From scheduling and Phase 2 generation viewpoints

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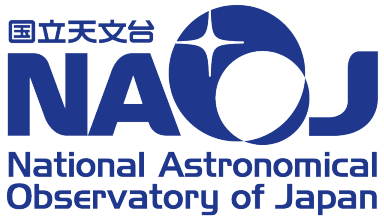
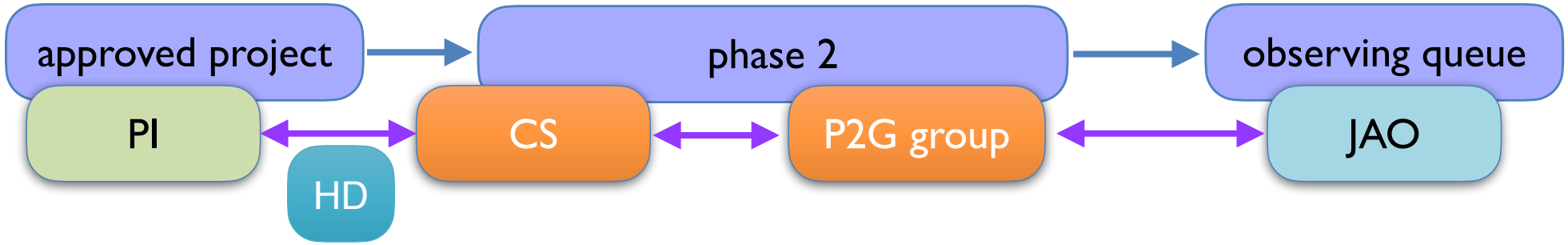
and Phase 2 Generation Group in EA



What is Phase 2?

- Once a project has been approved for scheduling, the project passes into Phase 2.



- Each approved project will be assigned an ALMA Contact Scientist (CS).
- A project Helpdesk (HD) ticket will be opened on behalf of the PI for communication with the CS and others.
- ALMA staff will generate the Scheduling Blocks and, in case of problems, will contact the CS and the PI. If no problems are found, the project will be submitted to the ALMA observing queue to await execution at the telescope.

Why we care about scheduling and Phase 2 generation?

- Various aspects of a proposed observation such as weather conditions or requested angular resolution and Largest Angular Structure (LAS) may affect when an observation is scheduled.
- Maximize the completion of our projects!

Considerations

- Section 4.3 and 4.4 of the ALMA Cycle 9 Proposer's Guide
- Weather
  - Band 9 and 10 observations will be scheduled during the LST ranges given in the fourth column.
  - Bands 7 and 8 observations outside of those LST ranges is limited

