



REAL INSTITUTO Y OBSERVATORIO
DE LA ARMADA
1753 - 2005



ROA

Report to the WG-TWSTFT BIPM
Delft, 15-16 Nov 2005

15-16 Nov 2005

13Meeting WG TWFT



Set-up

- SATRE Modem s/n 040 V3.5.02-19971219
 - Tx, file TX4003.MCS
 - CPU-V4.2, No 46/-
 - Tx-V8.2, No 11/-
 - RefOsc-V4.0, No 40/284
 - Rx, file RX.MCS
 - CPU-V0.0, No -/-
 - Rx-V6.0, No 5/236
 - Tic-V3.0, No 4/-



Set – up cont.

- New PC, Linux Mandrake 10.1 dist.
 - USB – 4 Serial ports.
 - NI- GPIB controlling card.
- New open rack.



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Equipment

- 1 SATRE modem
- ROA02:
 - 1.8m Prodeline antenna + Ku KSTAR tx/rx
- ROA01:
 - 1.8m Prodeline antenna + Ku_e ANASAT tx/rx



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Output data

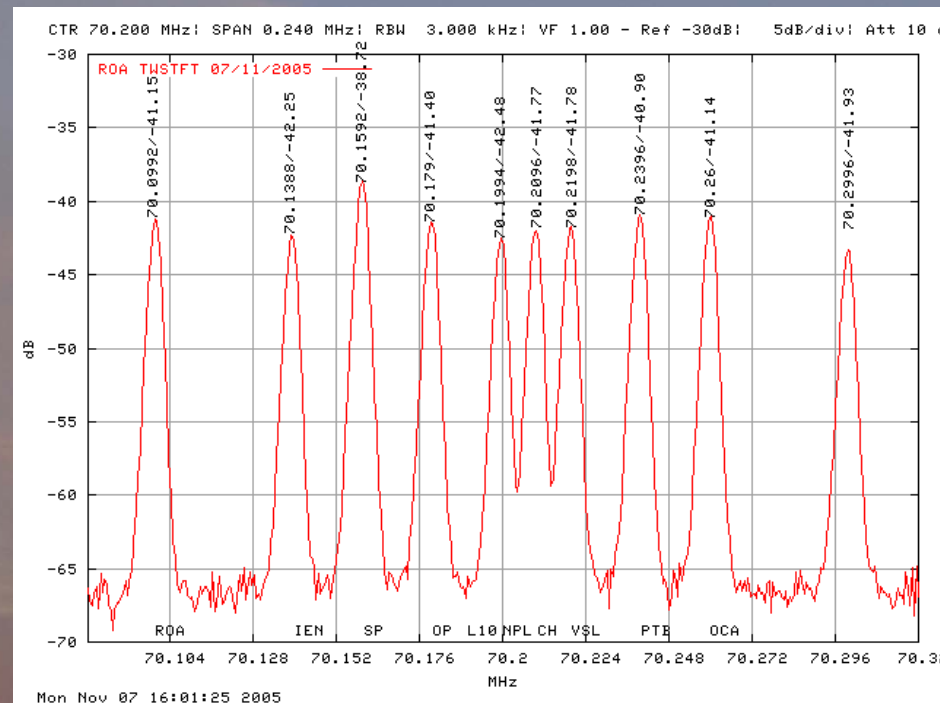
- 1s files:
- ITU format files:

– <ftp://ftp.roa.es/pub/hora/twstt/{year}/>



Output files: Cleancarrier

- <ftp://ftp.roa.es/pub/hora/twstt/plots/cleancarrier/>



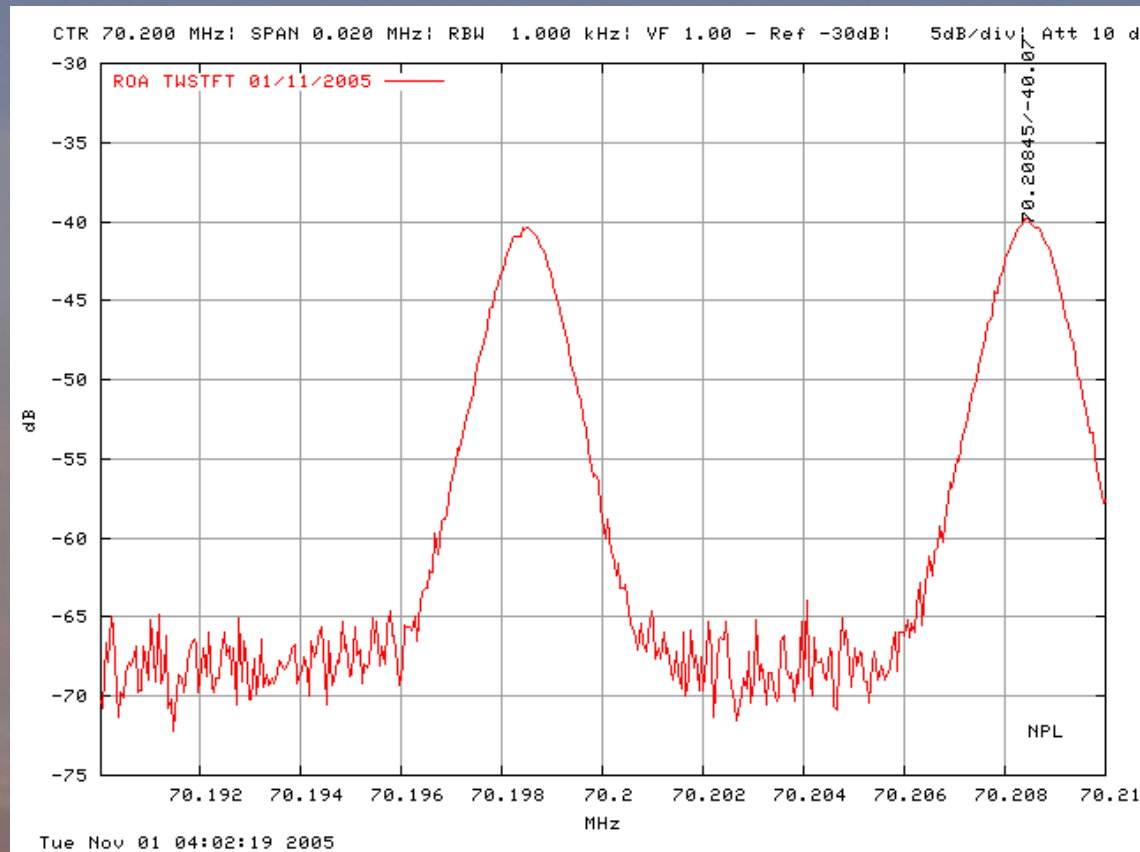
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Output files: Cleancarrier per lab.

