

Spacecraft: Cassini

DSS: 55

Monitor File: S11SAGS2005\_160\_0815\_55\_MON.ecsv

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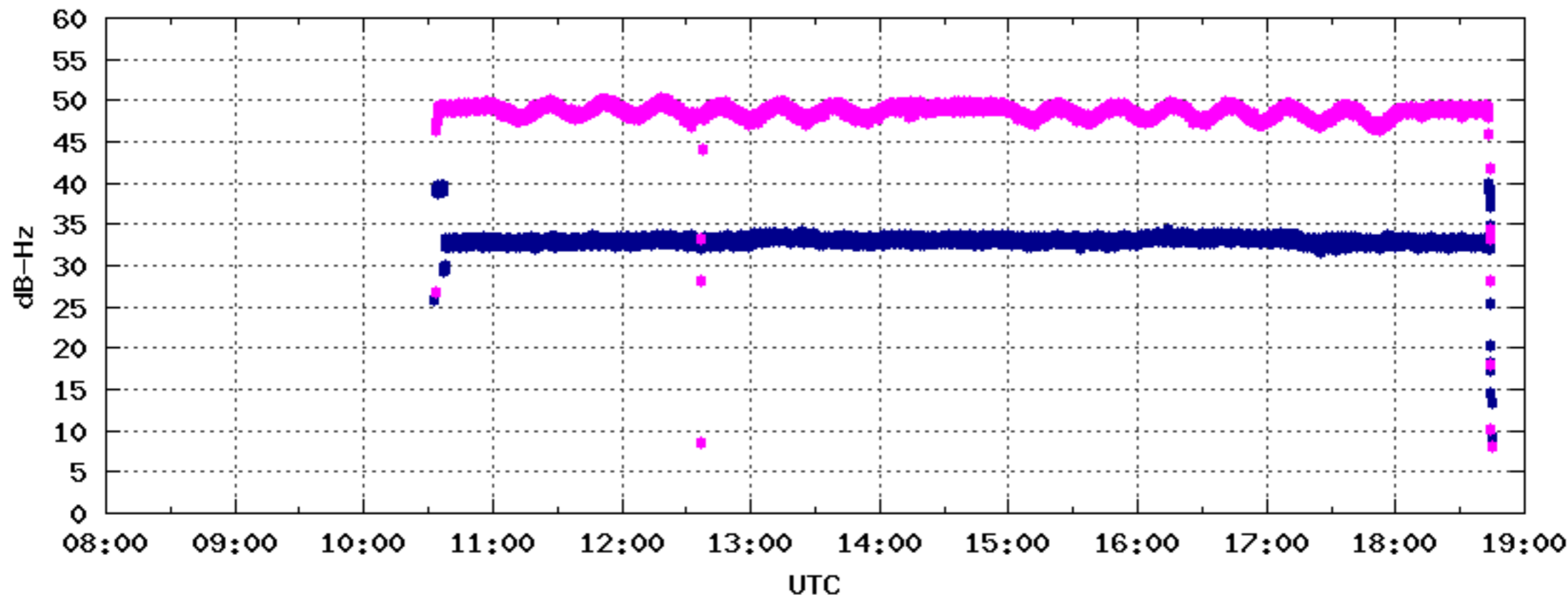
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5 minutes omitted from end of file

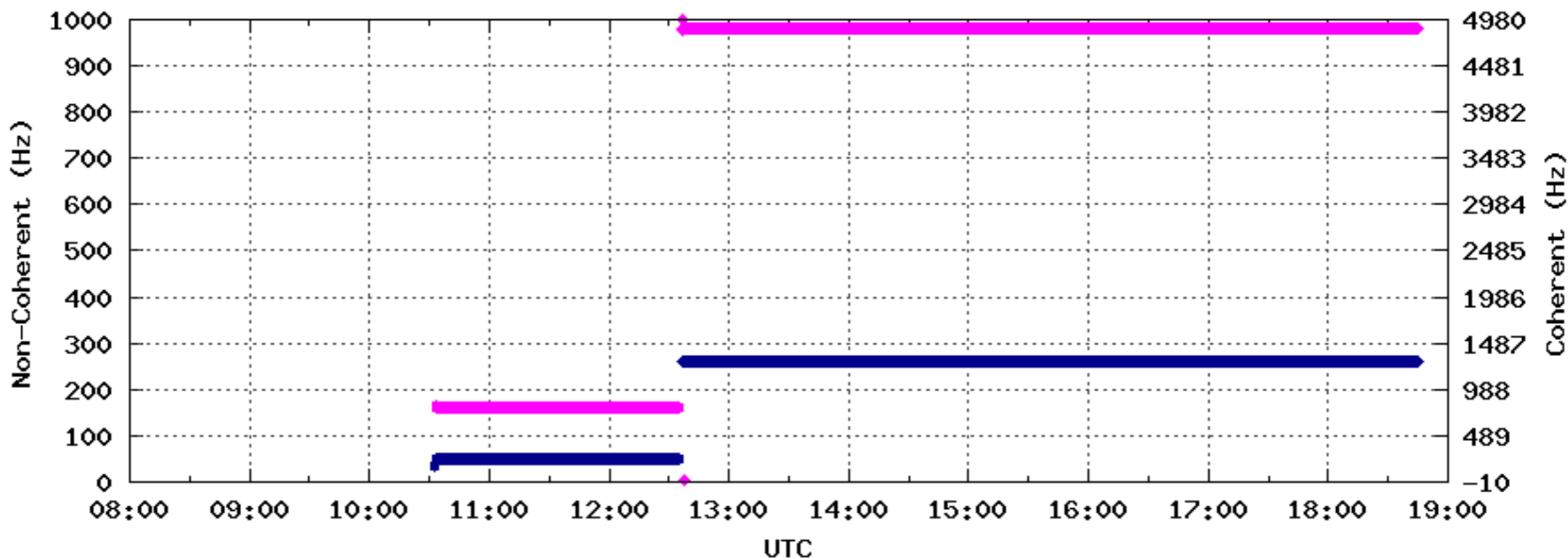
02. Carrier Power to Noise Spectral Density Ratio ( $P_c/N_o$ ) and Residual Frequency
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04. Ka-Band Measured Carrier Frequency, Predicted Carrier Frequency, and Residual Frequency
05. Carrier Power to Noise Spectral Density Ratio ( $P_c/N_o$ ) and Carrier Power
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2005/160 D55-55 Carrier Power to Noise Spectral Density Ratio (Pc/No)



