UVIS Rings Spectroscopy Atlas

The UVIS FUV and EUV channels have 64 X 1024 pixels spatial and spectral pixels each, respectively. For this document a “pixel” refers to the projection of a single pixel onto the ring plane. Due to the motion of the spacecraft during an integration period the projection of the pixel onto the ring plane may vary in location both radially and azimuthally, resulting in a “smeared” projected pixel. An observation typically consists of multiple integration periods, where each set of 64 X 1024 pixels of data constitute a single data record. For example an observation with 10 data records consists of 64 X 1024 X 10 pixels of data. Some observations were designed where the spectra were binned. For example spectral binning equal to 2 with 10 data records results in 64 X 512 X 10 separate pixels of data. The figures containing an axis or axes in units of Rs are in units of the dynamical radius of Saturn, which is 60330 km.

Incidence, emission, and phase angles range from 0°-180°, with 0° normal to the ring plane in the Saturn North Pole direction.

Top left: Projection of each smeared pixel for all data records in ring plane looking down on Saturn North pole with Sun to the left. The color code is rainbow from IDL color palette 13 and is normalized with violet and red corresponding to the lowest and highest count rates, respectively.

Top center: Example of the movement of a single projected pixel from start to finish of the integration period.

Middle left: Distance of the spacecraft from the ring plane for each projected pixel for all data records plotted against the radial location of the center of the projected pixel at the middle of the integration period.

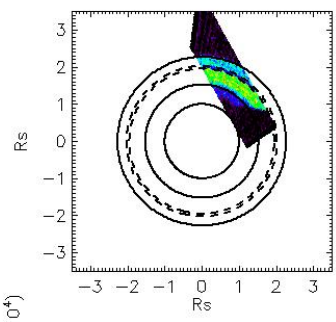
Middle center: Maximum projected smeared pixel size for all data records plotted against the radial location of the projected pixel at the middle of the integration period.

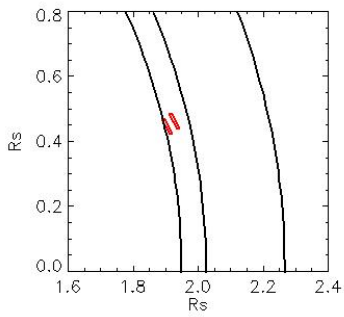
Middle right: Phase, incidence, and emission angles for each pixel for all data records at the middle of the integration period.

Bottom left: Total raw counts from 175.2 – 189.8 nm for each pixel for all data records.

Bottom center: Location of spacecraft throughout an observation looking down on Saturn North Pole with the Sun to the left.

Bottom right: Location of spacecraft throughout an observation looking in the equatorial plane with the Sun to the left.



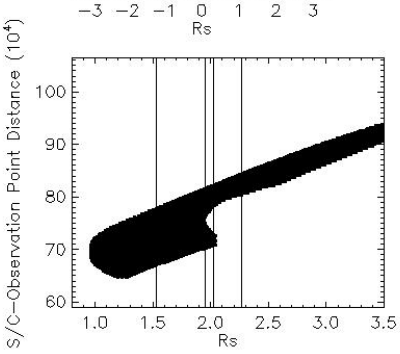


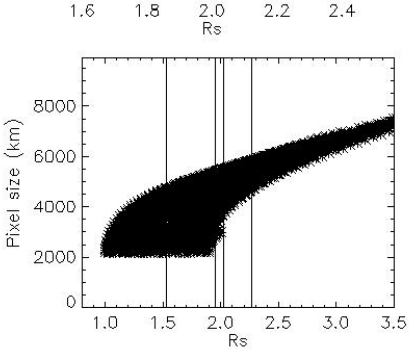
Observation Name:
UVIS_029RI_SUBML23MP001_CIRS

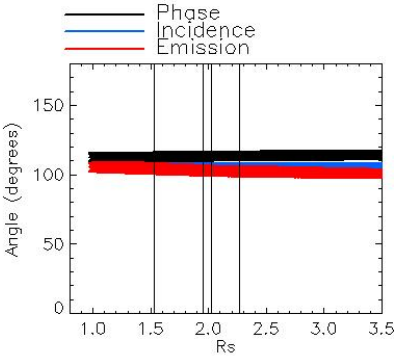
Observation Date:
2006_267_20_54_52

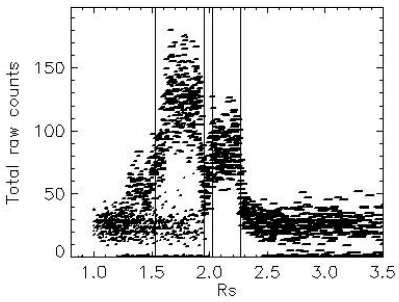
Observation Duration:
10200 S

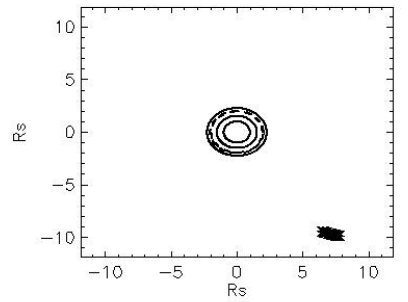
Integration time = 300 S

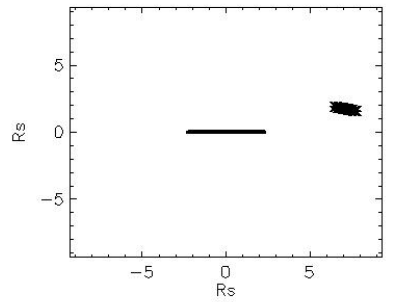


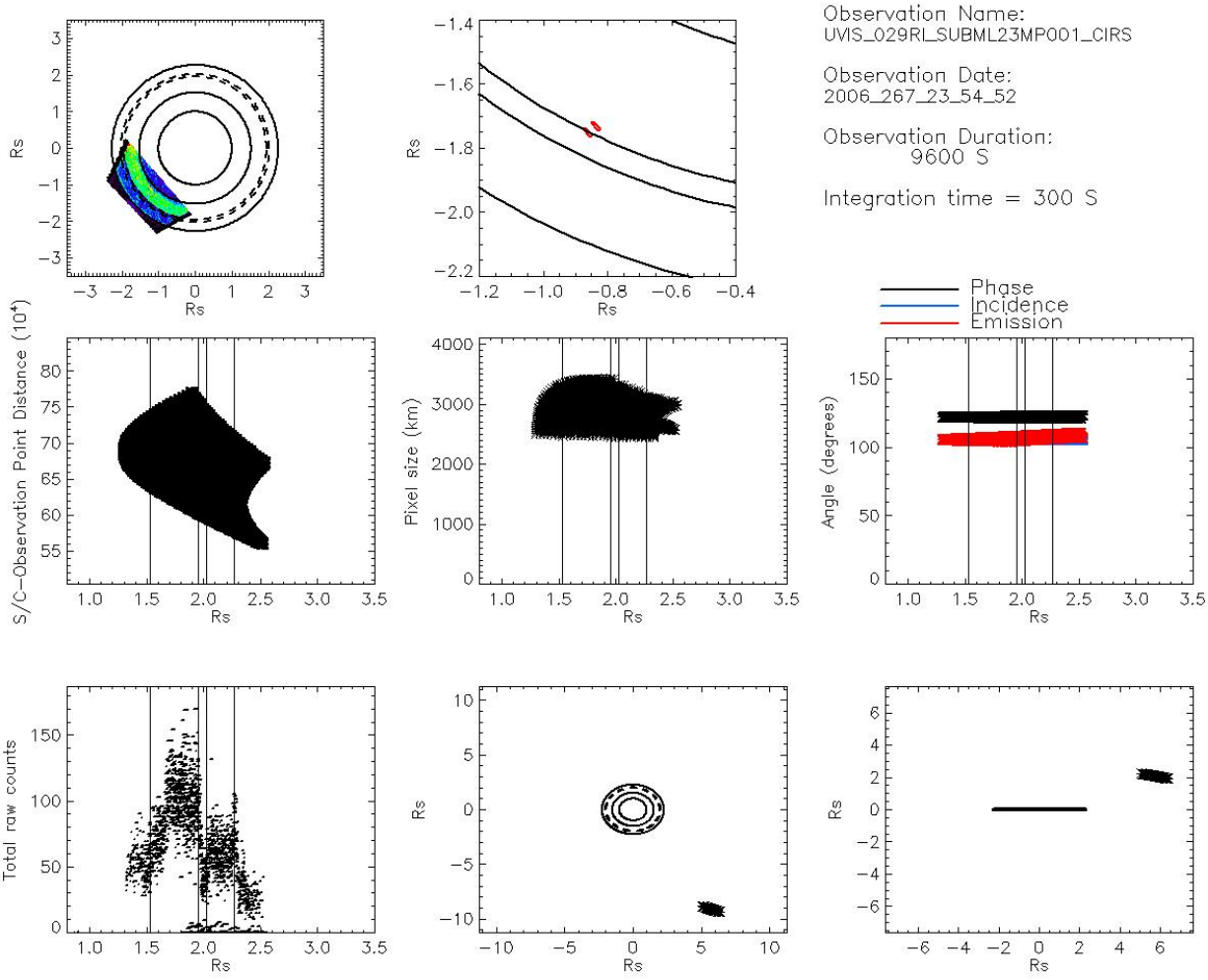


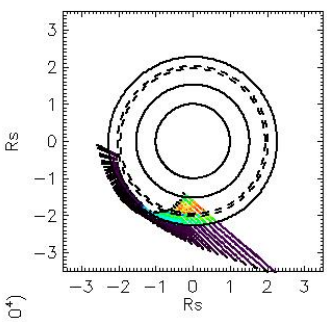


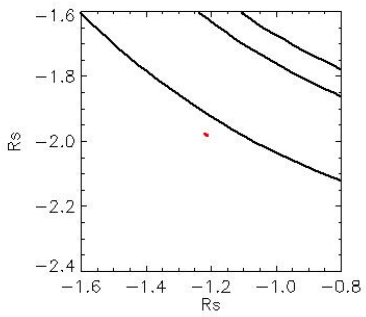







Observation Name:
UVIS_029RI_SUBML23MP001_CIRS
Observation Date:
2006_267_23_54_52
Observation Duration:
9600 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts



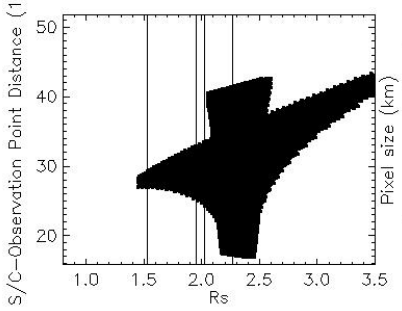


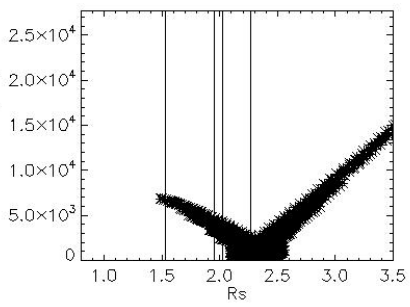
Observation Name:
UVIS_029RI_AZSCAN001_SS

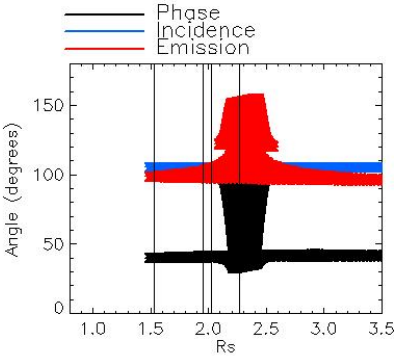
Observation Date:
2006_268_11_22_25

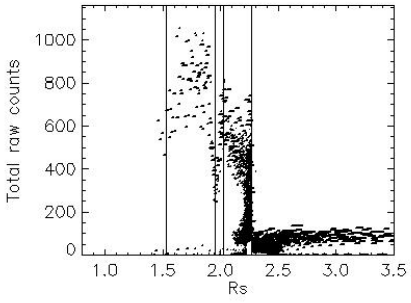
Observation Duration:
35400 S

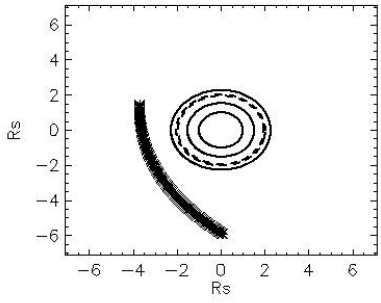
Integration time = 300 S

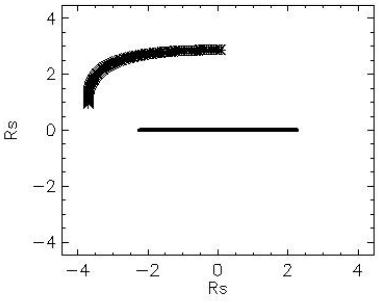


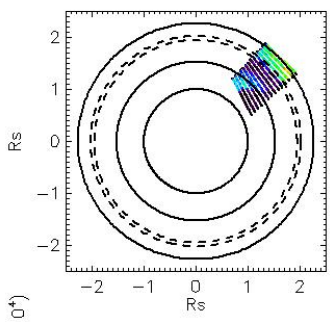


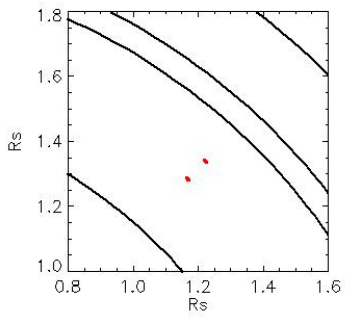










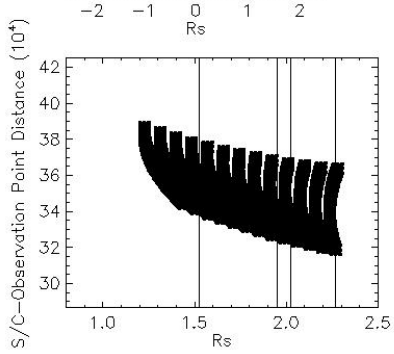


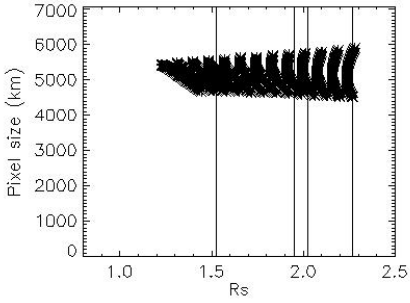
Observation Name:
UVIS_029RI_TEMPU30MP001_CIRS

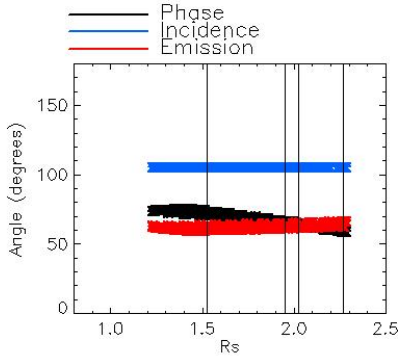
Observation Date:
2006_269_02_54_53

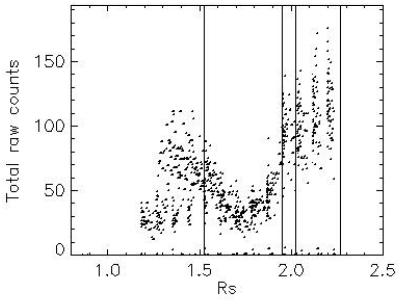
Observation Duration:
3900 S

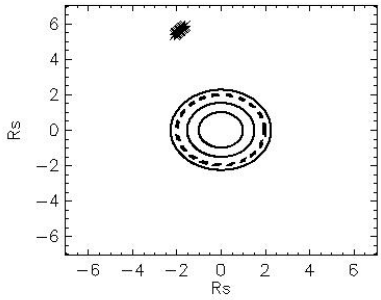
Integration time = 300 S

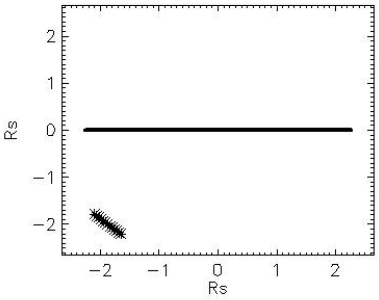


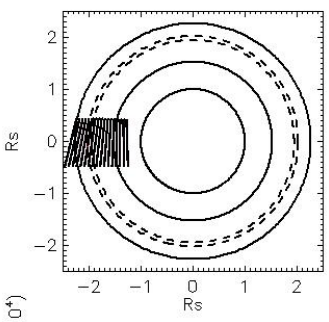


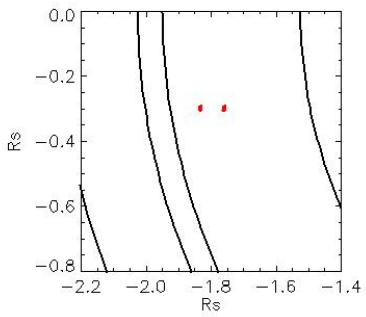










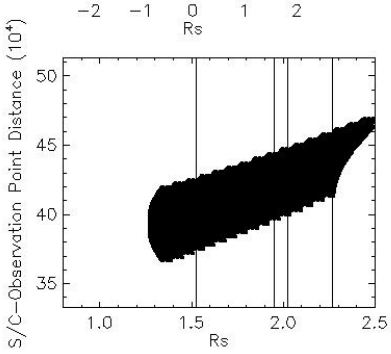


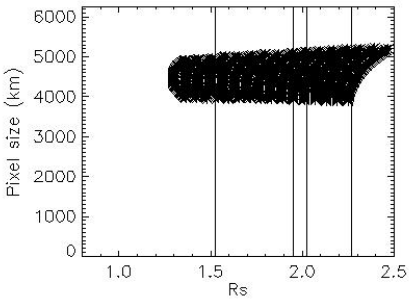
Observation Name:
UVIS_029RI_TEMPU30MP001_CIRS