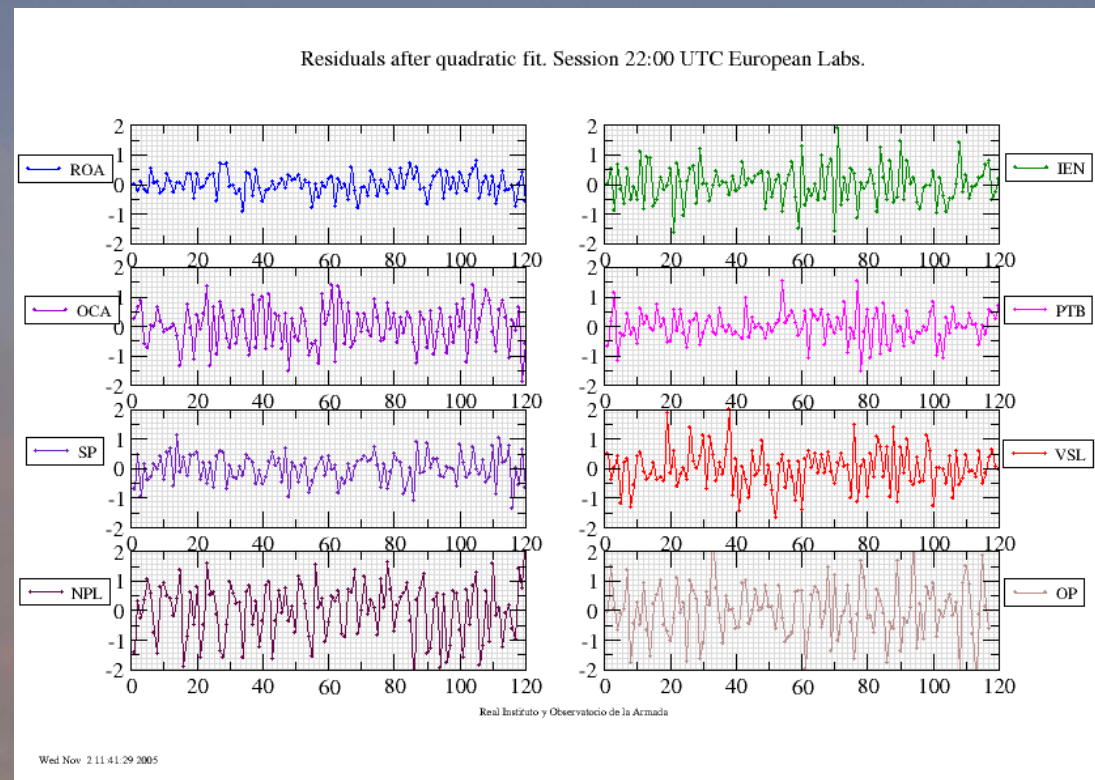


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Output file: Residuals





Satellite Transition

- Proposal for cooperation sent:
 - SP, OCA, OP, IEN and PTB agreed.
 - Goal was to determine ESDVAR for ROA02 before the transition and for ROA01 during transition.
 - Using both satellite at the same time for a week.
 - Need to improve the procedure and the coordination with partners.
 - Need more time for reaction.

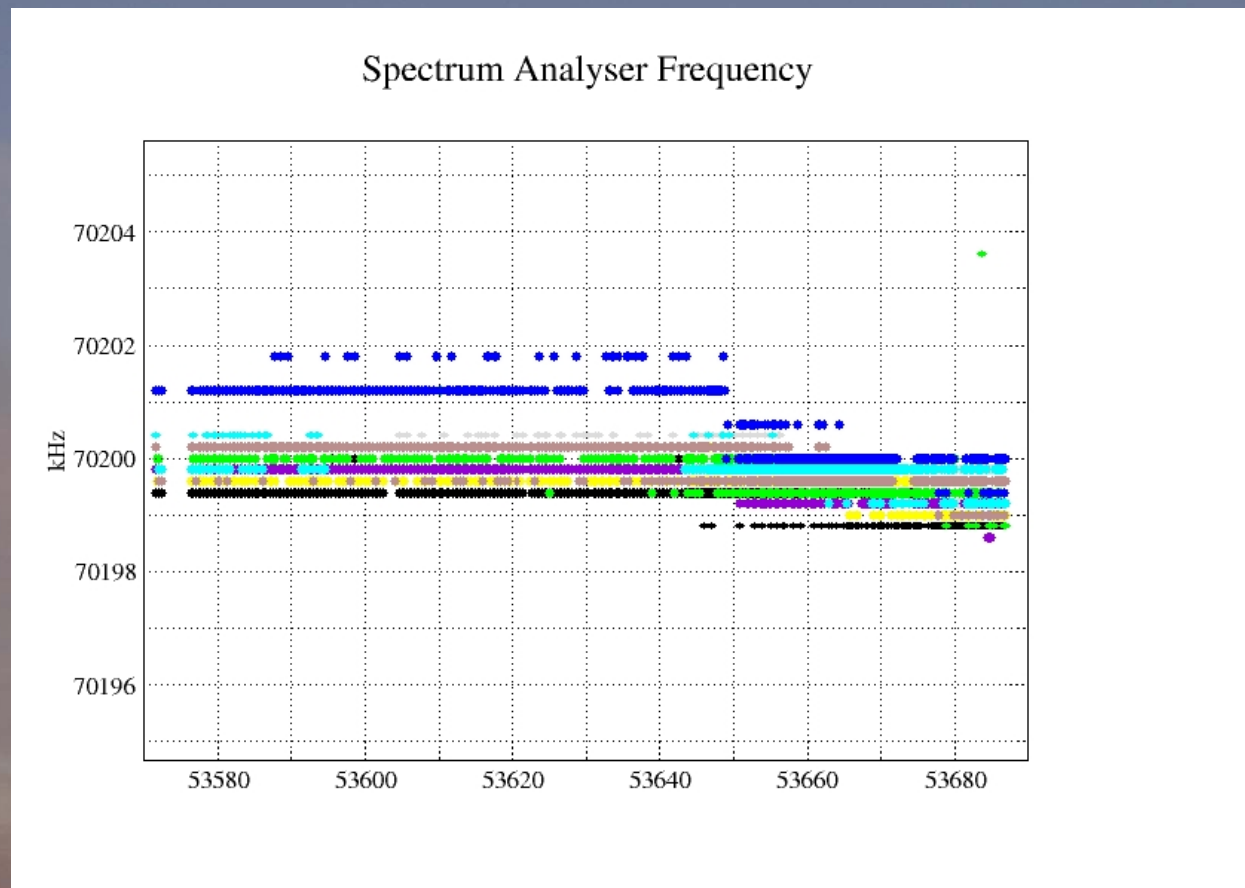


Satellite Transition cont.