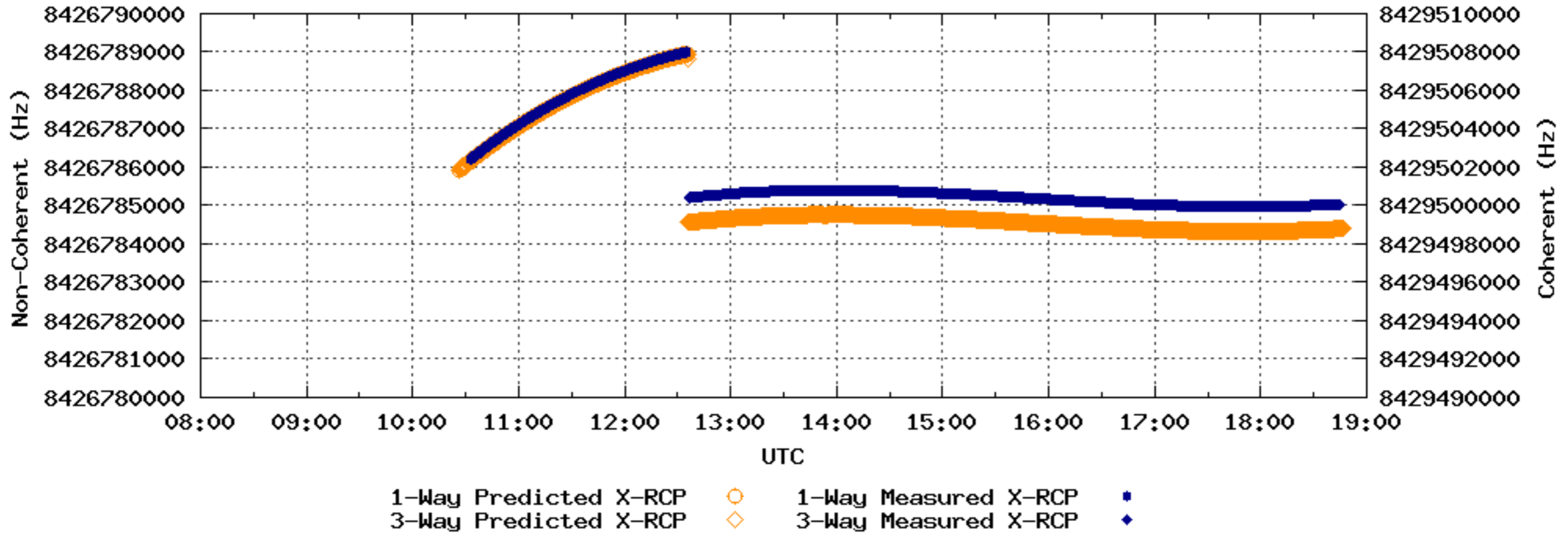
X-RCP    K-RCP

2005/160 D55-55 Carrier Frequency Residual (Measured - Predicted)

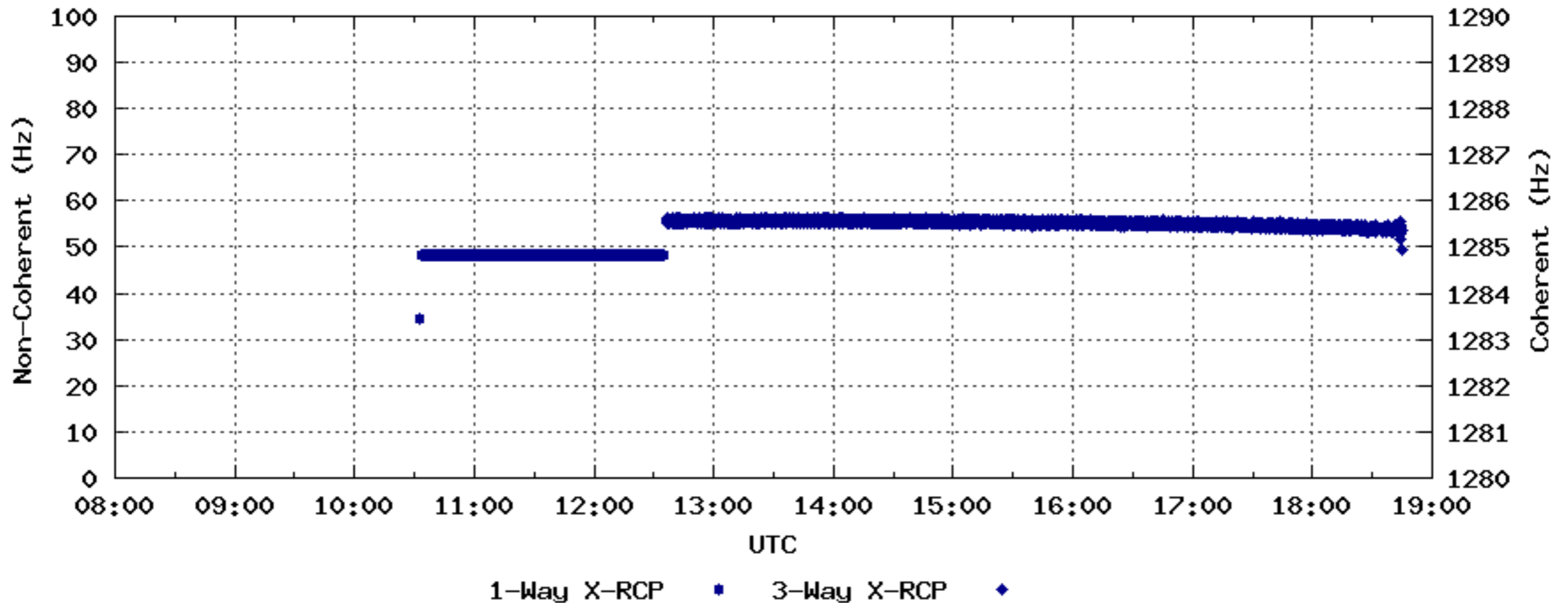


1-Way X-RCP    3-Way X-RCP    1-Way K-RCP    3-Way K-RCP

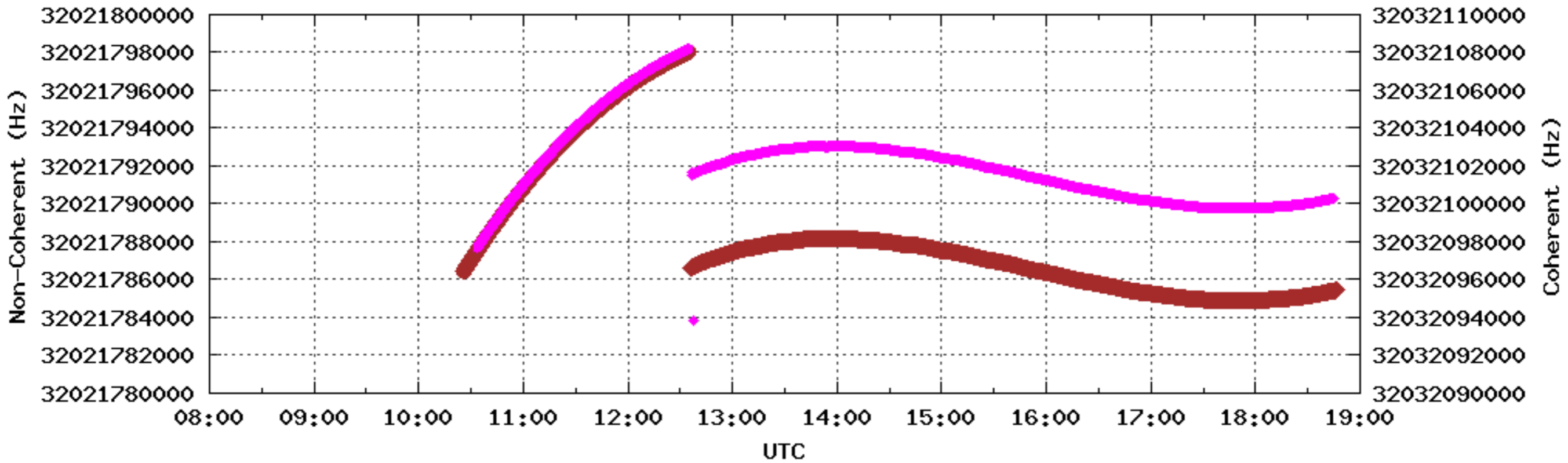
2005/160 DSS-55 X-Band Measured and Predicted Carrier Frequency



