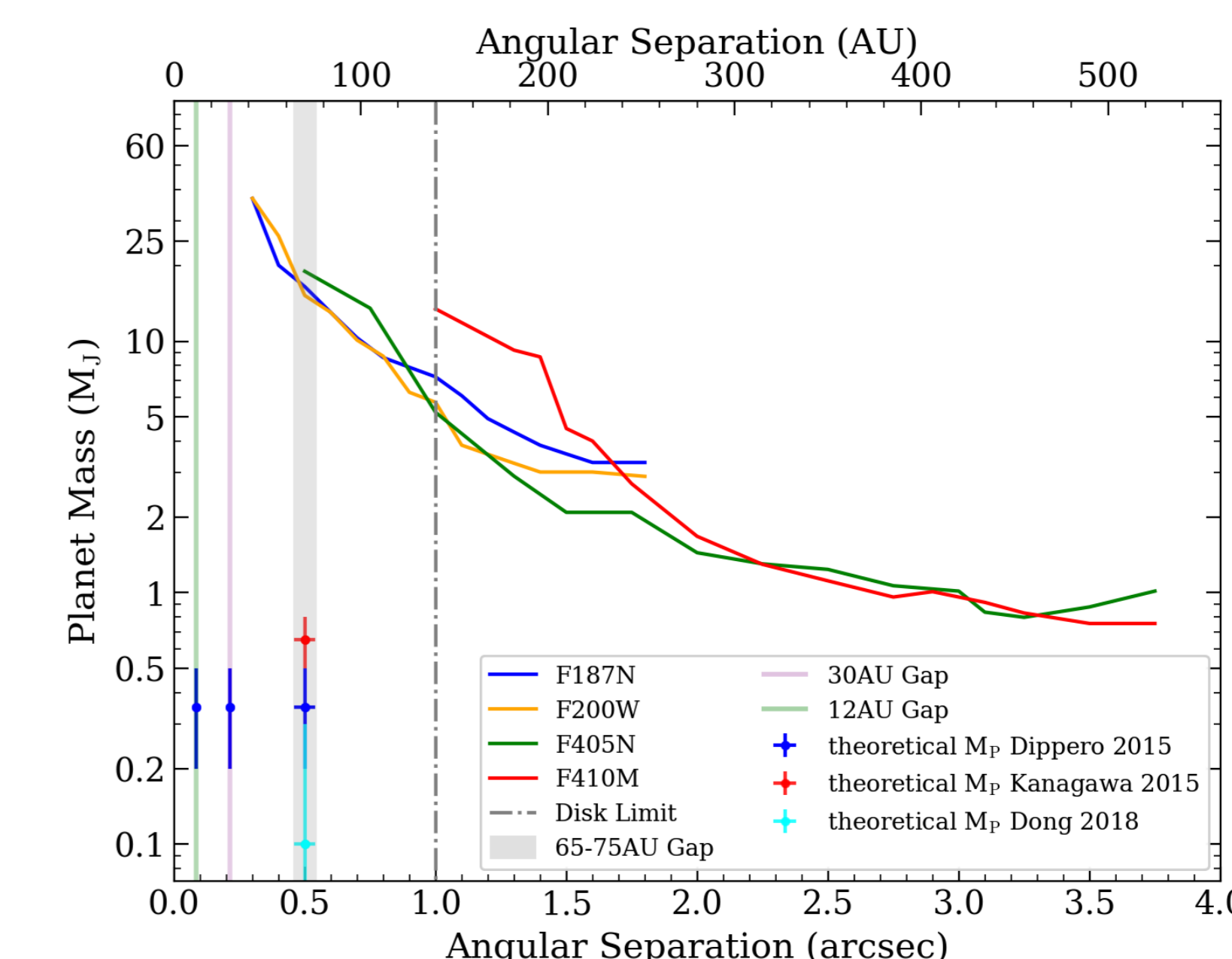
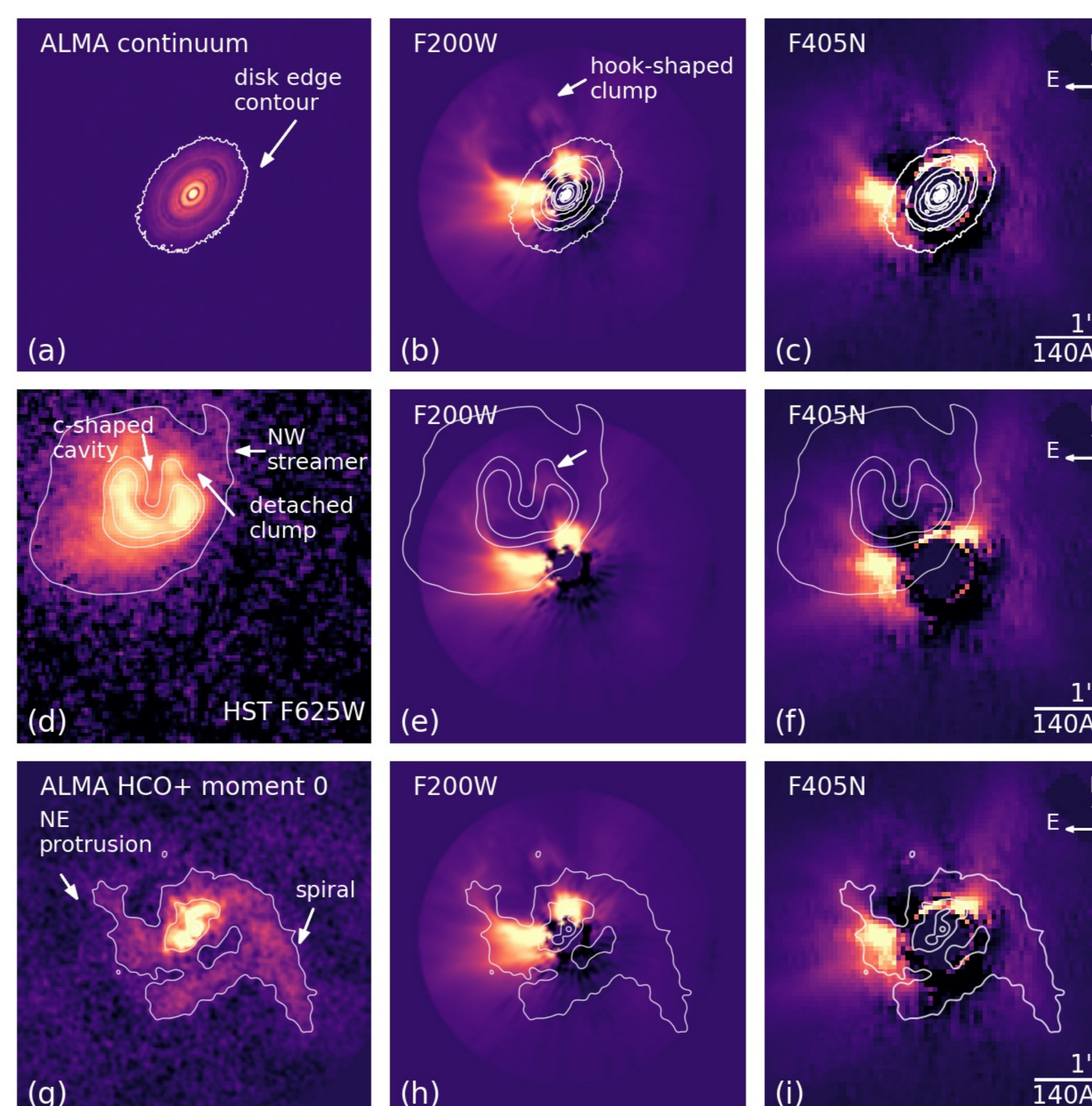
Scan me!

