ALMA PROPOSAL REVIEW

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ALMA

Science Categories

The proposals are dispatched in 5 categories

1. Cosmology and the high redshift universe
2. Galaxies and galactic nuclei
3. ISM, star formation and astrochemistry
4. Circumstellar disks, exoplanets and the solar system
5. Stellar evolution and the Sun

11 panels: Arp1A, Arp1B
Arp2A, Arp2B, Arp2C
Arp3A, Apr3B,Arp3C
Arp4A, Arp4B, Arp5
7 persons per panel +Chair ➔ 78 persons
APRC: Alma Proposal Review Committee: all 11 chairs
+APRC Chair

Review in two Steps

At Stage 1, each proposal will be assessed by four members of the ARP to which it is assigned. Grades between 1 and 10. *Normalised for each reviewer (same mean and variance)*

Based on the resulting ranking, only 70% of the proposals will proceed **to Stage 2**, where they will be reviewed and discussed by all members of the relevant ARP.
The last 30% are in the "Triage".

In Santiago (Cycle 1), face-to-face meeting:
discussion and secret vote (Cycle 2: Toronto)
➔Obtention of ranked lists

➔Normalisation of each Arp rank to its Number of proposals Before merging all Arp ranks

The ARP/APRC ranking

The essential is to **provide a ranking of all proposals**
so that observations could be done progressively according to their priority ranking, and also scheduling constraints (RA, DEC, configurations, receivers, weather..)

Criteria
➔Scientific merit
➔technical feasibility with ALMA capacities

Technical assesment were made on the high-ranked proposals
Within 2 weeks after the APRC

Regional considerations (EU, NA, EA, CH, Others) not considered at this point (34%,34%,22%,10%)

Main and secondary criteria

➔Scientific merit
➔Feasibility with respect to the capabilities of the instruments

Secondary considerations:
➔Demonstrate and exploit the ALMA Cycle 1/2 capabilities.
➔ Potential of delivering scientifically worthwhile results from relatively short observations

Cycle 0 projects do not carry over to Cycle 1.
Cycle 1 projects will not carry over to later cycles.
Cycle 1 projects will not establish proprietary rights to sources beyond the 1-year proprietary time for each dataset (starts as soon as that dataset is delivered)
High priority Cycle 1 proposals not observed will Be transferred to Cycle 2

Other considerations

➔The English style (or lack of) should not penalize a scientifically strong proposal
➔Also the lack of mm experience should not

➔Descoping proposals: only through technical considerations
➔Or in case of duplications on part of the sources

➔New for cycle 1: 5 tunings only
Some have submitted several identical proposals to be able to observe many more sources
Will be removed in Cycle 2

Critical review of assumptions

➔The technical review will not question the assumed flux or size of the sources
It is part of the science review to judge whether the assumptions made are realistic, and thus the program feasible

➔Adequation with ALMA unique capacities
Judge whether the same science could be done with other mm interferometers in the world
Especially look at the DEC, if > 40!

➔Some proposals are a continuation from Cycle 0,
but no data yet. Assessment should be made **independently**
If comments for scheduling or handling: put in the ARP tools
They will be forwarded, via APRC tool, to the DC, and taken into account by JAO at scheduling

Consensus reports

Summary of each referee comments + panel discussion

Usual advice to be constructive and help future re-submissions:

➔Identify Strengths and Weaknesses
➔Make suggestions to improve

➔Duplications identified, either by the panels
➔or automatically by the PHT

The project best ranked gets the time.
This requires a discussion between panels of the same catagory
Any proposal with multiple sources could be descoped

The APRC meeting

APRC composition: APRC & Panel chairs (12 persons)
Meet on Friday (last day of the week)

➔Merger of the ranking of all 11 panels
(minor changes once technical assessment has been made)
➔Examine duplications, already discussed inter-panels
the down-graded duplicate proposal is out of the ranking
➔Quick review of high-priority proposals, and adjust ranking in case of obvious distortions
➔Edit comments in case of duplications
➔Examine distribution over bands, configuration RA
Check balance between categories, ACA/12M, etc..

Dynamical scheduling

Scheduling will follow the ranking, which takes into account **regional shares**

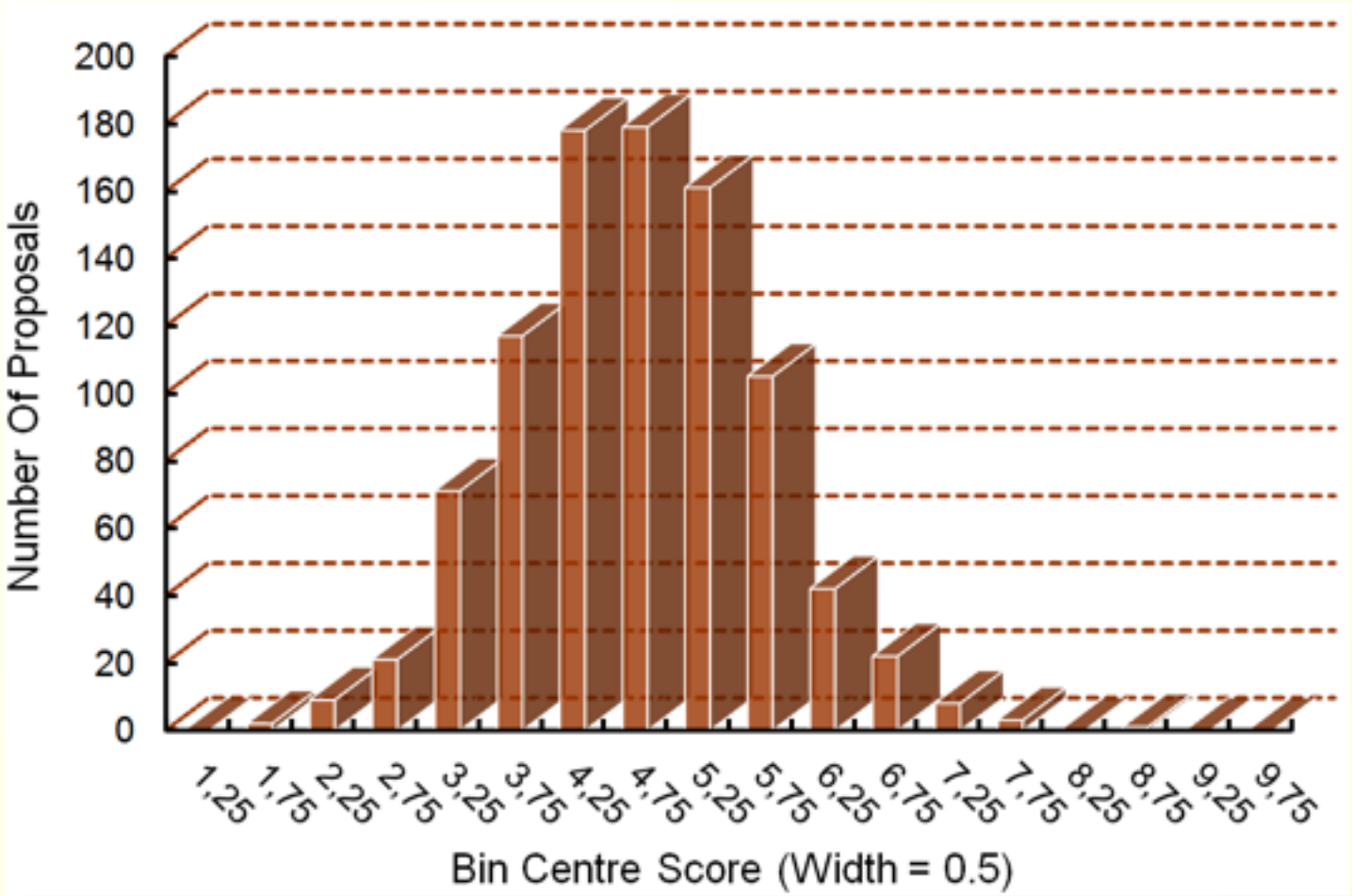
Other constraints: RA, bands and weather, configurations (compact, extended), statistics