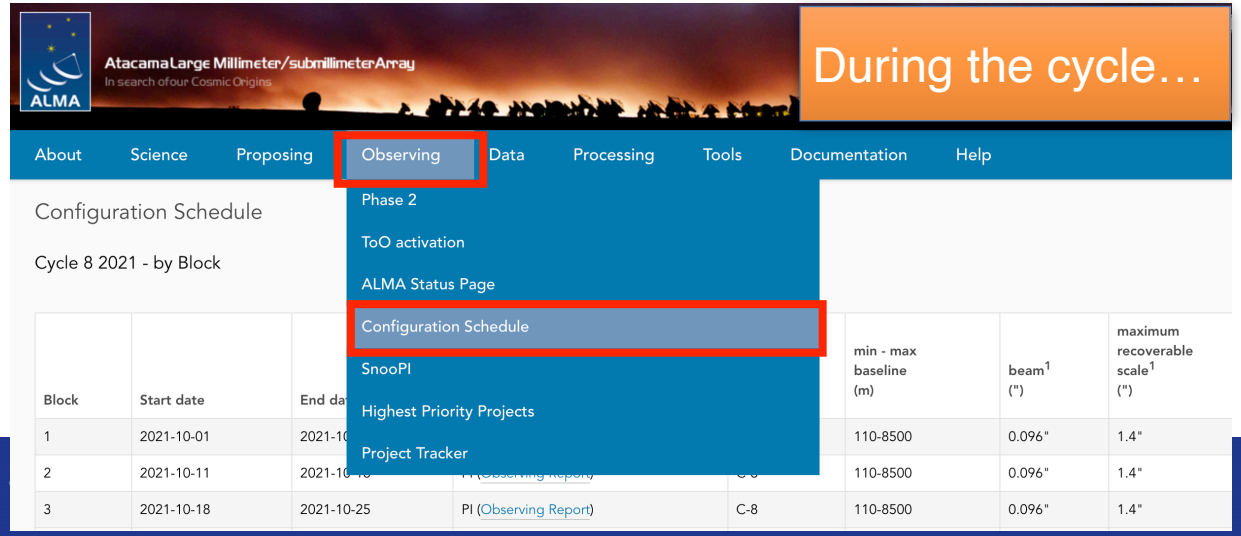
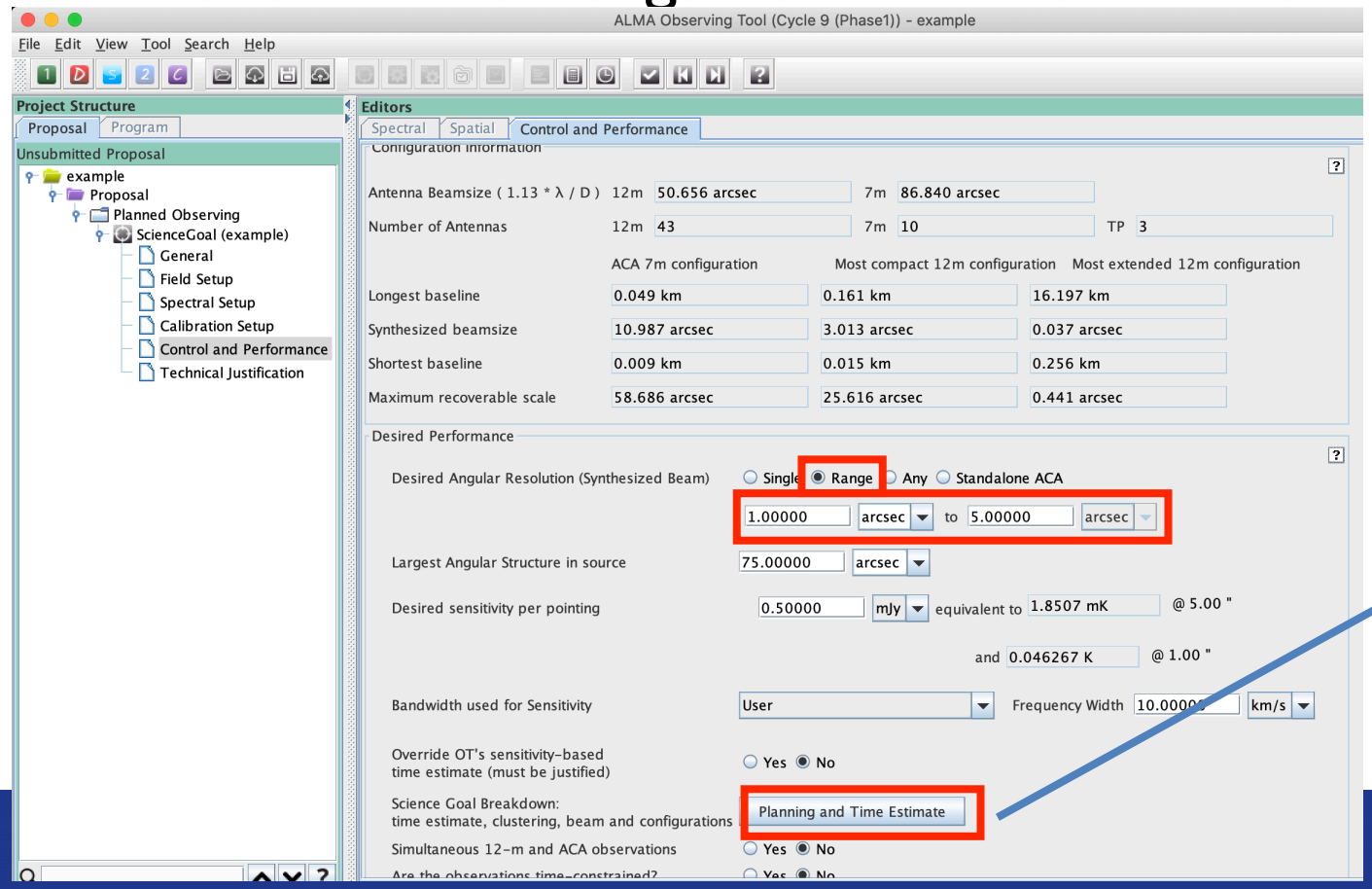


