



# Report from Korean ARC node

<http://alma.kasi.re.kr>

Jihyun Kang (KASI)



ALMA  
Atacama Large Millimeter/submillimeter Array



☆ News

◦ Korean ARC Node

Staffs

Computing Facilities

◦ Instrumentation

◦ Previous Proposals Calls

◦ ALMA Archival Science

◦ Publication


Announcements

2021-September-08  
ALMA Cycle 8 ACA Supplemental Call for Proposals

The Joint ALMA Observatory (JAO) is now accepting observing proposals for Cycle 8 that request to use the Atacama Compact Array (ACA) in stand-alone mode. Instructions on how to submit proposals can be found on the [Cycle 8 Supplemental Call webpage](#). For this Supplementary Call, proposals with targets at any RA will be considered, but those that can be observed in the LST range 20 to 10 h are particularly encouraged. Note that 7m-Array polarization observations are not offered at this Supplemental Call. In addition, time-constrained and Target-of-Opportunity (ToO) observations are not offered at this Call for Proposals. A minimum of 1500 h will be allocated each on the 7-m Array and the Total Power Array to proposals submitted at this Call. Key dates for this CfP are given in the following table.

December 2020	Cycle 8 2021 Pre-Announcement (Main Call and Supplemental Call)
8 September 2021 15:00 UT	Release of the Cycle 8 2021 Stand-alone ACA Supplemental Call for Proposals, Observing Tool, and supporting documents, and opening of the Archive for proposal submission
6 October 2021 15:00 UT	Deadline to submit Supplemental Call proposals
19 October 2021	Proposals are released to the reviewers, and Stage 1 begins
26 October 2021 15:00 UT	Deadline to report conflicts of interest
16 November 2021 15:00 UT	Distributed peer review Stage 1 deadline
17 November 2021	Distributed peer review Stage 2 begins
24 November 2021 15:00 UT	Distributed peer review Stage 2 deadline
December 2021	Announcement of the outcome of the proposal review process and start of Phase 2 for accepted proposals
January 2022	Start of Science Observations
30 September 2022	End of ALMA Cycle 8 2021

2021-August-24  
The 5th ALMA Summer School



The 5th ALMA Summer School was held online for August 17-20. The following program was conducted:



# People

## ACA Spectrometer Development



Jongsoo Kim



Jongsuk Hong



Heesun Yoon

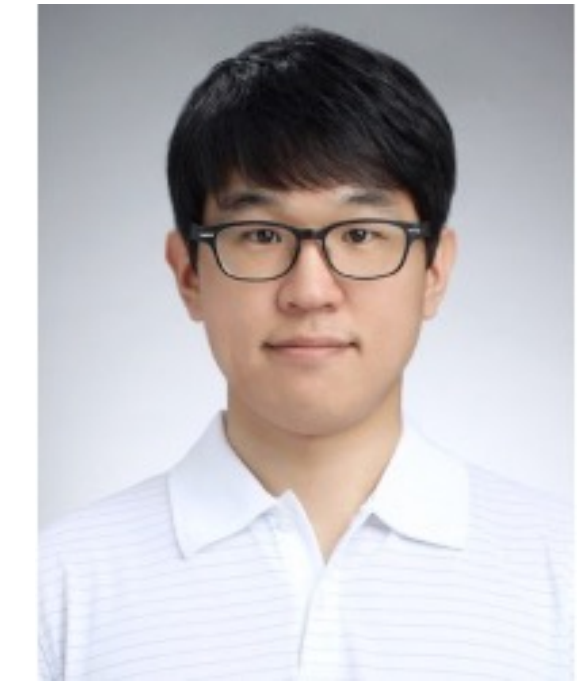
## Multibeam Receiver Development



Jung-Won Lee



Do-heung Je



Bangwon Lee

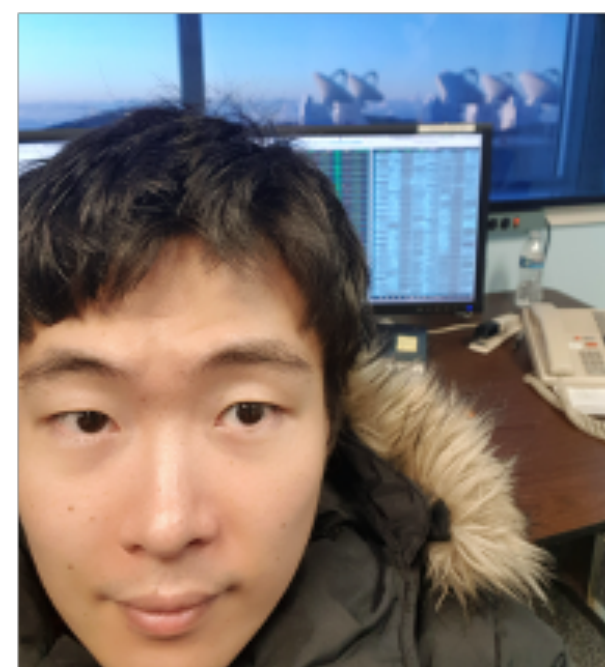
## ARC node



Aran Lyo



Min-Young Lee



Yusuke Aso



Seokho Lee



Jihyun Kang



# East Asian ALMA Science workshop 2021 (Feb. 17-19)

- 176 registered participants
- 48 oral talks

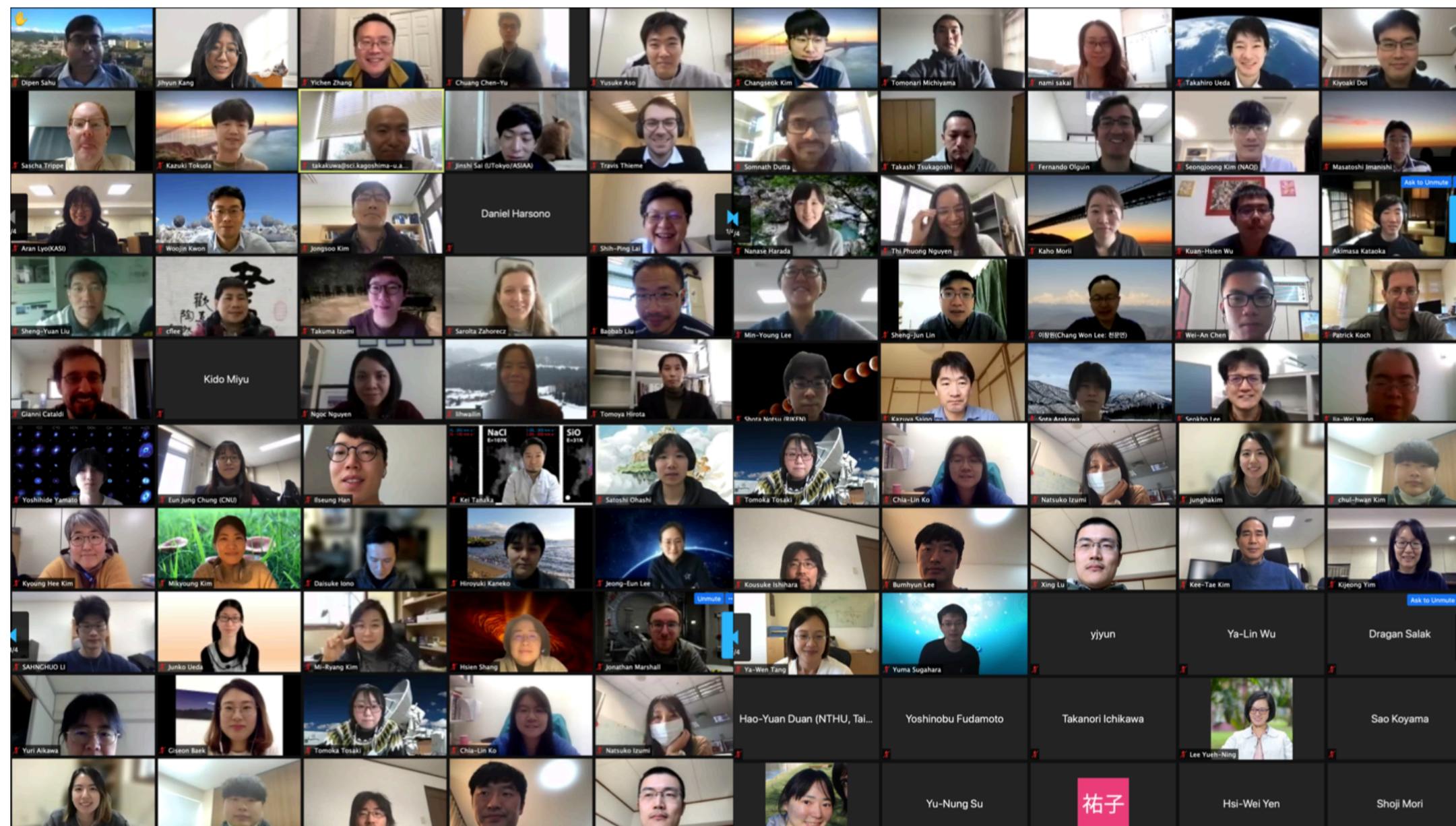
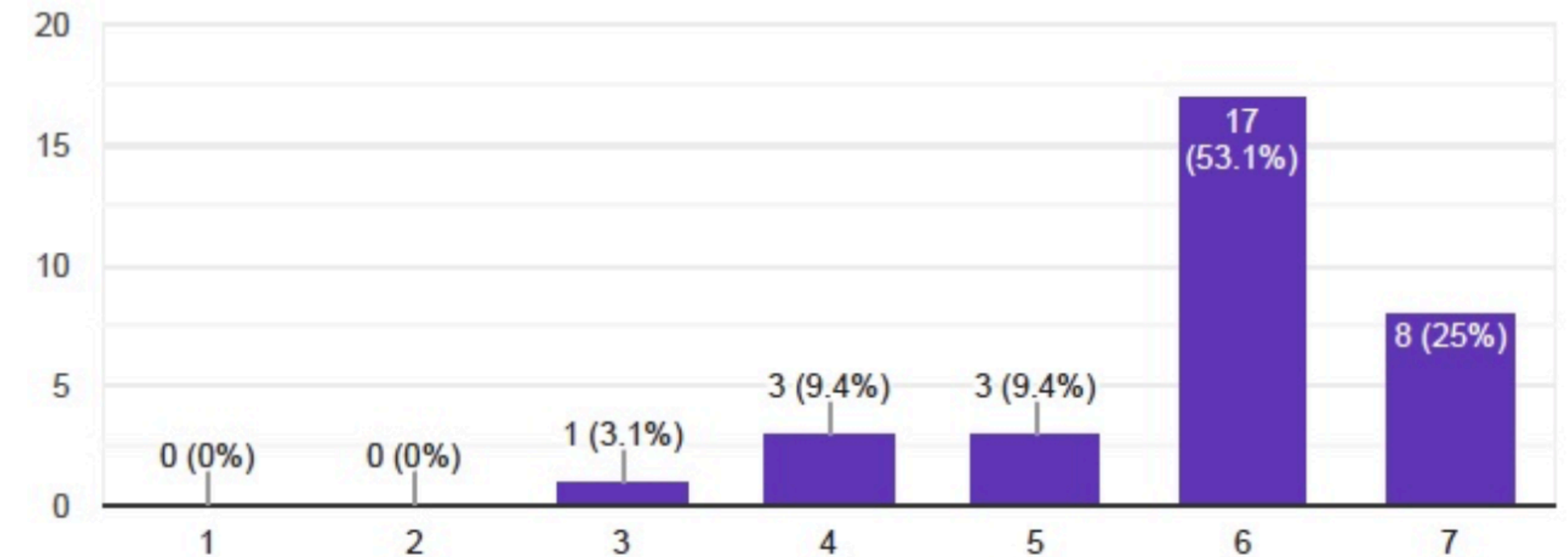