Methods

- JWST/NIRCam (0.6 μ m-5 μ m)
- 2 spacecraft roll angles with 10° separation for ADI
- 2 narrow filters to trace H-line emission, and 2 medium/wide filters for continuum emission
- HL Tau, MWC 758, SAO 206462 and PDS 70 observations were direct imaging observations
- TW Hya was the only observation with a coronagraph



HL Tau (Mullin et al. 2024)

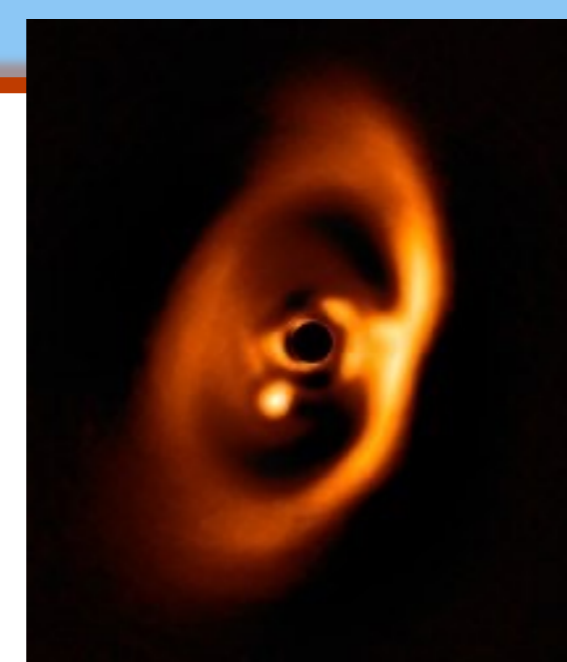


ALMA Partnership et al. 2015

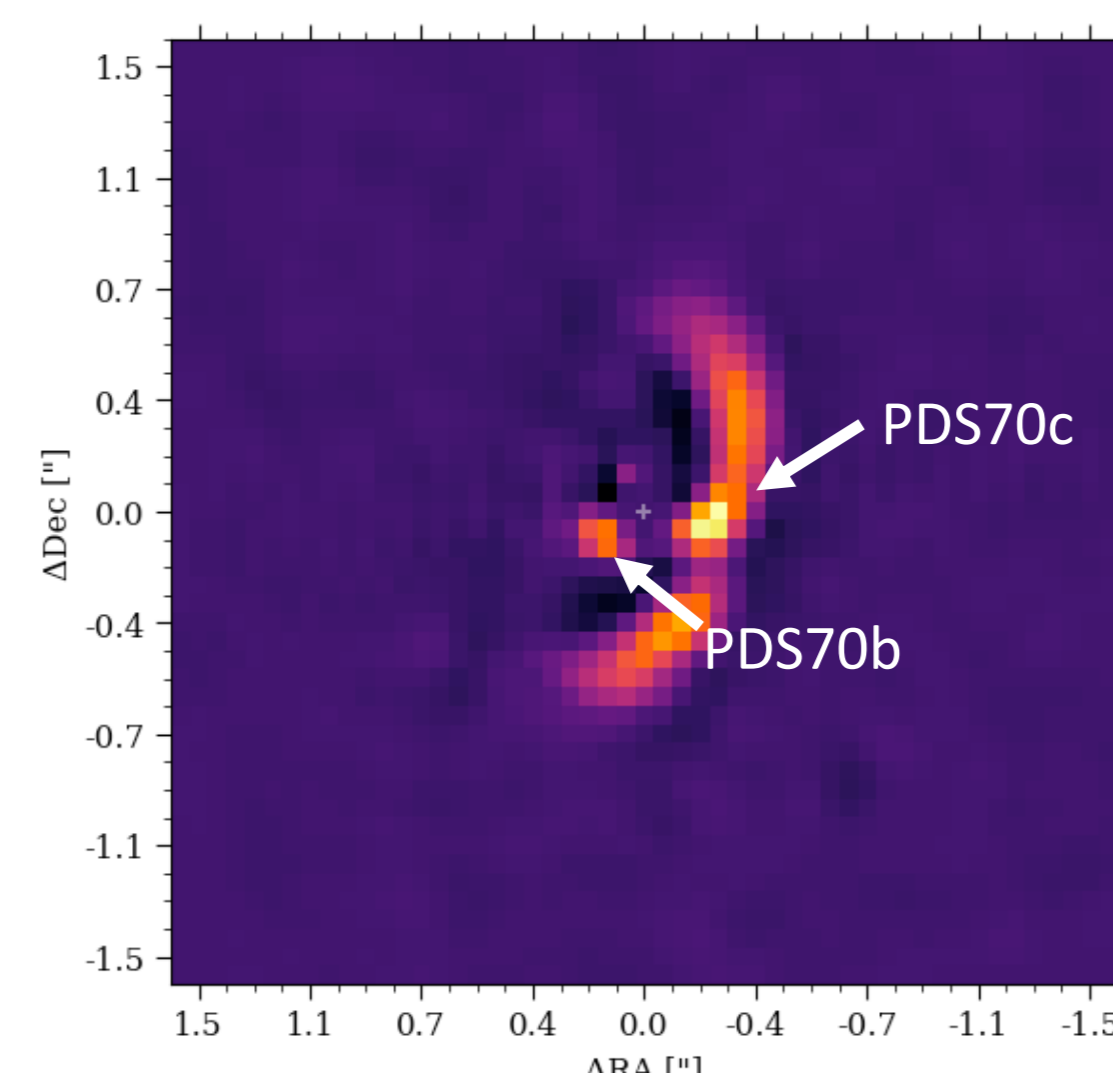
