Data Validation (DV) Report
for TESS ID 307210830
Sectors 2 - 12

This Data Validation Report was produced in the
TESS Science Processing Operations Center (SPOC) Pipeline
at NASA Ames Research Center

07-Aug-2019 20:47:00 Z

Contents

1 Summary

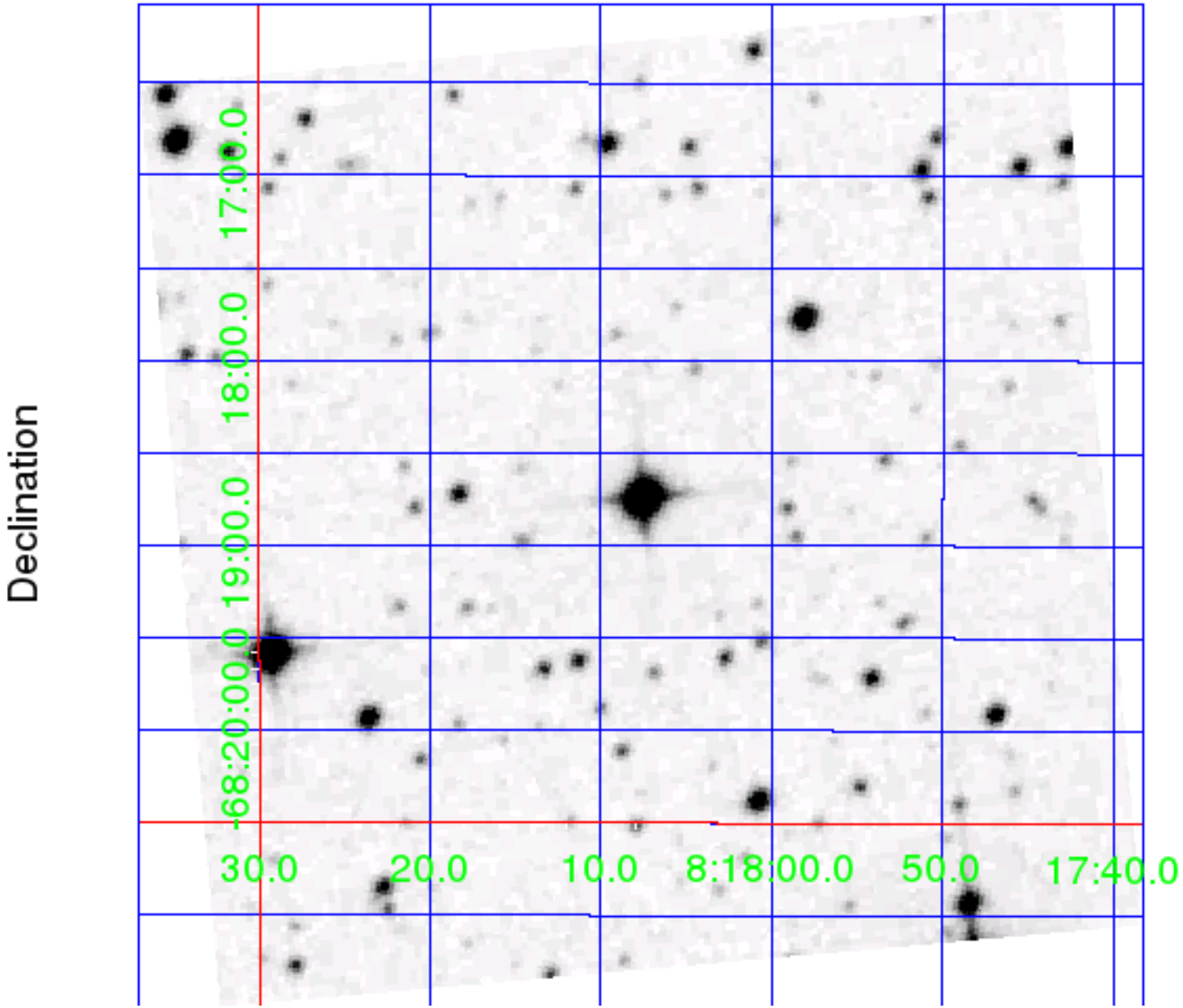
Target Properties	Value	Uncertainty	Units	Provenance
Catalog ID	307210830			
TOI ID	175			
TESS Name	-			
RA	124.53190000	0	degrees	TIC7
Dec	-68.31300000	0	degrees	TIC7
Magnitude	9.393	0.009		TIC7
Radius	0.313	0.009	Solar radii	TIC7
Effective Temperature	3469	68	Kelvin	TIC7
log(g)	4.940	0.058929	cm/sec^2	TIC7
[M/H]	0.000	0	Solar metallicity	Solar
Stellar Density	10.152	1.408	Solar density	TIC7-Derived
Limb Darkening Coefficient 1	0.66078			
Limb Darkening Coefficient 2	0.30626			
Limb Darkening Coefficient 3	-0.26499			
Limb Darkening Coefficient 4	0.061182			
Number of Planet Candidates	3			
TOI Model	toi-plus-2019-08-02.csv			
TESS Names Model	-			
External TCE Model	-			
Software Revision	spoc-3.3.75-20190724			
Date Report Generated	07-Aug-2019 20:47:00 Z			

Sector	Target Table	Camera/ CCD	Crowding Metric	Flux Fraction
2	129	4:3	0.9981	0.8776
5	136	4:4	0.9981	0.8918
8	148	4:1	0.9986	0.8926
9	152	4:1	0.9983	0.8727
10	154	3:4	0.9963	0.8772
11	155	3:3	0.9972	0.8942
12	161	4:2	0.9984	0.8767

Planet Candidate	TOI ID	TESS Name	TOI Correlation	Period (days)	Period Ratio	Epoch (BTJD)	Semi-major Axis (AU)	Radius (Re)	Seff	Teq (K)	False Alarm	Suspected EB
1	175.01	-	0.98	3.691	1.64	1356.203	0.03	1.4	12.7	481	0.00e+00	false
2	175.02	-	0.96	7.451	3.31	1355.287	0.05	1.5	5.0	381	1.35e-193	false
3	175.03	-	0.97	2.253	1.00	1354.906	0.02	0.9	24.4	567	3.01e-158	false

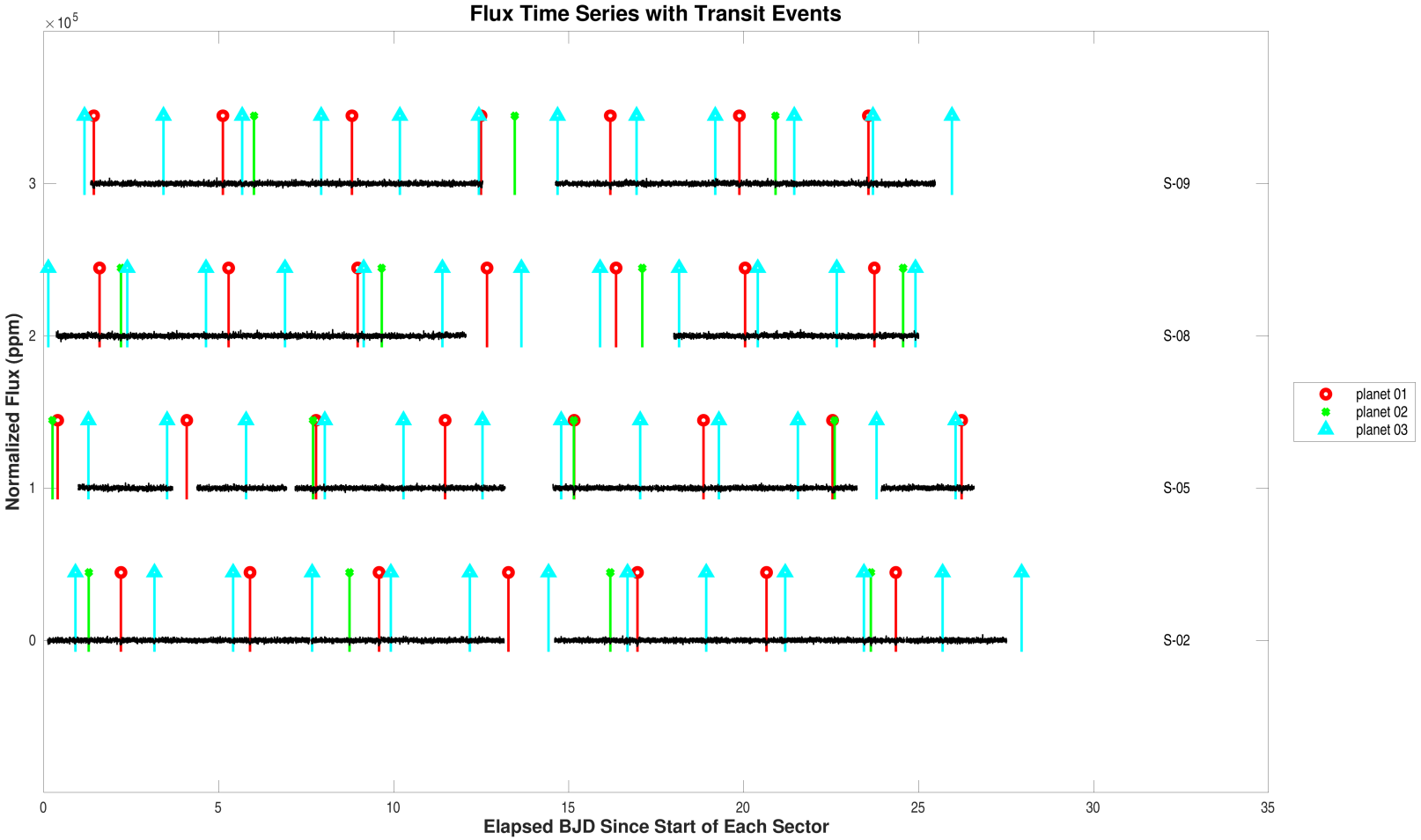
Planet Candidate	TOI ID	TESS Name	TOI Correlation	Period (days)	Period Ratio	Epoch (BTJD)	Semi-major Axis (AU)	Radius (Re)	Teq (K)	False Alarm	Suspected EB

2 Survey Image

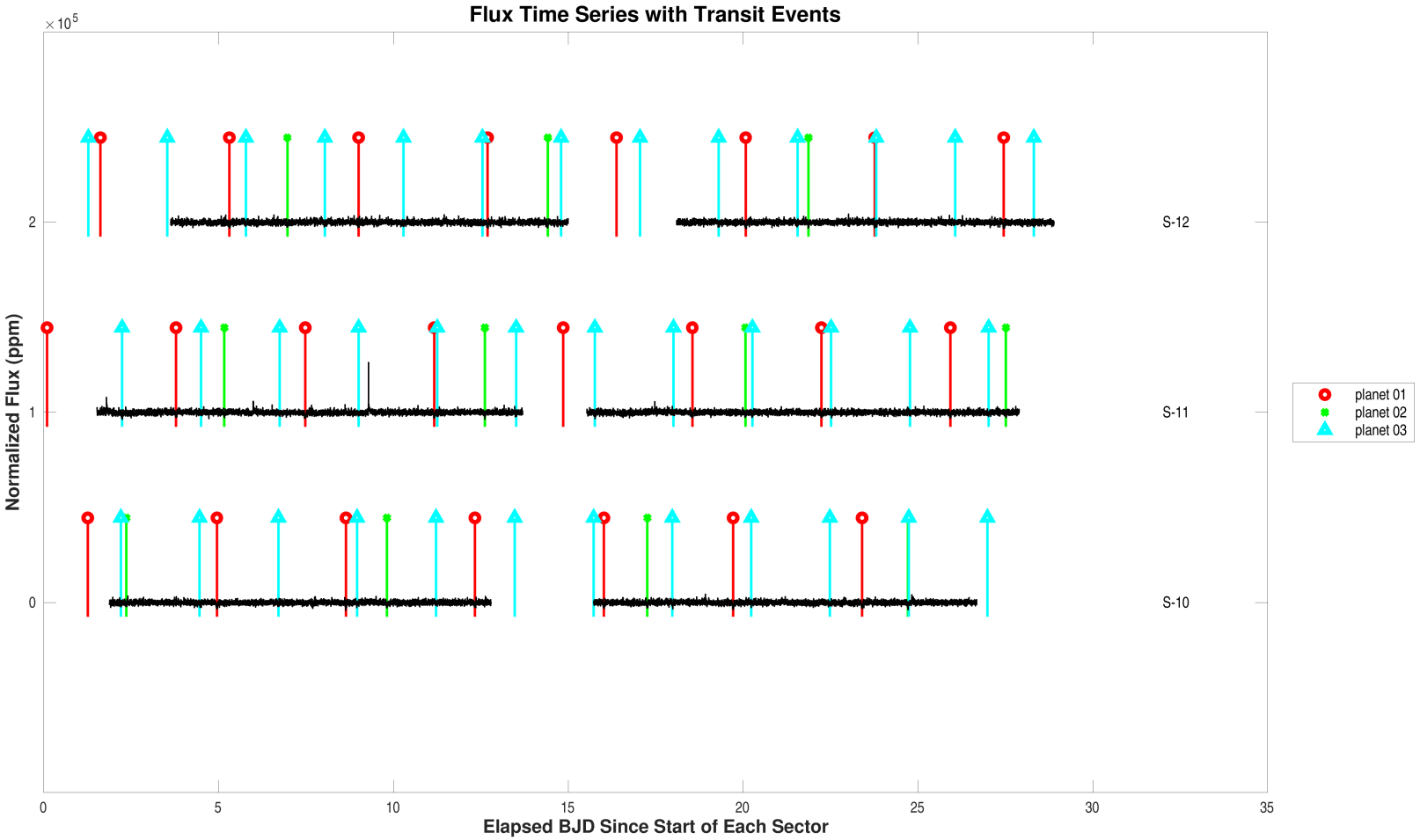


Digitized Sky Survey (DSS) red image. The 5' x 5' image is centered on the J2000 coordinates of target (307210830).