그림 41. 2022년 East Asia ALMA Science Workshop (17/Feb - 19/feb)

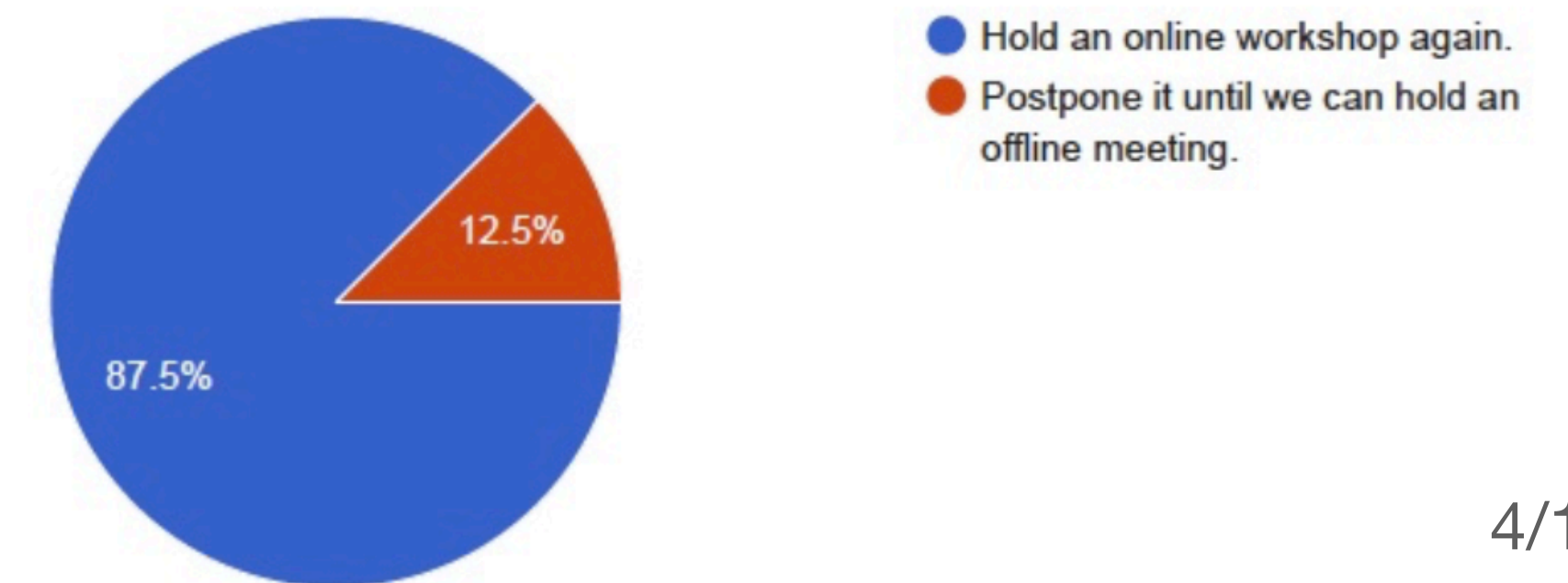
How much were you satisfied with the workshop?

32 responses



If offline meetings are limited in one more year, which do you prefer for the next workshop?

32 responses





# ARC activities

## Cycle 8 proposal preparation meeting

2021/3/18

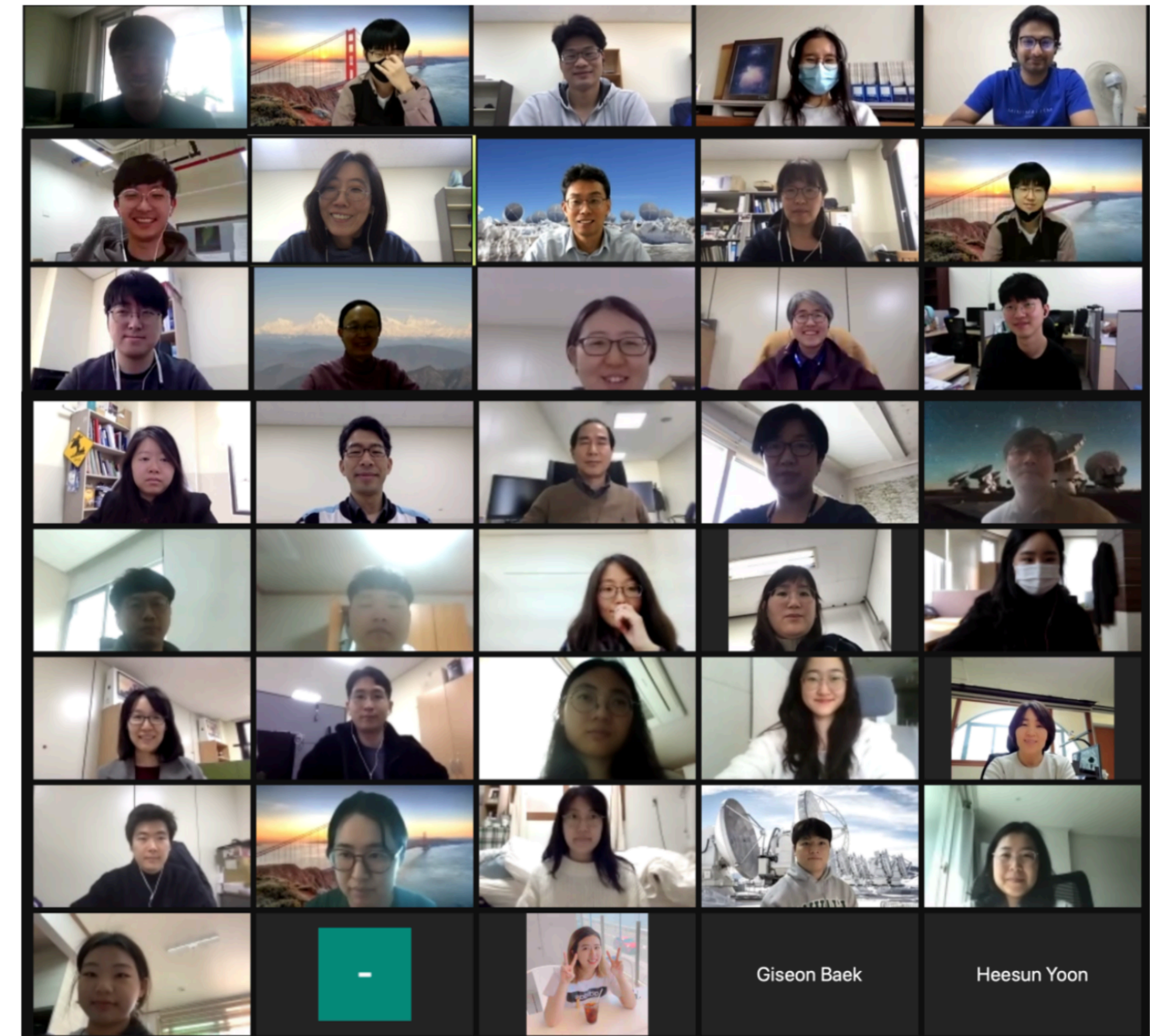
: Cycle 8 capability, Review system, Q&A