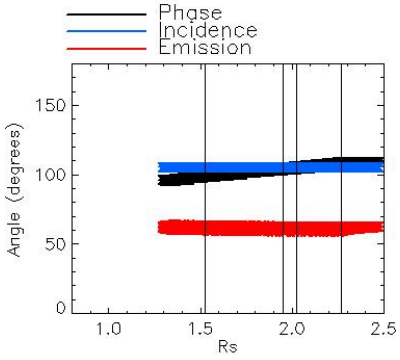
Observation Date:
2006_269_04_14_52

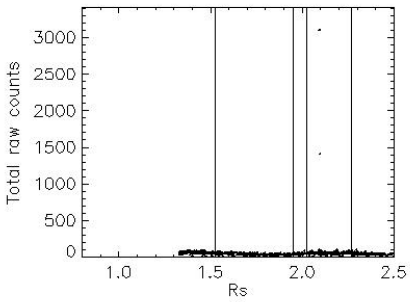
Observation Duration:
4800 S

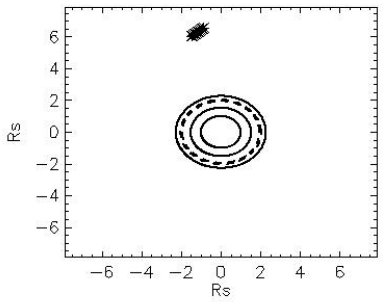
Integration time = 300 S

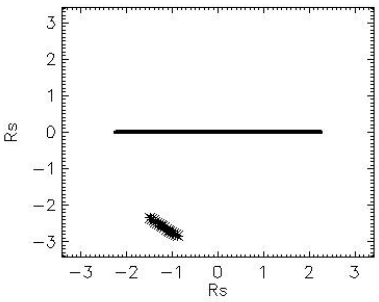


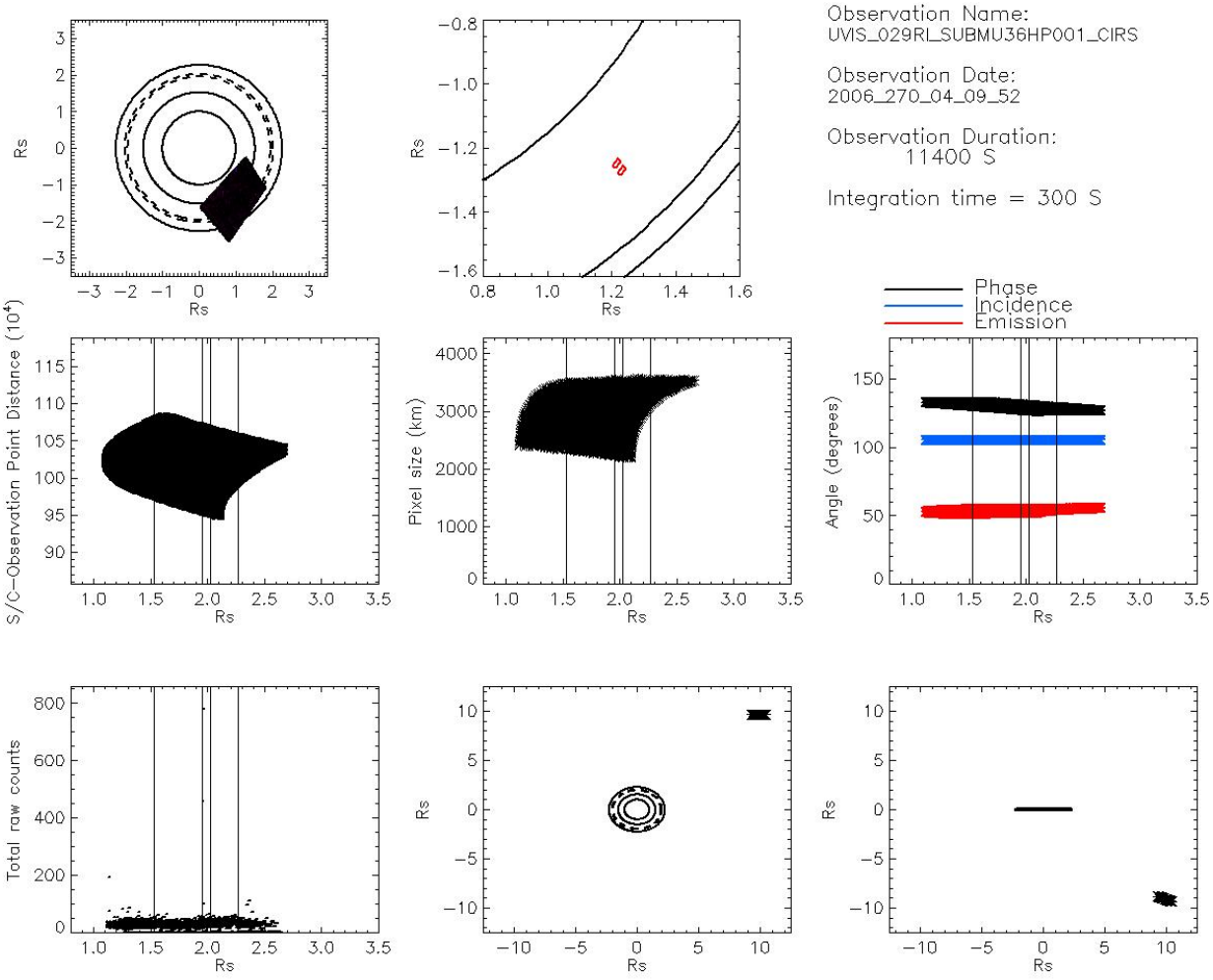


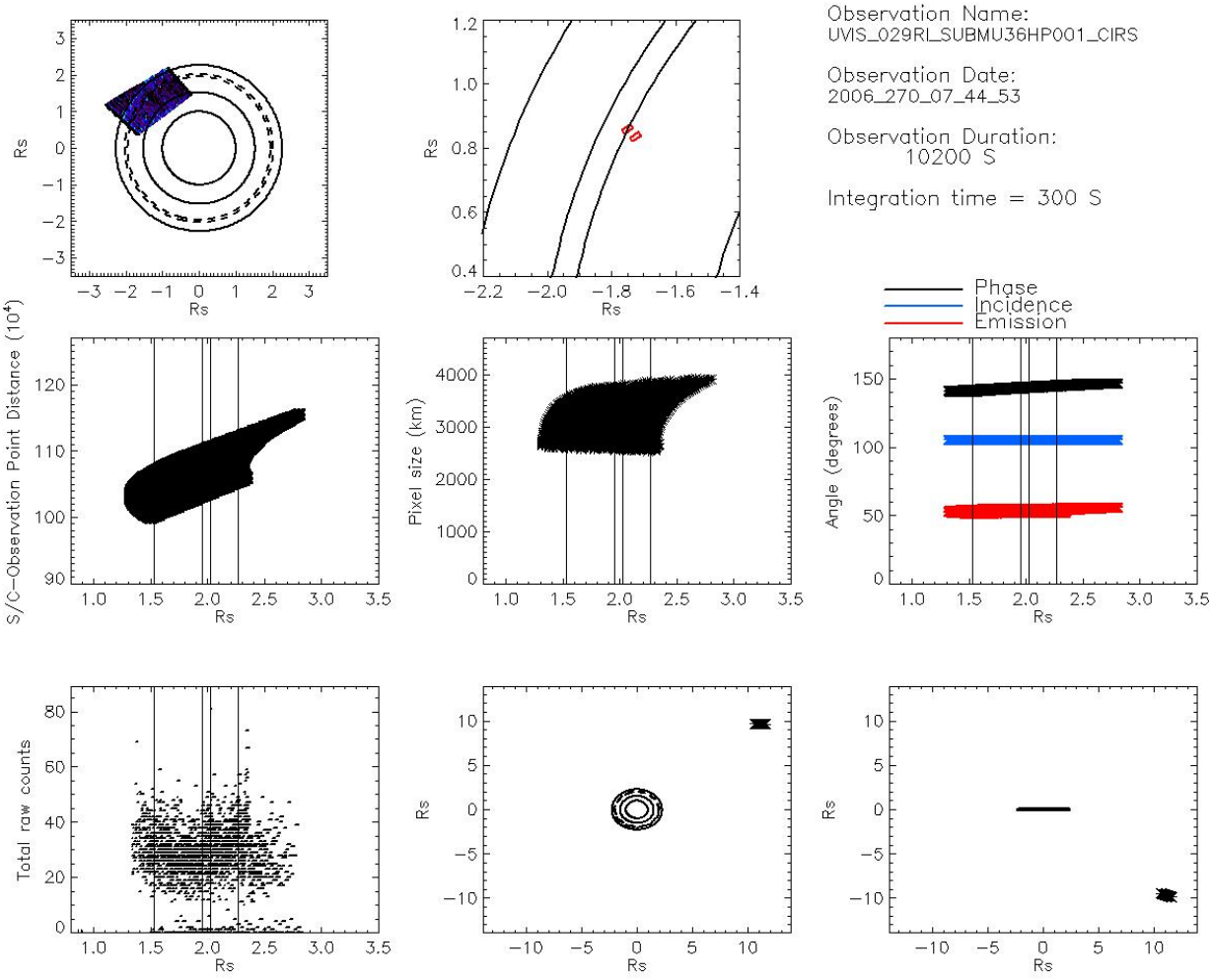


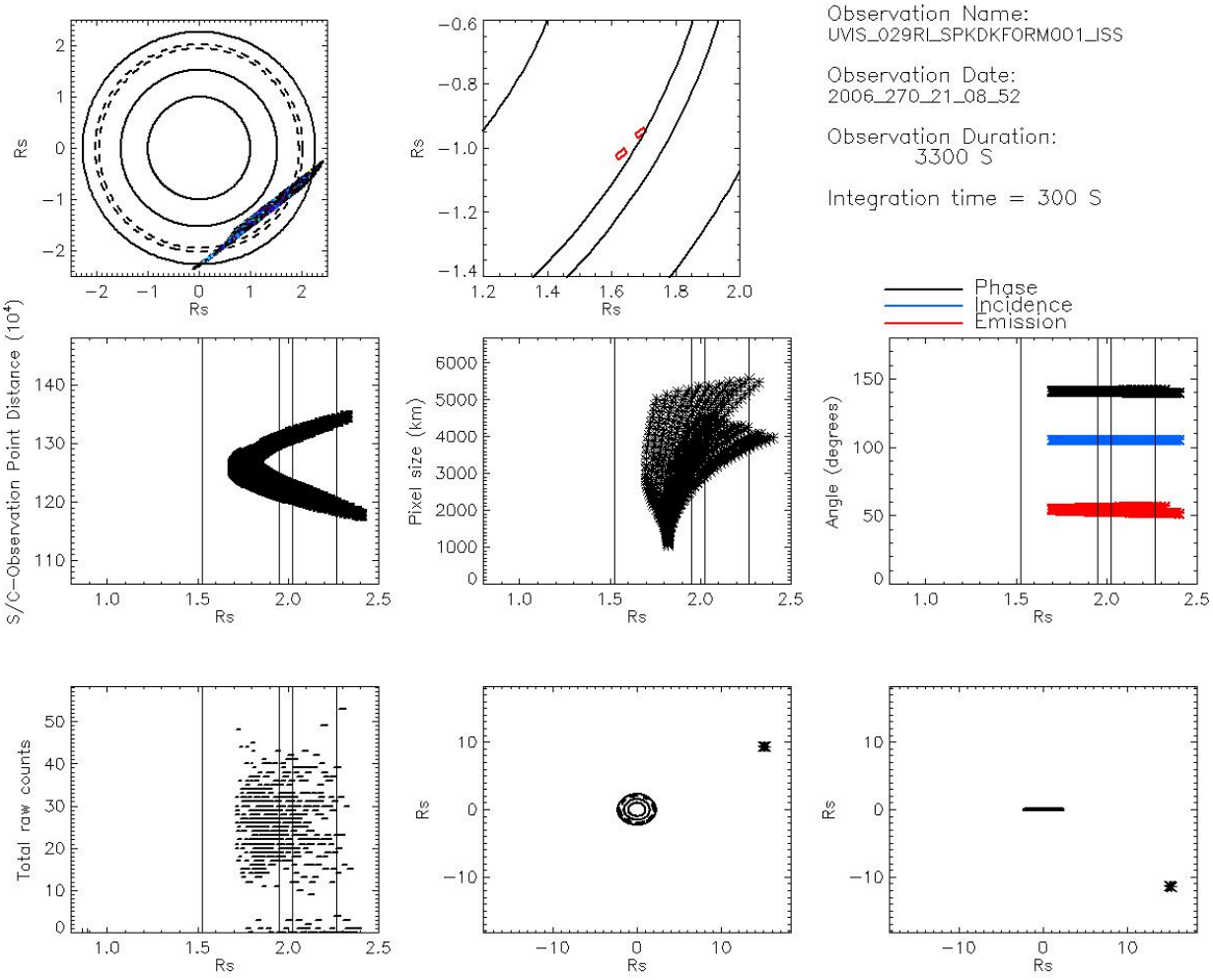


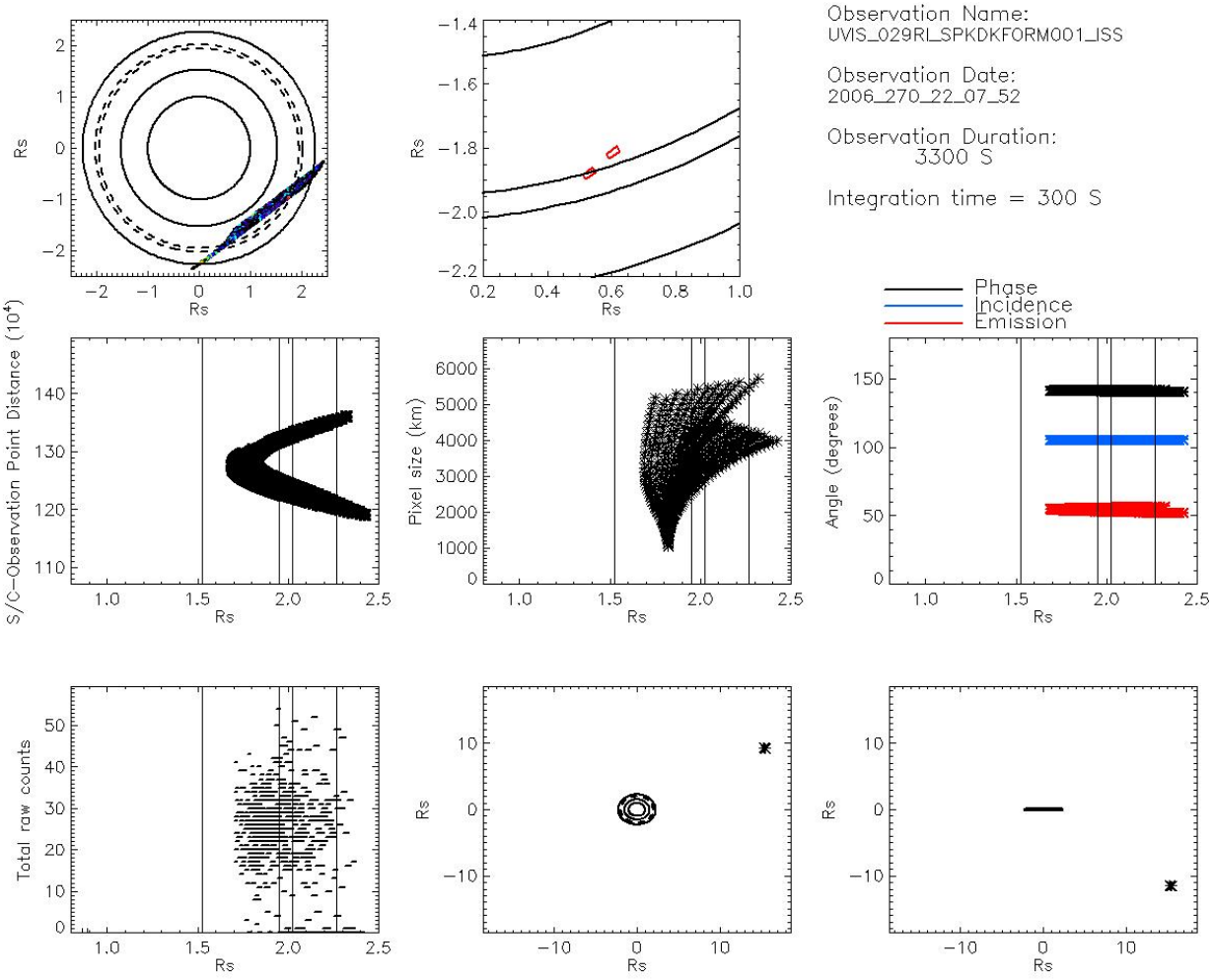


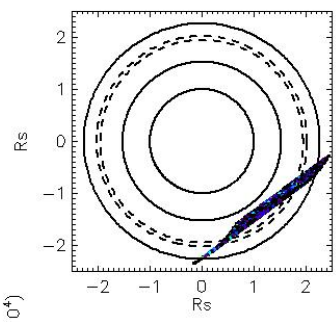


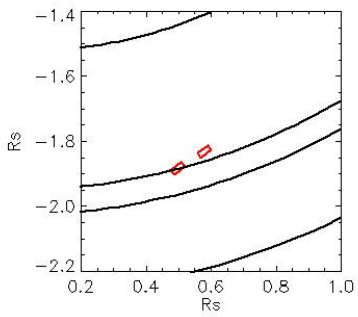

Observation Name:
UVIS_029RI_SUBMU36HP001_CIRS
Observation Date:
2006_270_04_09_52
Observation Duration:
11400 S
Integration time = 300 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts
Rs


Observation Name:
UVIS_029RI_SUBMU36HP001_CIRS
Observation Date:
2006_270_07_44_53
Observation Duration:
10200 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts


Observation Name:
UVIS_029RI_SPKDKFORM001_ISS
Observation Date:
2006_270_21_08_52
Observation Duration:
3300 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts


Observation Name:
UVIS_029RI_SPKDKFORM001_ISS
Observation Date:
2006_270_22_07_52
Observation Duration:
3300 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts



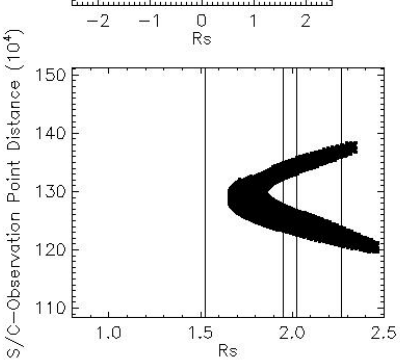


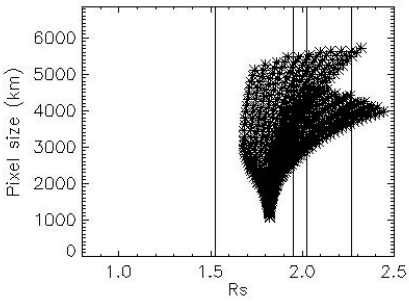
Observation Name:
UVIS_029RI_SPKDKFORM001_ISS

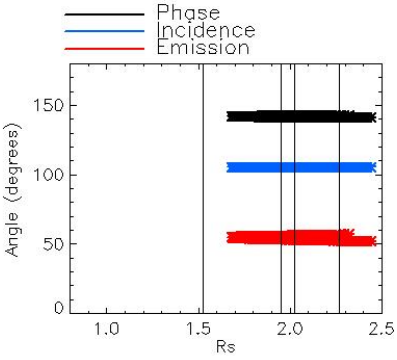
Observation Date:
2006_270_23_06_52

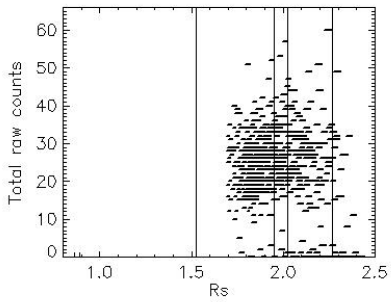
Observation Duration:
3300 S

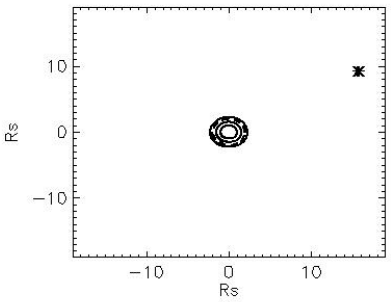
Integration time = 300 S

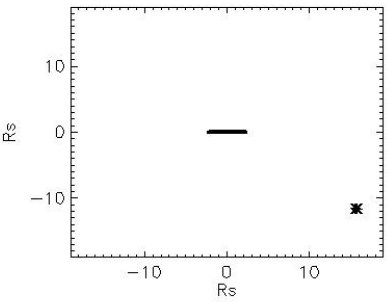


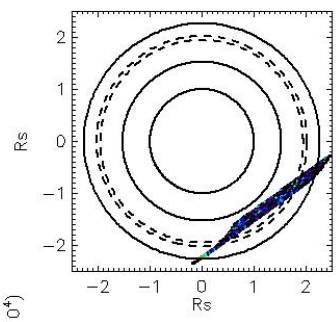


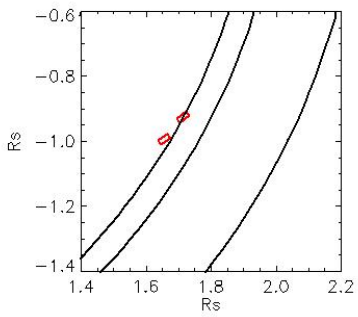










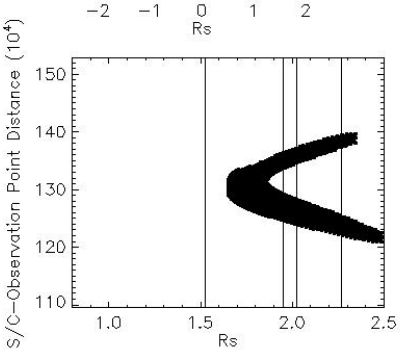


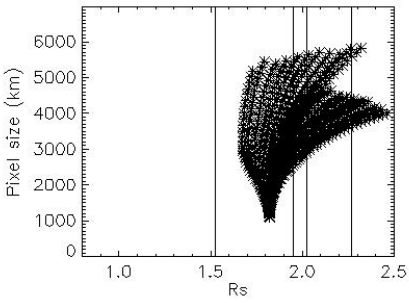
Observation Name:
UVIS_029RI_SPKDKFORM001_ISS

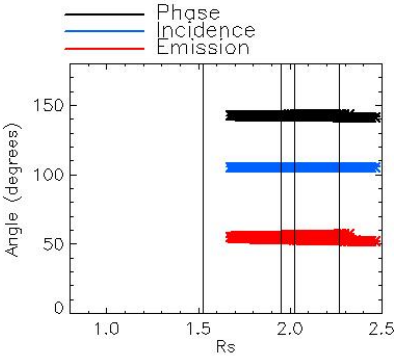
Observation Date:
2006_271_00_05_52

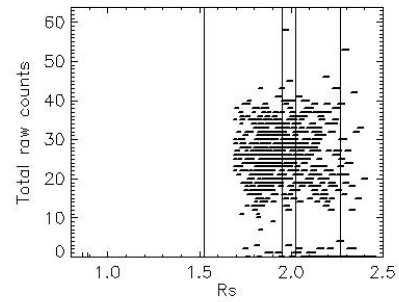
Observation Duration:
3300 S

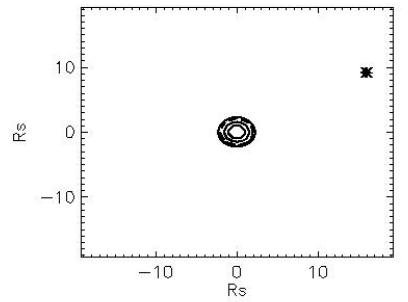
Integration time = 300 S

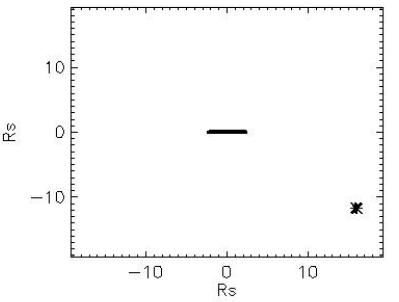


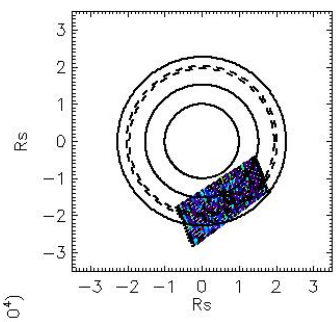


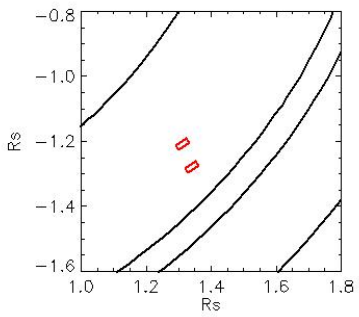










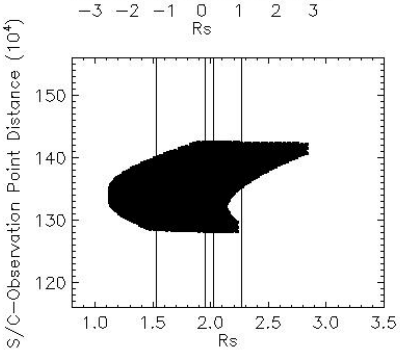


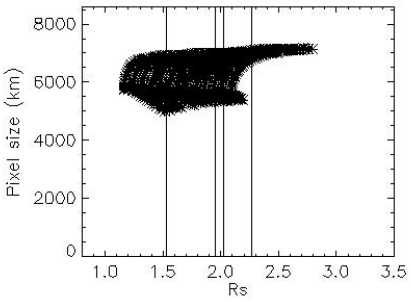
Observation Name:
UVIS_029RI_TEMPU35HP001_CIRS

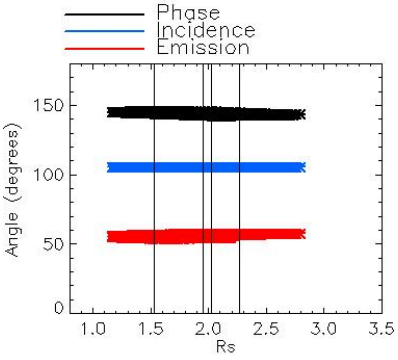
Observation Date:
2006_271_01_24_53

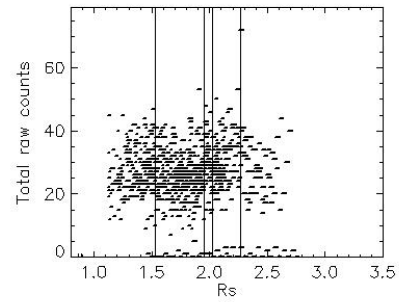
Observation Duration:
3900 S

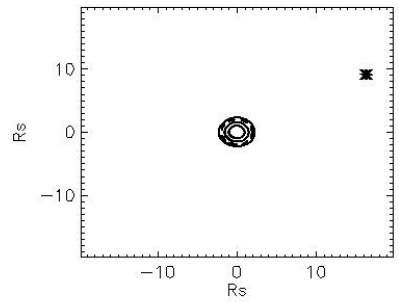
Integration time = 300 S

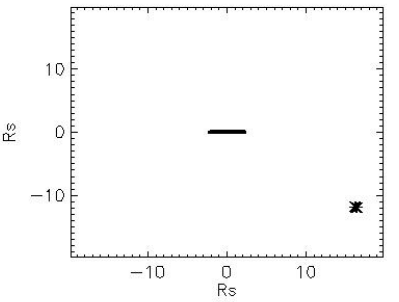


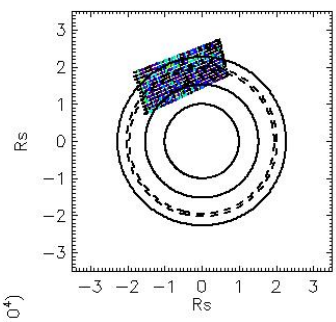


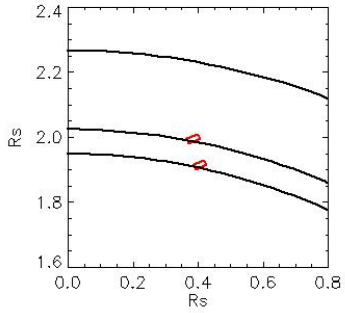










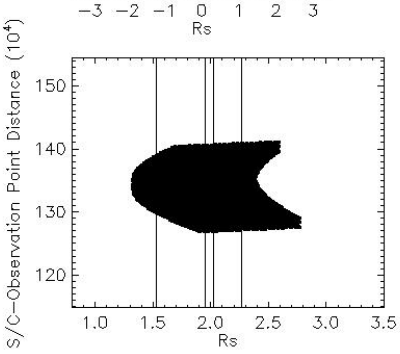


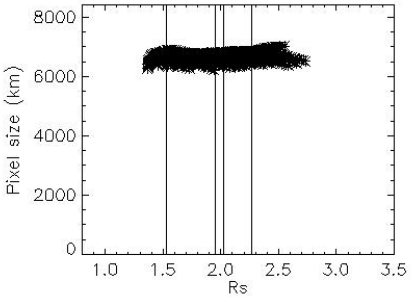
Observation Name:
UVIS_029RI_TEMPU35HP001_CIRS

