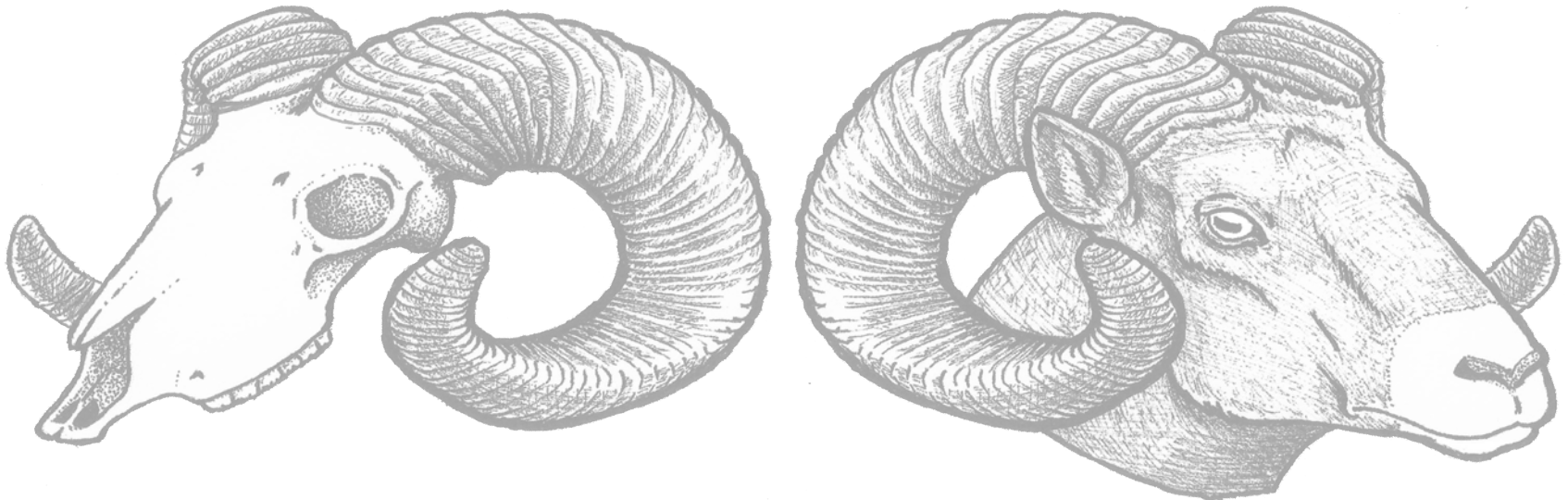




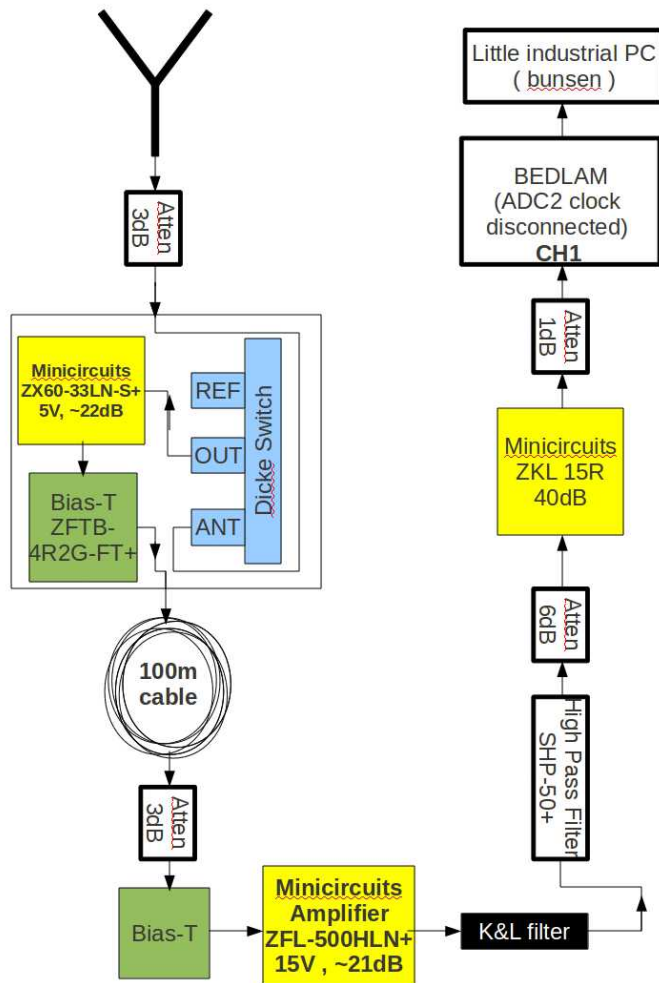
- How to be begin scratching the problem ?
- Present preliminary data collected at Muresk
- Status of absolute calibration
- Prospects of using satellites to calibrate log-spiral antenna





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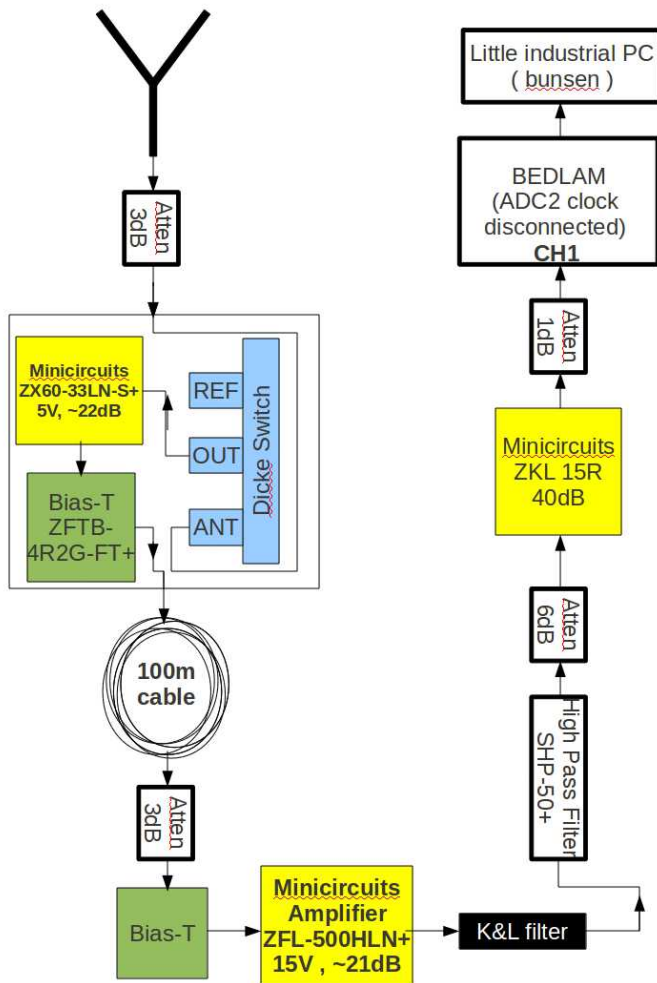
Data collected with the BareHorns system (2012-10-04 – 2012-11-05)





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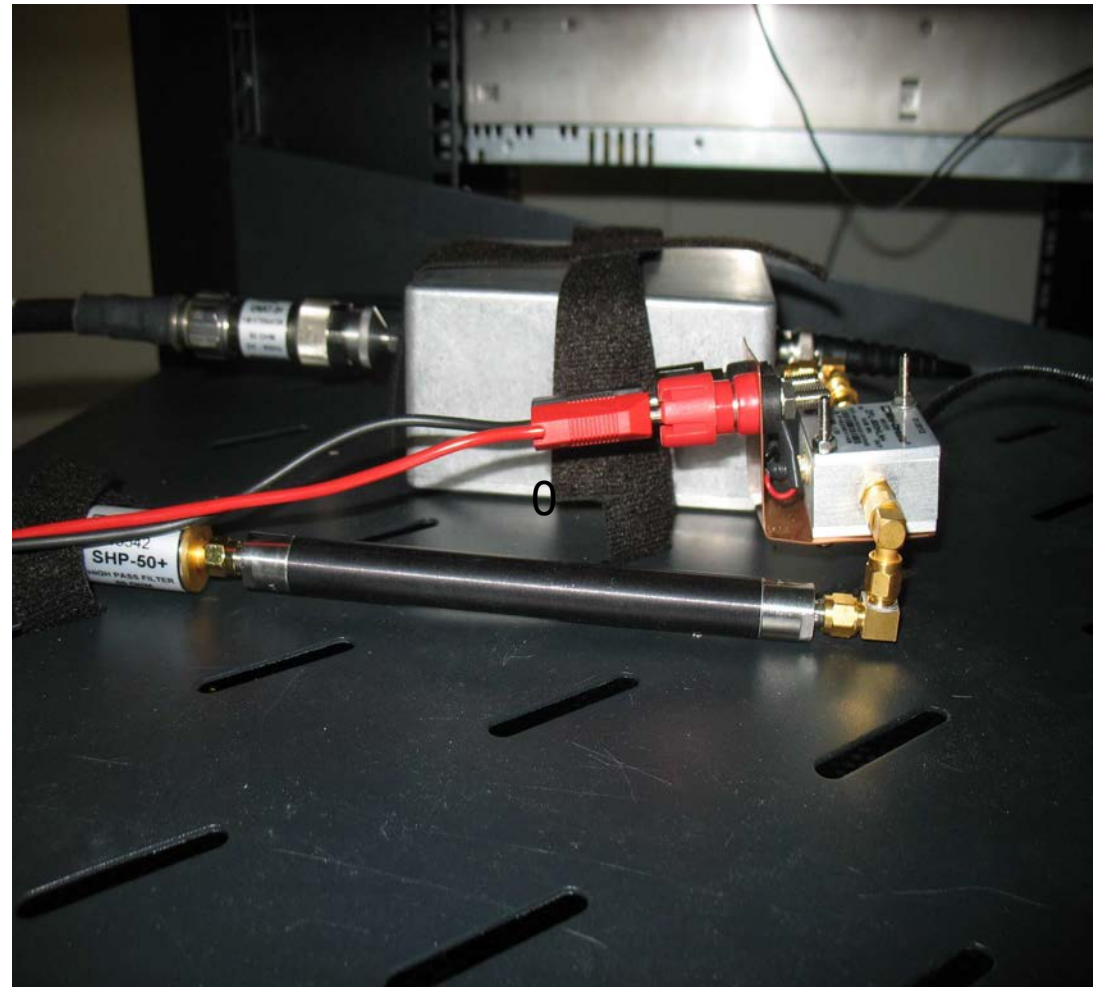
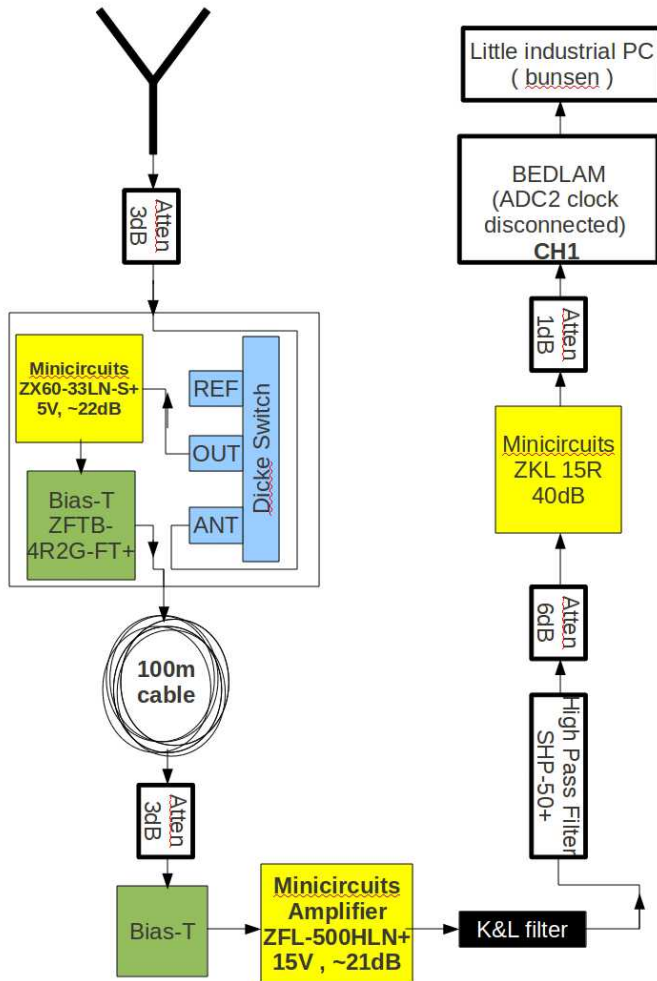
Data collected with the BareHorns system (2012-10-04 – 2012-11-05)