- Simultaneous observation:
 - GPS SC CV
 - GPS MC CV
 - GPS P3
- All data uploaded to BIPM ftp site.



Frequency observ.



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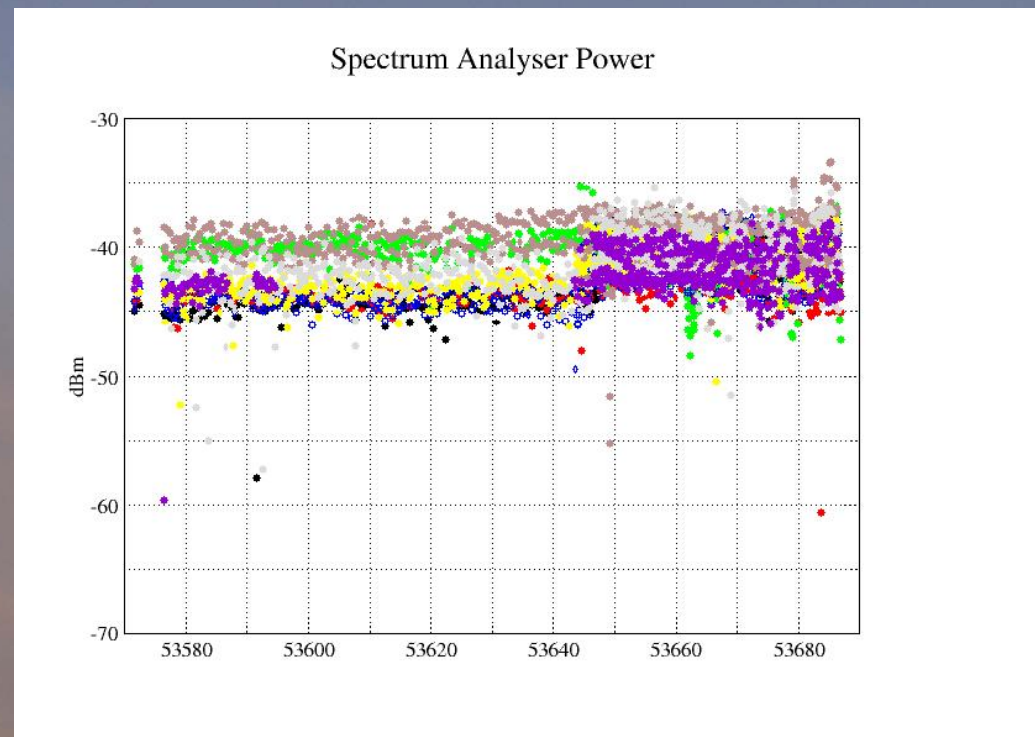
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Power