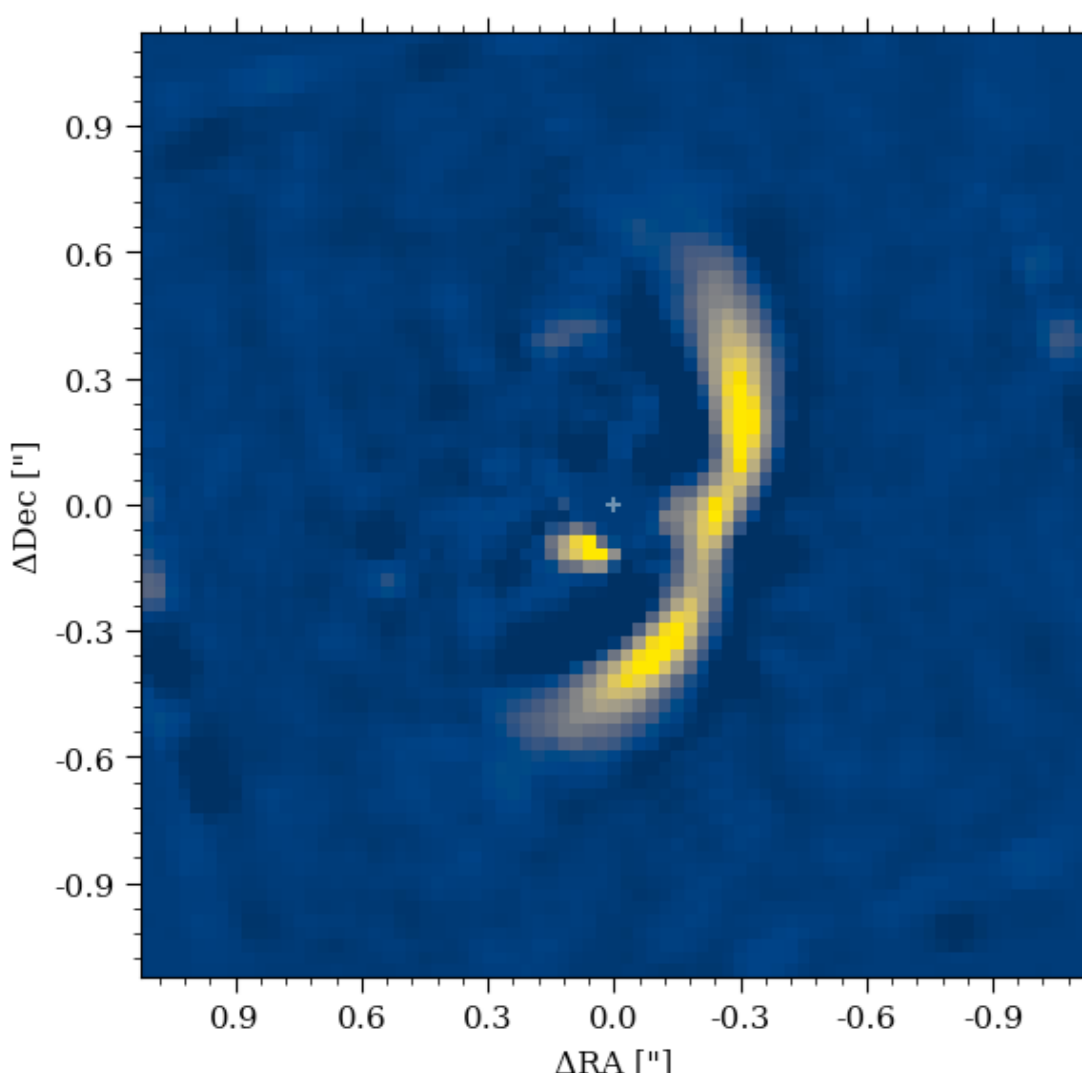
- HL Tau was one of our first observations
- The disk is highly obscured by a stellar envelope
- We do not detect any planets
- We compare our observations of the outflow cavity and streamers with previous HST and ALMA observations
- Methods: RDI + PCA

PDS 70 (Leisenring et al. In Prep)

- PDS 70 results are still in prep
- We detect the disk and planets b and c
- No clear detections of other planets
- Contrast estimates in progress
- Stay tuned!