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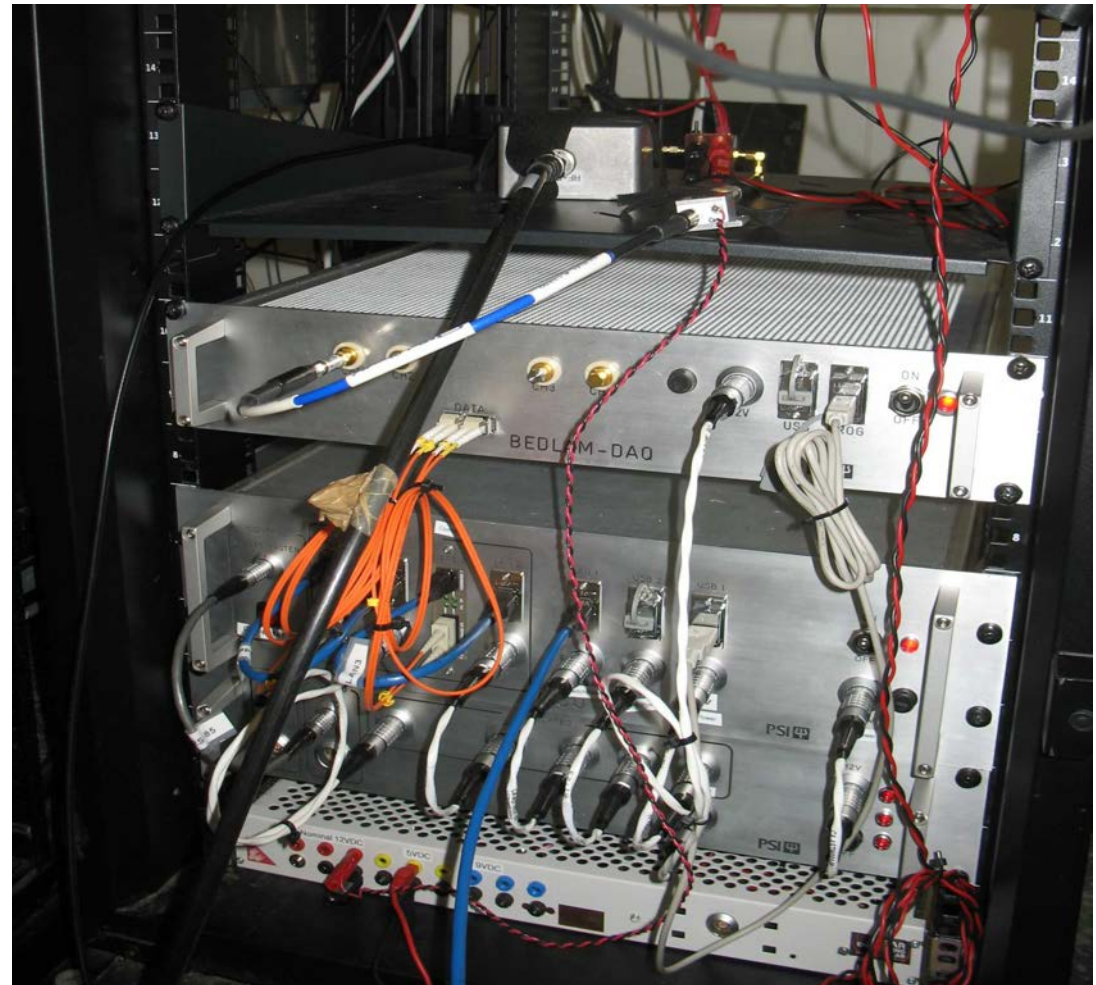
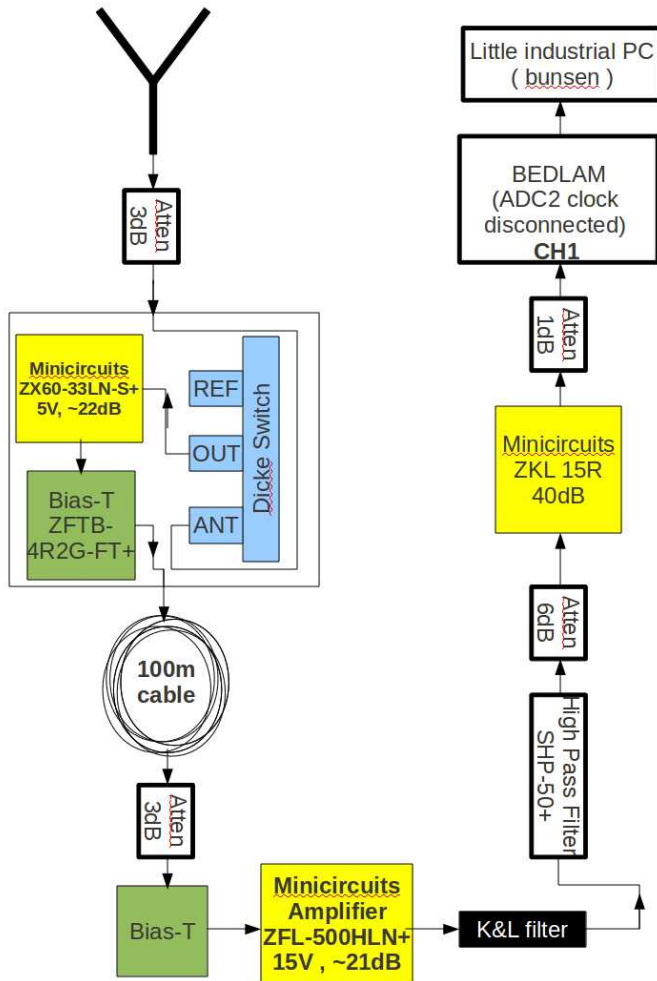
Data collected with the BareHorns system (2012-10-04 – 2012-11-05)





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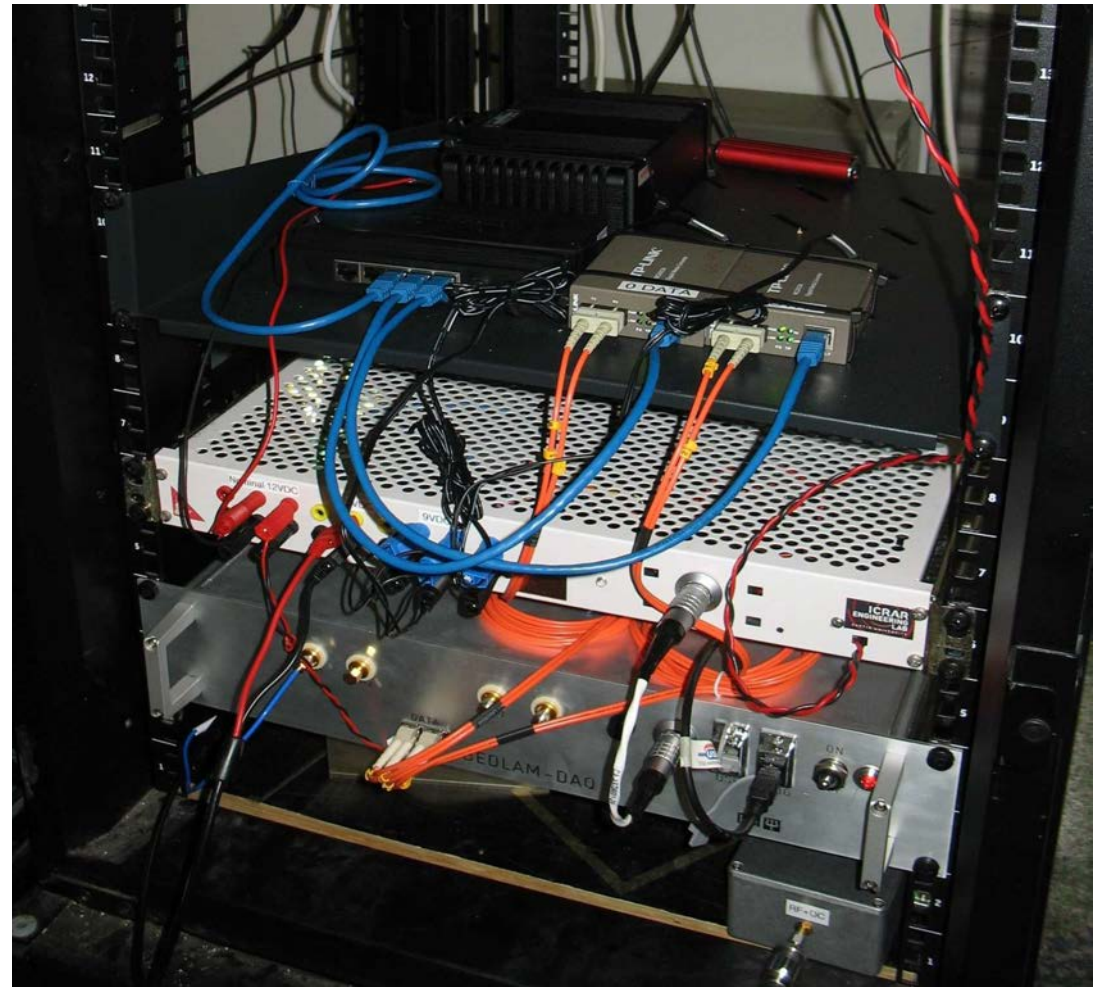
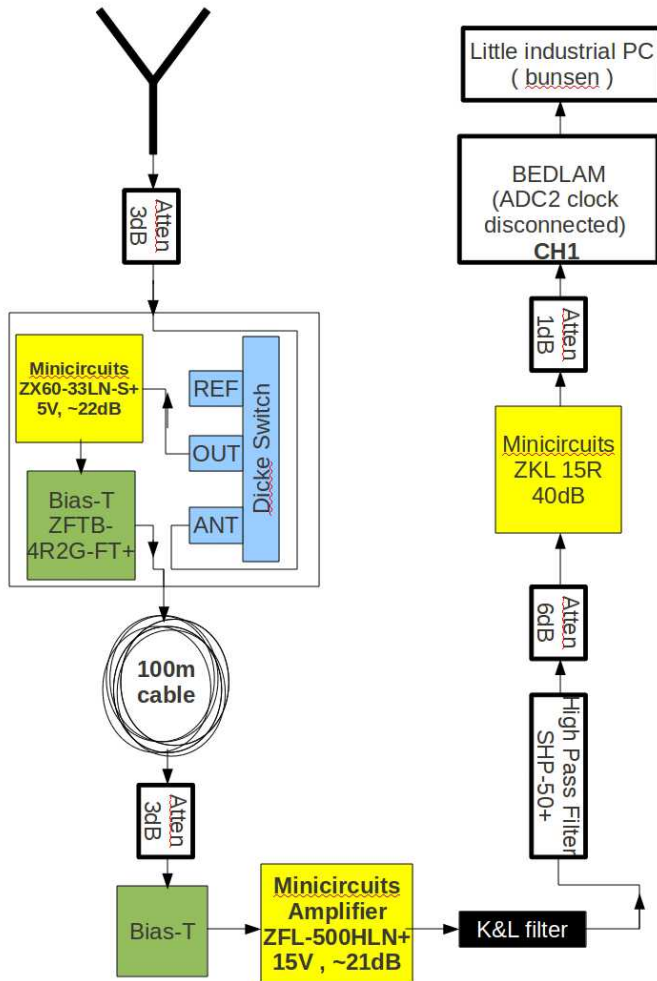
Data collected with the BareHorns system (2012-10-04 – 2012-11-05)