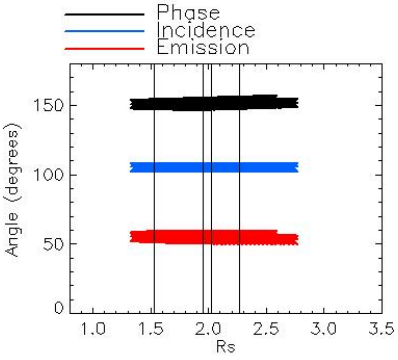
Observation Date:
2006_271_02_37_52

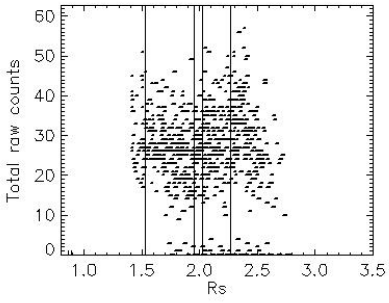
Observation Duration:
3600 S

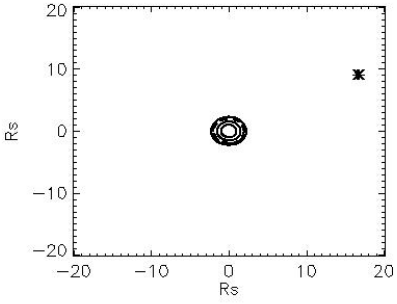
Integration time = 300 S

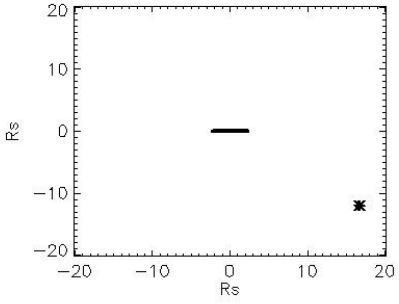


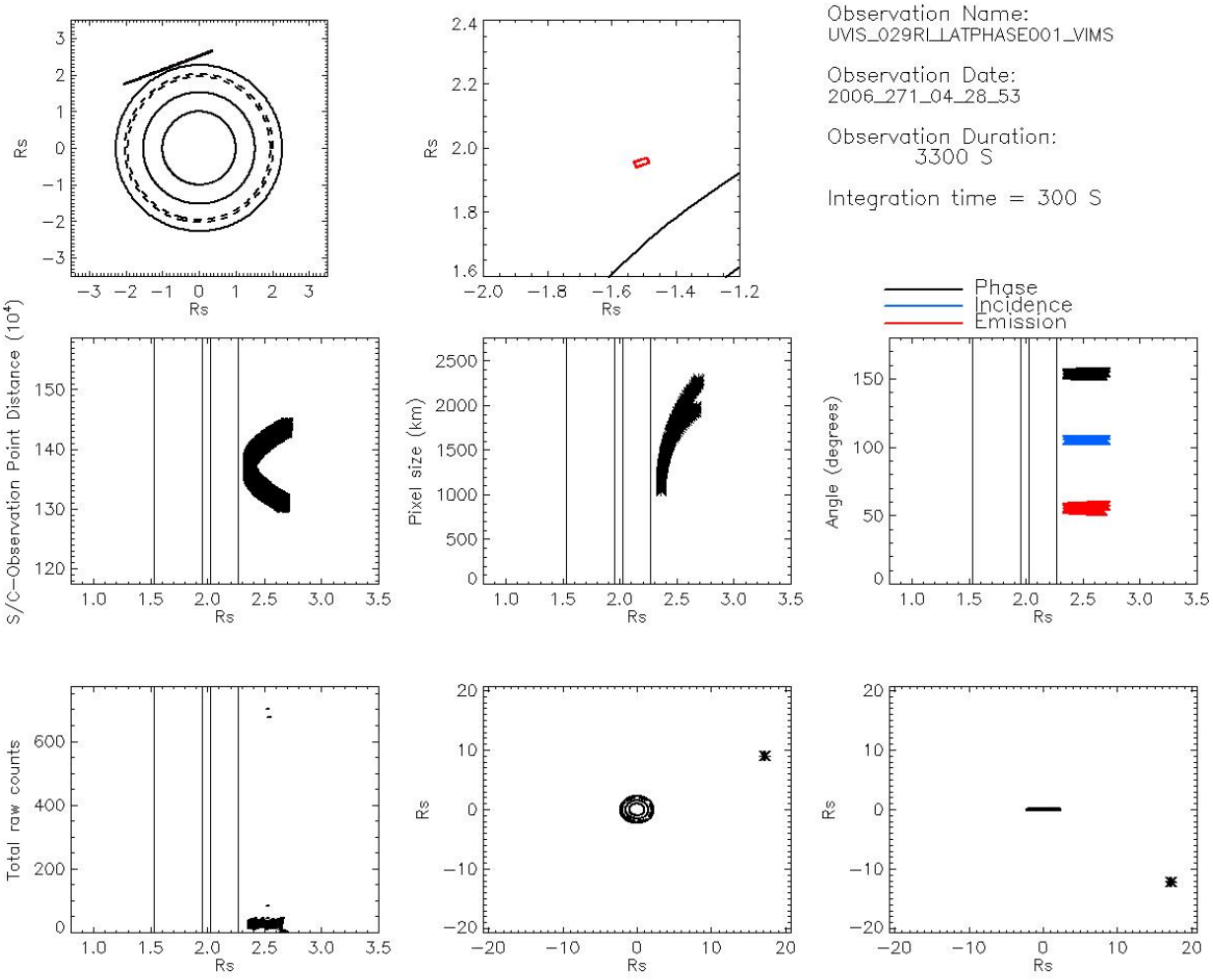


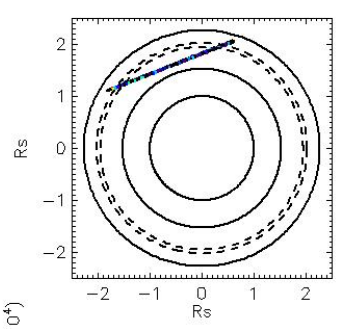


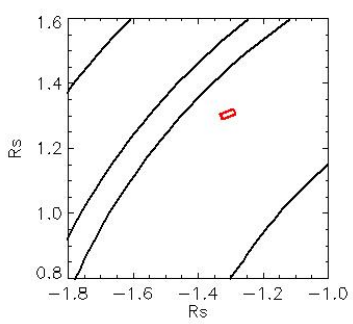







Observation Name:
UVIS_029RI_LATPHASE001_VIMS
Observation Date:
2006_271_04_28_53
Observation Duration:
3300 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts



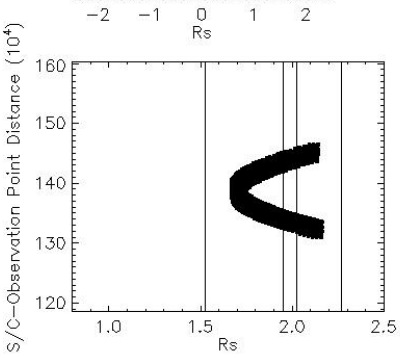


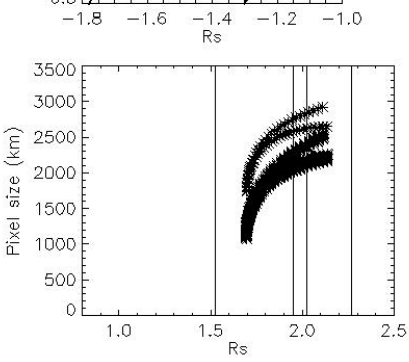
Observation Name:
UVIS_029RI_LATPHASE001_VIMS

