

ALMA Science

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How can I simulate observations with multiple configurations?

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The CASA simulation task `simobserve` simulate an observation based on a given antenna configuration, which is specified in the antenna position file. A user may wish to see the effect of combining data from two or more separate observations, taken with different configurations. Here we explain one way to go about it.

Each time `simobserve` is run, it produces a CASA measurement set. The measurement set has the file extension ".ms", and is in effect a calibrated u-v data set.

To simulate observations with multiple configurations, run `simobserve` separately for each configuration. You will thus produce a series of .ms files. You can then use the CASA task "concat" to concatenate these u-v data sets into a single, large .ms file. Next use the CASA task "clean" to image this combined measurement set, just like any other u-v data.

Refer to [CASA guide for simulations](#) for more information.

Note: "tclean" can also accept multiple measurement sets, so the concatenation is largely for convenience.