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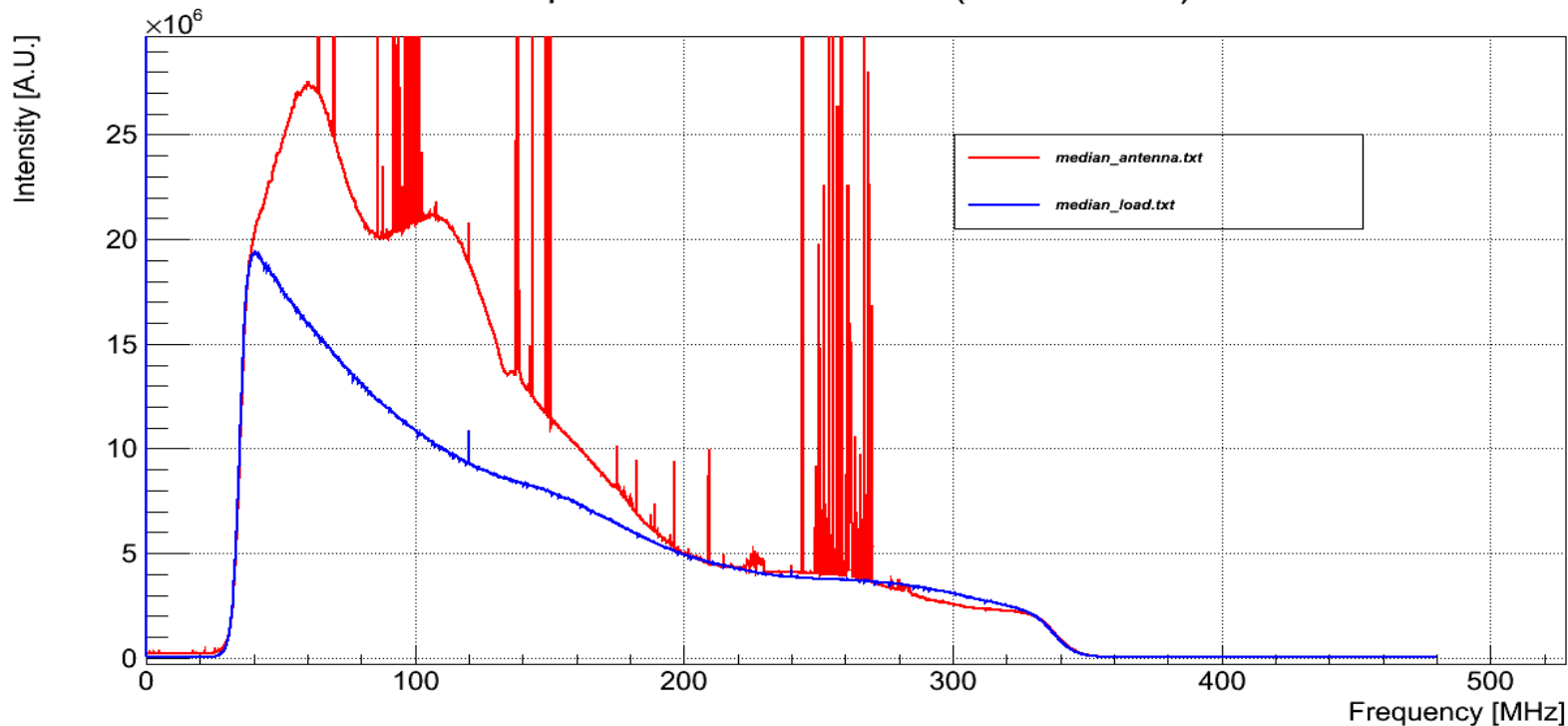
Data collected with the BareHorns system (2012-10-04 – 2012-11-05)





Muresk two-states data (2012-10-04 - 2012-11-05)

Spectrum from Muresk (2012-10-04)



4096 x 117.1875kHz channels (0 – 480 MHz)