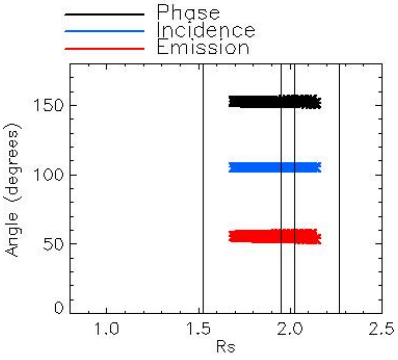
Observation Date:
2006_271_05_25_15

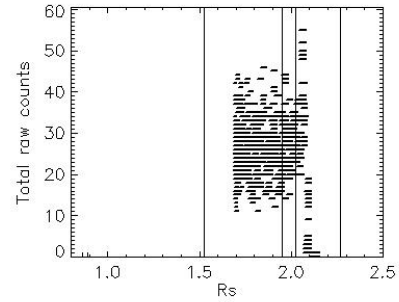
Observation Duration:
3300 S

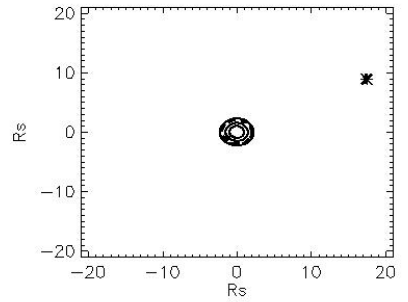
Integration time = 300 S

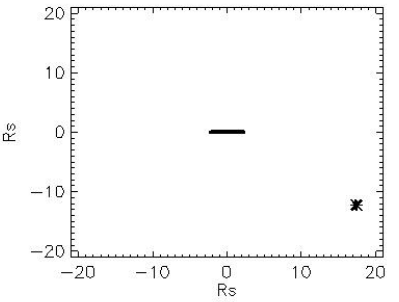


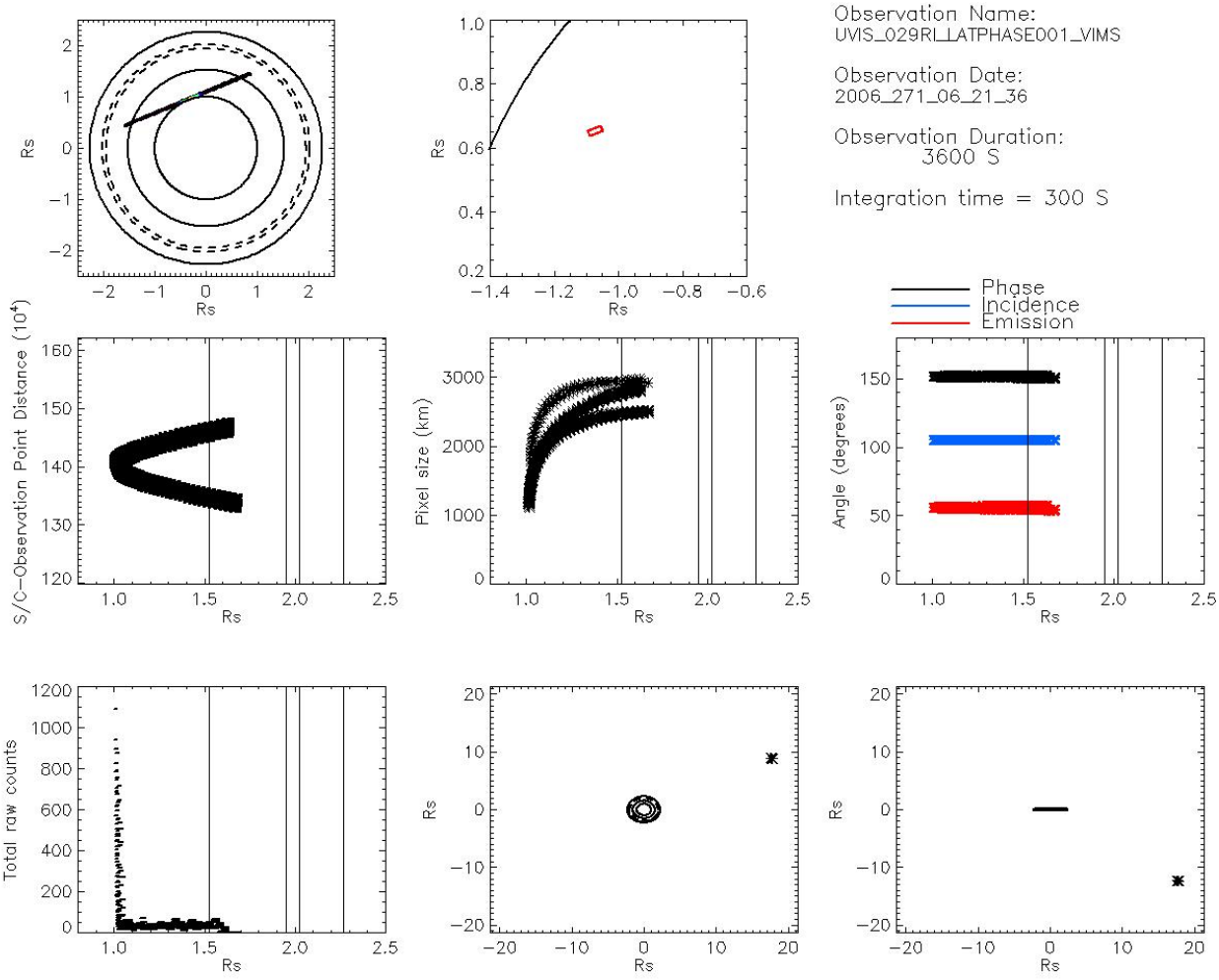


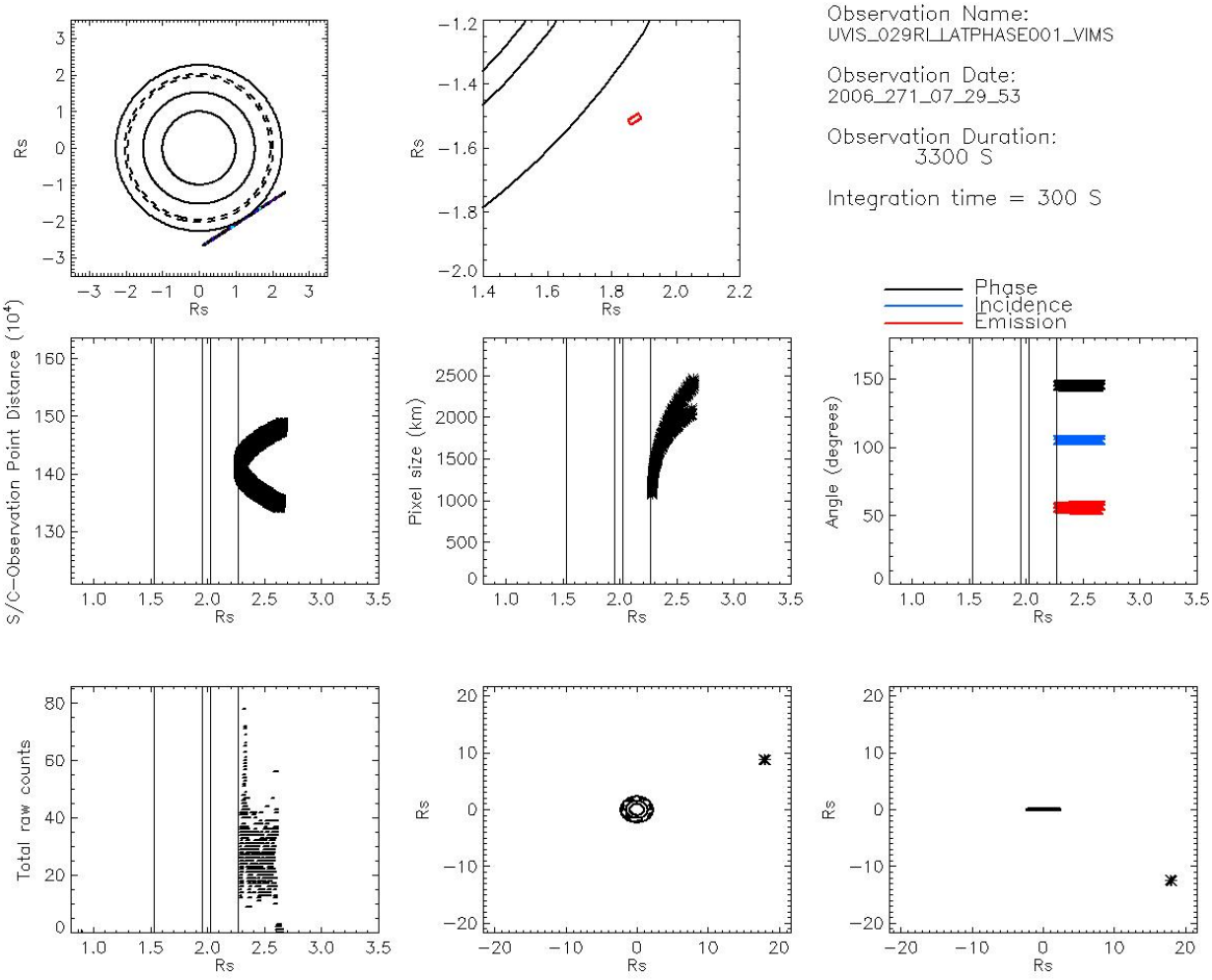


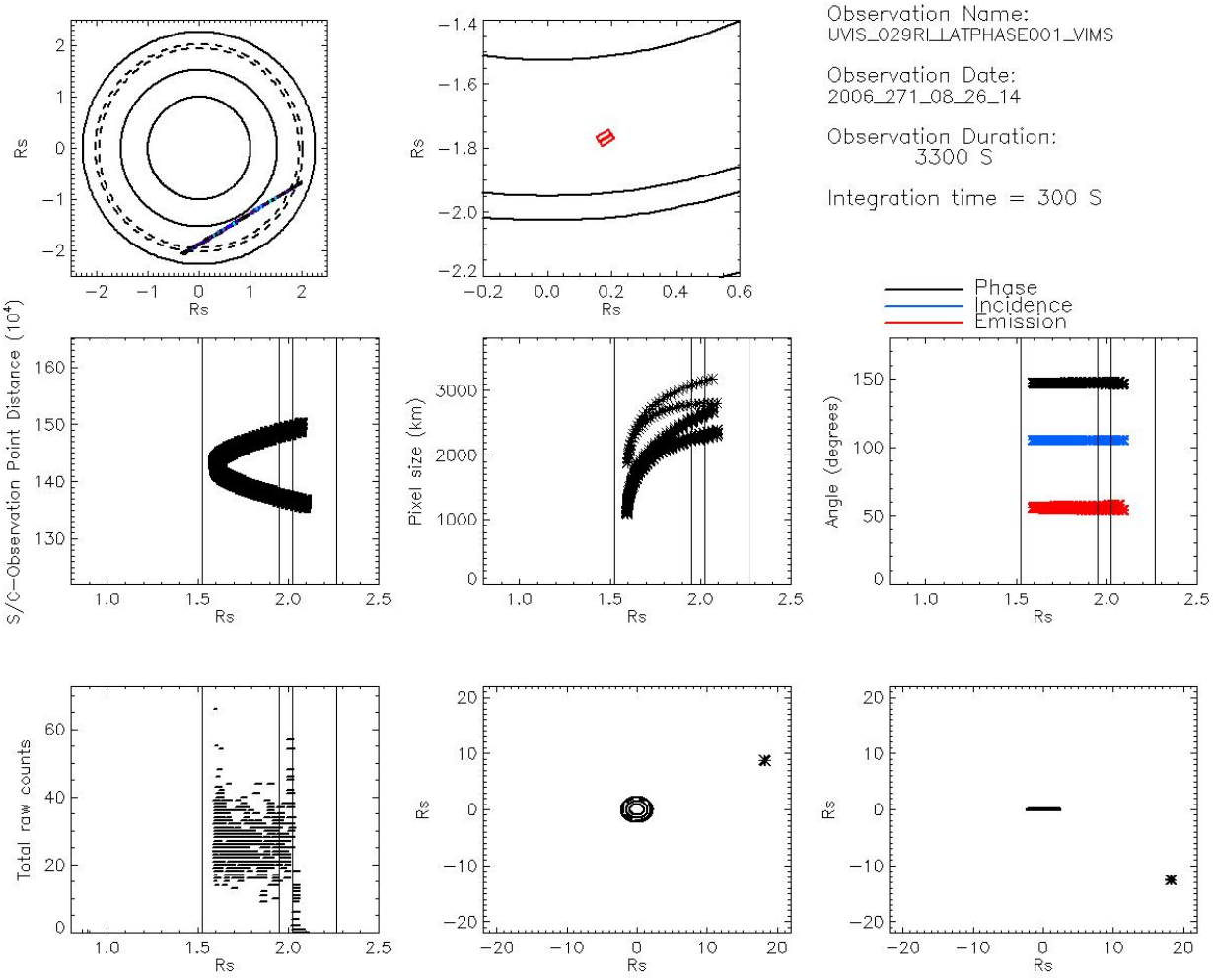


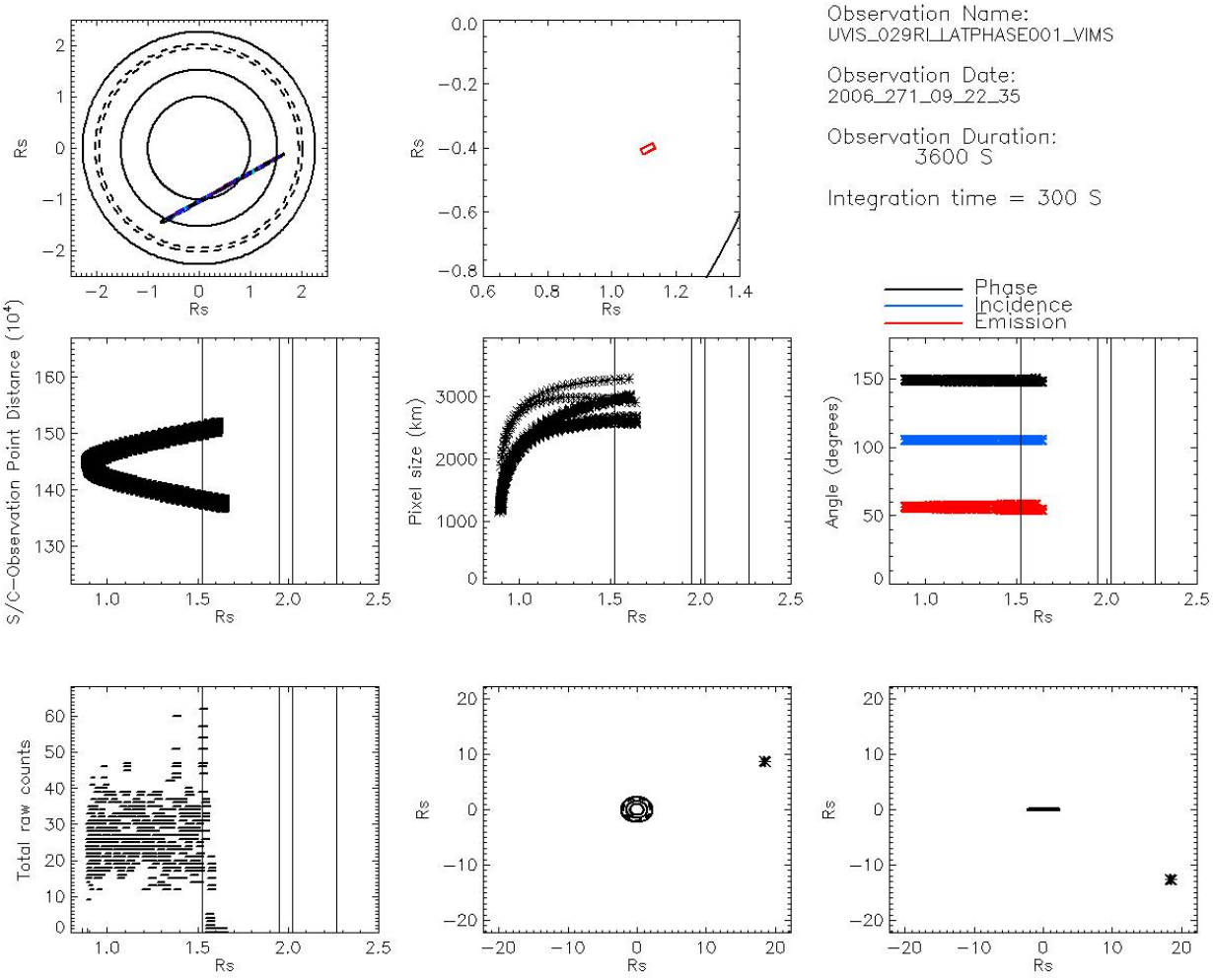


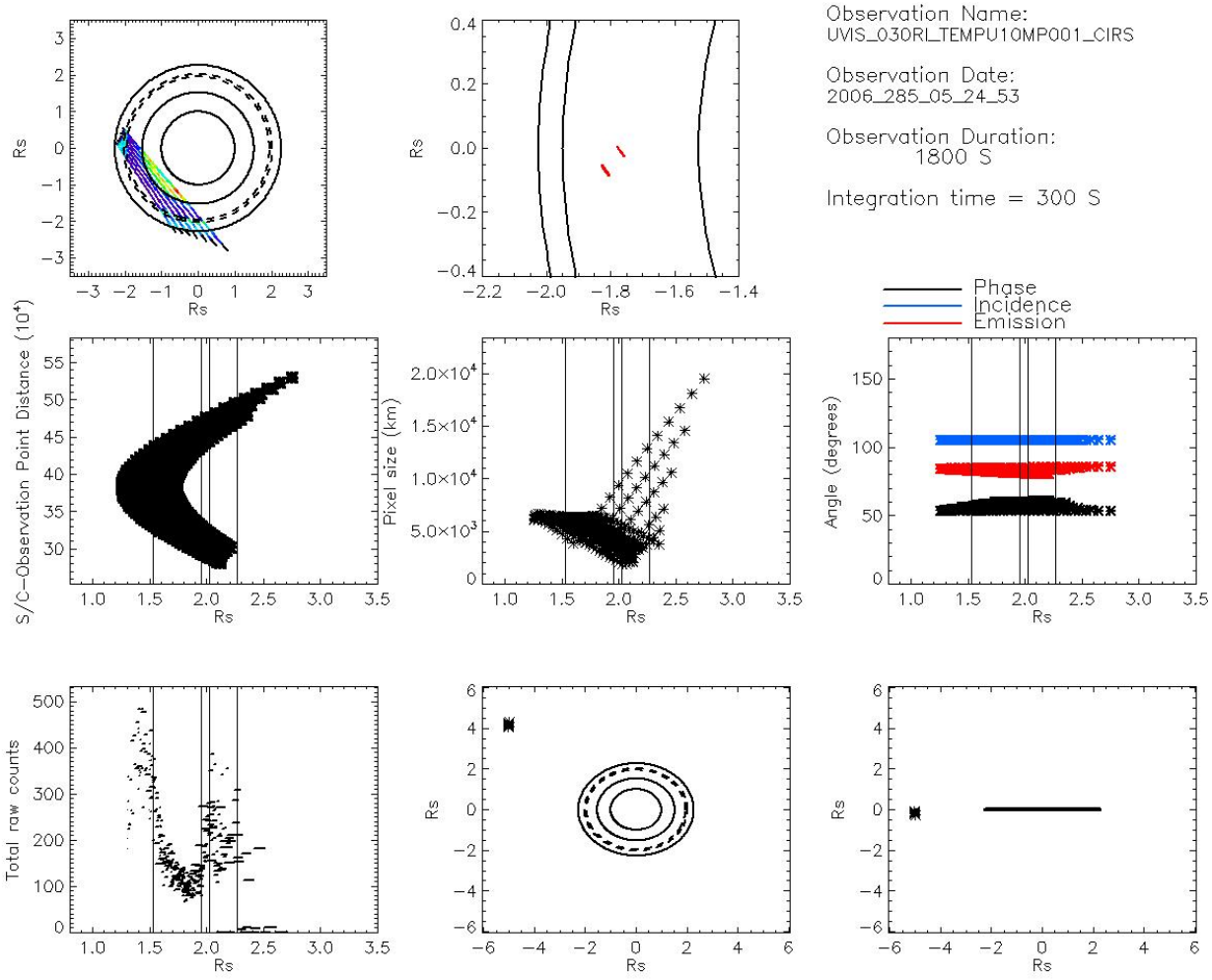


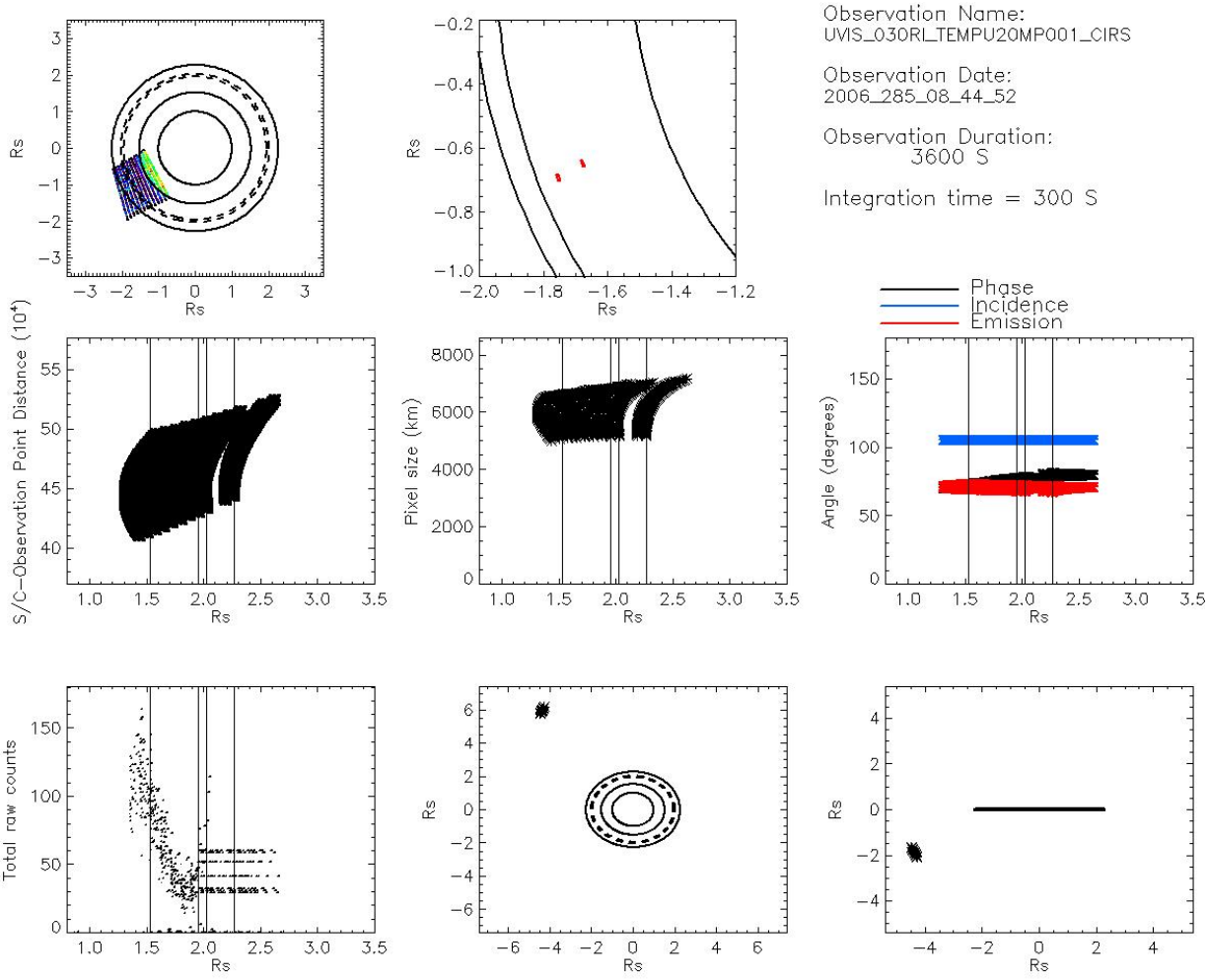

Observation Name:
UVIS_029RI_LATPHASE001_VIMS
Observation Date:
2006_271_06_21_36
Observation Duration:
3600 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts

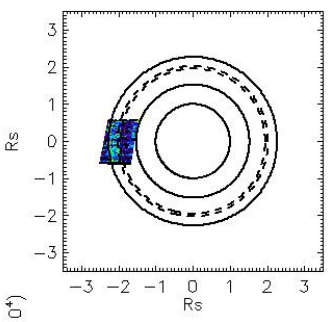

Observation Name:
UVIS_029RI_LATPHASE001_VIMS
Observation Date:
2006_271_07_29_53
Observation Duration:
3300 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts

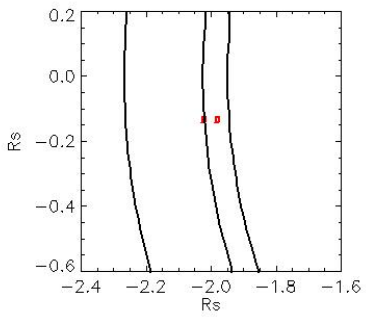

Observation Name:
UVIS_029RI_LATPHASE001_VIMS
Observation Date:
2006_271_08_26_14
Observation Duration:
3300 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts


Observation Name:
UVIS_029RI_LATPHASE001_VIMS
Observation Date:
2006_271_09_22_35
Observation Duration:
3600 S
Integration time = 300 S
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Phase
Incidence
Emission
Angle (degrees)
Total raw counts


Observation Name:
UVIS_030RI_TEMPU10MP001_CIRS
Observation Date:
2006_285_05_24_53
Observation Duration:
1800 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10⁴)
Pixel size (km)
Angle (degrees)
Total raw counts


Observation Name:
UVIS_030RI_TEMPU20MP001_CIRS
Observation Date:
2006_285_08_44_52
Observation Duration:
3600 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts



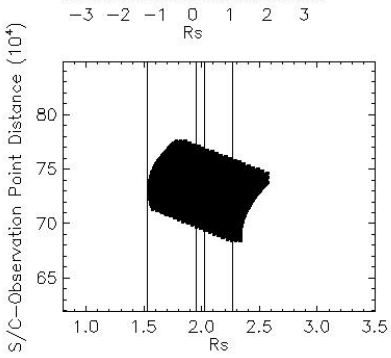


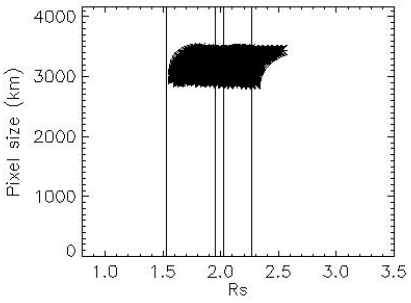
Observation Name:
UVIS_030RI_TEMPU40MP001_CIRS

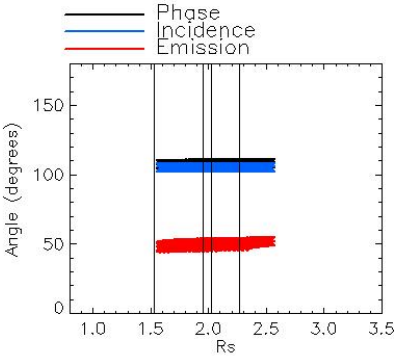
Observation Date:
2006_285_20_54_52

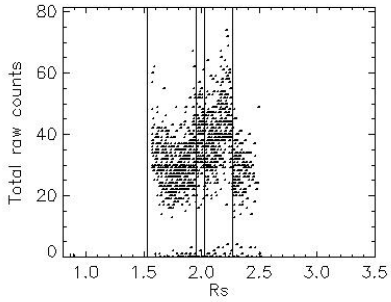
Observation Duration:
5700 S

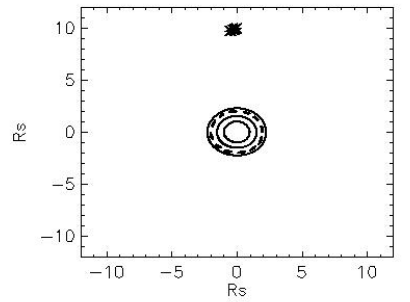
Integration time = 300 S

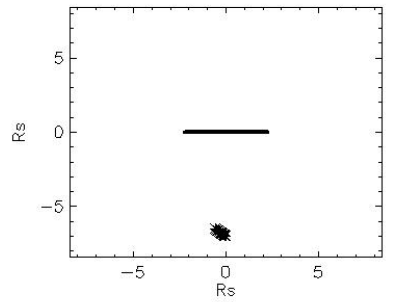


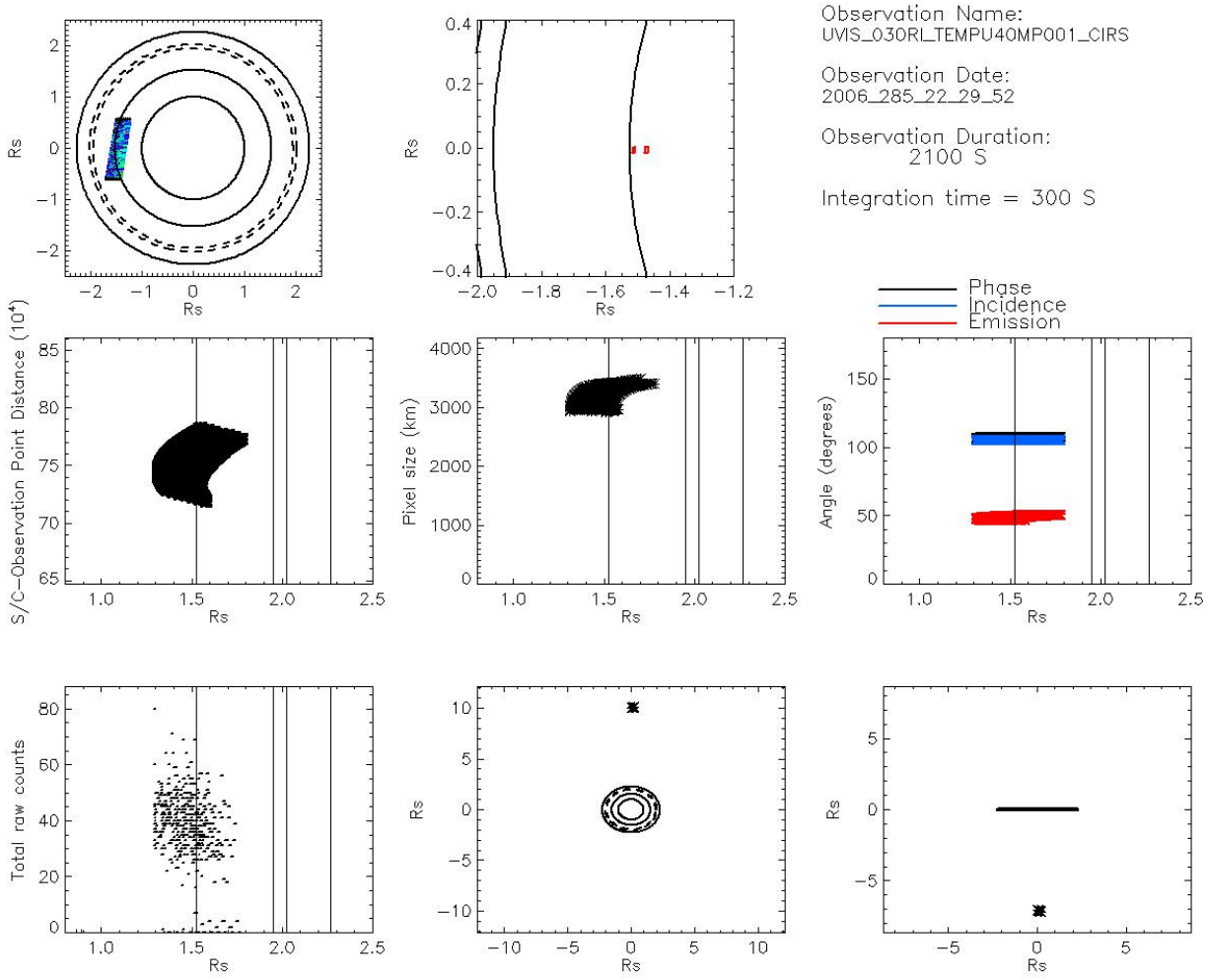


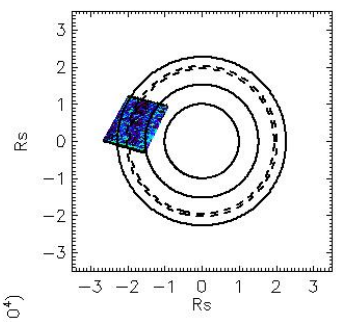


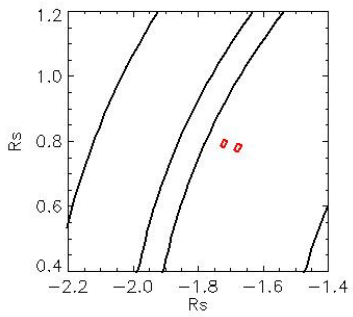







Observation Name:
UVIS_030RI_TEMPU40MP001_CIRS
Observation Date:
2006_285_22_29_52
Observation Duration:
2100 S
Integration time = 300 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts



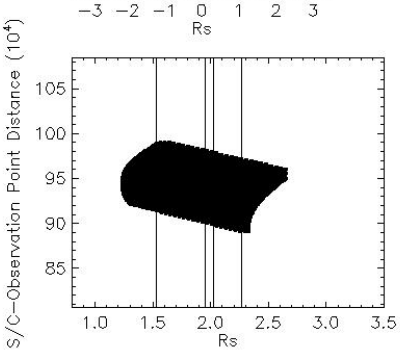


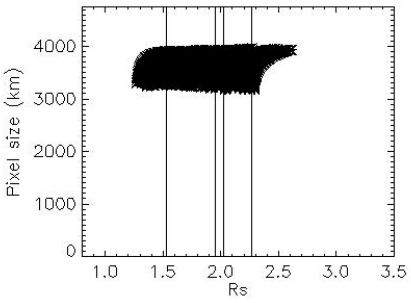
Observation Name:
UVIS_030RI_TEMPU45MP001_CIRS