Muller et al. 2018



Why Look at Disks?

Disks are the birthplace of planets. Our program targets 5 circumstellar disks, each with morphologies that could indicate the presence of forming planets:

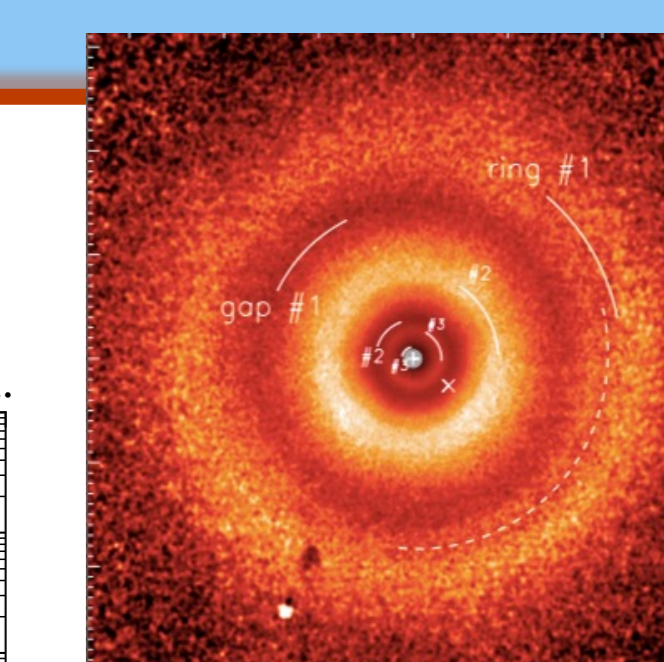
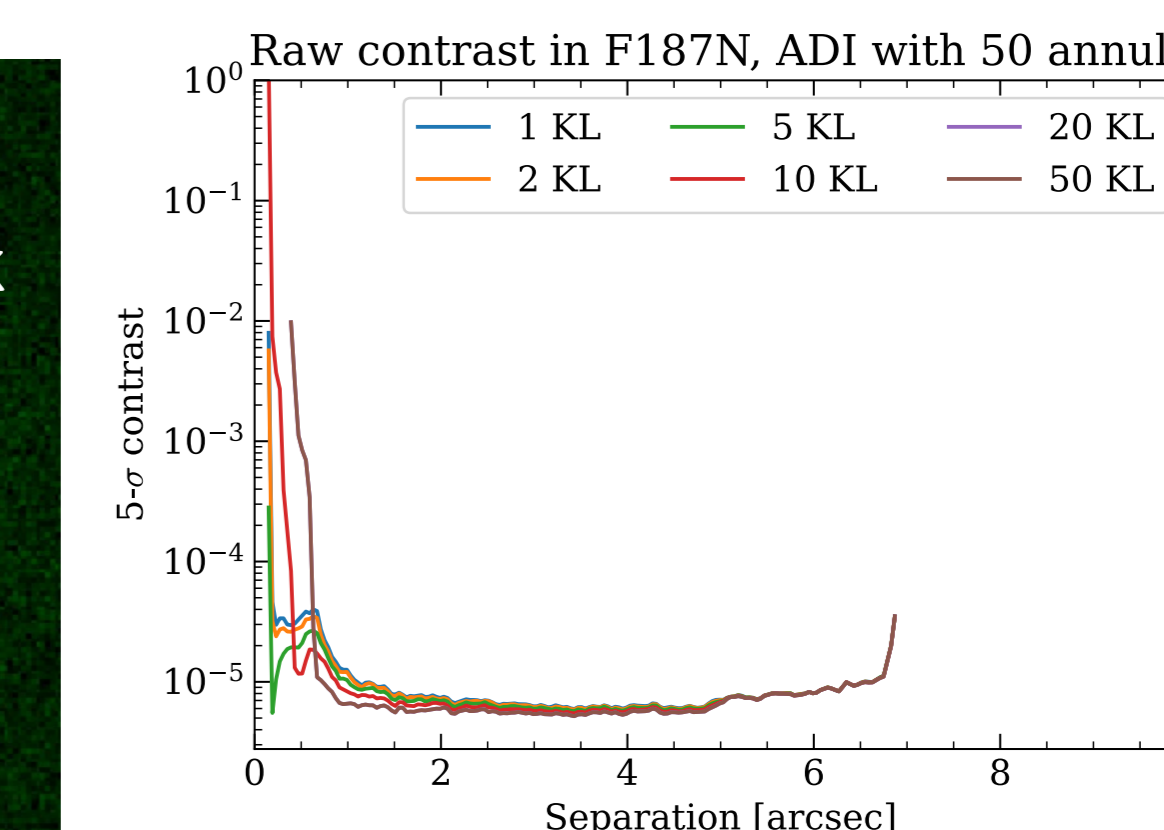
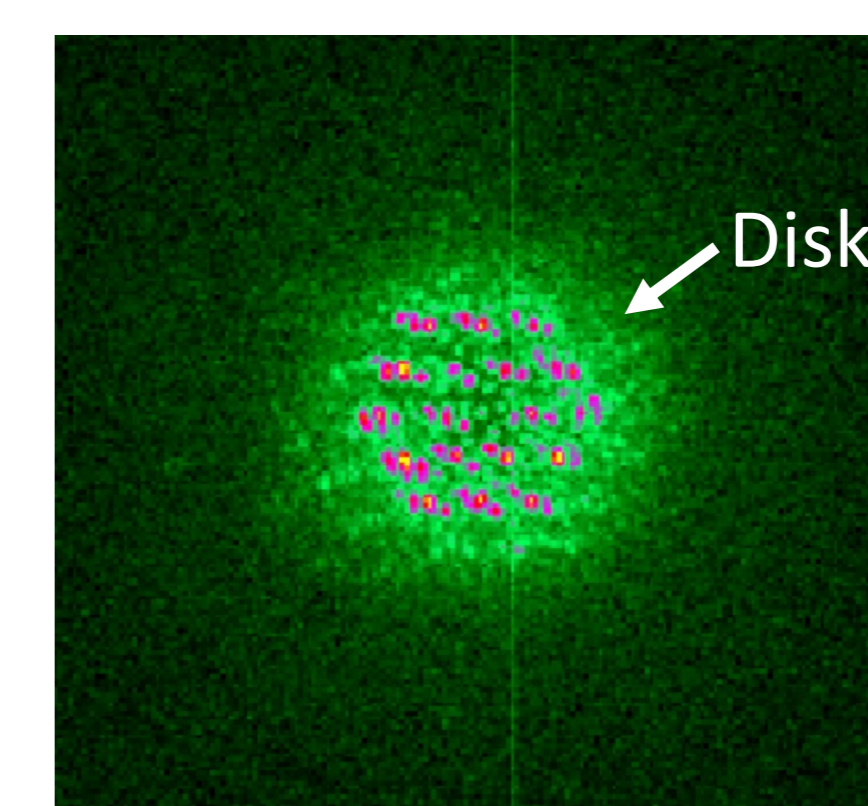
Spiral Arms