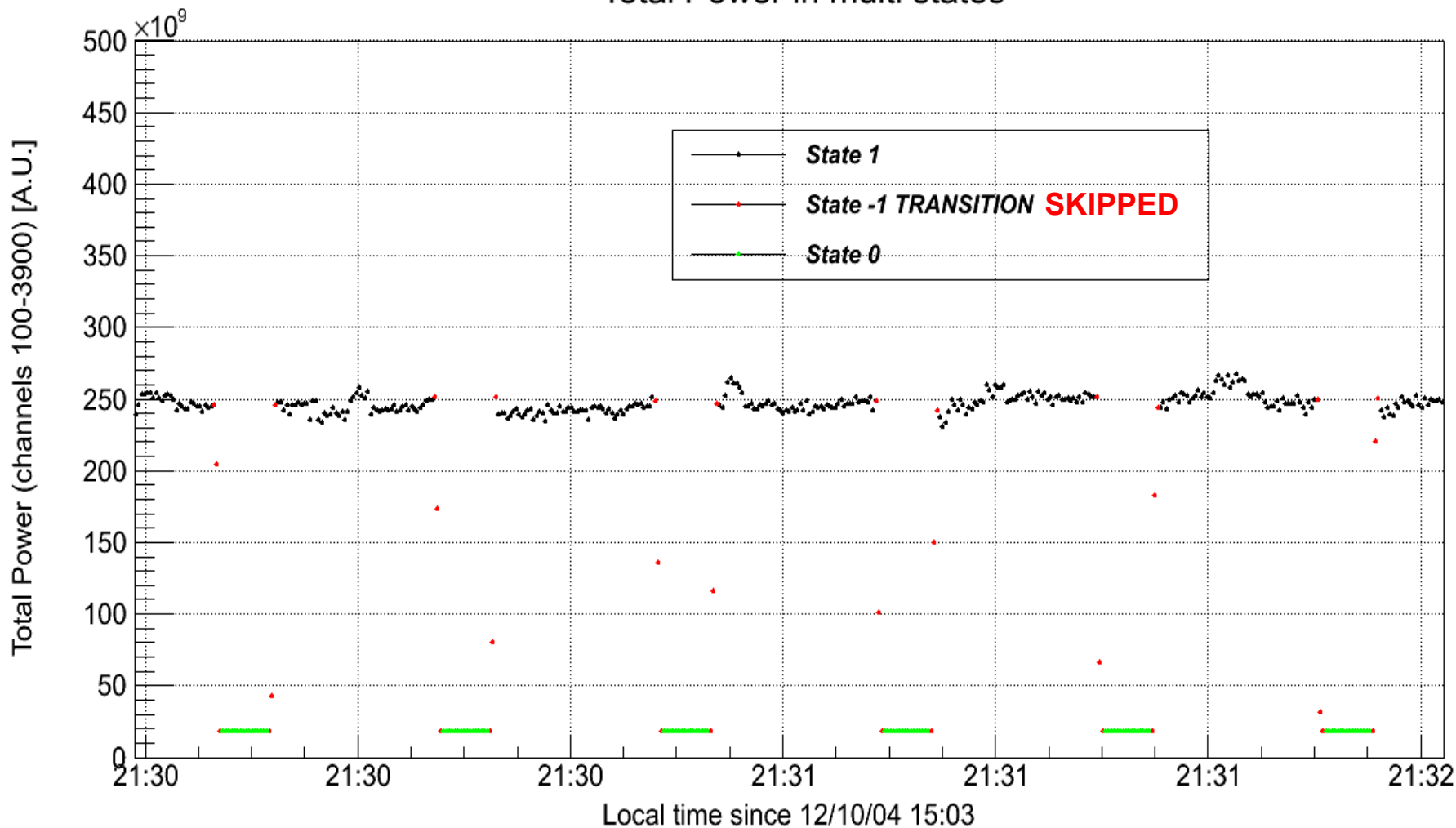
200
integrations

15 sec
4 sec

Integrations ~ 0.273 sec

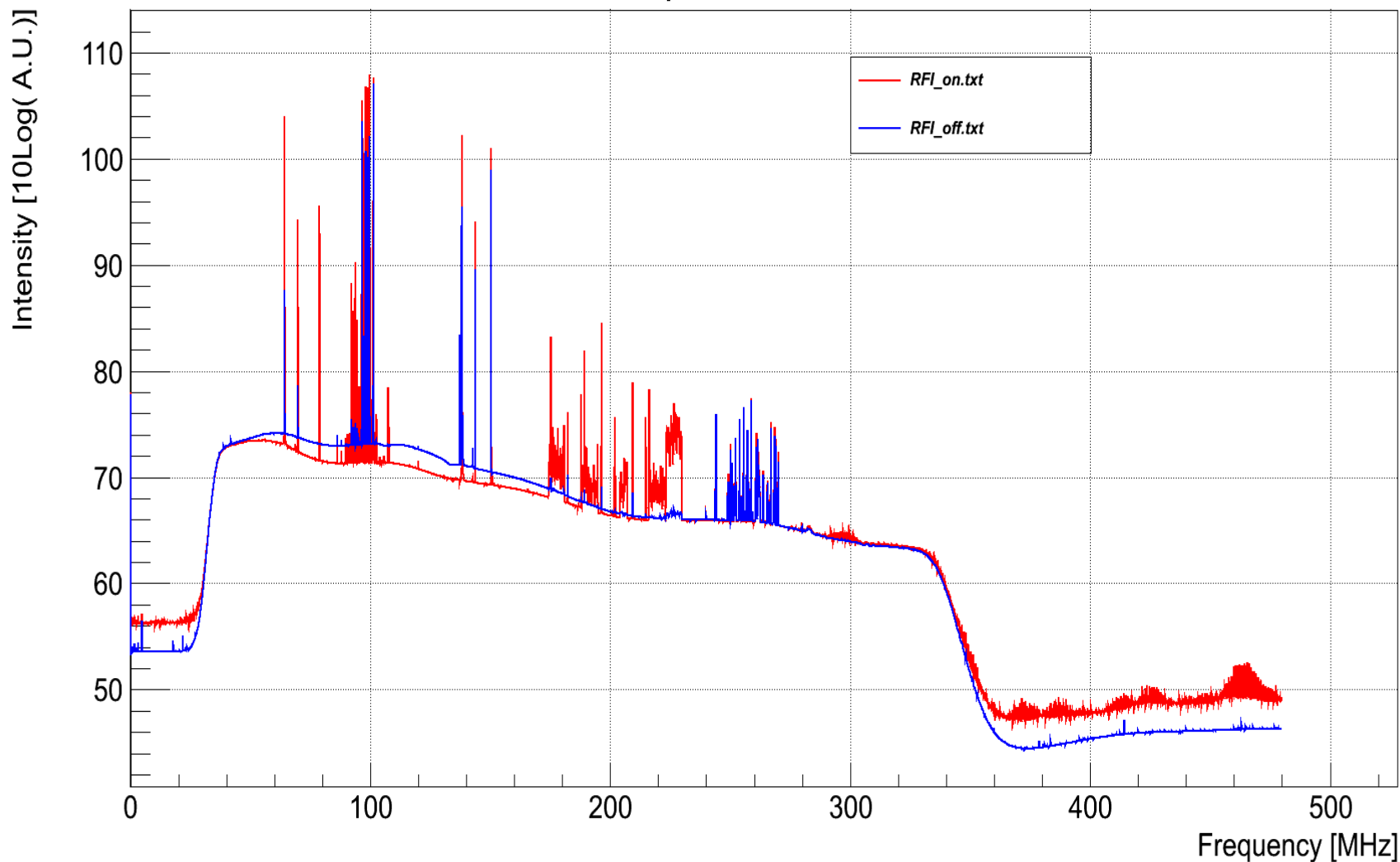


Total Power in multi states





Spectrum





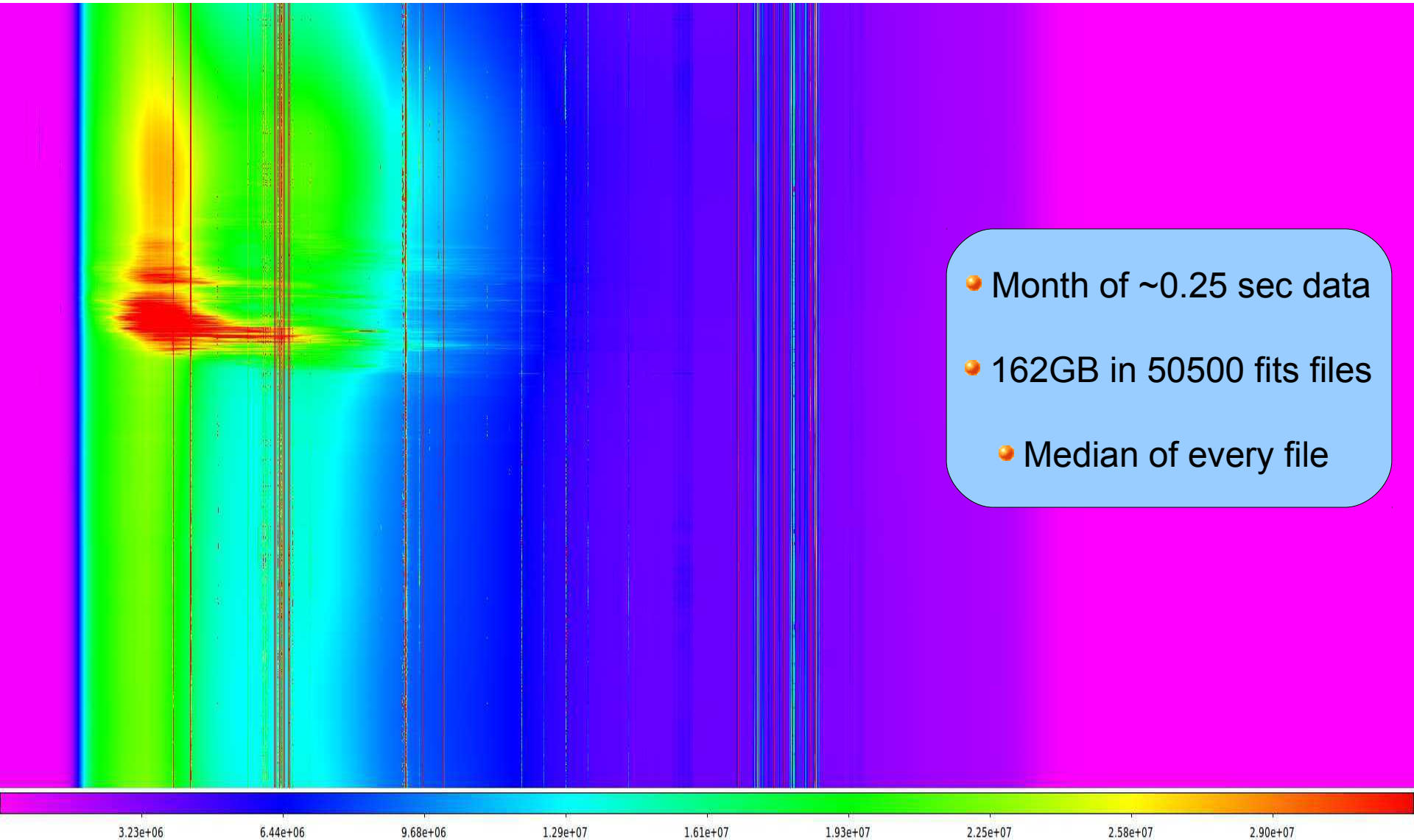
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Solar activity observed with 0.273 sec resolution





Whole month worth of data



- Month of ~0.25 sec data
- 162GB in 50500 fits files
- Median of every file



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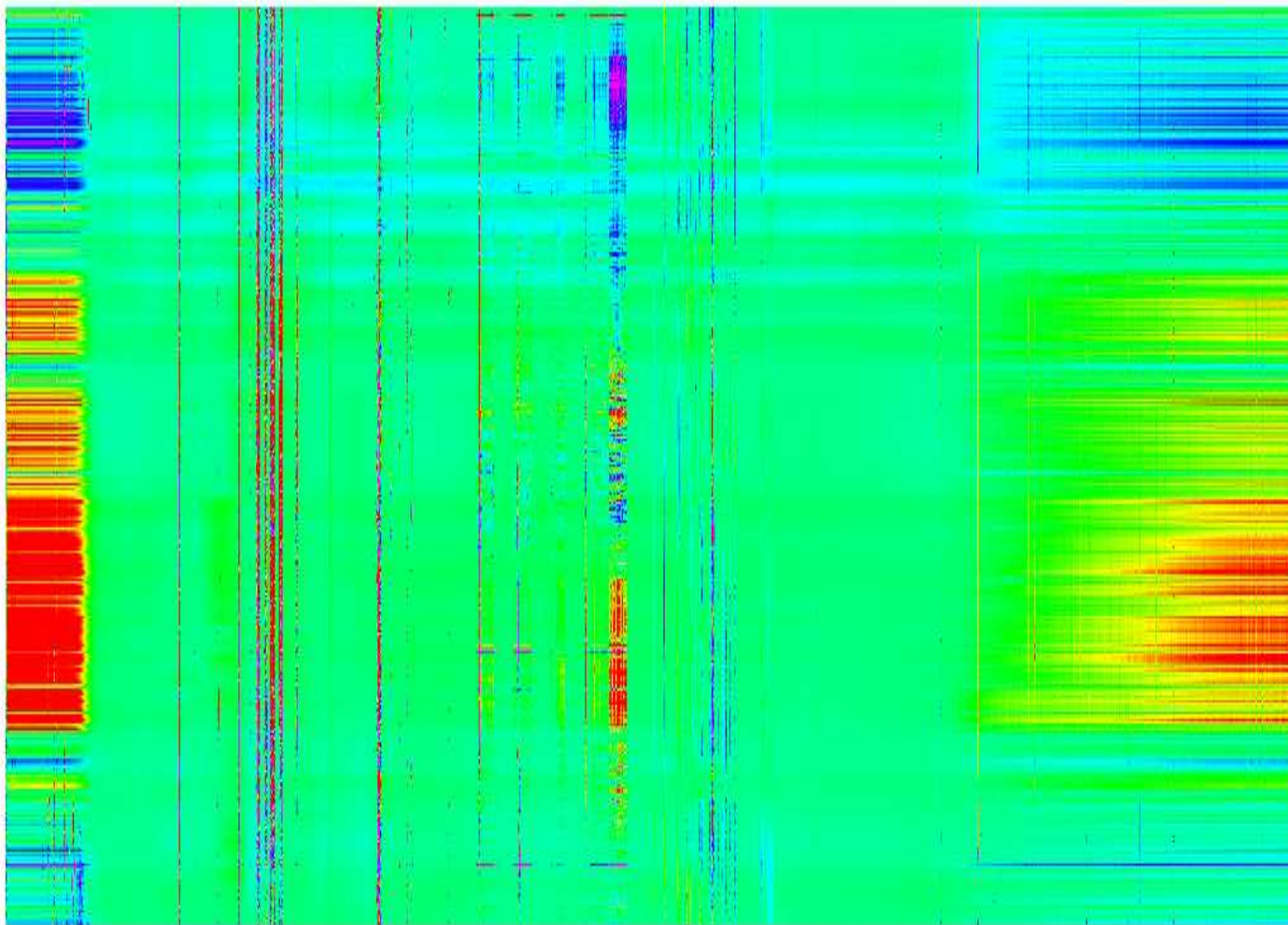
Whole month worth of data





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Check system stability (ratio of 2 nights)



