

JCMT IN 2017: NEW FRONTIERS

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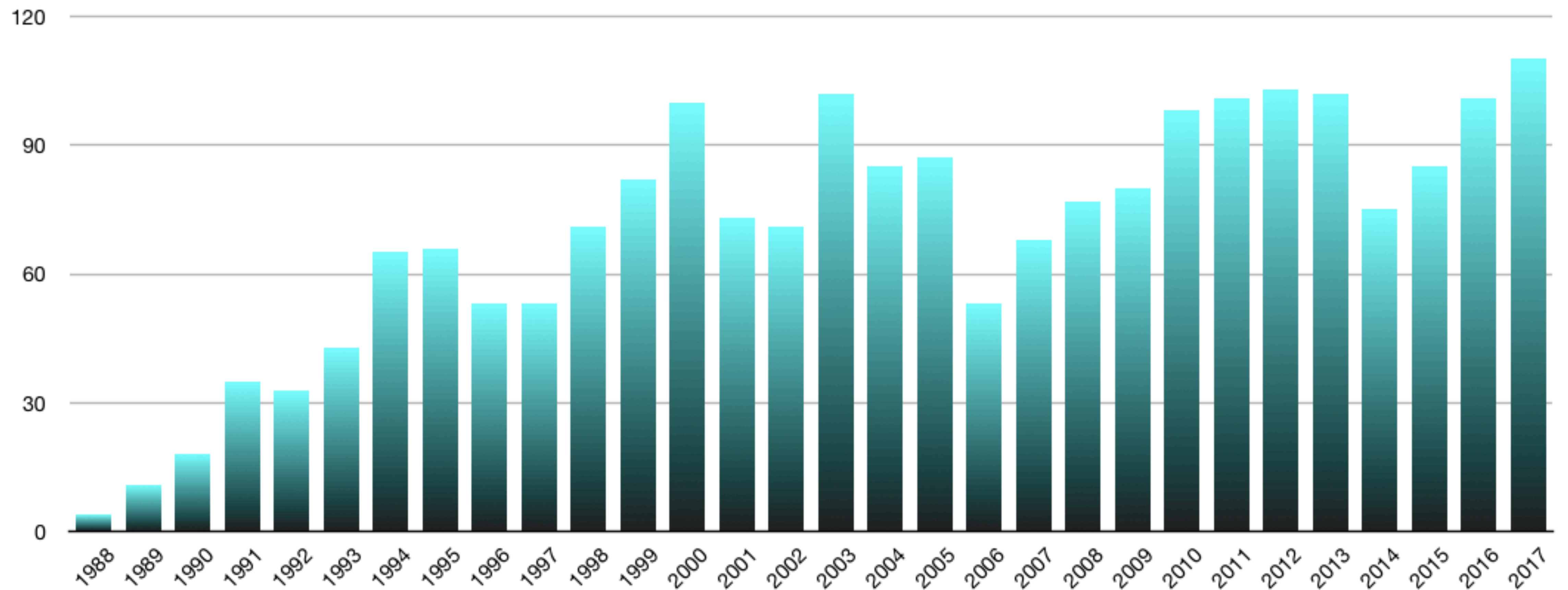
A YEAR OF PUSHING THE BOUNDARIES

- All time highest publication record achieved for 2017
- First light on the Greenland Telescope receiver hosted at JCMT
- Huge strides made in the new Large Programs
- Membrane-free observing attempted for the first time

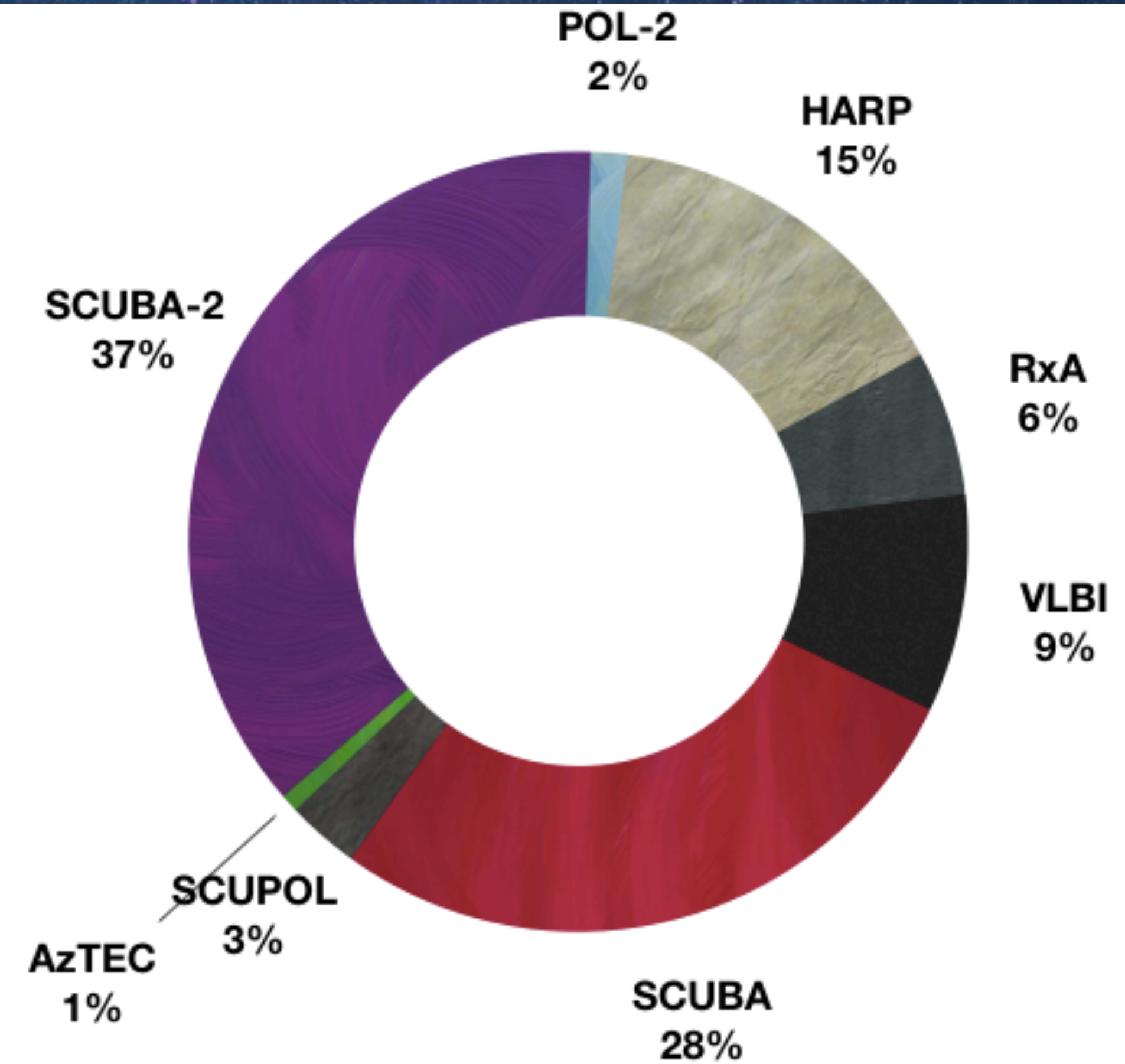
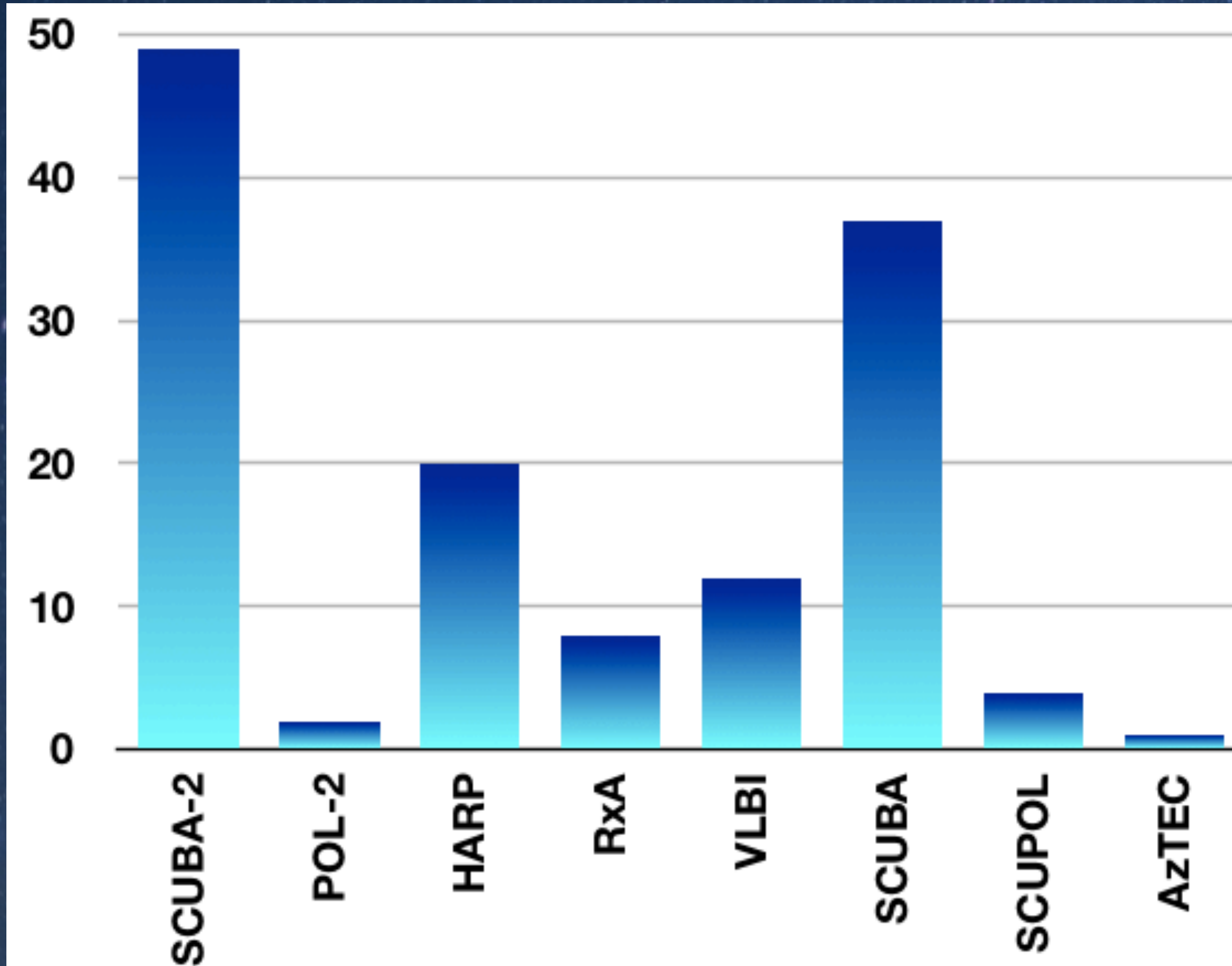