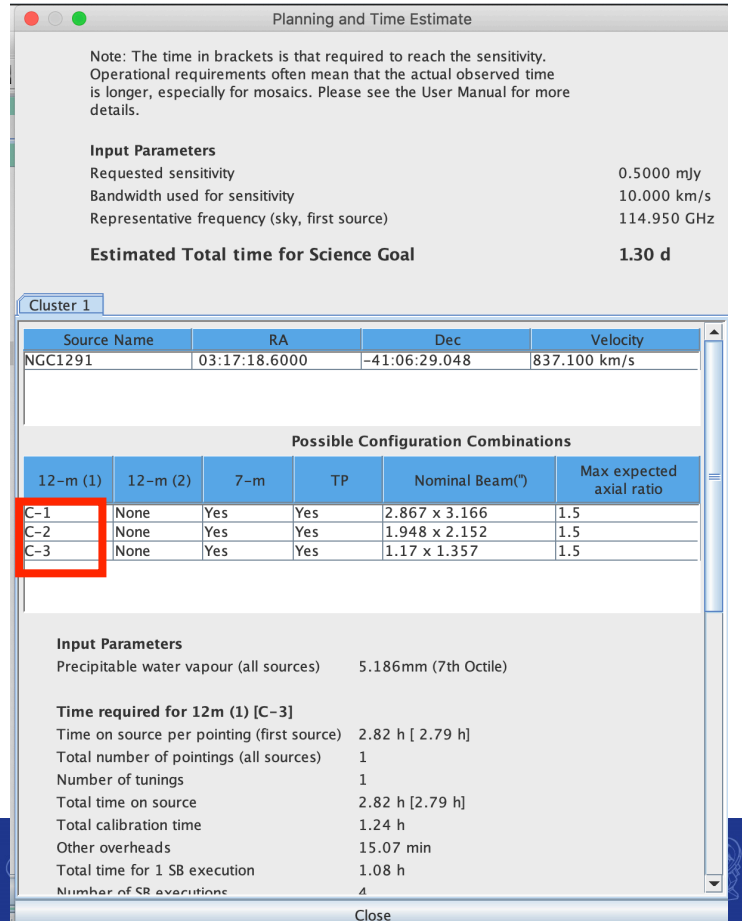
Table 2: Planned 12-m Array Configuration Schedule for Cycle 9