APRC takes care that enough « back-up » proposals are highly ranked to be able to fluidify the scheduling

Meaning of grades

1. Outstanding idea, breakthrough science, urgent
2. Excellent proposal, very well presented, timely
3. Very good science, needs to be done, no weaknesses
4. Good proposal, strong science case, minor weaknesses
5. Good science case, would be good to do, above average
6. Interesting science, considerable weaknesses, below average
7. Rather weak proposal, limited science return prospects
8. Weak proposal, many deficiencies largely outweigh strength
9. Not well prepared case, little scientific value, unclear strategy
10. Proposal to be rejected

Statistics of grades



Cycle 0 ~920 proposals Cycle 1: ~1150 proposals

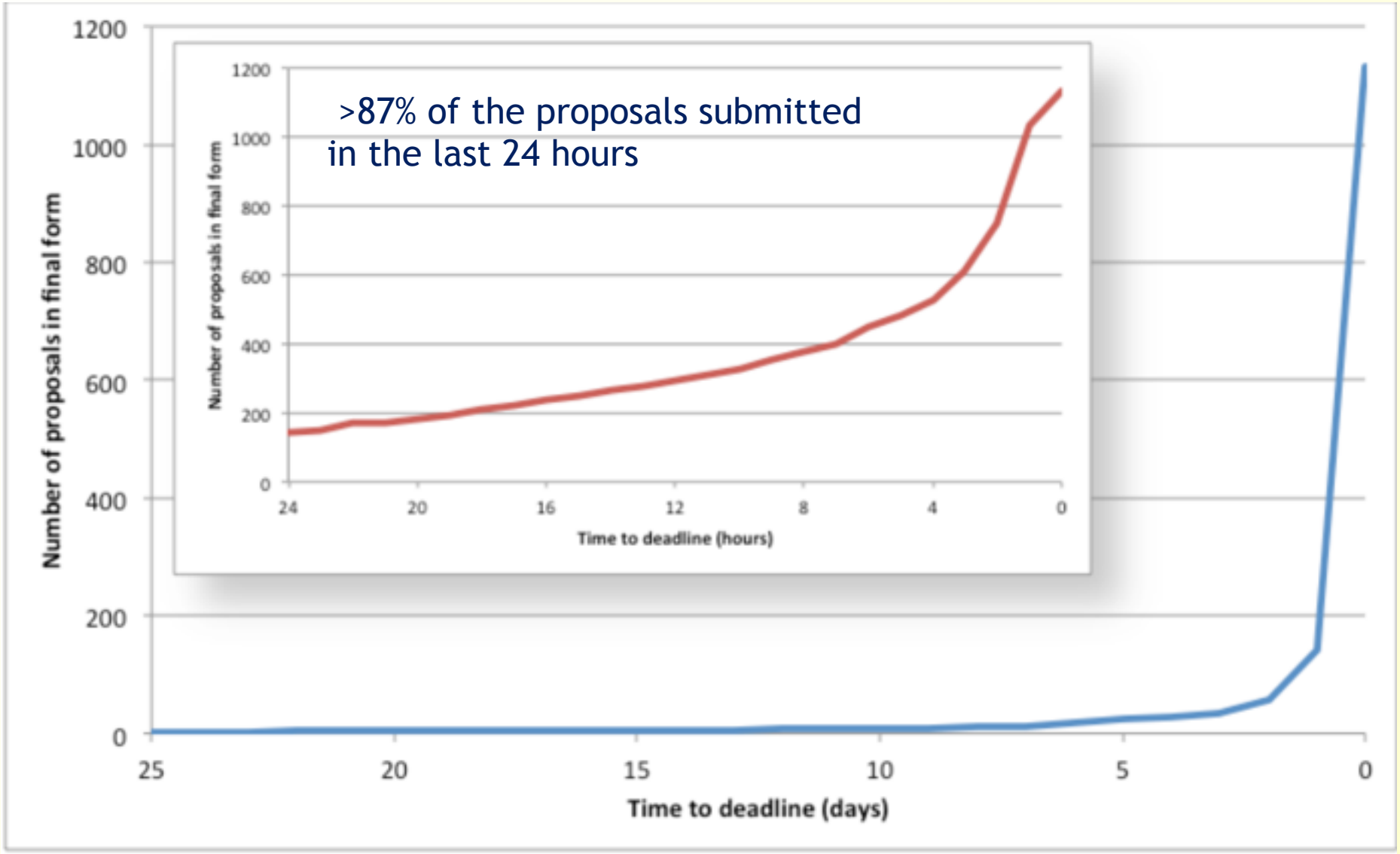
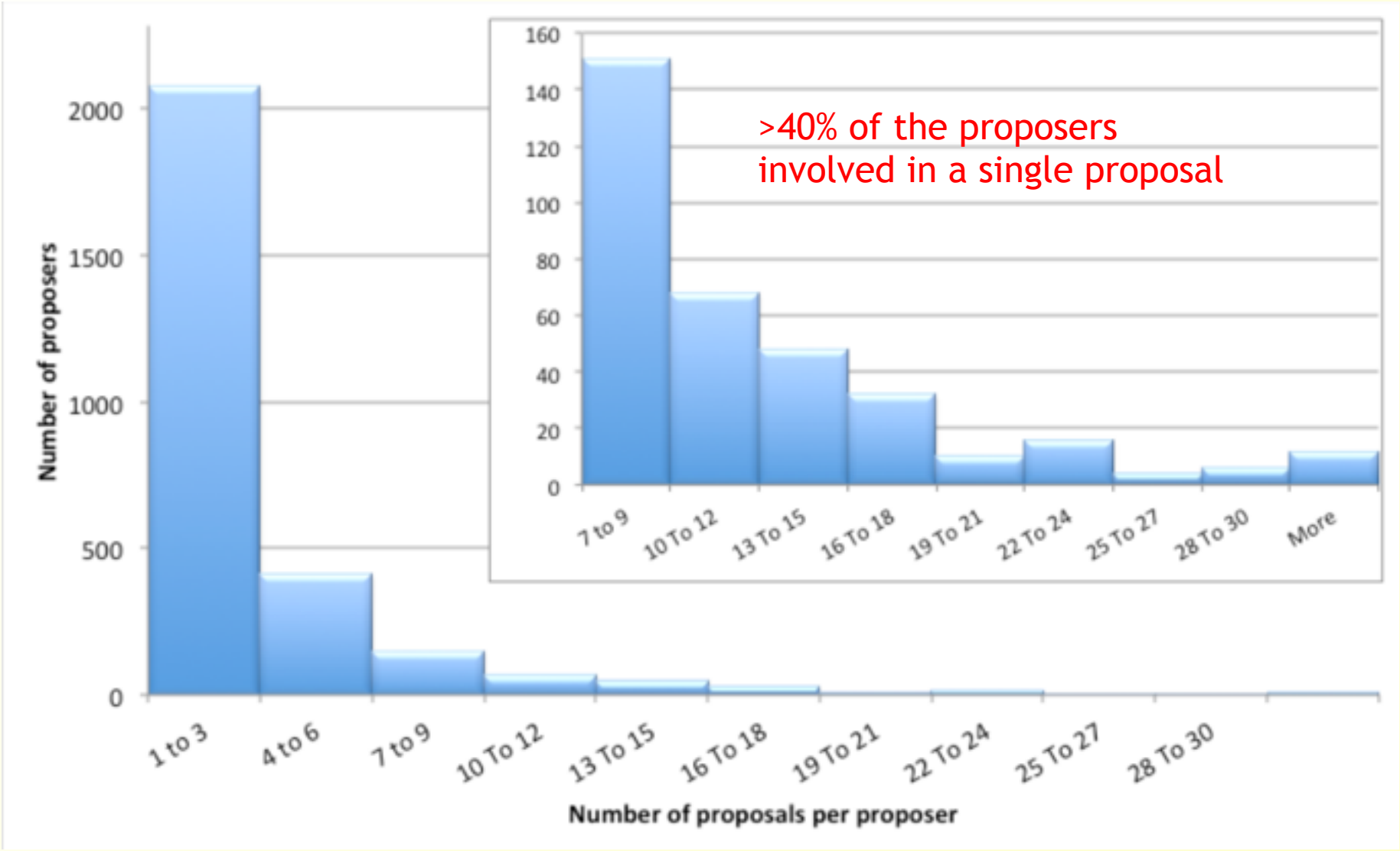
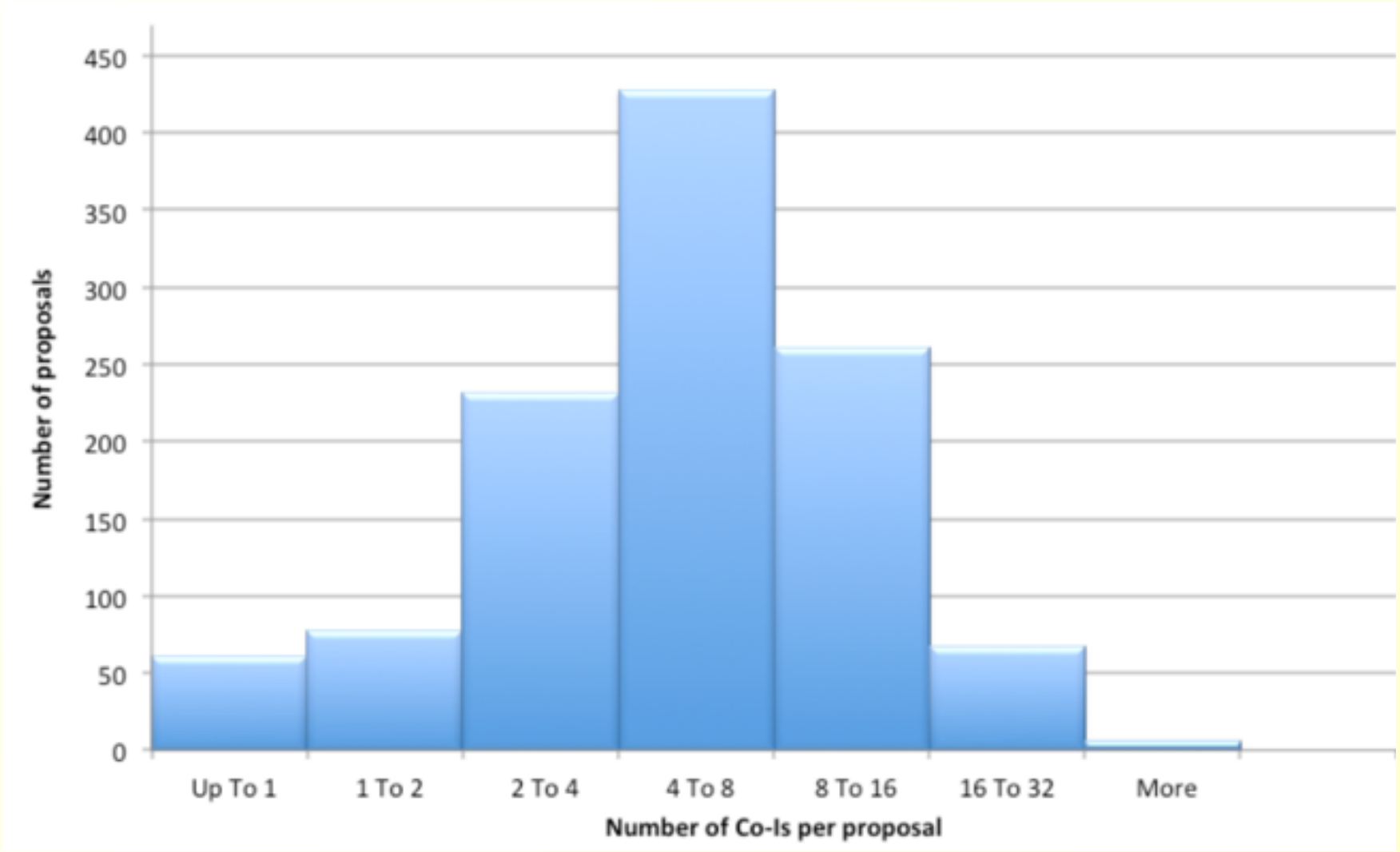