JCMT PUBLICATIONS

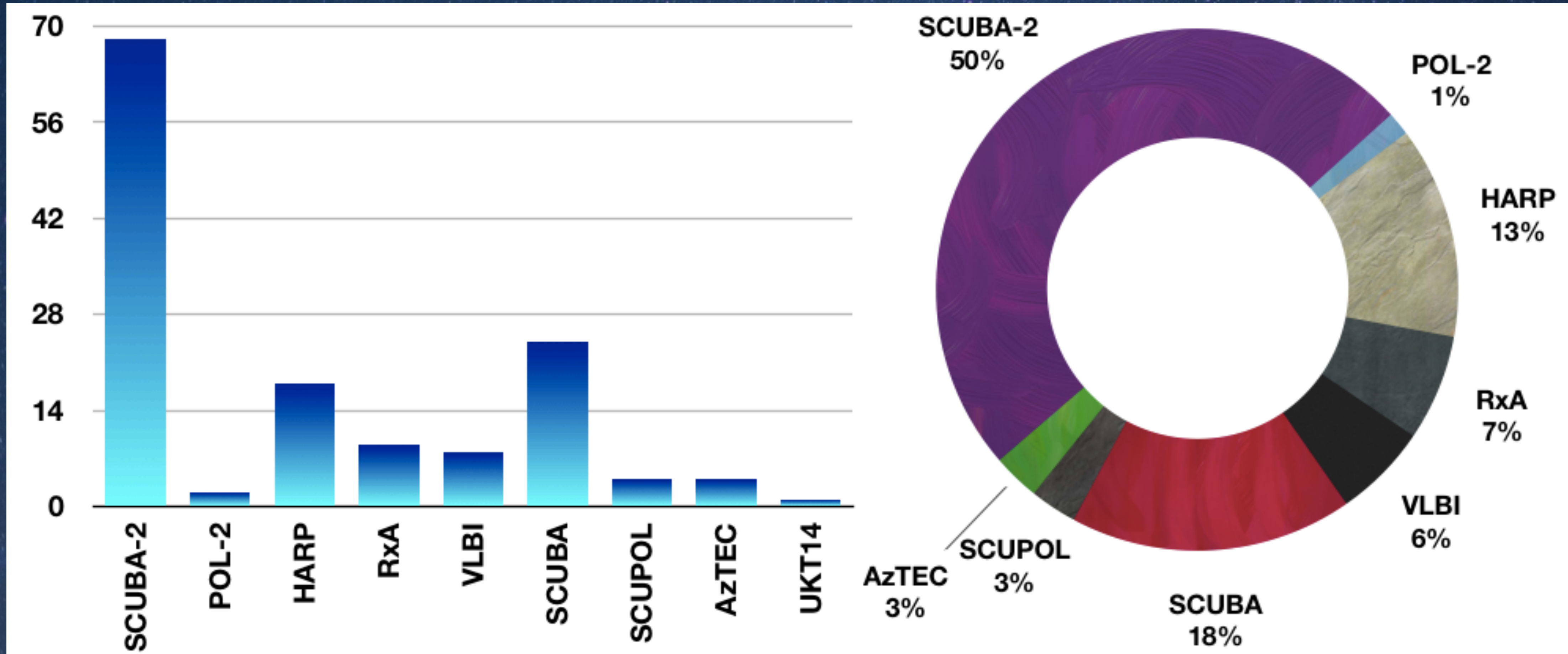
- 110 refereed science papers published with JCMT data in 2017!
- 2016 to 2017 analysis shows efforts of new regions and instrument focus



2016

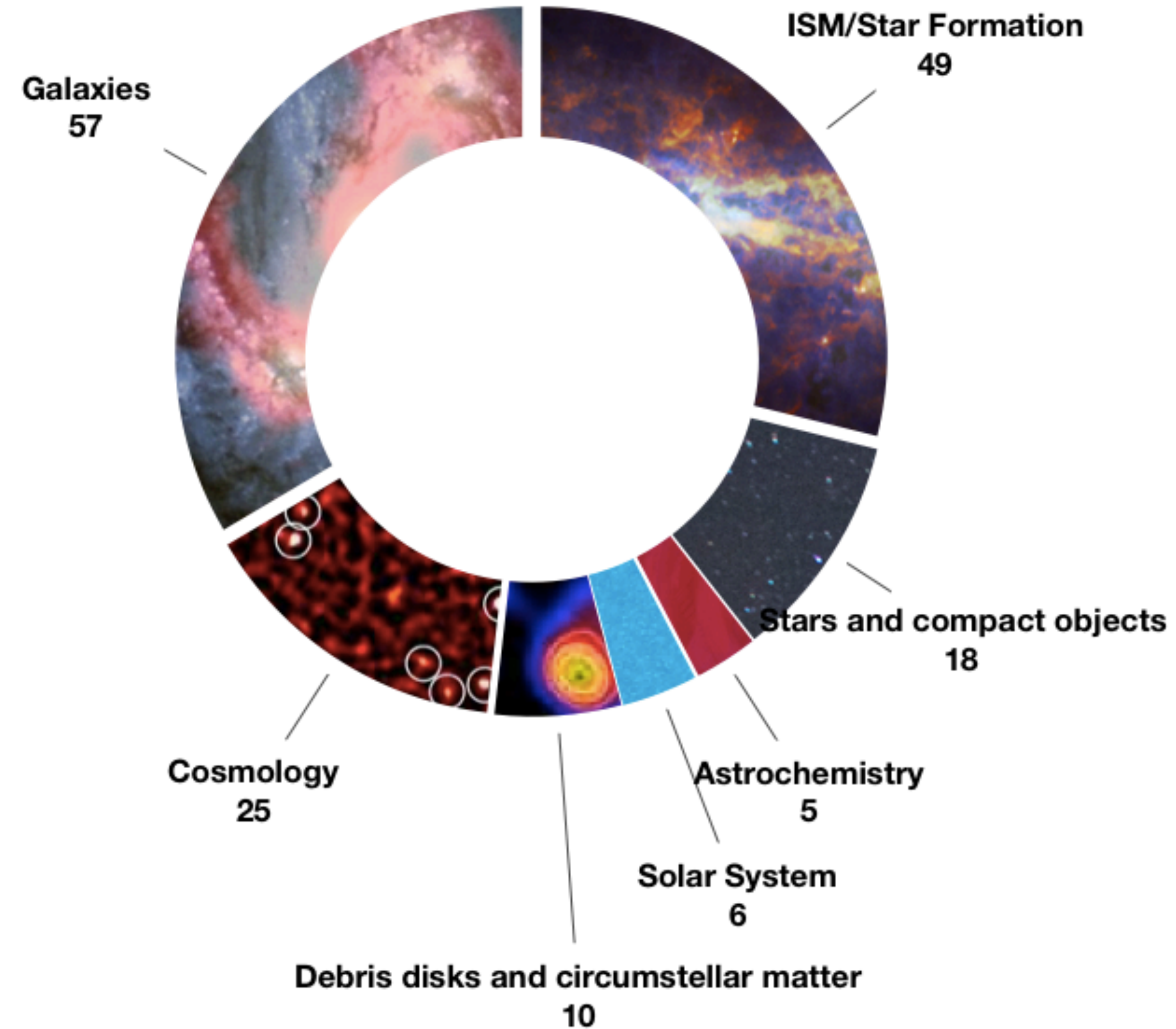
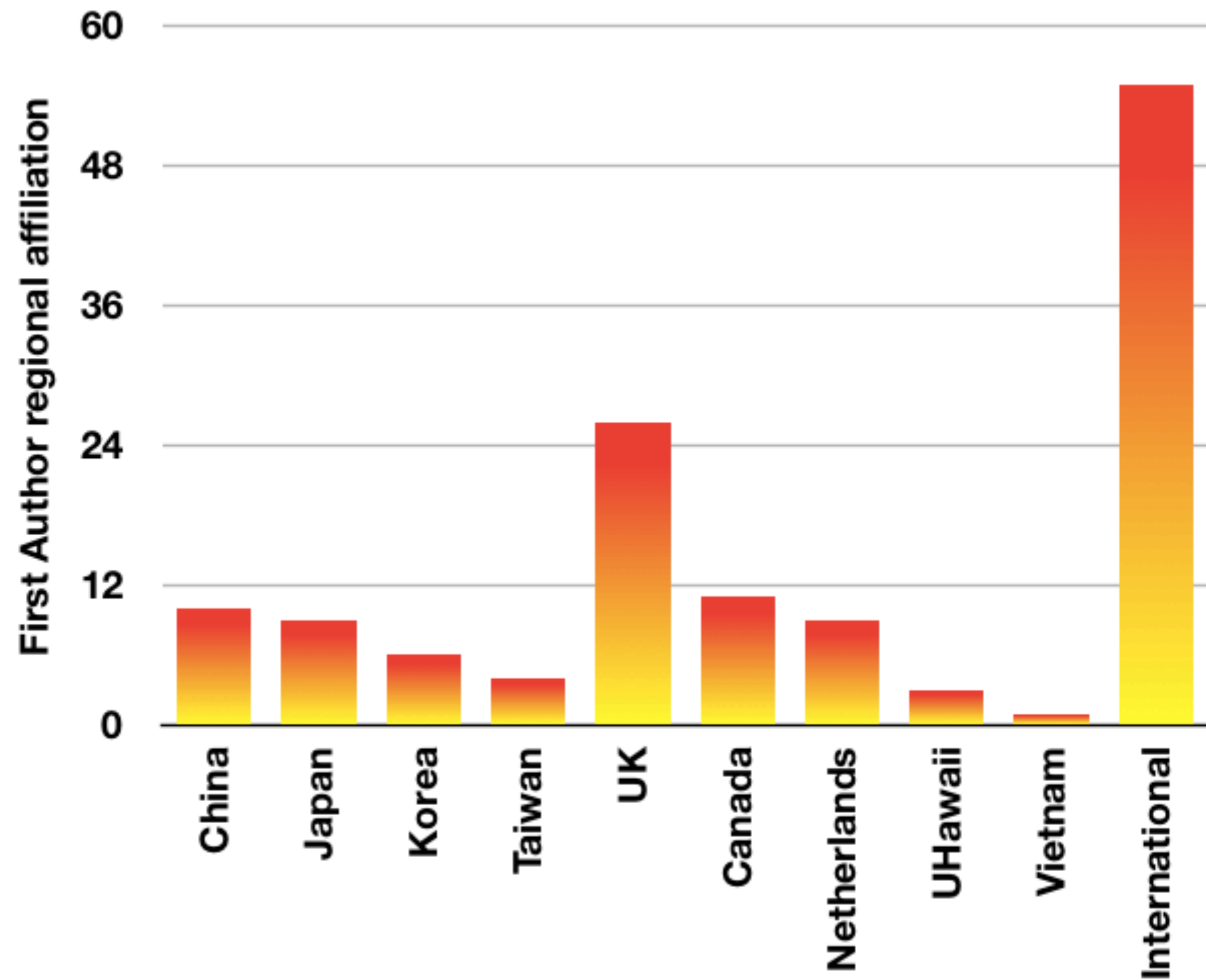


