

Email by Matias:

Today we executed some tests at the AOS to proof the concept of deactivating all delays applied by the CDP and hopefully get the sum fixed on all BBs/polz (ICT-3866). For this test a patch was installed that zeroes all baseband (TMCDB) delays when the useRDC=False option is used.

The datasets taken, both with 9 antennas in the sum and 16 spectral windows (and one phase per spw), were:

1. useRDC=True

```
$ VLBITestObs.py -b 3 -N 10 -d 15 -i 4 -u 1.584 -Q 4 -V -s 1924-292 -R DV12 --app-comp DV13,DV14,DV15 --app-clone=1 --app-rdc True,True,True,True --app-numSWs=16 --packMode=PER_AVERAGE
-> 2015-01-28T16:36:54 - uid://A002/X9aa1c8/X55
```

2. useRDC=False

```
$ VLBITestObs.py -b 3 -N 10 -d 15 -i 4 -u 1.584 -Q 4 -V -s 1924-292 -R DV12 --app-comp DV13,DV14,DV15 --app-clone=1 --app-rdc False,False,False,False --app-numSWs=16 --packMode=PER_AVERAGE
-> 2015-01-28T16:45:30 - uid://A002/X9aa1c8/X74
```

From the logs I can confirm that the CDP nodes were applying all delays normally in the first case, and only zeroes in the second case. The CalAppPhase ASDM table shows that without RDC many antennas seem to never phase up (offsets of more than 1rad exist until the last scan).

Alejandro had a quick look at the CASA data and didn't find a significant difference in both cases for the cross-correlation amplitude between the sum and the comparison antennas (he can perhaps add more to this).

Keep in mind however that with useRDC=False no antennas receive delays in the CDP, while only antennas in the sum mask receive TelCal phases. So cross-correlations could be misleading and perhaps we should try to evaluate differences in the sum's auto-correlation (in particular across BBs/polz). Help analyzing this from different perspectives would be appreciated.

uid				comment
uid A002 X9aa1c8 X74				
uid A002 X9aa1c8 X55				