0.868

0.902

0.936

0.97

1

1.04

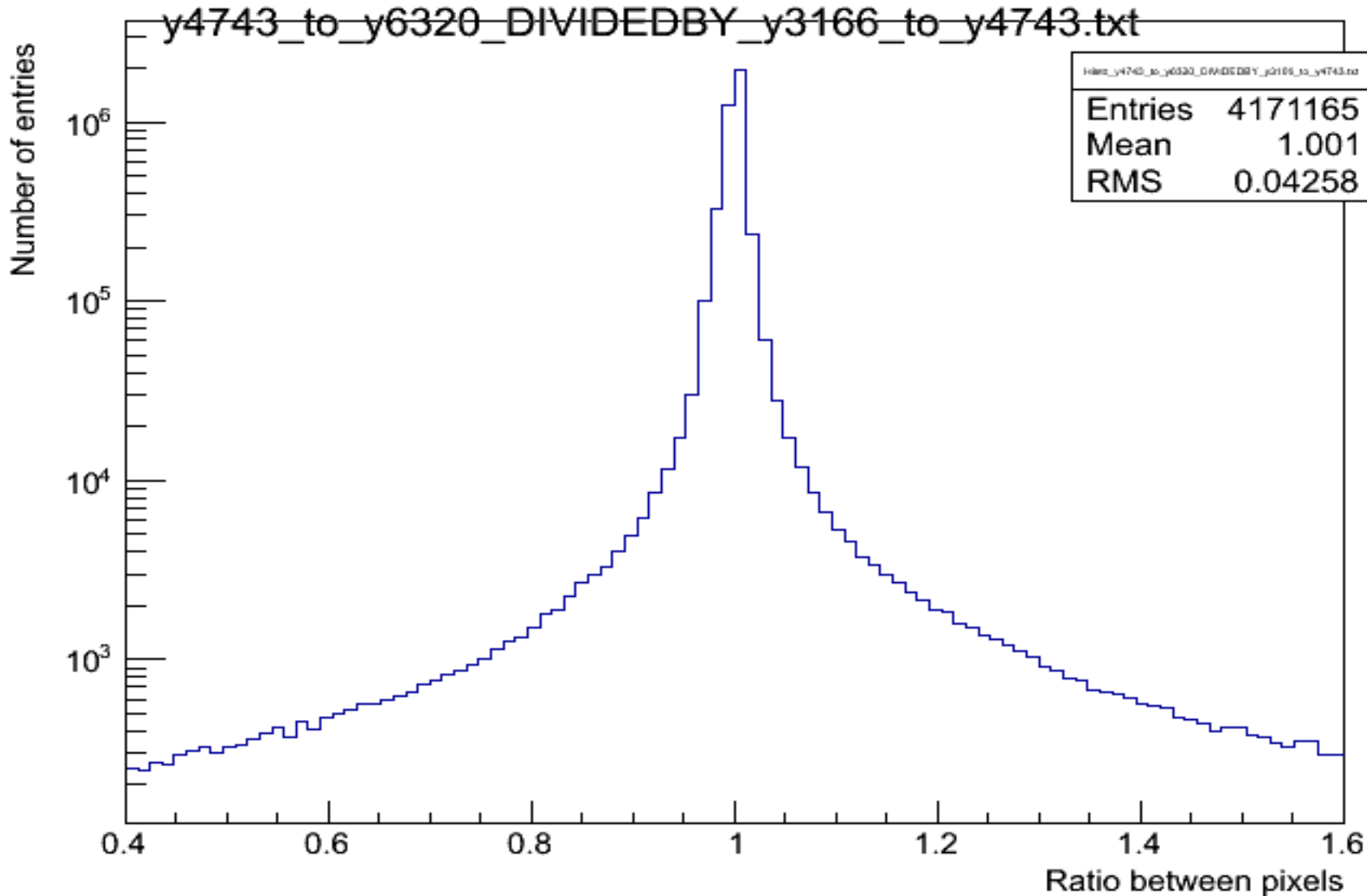
1.07

1.11

1.14

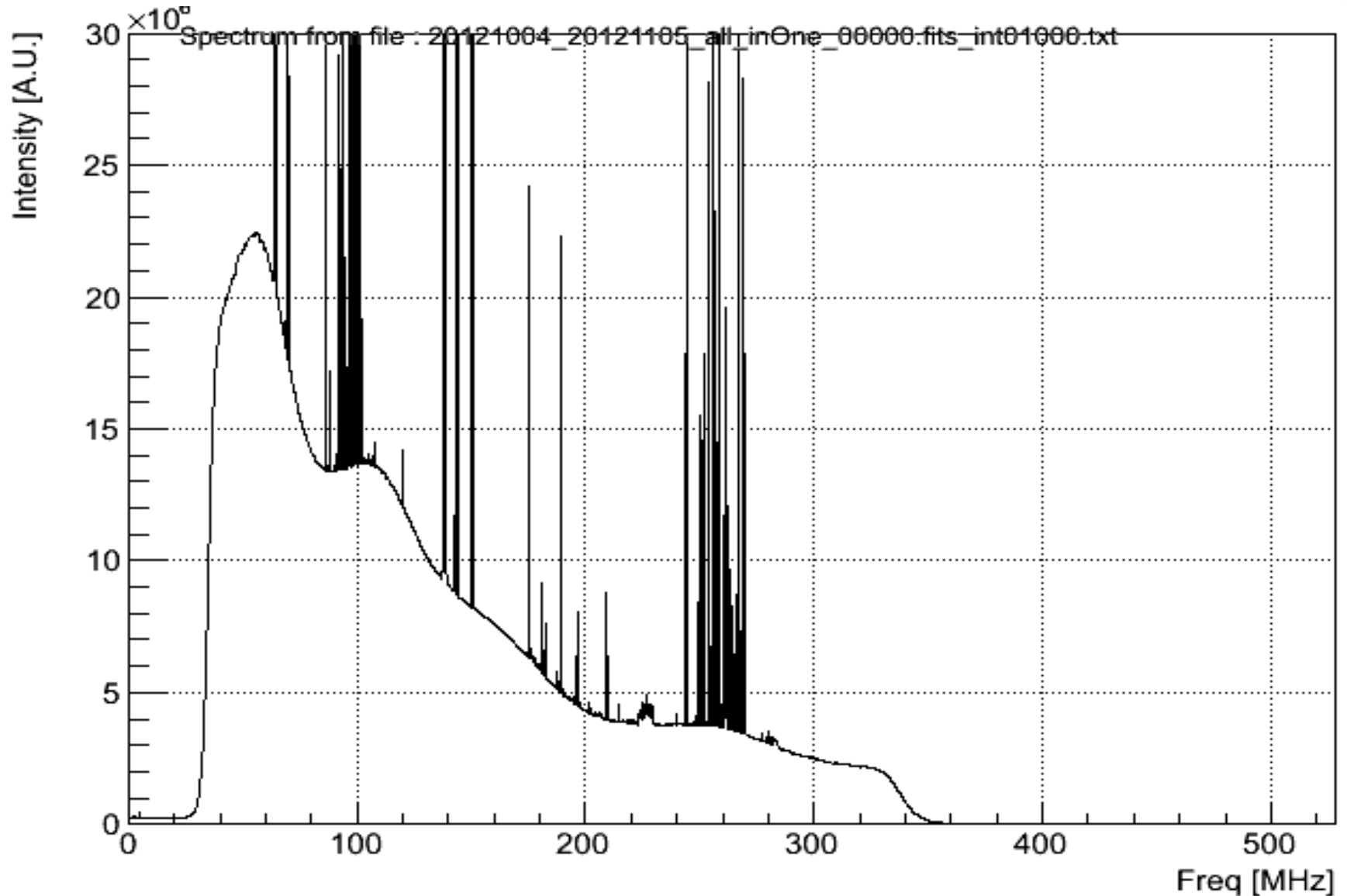


Check system stability (ratio of 2 nights)



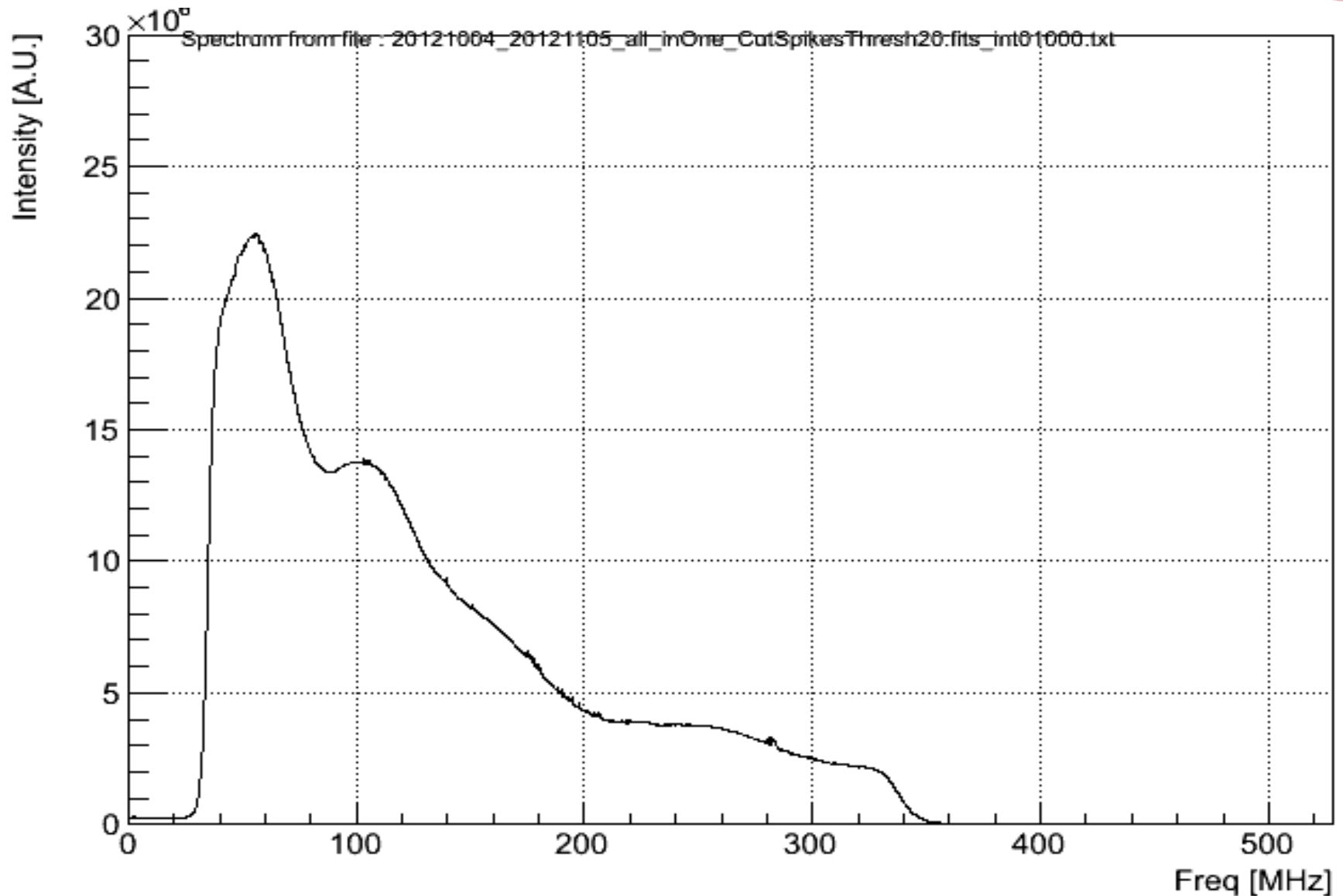


Removing RFI spikes





Removing RFI spikes





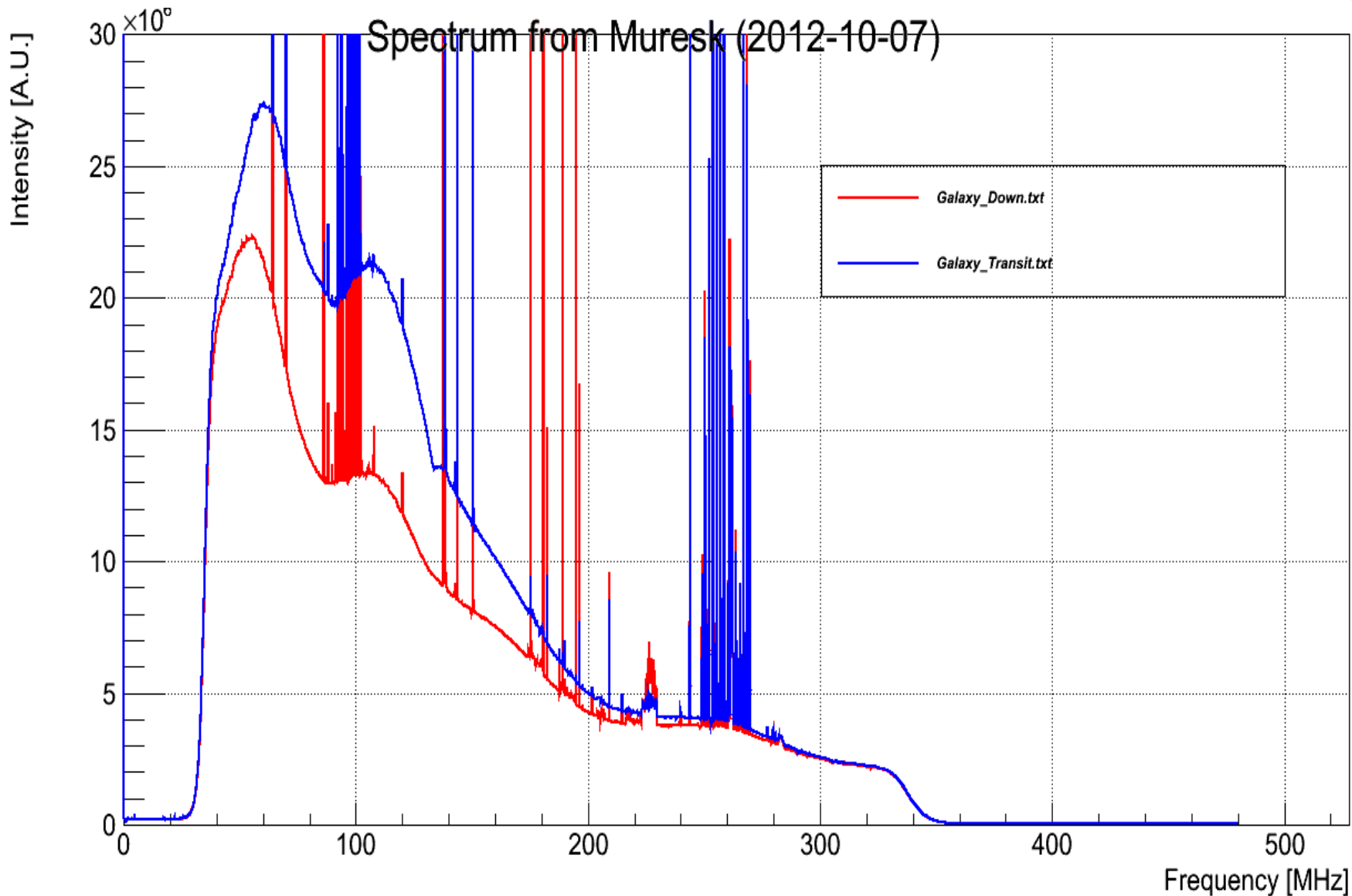
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After RFI removal