2017



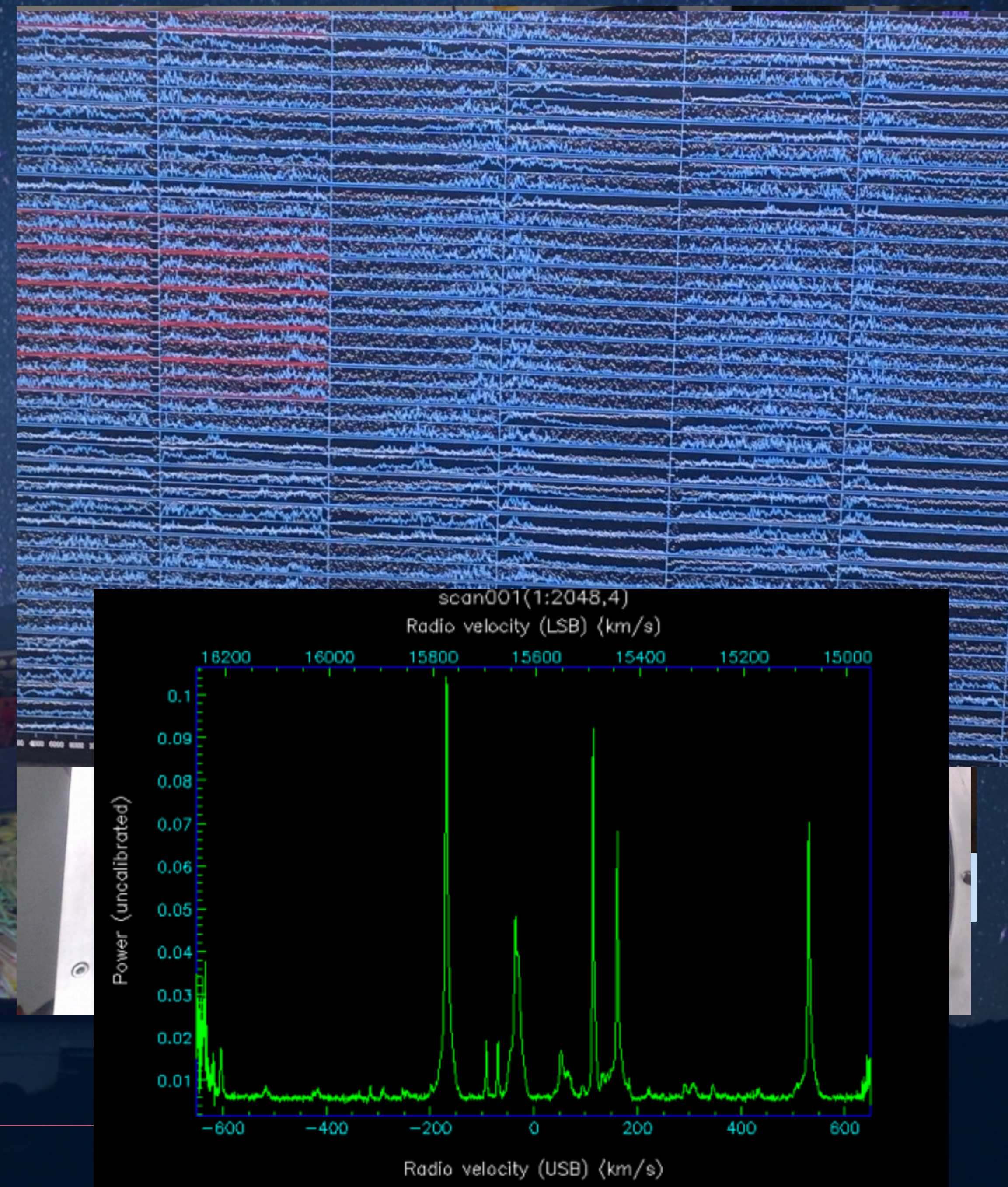
2017

- 25% of 2017 papers published by East Asian first authors
- 12 papers from new Large Programs



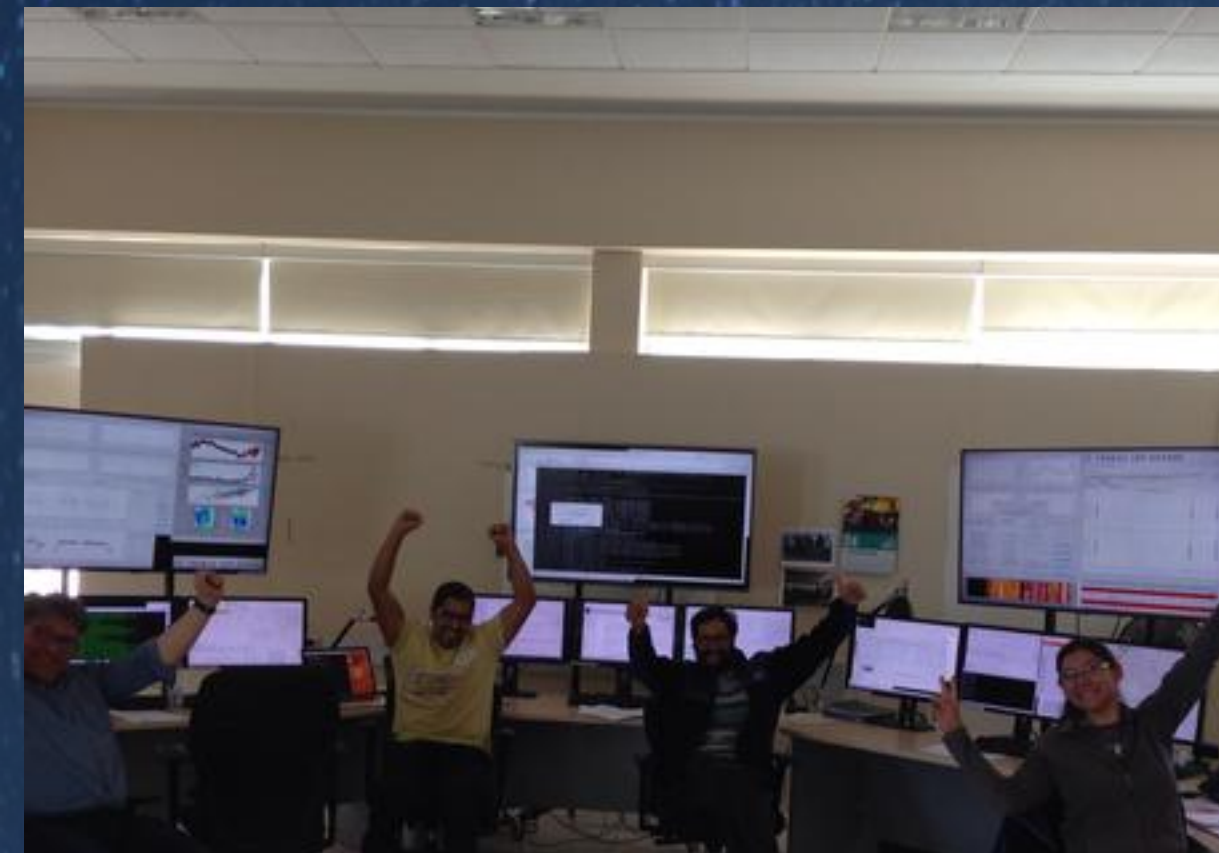
- Greenland telescope instrument is installed for testing at JCMT - three receivers (86, 230 and 345 GHz)
- JCMT will get an identical instrument next year
- Much better compatibility for EHT - first 230GHz cartridge with dual-polarization
- 345GHz cartridge following (HARP is ill-suited for VLBI)
- Remaining cartridge space for new ALMA technology testing, GLT testing, low-frequency East-Asian VLBI
- GLT successful first-light and fringes in VLBI mode with SMA

GLT AND NEW 230GHz AT JCMT



THE EVENT HORIZON TELESCOPE: APRIL 2017 RUN

- April run was huge success - fringes confirmed between all stations - results to come soon