2021/3/19

: OT, Archive, Q&A

Morning session in Korean

Afternoon session in English

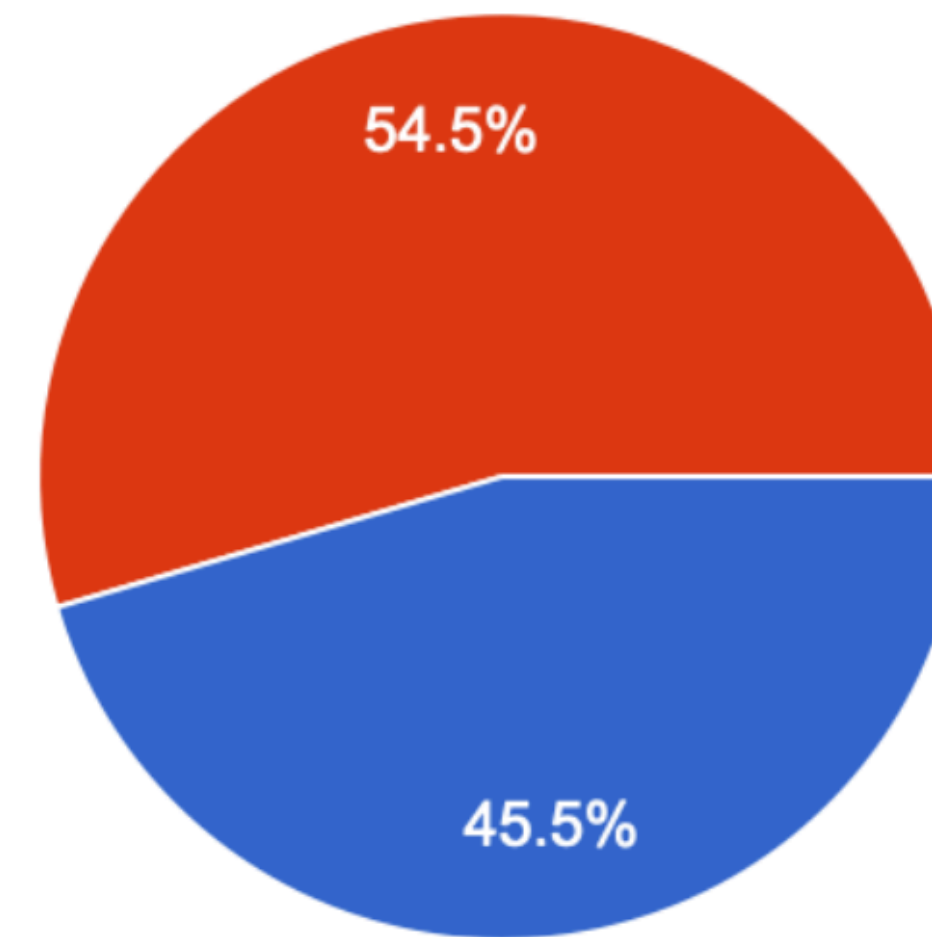
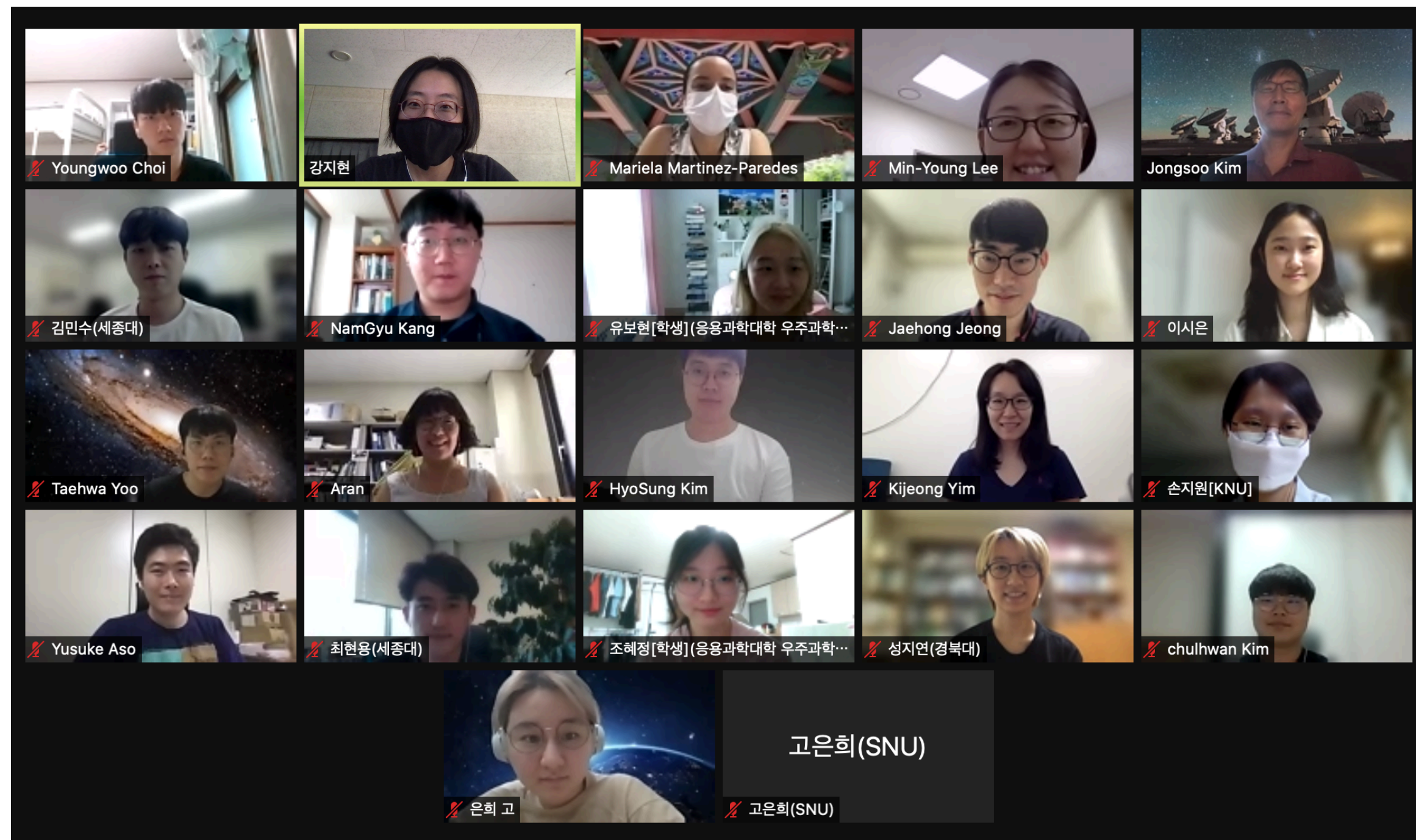




# ARC activities

## ALMA summer school 2021 (Aug 17-20)

- 15 students from 7 universities+institute + 6 staffs

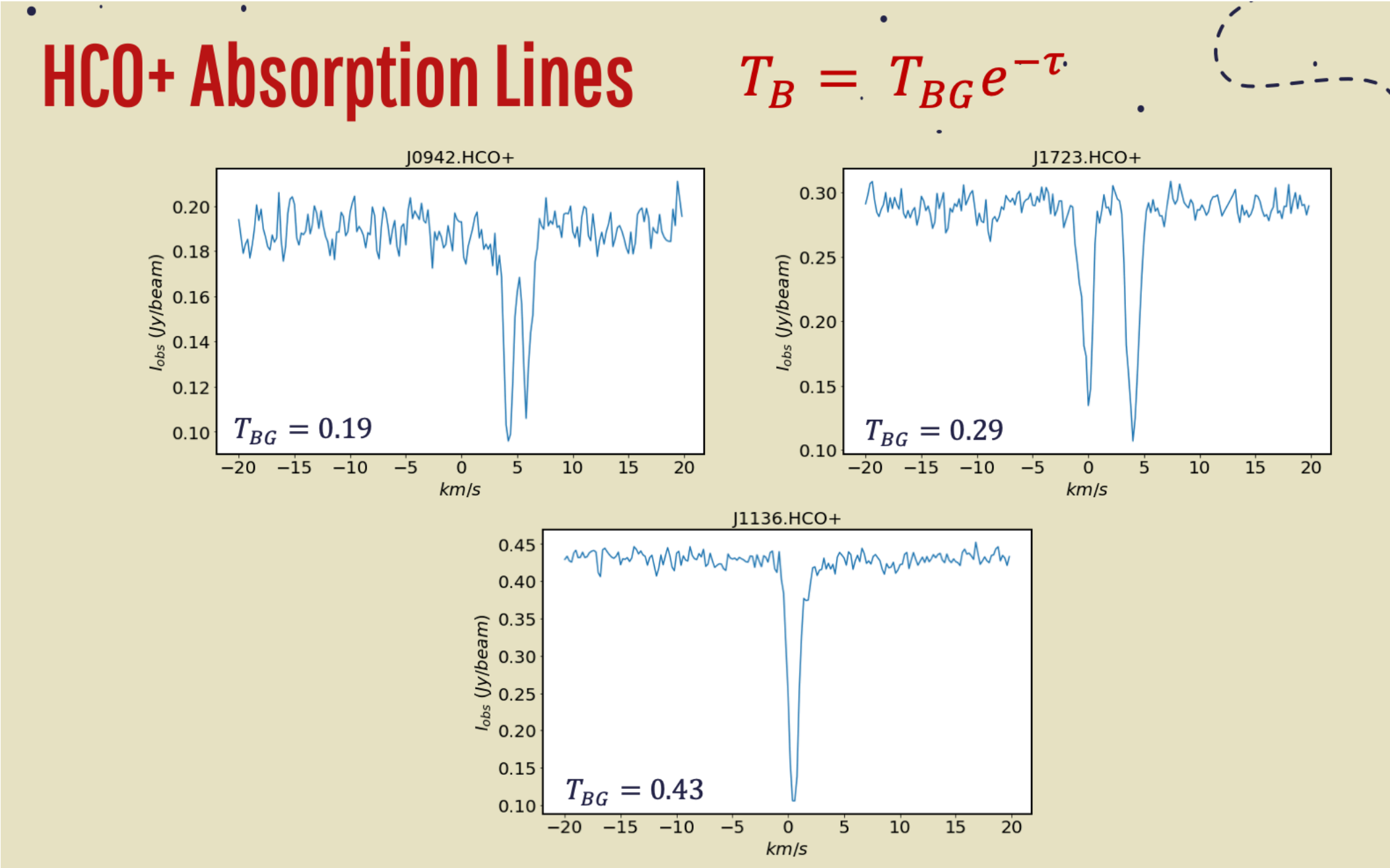
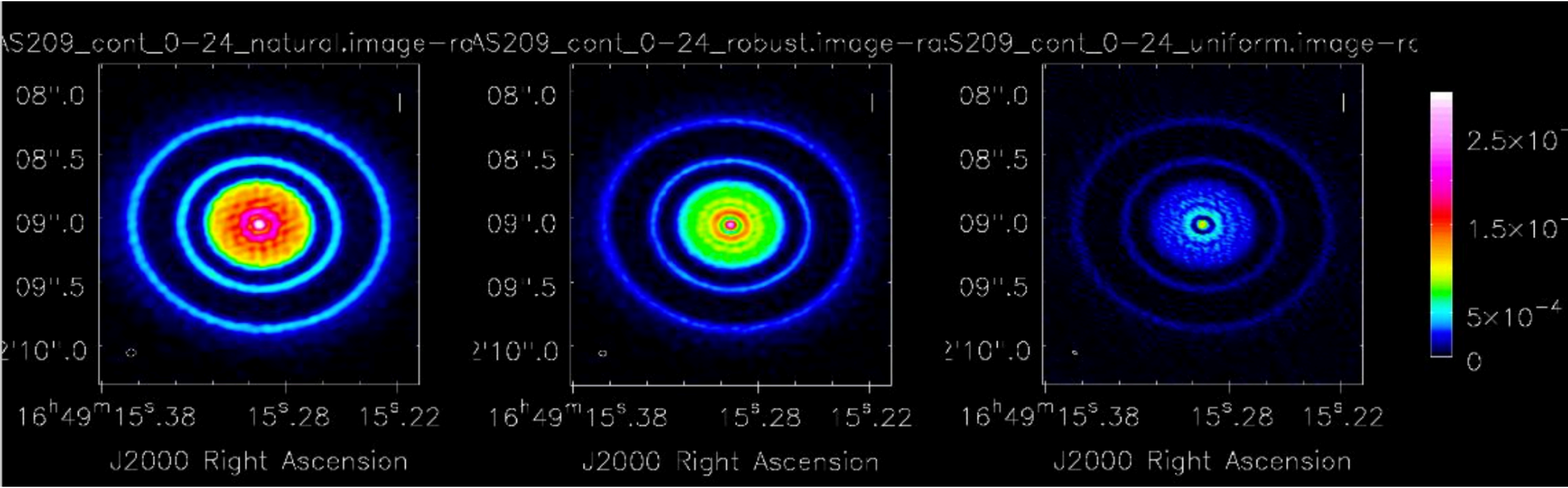