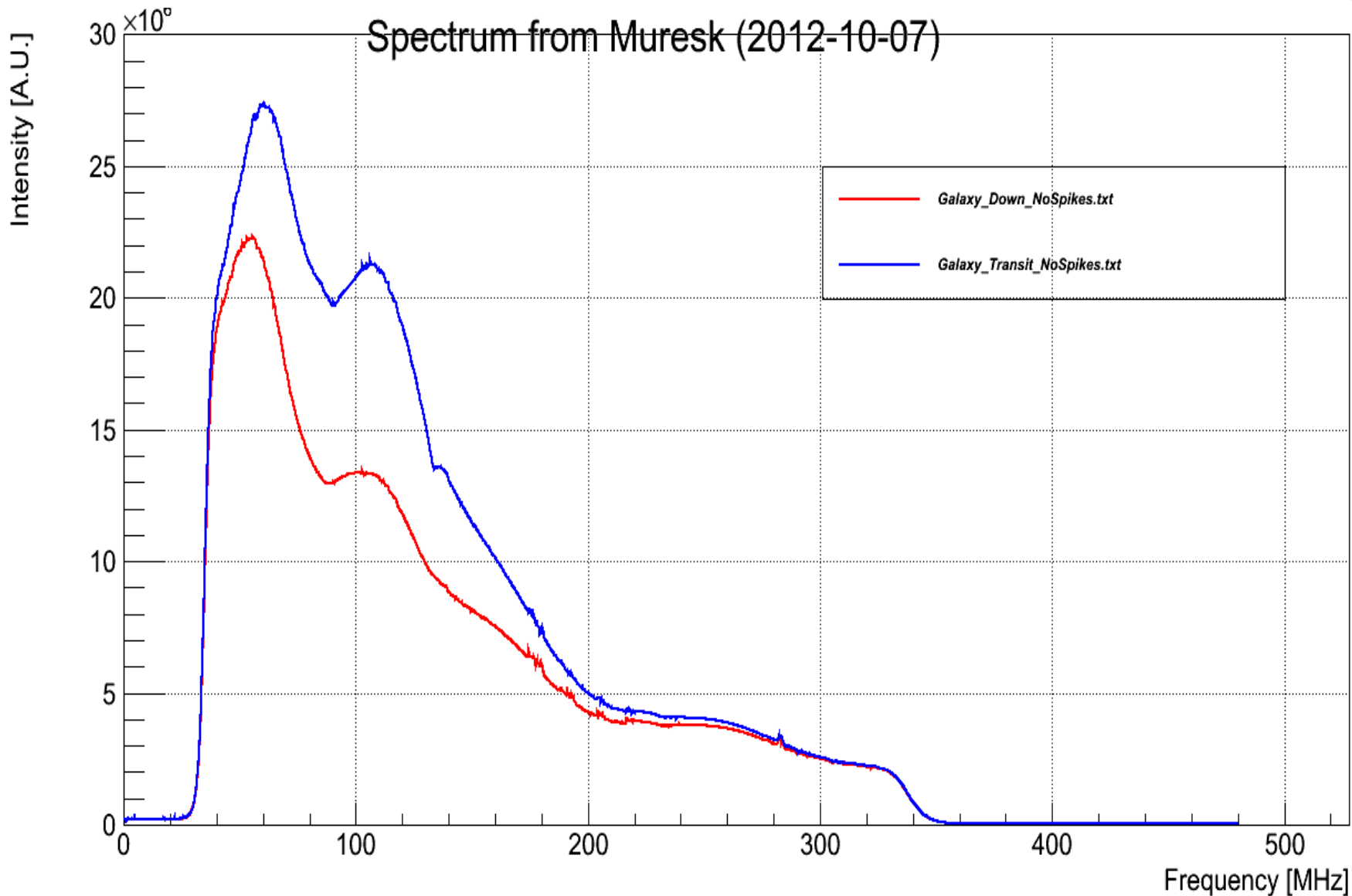


Uncalibrated spectrum at Muresk



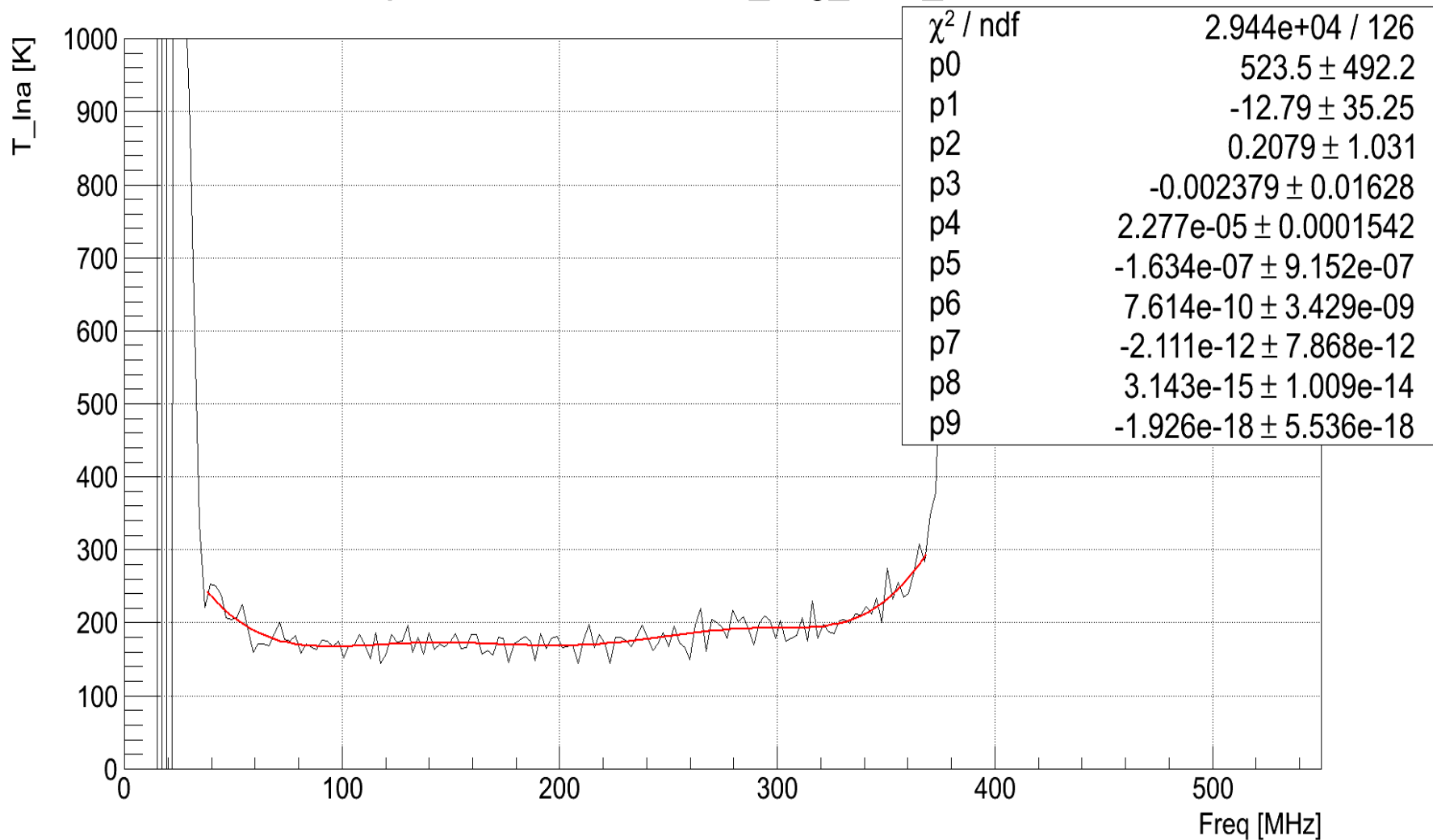


Uncalibrated spectrum at Muresk





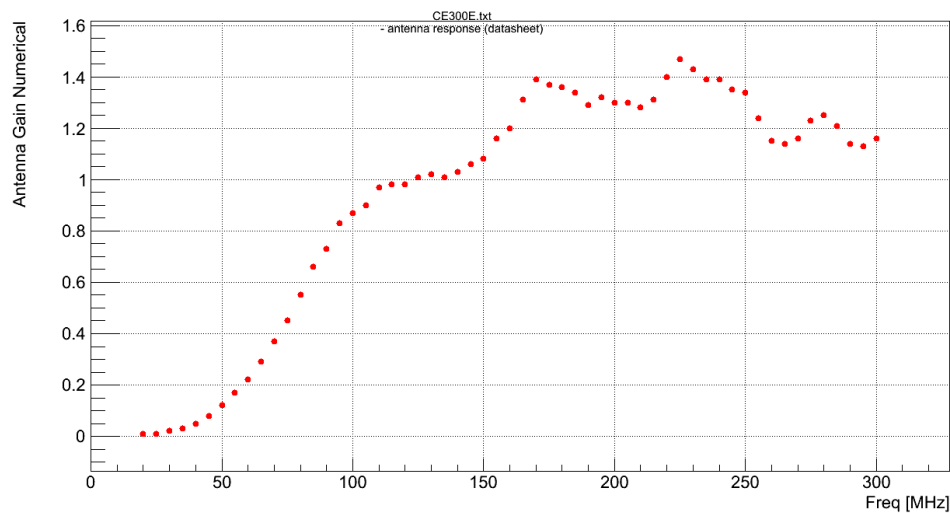
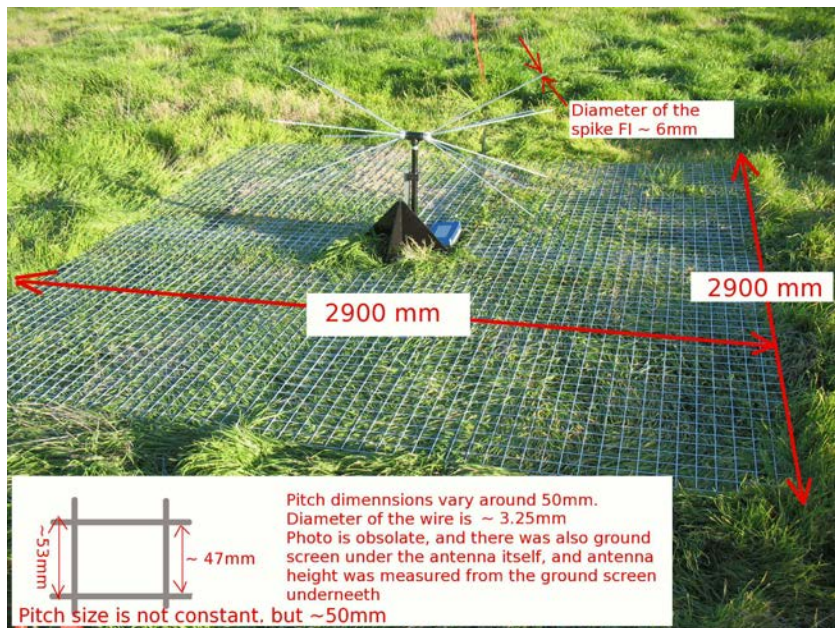
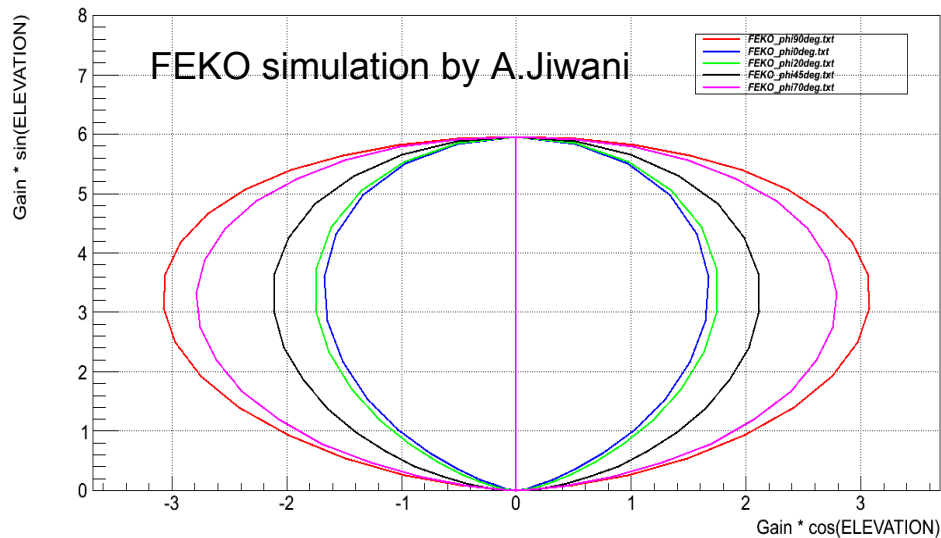
Spectrum from file : tlna_avg_bare_horns.txt