2005/160 DSS-55 X-Band Residual Frequency (Measured - Predicted)

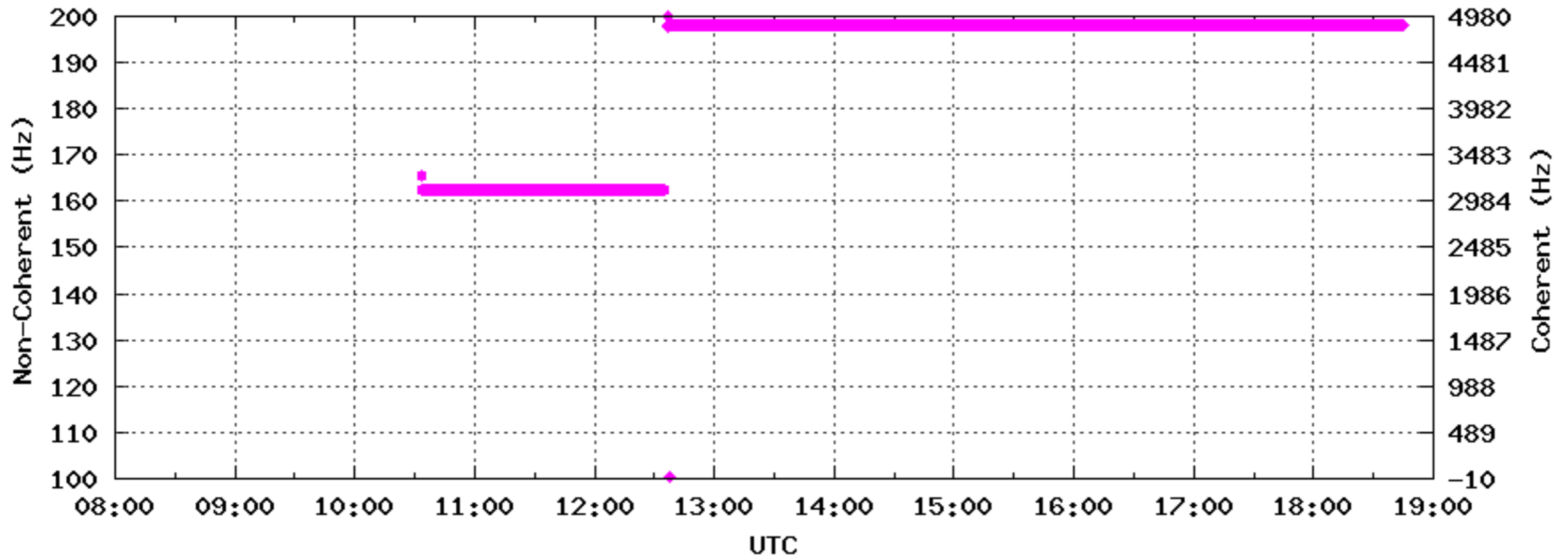


2005/160 DSS-55 K-Band Measured and Predicted Carrier Frequency



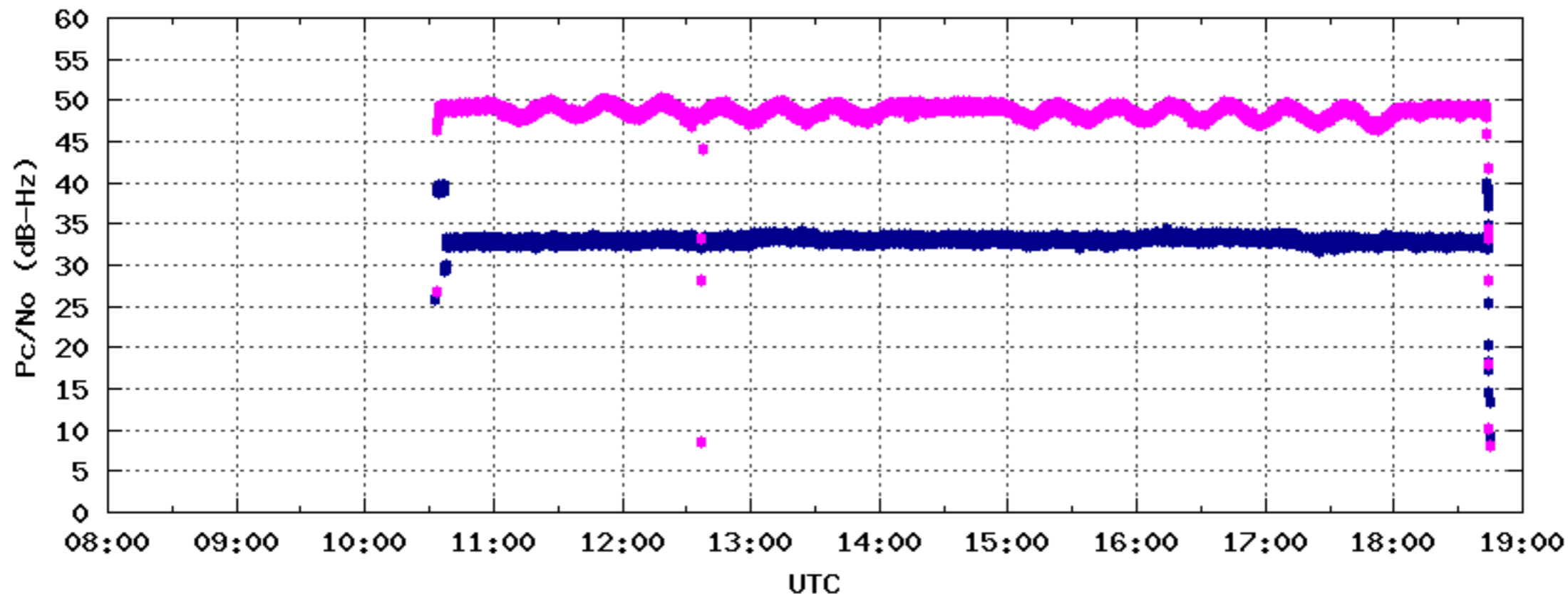
1-Way Predicted K-RCP ○      1-Way Measured K-RCP ◆  
 3-Way Predicted K-RCP ◇      3-Way Measured K-RCP ◆

2005/160 DSS-55 K-Band Residual Frequency (Measured - Predicted)