**Masters < 2yrs**

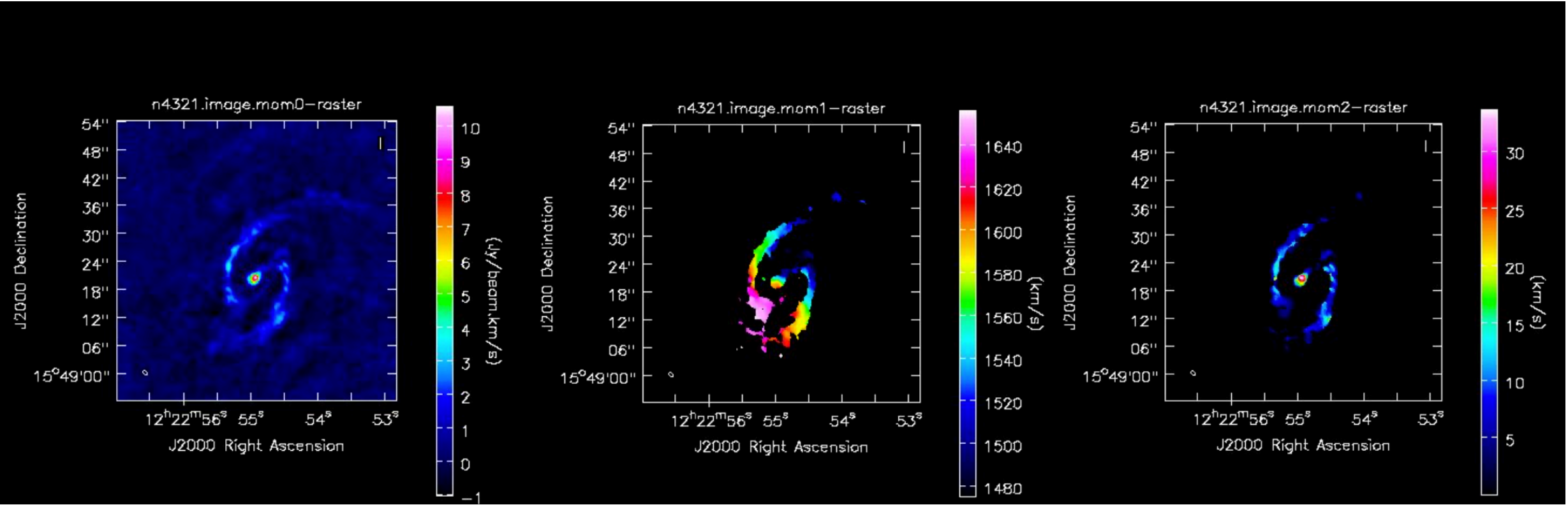
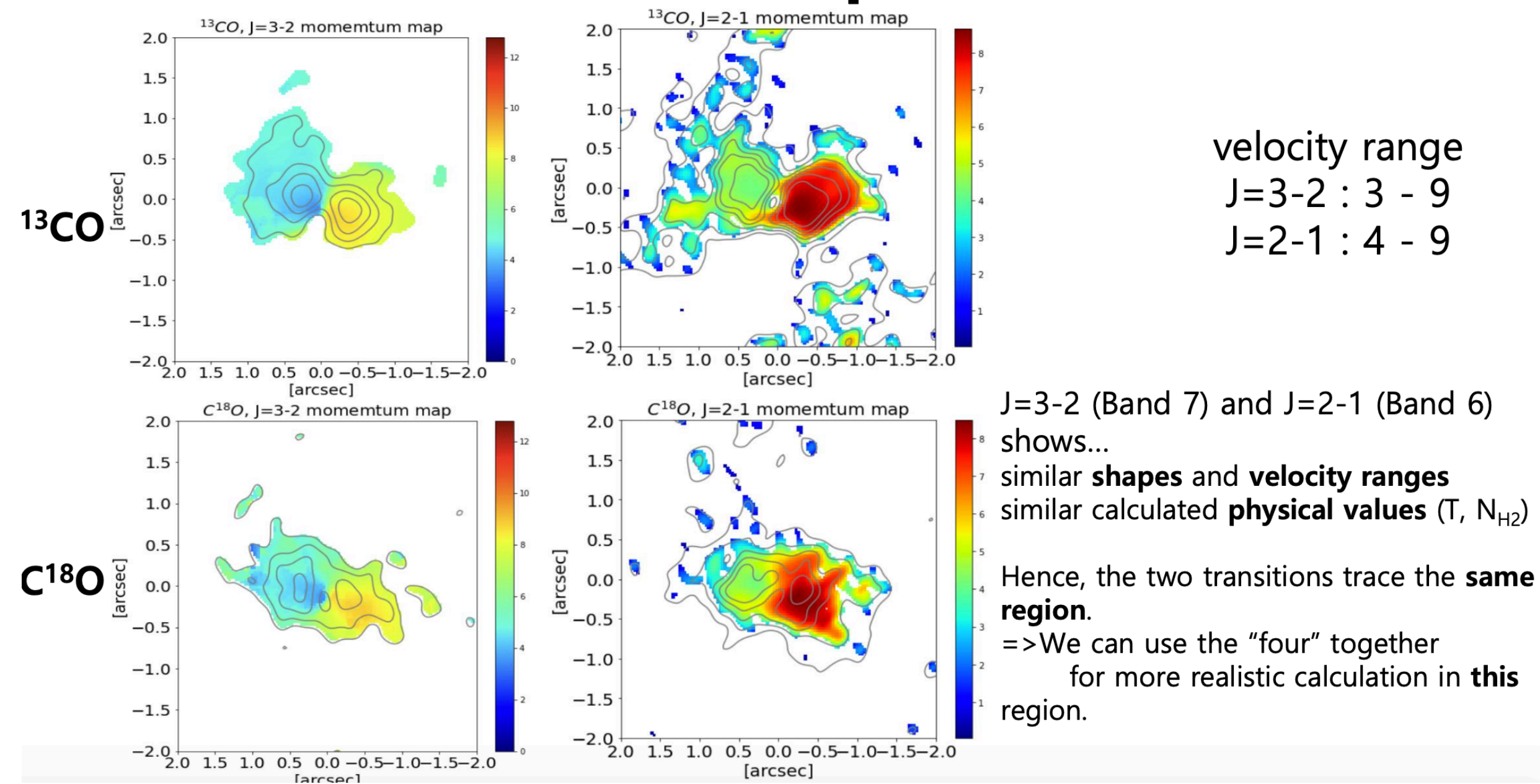
**Undergraduates**