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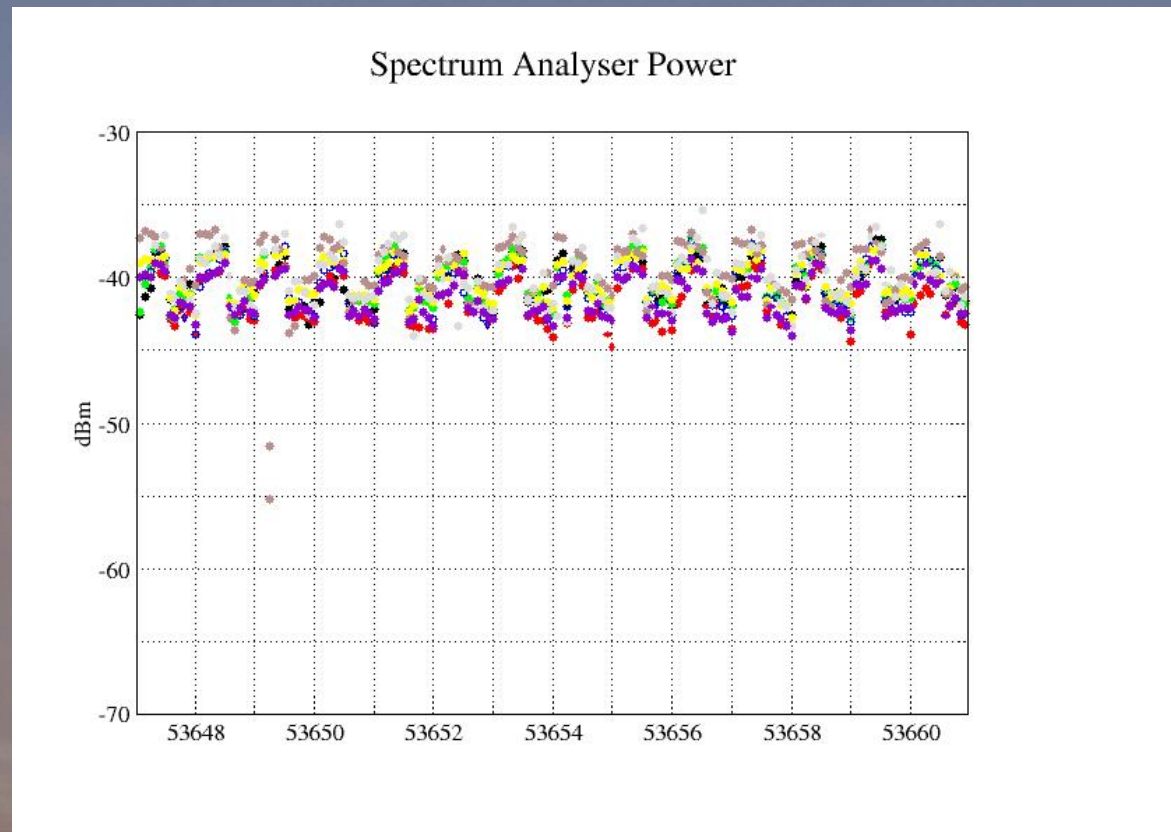
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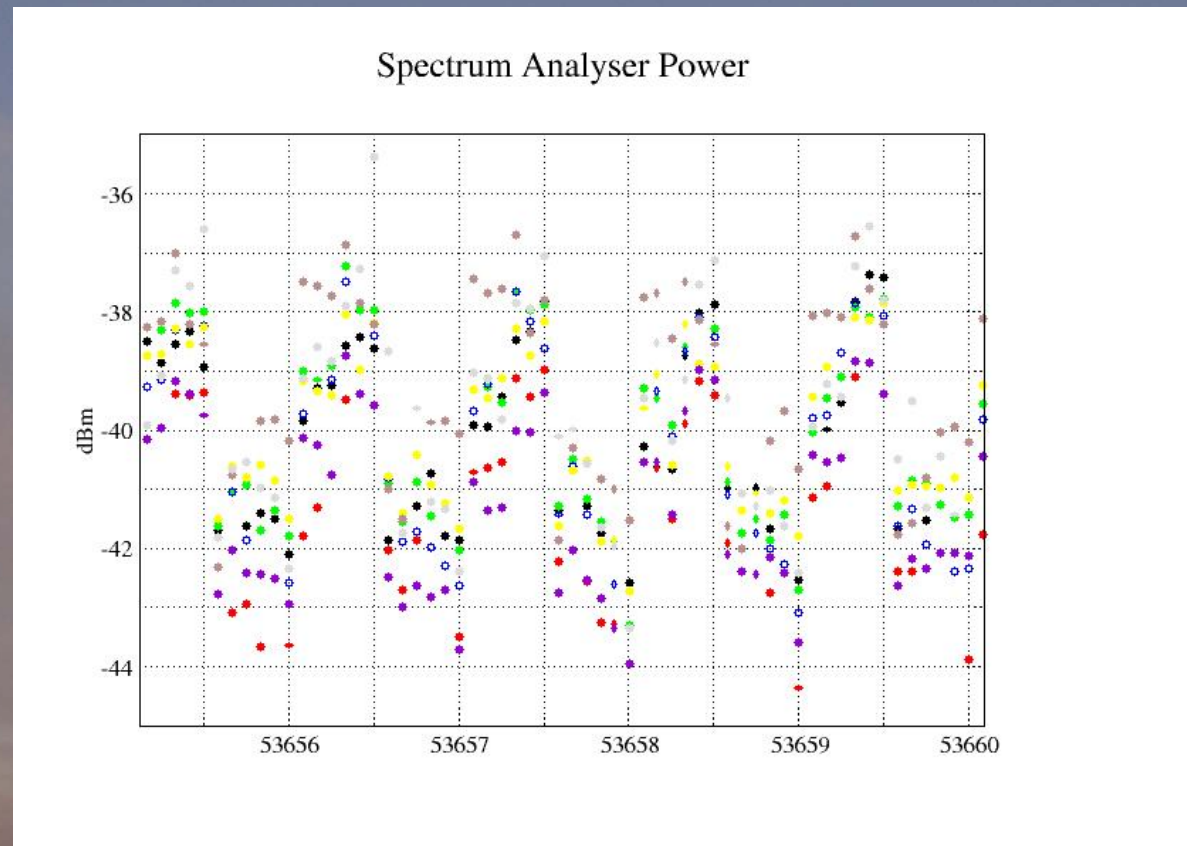
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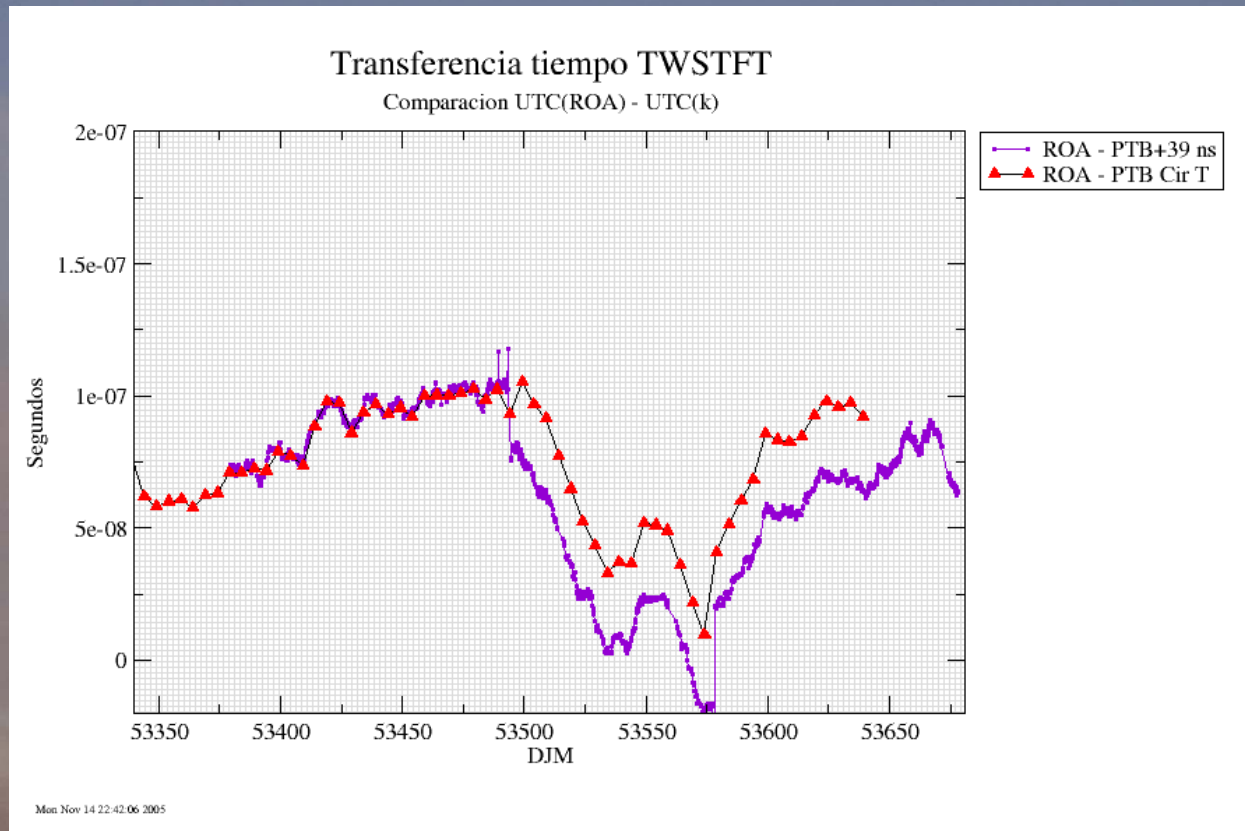
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CALR