Antenna response

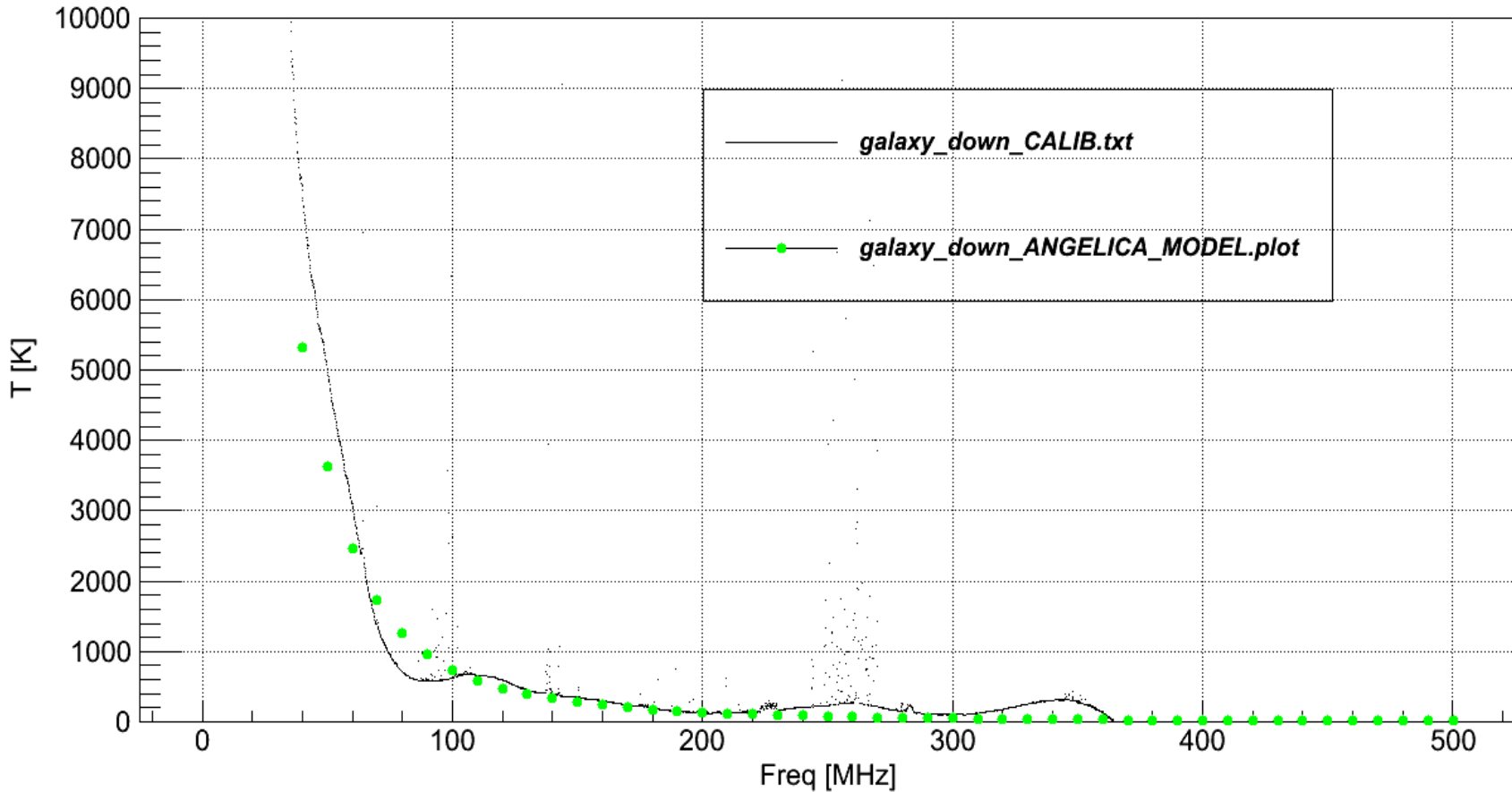
FEKO simulation of BICON at 150 MHz





Calibrated spectrum (still under development)

Calibrated spectrum of file : galaxy_down_CALIB.txt



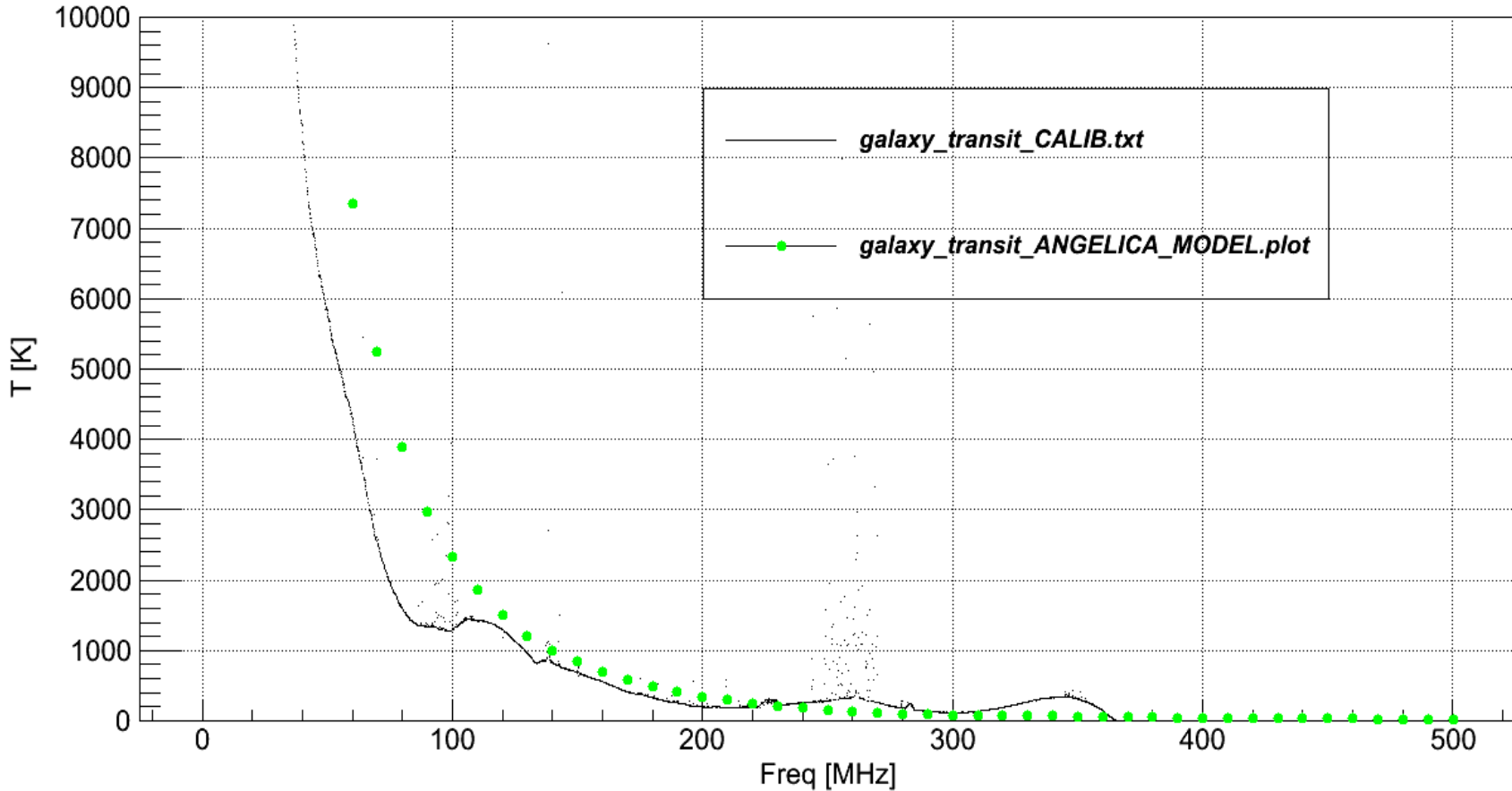
$$P_{\text{ant}} = (G/3\text{dB}) (T_{\text{sky}} + T_{\text{Ina}+3\text{dB}})$$

$$P_{\text{ref}} = G(T_{\text{sky}} + T_{\text{Ina}})$$



Calibrated spectrum (still under development)

Calibrated spectrum of file : galaxy_transit_CALIB.txt



$$P_{\text{ant}} = (G/3\text{dB}) (T_{\text{sky}} + T_{\text{Ina}+3\text{dB}})$$

$$P_{\text{ref}} = G(T_{\text{sky}} + T_{\text{Ina}})$$



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Can OrbComm satellites be useful ?





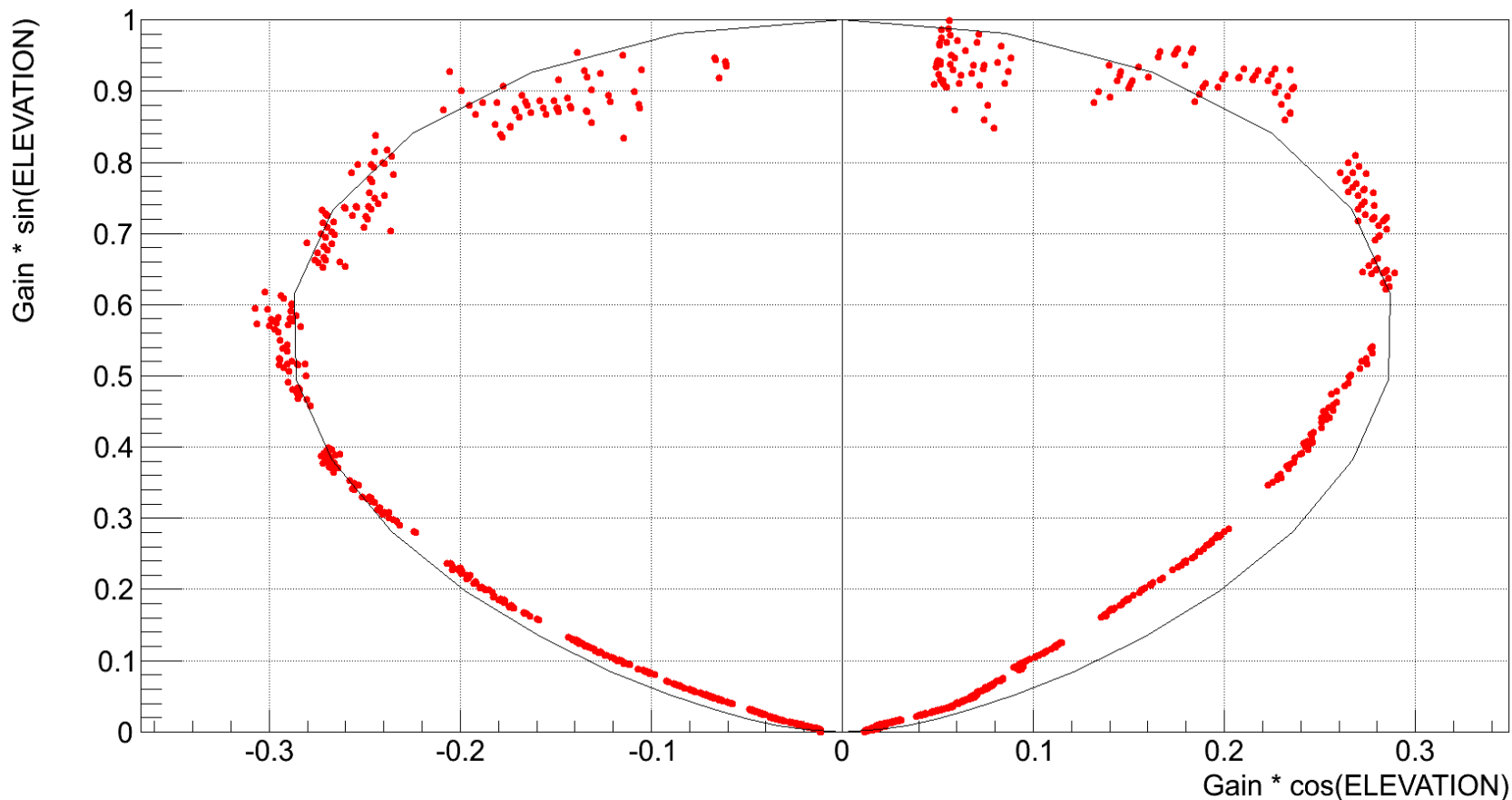
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Simulation vs OrbComm FM 31 (near bicon's axis pass)