# Group Activities

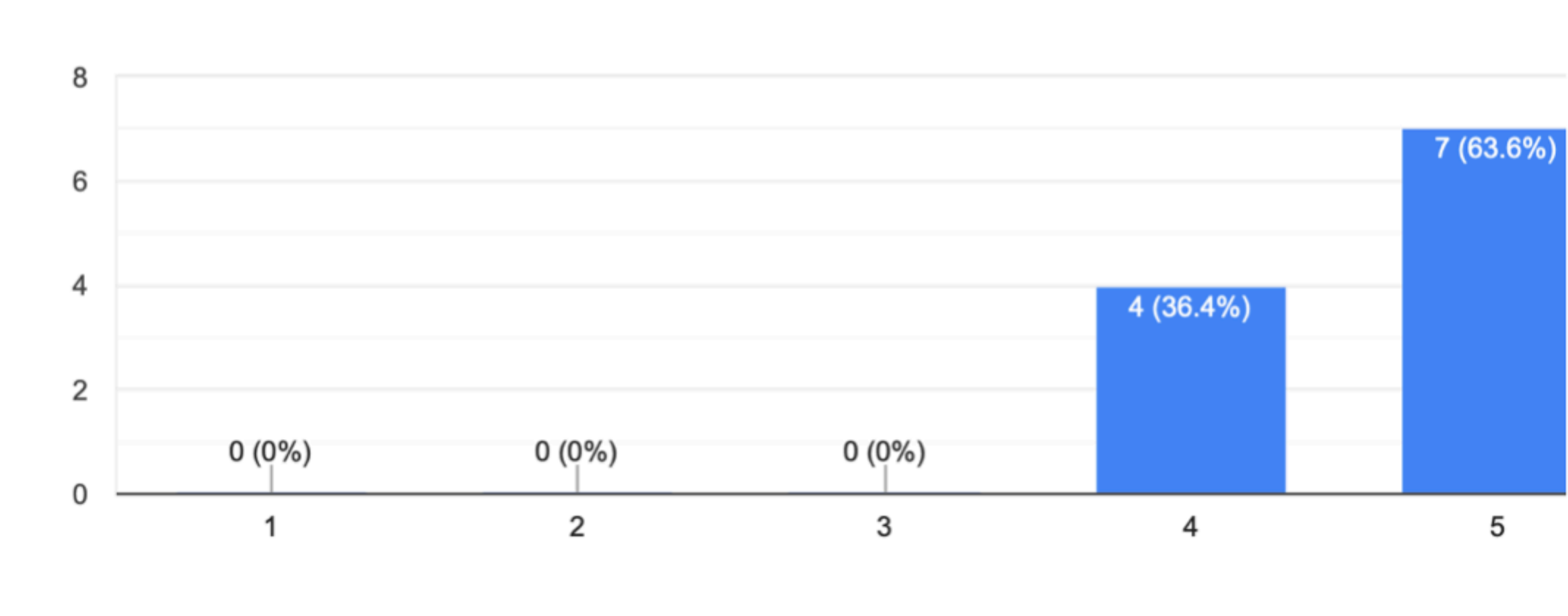


## 3. Band 6 lines: Compare with Band 7



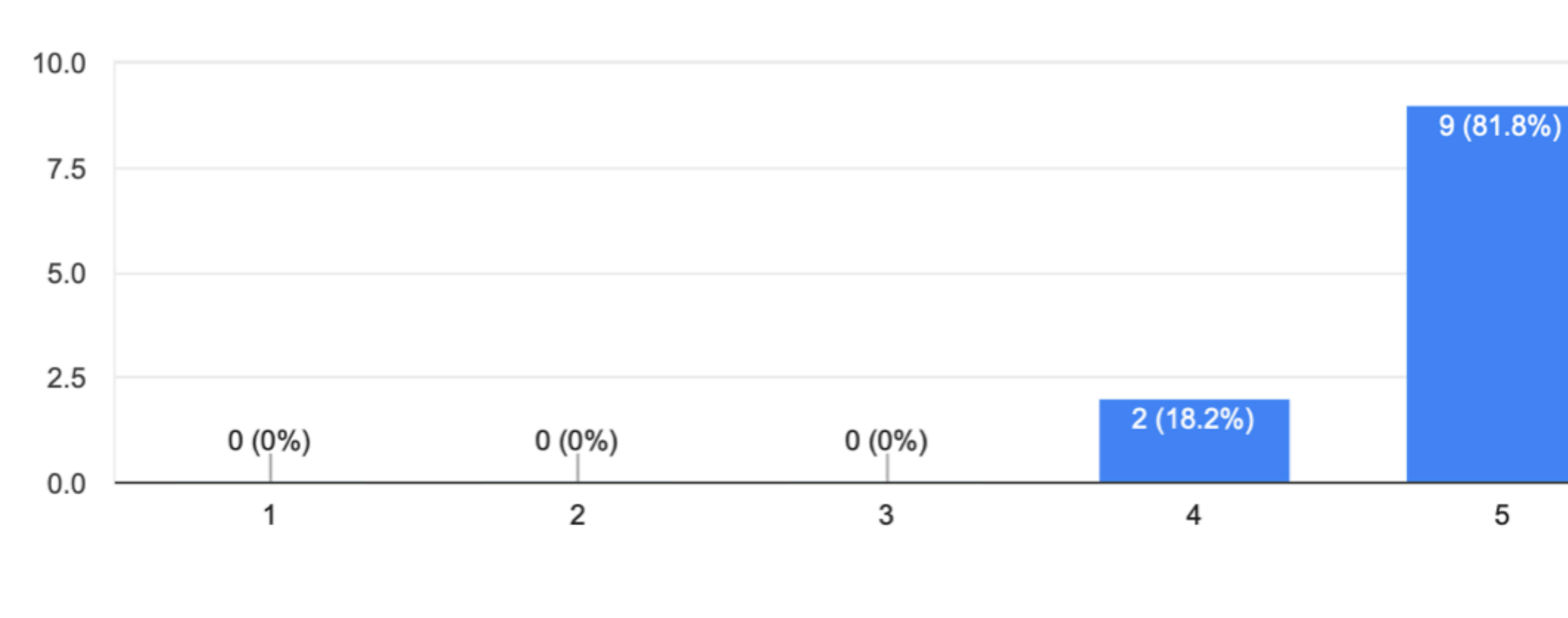


# Satisfaction level for the summer school in general



Sobaeksan optical observatory


# Satisfaction level for the group activity



## What bingo do you want to make?

You'll be playing bingo in minutes with the fastest and best bingo card generator in the world.

To get started, choose what type of bingo you want to make:



### 1-75 Number Bingo

The most popular bingo game in the USA and many parts of the world.

The numbers 1-75 are randomized in columns on a 5x5 grid.

1-75 Bingo works brilliantly for small and large groups.

**Make 1-75 Bingo**



# Instrument Developments

collaboration with ATC(Advanced Technology Center) at NAOJ

- ACA spectrometer : Jongsoo Kim+
- Multibeam receiver development : Jungwon Lee+

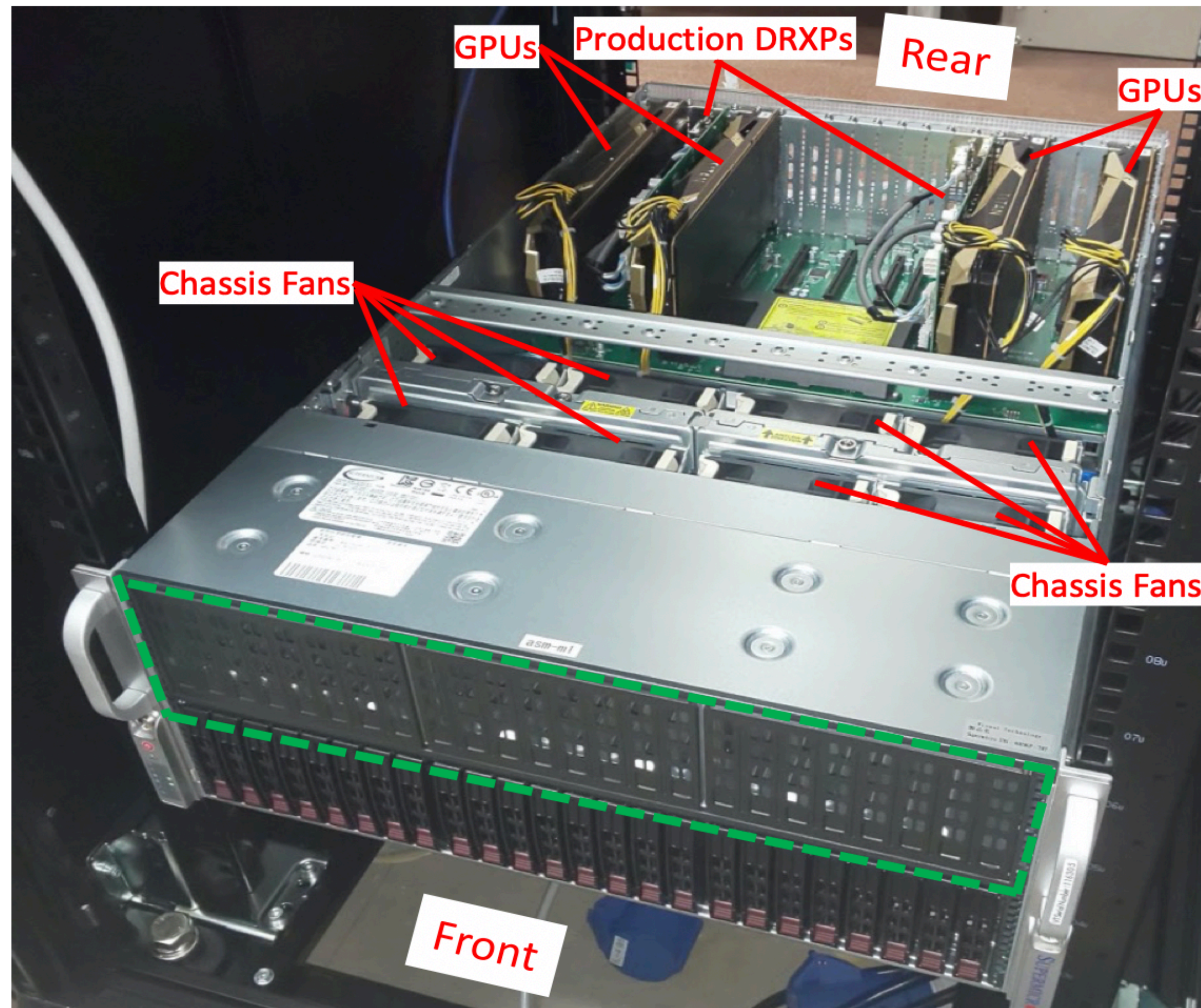


# Past and Future Milestones of ACA Spectrometer

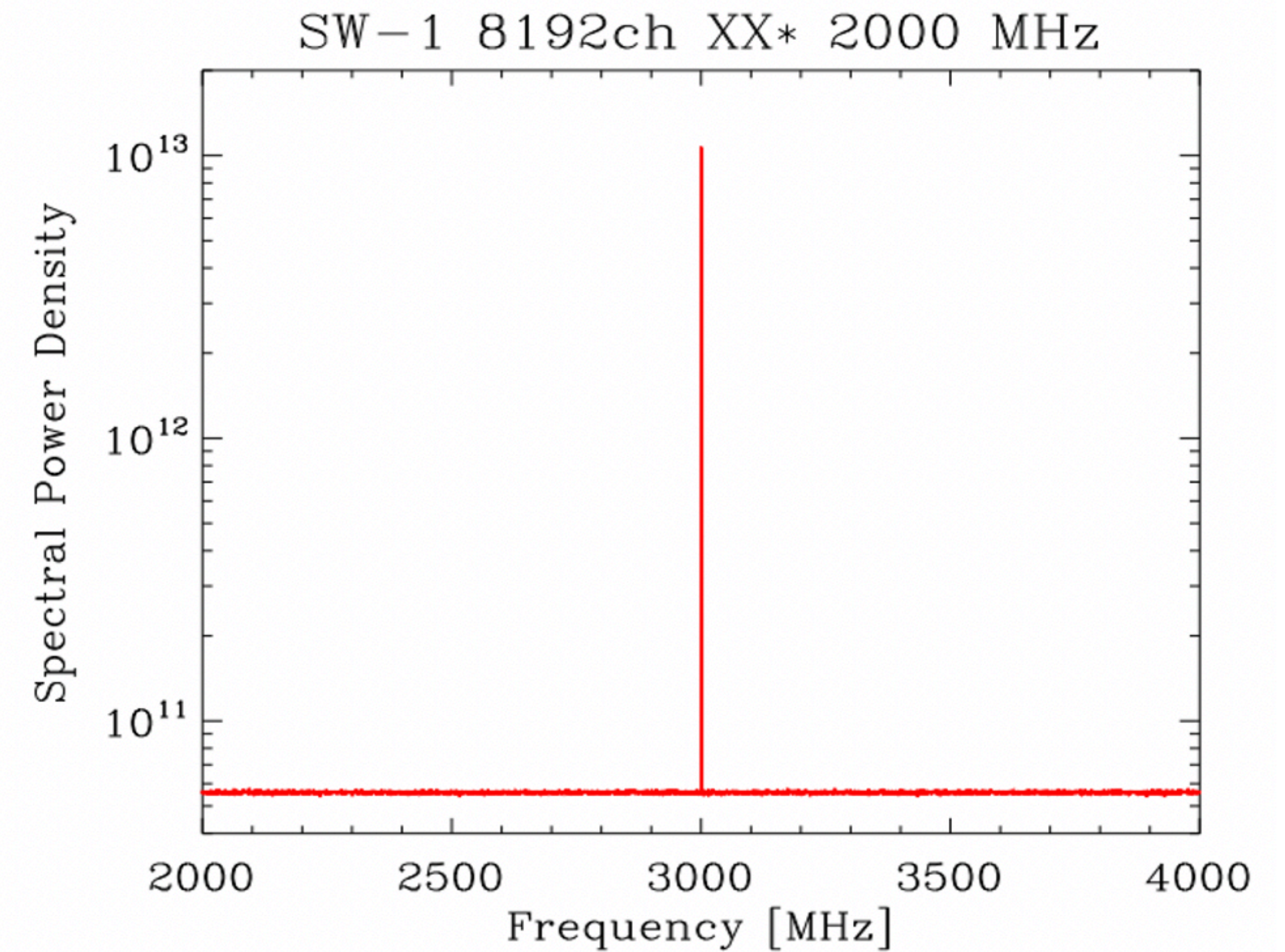
- Concept Design Review at Indian Wells
  - September 24, 2016
- Preliminary Design Review at KASI
  - February 20~21, 2017
- Critical Design and Manufacturing at KASI
  - December 4~5, 2019
- Preliminary Acceptance In-House Review, online meeting, successfully finished
  - November 29~30, 2021
- Provisional Acceptance on-Site Review
  - April, 2022
- Commission and Science Verification
  - 2022
- ACA Spectrometer will be used from Cycle 10



