

1.1.1 Duplication

A high-level principle of ALMA is that identical data should not be taken twice unless scientifically necessary. The term “Duplication” is used to refer to projects that may potentially replicate the data or results obtained in another proposal.

In Cycle 2, potential duplication of proposals may occur when more than one team applies to observe the same targets in the same observing mode (frequency, angular resolution, area, depth, etc). Duplications will be assessed at the Science Goal level; that is, a Science Goal will be considered a duplication of another Science Goal only if the observations are judged to be scientifically equivalent.

Observations are considered duplicates if all the following conditions are met:

1. Target field location:
 - a. For single-field interferometry, the map reference positions coincide within the primary beam (half-power beam width), or
 - b. For mosaic observations, the fields of the two Science Goals (defined as the half-power beam widths) overlap by more than 50% of the size of the smaller one.
2. The values of the highest angular resolution for the two considered Science Goals differ by a factor of less than 2.
3. Spectral windows:
 - a. Each spectral window of one Science Goal overlaps with a spectral window of the other by more than 50% of the narrower one (TDM mode), or
 - b. At least 50% of the spectral lines to be observed in the Science Goal including the smaller number of lines overlap the lines of the other Science Goal (FDM mode).
4. The difference of spectral resolution between overlapping spectral windows (as defined above) is less than a factor of 2.
5. The difference in the requested rms (rms noise values in Jy for continuum observations and in K for line observations at the same velocity resolution and the same angular resolution) within each pair of matching spectral windows is less than a factor of 2.

If one proposed observation is less sensitive than a second observation and if it meets the area and spectral overlap criteria above, it will also be considered a duplicate since the science objective of the poorer sensitivity program can be achieved using the deeper observation.

Similar criteria will be applied to proposed observations that have poorer angular or spectral resolution than another proposal, provided that the higher resolution observation can achieve all the science requirements of the lower resolution observation, including sensitivity on the desired spectral resolution and angular scales.

Note that, for targets undergoing non-periodic or non-semi-periodic variations, observations at different epochs do not represent potential duplications.

In case of potential duplications, the relevant proposals shall be directly compared with each other, so as to ensure that their relative ranks shall duly reflect their respective scientific merits. The science assessors will determine if the considered duplicate proposals are mutually exclusive or if it would be scientifically meaningful for more than one to be approved. The final verdict will be rendered by the APRC.

Observations done in ALMA Cycle 1 projects will constitute potential duplications for Cycle 2 proposals if the above conditions are fulfilled.