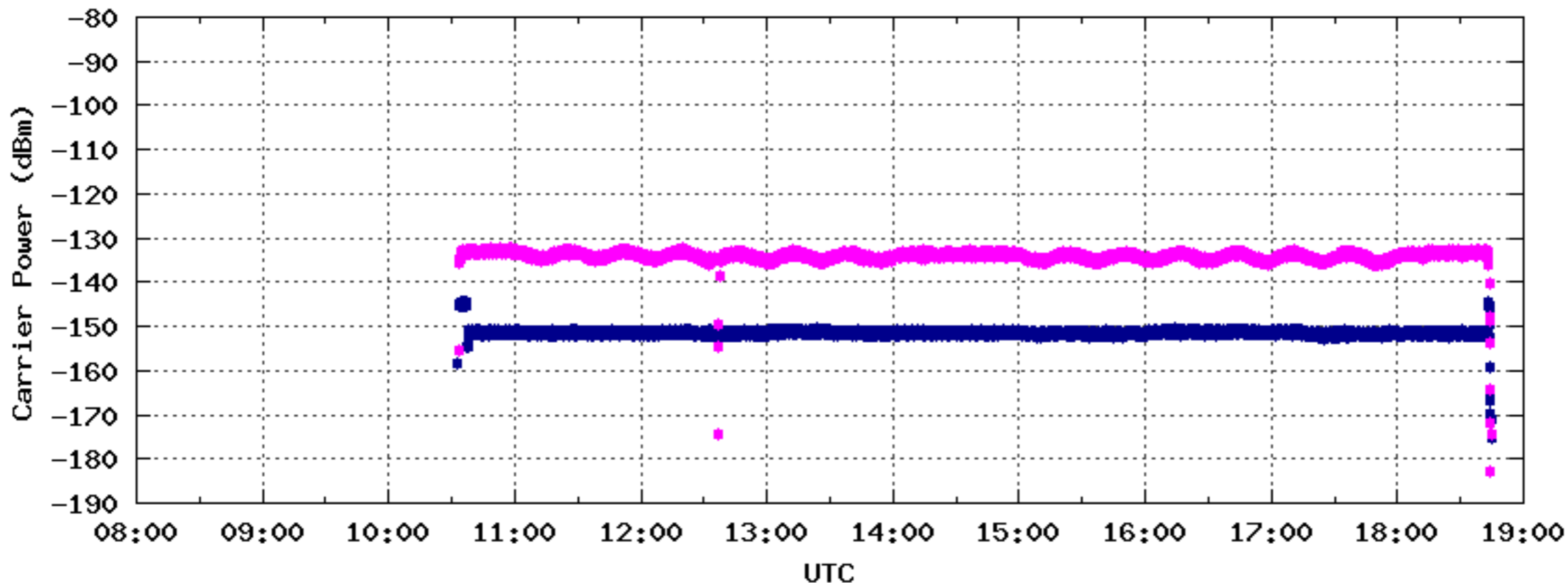
1-Way K-RCP ◆      3-Way K-RCP ◆

2005/160 DSS-55 Carrier Power to Noise Spectral Density Ratio (Pc/No)



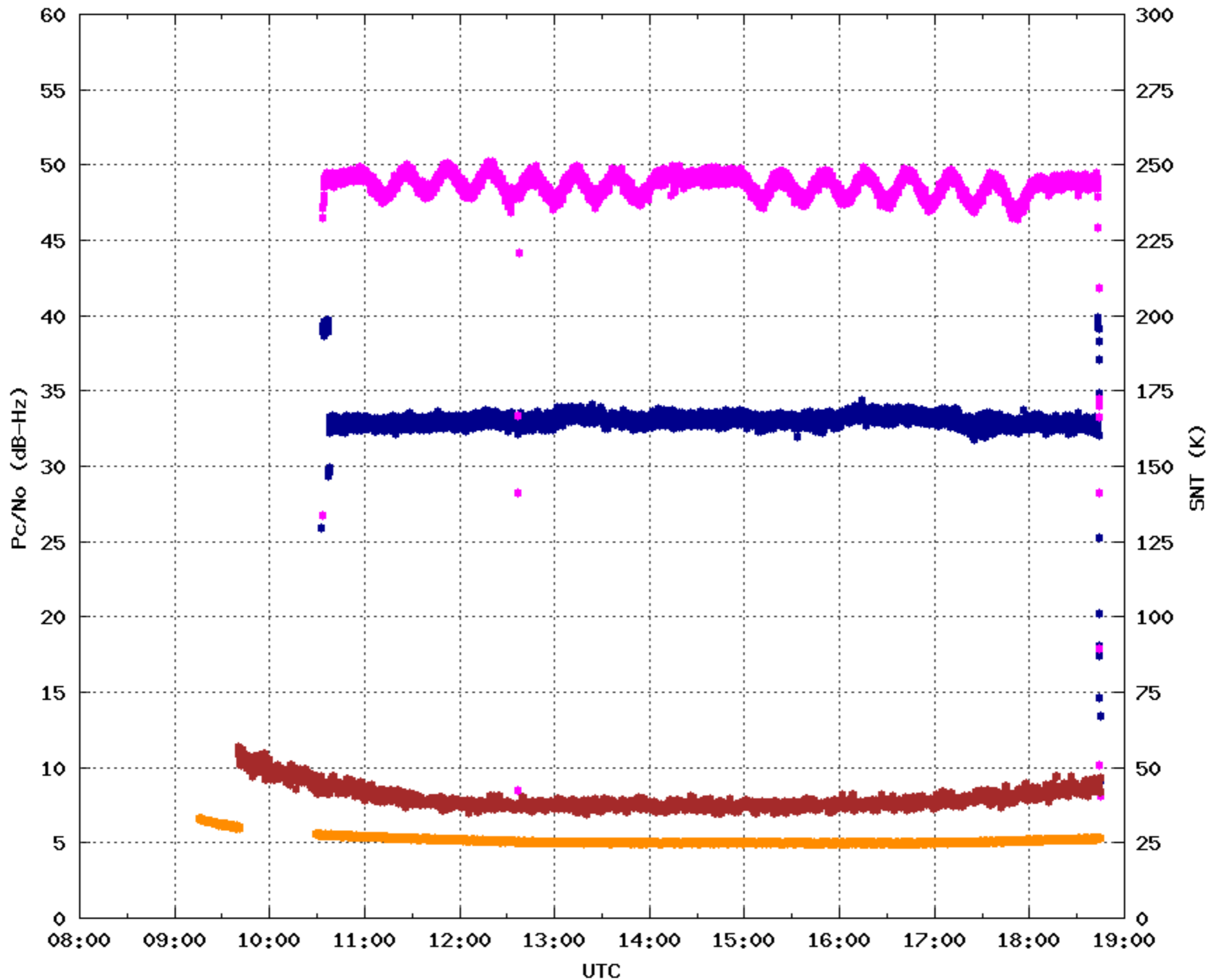
X-RCP    K-RCP

2005/160 DSS-55 Carrier Power



X-RCP    K-RCP

2005/160 D55-55 Carrier Power to Noise Spectral Density Ratio and System Noise Temperature