Figure 1 – Number of proposals submitted in final form as a function of remaining time to the submission deadline.

2835 involved in proposals: 71% of the 3985 registered users



Number of co-I in each proposal



Statistics over category & regions

ALMA region	Percentage	Total	Science categories				
			Category 1	Category 2	Category 3	Category 4	Category 5
EU	42.9%	486	103	126	109	89	59
NA	30.1%	340.5	68.5	93	77	74	28
EA	18.7%	211.5	44.5	60	62	29	16
Chile	5.7%	65	12	14	18	16	5
Other	2.6%	30	5	9	3	2	11
Total	100.0%	1133	233	302	269	210	119
Percentage			20.6%	26.7%	23.7%	18.5%	10.5%

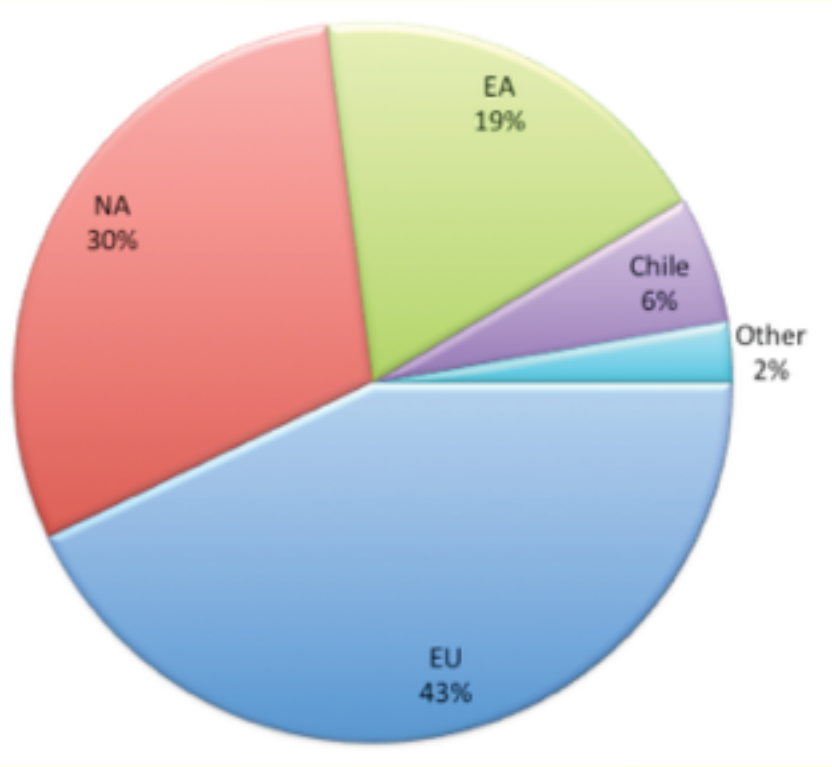
Table 1 – Number of submitted proposals per science category and per region.

Some numbers

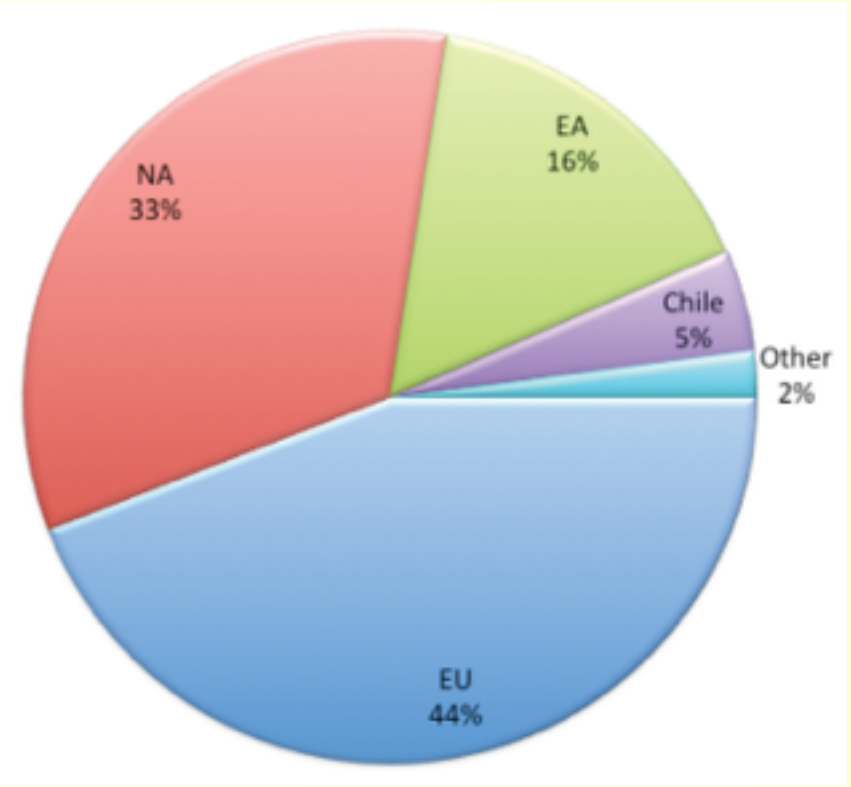
- **Cycle 0**
  - 919 proposals
  - 2508 proposers
  - Requested time: about 4300 hours of observation
  - Available time: 500 hours
  - Oversubscription: 8.6
- **Cycle 1**
  - 1132 proposals
  - 2835 proposers
  - Requested time: 3954 hours of 12-m Array observation
  - Available 12-m Array time: 500 hours (highest priority)
  - Oversubscription: 7.9