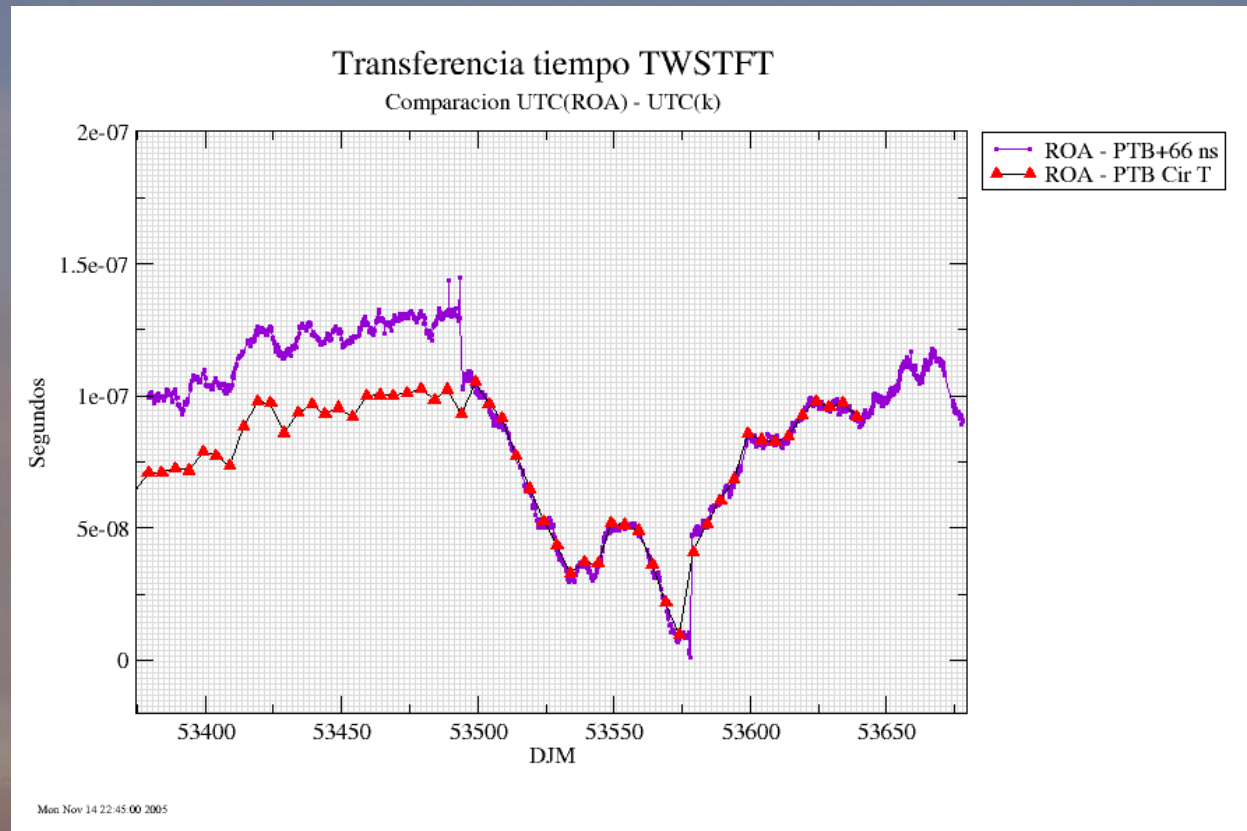


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CALR cont.