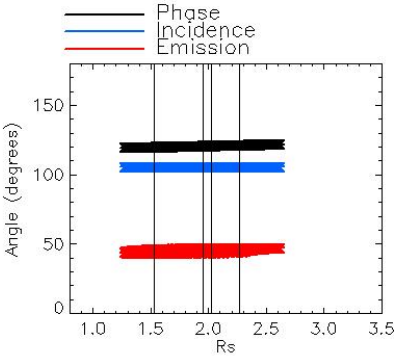
Observation Date:
2006_286_07_24_52

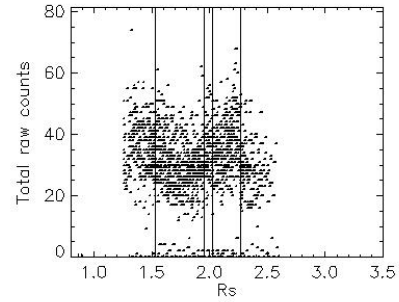
Observation Duration:
7500 S

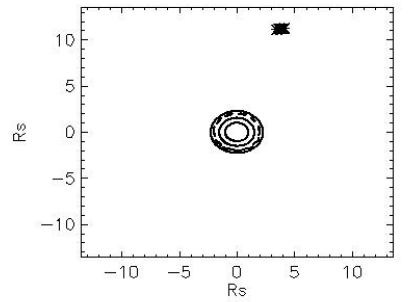
Integration time = 300 S

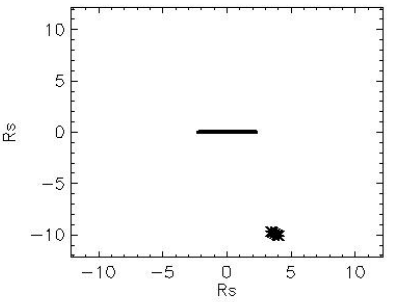


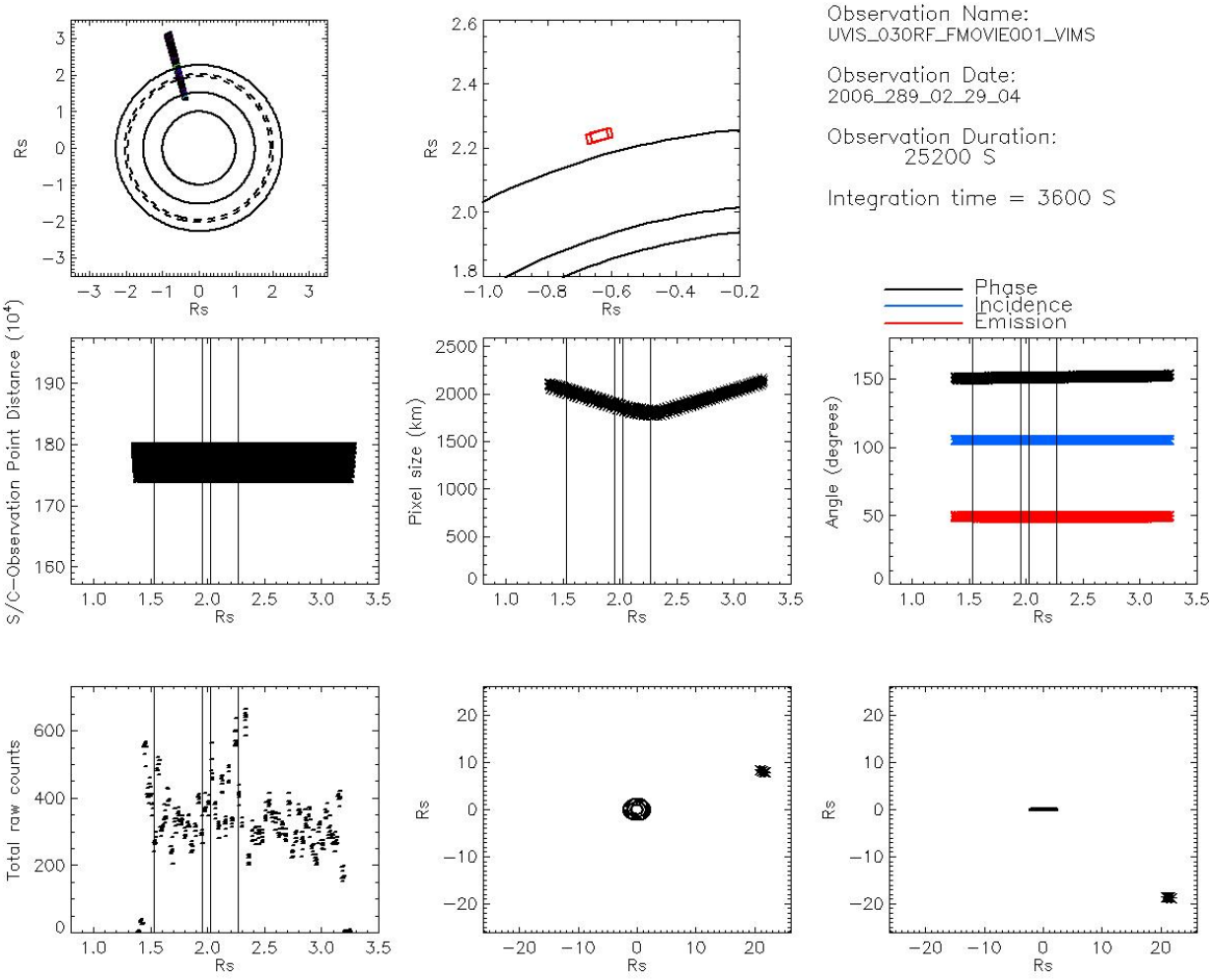


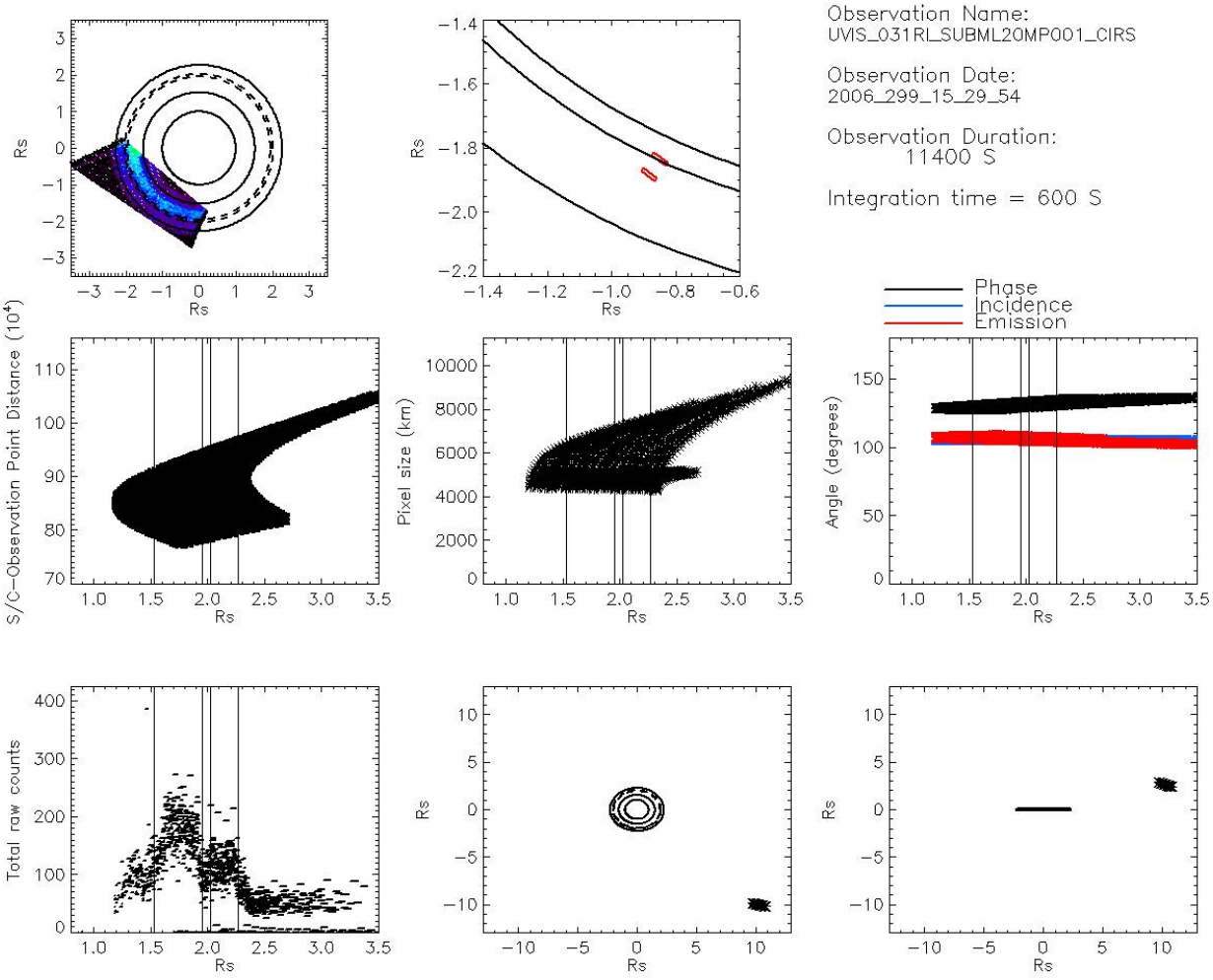


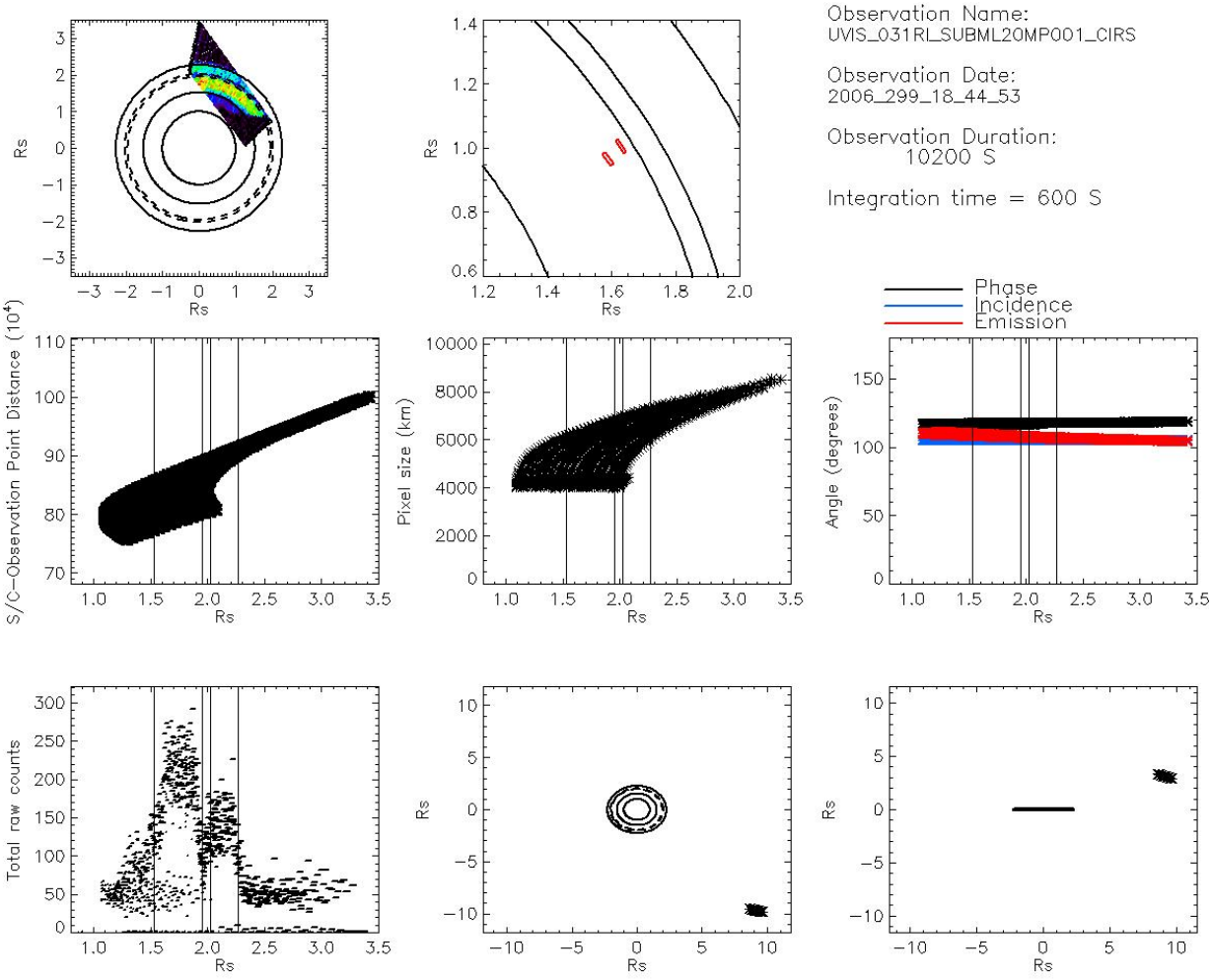


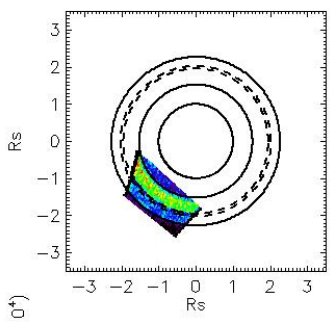


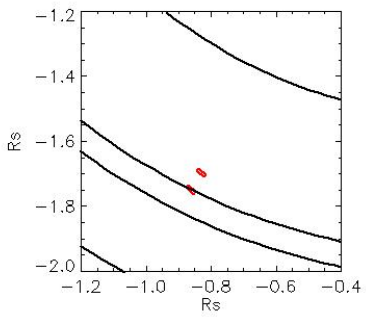



Observation Name:
UVIS_030RF_FMOVIE001_VIMS
Observation Date:
2006_289_02_29_04
Observation Duration:
25200 S
Integration time = 3600 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts
Rs


Observation Name:
UVIS_031RI_SUBML20MP001_CIRS
Observation Date:
2006_299_15_29_54
Observation Duration:
11400 S
Integration time = 600 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts
Rs


Observation Name:
UVIS_031RI_SUBML20MP001_CIRS
Observation Date:
2006_299_18_44_53
Observation Duration:
10200 S
Integration time = 600 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts
Rs



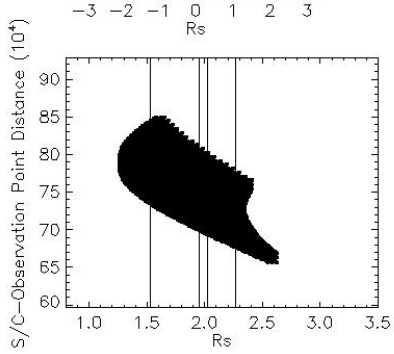


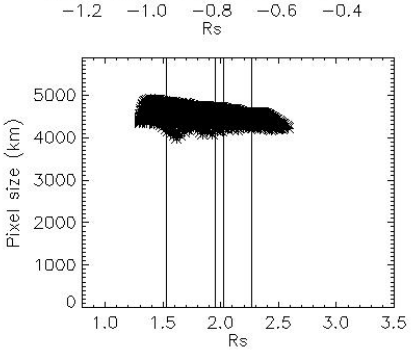
Observation Name:
UVIS_031RI_SUBML20MP001_CIRS

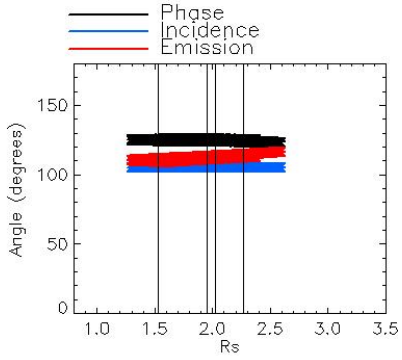
Observation Date:
2006_299_21_42_52

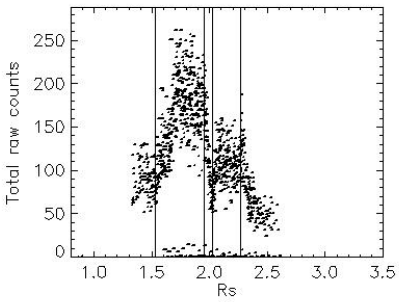
Observation Duration:
10200 S

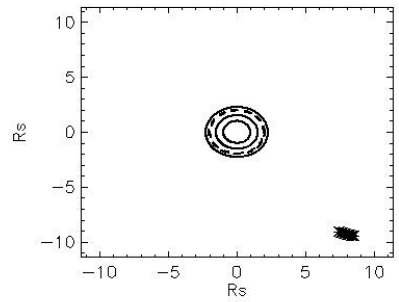
Integration time = 600 S

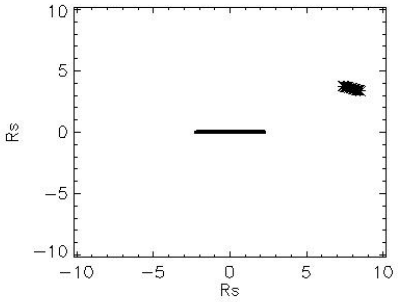


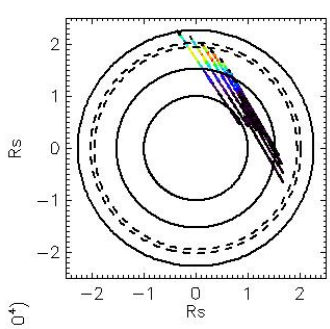


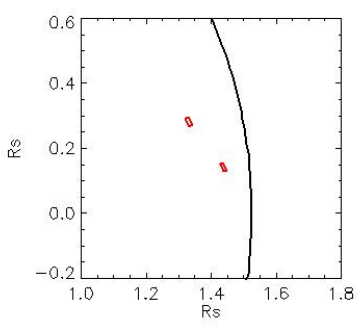










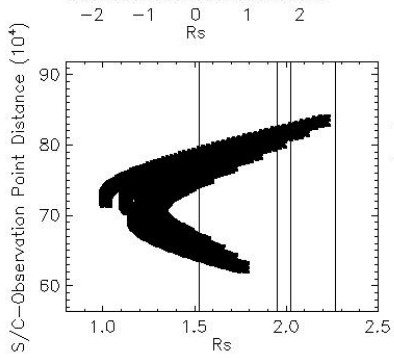


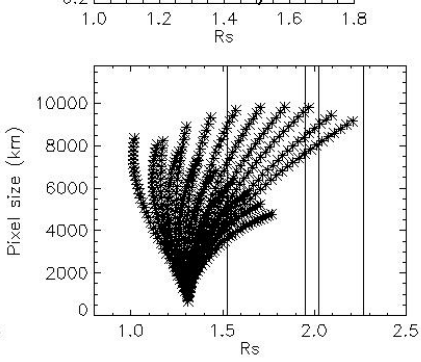
Observation Name:
UVIS_031RC_SHADLMP001_CIRS

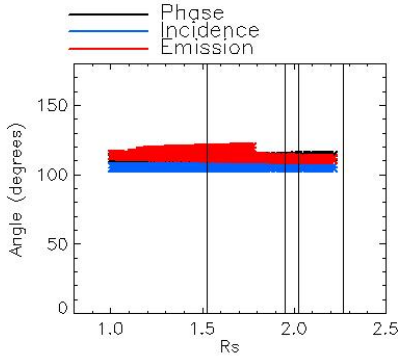
Observation Date:
2006_300_00_59_52

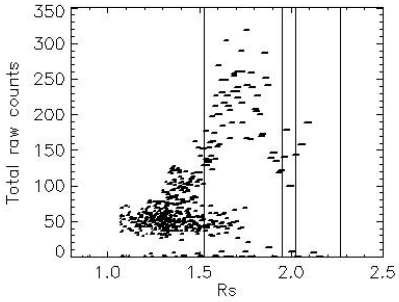
Observation Duration:
5400 S

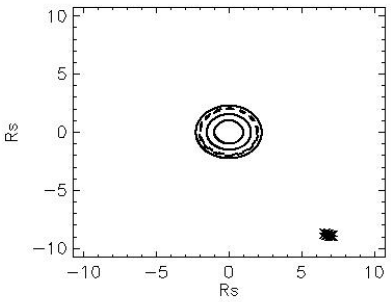
Integration time = 600 S

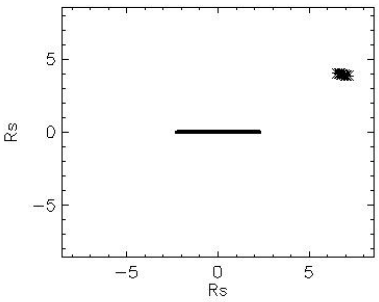


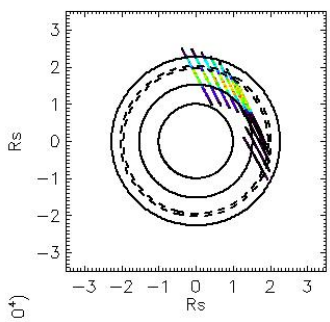


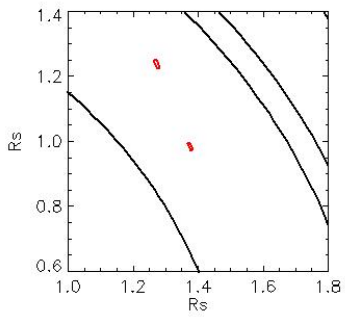










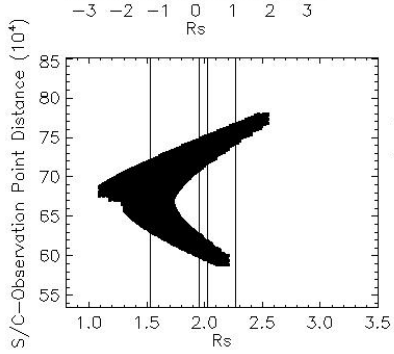


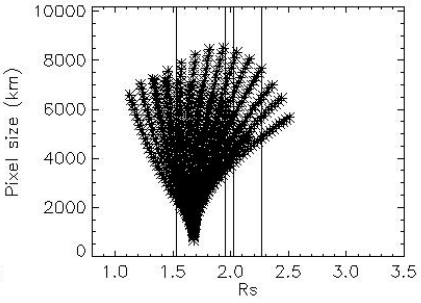
Observation Name:
UVIS_031RC_SHADLMP001_CIRS

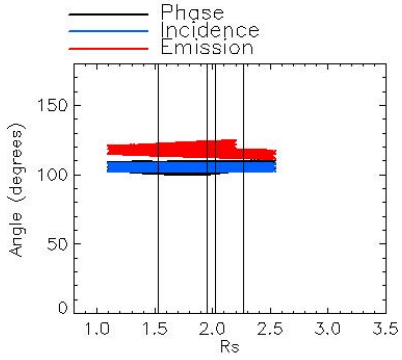
Observation Date:
2006_300_02_49_52

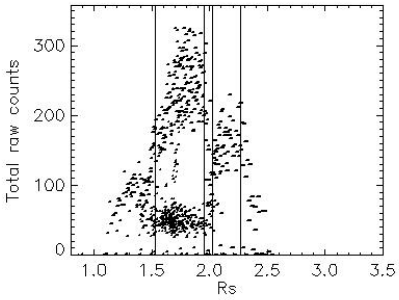
Observation Duration:
7200 S

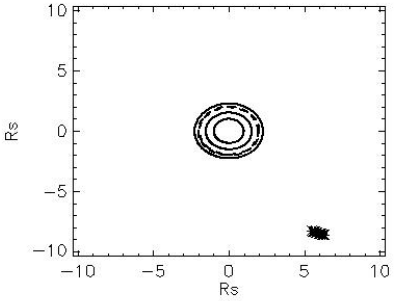
Integration time = 600 S

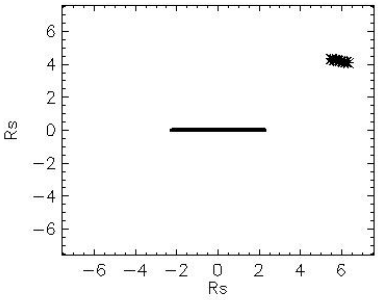


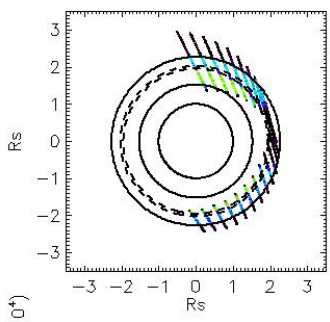


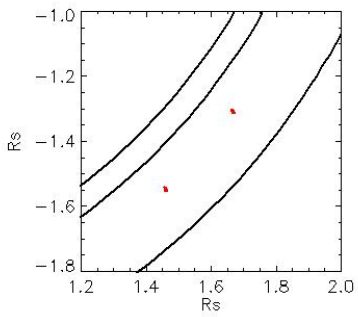










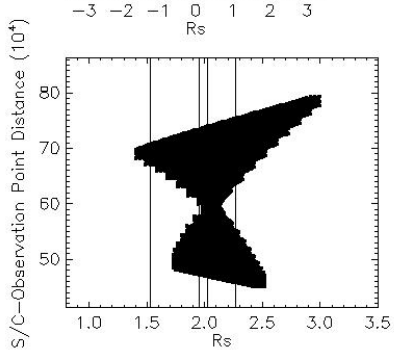


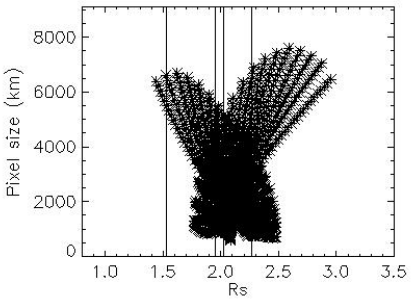
Observation Name:
UVIS_031RC_SHADLMP001_CIRS