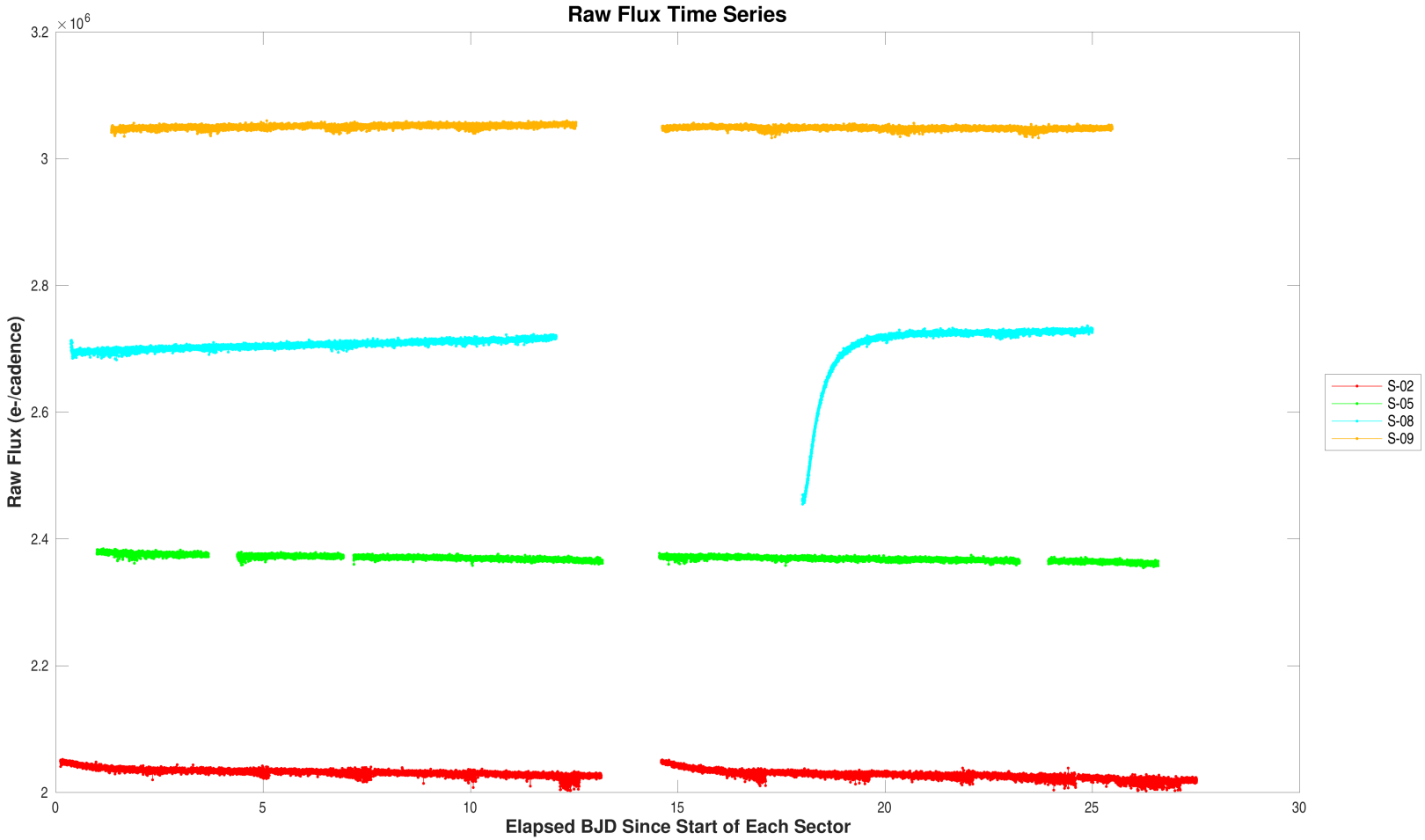
3 Flux Time Series



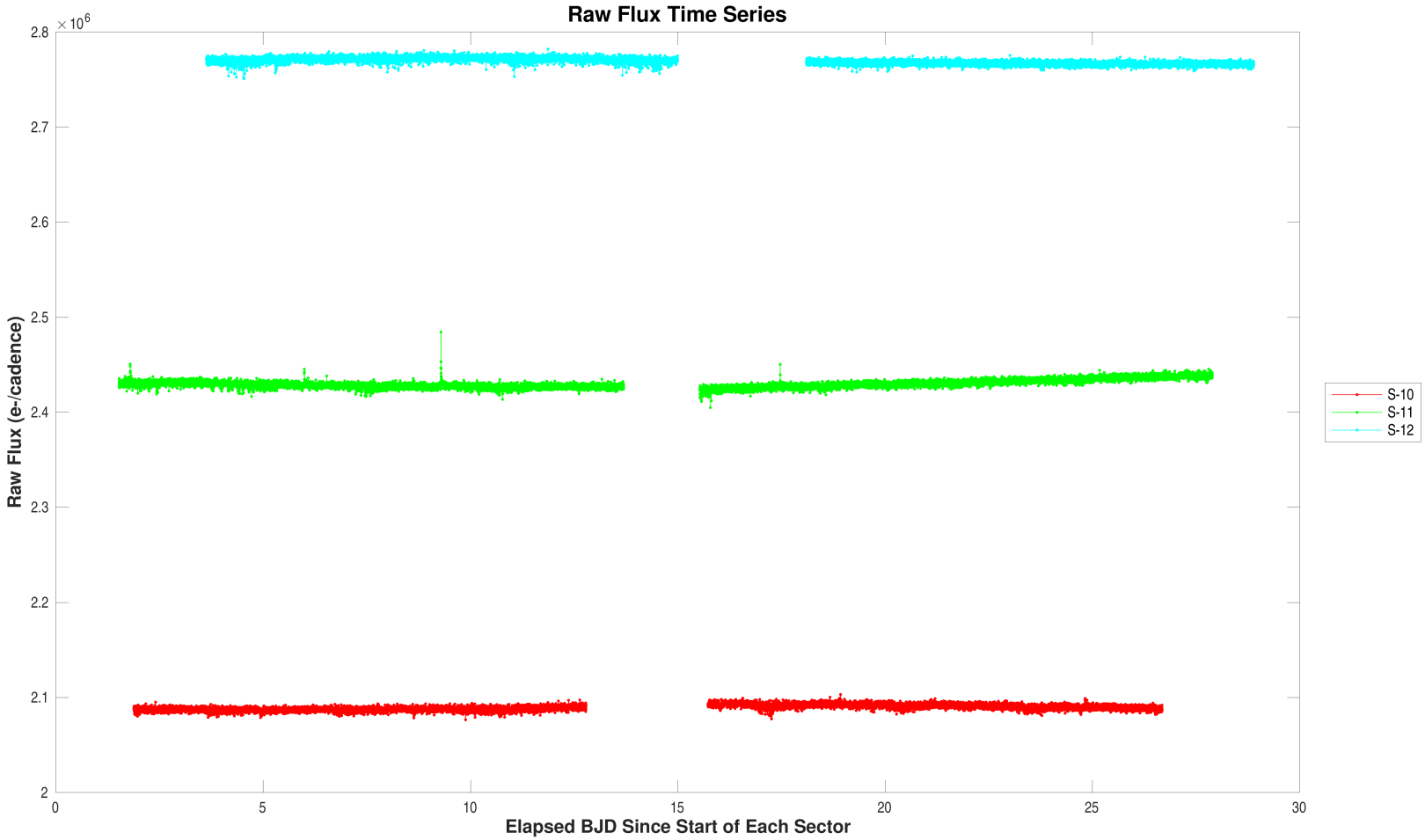
Summary plot of sector-stitched flux time series and transits for target 307210830, marked with DV fitted epoch/period (or TPS epoch/period if fit was not successful). Transits of identified planets are labeled with epoch BTJD and orbital period. For the data of sector 2, target table 129, start BJD is 2458354 and the vertical offset is 0 ppm. For the data of sector 5, target table 136, start BJD is 2458437 and the vertical offset is 100000 ppm. For the data of sector 8, target table 148, start BJD is 2458517 and the vertical offset is 200000 ppm. For the data of sector 9, target table 152, start BJD is 2458543 and the vertical offset is 300000 ppm.
Open `./summary-plots/0000000307210830-00-flux-dv-fit-02-129.fig`



Summary plot of sector-stitched flux time series and transits for target 307210830, marked with DV fitted epoch/period (or TPS epoch/period if fit was not successful). Transits of identified planets are labeled with epoch BTJD and orbital period. For the data of sector 10, target table 154, start BJD is 2458569 and the vertical offset is 0 ppm. For the data of sector 11, target table 155, start BJD is 2458596 and the vertical offset is 100000 ppm. For the data of sector 12, target table 161, start BJD is 2458624 and the vertical offset is 200000 ppm.
Open `./summary-plots/0000000307210830-00-flux-dv-fit-10-154.fig`



Summary plot of raw flux time series. For the data of sector 2, target table 129, start BJD is 2458354 and the vertical offset is 0 electrons/cadence. For the data of sector 5, target table 136, start BJD is 2458437 and the vertical offset is 340000 electrons/cadence. For the data of sector 8, target table 148, start BJD is 2458517 and the vertical offset is 680000 electrons/cadence. For the data of sector 9, target table 152, start BJD is 2458543 and the vertical offset is 1020000 electrons/cadence.
Open `./summary-plots/0000000307210830-00-raw-flux-02-129.fig`



Summary plot of raw flux time series. For the data of sector 10, target table 154, start BJD is 2458569 and the vertical offset is 0 electrons/cadence. For the data of sector 11, target table 155, start BJD is 2458596 and the vertical offset is 340000 electrons/cadence. For the data of sector 12, target table 161, start BJD is 2458624 and the vertical offset is 680000 electrons/cadence.
Open `./summary-plots/0000000307210830-00-raw-flux-10-154.fig`

4 Dashboards

Planet Candidate 1

<table>
<tr>
<td rowspan="2">Model Fitter</td>
<td colspan="2">Stellar Radius
0.3 ± 0.0 Solar units</td>
<td rowspan="2">Core Aperture Correlation Statistic
Value = 40.25
Significance = 100.00%
Halo Aperture Correlation Statistic
Value = 6.67
Significance = 100.00%
Core/Halo Ratio
Ratio = 6.04</td>
<td rowspan="2">Ghost Diagnostic Test</td>
</tr>
<tr>
<td colspan="2">Period = 3.7 ± 0.0 days
Depth = 1797 ± 32 ppm
Planet Radius = 1.4 ± 0.1 Earth radii
Semi-major Axis = 0.0 ± 0.0 AU
Effective Stellar Flux = 12.7 ± 1.5
Equilibrium Temperature = 481 ± 15 Kelvin
Chi-squared/DoF = 0.8
SNR = 60.8</td>
</tr>
<tr>
<td rowspan="2">Eclipsing Binary Discrimination Test</td>
<td colspan="2">Odd-Even Depth Comparison Statistic
Value = 7.57e-02
Significance = 78.32%</td>
<td>Offsets Relative to Out of Transit Centroid
Source RA Offset = -2.70e-01 ± 2.53e+00 arcsec (-0.11 σ)
Source Dec Offset = -1.92e-01 ± 2.59e+00 arcsec (-0.07 σ)
Source Offset Distance = 3.31e-01 ± 2.55e+00 arcsec (0.13 σ)
Offsets Relative to TIC Position
Source RA Offset = 9.86e-01 ± 2.71e+00 arcsec (0.36 σ)
Source Dec Offset = -5.10e-02 ± 2.56e+00 arcsec (-0.02 σ)
Source Offset Distance = 9.87e-01 ± 2.71e+00 arcsec (0.36 σ)</td>
<td>Difference Image Centroid Offsets</td>
</tr>
<tr>
<td>Shorter Period Comparison Statistic
Value = 4.65e+02
Significance = 100.00%</td>
<td>Longer Period Comparison Statistic
Value = 3.57e+03
Significance = 100.00%</td>
<td>False Alarm = 0.00e+00
Transit Count = 81
Max Multiple Event Statistic = 51.3</td>
<td>Bootstrap Test</td>
</tr>
</table>

Summary of model fitter results and validation test results for target 307210830, planet candidate 1. In general, green denotes that the candidate is likely a planet, while red denotes that the candidate is unlikely to be a planet. Cyan denotes that no data is available. The color of the Model Fitter block is: green, when the SNR of the fit is greater than or equal to 10; yellow, if the SNR is greater than or equal to 7.1 but less than 10; red, if the SNR is less than 7.1 or if the fitter failed. The color of the Ghost Diagnostic Test and Eclipsing Binary Discrimination Test blocks are: green, when the significance is within 2-sigma; yellow, when the significance is between 2- and 3-sigma; red when the significance is greater than 3-sigma. The color of the Difference Image Centroid Offsets block is: green, when the max offset distance sigma is less than or equal to 2; yellow, when the max sigma is between 2 and 3; red when the max sigma is greater than 3. The color of the Bootstrap Test block is green whenever the false alarm probability is less than 10^{-12}, low enough to limit the total number of false alarms from a four year mission to less than one. If the false alarm probability is greater than 10^{-12}, the color of the Bootstrap Test block is: green, when the false alarm probability is less than or equal to the CCDF of a Gaussian distribution at the observed maximum multiple event statistic; yellow when the false alarm probability is between 1 and 2 times that of a Gaussian distribution at the max multiple event statistic; and red when the false alarm probability is more than 2 times that of a Gaussian distribution at the max multiple event statistic.

Planet Candidate 2

<table>
<tr><td rowspan="2">Model Fitter</td><td colspan="2">Stellar Radius
0.3 ± 0.0 Solar units</td><td rowspan="2">Core Aperture Correlation Statistic
Value = 22.94
Significance = 100.00%
Halo Aperture Correlation Statistic
Value = 3.93
Significance = 100.00%
Core/Halo Ratio
Ratio = 5.84</td><td rowspan="2">Ghost Diagnostic Test</td></tr>
<tr><td colspan="2">Period = 7.5 ± 0.0 days
Depth = 1668 ± 57 ppm
Planet Radius = 1.5 ± 0.1 Earth radii
Semi-major Axis = 0.1 ± 0.0 AU
Effective Stellar Flux = 5.0 ± 0.6
Equilibrium Temperature = 381 ± 12 Kelvin
Chi-squared/DoF = 0.8
SNR = 33.0</td></tr>
<tr><td rowspan="2">Eclipsing Binary Discrimination Test</td><td colspan="2">Odd-Even Depth Comparison Statistic
Value = 3.99e-01
Significance = 52.74%</td><td>Offsets Relative to Out of Transit Centroid
Source RA Offset = -3.48e-01 ± 3.04e+00 arcsec (-0.11 σ)
Source Dec Offset = -5.82e-01 ± 3.31e+00 arcsec (-0.18 σ)
Source Offset Distance = 6.78e-01 ± 3.24e+00 arcsec (0.21 σ)
Offsets Relative to TIC Position
Source RA Offset = 7.68e-01 ± 3.37e+00 arcsec (0.23 σ)
Source Dec Offset = -5.28e-01 ± 3.18e+00 arcsec (-0.17 σ)
Source Offset Distance = 9.33e-01 ± 3.31e+00 arcsec (0.28 σ)</td><td>Difference Image Centroid Offsets</td></tr>
<tr><td>Shorter Period Comparison Statistic
Value = 3.57e+03
Significance = 100.00%</td><td>Longer Period Comparison Statistic
Value = N/A
Significance = N/A</td><td>False Alarm = 1.35e-193
Transit Count = 40
Max Multiple Event Statistic = 28.7</td><td>Bootstrap Test</td></tr>
</table>

Summary of model fitter results and validation test results for target 307210830, planet candidate 2. In general, green denotes that the candidate is likely a planet, while red denotes that the candidate is unlikely to be a planet. Cyan denotes that no data is available. The color of the Model Fitter block is: green, when the SNR of the fit is greater than or equal to 10; yellow, if the SNR is greater than or equal to 7.1 but less than 10; red, if the SNR is less than 7.1 or if the fitter failed. The color of the Ghost Diagnostic Test and Eclipsing Binary Discrimination Test blocks are: green, when the significance is within 2-sigma; yellow, when the significance is between 2- and 3-sigma; red when the significance is greater than 3-sigma. The color of the Difference Image Centroid Offsets block is: green, when the max offset distance sigma is less than or equal to 2; yellow, when the max sigma is between 2 and 3; red when the max sigma is greater than 3. The color of the Bootstrap Test block is green whenever the false alarm probability is less than 10^{-12}, low enough to limit the total number of false alarms from a four year mission to less than one. If the false alarm probability is greater than 10^{-12}, the color of the Bootstrap Test block is: green, when the false alarm probability is less than or equal to the CCDF of a Gaussian distribution at the observed maximum multiple event statistic; yellow when the false alarm probability is between 1 and 2 times that of a Gaussian distribution at the max multiple event statistic; and red when the false alarm probability is more than 2 times that of a Gaussian distribution at the max multiple event statistic.