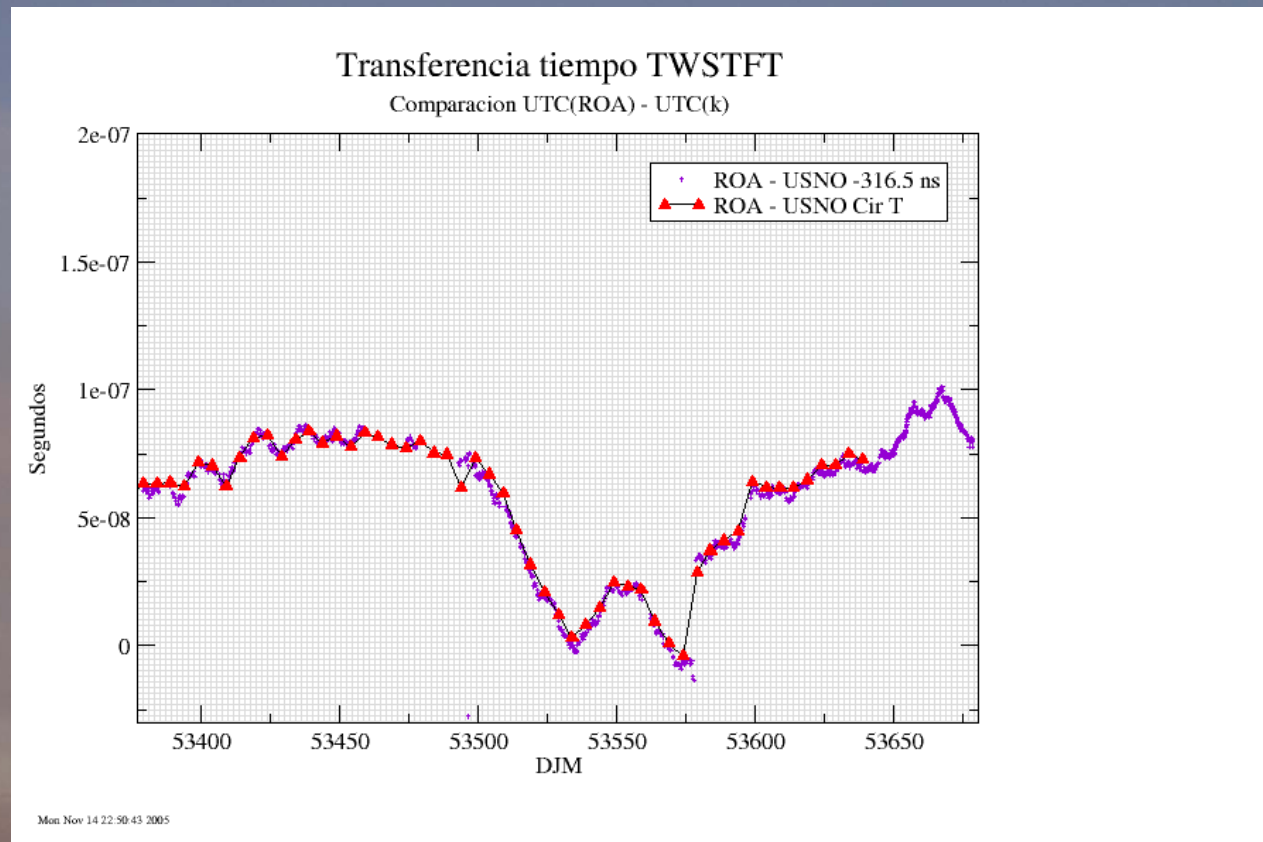


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CALR cont.

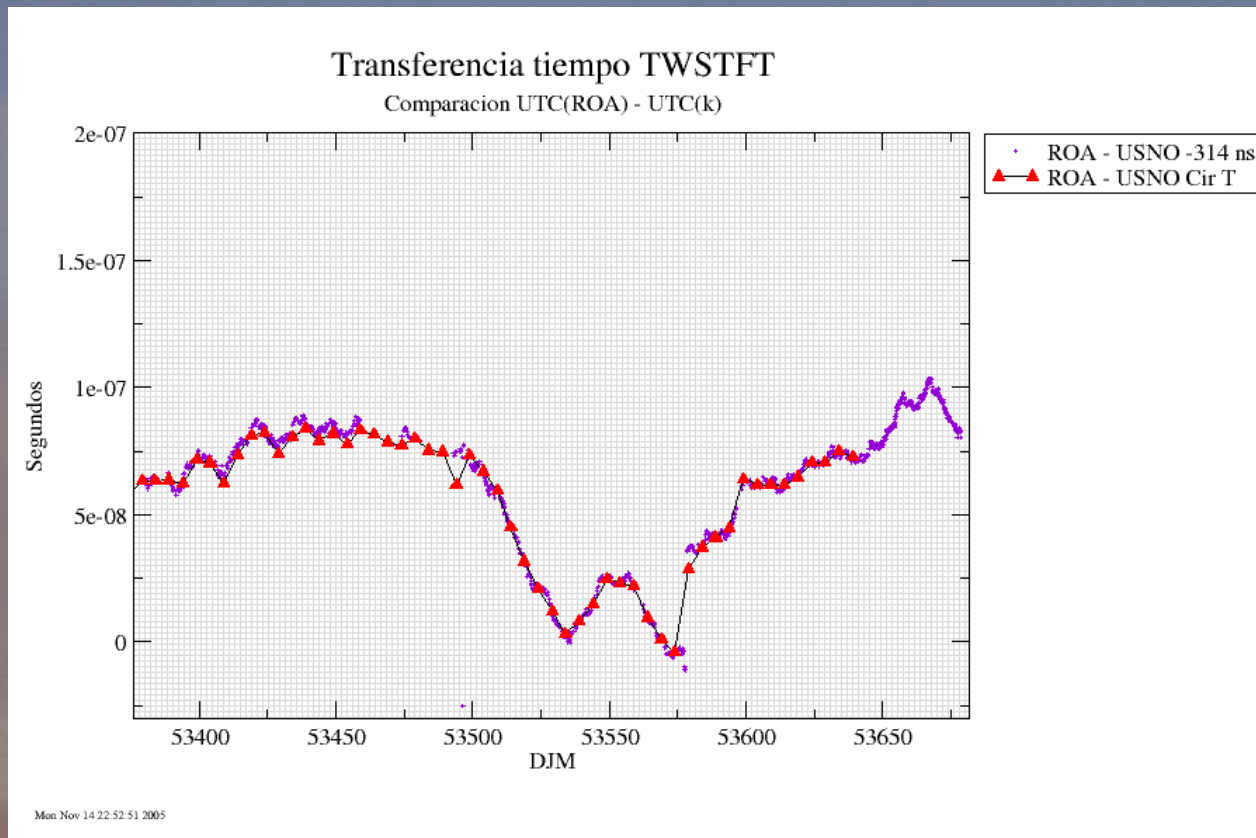


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CALR cont.