Spiral structures like the ones seen in MWC 758 and SAO 206462 can be driven by giant planets forming in the outer regions of the disk.

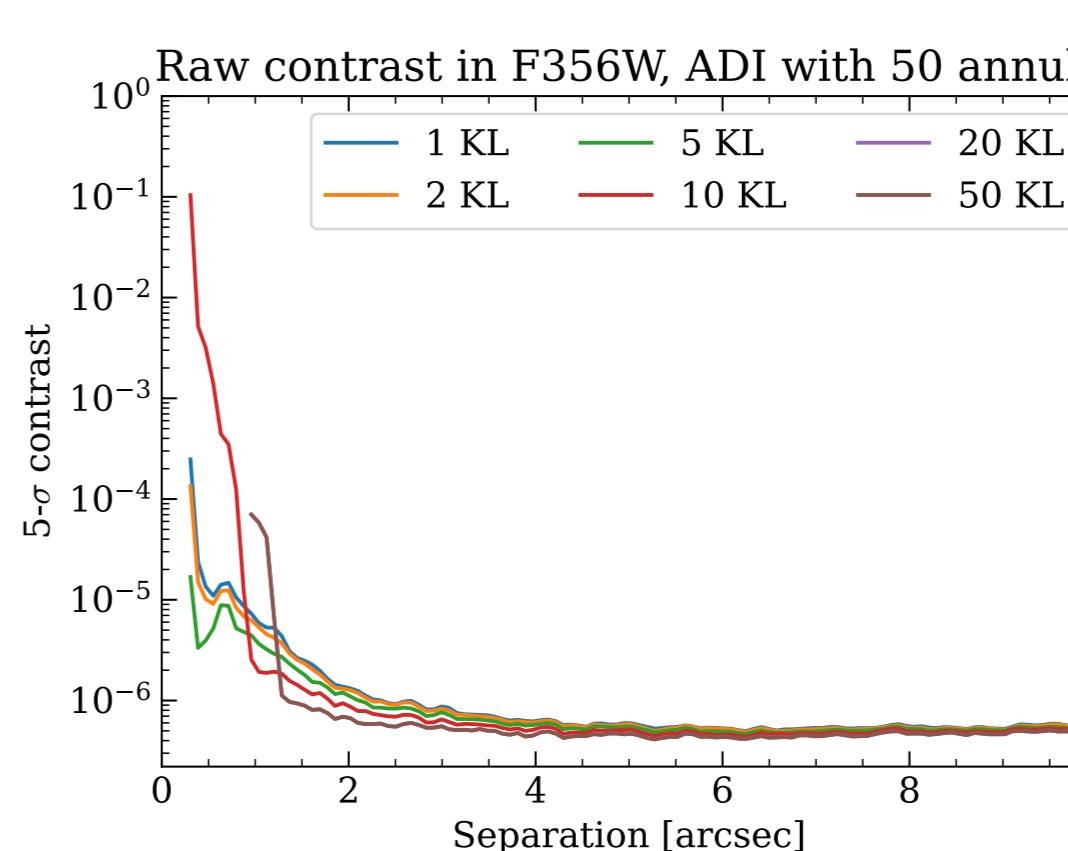
Rings and Gaps

Ring features such as the ones seen in HL Tau and TW Hya could be sign of planetary formation. Protoplanets can carve out gaps in the disk causing ring features.