Planet Candidate 3

<table>
<tr><td rowspan="2">Model Fitter</td><td colspan="2">Stellar Radius
0.3 ± 0.0 Solar units</td><td rowspan="2">Core Aperture Correlation Statistic
Value = 17.96
Significance = 100.00%
Halo Aperture Correlation Statistic
Value = 5.11
Significance = 100.00%
Core/Halo Ratio
Ratio = 3.52</td><td rowspan="2">Ghost Diagnostic Test</td></tr>
<tr><td colspan="2">Period = 2.3 ± 0.0 days
Depth = 677 ± 28 ppm
Planet Radius = 0.9 ± 0.3 Earth radii
Semi-major Axis = 0.0 ± 0.0 AU
Effective Stellar Flux = 24.4 ± 3.0
Equilibrium Temperature = 567 ± 17 Kelvin
Chi-squared/DoF = 0.8
SNR = 29.6</td></tr>
<tr><td rowspan="2">Eclipsing Binary Discrimination Test</td><td colspan="2">Odd-Even Depth Comparison Statistic
Value = 6.75e-01
Significance = 41.14%</td><td>Offsets Relative to Out of Transit Centroid
Source RA Offset = -1.63e+00 ± 2.94e+00 arcsec (-0.56 σ)
Source Dec Offset = 1.78e+00 ± 2.84e+00 arcsec (0.63 σ)
Source Offset Distance = 2.42e+00 ± 2.88e+00 arcsec (0.84 σ)
Offsets Relative to TIC Position
Source RA Offset = 2.91e-01 ± 2.92e+00 arcsec (0.10 σ)
Source Dec Offset = 1.89e+00 ± 2.84e+00 arcsec (0.66 σ)
Source Offset Distance = 1.91e+00 ± 2.84e+00 arcsec (0.67 σ)</td><td>Difference Image Centroid Offsets</td></tr>
<tr><td>Shorter Period Comparison Statistic
Value = N/A
Significance = N/A</td><td>Longer Period Comparison Statistic
Value = 4.65e+02
Significance = 100.00%</td><td>False Alarm = 3.01e-158
Transit Count = 133
Max Multiple Event Statistic = 25.8</td><td>Bootstrap Test</td></tr>
</table>

Summary of model fitter results and validation test results for target 307210830, planet candidate 3. In general, green denotes that the candidate is likely a planet, while red denotes that the candidate is unlikely to be a planet. Cyan denotes that no data is available. The color of the Model Fitter block is: green, when the SNR of the fit is greater than or equal to 10; yellow, if the SNR is greater than or equal to 7.1 but less than 10; red, if the SNR is less than 7.1 or if the fitter failed. The color of the Ghost Diagnostic Test and Eclipsing Binary Discrimination Test blocks are: green, when the significance is within 2-sigma; yellow, when the significance is between 2- and 3-sigma; red when the significance is greater than 3-sigma. The color of the Difference Image Centroid Offsets block is: green, when the max offset distance sigma is less than or equal to 2; yellow, when the max sigma is between 2 and 3; red when the max sigma is greater than 3. The color of the Bootstrap Test block is green whenever the false alarm probability is less than 10^{-12}, low enough to limit the total number of false alarms from a four year mission to less than one. If the false alarm probability is greater than 10^{-12}, the color of the Bootstrap Test block is: green, when the false alarm probability is less than or equal to the CCDF of a Gaussian distribution at the observed maximum multiple event statistic; yellow when the false alarm probability is between 1 and 2 times that of a Gaussian distribution at the max multiple event statistic; and red when the false alarm probability is more than 2 times that of a Gaussian distribution at the max multiple event statistic.

5 Pixel Level Diagnostics

To reduce clutter, the catalog IDs in the difference images have been replaced by indices representing distance from the target star. The mapping between the indices and the catalog IDs is found in a table at the end of this section.

5.1 Planet Candidate 1

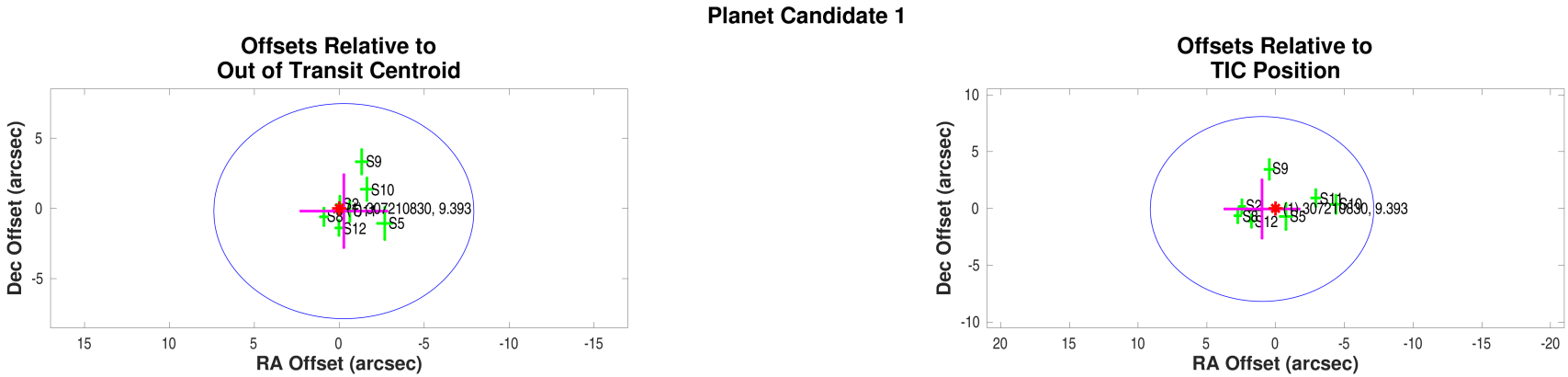
Multi-Sector Average PRF Fit of the Difference Images

Mean offset from the PRF fit to the out of transit image

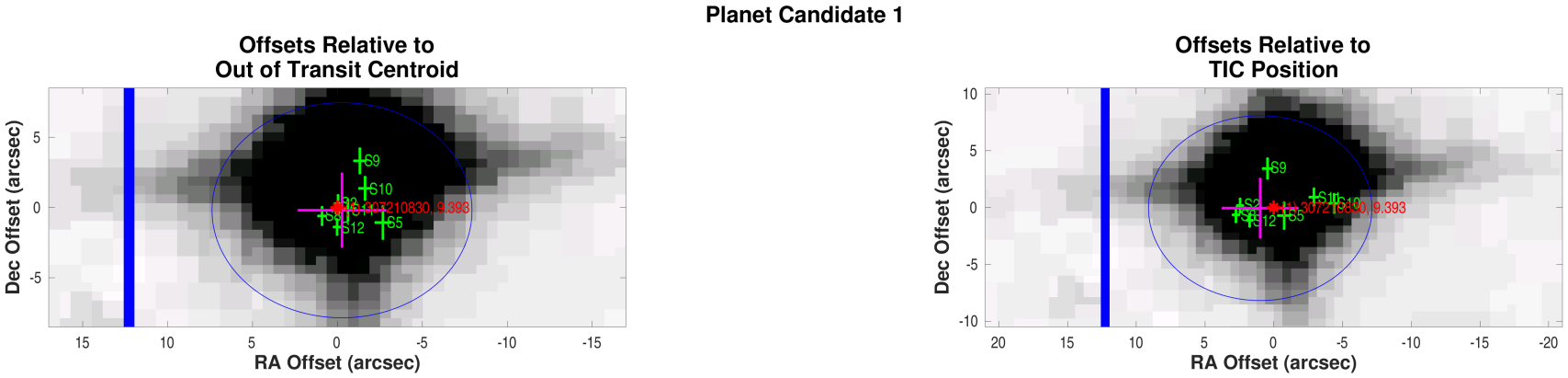
	RA	Dec	Units
Offset	$-0.2700 \pm 2.53e+00$	$-0.1924 \pm 2.59e+00$	arcseconds
Offset/σ	-0.11	-0.07	
Offset Distance	$0.3315 \pm 2.55e+00$		arcseconds
Offset Distance/σ	0.13		
3σ Radius	7.6577		arcseconds

Mean offset from the TIC RA and Dec

	RA	Dec	Units
Offset	$0.9858 \pm 2.71e+00$	$-0.0510 \pm 2.56e+00$	arcseconds
Offset/σ	0.36	-0.02	
Offset Distance	$0.9871 \pm 2.71e+00$		arcseconds
Offset Distance/σ	0.36		
3σ Radius	8.1281		arcseconds



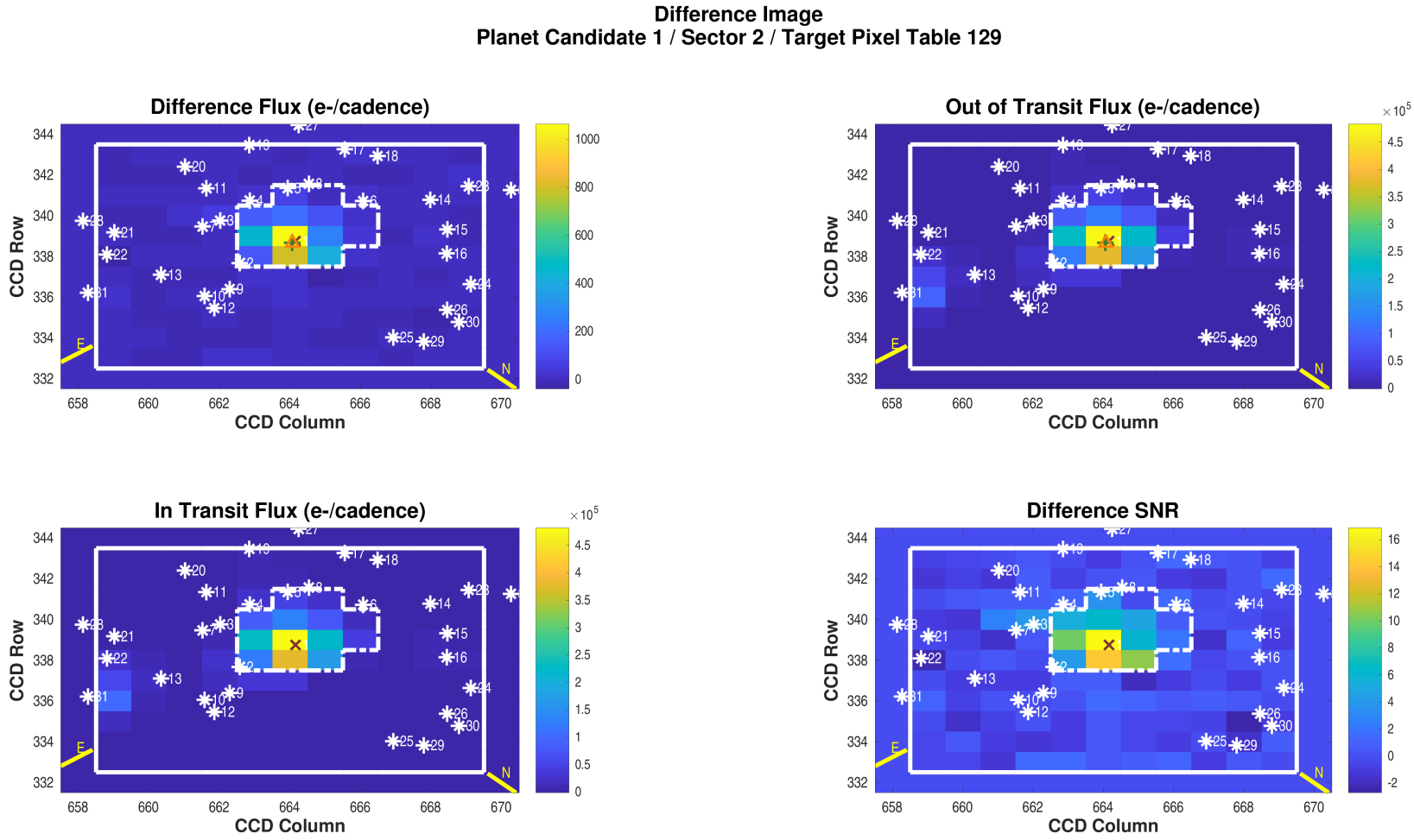
Difference image centroid offsets for target 307210830, planet candidate 1. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-01/difference-image/0000000307210830-01-difference-image-centroid-offsets.fig`



Difference image centroid offsets for target 307210830, planet candidate 1, diplayed on survey image for given target. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TIC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-01/difference-image/0000000307210830-01-difference-image-centroid-offsets-survey.fig`

Difference Image Summary Metrics

Number of Difference Images	Number of Metrics	Number of Good Metrics	Fraction of Good Metrics	Quality Threshold
7	7	7	1.0000	0.70



Difference image for target 307210830, planet candidate 1, sector 2, target pixel table 129. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 6; number of valid in-transit cadences = 183; number of in-transit cadence gaps = 4; number of valid out-of-transit cadences = 481; number of out-of-transit cadence gaps = 17. Difference image quality metric = 0.98 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-02-129.fig`