Start date	Configuration	Longest baseline	LST for best observing conditions
2022 October 1	C-3	0.50 km	~ 22—10 h
2022 October 20	C-2	0.31 km	~ 23—11 h
2022 November 10	C-1	0.16 km	~ 1—13 h
2022 November 30	C-2	0.31 km	~ 2—14 h
2022 December 20	C-3	0.50 km	~ 4—15 h
2023 January 10	C-4	0.78 km	~ 5—17 h
2023 February 1	*No observations due to maintenance*		
2023 March 1	C-4	0.78 km	~ 8—21 h
2023 March 20	C-5	1.4 km	~ 9—23 h
2023 April 20	C-6	2.5 km	~ 11—1 h
2023 May 20	C-7	3.6 km	~ 13—3 h
2023 June 20	C-8	8.5 km	~ 15—5 h
2023 July 11	C-9	13.9 km	~16—6 h
2023 July 30	C-10	16.2 km	~17—7 h
2023 August 20	C-9	13.9 km	~19—8 h
2023 September 10	C-8	8.5 km	~20—9 h

Considerations

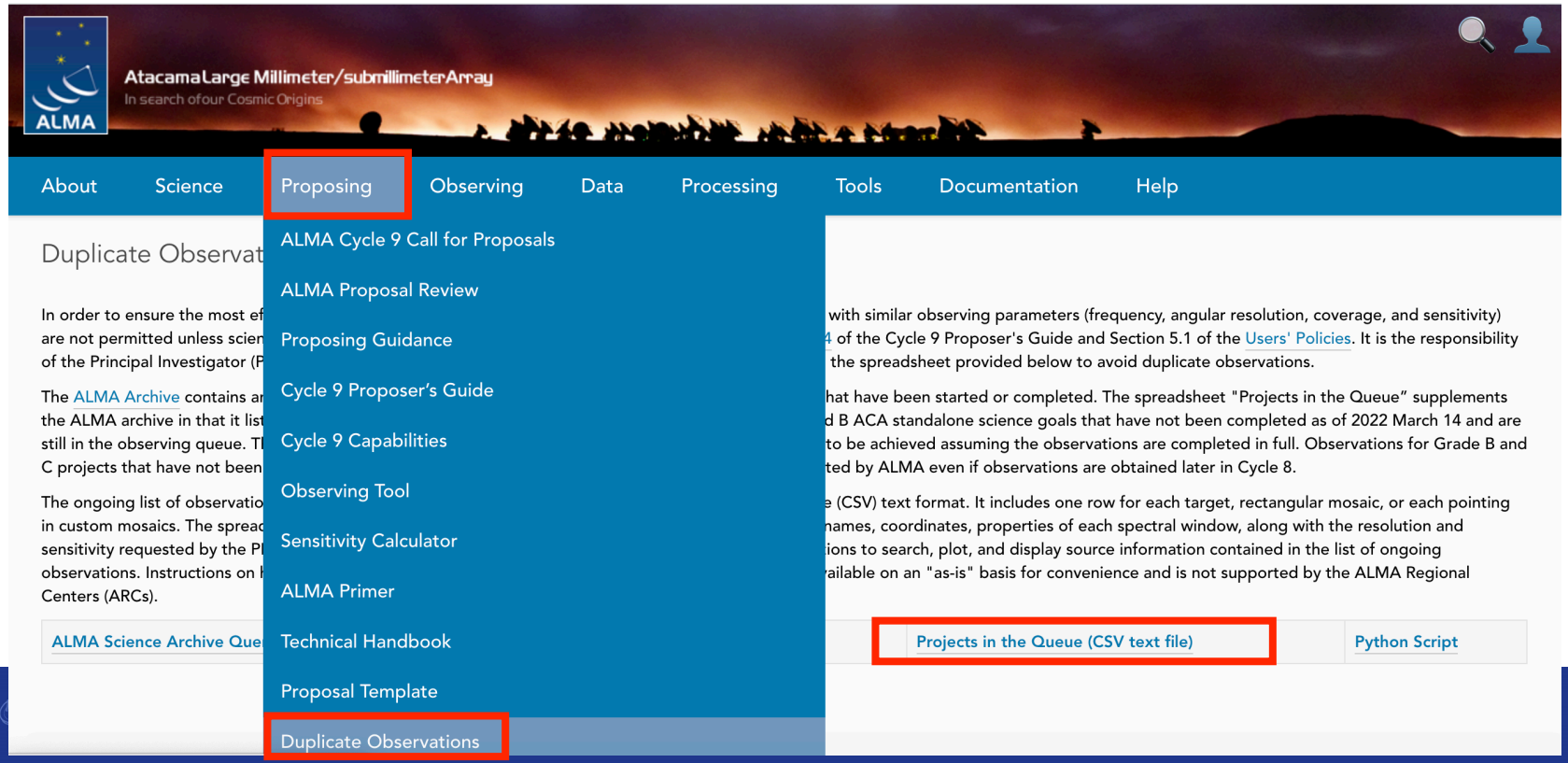
- Angular resolution
  - Whenever feasible, PIs are encouraged to enter a range spanning more than one configuration.