# A GPU Server



Spectral Dynamic Range  
20000:1,

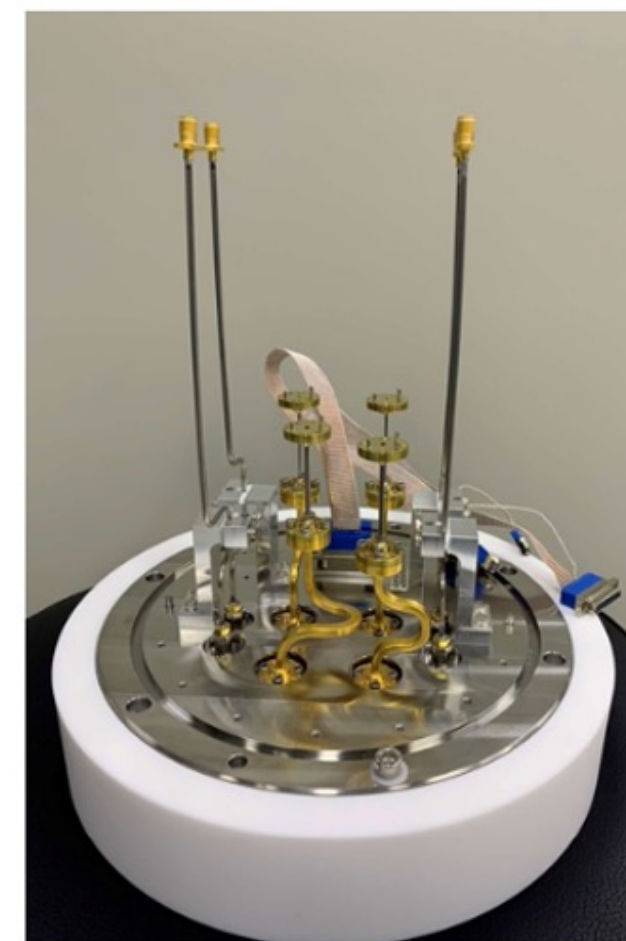
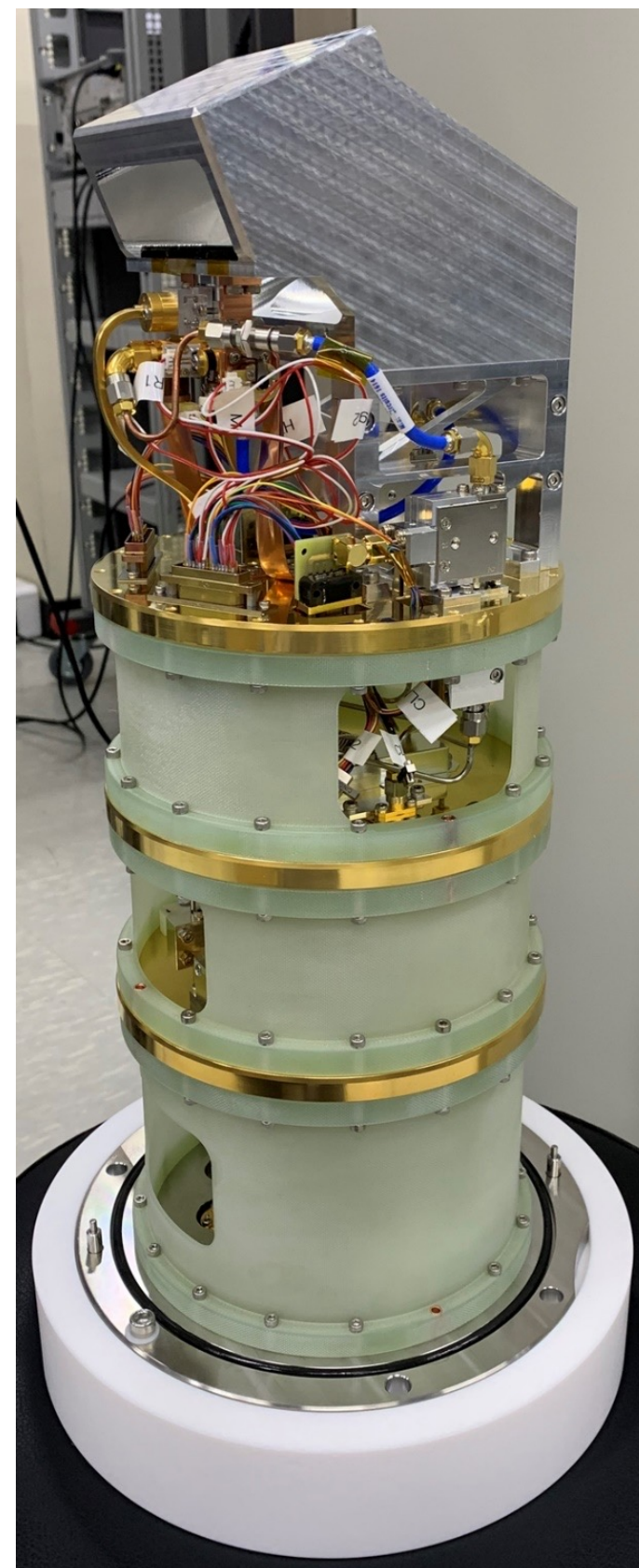


The most difficult requirement to be met by the ACA Spectrometer

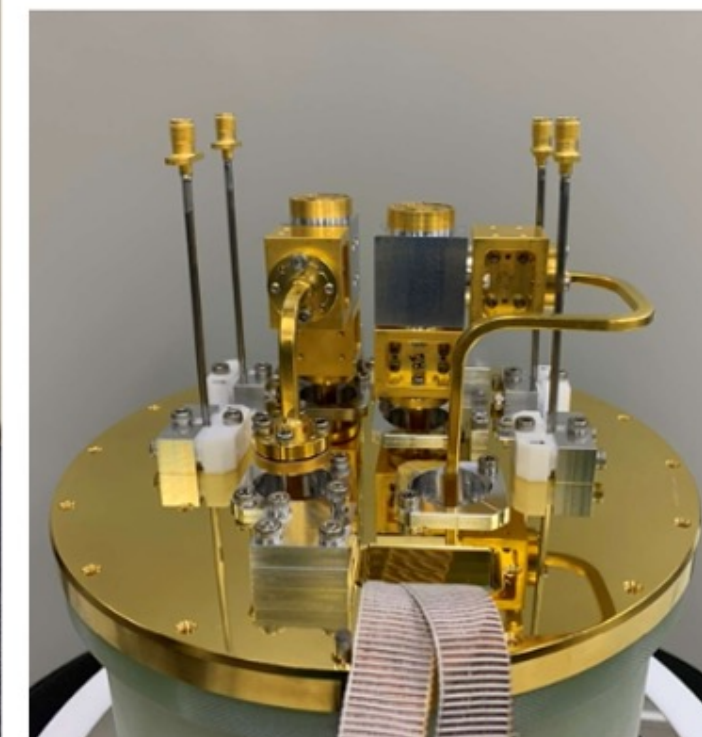


# B7+8 receiver development Status

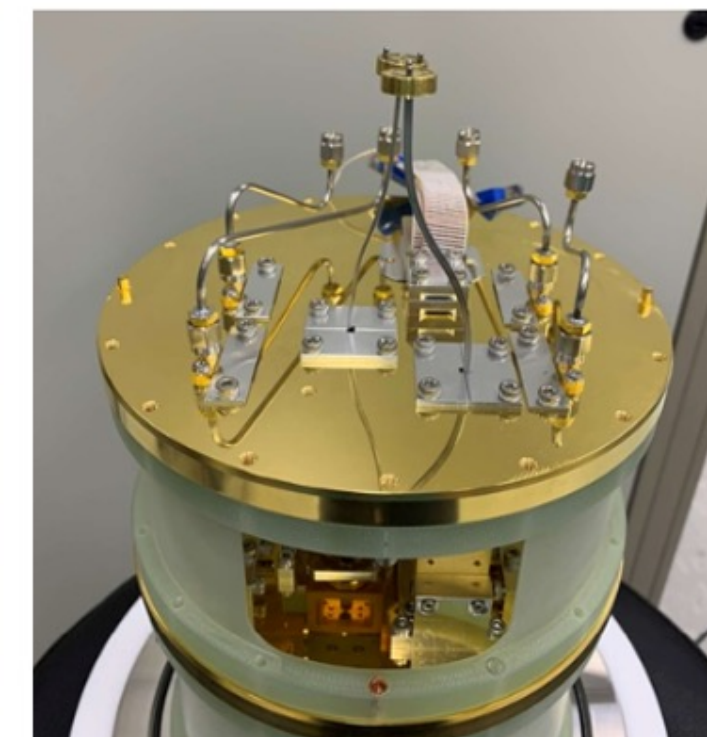
- Project Review : [Oct. 20, 2020](#)
- cartridge integration/cold-beam test : [May, 2021](#)
- preparation of HW/SW for cartridge test : [June-Sep., 2021](#)
- 2SB unit re-fabrication: [May-Oct., delivered in mid-Oct., 2021](#)
- under mixer selection for 2SB performance : [Dec. , 2021](#)
- performance test of full cartridge: [Jan.-Feb., 2022](#)