Proposals and 12m time per region

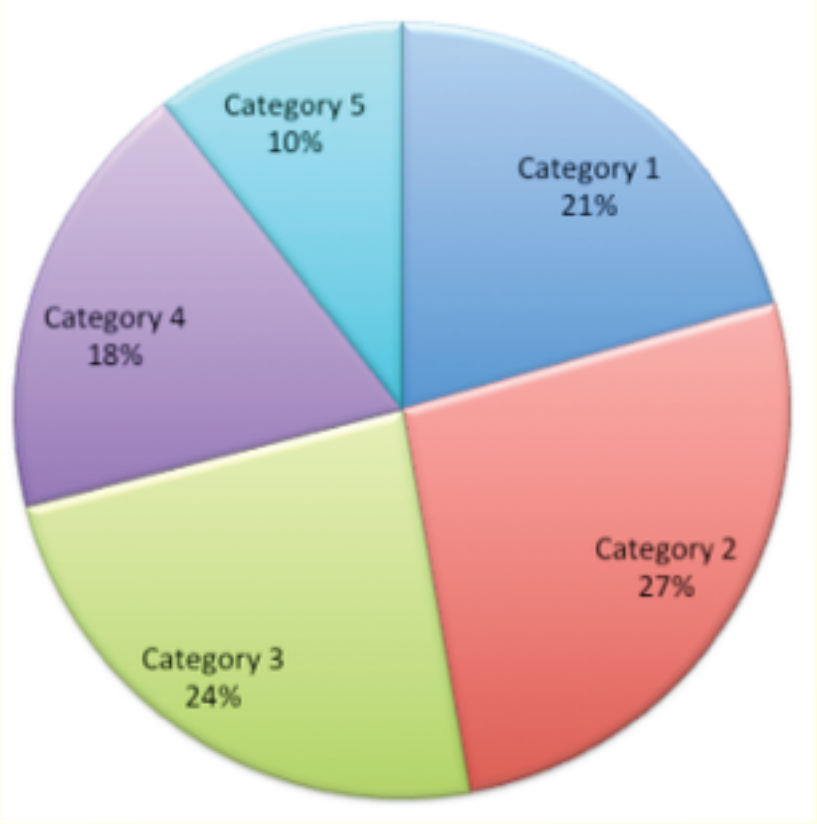
Number of proposals



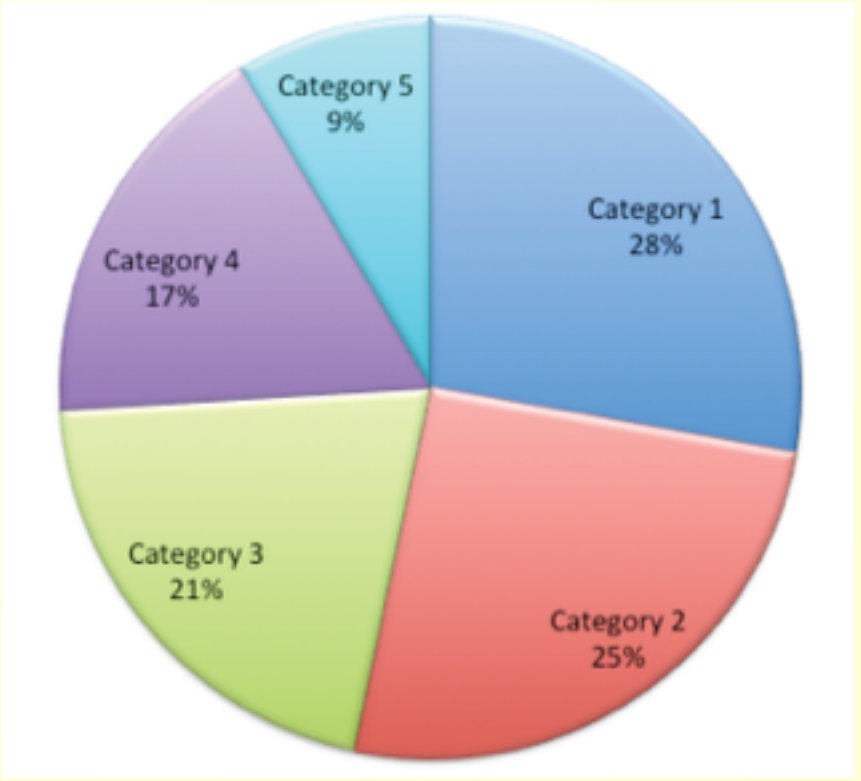
12m-array time



ALMA Science Categories

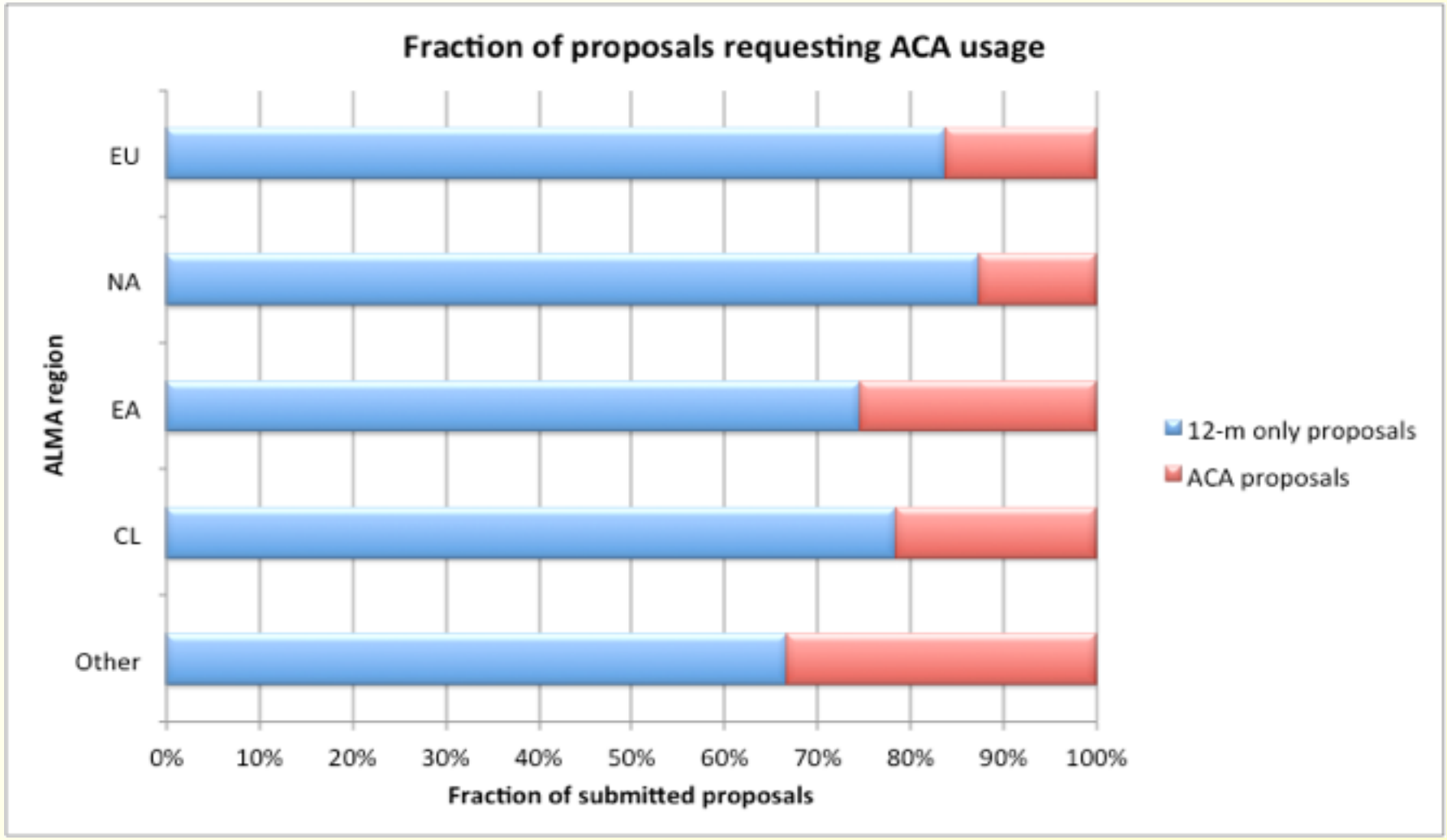


Number of proposals

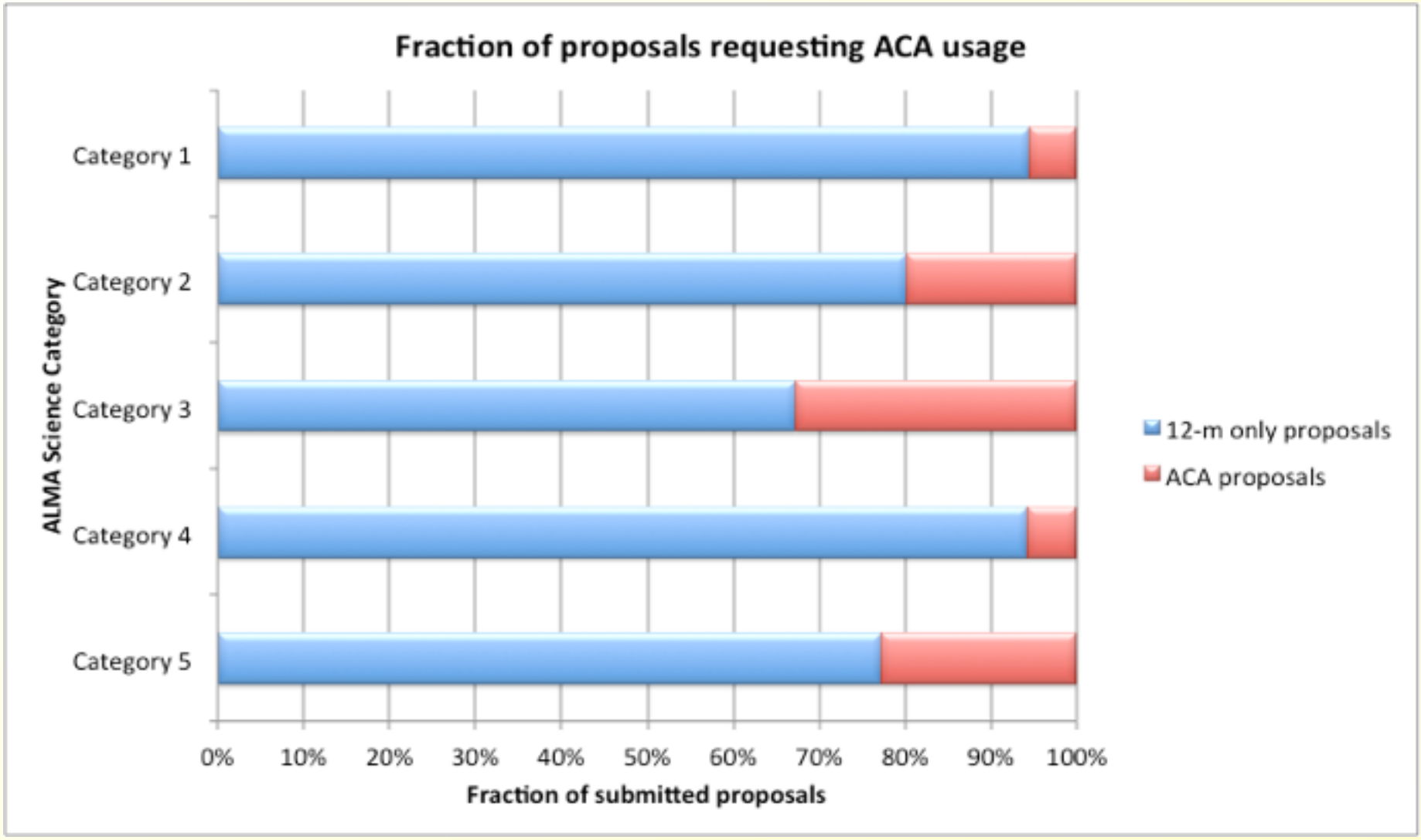