ALMA



APEX



IRAM



JCMT



LMT



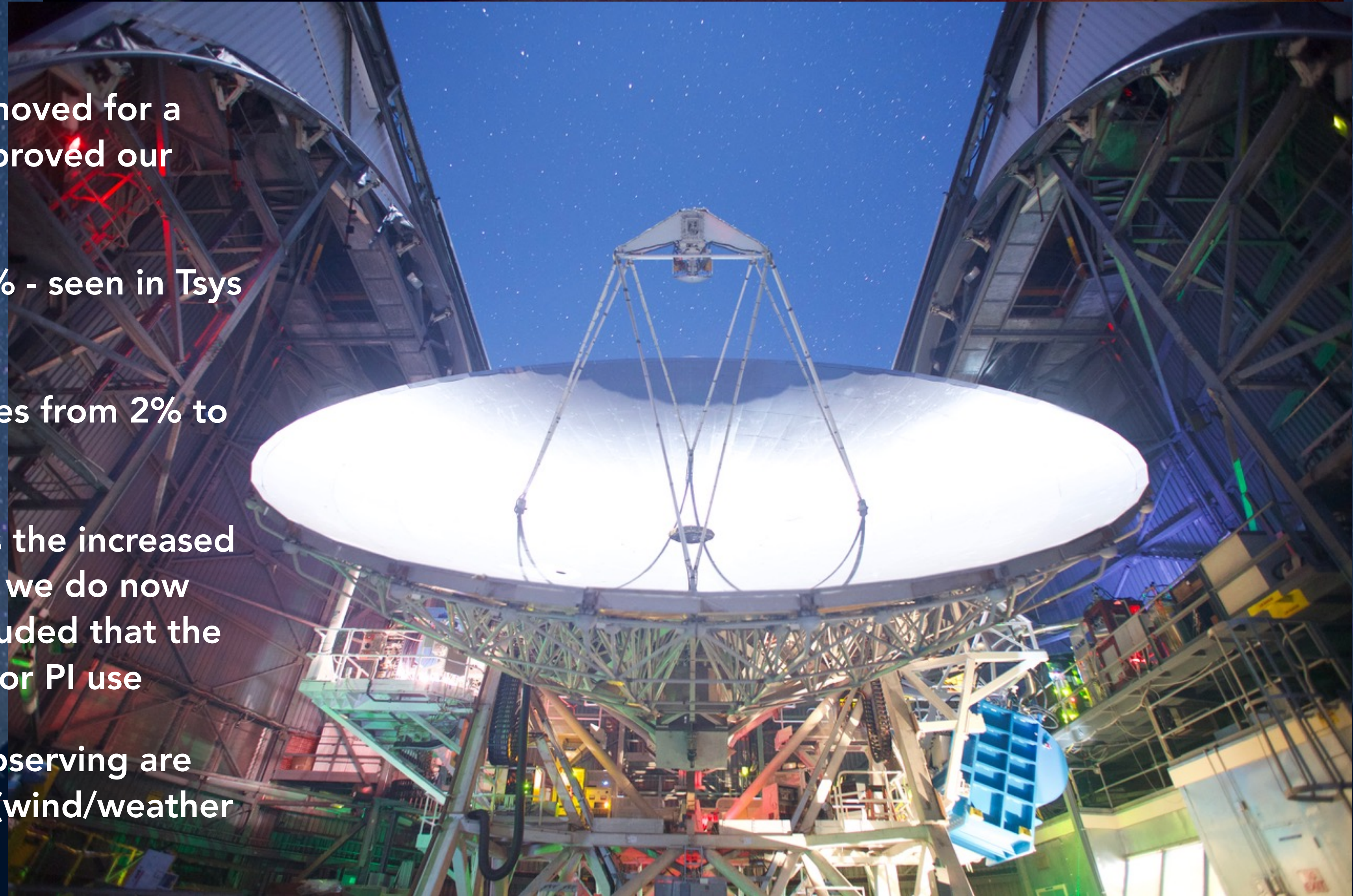
SMA

free-fall shell

rotating shell

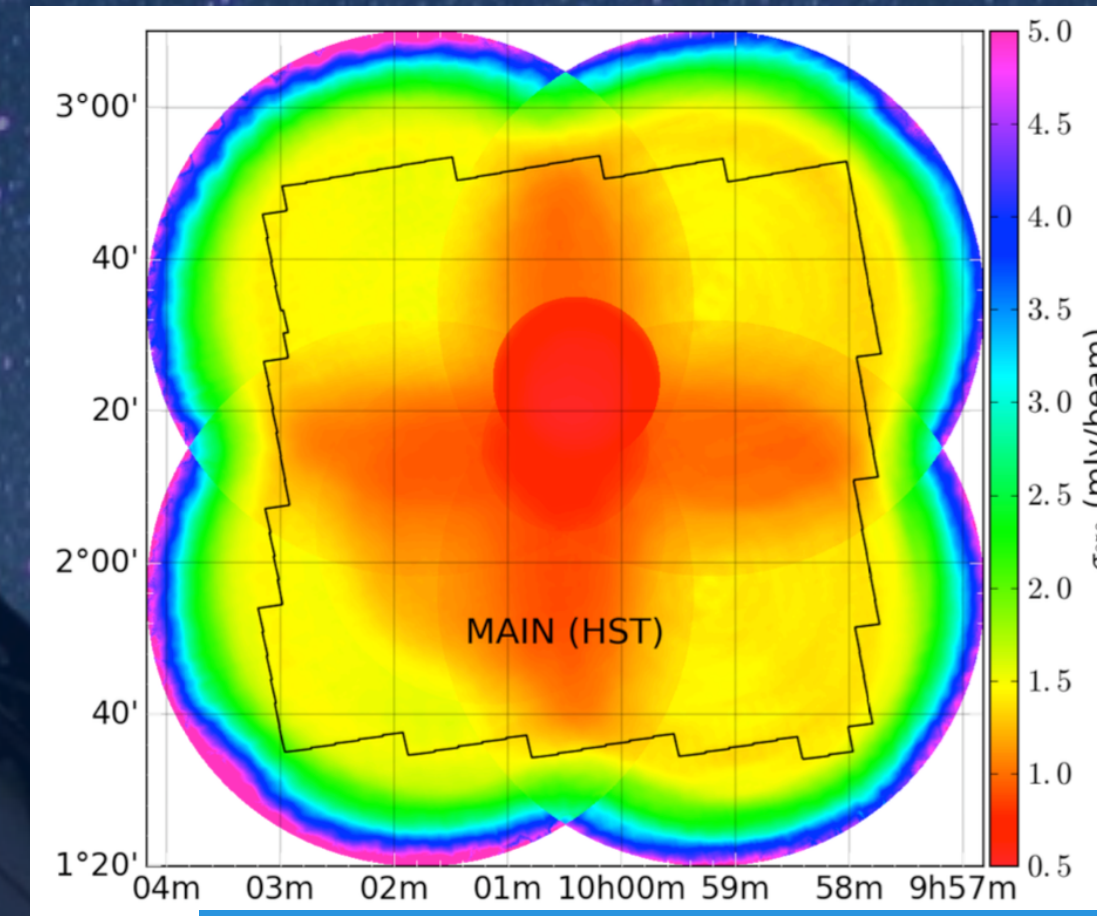
POL-2 450 MICRON TESTING

- Goretex membrane contributes to the instrument polarisation and attenuates signal
- In December the membrane was removed for a month of observing to see if this improved our 450 micron sensitivity
- The 850 micron FCF reduces by 5-8% - seen in T_{sys} reduction with HARP as well
- The 850 micron IP with POL-2 reduces from 2% to 0.5 %
- The 450 micron effect is less clear as the increased distortion of the surface adds noise: we do now have a 450 micron IP but have concluded that the sensitivity is still too low to release for PI use
- The downsides of membrane-free observing are large: reduced observing capability (wind/weather resistance)

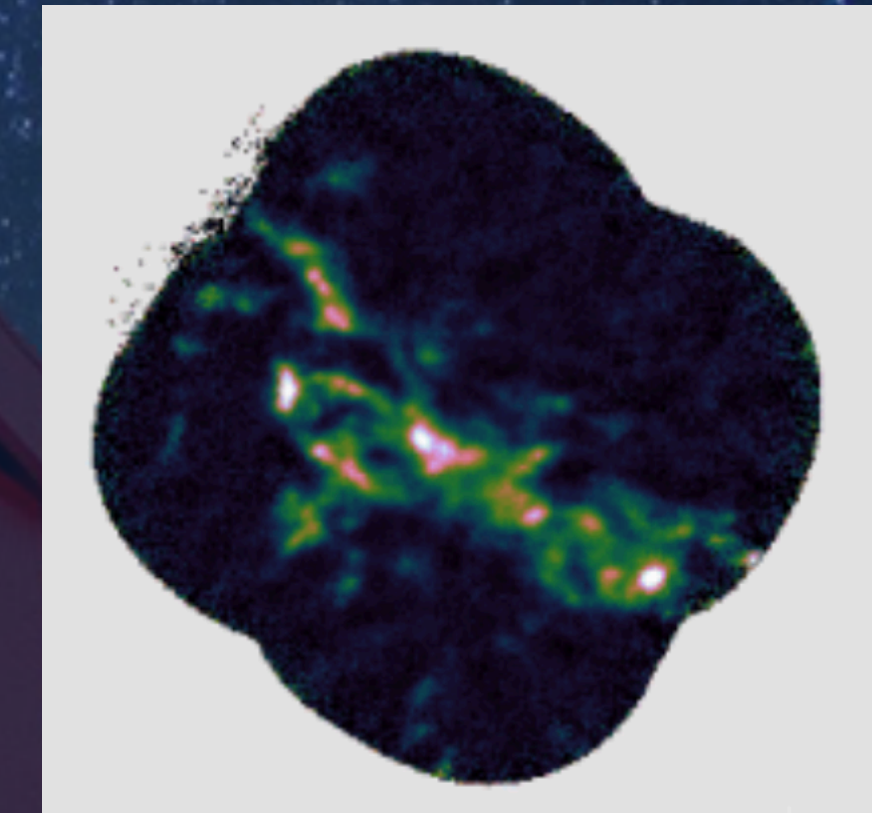
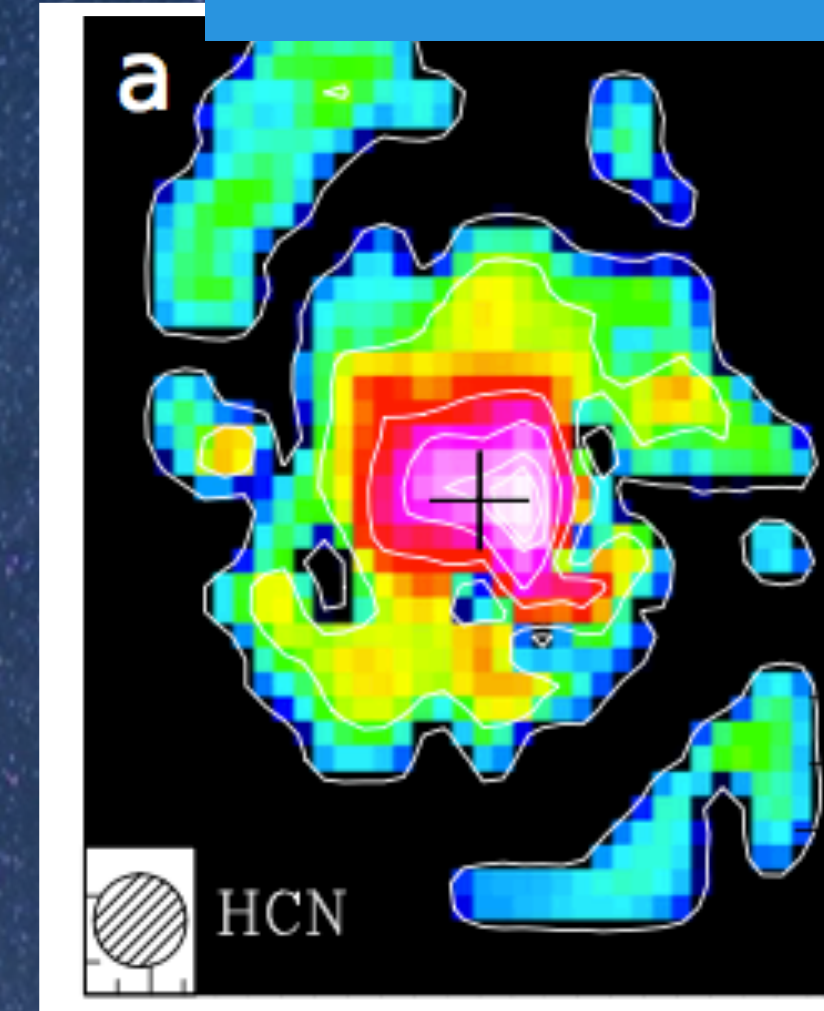