Pc/No X-RCP



SNT X-RCP



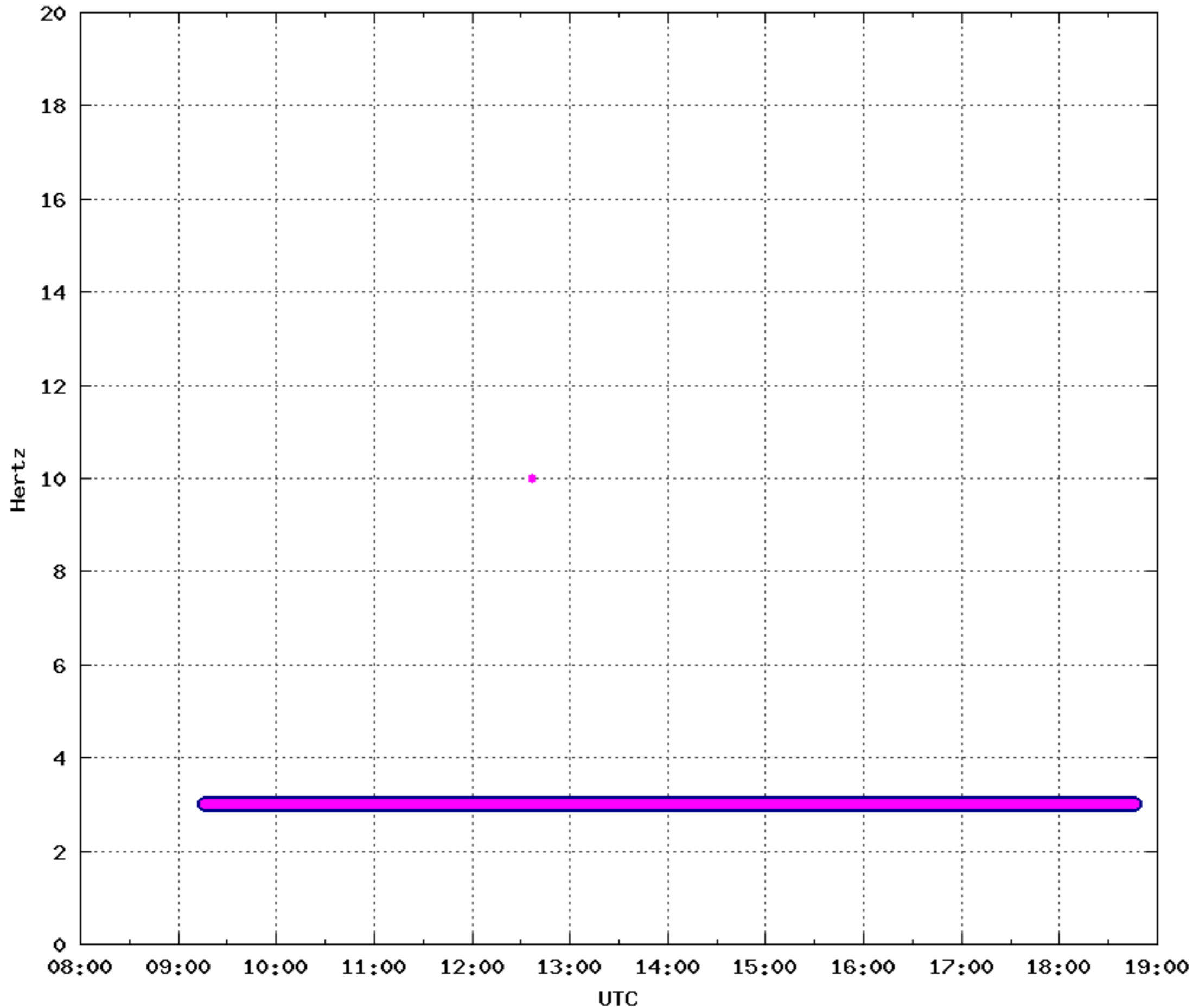
Pc/No K-RCP



SNT K-RCP

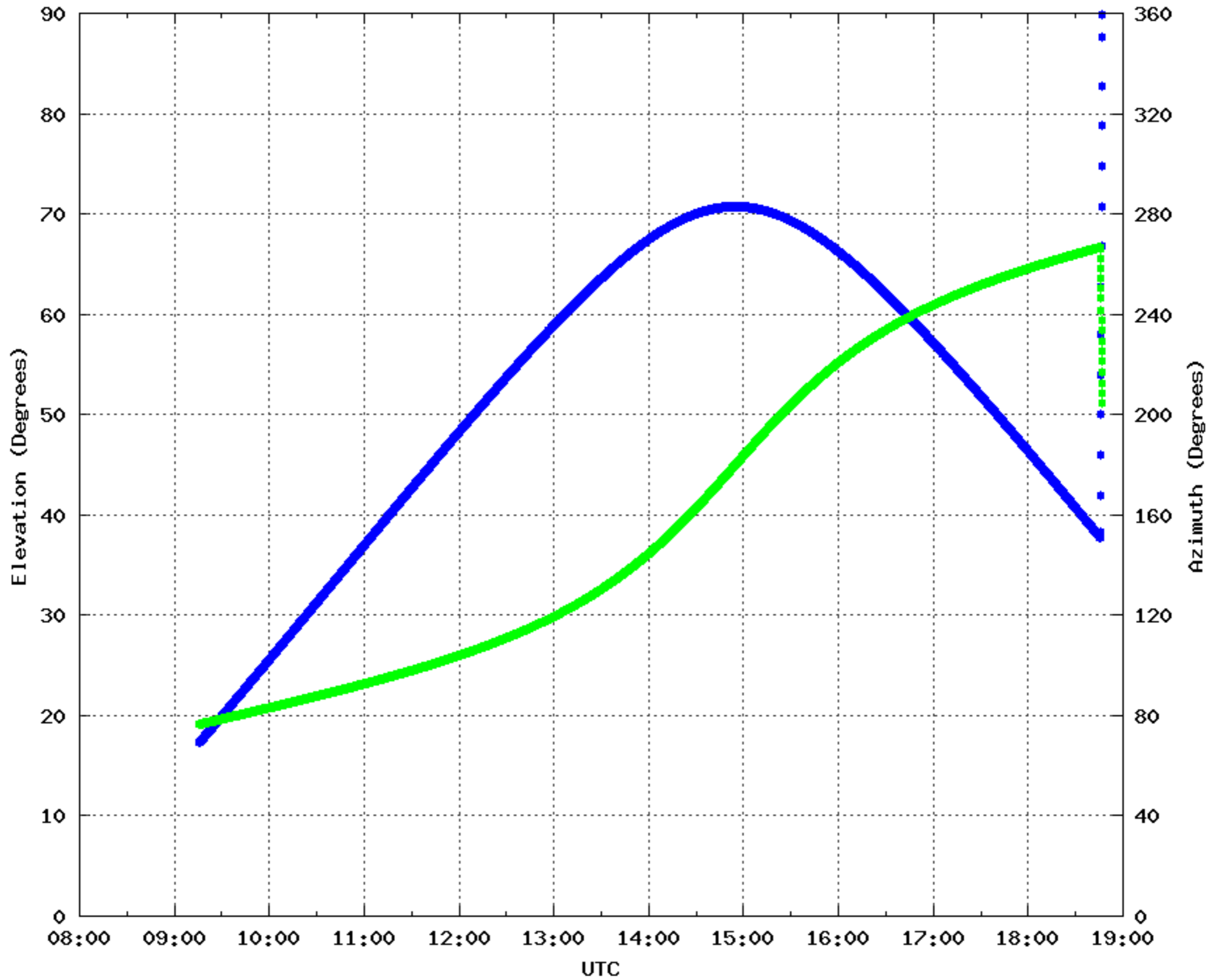