12-m Array time

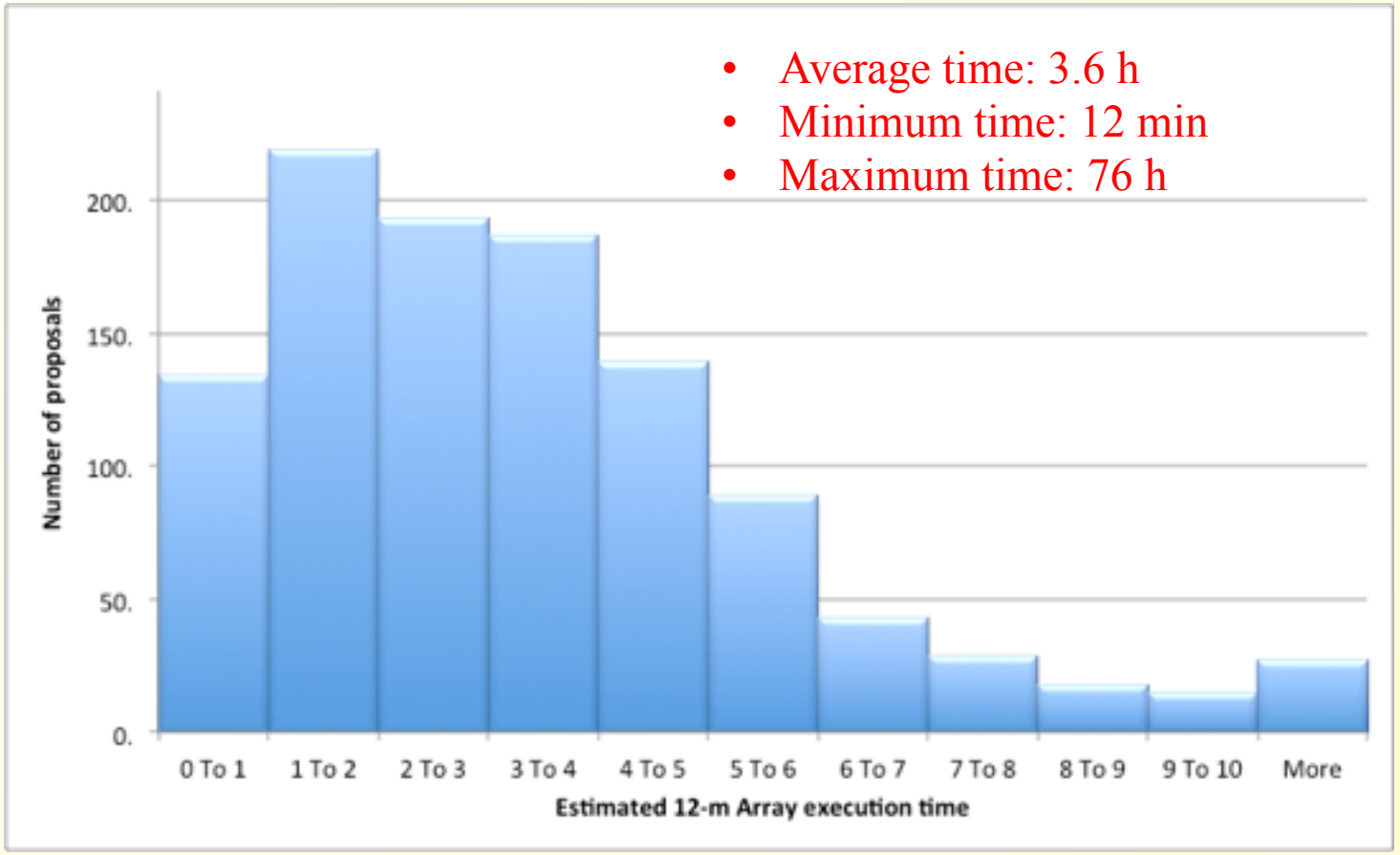
12-m Array vs. ACA: region



12-m Array vs. ACA: Science



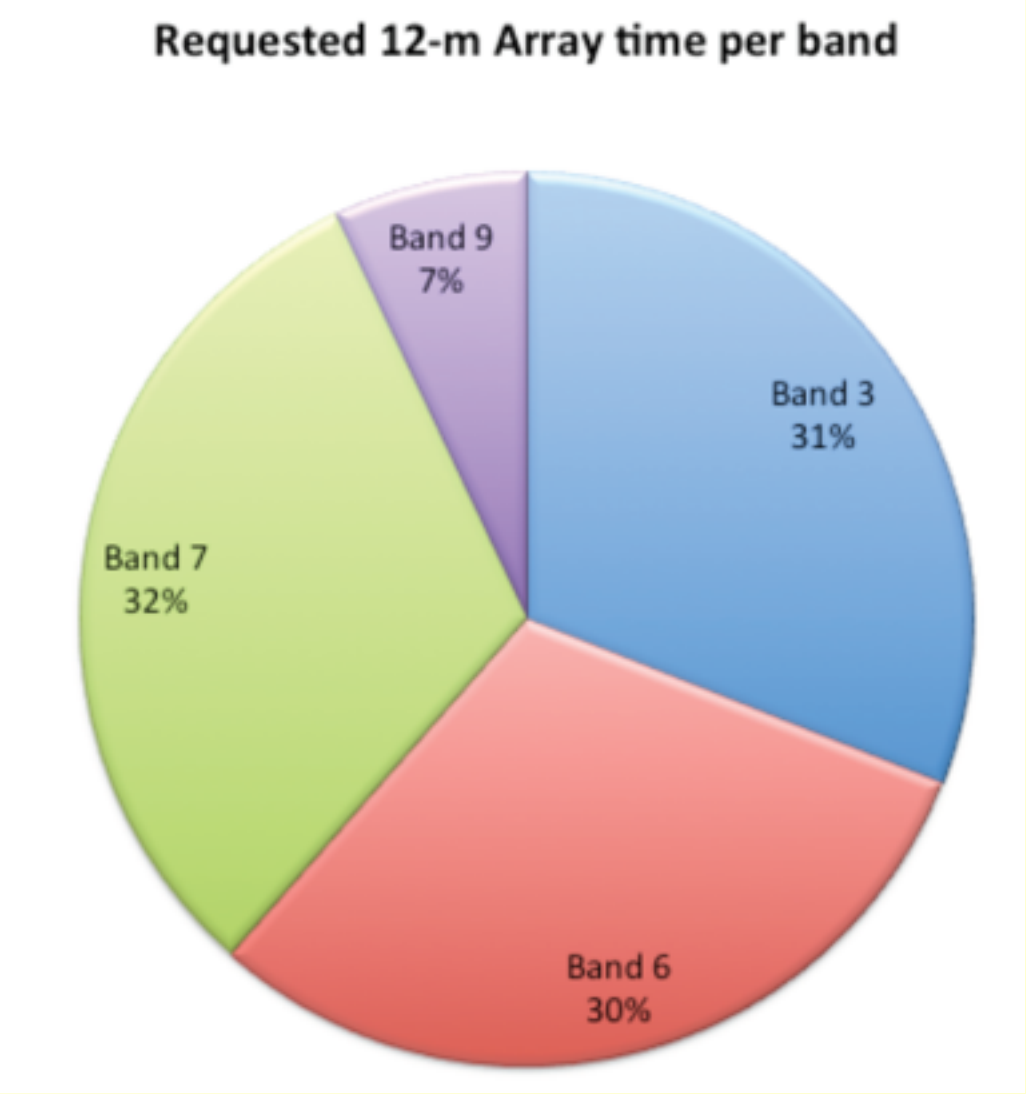
Average time per proposal



- Average time: 3.6 h
- Minimum time: 12 min
- Maximum time: 76 h

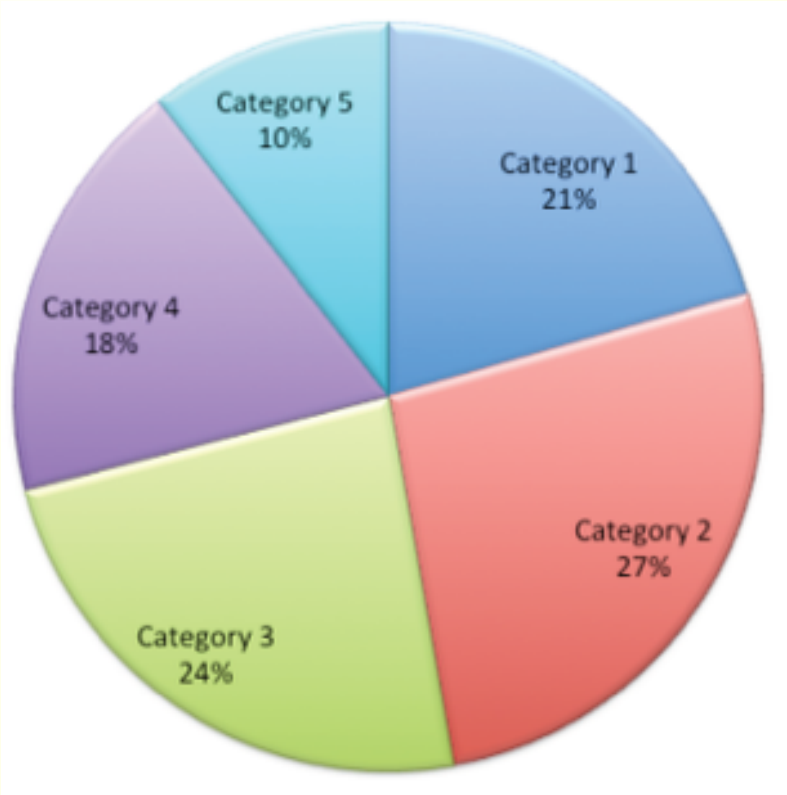