Considerations

- Duplications
  - Duplicate observations of the similar location on the sky with similar observing parameters (frequency, angular resolution, coverage, and sensitivity) are not permitted unless scientifically justified.



Considerations

- Duplications
  - Criteria

ALMA Users' Policies

A. Appendix: Definition of a Duplicate Observation

A proposed observation is considered a duplicate of another observation if *all* of the following conditions are met:

Target field location

- For single-field interferometry, the proposed position coincides within the half-power beam width of the other observation. Moving objects (e.g., Solar System objects) will be identified by name.
- For mosaic observations, more than 50% of the proposed pointings are within the half power beam width area covered by the other observation.

Angular Resolution

- The proposed angular resolution differs by a factor of ≤2 from the other observation.

Spectral windows

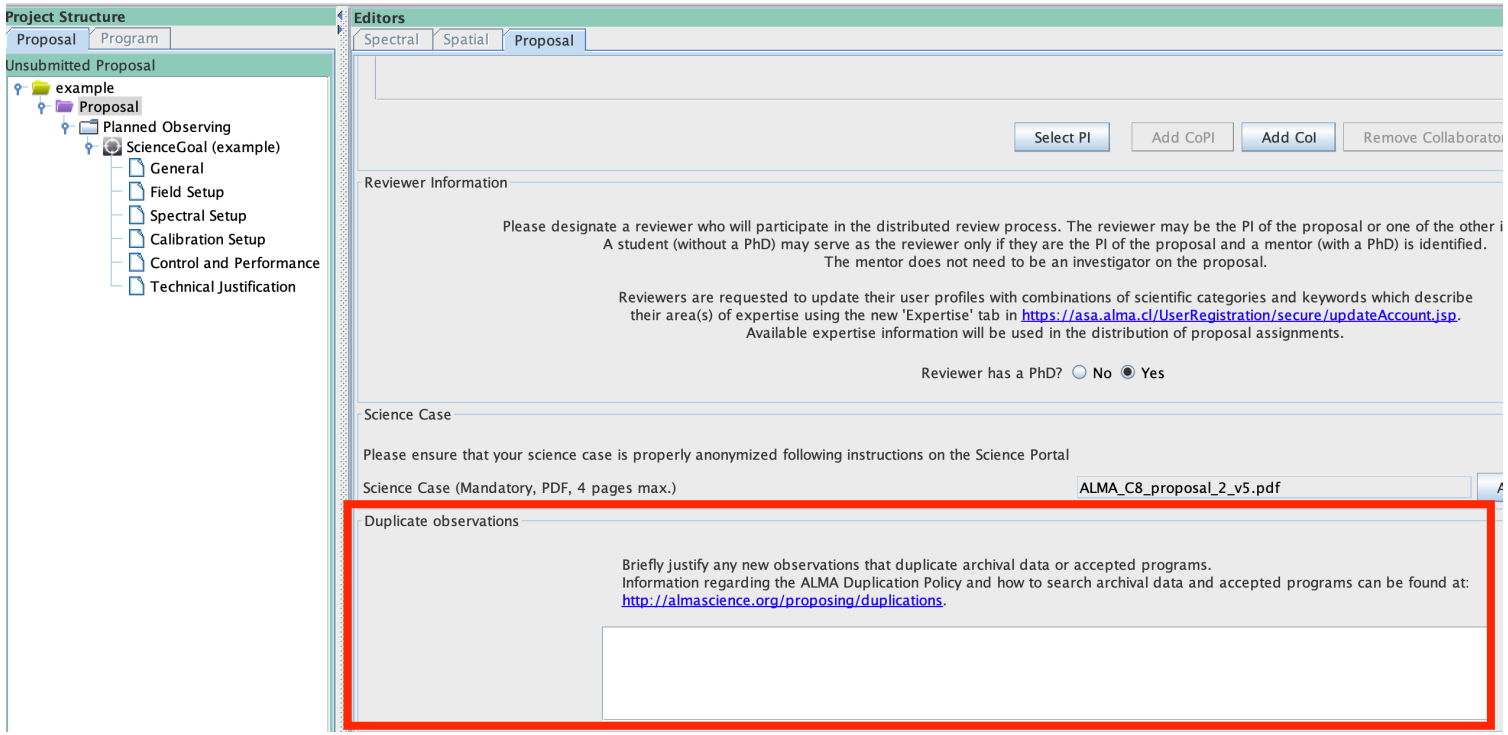
- Continuum: The requested sensitivity (rms) for the aggregate bandwidth is better by a factor of ≤ 2 from the other observation and the requested frequency is within a factor of 1.3.