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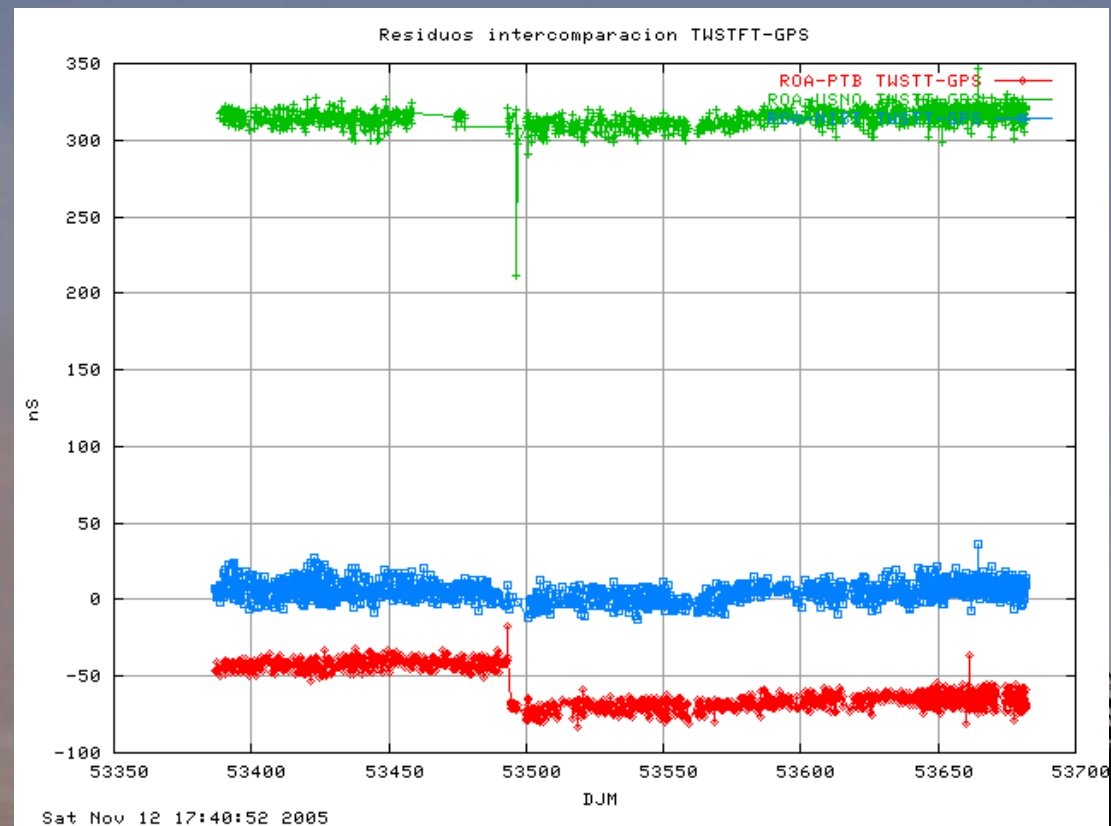
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CALR cont.



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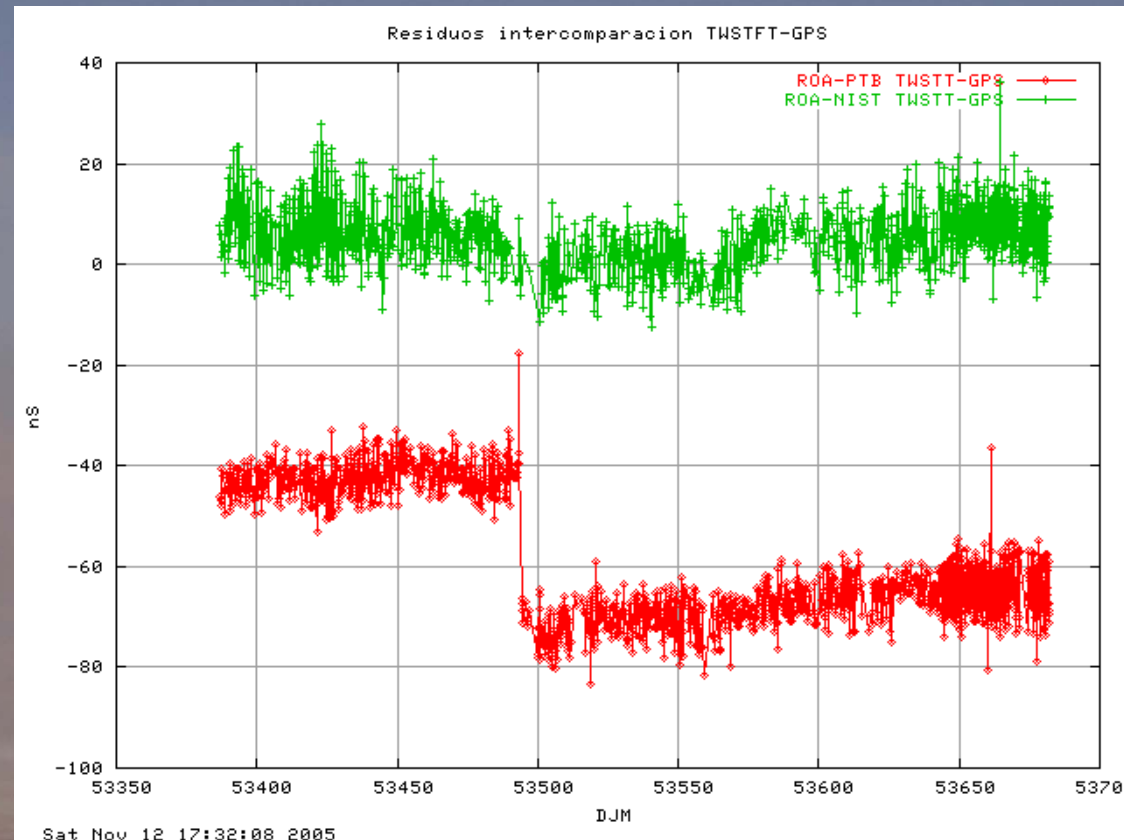
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CALR cont.



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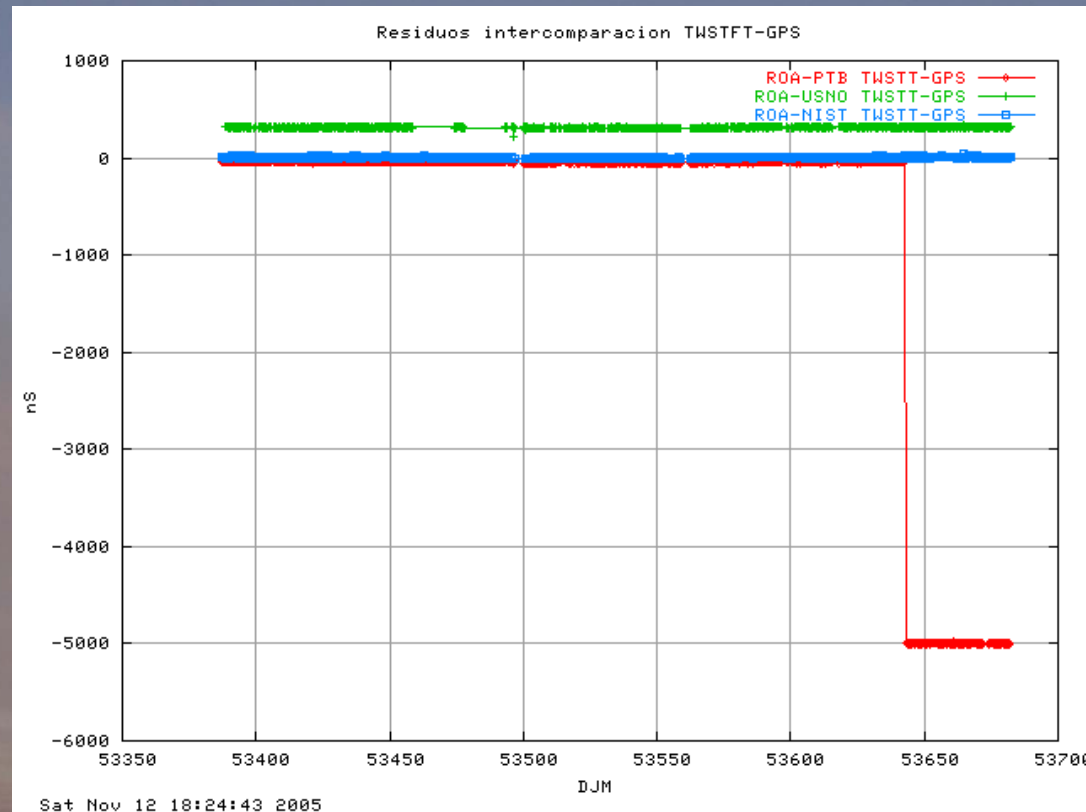
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CALR cont.