Cycle 1: arrays & bands

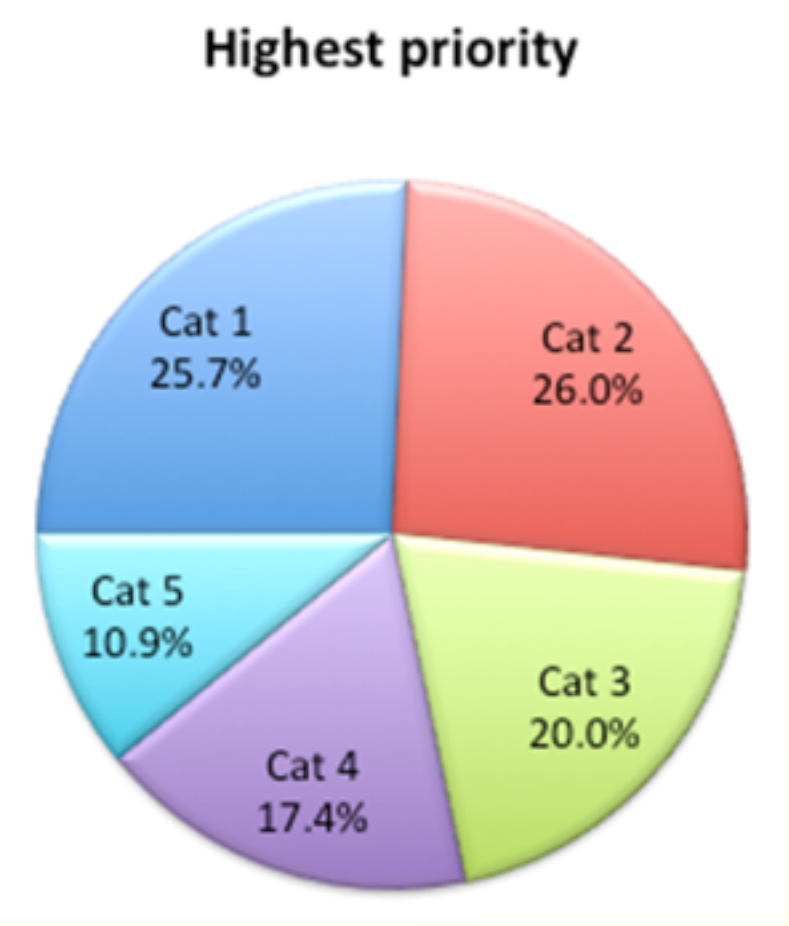
- Requested 12-m Array time: 3950 hours
- 200 proposals request ACA
- Requested ACA+TP time (OT estimate): 1290 hours



Cycle 1: results

196 proposals of high priority





Conclusions and advice

➔Gather a relevant team, with all competent people

➔Develop the originality of your project

➔Better have a PI NA, EA or CH than european

➔Dont multiply the proposals with the same PI

➔The average total time ~5h

➔Beware of overheads with minutes of onsource time

➔Limit Band 8 or 9 projects to the strict minimum