# 2005/160 DSS-55 Carrier Loop Tracking Bandwidth



X-RCP ● K-RCP ●

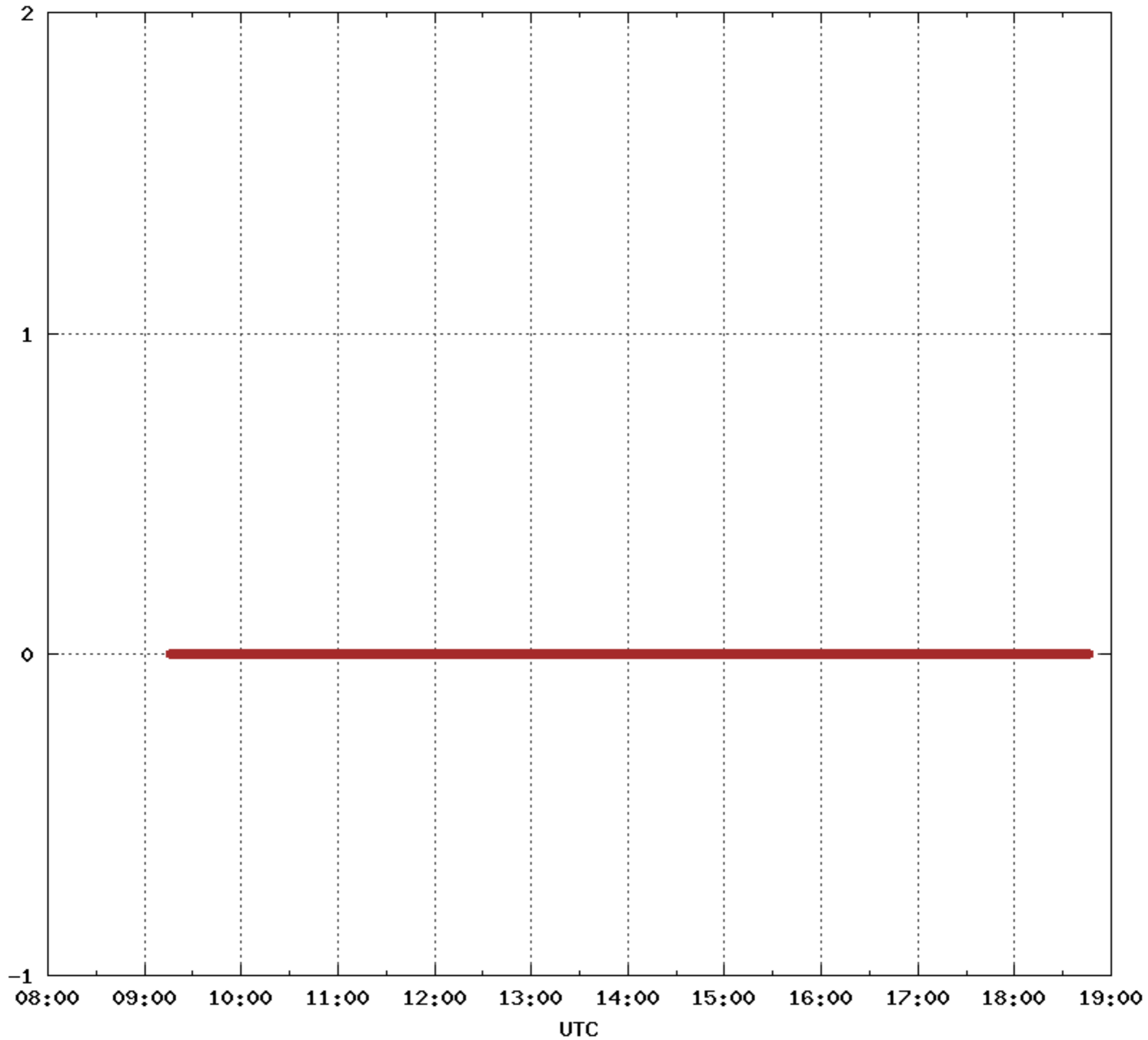
2005/160 DSS-55 Elevation & Azimuth