LARGE PROGRAMS PROGRESS

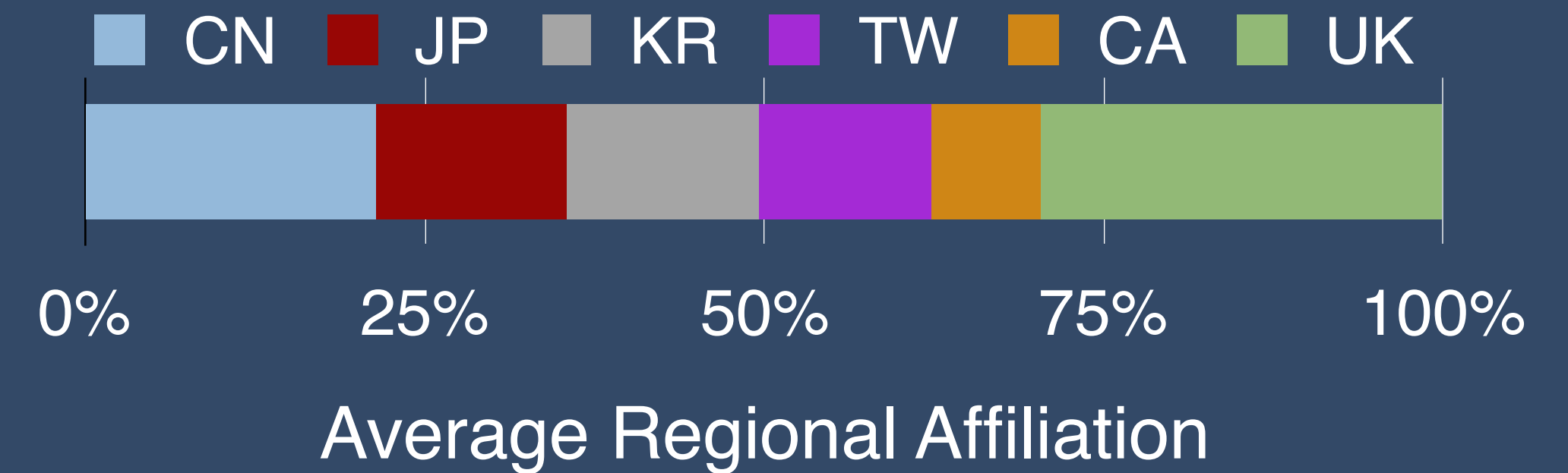
- Three large programs fully complete! S2COSMOS, MALATANG, SCOPE
- Expected: All original programs to be complete by next year (*STUDIES* - highly weather dependent).
- Regional involvement strong
- Number of publications expected to far exceed those from previous survey programs undertaken at JCMT
- Popularity of 2017B call - shows continued demand!
- Large Programs enable "big ideas" to be supported



MALATANG - 390 hours (HARP)



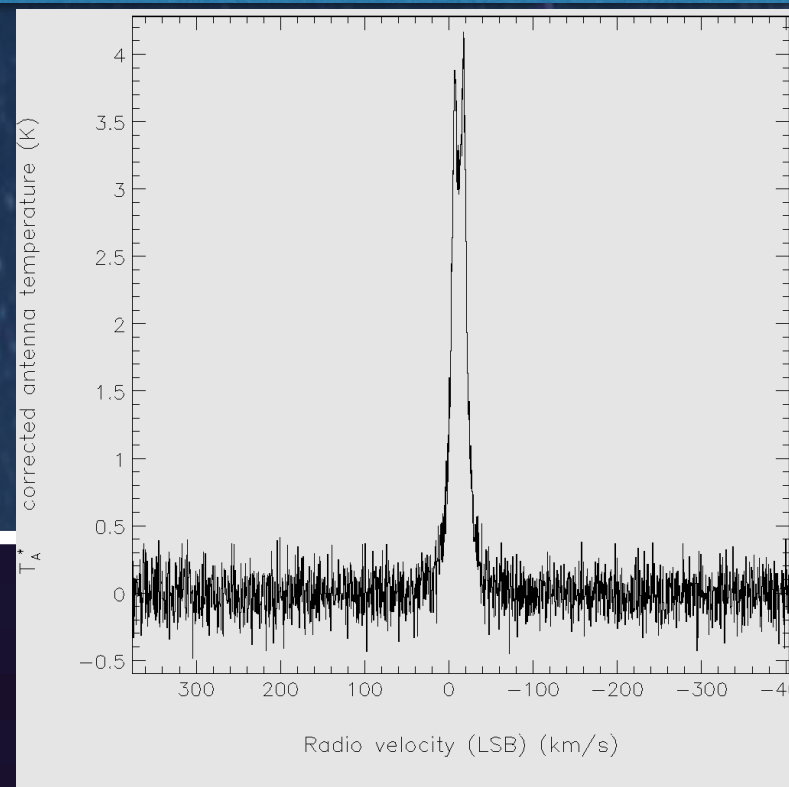
SCOPE - 390 hours (sc2)



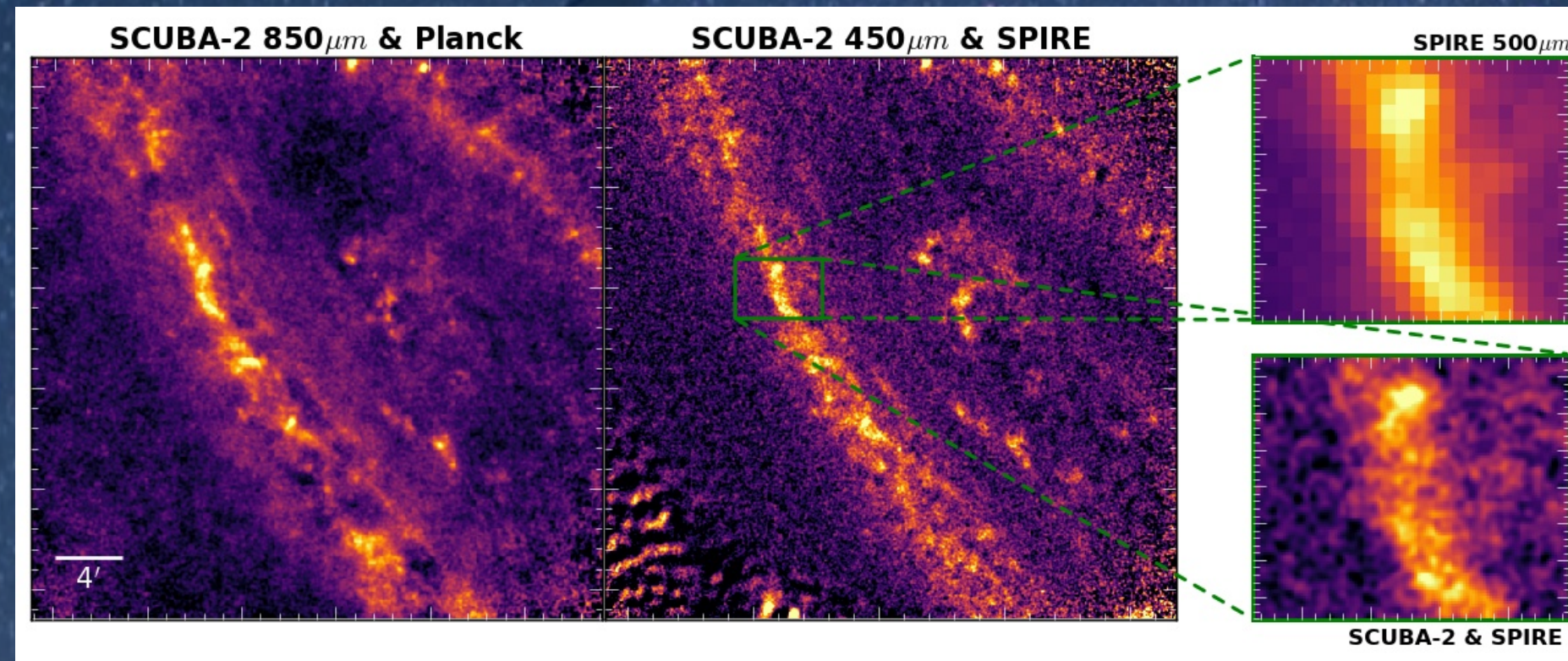
LARGE PROGRAMS (II): JUNE 2017

- 2468 hours awarded from 17B onwards to five new programs, and 1302 to four extensions.