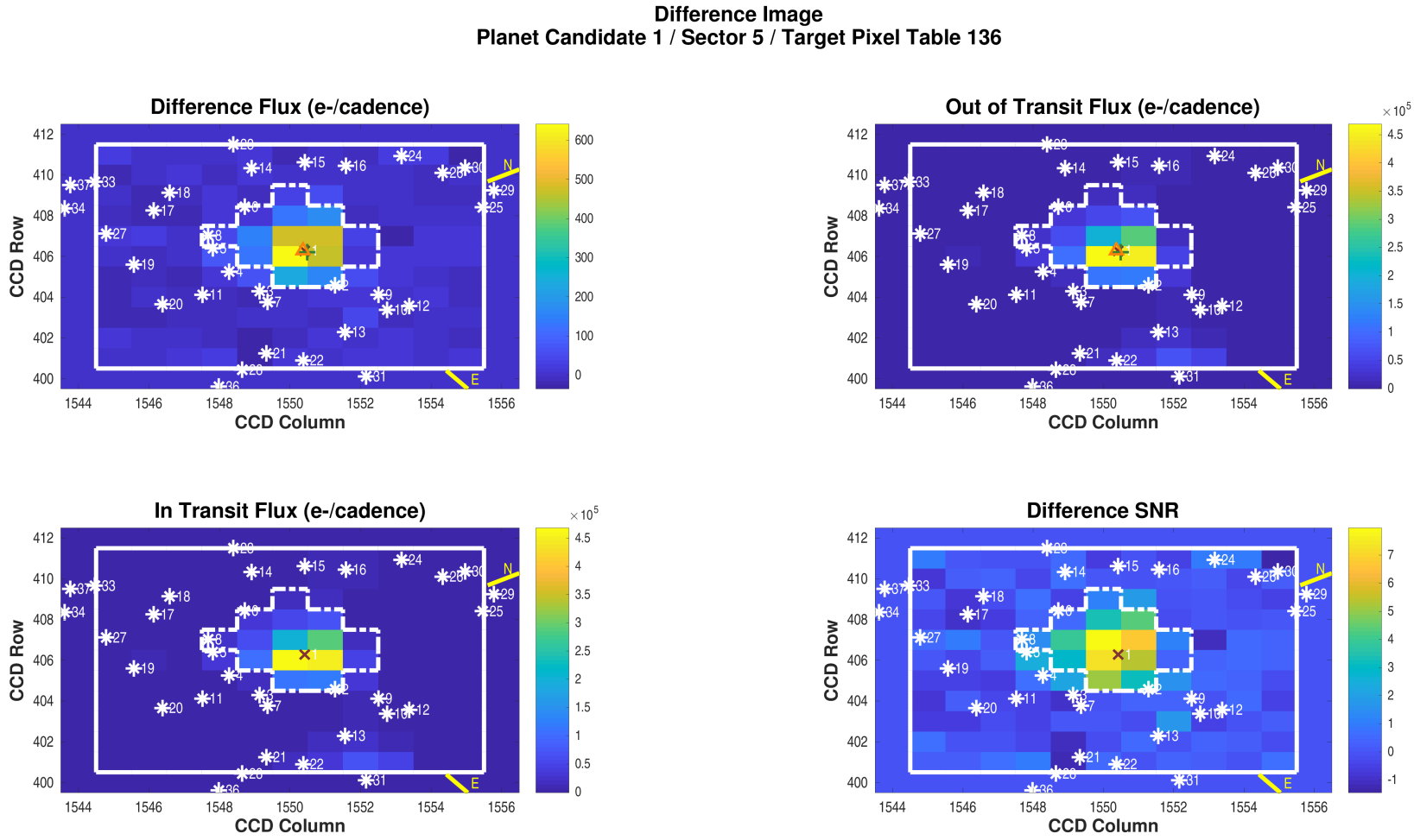
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$338.67 \pm 2.94e-05$	$664.06 \pm 2.79e-05$	pixels	$124.53512228 \pm 8.13e-07$	$-68.31479437 \pm 8.75e-07$	degrees
Difference Image Centroid	$338.66 \pm 2.79e-02$	$664.07 \pm 2.67e-02$	pixels	$124.53509451 \pm 1.50e-04$	$-68.31471732 \pm 1.62e-04$	degrees
Offset	$-0.0091 \pm 2.79e-02$	$0.0104 \pm 2.67e-02$	pixels	$-0.0369 \pm 1.99e-01$	$0.2774 \pm 5.85e-01$	arcseconds
Offset/σ	-0.32	0.39		-0.19	0.47	
Offset Distance	$0.0138 \pm 2.82e-02$		pixels	$0.2798 \pm 5.79e-01$		arcseconds
Offset Distance/σ	0.49			0.48		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$338.75 \pm 1.29e-04$	$664.16 \pm 1.59e-04$	pixels	$124.53325461 \pm 0.00e+00$	$-68.31476464 \pm 0.00e+00$	degrees
Difference Image Centroid	$338.66 \pm 2.79e-02$	$664.07 \pm 2.67e-02$	pixels	$124.53509451 \pm 1.50e-04$	$-68.31471732 \pm 1.62e-04$	degrees
Offset	$-0.0913 \pm 2.79e-02$	$-0.0895 \pm 2.67e-02$	pixels	$2.4475 \pm 1.99e-01$	$0.1704 \pm 5.85e-01$	arcseconds
Offset/σ	-3.27	-3.36		12.30	0.29	
Offset Distance	$0.1279 \pm 2.63e-02$		pixels	$2.4534 \pm 2.05e-01$		arcseconds
Offset Distance/σ	4.86			11.95		



Difference image for target 307210830, planet candidate 1, sector 5, target pixel table 136. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 3; number of valid in-transit cadences = 94; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 249; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.97 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-05-136.fig`

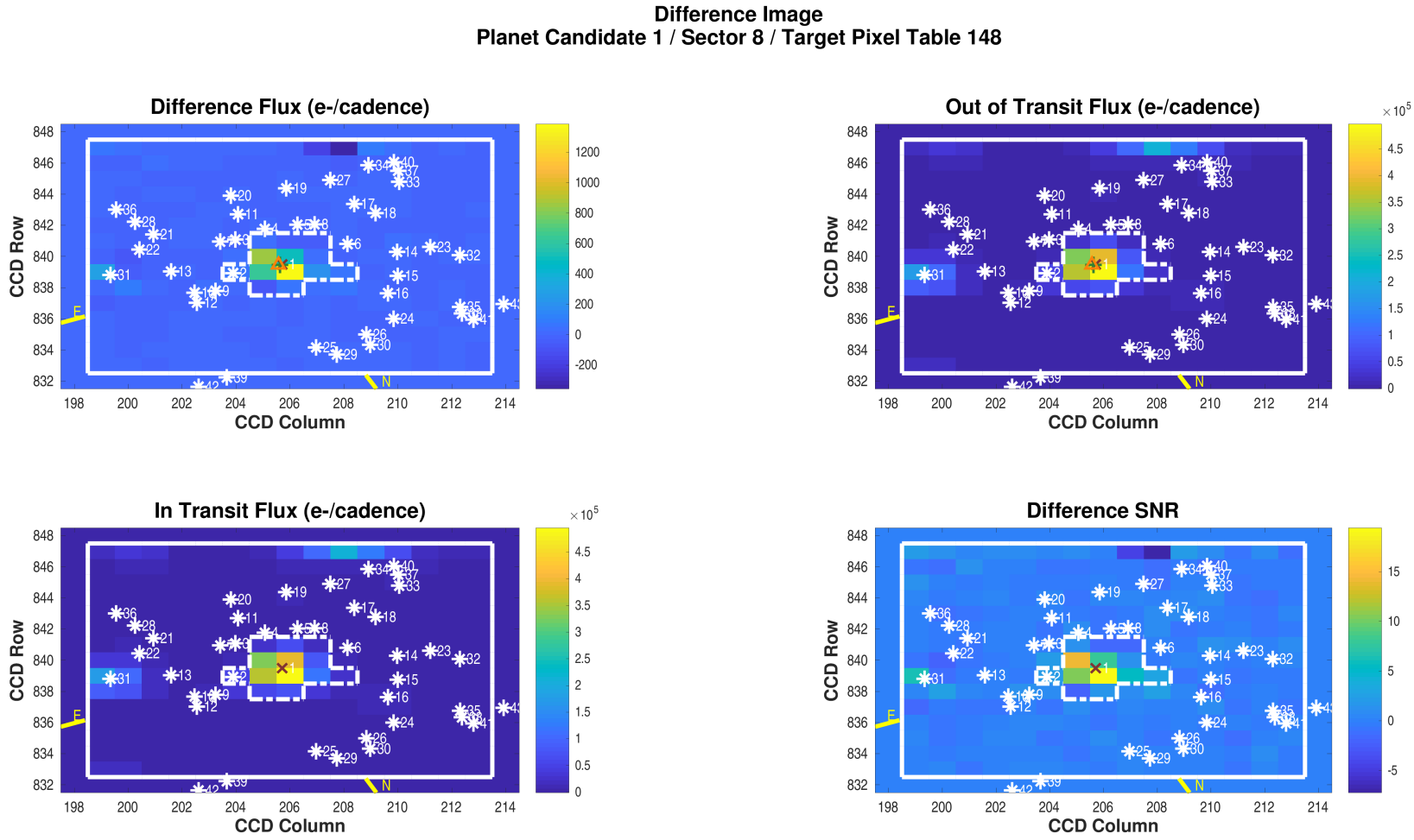
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$406.21 \pm 3.88e-05$	$1550.49 \pm 4.08e-05$	pixels	$124.53471645 \pm 8.98e-07$	$-68.31468631 \pm 9.11e-07$	degrees
Difference Image Centroid	$406.29 \pm 5.68e-02$	$1550.37 \pm 5.40e-02$	pixels	$124.53270260 \pm 3.16e-04$	$-68.31498283 \pm 3.16e-04$	degrees
Offset	$0.0864 \pm 5.68e-02$	$-0.1225 \pm 5.40e-02$	pixels	$-2.6789 \pm 4.22e-01$	$-1.0675 \pm 1.14e+00$	arcseconds
Offset/σ	1.52	−2.27		−6.35	−0.94	
Offset Distance	$0.1499 \pm 5.56e-02$		pixels	$2.8837 \pm 5.61e-01$		arcseconds
Offset Distance/σ	2.70			5.14		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$406.28 \pm 1.59e-04$	$1550.42 \pm 1.47e-04$	pixels	$124.53327115 \pm 0.00e+00$	$-68.31478619 \pm 0.00e+00$	degrees
Difference Image Centroid	$406.29 \pm 5.68e-02$	$1550.37 \pm 5.40e-02$	pixels	$124.53270260 \pm 3.16e-04$	$-68.31498283 \pm 3.16e-04$	degrees
Offset	$0.0134 \pm 5.68e-02$	$-0.0513 \pm 5.40e-02$	pixels	$-0.7563 \pm 4.21e-01$	$-0.7079 \pm 1.14e+00$	arcseconds
Offset/σ	0.24	−0.95		−1.80	−0.62	
Offset Distance	$0.0530 \pm 5.45e-02$		pixels	$1.0359 \pm 8.22e-01$		arcseconds
Offset Distance/σ	0.97			1.26		



Difference image for target 307210830, planet candidate 1, sector 8, target pixel table 148. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 5; number of valid in-transit cadences = 155; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 412; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.90 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-08-148.fig`

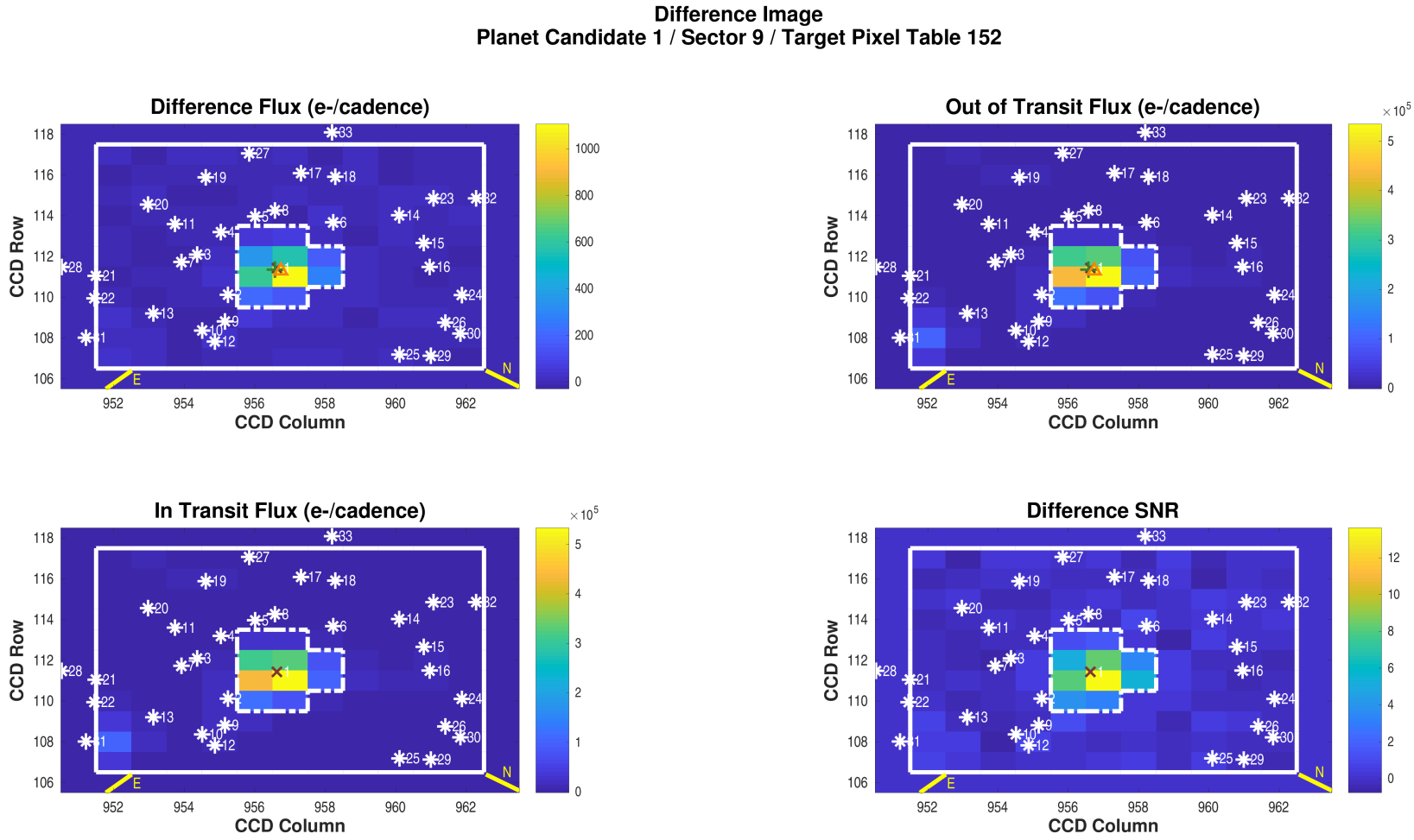
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$839.45 \pm 3.29e-05$	$205.62 \pm 2.90e-05$	pixels	$124.53467407 \pm 9.43e-07$	$-68.31481719 \pm 9.52e-07$	degrees
Difference Image Centroid	$839.46 \pm 3.01e-02$	$205.57 \pm 2.75e-02$	pixels	$124.53535388 \pm 1.57e-04$	$-68.31498394 \pm 1.72e-04$	degrees
Offset	$0.0075 \pm 3.01e-02$	$-0.0546 \pm 2.75e-02$	pixels	$0.9043 \pm 2.09e-01$	$-0.6003 \pm 6.18e-01$	arcseconds
Offset/σ	0.25	−1.99		4.32	−0.97	
Offset Distance	$0.0552 \pm 2.77e-02$		pixels	$1.0854 \pm 3.74e-01$		arcseconds
Offset Distance/σ	1.99			2.91		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$839.49 \pm 1.59e-04$	$205.71 \pm 1.67e-04$	pixels	$124.53328674 \pm 0.00e+00$	$-68.31480650 \pm 0.00e+00$	degrees
Difference Image Centroid	$839.46 \pm 3.01e-02$	$205.57 \pm 2.75e-02$	pixels	$124.53535388 \pm 1.57e-04$	$-68.31498394 \pm 1.72e-04$	degrees
Offset	$-0.0307 \pm 3.01e-02$	$-0.1428 \pm 2.75e-02$	pixels	$2.7498 \pm 2.09e-01$	$-0.6388 \pm 6.18e-01$	arcseconds
Offset/σ	−1.02	−5.20		13.14	−1.03	
Offset Distance	$0.1460 \pm 2.73e-02$		pixels	$2.8230 \pm 2.40e-01$		arcseconds
Offset Distance/σ	5.34			11.79		



Difference image for target 307210830, planet candidate 1, sector 9, target pixel table 152. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 5; number of valid in-transit cadences = 155; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 400; number of out-of-transit cadence gaps = 18. Difference image quality metric = 0.99 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-09-152.fig`

