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## How do I combine Cycle 1 and/or 2 MeasurementSets and Images with ones from other cycles (J2000 to ICRS relabeling)?

Dirk Petry - 2023-11-01 - Historical Articles

Before ALMA Cycle 3, the position reference frame in MeasurementSets and Images were given as J2000. However, the actual position reference frame of the phase calibrators used in the observations was ICRS, it was found that this label was misleading (although the actual difference between the frames is a small fraction of an arcsecond).

Since the beginning of Cycle 3, the position reference frame in the ALMA data is consistently ICRS.

If you would like to overplot Cycle 0, 1 or 2 images on Cycle 3 images, you should relabel your Cycle 0/1/2 images as having reference frame ICRS.

The attached example script "relabelimagetoicrs.py" demonstrates how to do this. You can find the link to the attachment at the end of the article. It needs to be run from within CASA by typing `execfile('relabelimagetoicrs.py')`. Beforehand you need to have inserted the name of the image to be relabeled in the variable "imagename".

Similarly, if you would like to combine (e.g. concatenate) MeasurementSets (MSs) from Cycle 0, 1 and/or 2 with MSs from a newer cycle, you should relabel the position reference frames in the FIELD and SOURCE tables of the Cycle 0, 1 and 2 MSs.

The second attached example script "relabelmstoicrs.py" demonstrates how to do that for one MS. Type `execfile('relabelmstoicrs.py')` in CASA to run the script. You need to have inserted the name of the MS to be relabeled in the variable "msname".

### Attachments

- [relabelmstoicrs.py \(771.00 B\)](#)
- [relabelimagetoicrs.py \(649.00 B\)](#)