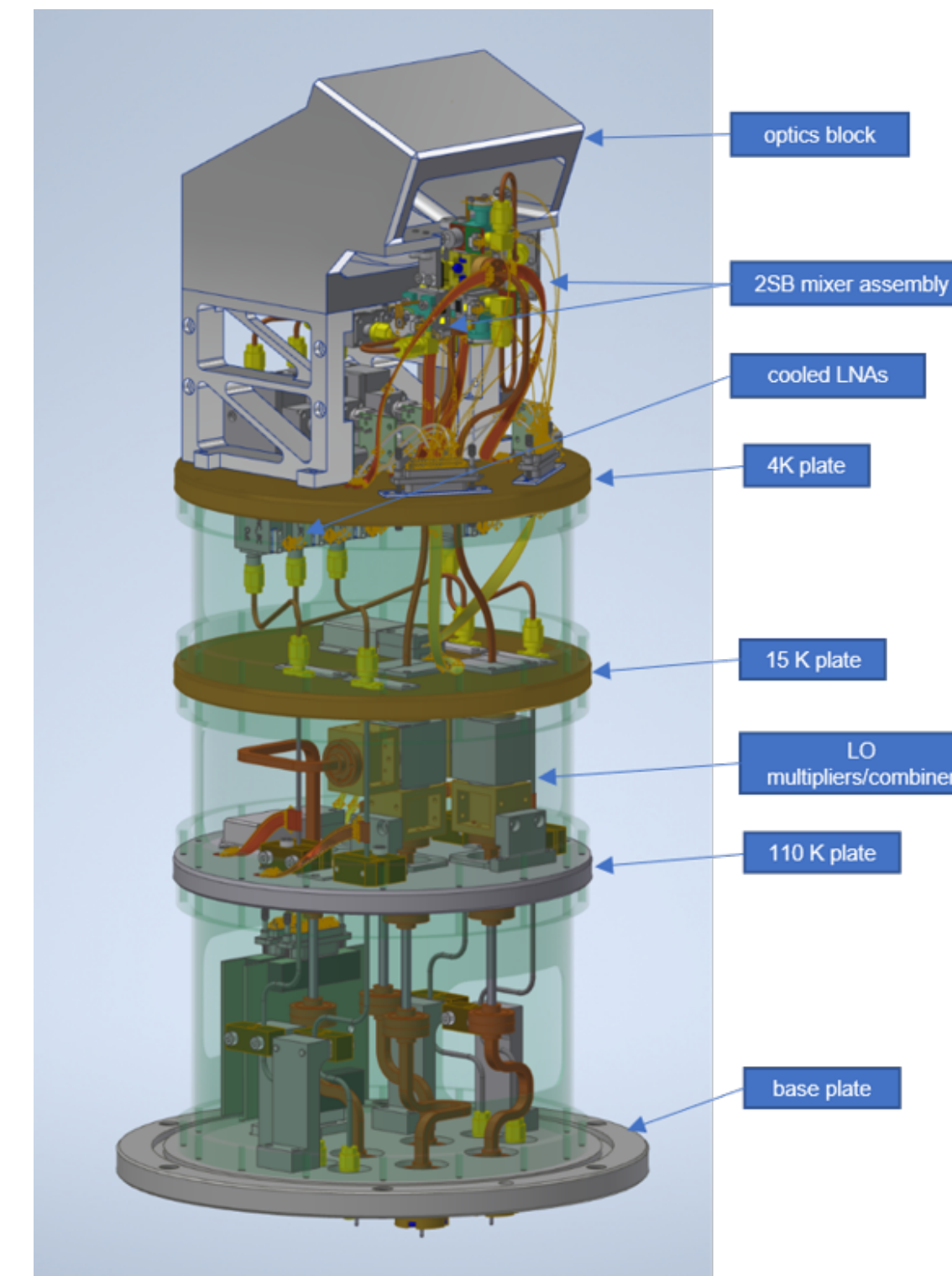
300 K stage



110 K stage



15 K stage

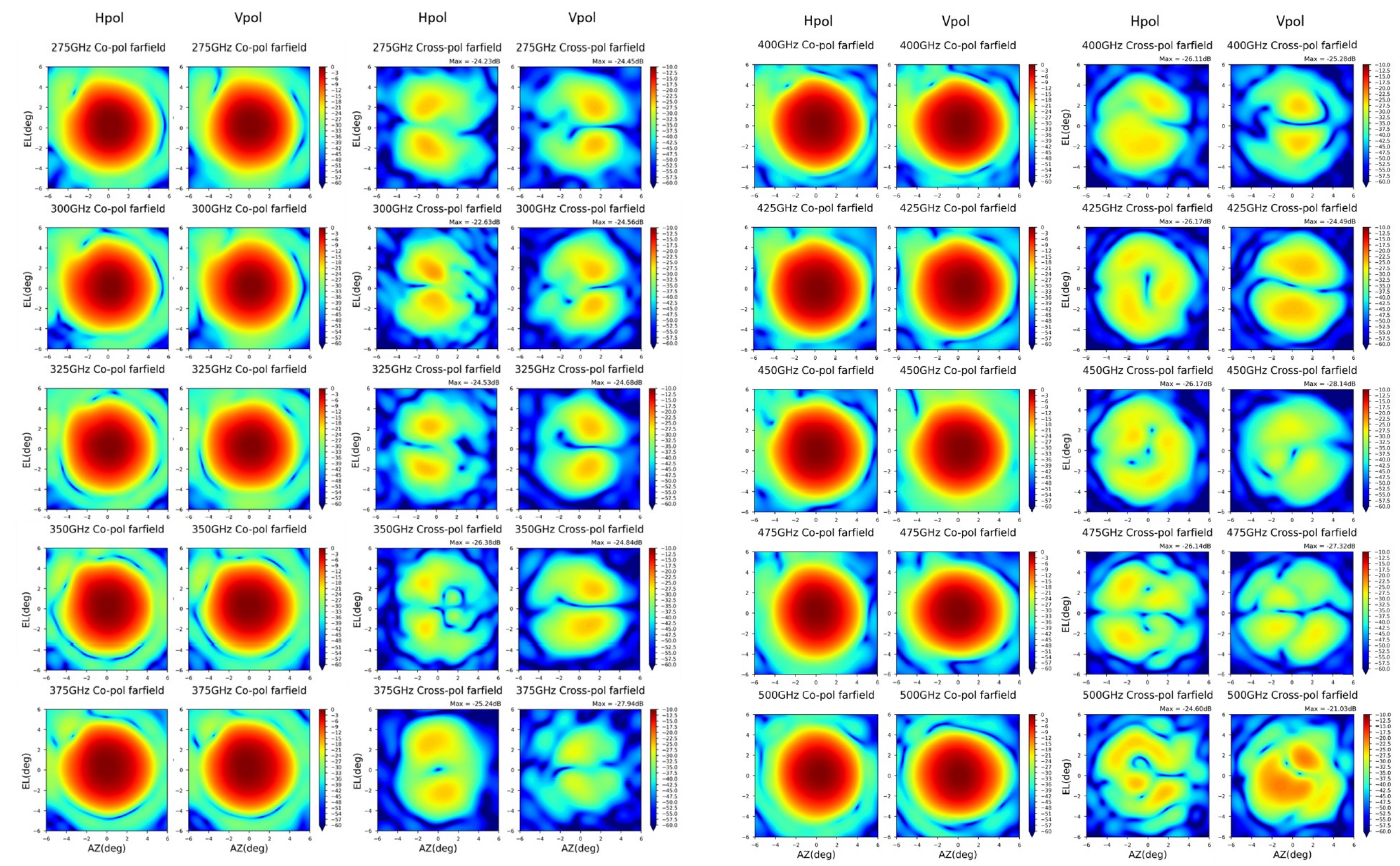


(cold cartridge assembly for cold beam measurement, not for delivery)