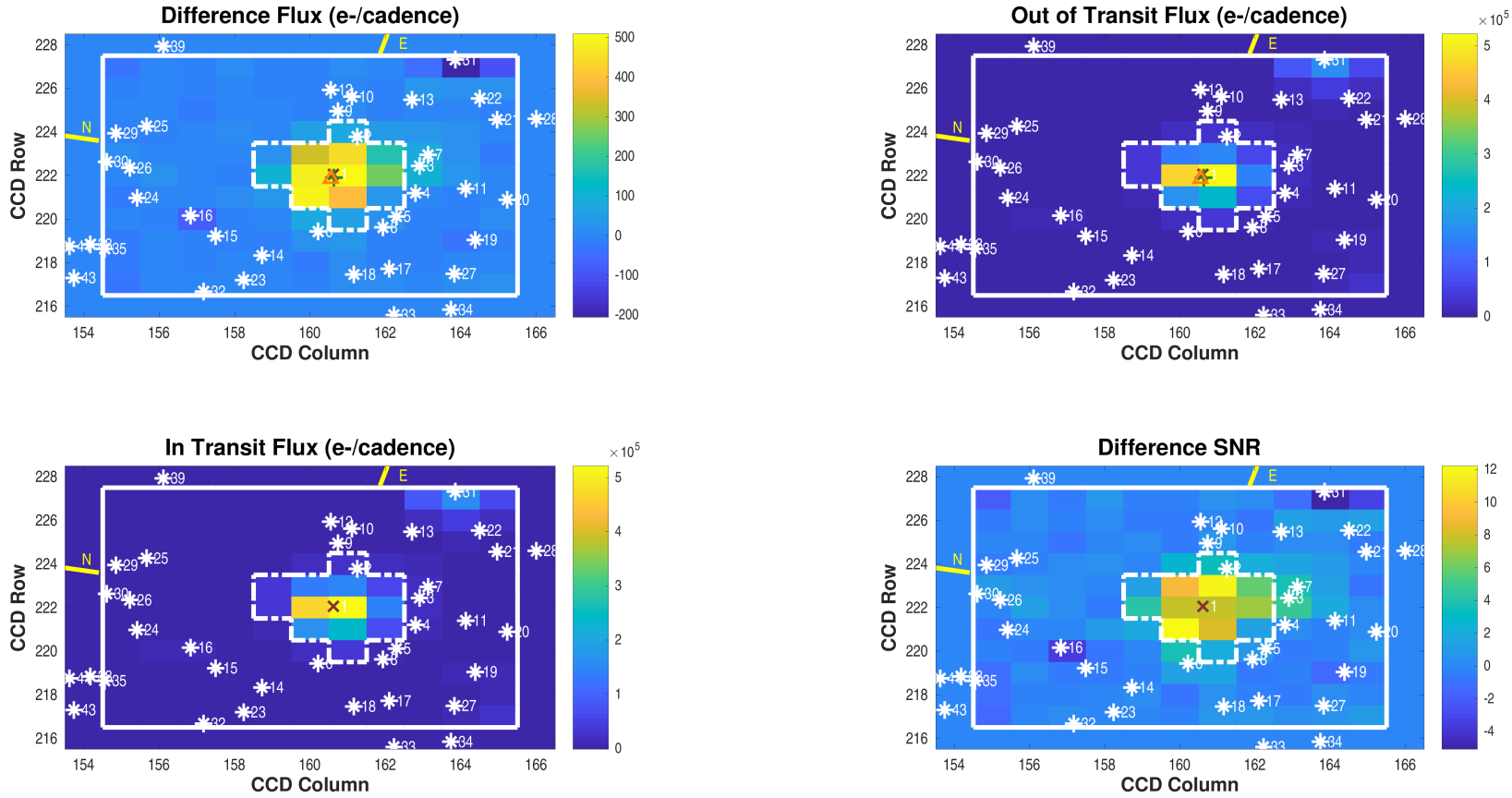
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$111.35 \pm 3.80e-05$	$956.57 \pm 3.87e-05$	pixels	$124.53462518 \pm 1.03e-06$	$-68.31478314 \pm 1.04e-06$	degrees
Difference Image Centroid	$111.30 \pm 4.26e-02$	$956.74 \pm 4.11e-02$	pixels	$124.53363243 \pm 2.38e-04$	$-68.31386005 \pm 2.40e-04$	degrees
Offset	$-0.0526 \pm 4.26e-02$	$0.1683 \pm 4.11e-02$	pixels	$-1.3206 \pm 3.17e-01$	$3.3231 \pm 8.63e-01$	arcseconds
Offset/σ	-1.24	4.09		-4.17	3.85	
Offset Distance	$0.1764 \pm 4.13e-02$		pixels	$3.5759 \pm 8.05e-01$		arcseconds
Offset Distance/σ	4.27			4.44		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$111.43 \pm 1.79e-04$	$956.63 \pm 1.74e-04$	pixels	$124.53329194 \pm 0.00e+00$	$-68.31481327 \pm 0.00e+00$	degrees
Difference Image Centroid	$111.30 \pm 4.26e-02$	$956.74 \pm 4.11e-02$	pixels	$124.53363243 \pm 2.38e-04$	$-68.31386005 \pm 2.40e-04$	degrees
Offset	$-0.1275 \pm 4.26e-02$	$0.1140 \pm 4.11e-02$	pixels	$0.4529 \pm 3.17e-01$	$3.4316 \pm 8.63e-01$	arcseconds
Offset/σ	-3.00	2.77		1.43	3.98	
Offset Distance	$0.1710 \pm 4.21e-02$		pixels	$3.4614 \pm 8.58e-01$		arcseconds
Offset Distance/σ	4.06			4.03		



Difference image for target 307210830, planet candidate 1, sector 10, target pixel table 154. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 6; number of valid in-transit cadences = 187; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 499; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.89 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-10-154.fig`

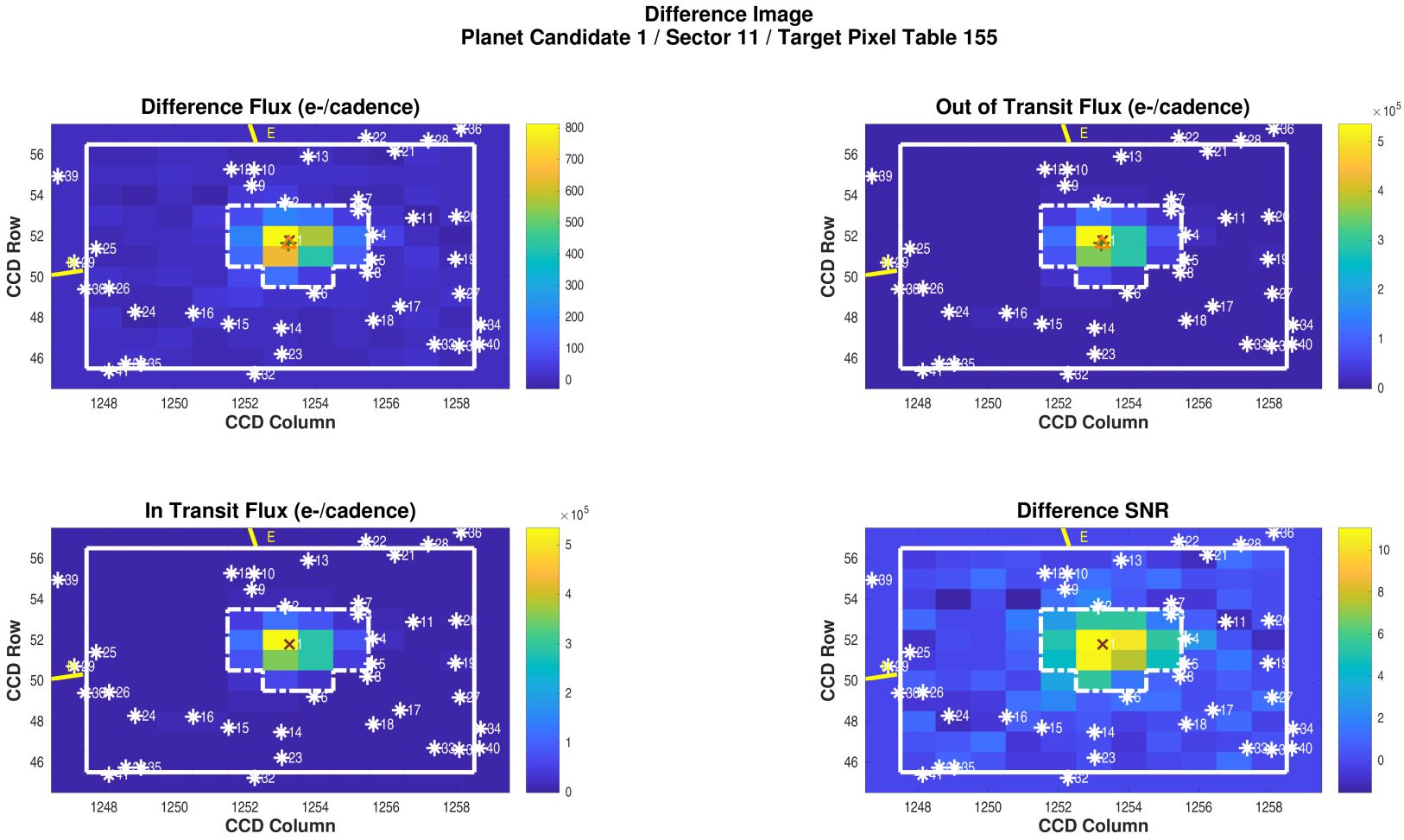
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$221.91 \pm 3.12e-05$	$160.63 \pm 2.81e-05$	pixels	$124.53122156 \pm 1.26e-06$	$-68.31509836 \pm 1.22e-06$	degrees
Difference Image Centroid	$221.85 \pm 4.26e-02$	$160.55 \pm 3.91e-02$	pixels	$124.52999757 \pm 2.46e-04$	$-68.31471967 \pm 2.21e-04$	degrees
Offset	$-0.0638 \pm 4.26e-02$	$-0.0823 \pm 3.91e-02$	pixels	$-1.6282 \pm 3.28e-01$	$1.3633 \pm 7.97e-01$	arcseconds
Offset/σ	-1.50	-2.11		-4.97	1.71	
Offset Distance	$0.1041 \pm 4.14e-02$		pixels	$2.1235 \pm 5.61e-01$		arcseconds
Offset Distance/σ	2.51			3.78		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$222.06 \pm 2.17e-04$	$160.61 \pm 2.13e-04$	pixels	$124.53329724 \pm 0.00e+00$	$-68.31482018 \pm 0.00e+00$	degrees
Difference Image Centroid	$221.85 \pm 4.26e-02$	$160.55 \pm 3.91e-02$	pixels	$124.52999757 \pm 2.46e-04$	$-68.31471967 \pm 2.21e-04$	degrees
Offset	$-0.2108 \pm 4.26e-02$	$-0.0652 \pm 3.91e-02$	pixels	$-4.3893 \pm 3.27e-01$	$0.3618 \pm 7.97e-01$	arcseconds
Offset/σ	-4.94	-1.67		-13.42	0.45	
Offset Distance	$0.2206 \pm 4.29e-02$		pixels	$4.4042 \pm 3.30e-01$		arcseconds
Offset Distance/σ	5.15			13.34		



Difference image for target 307210830, planet candidate 1, sector 11, target pixel table 155. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 5; number of valid in-transit cadences = 152; number of in-transit cadence gaps = 3; number of valid out-of-transit cadences = 412; number of out-of-transit cadence gaps = 4. Difference image quality metric = 0.99 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-11-155.fig`

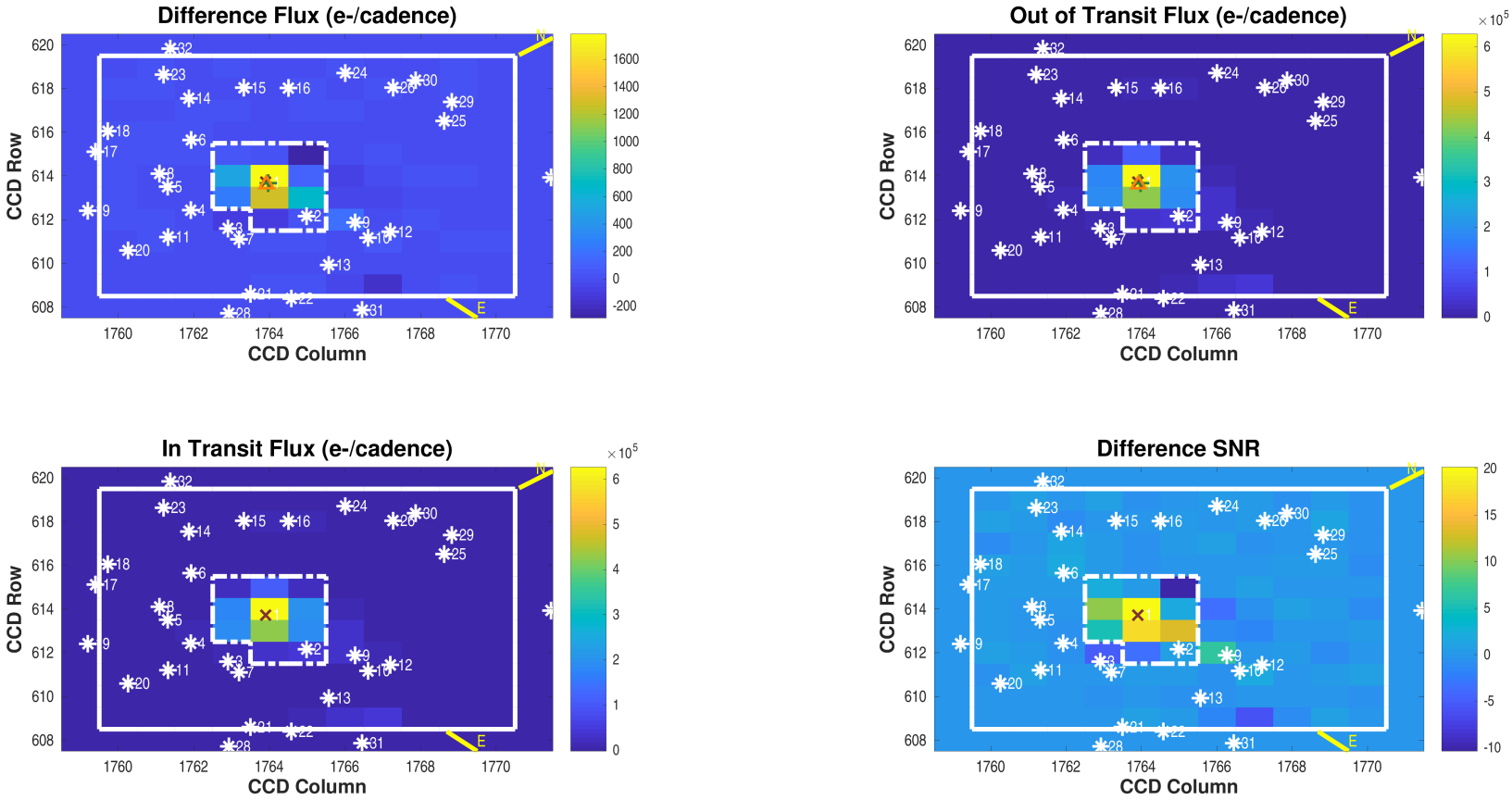
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$51.65 \pm 3.37e-05$	$1253.22 \pm 3.05e-05$	pixels	$124.53157301 \pm 1.30e-06$	$-68.31451914 \pm 1.23e-06$	degrees
Difference Image Centroid	$51.62 \pm 3.87e-02$	$1253.24 \pm 3.54e-02$	pixels	$124.53110578 \pm 2.21e-04$	$-68.31457306 \pm 2.03e-04$	degrees
Offset	$-0.0286 \pm 3.87e-02$	$0.0155 \pm 3.54e-02$	pixels	$-0.6215 \pm 2.94e-01$	$-0.1941 \pm 7.29e-01$	arcseconds
Offset/σ	-0.74	0.44		-2.11	-0.27	
Offset Distance	$0.0326 \pm 3.78e-02$		pixels	$0.6511 \pm 3.58e-01$		arcseconds
Offset Distance/σ	0.86			1.82		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$51.78 \pm 2.25e-04$	$1253.26 \pm 2.13e-04$	pixels	$124.53330276 \pm 0.00e+00$	$-68.31482736 \pm 0.00e+00$	degrees
Difference Image Centroid	$51.62 \pm 3.87e-02$	$1253.24 \pm 3.54e-02$	pixels	$124.53110578 \pm 2.21e-04$	$-68.31457306 \pm 2.03e-04$	degrees
Offset	$-0.1570 \pm 3.87e-02$	$-0.0156 \pm 3.54e-02$	pixels	$-2.9225 \pm 2.94e-01$	$0.9155 \pm 7.29e-01$	arcseconds
Offset/σ	-4.06	-0.44		-9.95	1.26	
Offset Distance	$0.1577 \pm 3.87e-02$		pixels	$3.0625 \pm 3.52e-01$		arcseconds
Offset Distance/σ	4.08			8.70		