1352119183_ORBCOMM_FM_31_power_vs_zendist.txt





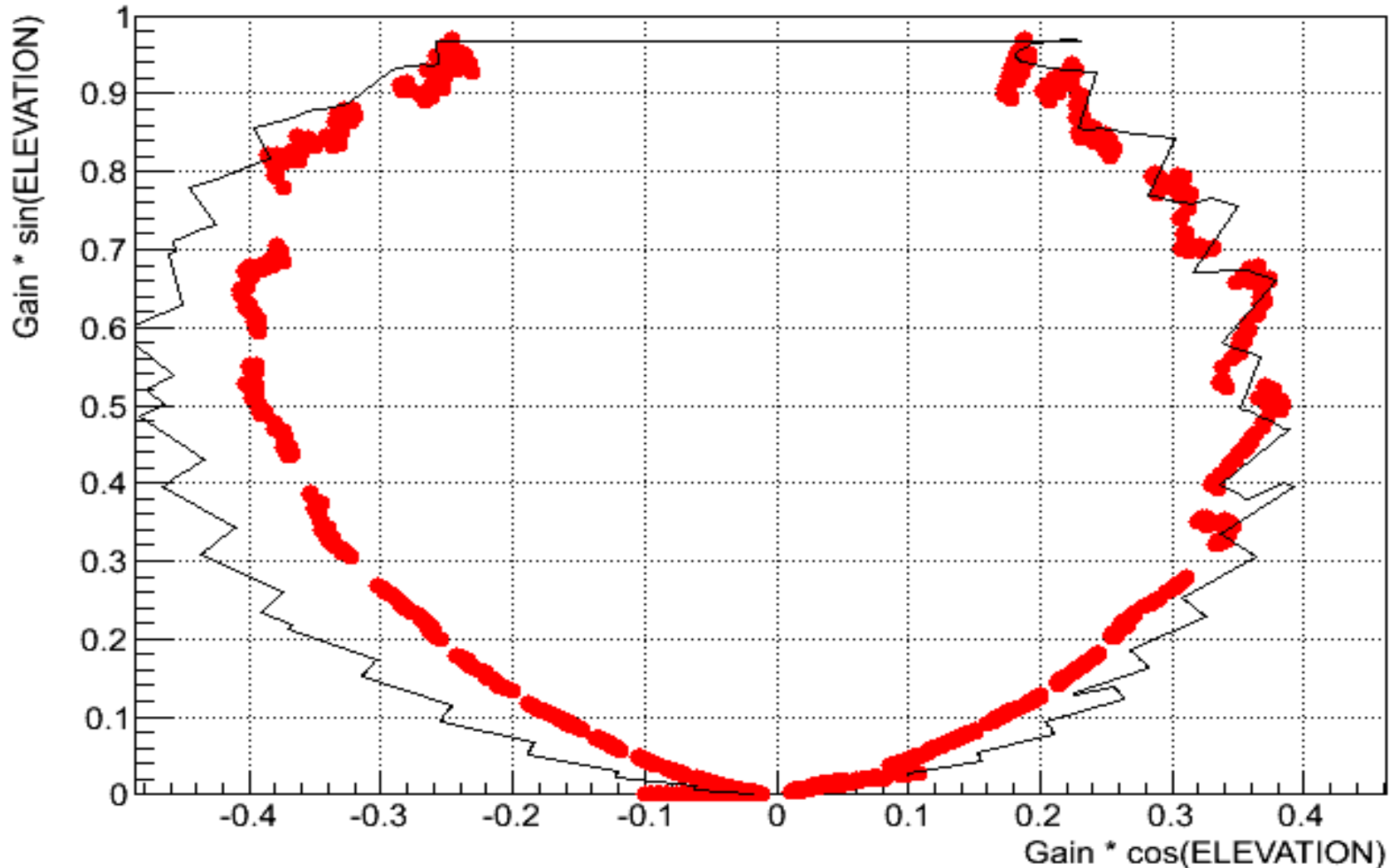
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Simulation vs OrbComm FM 31 (nearly perpendicular pass)





1352229272_ORBCOMM_FM_31_power_vs_zendist.txt





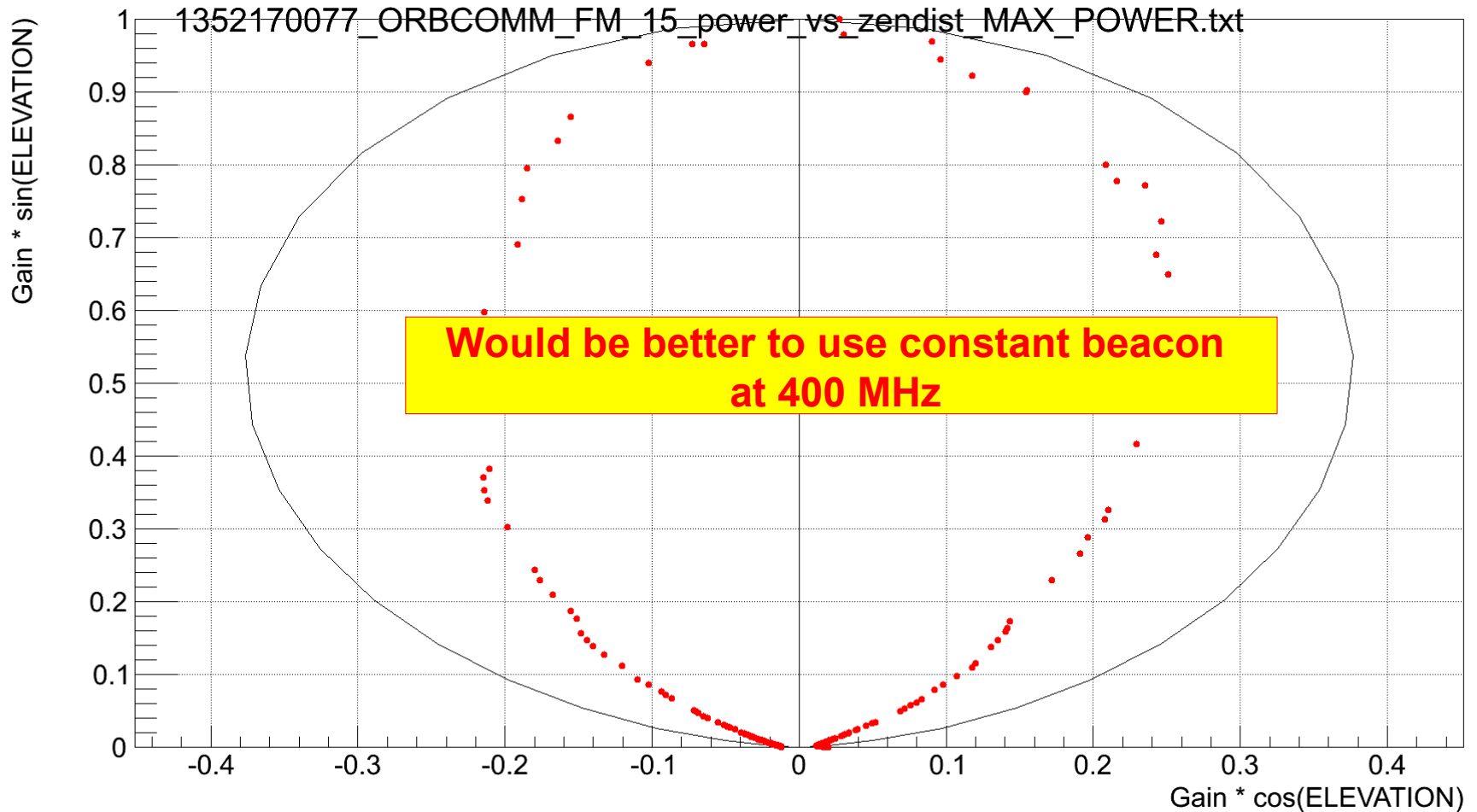
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Simulation vs OrbComm FM 15 (blinking, near perpendicular pass)





Simulation vs OrbComm FM 15 (blinking, near perpendicular pass)

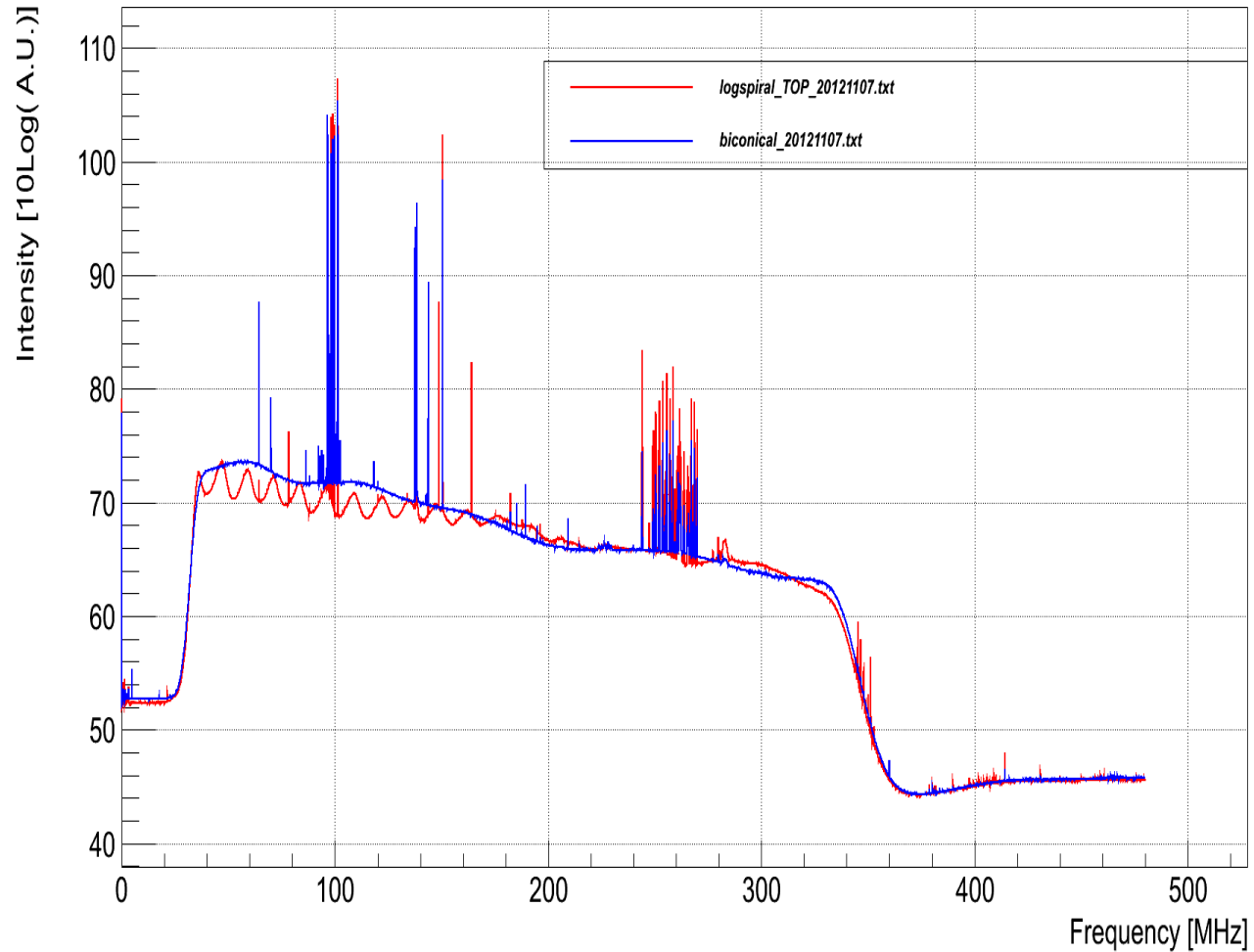




Initial tests of top section of log-spiral antenna



Spectrum





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OrbComm passes detected with the top section of the spiral antenna





- Bare Horns system has collected long chunk of preliminary data, which is being analysed
- Preliminary absolute calibration looks reasonable with respect to Angelica's sky model
- Prospects of using OrbComm satellites to verify cone's simulated pattern (at 137 MHz and even better at 400 MHz)
- We look forward to collect new data in a quieter location