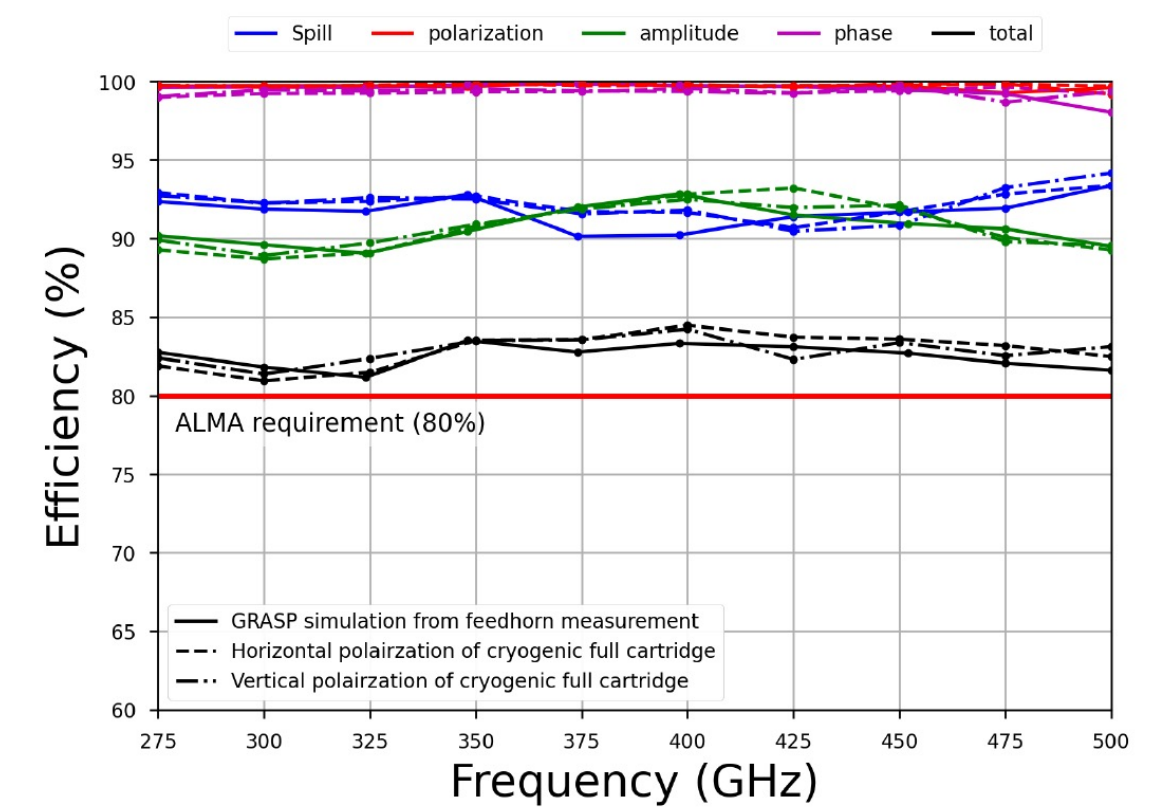


# Interim cold beam measurement

band 7



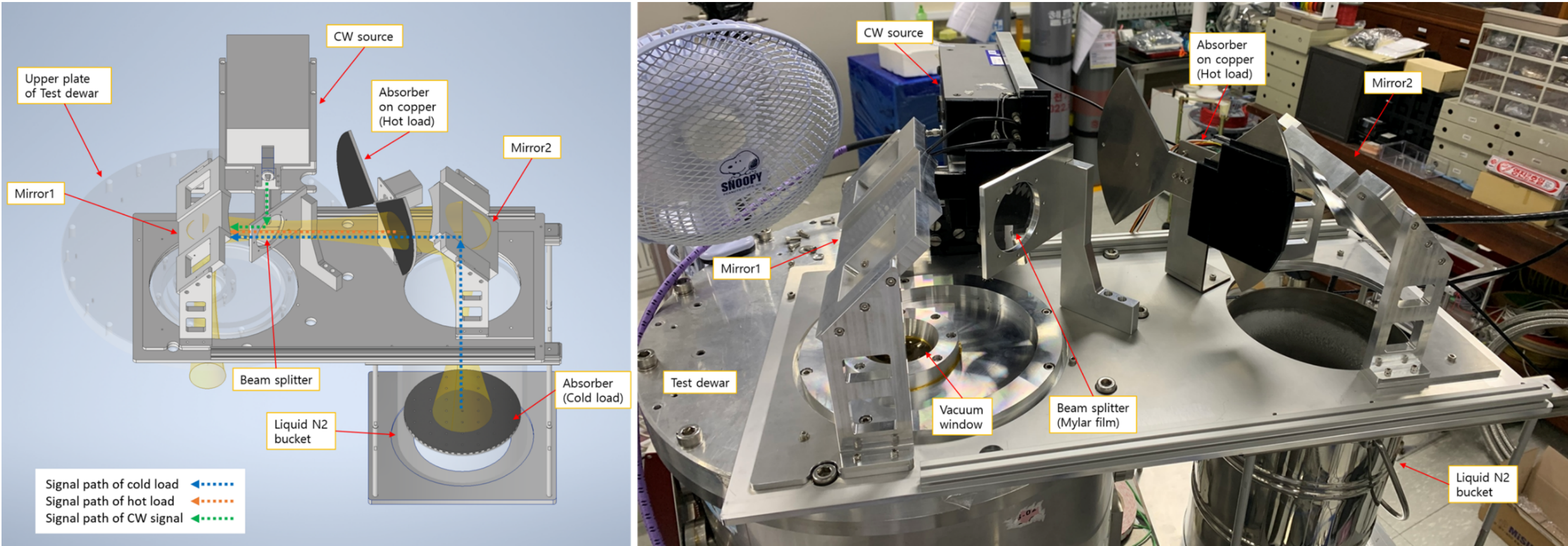
band 8



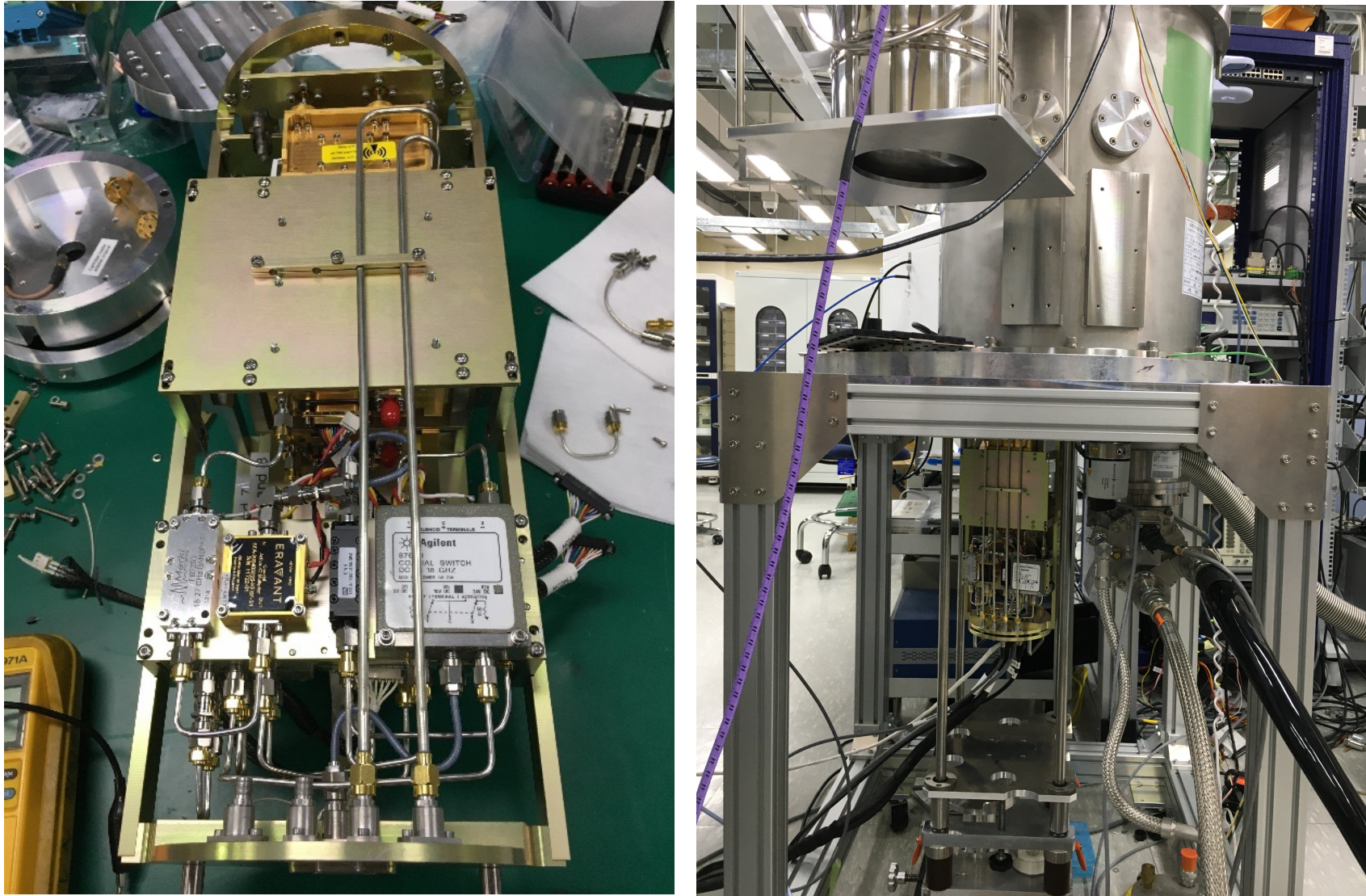
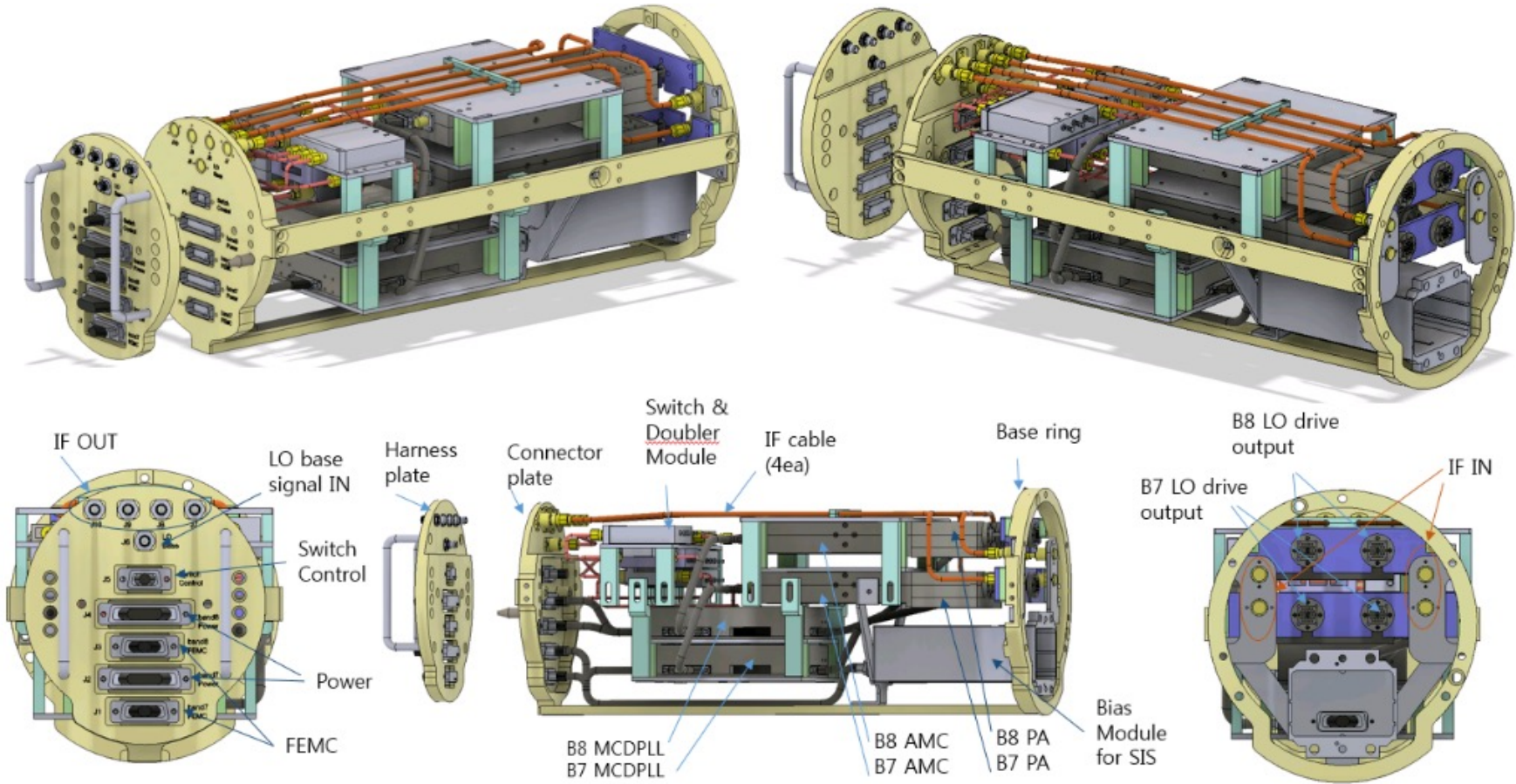
aperture efficiency > 80 %



preparation of full cartridge tests : 2SB mixer performance & gain compression



B7+8 warm cartridge assembly





**Thank you**