  – or –

- Spectral line: If the central frequency in any requested correlator window observed in Frequency Division Mode (FDM) mode is encompassed by the other observation observed in FDM mode and the sensitivity per spectral channel, after smoothing to the same spectral resolution, is better by a factor of ≤ 2.

To be considered a "continuum" observation, the proposed correlator setup must contain 2 or more windows with a bandwidth > 1.8 GHz.

Solar observations will not be checked for duplications.



Considerations

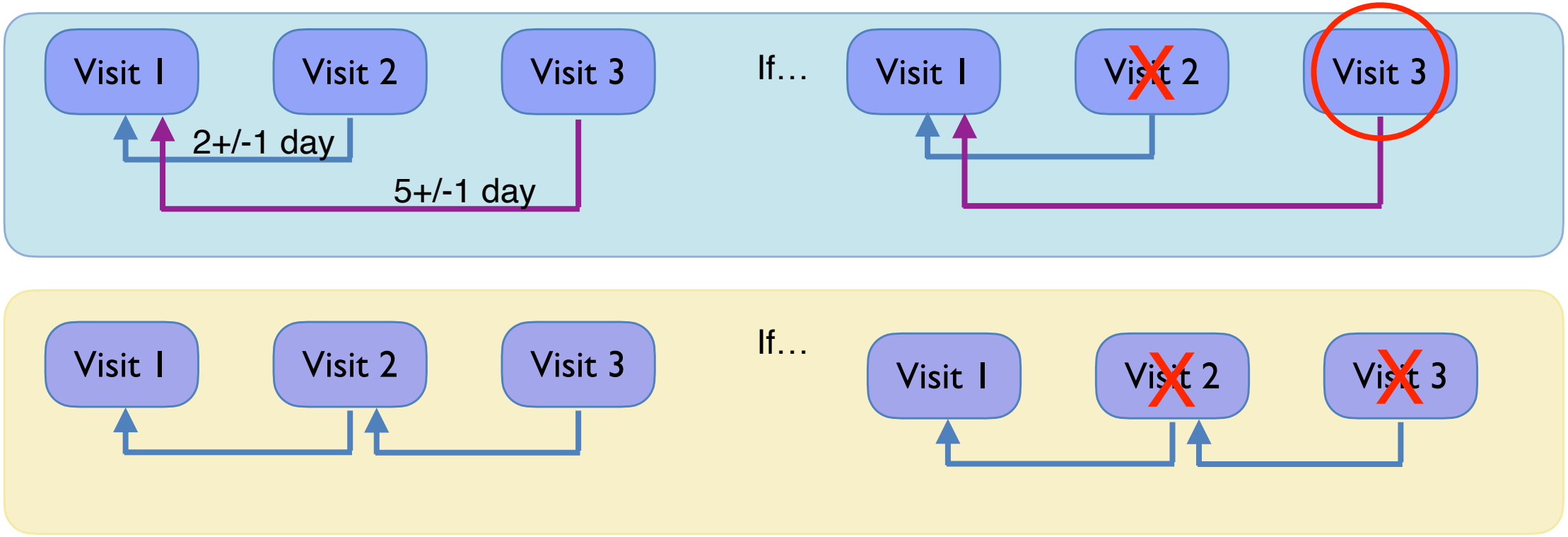
- Resubmission
  - Proposal teams that submit a Cycle 9 proposal to observe some or all the SGs of an unfinished project will have the relevant SGs identified as a "resubmission".
  - Criteria: Appendix A of the Users' Policies
  - Policies (Section 4.4.2 of the ALMA Cycle 9 Proposer's Guide):
    For resubmissions, the relevant portion of the Cycle 9 proposal will be cancelled if the observations are successfully completed in the previous cycle(s).
    Observations started in the previous cycle(s) and accepted as a resubmission in Cycle 9 will continue to be observed with the setup of the previous cycle(s).