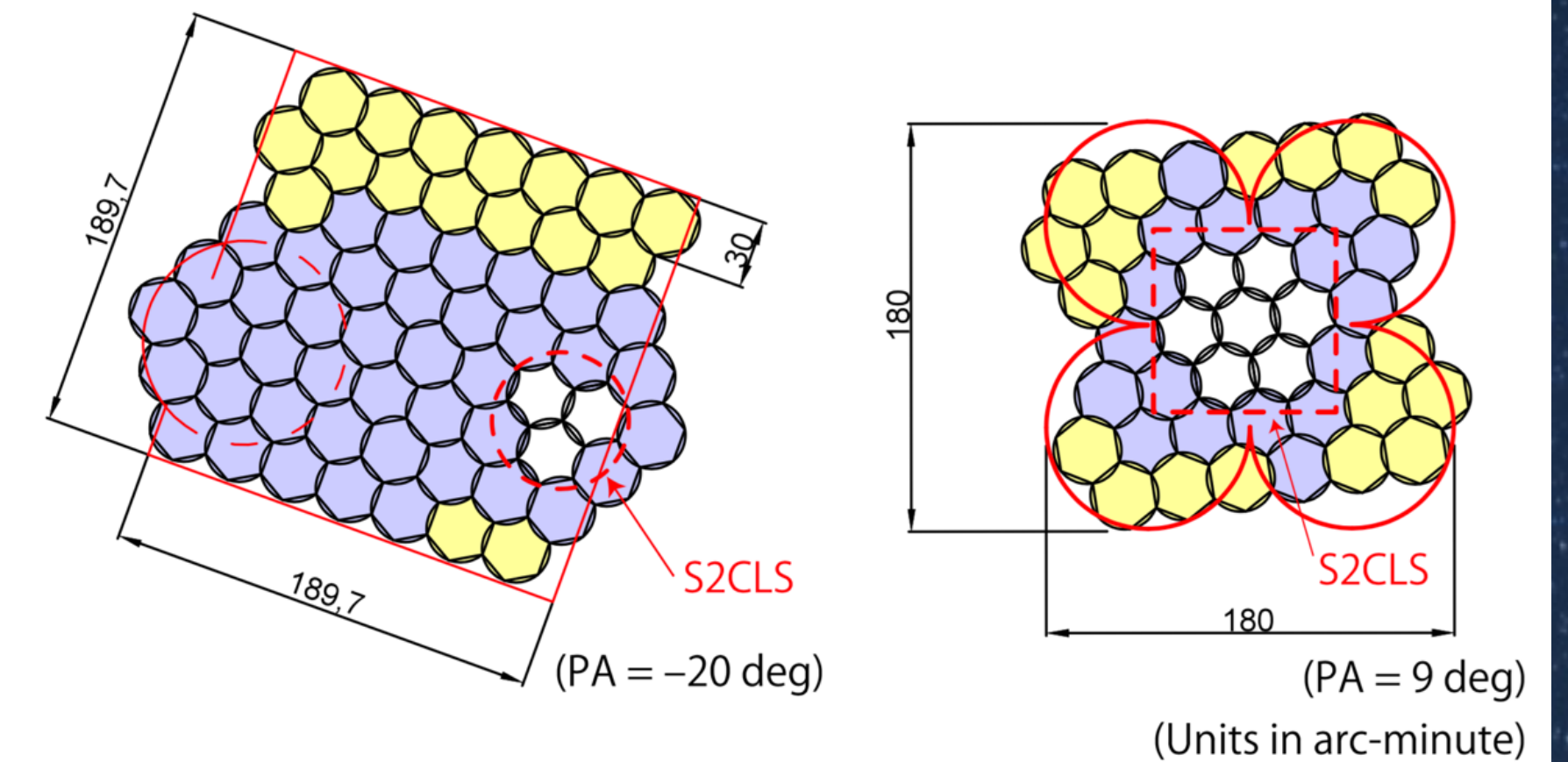
NESS - 515 hours
(sc2+HARP+RxAm)



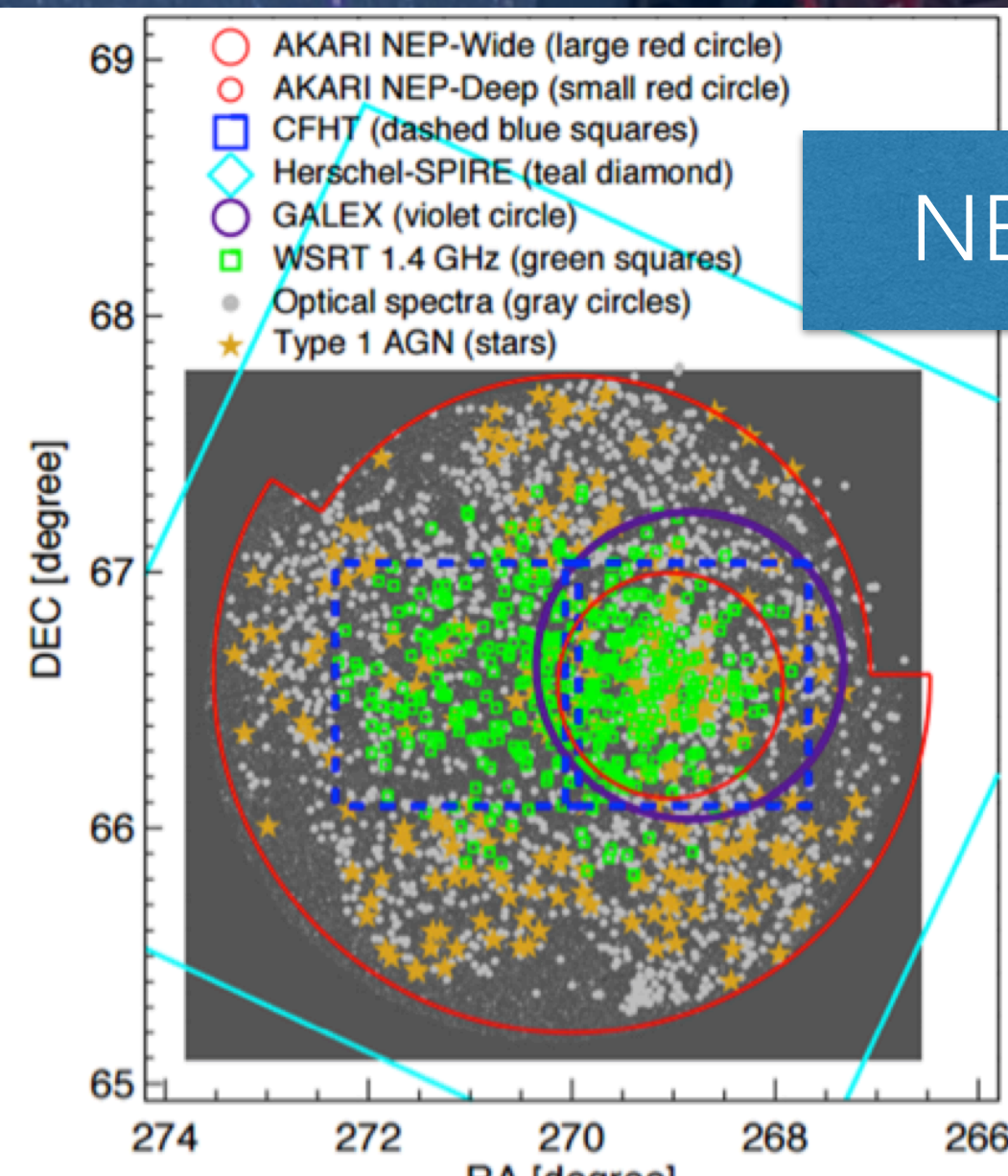
HASHTAG - 276 hours (sc2+HARP)



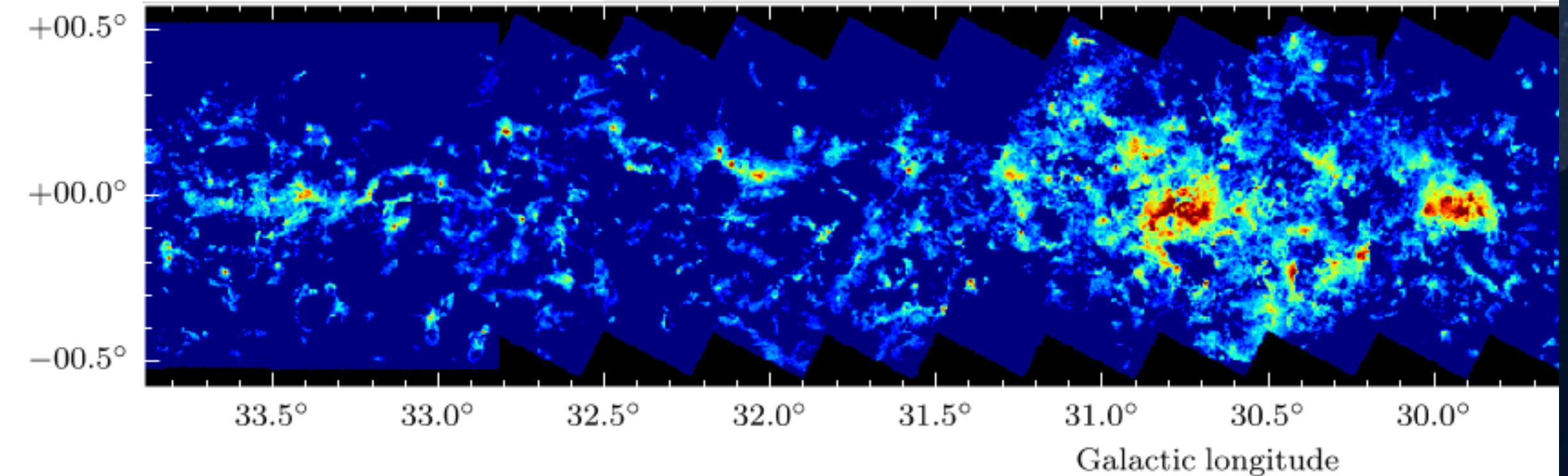
S2LXS - 873 hours (sc2)



