

Practical Session on Calibrators

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1. Find a science object , check its characteristics in SIMBAD (coordinates, spectral type)

Ideas: V346 Nor, R Car, HD 33036, alf ara

<http://cdsweb.u-strasbg.fr/>

2. Look for calibrators for this scientific object using CalVin

<http://www.eso.org/observing/etc>

- The science object is observed with MIDI on one of the UTs baseline (U1-U2), the time of observation is June (at least for the example given)
- Check which calibrators seem to be the more suitable following the “theoretical constraints” (close in time, in position, point-like source or known accurate diameter, close in color)
- Check if there is any shadowing (depending of the baseline used, the UTs can give some shadow)

3. You have suitable calibrators, now they (as well as the science target) have to follow some constraints.

The list of constraints and information you have to enter for your OBs is given in

<http://www.eso.org/observing/p2pp/>

- LST constraint
 - For each ESO proposal, a LST range is specified for the scientific target
 - for ex. you want HA -1 to +1 , your target has a RA of 9, the LST you specify is 8 to 10 (HA=LST-RA)
 - you have to find a calibrator which have a LST range within ½ hour of the LST of the scientific object, for the example above you have to find a calibrator with an LST of 7h30 to 10h30
- Delay Line
 - You have to check that that the optical Path difference between the beams to be corrected by the DL is within a certain range
- Estimation of the Visibility for the chosen configuration → for the calibrators the diameter and its associated error is given by CalVin

4. Check all this and more using VisCalc

<http://www.eso.org/observing/etc>

- Enter your science target information to check DL, shadowing. As an example, for alf ara MIDI measurements give an upper limit of the size of the envelope at 4 +- 1.5 mas
- Do the same for your calibrator to check if it is observable at the requested LST.

5. Change the configuration: for example A0-J2, check the Visibilities for the calibrators, check the shadowing and the Delay lines

6. You can also use the expert versions of both tools which give you more options and which are independent of the Period of observation

7. You can also use the ASPRO tool to search for Calibrators and get the visibility http://www.mariotti.fr/aspro_page.htm

SUMMARY

- You have to relax the constraints:

Observed at the same time	Observed when the TF is expected to be stable or known
Close on the sky	Not so close
Similar color	Any color
Point source	Known diameter – good
Bright	Bright enough to get a good correlated Visibility

- There are added constraints because of the instrument (you will see that during the practical session)

- You have to carefully decide which calibrator data you are going to use and how