Difference image for target 307210830, planet candidate 1, sector 12, target pixel table 161. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 4; number of valid in-transit cadences = 124; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 335; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.94 (good).
Open `./planet-01/difference-image/0000000307210830-01-difference-image-12-161.fig`

PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$613.67 \pm 3.36e-05$	$1763.97 \pm 3.31e-05$	pixels	$124.53461269 \pm 7.40e-07$	$-68.31476078 \pm 7.57e-07$	degrees
Difference Image Centroid	$613.62 \pm 2.58e-02$	$1763.92 \pm 2.38e-02$	pixels	$124.53462742 \pm 1.35e-04$	$-68.31514651 \pm 1.48e-04$	degrees
Offset	$-0.0456 \pm 2.58e-02$	$-0.0510 \pm 2.38e-02$	pixels	$0.0196 \pm 1.80e-01$	$-1.3886 \pm 5.34e-01$	arcseconds
Offset/σ	-1.77	-2.14		0.11	-2.60	
Offset Distance	$0.0684 \pm 2.53e-02$		pixels	$1.3888 \pm 5.34e-01$		arcseconds
Offset Distance/σ	2.70			2.60		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$613.73 \pm 1.26e-04$	$1763.90 \pm 1.28e-04$	pixels	$124.53330843 \pm 0.00e+00$	$-68.31483476 \pm 0.00e+00$	degrees
Difference Image Centroid	$613.62 \pm 2.58e-02$	$1763.92 \pm 2.38e-02$	pixels	$124.53462742 \pm 1.35e-04$	$-68.31514651 \pm 1.48e-04$	degrees
Offset	$-0.1041 \pm 2.58e-02$	$0.0193 \pm 2.38e-02$	pixels	$1.7545 \pm 1.80e-01$	$-1.1223 \pm 5.34e-01$	arcseconds
Offset/σ	-4.04	0.81		9.74	-2.10	
Offset Distance	$0.1059 \pm 2.55e-02$		pixels	$2.0828 \pm 3.33e-01$		arcseconds
Offset Distance/σ	4.15			6.26		

5.2 Planet Candidate 2

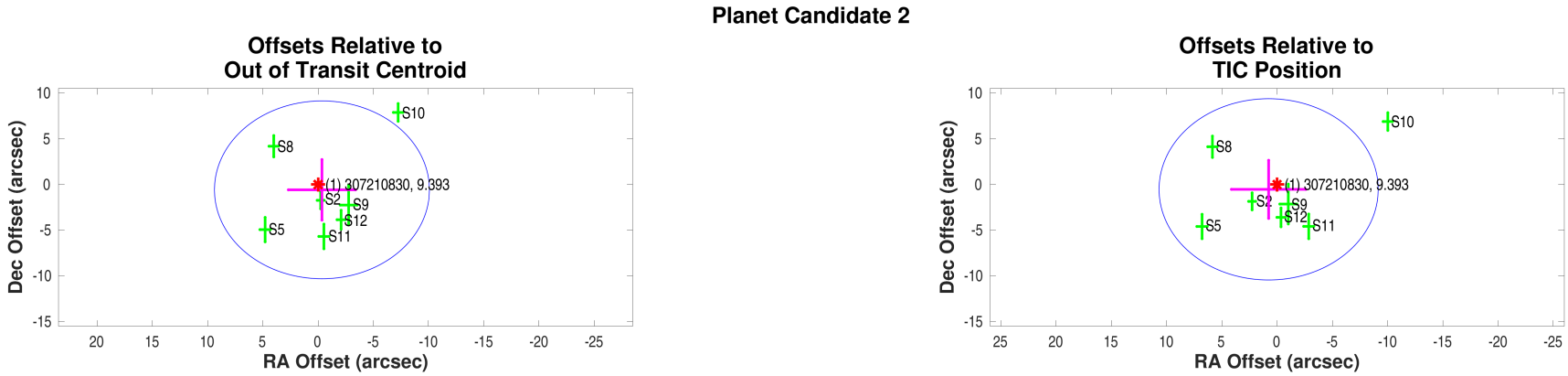
Multi-Sector Average PRF Fit of the Difference Images

Mean offset from the PRF fit to the out of transit image

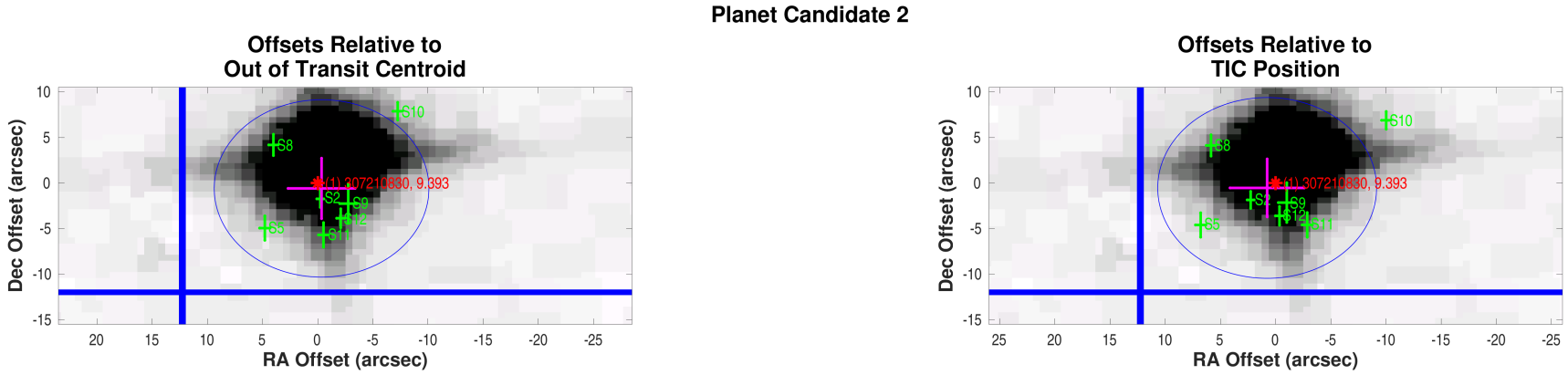
	RA	Dec	Units
Offset	$-0.3481 \pm 3.04e+00$	$-0.5823 \pm 3.31e+00$	arcseconds
Offset/σ	-0.11	-0.18	
Offset Distance	$0.6784 \pm 3.24e+00$		arcseconds
Offset Distance/σ	0.21		
3σ Radius	9.7332		arcseconds

Mean offset from the TIC RA and Dec

	RA	Dec	Units
Offset	$0.7683 \pm 3.37e+00$	$-0.5285 \pm 3.18e+00$	arcseconds
Offset/σ	0.23	-0.17	
Offset Distance	$0.9325 \pm 3.31e+00$		arcseconds
Offset Distance/σ	0.28		
3σ Radius	9.9221		arcseconds



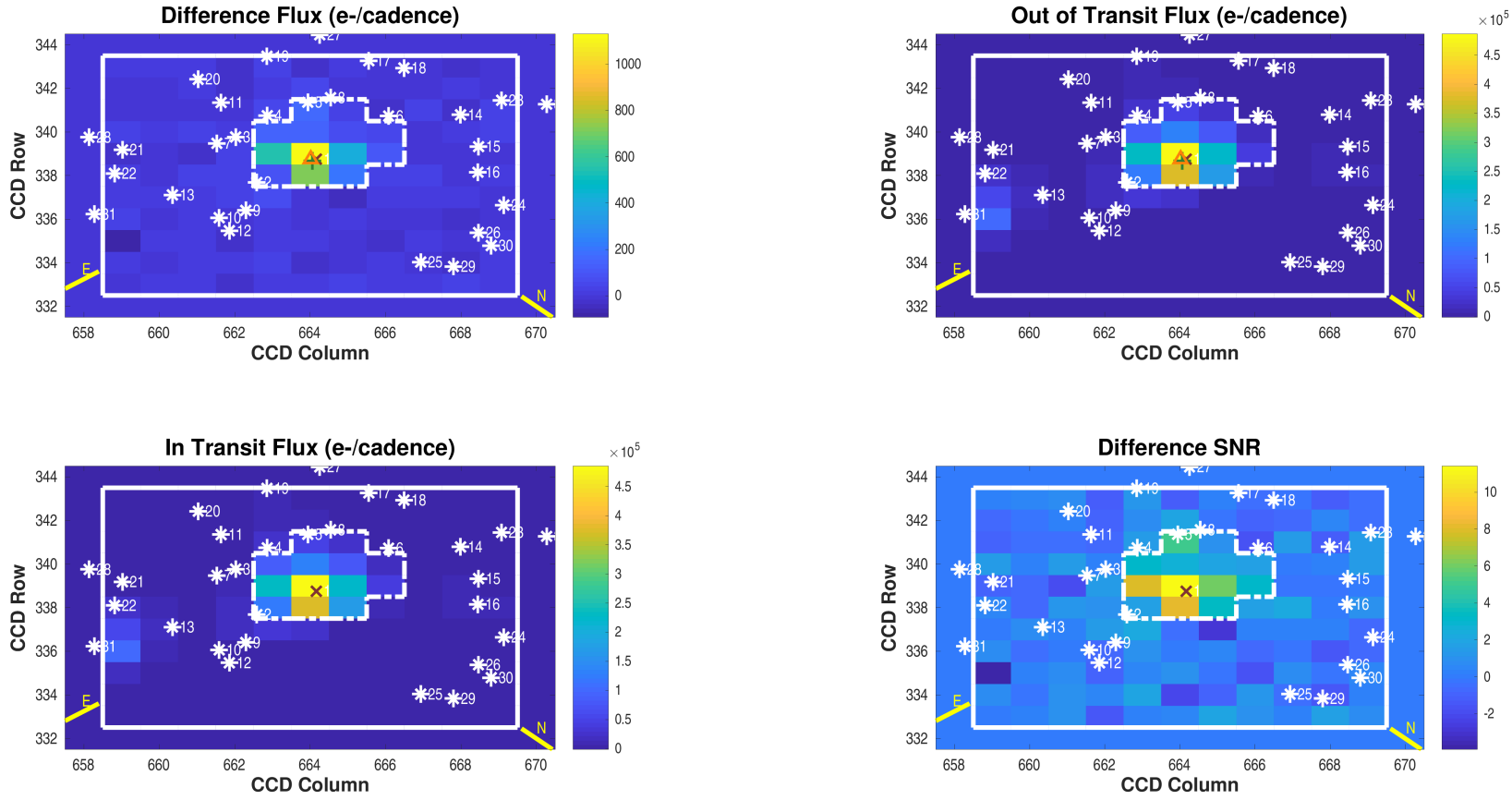
Difference image centroid offsets for target 307210830, planet candidate 2. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-02/difference-image/0000000307210830-02-difference-image-centroid-offsets.fig`



Difference image centroid offsets for target 307210830, planet candidate 2, diplayed on survey image for given target. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TIC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-02/difference-image/0000000307210830-02-difference-image-centroid-offsets-survey.fig`

Difference Image Summary Metrics

Number of Difference Images	Number of Metrics	Number of Good Metrics	Fraction of Good Metrics	Quality Threshold
7	7	7	1.0000	0.70



Difference image for target 307210830, planet candidate 2, sector 2, target pixel table 129. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 4; number of valid in-transit cadences = 70; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 234; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.97 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-02-129.fig`