NEP - 400 hours (sc2)



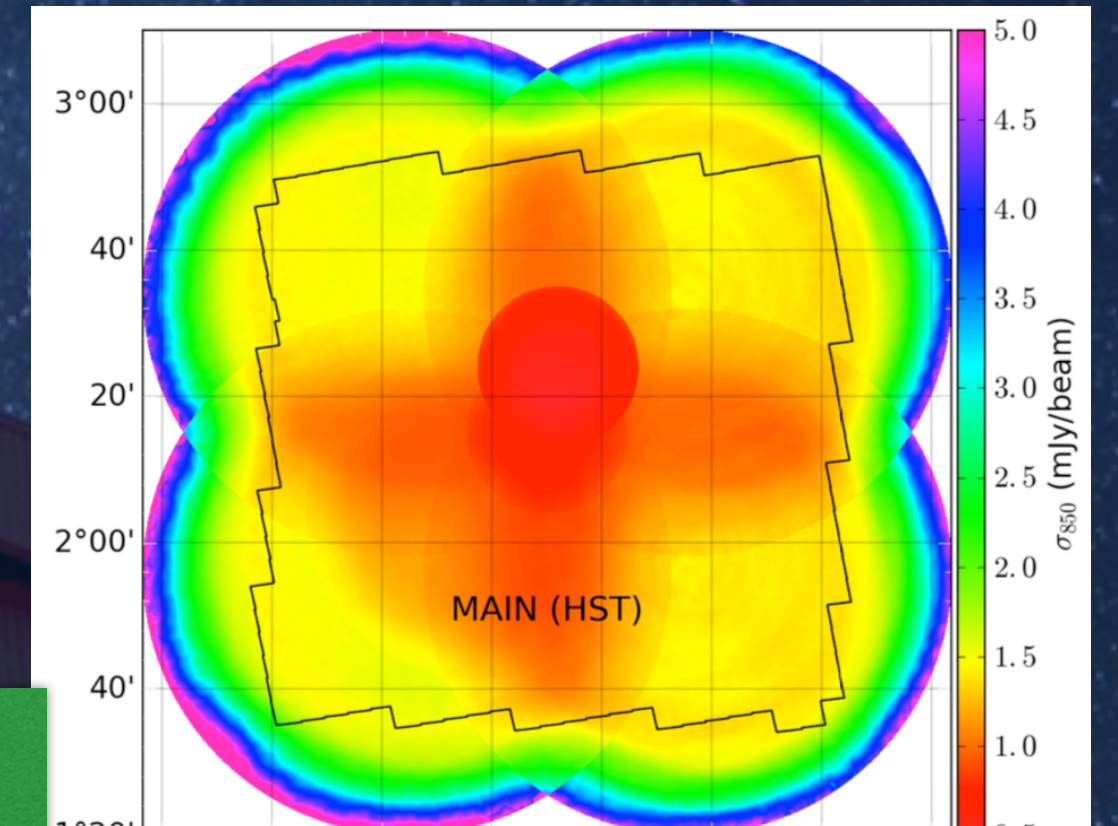
CHIMPS2 - 404 hours (HARP)



LARGE PROGRAMS (II): JUNE 2017

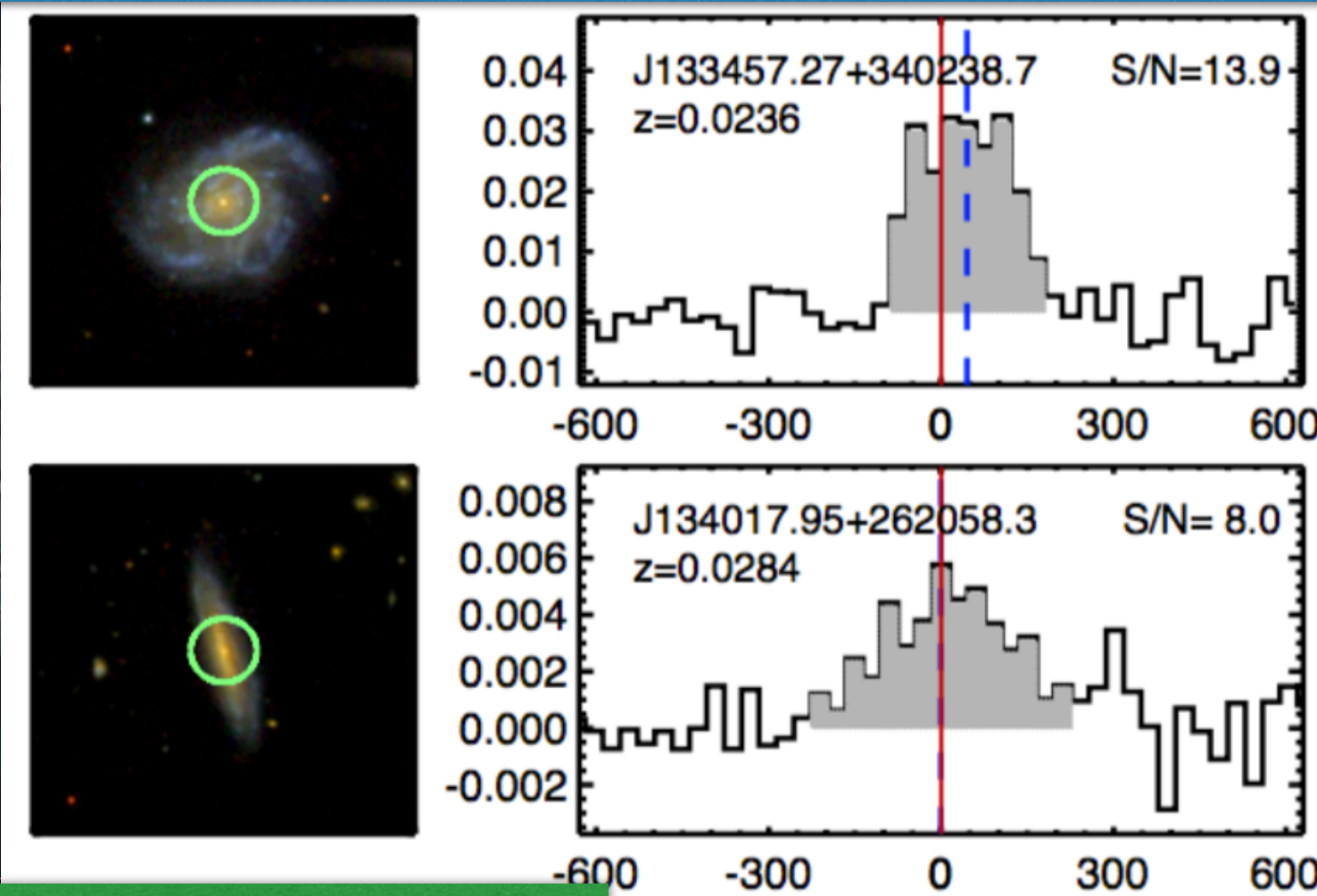
- 2468 hours awarded from 17B onwards to five new programs, and 1302 to four extensions.

eS2COSMOS +305



S2COSMOS - 223 hours (sc2)

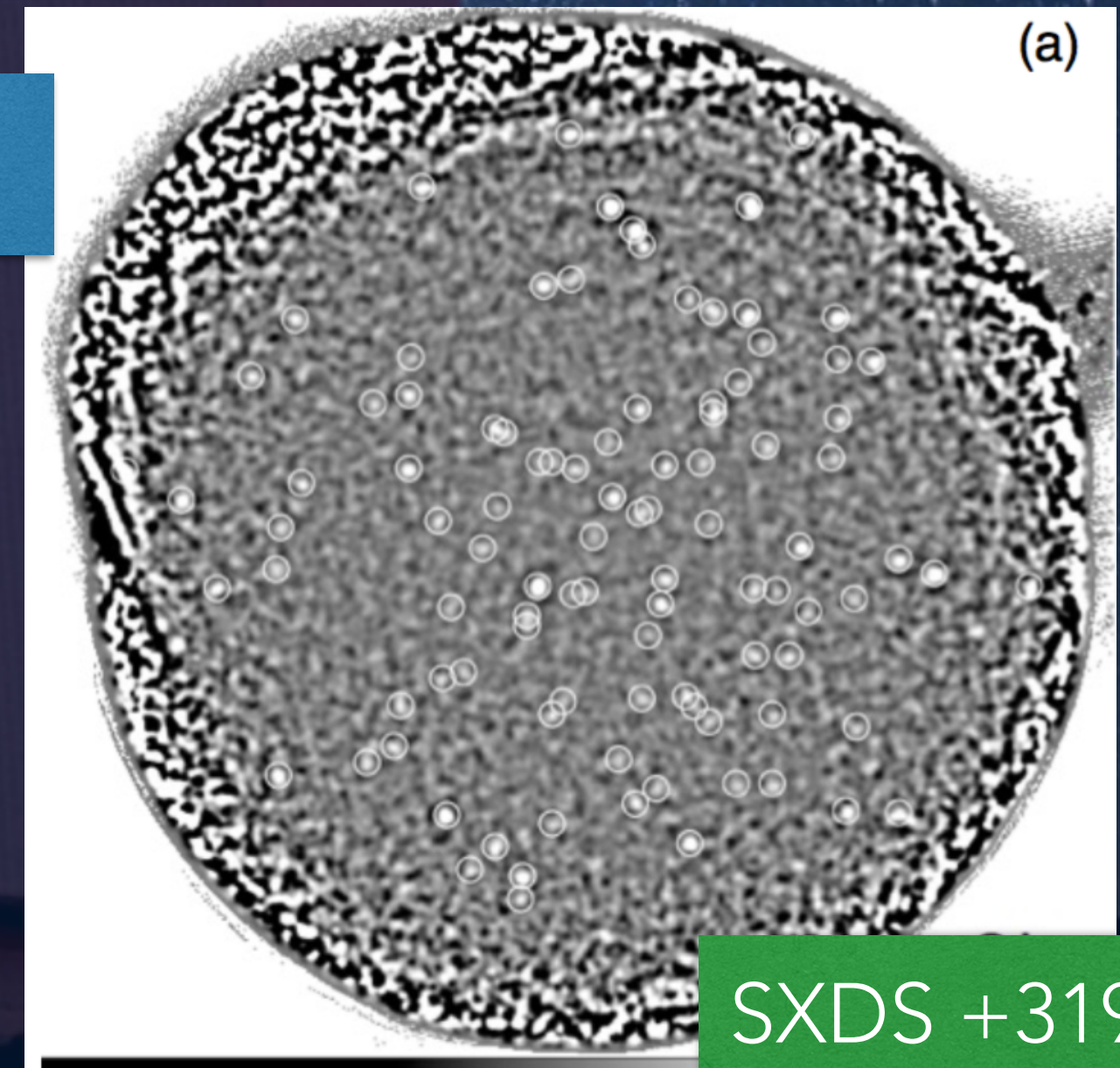
JINGLE - 780 hours (sc2 & RxAm)