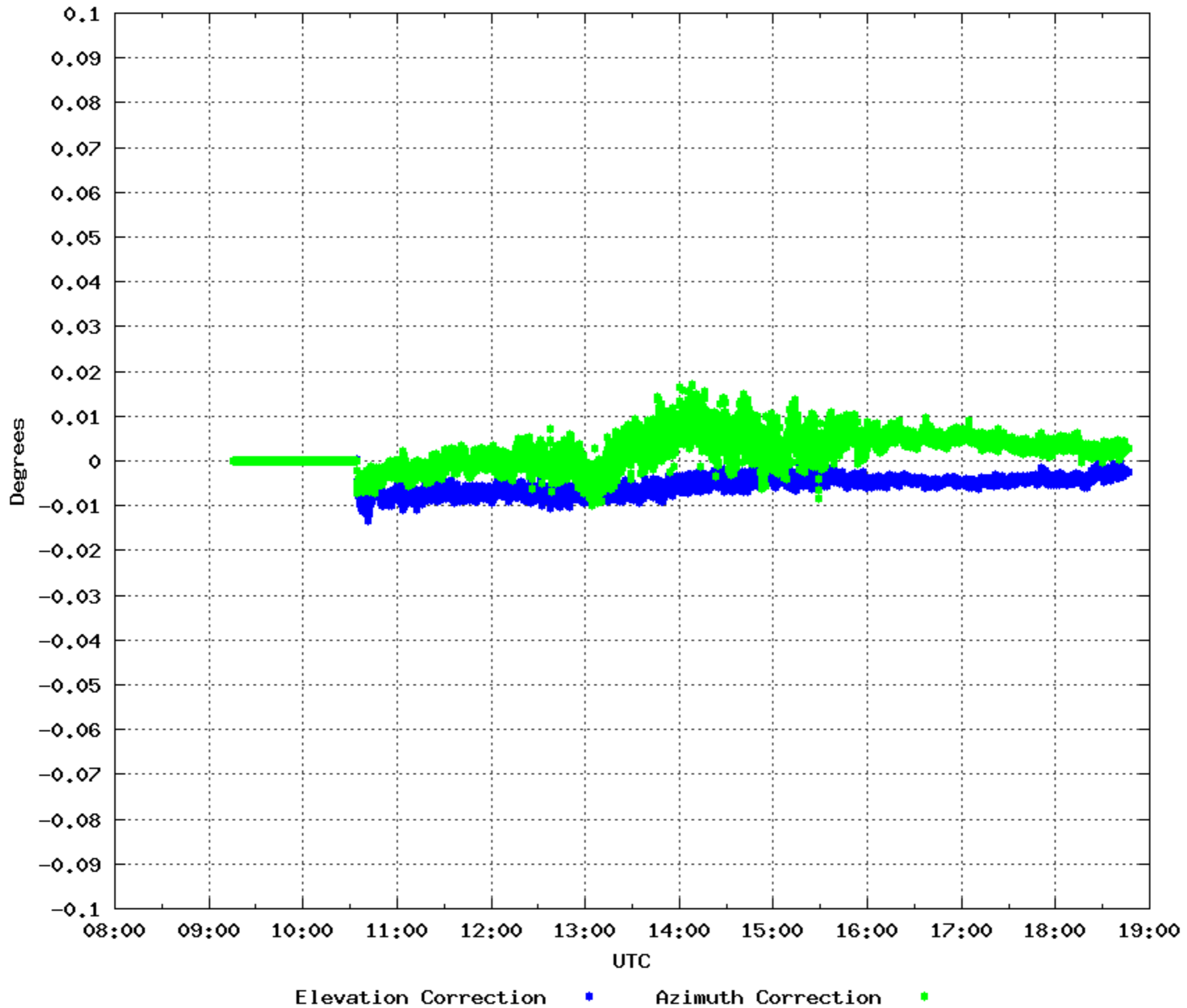
Elevation ■ Azimuth ■



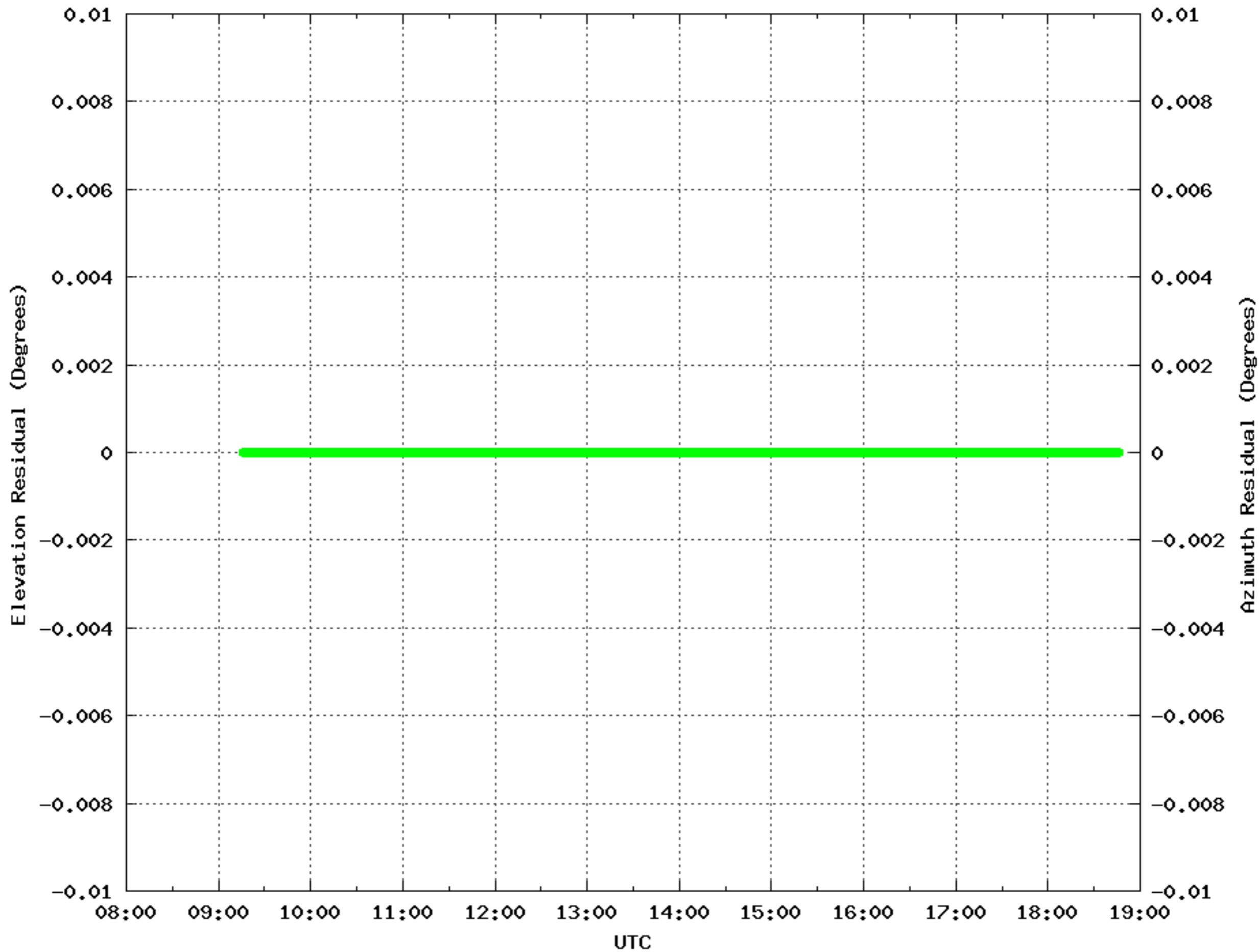
2005/160 DSS-55 Conscan Drive Status (ON = 1; OFF = 0)