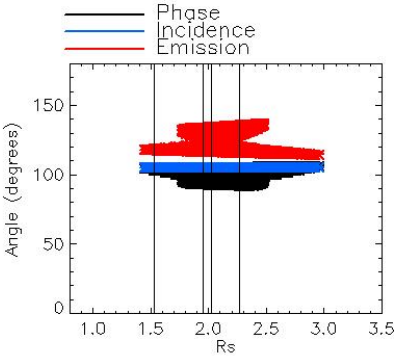
Observation Date:
2006_300_05_14_52

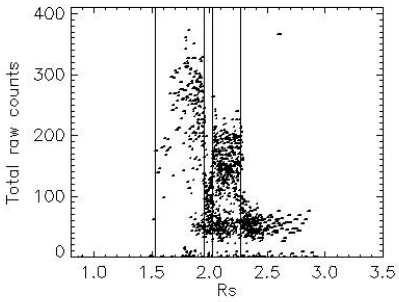
Observation Duration:
12600 S

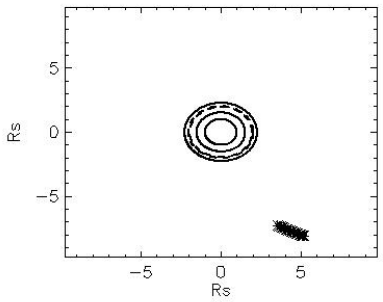
Integration time = 600 S

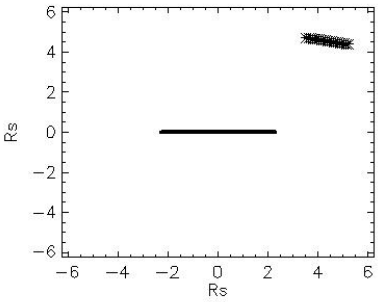


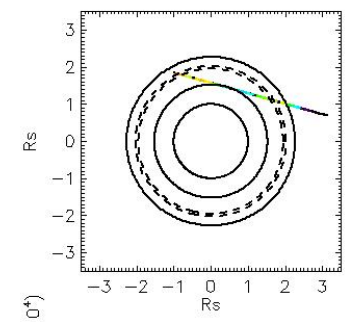


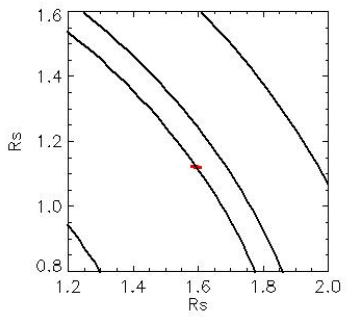










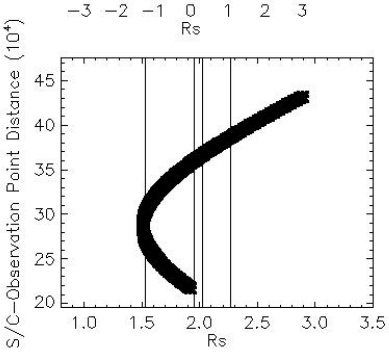


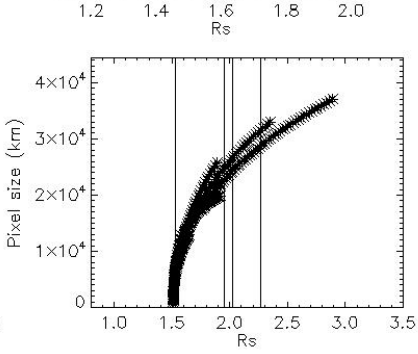
Observation Name:
UVIS_031RI_CWLEOOCC001_CIRS

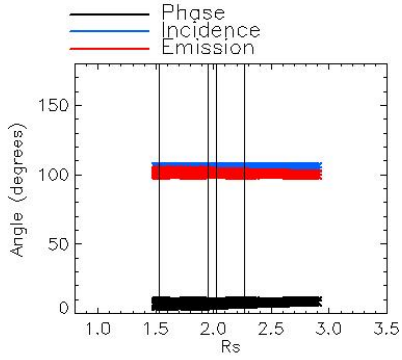
Observation Date:
2006_301_01_25_25

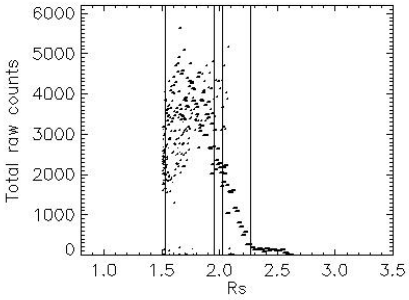
Observation Duration:
3000 S

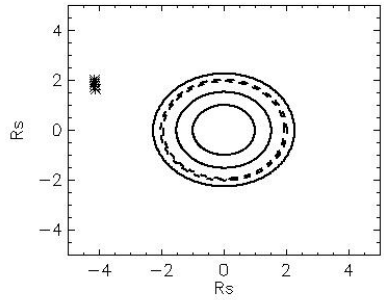
Integration time = 600 S

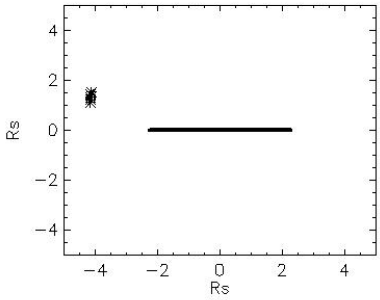


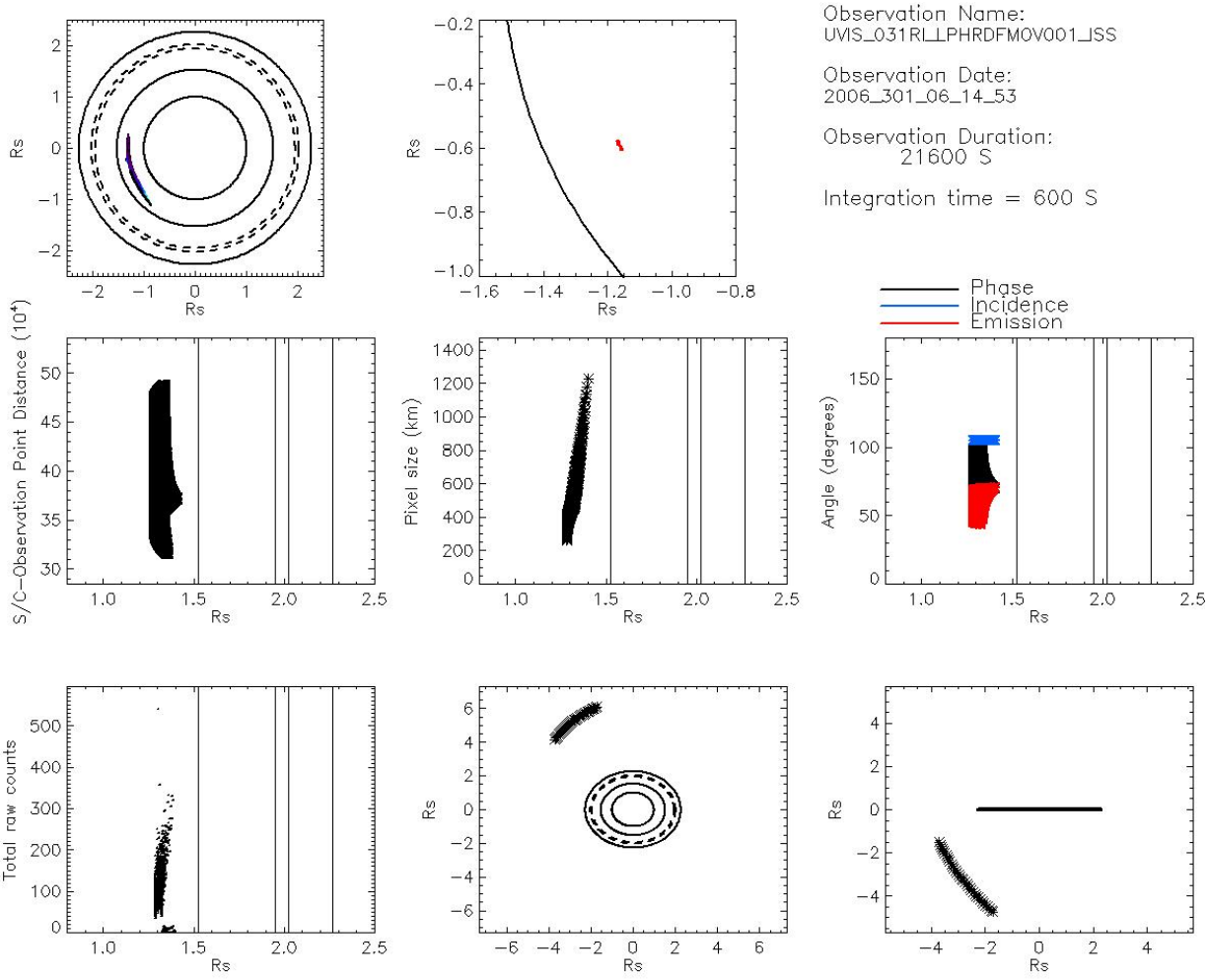


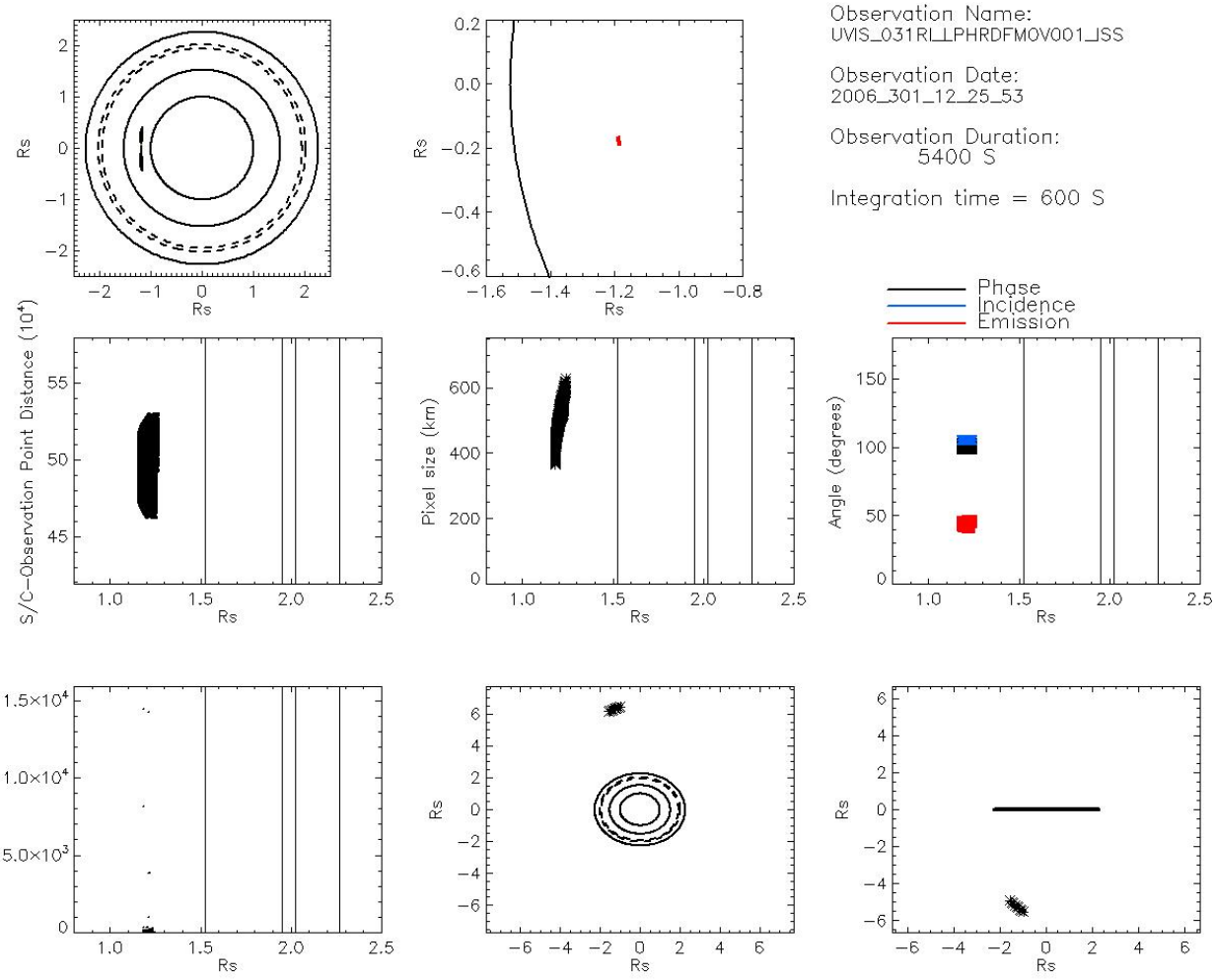


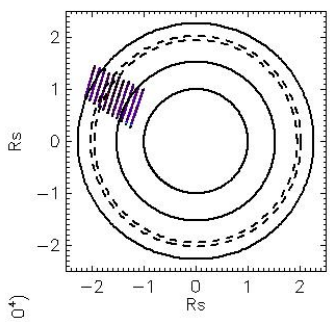


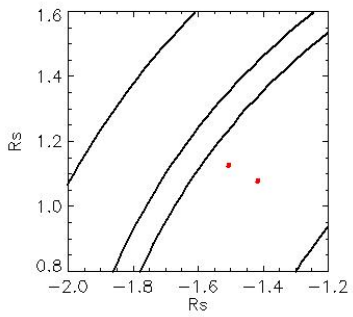





Observation Name:
UVIS_031RI_LPHRDFMOV001_ISS
Observation Date:
2006_301_06_14_53
Observation Duration:
21600 S
Integration time = 600 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts


Observation Name:
UVIS_031RI_LPHRDFMOV001_ISS
Observation Date:
2006_301_12_25_53
Observation Duration:
5400 S
Integration time = 600 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Rs



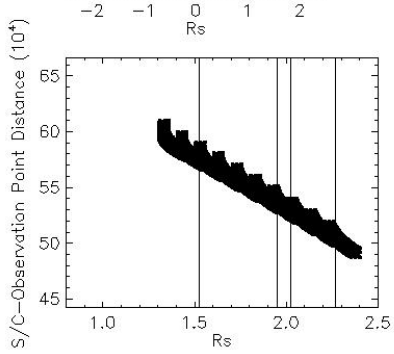


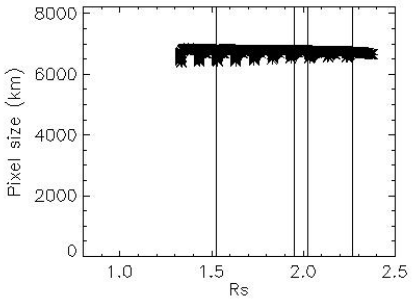
Observation Name:
UVIS_031RI_SUBMU50MP001_CIRS

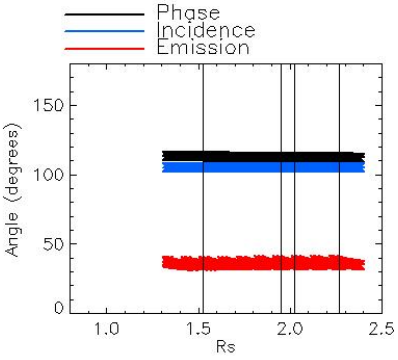
Observation Date:
2006_301_14_49_52

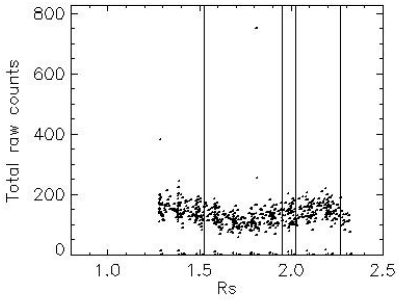
Observation Duration:
12000 S

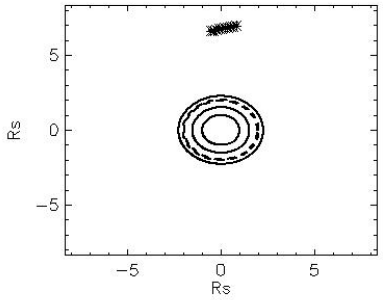
Integration time = 1200 S

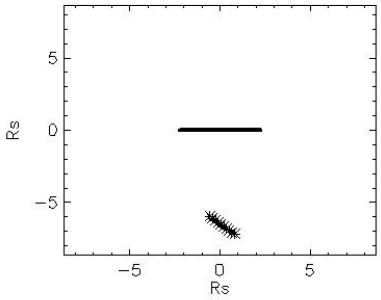


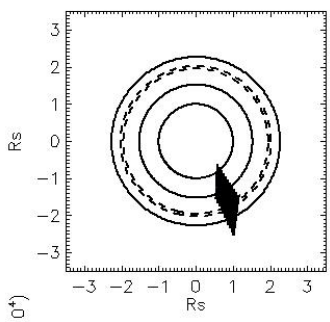


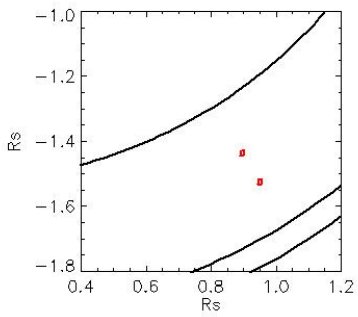










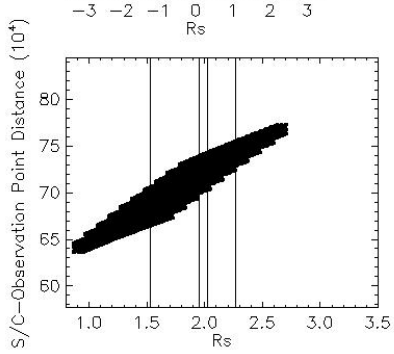


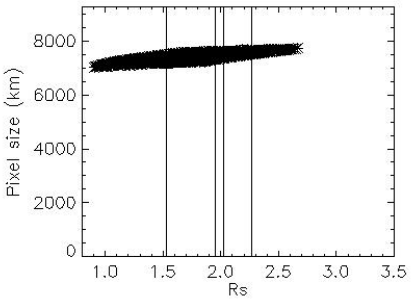
Observation Name:
UVIS_031RI_SUBMU50MP001_CIRS

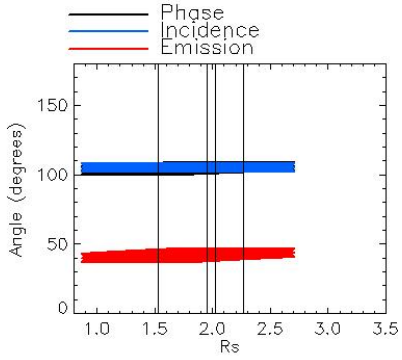
Observation Date:
2006_301_18_24_53

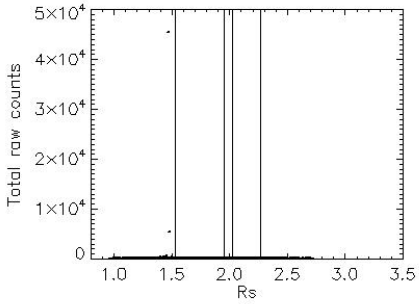
Observation Duration:
12000 S

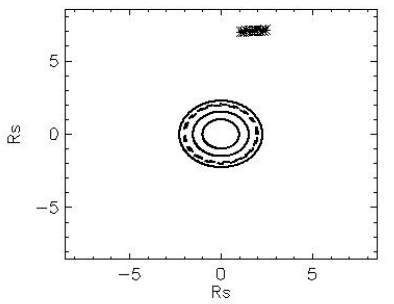
Integration time = 1200 S

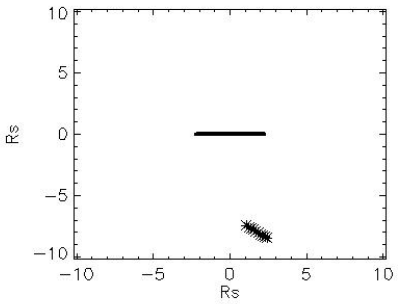


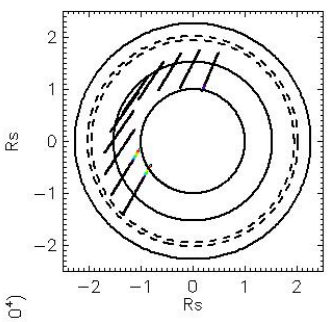


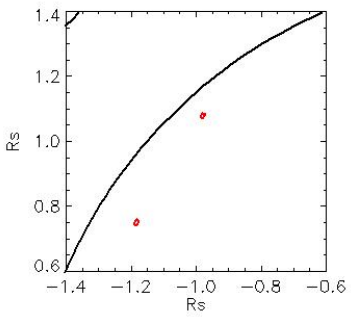










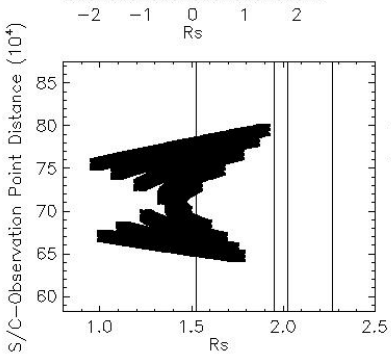


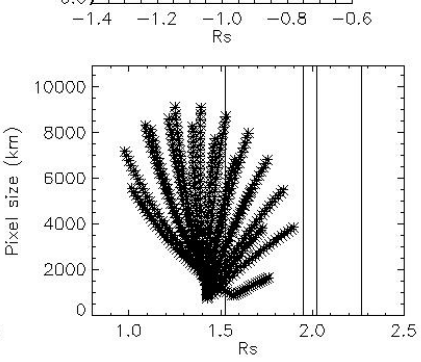
Observation Name:
UVIS_031RC_SHADULMP001_CIRS