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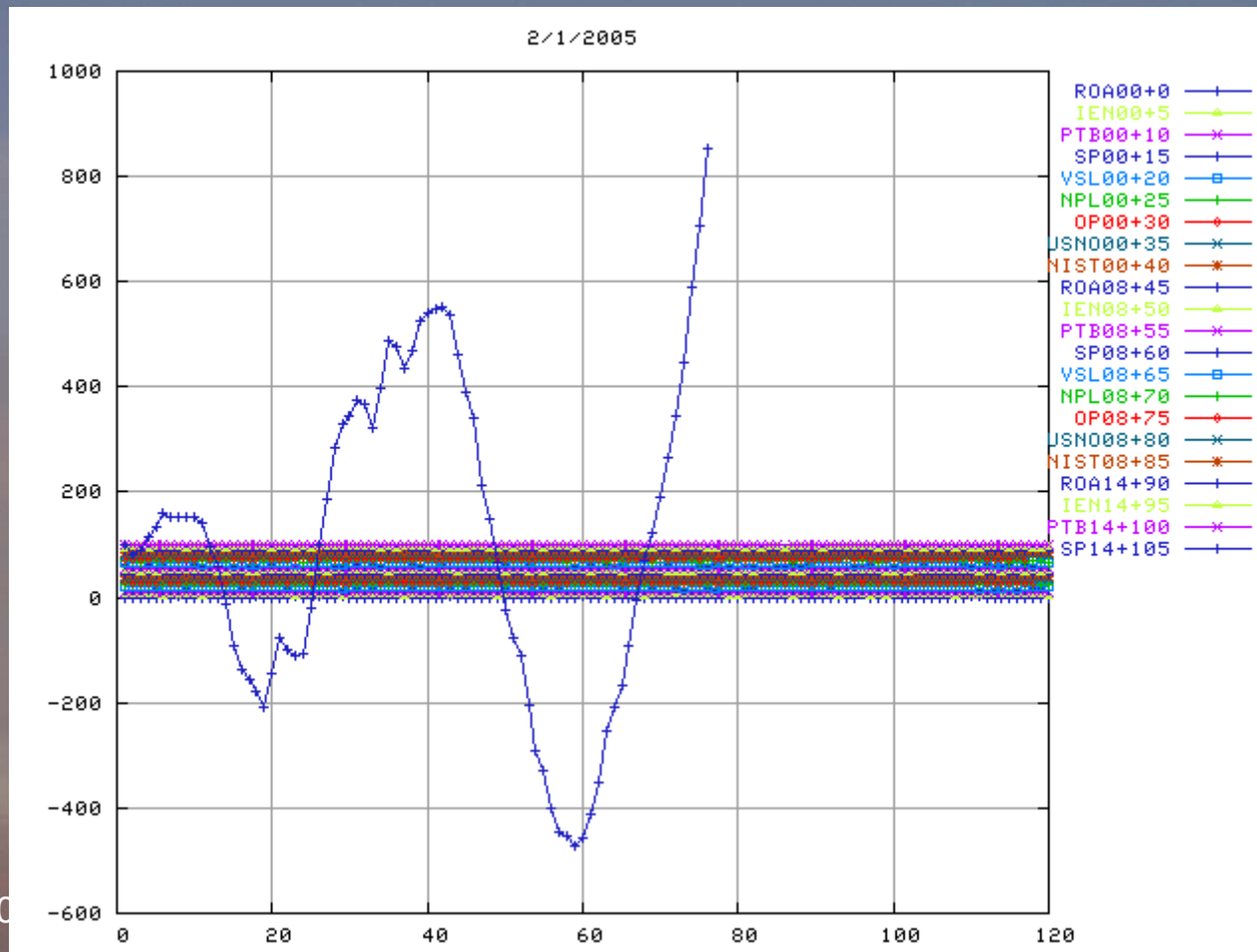
- * EARTH-STAT LI MJD STTIME NTL TW DRMS SMP ATL REFDELAY RSIG CI S CALR ESDVAR ESIG TMP HUM PRES
- * LOC REM hhmss s s ns s s ns ns ns ns degC % mbar
- ROA01 PTB01 7 53686 101600 119 +0.266490570833 0.549 117 119 +0.000000766740 0.050 087 1 -4940.160 +9999.999 9.999 +16 66 1017

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Modem 'Pull out' effect





Coming next..

- Determination of ESVAR ROA02.
 - Extra measurements.
 - Integration of a switching matrix.
 - ROA01->ROA02->ROA01->ROA02.....
- CALR?
- H-Maser as freq & time reference.
- What's happening with the link ROA-SP?



Need to comment..

- Tx frequency. Who is the leader to follow up?
- This is a network. All activity –usual and extra- have an impact in the measurements.
 - Extra coded transmission activity.
 - Cleancarrier transmission.
- Inform the group on extra activities.
- Need coordination to make our life easier.
- Coordination:
 - Link designation: different ID for the same link
 - CALR figure discussed before adopted.
 - Maintenance activities: alignment, freq. adj., calibration,



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Thank you for your attention

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