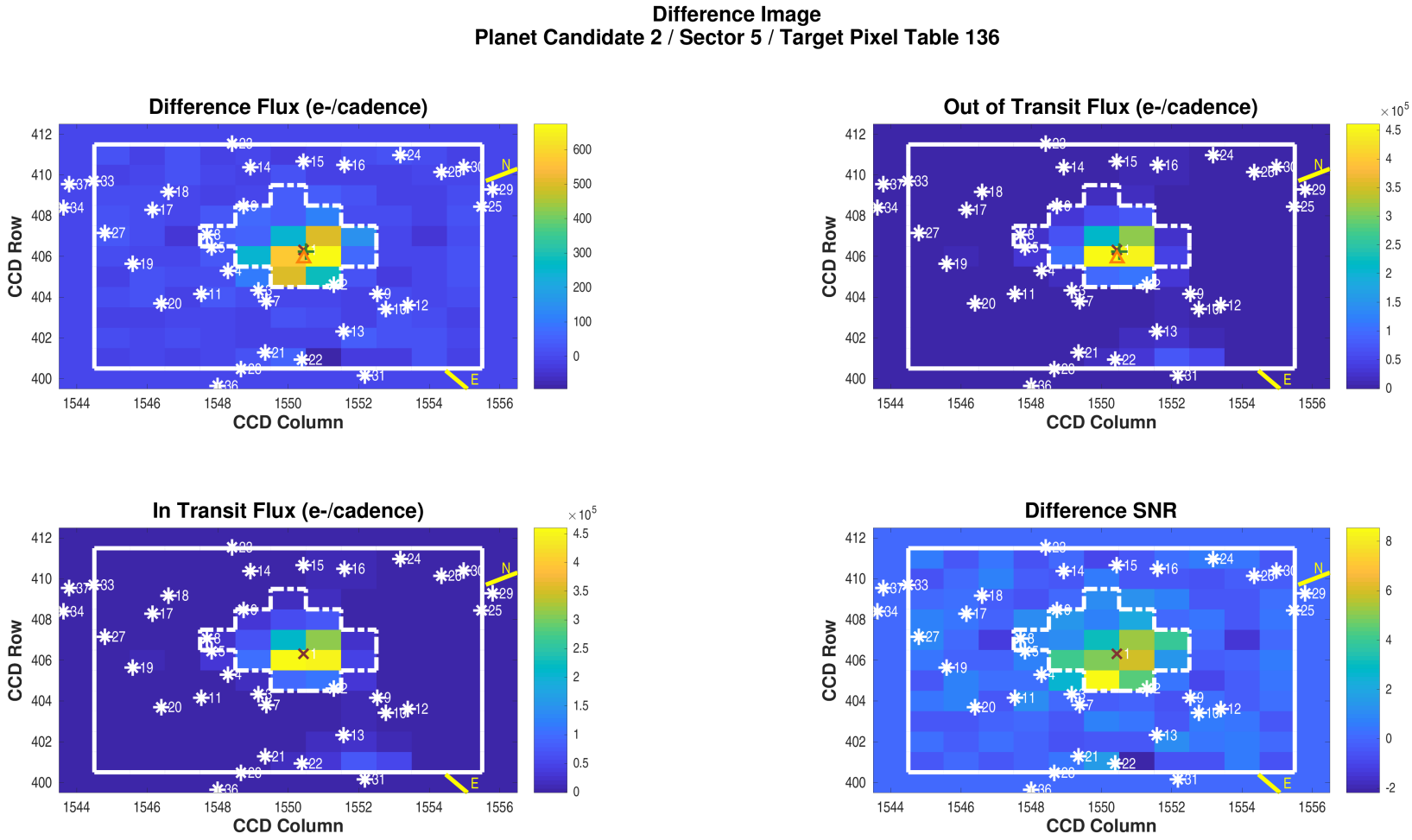
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$338.67 \pm 4.24e-05$	$664.06 \pm 4.02e-05$	pixels	$124.53513126 \pm 8.27e-07$	$-68.31479684 \pm 8.91e-07$	degrees
Difference Image Centroid	$338.75 \pm 4.60e-02$	$664.02 \pm 4.08e-02$	pixels	$124.53495644 \pm 2.39e-04$	$-68.31527727 \pm 2.58e-04$	degrees
Offset	$0.0726 \pm 4.60e-02$	$-0.0466 \pm 4.08e-02$	pixels	$-0.2325 \pm 3.18e-01$	$-1.7295 \pm 9.30e-01$	arcseconds
Offset/σ	1.58	−1.14		−0.73	−1.86	
Offset Distance	$0.0863 \pm 4.62e-02$		pixels	$1.7451 \pm 9.28e-01$		arcseconds
Offset Distance/σ	1.87			1.88		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$338.76 \pm 1.29e-04$	$664.16 \pm 1.59e-04$	pixels	$124.53325461 \pm 0.00e+00$	$-68.31476464 \pm 0.00e+00$	degrees
Difference Image Centroid	$338.75 \pm 4.60e-02$	$664.02 \pm 4.08e-02$	pixels	$124.53495644 \pm 2.39e-04$	$-68.31527727 \pm 2.58e-04$	degrees
Offset	$-0.0097 \pm 4.60e-02$	$-0.1473 \pm 4.08e-02$	pixels	$2.2638 \pm 3.18e-01$	$-1.8455 \pm 9.30e-01$	arcseconds
Offset/σ	−0.21	−3.61		7.13	−1.99	
Offset Distance	$0.1476 \pm 4.05e-02$		pixels	$2.9207 \pm 6.03e-01$		arcseconds
Offset Distance/σ	3.64			4.84		



Difference image for target 307210830, planet candidate 2, sector 5, target pixel table 136. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 3; number of valid in-transit cadences = 52; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 177; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.94 (good). Transits used to compute this difference image are overlapped by those of other candidates on this target.
Open `./planet-02/difference-image/0000000307210830-02-difference-image-05-136.fig`

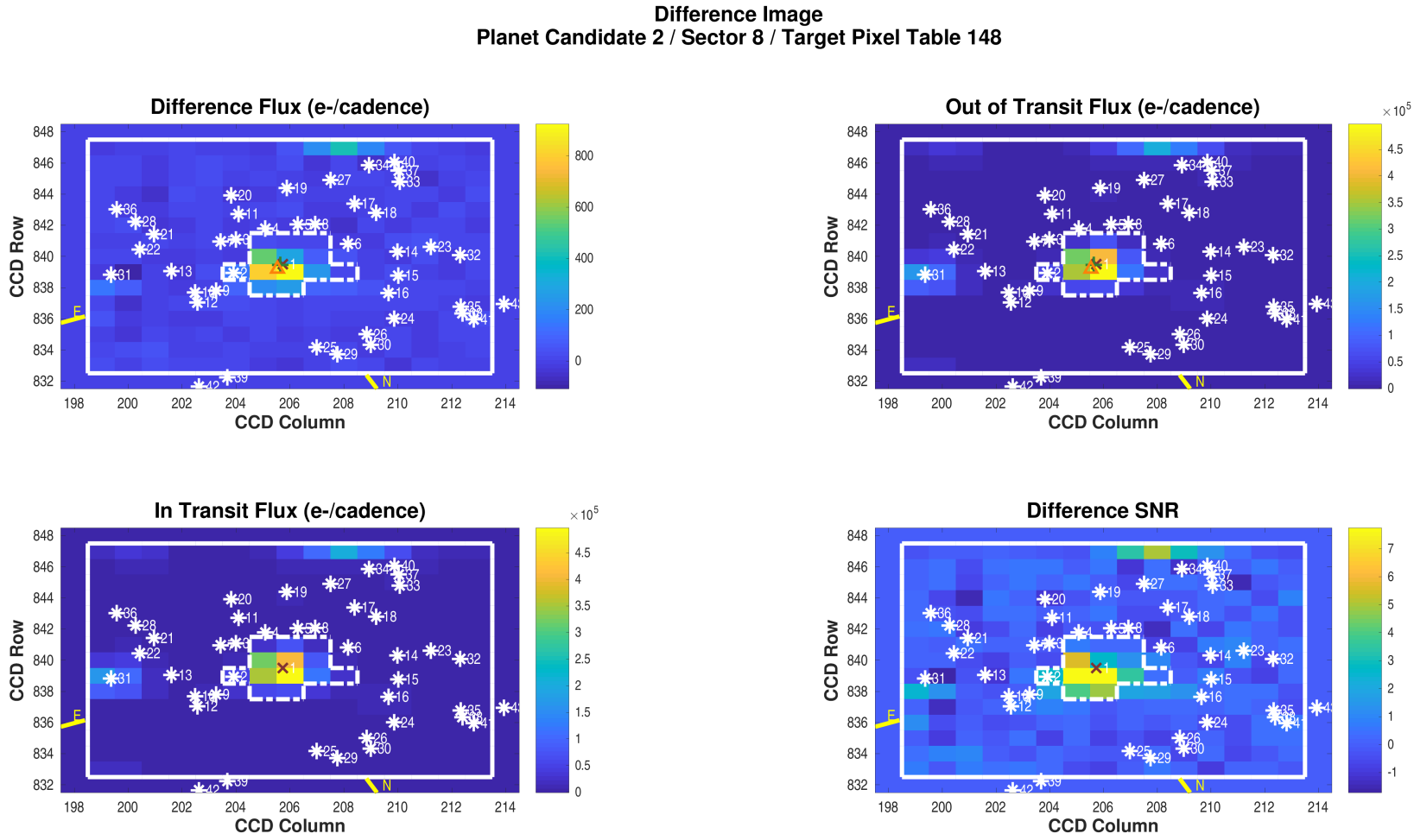
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$406.24 \pm 4.49e-05$	$1550.51 \pm 5.08e-05$	pixels	$124.53477458 \pm 9.14e-07$	$-68.31469090 \pm 9.23e-07$	degrees
Difference Image Centroid	$405.90 \pm 5.94e-02$	$1550.44 \pm 6.73e-02$	pixels	$124.53838023 \pm 3.54e-04$	$-68.31606248 \pm 3.71e-04$	degrees
Offset	$-0.3398 \pm 5.94e-02$	$-0.0627 \pm 6.73e-02$	pixels	$4.7963 \pm 4.73e-01$	$-4.9377 \pm 1.34e+00$	arcseconds
Offset/σ	−5.72	−0.93		10.15	−3.70	
Offset Distance	$0.3455 \pm 5.99e-02$		pixels	$6.8837 \pm 9.74e-01$		arcseconds
Offset Distance/σ	5.77			7.07		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$406.32 \pm 1.59e-04$	$1550.43 \pm 1.48e-04$	pixels	$124.53327115 \pm 0.00e+00$	$-68.31478619 \pm 0.00e+00$	degrees
Difference Image Centroid	$405.90 \pm 5.94e-02$	$1550.44 \pm 6.73e-02$	pixels	$124.53838023 \pm 3.54e-04$	$-68.31606248 \pm 3.71e-04$	degrees
Offset	$-0.4166 \pm 5.94e-02$	$0.0101 \pm 6.73e-02$	pixels	$6.7962 \pm 4.71e-01$	$-4.5946 \pm 1.34e+00$	arcseconds
Offset/σ	−7.01	0.15		14.43	−3.44	
Offset Distance	$0.4167 \pm 5.94e-02$		pixels	$8.2036 \pm 8.00e-01$		arcseconds
Offset Distance/σ	7.02			10.26		



Difference image for target 307210830, planet candidate 2, sector 8, target pixel table 148. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 3; number of valid in-transit cadences = 52; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 176; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.91 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-08-148.fig`

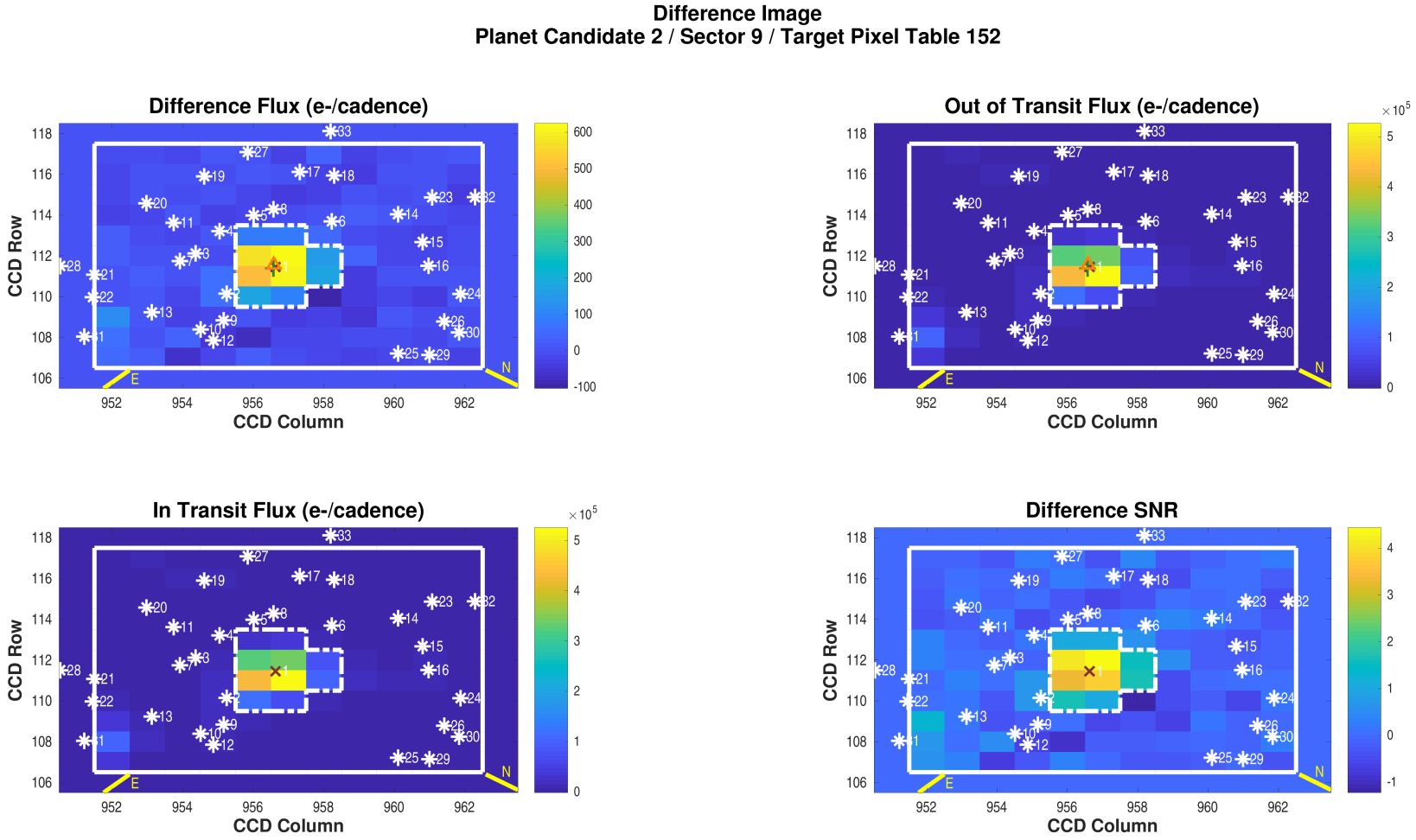
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$839.47 \pm 5.08e-05$	$205.64 \pm 4.51e-05$	pixels	$124.53467001 \pm 9.64e-07$	$-68.31482247 \pm 9.78e-07$	degrees
Difference Image Centroid	$839.19 \pm 5.23e-02$	$205.53 \pm 6.01e-02$	pixels	$124.53768952 \pm 3.21e-04$	$-68.31365830 \pm 3.24e-04$	degrees
Offset	$-0.2761 \pm 5.23e-02$	$-0.1075 \pm 6.01e-02$	pixels	$4.0166 \pm 4.28e-01$	$4.1910 \pm 1.17e+00$	arcseconds
Offset/σ	-5.28	-1.79		9.38	3.59	
Offset Distance	$0.2963 \pm 5.27e-02$		pixels	$5.8050 \pm 8.50e-01$		arcseconds
Offset Distance/σ	5.63			6.83		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$839.50 \pm 1.59e-04$	$205.73 \pm 1.67e-04$	pixels	$124.53328674 \pm 0.00e+00$	$-68.31480650 \pm 0.00e+00$	degrees
Difference Image Centroid	$839.19 \pm 5.23e-02$	$205.53 \pm 6.01e-02$	pixels	$124.53768952 \pm 3.21e-04$	$-68.31365830 \pm 3.24e-04$	degrees
Offset	$-0.3133 \pm 5.23e-02$	$-0.1958 \pm 6.01e-02$	pixels	$5.8567 \pm 4.27e-01$	$4.1335 \pm 1.17e+00$	arcseconds
Offset/σ	-5.99	-3.26		13.73	3.54	
Offset Distance	$0.3694 \pm 5.37e-02$		pixels	$7.1684 \pm 7.10e-01$		arcseconds
Offset Distance/σ	6.88			10.10		



Difference image for target 307210830, planet candidate 2, sector 9, target pixel table 152. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 2; number of valid in-transit cadences = 36; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 118; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.96 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-09-152.fig`