# 2005/160 D55-55 Monopulse Elevation & Azimuth Corrections

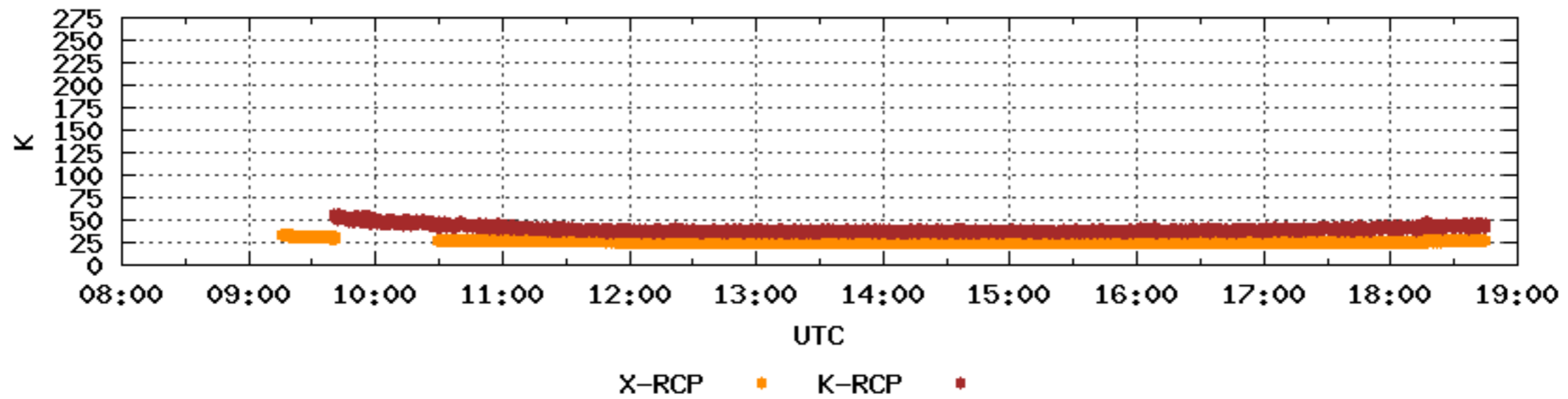


# 2005/160 DSS-55 Elevation & Azimuth Residuals

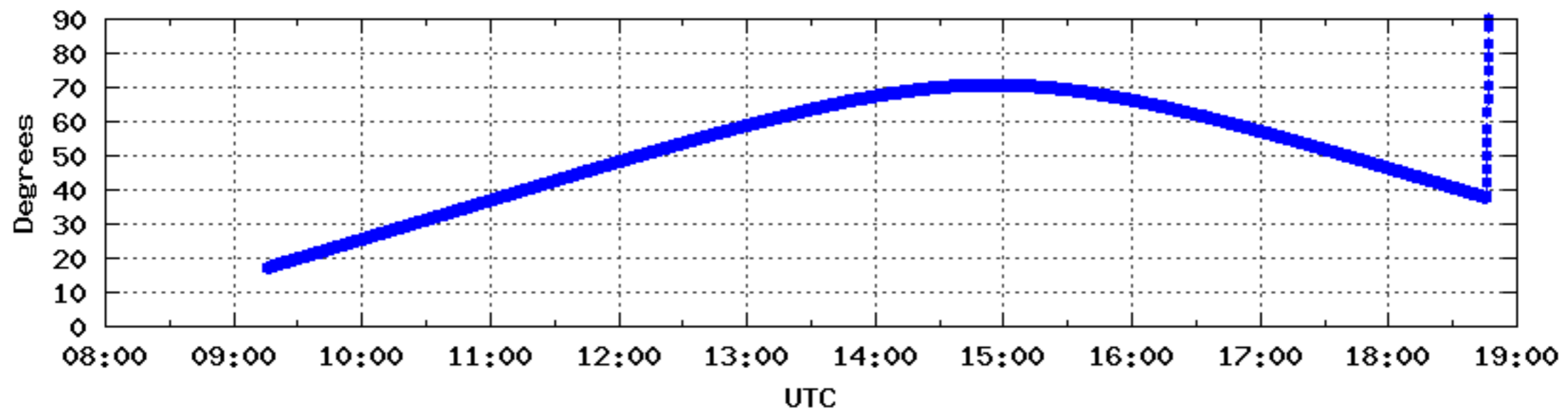


Elevation Residual ■ Azimuth Residual ■

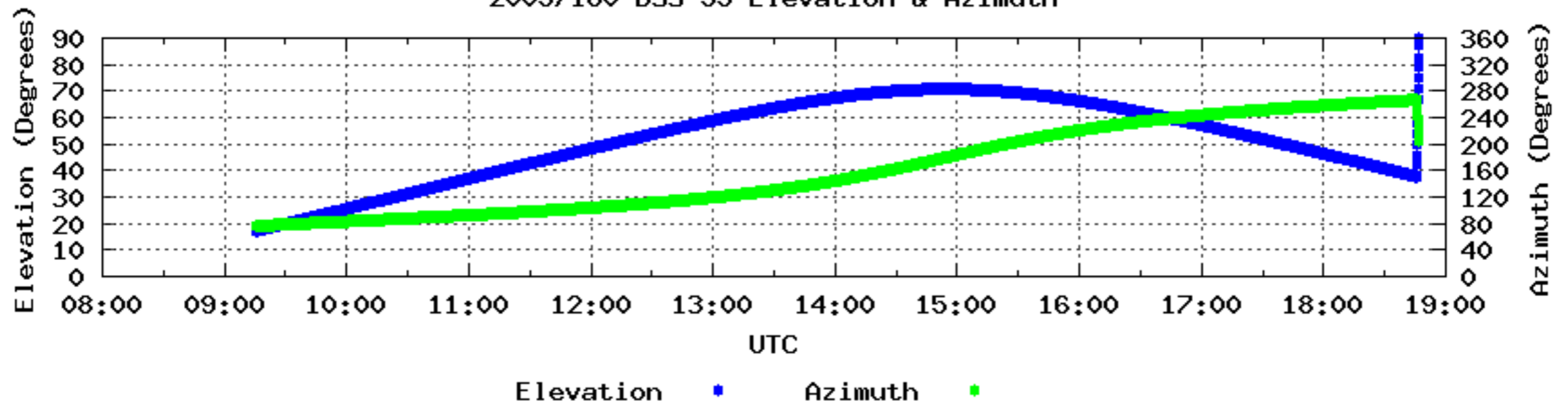
2005/160 DSS-55 System Noise Temperature



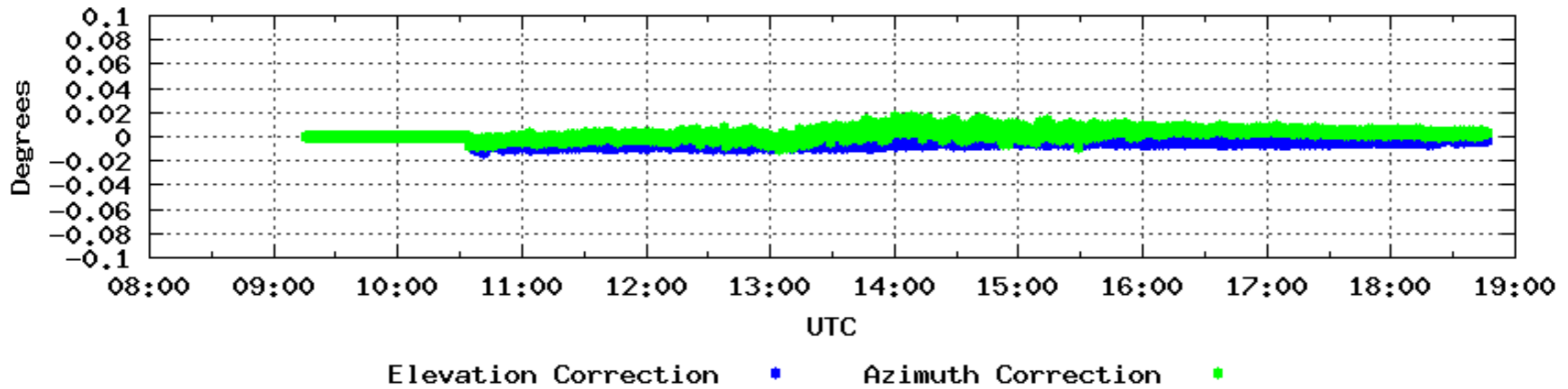
2005/160 DSS-55 Elevation Angle



2005/160 DSS-55 Elevation & Azimuth



2005/160 DSS-55 Monopulse Elevation & Azimuth Corrections



02. Carrier Power to Noise Spectral Density Ratio (Pc/No) and Residual Frequency

Top:

Carrier Power to Noise Spectral Density Ratio (M-1315, M-1815, M-2315, M-2815)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Bottom:

Residual Frequency (M-1305, M-1805, M-2305, M-2805)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

03. X-Band - Measured Carrier Frequency, Predicted Carrier Frequency,  
and Residual Frequency

Top:

Predicted Frequency including Doppler Shift (M-1320, M-1820, M-2320, M-2820)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Measured Carrier Frequency (M-1304, M-1804, M-2304, M-2804)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Bottom:

Residual Frequency (M-1305, M-1805, M-2305, M-2805)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

04. Ka-Band - Measured Carrier Frequency, Predicted Carrier Frequency,  
and Residual Frequency

Top:

Predicted Frequency including Doppler Shift (M-1320, M-1820, M-2320, M-2820)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Measured Carrier Frequency (M-1304, M-1804, M-2304, M-2804)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Bottom:

Residual Frequency (M-1305, M-1805, M-2305, M-2805)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Predicts Mode (M-1248, M-1748, M-2248, M-2748)  
and by Downlink Band (M-1245, M-1745, M-2245, M-2745)

and Polarization (M-1267, M-1767, M-2267, M-2767)

05. Carrier Power to Noise Spectral Density Ratio ( $P_c/N_o$ ) and Carrier Power

Top:

Carrier Power to Noise Spectral Density Ratio (M-1315, M-1815, M-2315, M-2815)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Bottom:

Carrier Power (M-1310, M-1810, M-2310, M-2810)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

06. Carrier Power to Noise Spectral Density Ratio ( $P_c/N_o$ ) and System Noise Temperature

Carrier Power to Noise Spectral Density Ratio (M-1315, M-1815, M-2315, M-2815)  
filtered by Carrier Tracking Loop Status (M-1302, M-1802, M-2302, M-2802)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)  
System Noise Temperature (M-1318, M-1818, M-2318, M-2818)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

07. Carrier Loop Tracking Bandwidth

Carrier Loop Tracking Bandwidth (M-1299, M-1799, M-2299, M-2799)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

08. Azimuth & Elevation  
Elevation Angle (M-0304)  
Azimuth Angle (M-0305)

09. Conscan Drive Status

Conscan Drive Status (M-0308)

10. Azimuth & Elevation Monopulse Corrections

Elevation Corrections (M-0815)  
Azimuth Corrections (M-0814)

11. Azimuth & Elevation Residuals

Elevation Residuals (M-0307)  
Azimuth Residuals (M-0306)

12. System Noise Temperature, Elevation, Precipitation Rate, and Relative Humidity

Top:

System Noise Temperature (M-1318, M-1818, M-2318, M-2818)  
categorized by Downlink Band (M-1245, M-1745, M-2245, M-2745)  
and Polarization (M-1267, M-1767, M-2267, M-2767)

Middle:

Elevation Angle (M-0304)

Bottom:

Precipitation Rate (M-0406)  
Relative Humidity (M-0409)

13. Elevation & Azimuth, Elevation & Azimuth Corrections, and Wind Speed and Direction

Top:

Elevation Angle (M-0304)  
Azimuth Angle (M-0305)

Middle:

Elevation Corrections (M-0815)  
Azimuth Corrections (M-0814)

Bottom:

Wind Speed (M-0388)  
Wind Direction (M-0391)