

Continuum => K-band => SARDARA

(v1 : 23/06/2017)

\$: commands to insert in a shell

> : commands to insert in the operatorInput panel

Before observing

1) On nuraghe-mng :

- Check that all of the 32 containers are active on ACS,
- the active surface is green on AS,
- the jlog is opened in order to track possible error messages,
- the interface of the Meteo client is opened to check the wind velocity in real time (< 40 km/h to guarantee a good pointing of the antenna in K-band).

2) On nuraghe-obs1 :

- Check the presence of the 8 panels :
 - **operatorInput**
 - **AntennaBoss**
 - **GenericBackend**
 - **Mount**
 - **Observatory**
 - **Receivers**
 - **Scheduler**
 - **MinorServo**

- Upload your shedule and check it :

```
$ cd /archive/schedules/[projectID]  
$ scheduleChecker schedulename.scd
```

Start the observations

In the operatorInput panel :

1) Insert your project number

```
> project=[projectID]
```

2) Initial setup

```
> antennaReset
```

```
> setupKKG
```

3) Select the active surface shape (Shaped configuration for K-band observations)

> asSetup=S

- 4) Insert the Local Oscillator value (in MHz)

> setLO=[freq]

- 5) Select and configure the SARDARA backend in K-band

> chooseBackend=BACKENDS/Sardara

> initialize=[code]

with [code]=SK00 : central feed only

[code]=SK77 : 7 feeds

[code]=SK03 : feeds 0 and 3 only

[code]=SK06 : feeds 0 and 6 only

- 6) Set the different parameters of the backend:

> setSection=[sect],[startFreq],[bw],[num-feed],[polarization], [sampleRate], [bin]

with : [sect]=0,1,2,3,4,5,6 in full-Stokes observations

and [sect]=0,1,2,3,4,5,6,7,8,9,0,11,12,13 in non full-Stokes observations ;

[startFreq] corresponds to the initial frequency in MHz from the LO value ;

[bw] the bandwidth in MHz ;

[num-feed] the number of feeds (from 1 to 7)

[polarization] the polarization mode

[sampleRate] in MHz

[bin] the frequency channels (1024, 2048, 4096, 8192, 16384)

- 7) Choose the integration time in ms (e.g. n=10 corresponds to 100 spectra/sec)

> integration=[n]

- 8) If you want to use the multi-feed derotator to prevent field rotation during long acquisition, select the derotator configuration :

> derotatorSetConfiguration=[config] with [config]=BSC, CUSTOM or FIXED

- BSC is for Best Coverage Space (automatic rotation of the dewar in order to best cover the scanned area)
- CUSTOM : the user has to choose the angle of the dewar axis with the y-axis of the scanning frame that will be kept during the whole duration of the acquisition :

> derotatorSetPosition=[ang]d with [ang] the dewar angle in degrees

- FIXED : the dewar keeps a fixed position w.r.t the horizon, no rotation is applied. To specify a static angle :

> derotatorSetPosition=[ang]d with [ang] the dewar angle in degrees

To read back the position of the dewar :

> derotatorGetPosition

9) Attenuate the signal based on the rms range [-128 ;128] and check the value on the interface.

> getrms

> setAttenuation=[sect],[att] with [att] the attenuation from 0 to 15 dB.

10) Check the tsys (typical values)

> tsys

11) Begin the schedule by indicating the start scan [N] or subscan [N_n] in the SCD file :

> startSchedule=[projectID]/[schedulingname].scd,[N]

During the observations

1) On nuraghe-obs2, check that the data are written in your project section :

\$ cd /archive/data/[projectID]/ ??? (A. Melis)

2) Quick-look of the data :

TBD (A. Melis)

At the end of the observations

1) Stop the schedule

> stopSchedule or > haltSchedule

2) Park the minor servo, active surface and antenna

> goTo=180d,89d

> servoPark

> asPark

> antennaPark

Download the data

\$ scp -r observer@dorian:/raid/roach2/* .

\$ scp -r [projectID]@nuraghe-obs2:/archive/data/[projectID]/* . ??? (A. Melis)