TW Hya (Wolff et al. In Prep)

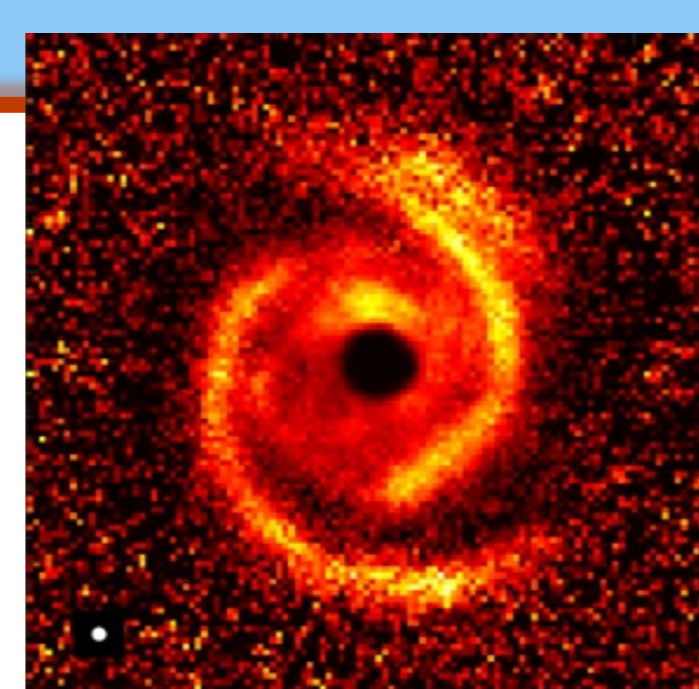
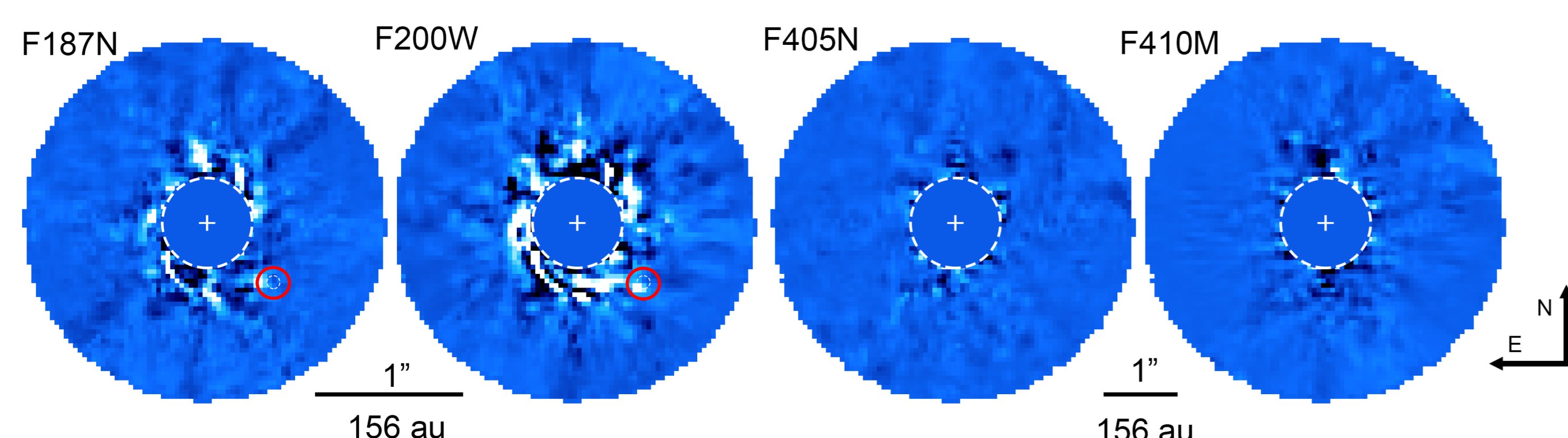