Considerations

- Special cases
  - TP only observations?
    - Section A.3 of the ALMA Cycle 9 Proposer's Guide
    - The TP Array cannot be requested in a standalone mode using the OT. However, if a user has existing 7-m Array data through their own program or through archival data, but now realizes that TP Array data are needed to obtain short spacings, they can submit a proposal requesting both the 7-m Array and TP Array.
    - The proposal should indicate that only the TP Array is needed and that the 7-m Array should be descoped if the proposal is accepted. This option is available only if the 7-m Array data have already been obtained.

Considerations

- Time constrained and multiple visits observation



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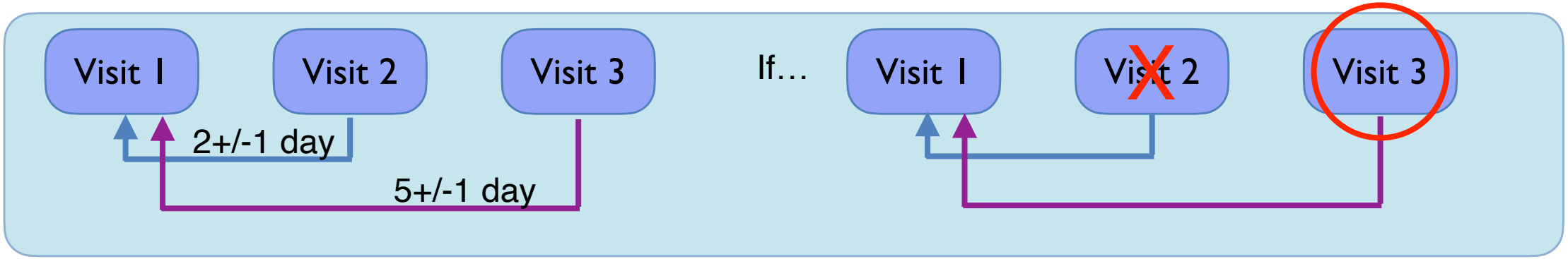

Please specify the arrangement of visits for your observation.

Visits can either be for a specific date or relative to a previous visit.

The first visit can be defined as having an arbitrary start date/time

Visits specified : 3

Visit Constraints (UTC)
Visit 1 : Arbitrary start
Visit 2 : To be scheduled 2.0 d after visit 1 with a margin of ± 1.0 d
Visit 3 : To be scheduled 5.0 d after visit 1 with a margin of ± 1.0 d

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