+224

BISTRO - 224 hours (pol2)

JINGLE II+454

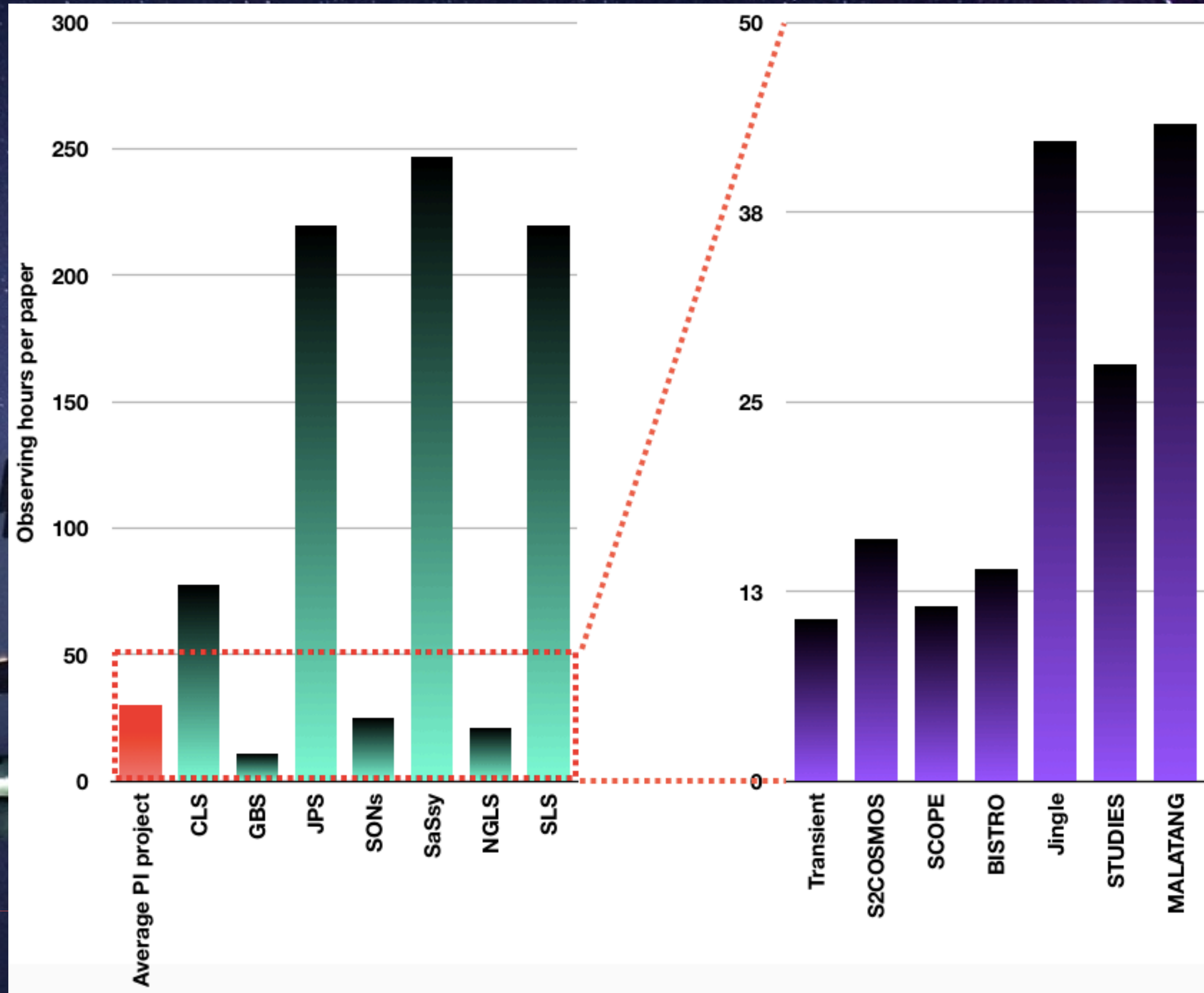


SXDS +319

STUDIES - 330 hours (sc2)

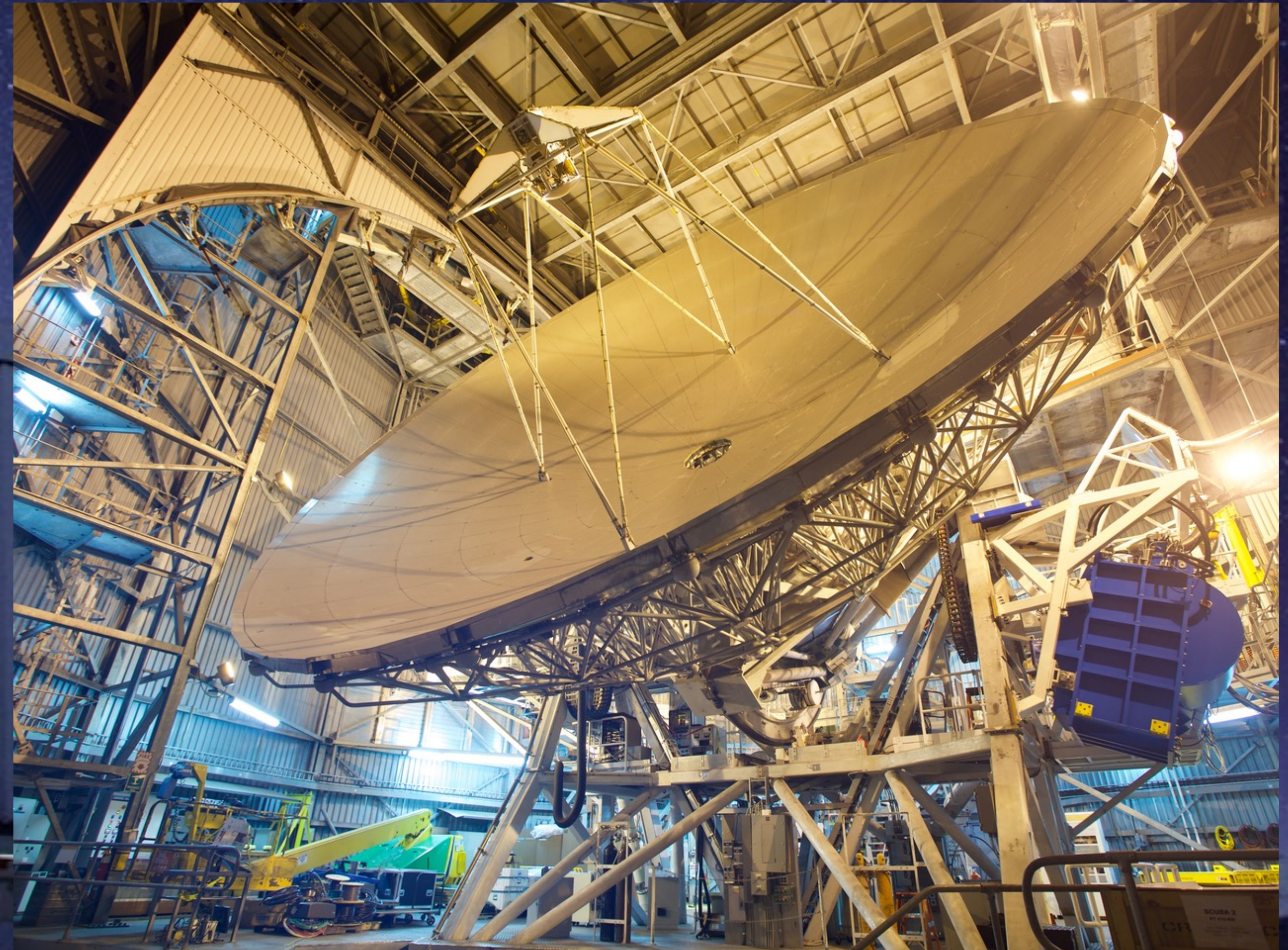
LARGE PROGRAMS: PUBLICATION IMPACT

- On average, 30 hours of JCMT observing time per paper
- The latest wave of legacy papers continues to mine greater value for each hour of large program time
- The new large programs promise to make greater gains than this



JCMT DOWN TIME IN MAY

- SMU maintenance is overdue and requires a full telescope shutdown
- Closure from April 30th through May 19th
- SCUBA-2 work will occur concurrently and will be unavailable until May 28th
- This was accounted for in the allocation of time for the 18A semester



JCMT 18B CALL FOR PROPOSALS

- The next Call for PI proposals will open February 14th and close March 16th
- Proposals will be taken through Hedwig

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Hedwig

Proposal Submission System



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