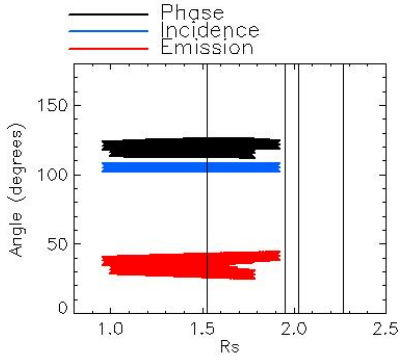
Observation Date:
2006_301_22_14_02

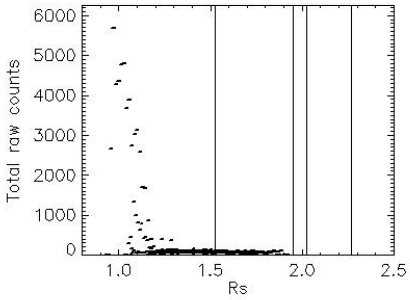
Observation Duration:
5400 S

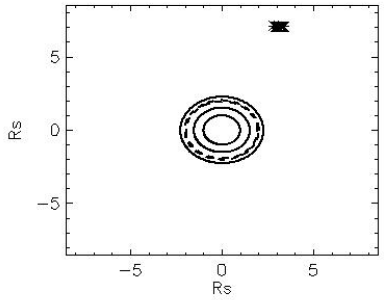
Integration time = 600 S

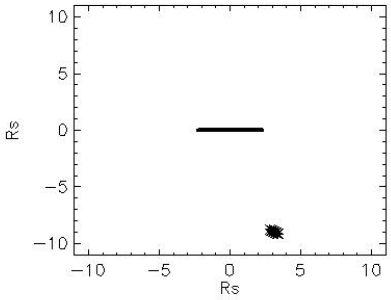


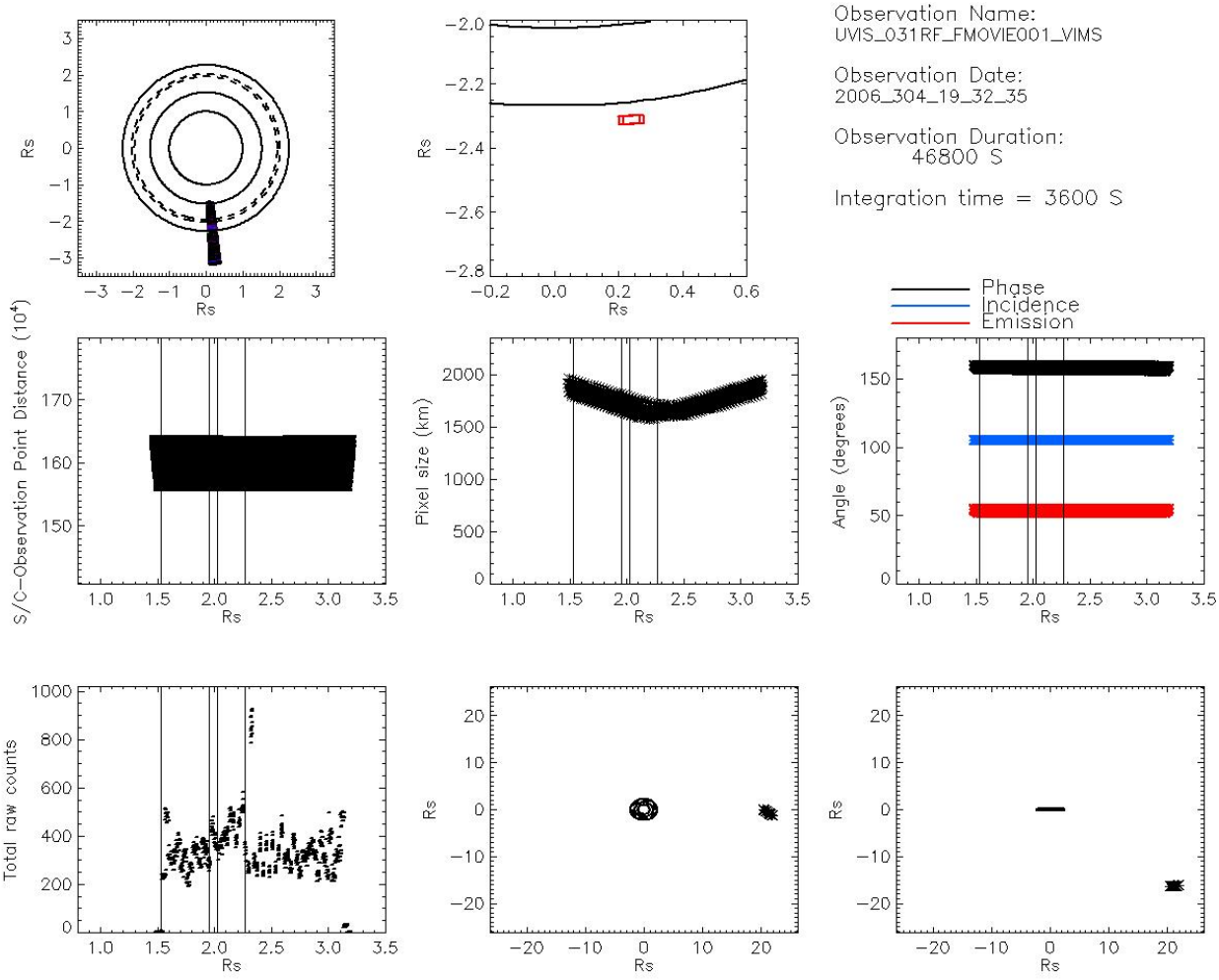


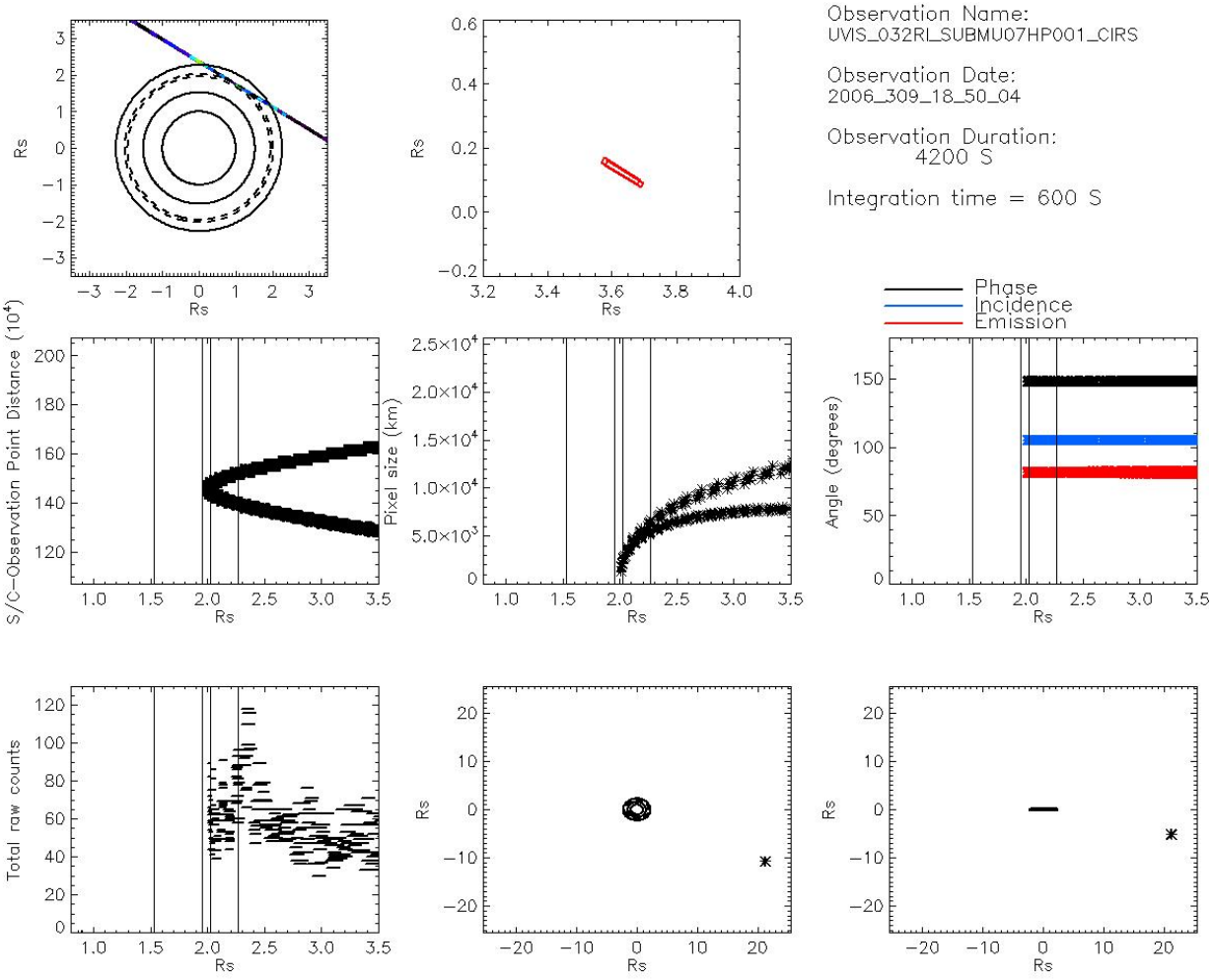









Observation Name:
UVIS_031RF_FMOVIE001_VIMS
Observation Date:
2006_304_19_32_35
Observation Duration:
46800 S
Integration time = 3600 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts

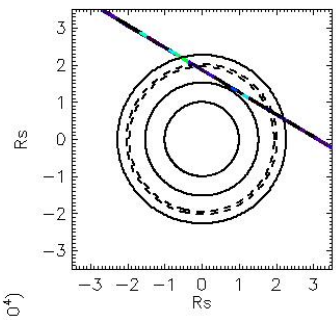

Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS
Observation Date:
2006_309_18_50_04
Observation Duration:
4200 S
Integration time = 600 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts

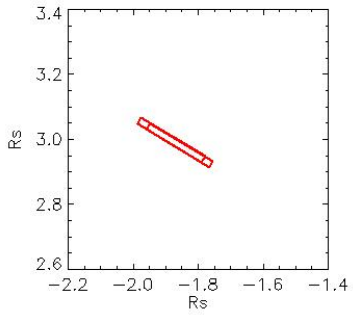
Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS

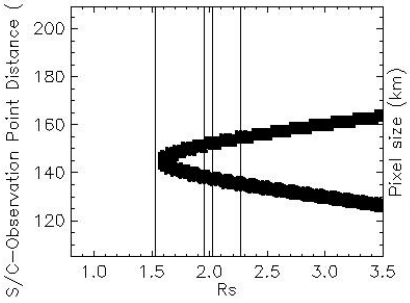
Observation Date:
2006_309_20_05_04

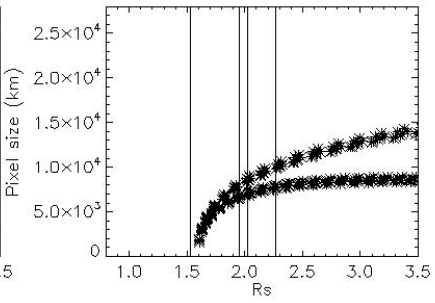
Observation Duration:
4200 S

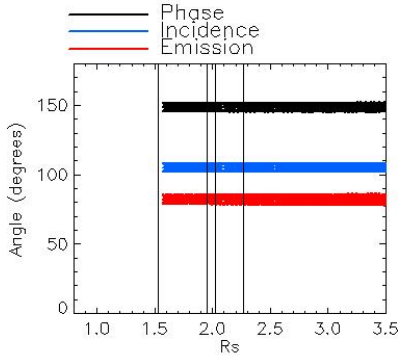
Integration time = 600 S

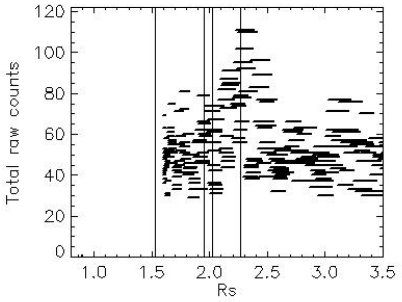


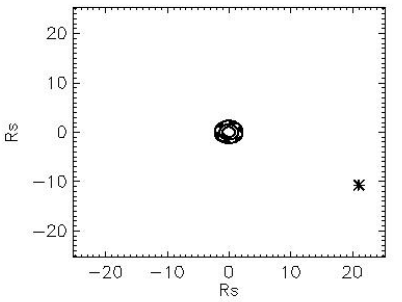


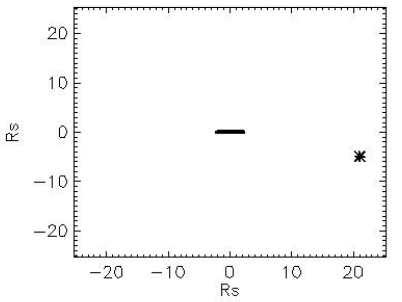


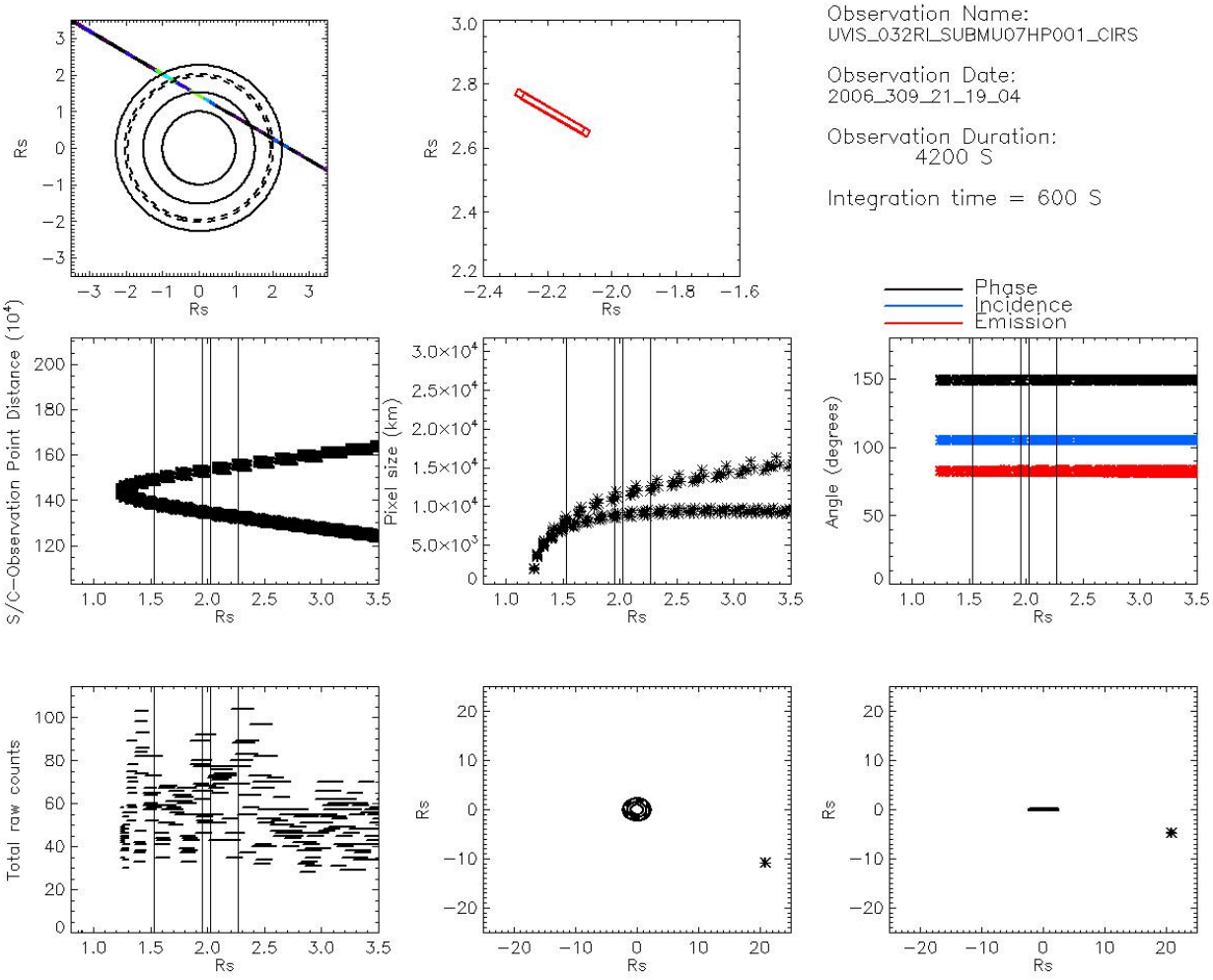










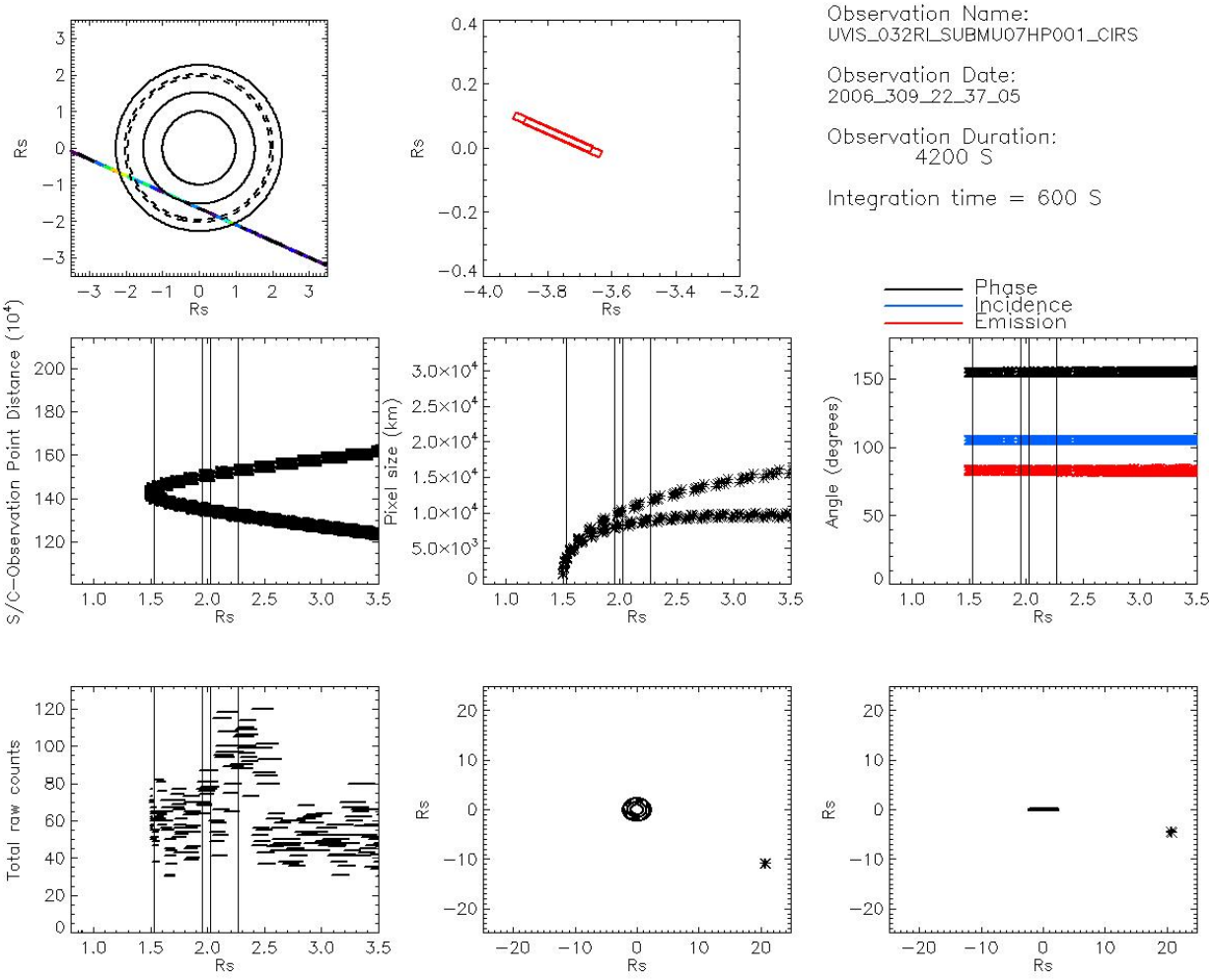

Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS
Observation Date:
2006_309_21_19_04
Observation Duration:
4200 S
Integration time = 600 S
Phase
Incidence
Emission
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts

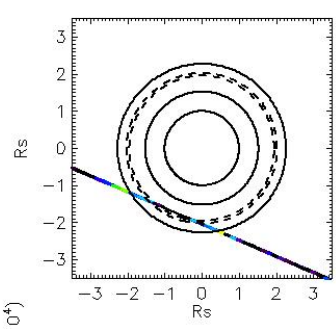
Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS

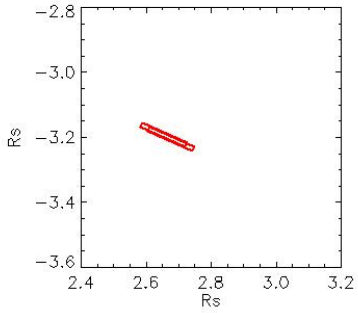
Observation Date:
2006_309_22_37_05

Observation Duration:
4200 S

Integration time = 600 S





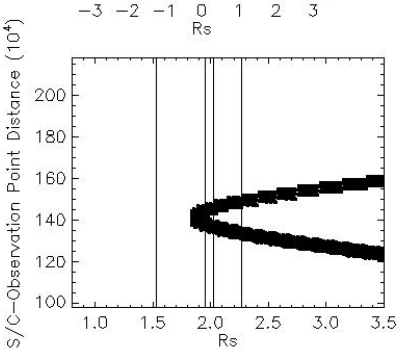


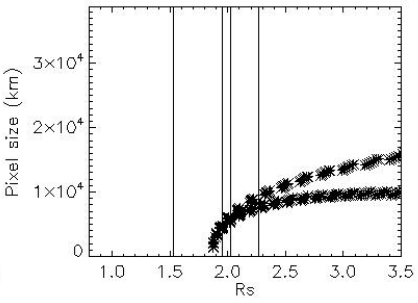
Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS

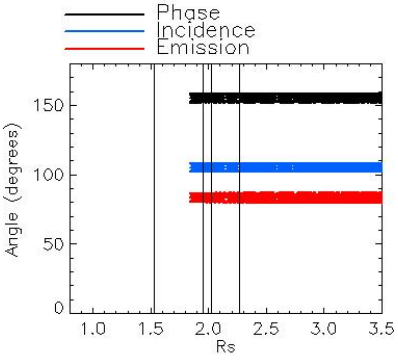
Observation Date:
2006_309_23_52_05

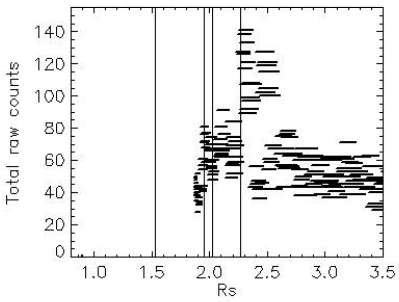
Observation Duration:
4200 S

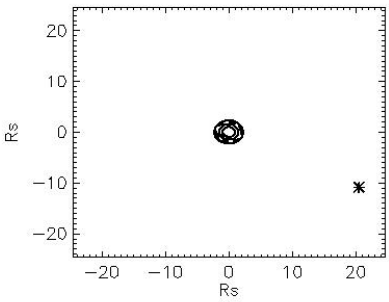
Integration time = 600 S

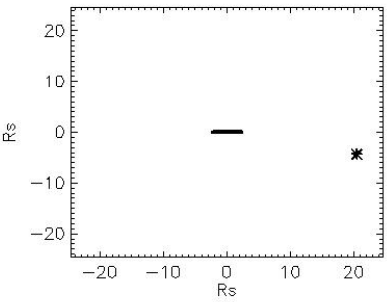


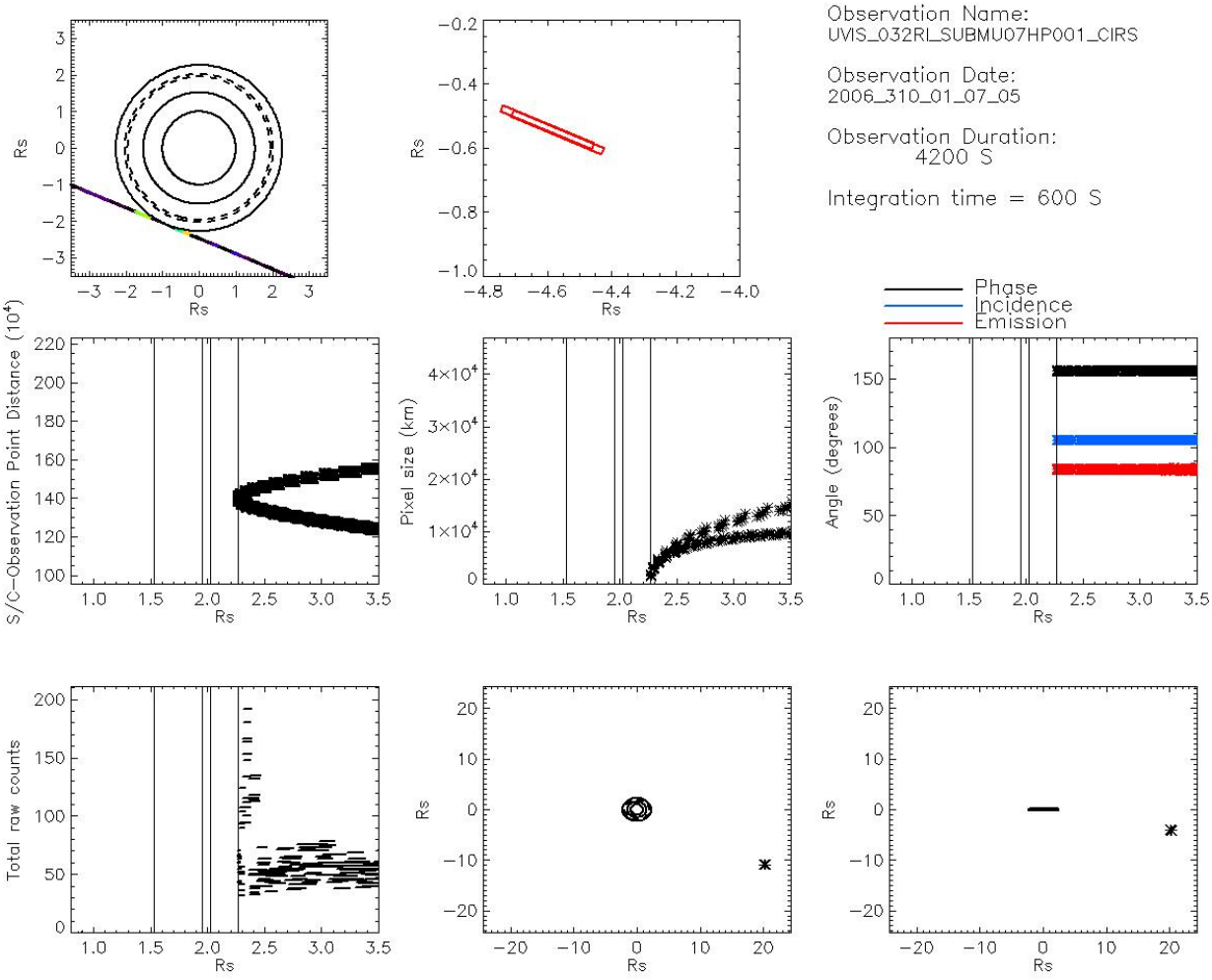


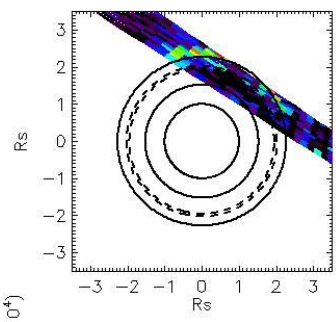


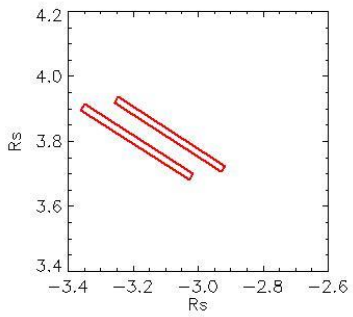







Observation Name:
UVIS_032RI_SUBMU07HP001_CIRS
Observation Date:
2006_310_01_07_05
Observation Duration:
4200 S
Integration time = 600 S
Rs
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Phase
Incidence
Emission
Total raw counts



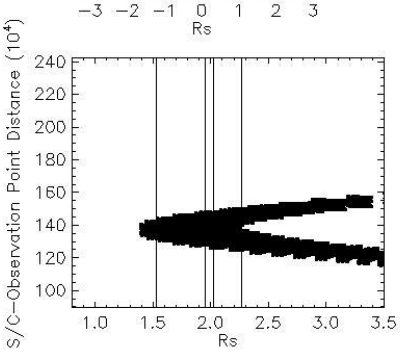


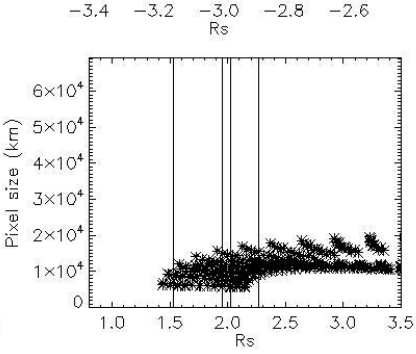
Observation Name:
UVIS_032RI_TEMPU05HP001_CIRS

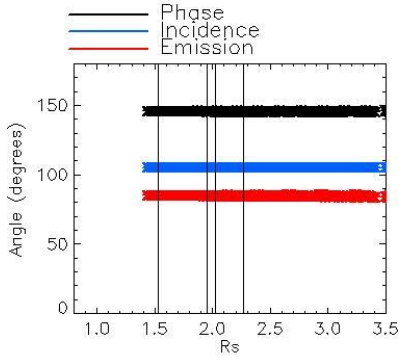
Observation Date:
2006_310_02_50_05

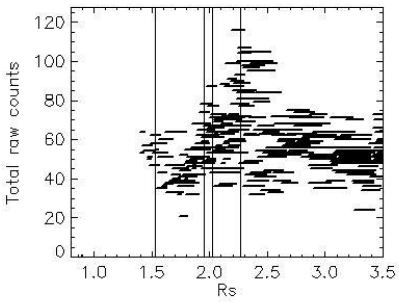
Observation Duration:
7200 S

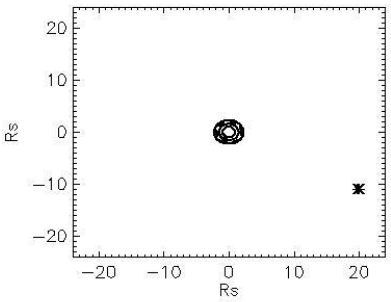
Integration time = 600 S

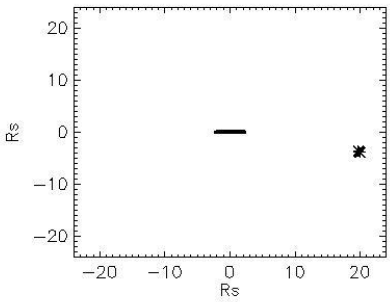


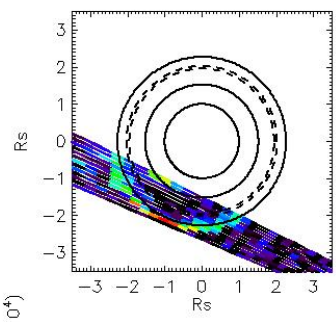


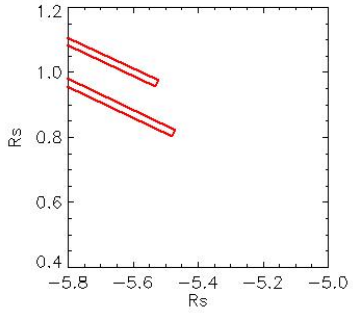










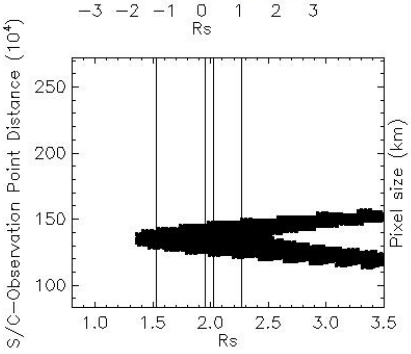


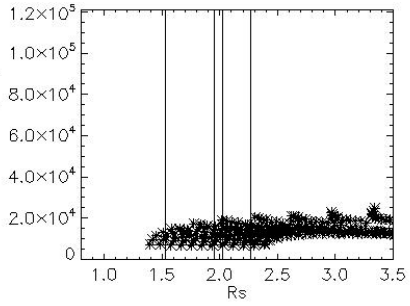
Observation Name:
UVIS_032RI_TEMPU05HP001_CIRS

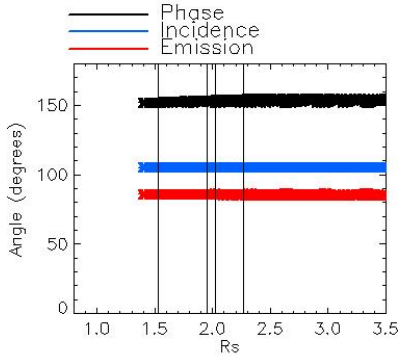
Observation Date:
2006_310_04_58_05

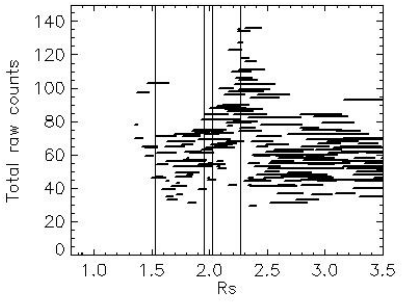
Observation Duration:
7200 S

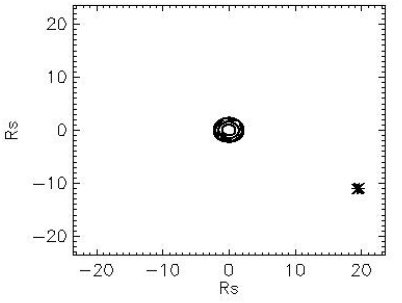
Integration time = 600 S

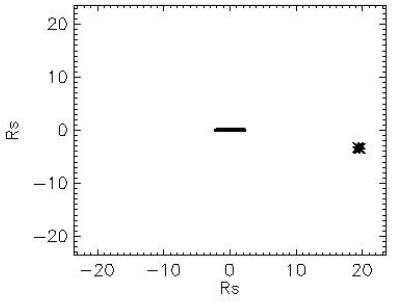


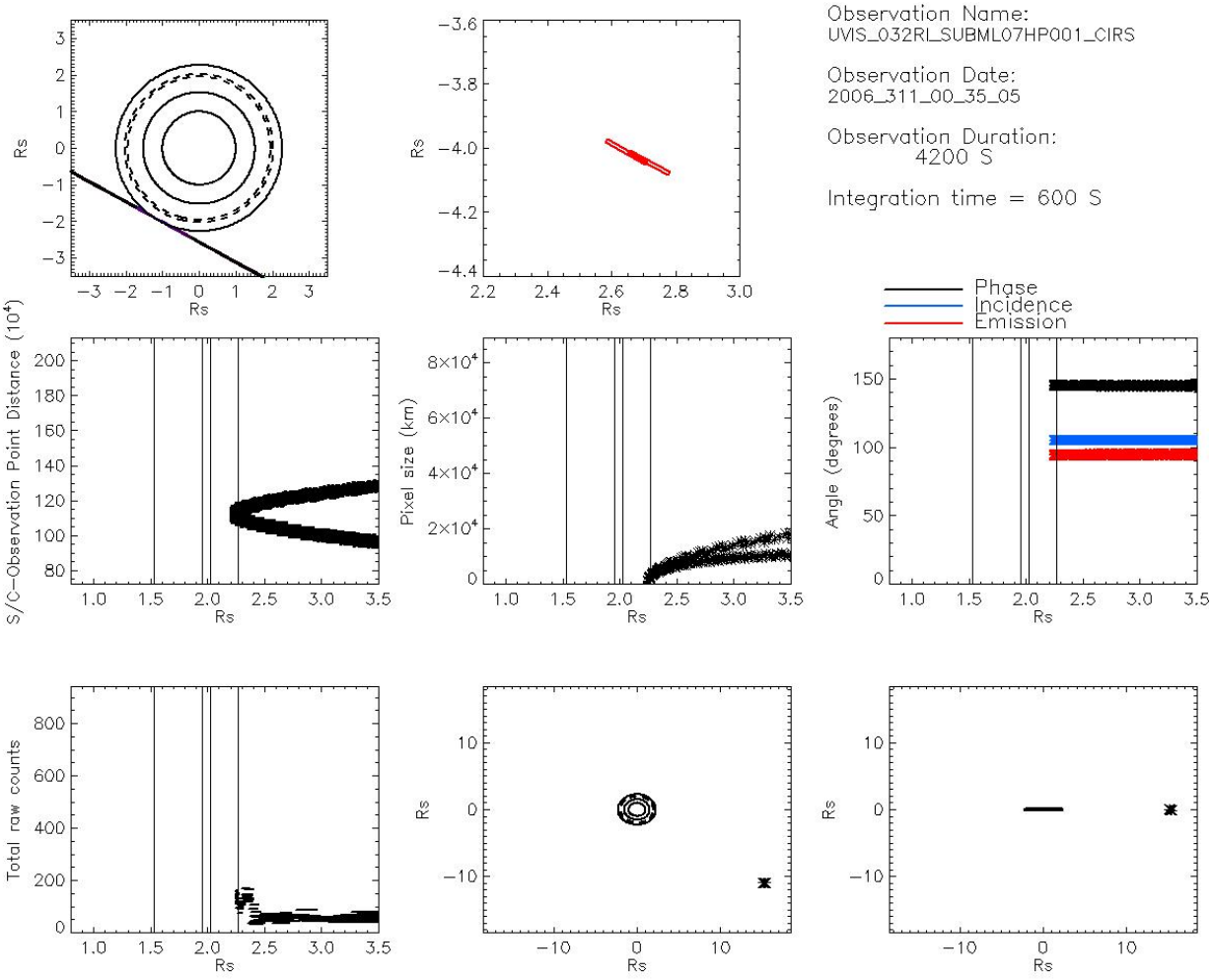










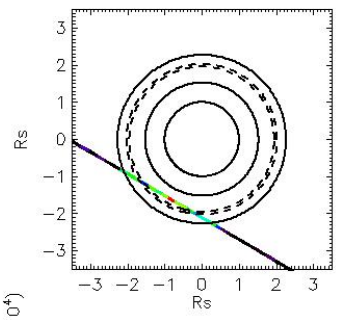

Observation Name:
UVIS_032RI_SUBML07HP001_CIRS
Observation Date:
2006_311_00_35_05
Observation Duration:
4200 S
Integration time = 600 S
Phase
Incidence
Emission
S/C–Observation Point Distance (10^4)
Pixel size (km)
Angle (degrees)
Total raw counts
Rs

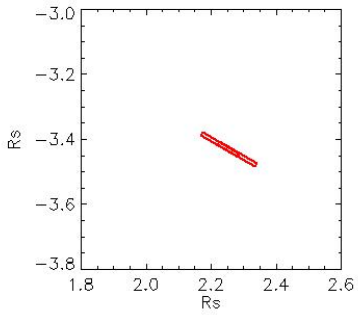
Observation Name:
UVIS_032RI_SUBML07HP001_CIRS

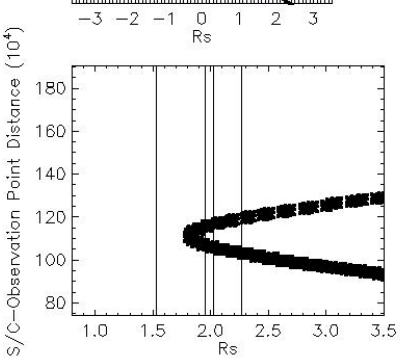
Observation Date:
2006_311_01_50_05

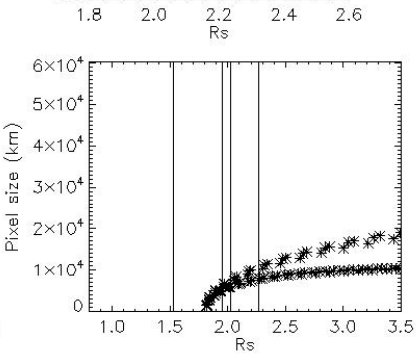
Observation Duration:
1800 S

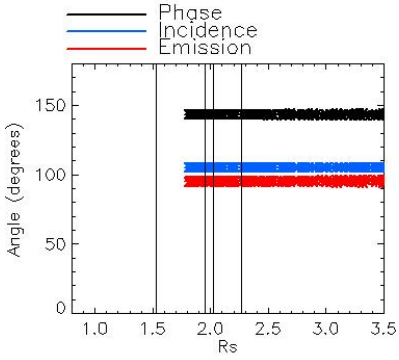
Integration time = 600 S

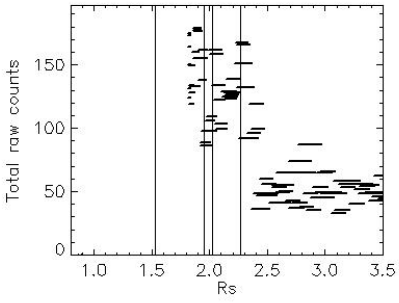


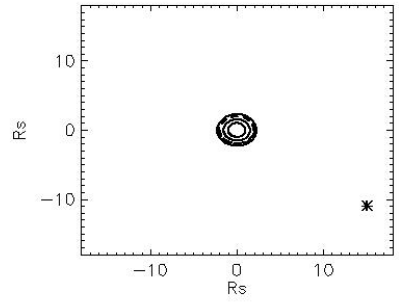


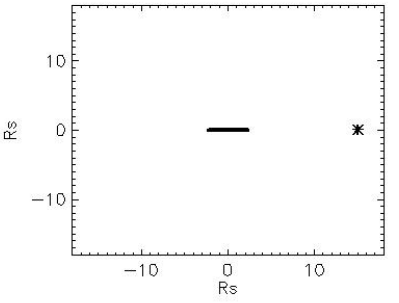


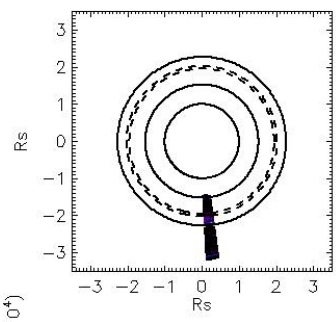


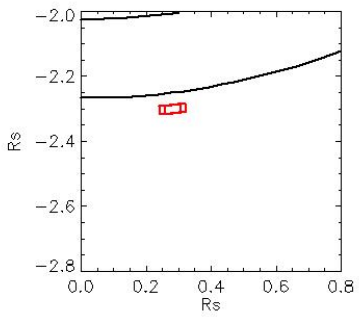










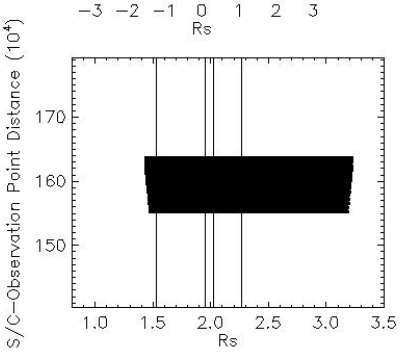


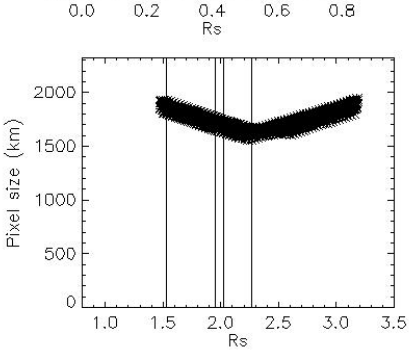
Observation Name:
UVIS_032RF_FMOVIE001_VIMS

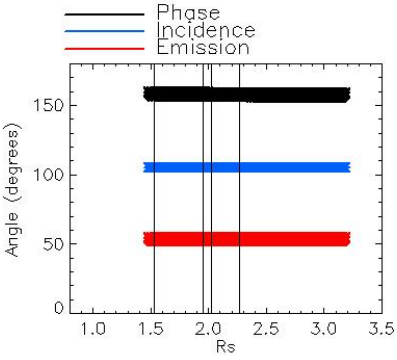
Observation Date:
2006_316_18_48_35

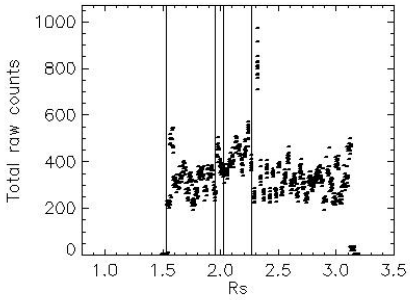
Observation Duration:
46800 S

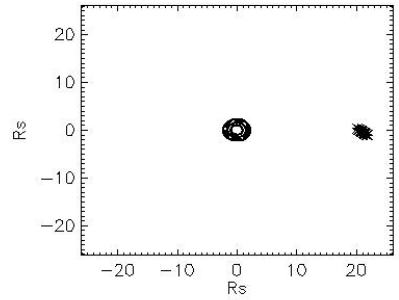
Integration time = 3600 S

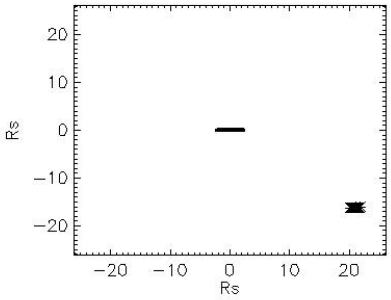


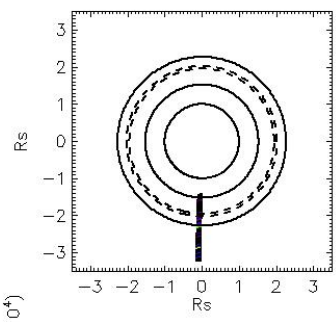


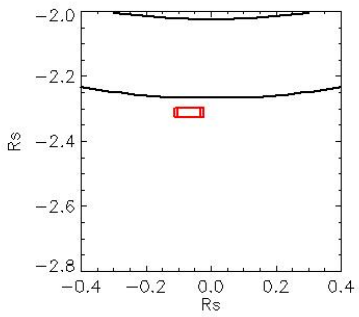












Observation Name:
UVIS_032RF_FMOVIE002_VIMS

Observation Date:
2006_317_23_19_35

Observation Duration:
7200 S

Integration time = 3600 S