van Boekel et al. 2017

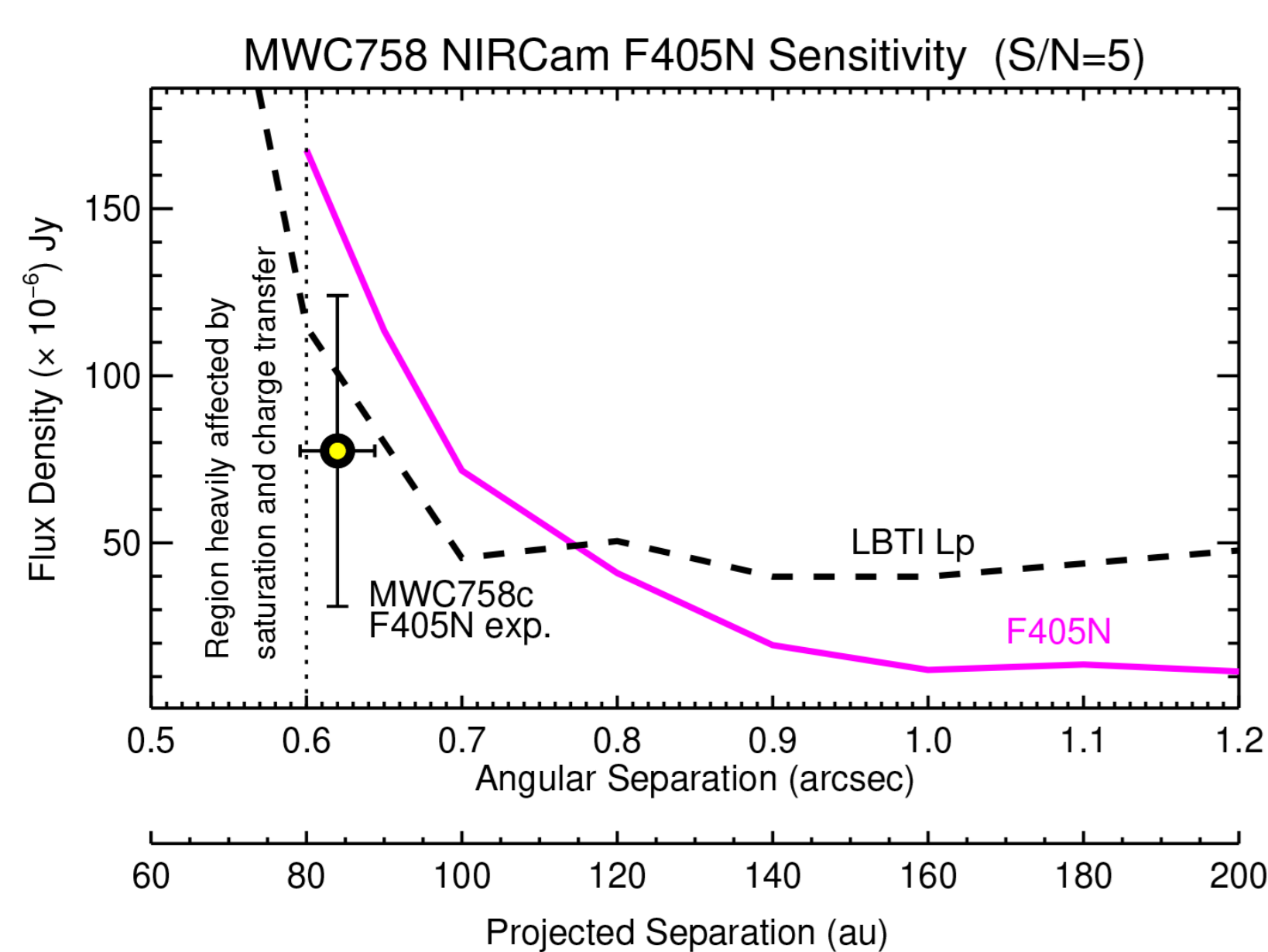


- TW Hya is our latest observation
- We detect the disk; even in the raw data
- We do not detect any planets
- Stay tuned for the results!

MWC 758 (Wagner et al. 2024)

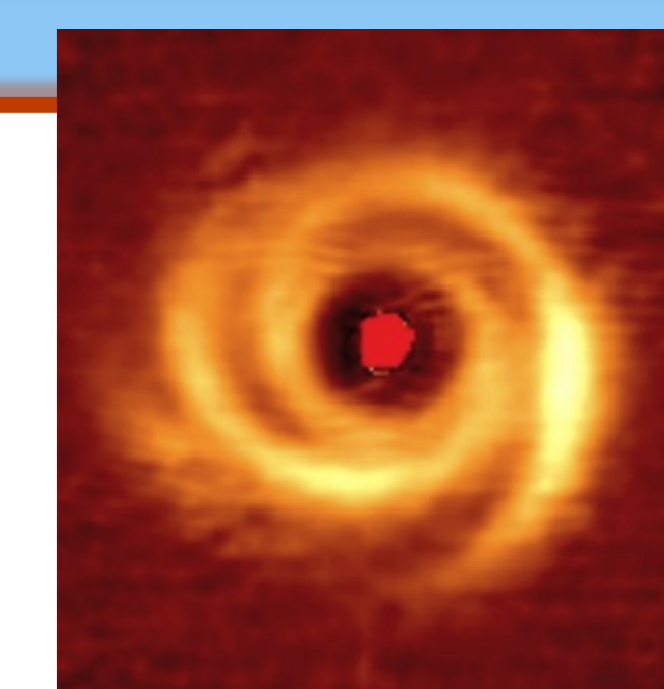
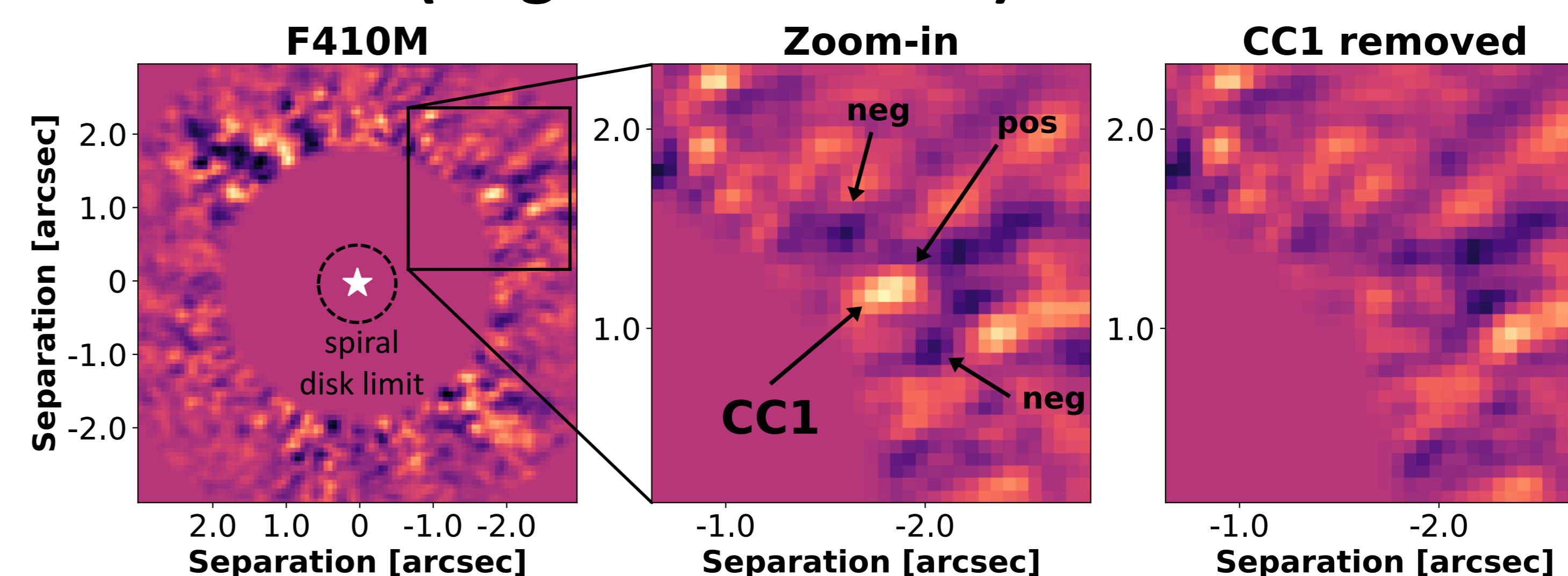


Benisty et al. 2015

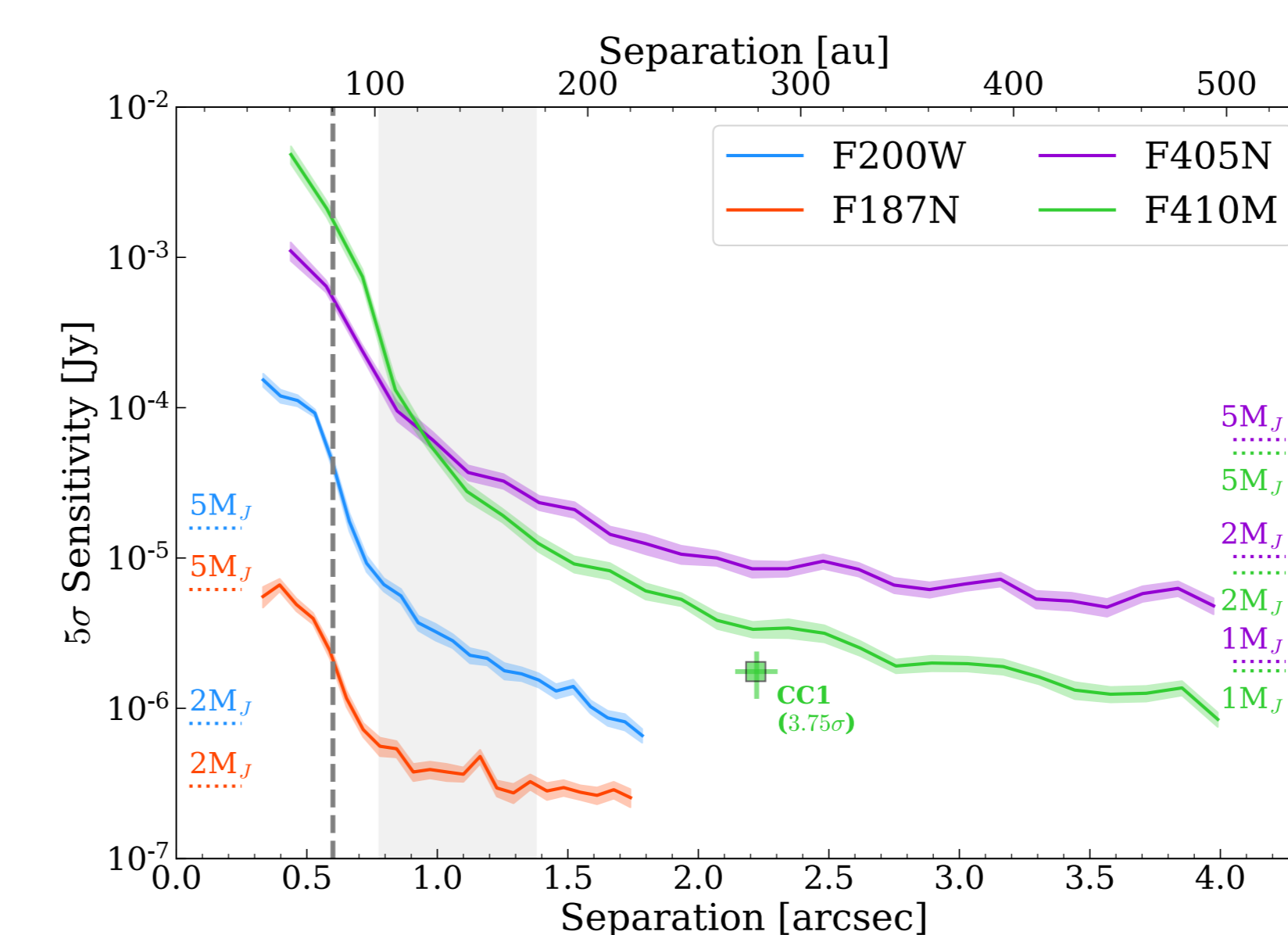


- MWC 758 was one of our first observations
- We clearly detect the spiral arms in the 2 μ m filters
- We do not detect planet candidate MWC 758 c
- MWC 758 c is below our detection limits
- Re-observations are in progress, so stay tuned!

SAO 206462 (Cugno et al. 2024)



Garufi et al. 2013



- Methods: ADI + PCA
- We detect a planet candidate (CC1)
- CC1 is only detected in the F410M filter
- CC1 is 1" further separated than expected if it were driving the spiral arms
- We hope to re-observe CC1