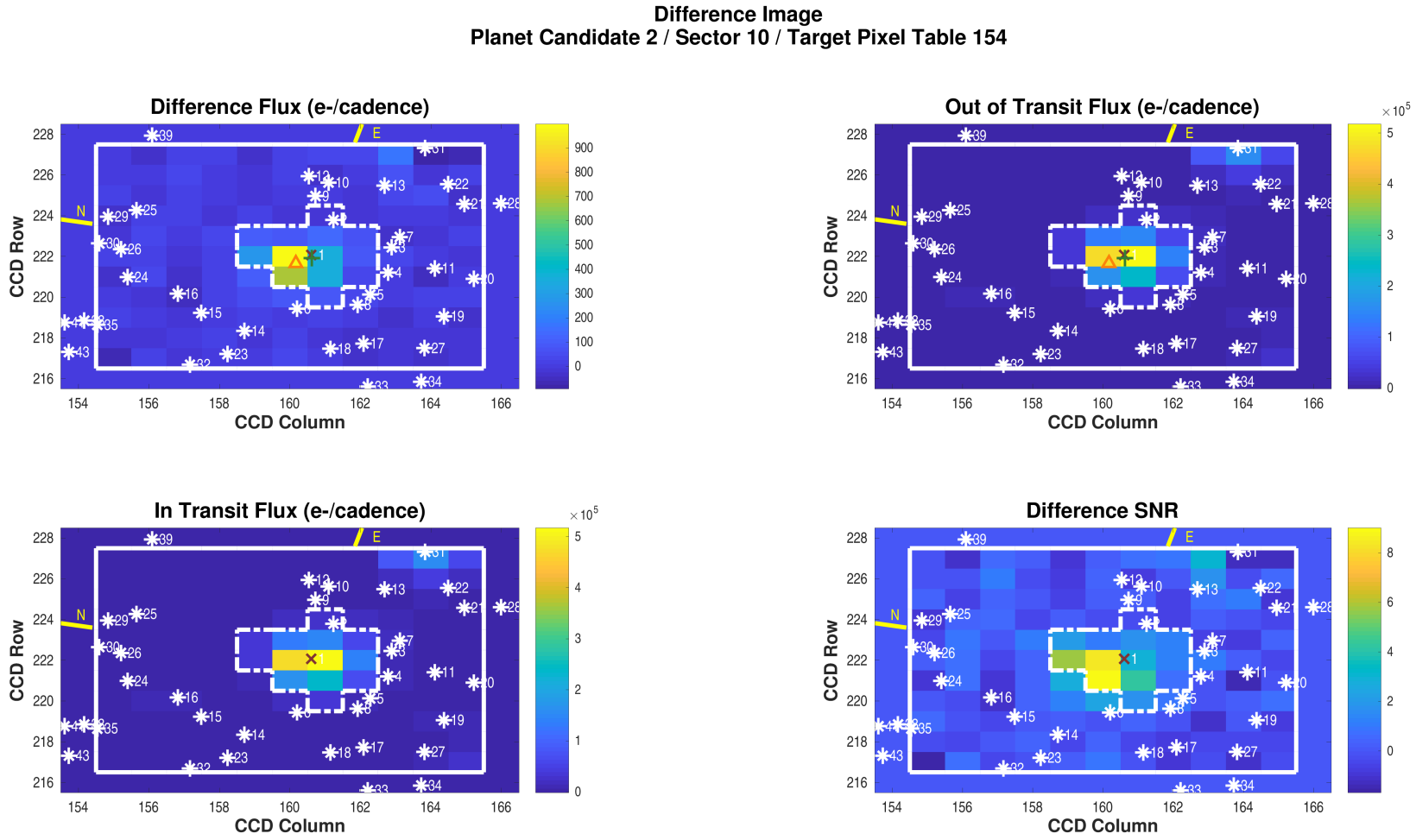
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$111.38 \pm 7.07e-05$	$956.58 \pm 7.16e-05$	pixels	$124.53461064 \pm 1.07e-06$	$-68.31478303 \pm 1.09e-06$	degrees
Difference Image Centroid	$111.56 \pm 1.06e-01$	$956.58 \pm 1.00e-01$	pixels	$124.53253086 \pm 5.77e-04$	$-68.31540771 \pm 6.05e-04$	degrees
Offset	$0.1831 \pm 1.06e-01$	$0.0067 \pm 1.00e-01$	pixels	$-2.7666 \pm 7.68e-01$	$-2.2488 \pm 2.18e+00$	arcseconds
Offset/σ	1.72	0.07		-3.60	-1.03	
Offset Distance	$0.1832 \pm 1.06e-01$		pixels	$3.5653 \pm 1.55e+00$		arcseconds
Offset Distance/σ	1.72			2.30		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$111.45 \pm 1.78e-04$	$956.63 \pm 1.73e-04$	pixels	$124.53329194 \pm 0.00e+00$	$-68.31481327 \pm 0.00e+00$	degrees
Difference Image Centroid	$111.56 \pm 1.06e-01$	$956.58 \pm 1.00e-01$	pixels	$124.53253086 \pm 5.77e-04$	$-68.31540771 \pm 6.05e-04$	degrees
Offset	$0.1089 \pm 1.06e-01$	$-0.0470 \pm 1.00e-01$	pixels	$-1.0124 \pm 7.67e-01$	$-2.1400 \pm 2.18e+00$	arcseconds
Offset/σ	1.02	-0.47		-1.32	-0.98	
Offset Distance	$0.1186 \pm 1.08e-01$		pixels	$2.3674 \pm 2.03e+00$		arcseconds
Offset Distance/σ	1.10			1.17		



Difference image for target 307210830, planet candidate 2, sector 10, target pixel table 154. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 3; number of valid in-transit cadences = 52; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 167; number of out-of-transit cadence gaps = 7. Difference image quality metric = 0.96 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-10-154.fig`

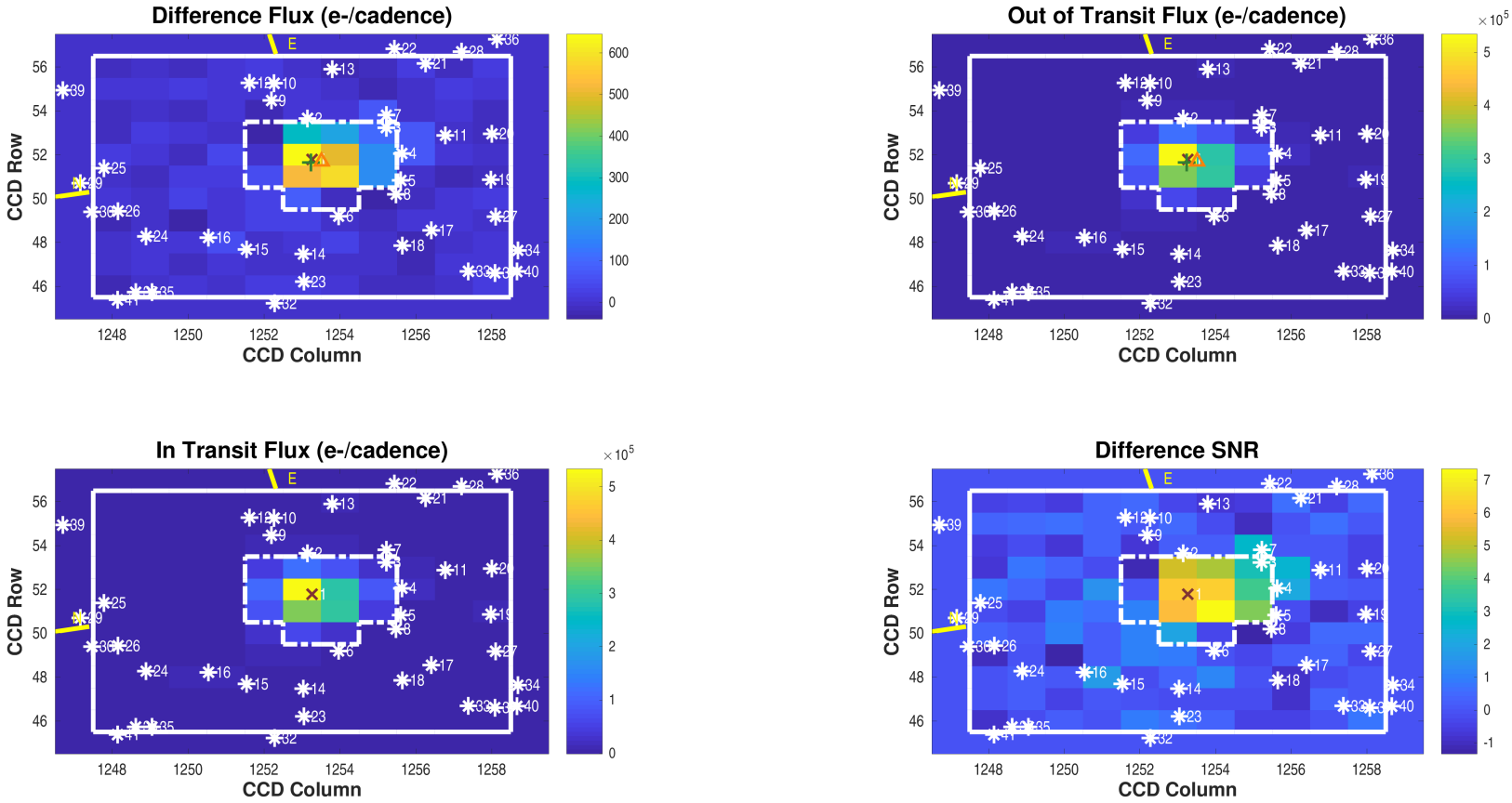
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$221.92 \pm 5.45e-05$	$160.62 \pm 4.92e-05$	pixels	$124.53121029 \pm 1.30e-06$	$-68.31509718 \pm 1.25e-06$	degrees
Difference Image Centroid	$221.66 \pm 5.35e-02$	$160.17 \pm 4.93e-02$	pixels	$124.52576144 \pm 3.18e-04$	$-68.31290555 \pm 2.69e-04$	degrees
Offset	$-0.2627 \pm 5.35e-02$	$-0.4524 \pm 4.93e-02$	pixels	$-7.2481 \pm 4.31e-01$	$7.8899 \pm 9.68e-01$	arcseconds
Offset/σ	-4.91	-9.17		-16.80	8.15	
Offset Distance	$0.5231 \pm 5.32e-02$		pixels	$10.7138 \pm 7.72e-01$		arcseconds
Offset Distance/σ	9.84			13.89		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$222.07 \pm 2.20e-04$	$160.60 \pm 2.13e-04$	pixels	$124.53329724 \pm 0.00e+00$	$-68.31482018 \pm 0.00e+00$	degrees
Difference Image Centroid	$221.66 \pm 5.35e-02$	$160.17 \pm 4.93e-02$	pixels	$124.52576144 \pm 3.18e-04$	$-68.31290555 \pm 2.69e-04$	degrees
Offset	$-0.4103 \pm 5.35e-02$	$-0.4357 \pm 4.93e-02$	pixels	$-10.0243 \pm 4.24e-01$	$6.8927 \pm 9.68e-01$	arcseconds
Offset/σ	-7.67	-8.83		-23.67	7.12	
Offset Distance	$0.5985 \pm 5.44e-02$		pixels	$12.1653 \pm 6.52e-01$		arcseconds
Offset Distance/σ	10.99			18.67		



Difference image for target 307210830, planet candidate 2, sector 11, target pixel table 155. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 4; number of valid in-transit cadences = 70; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 233; number of out-of-transit cadence gaps = 2. Difference image quality metric = 0.97 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-11-155.fig`

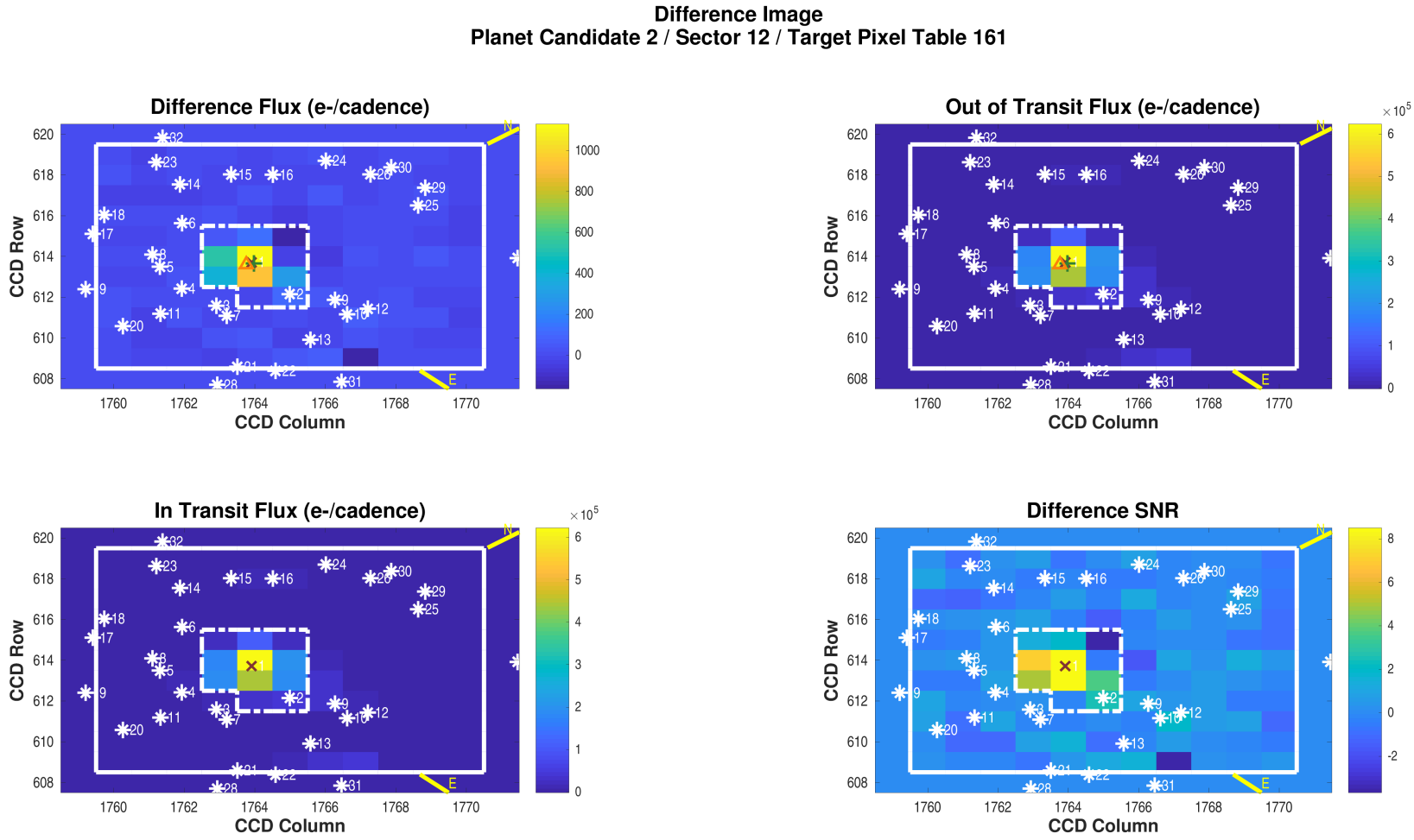
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$51.65 \pm 4.46e-05$	$1253.23 \pm 4.04e-05$	pixels	$124.53154406 \pm 1.30e-06$	$-68.31452150 \pm 1.24e-06$	degrees
Difference Image Centroid	$51.69 \pm 6.06e-02$	$1253.52 \pm 6.53e-02$	pixels	$124.53114999 \pm 3.46e-04$	$-68.31610072 \pm 3.75e-04$	degrees
Offset	$0.0434 \pm 6.06e-02$	$0.2808 \pm 6.53e-02$	pixels	$-0.5242 \pm 4.60e-01$	$-5.6852 \pm 1.35e+00$	arcseconds
Offset/σ	0.72	4.30		-1.14	-4.21	
Offset Distance	$0.2842 \pm 6.46e-02$		pixels	$5.7093 \pm 1.35e+00$		arcseconds
Offset Distance/σ	4.40			4.24		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$51.78 \pm 2.24e-04$	$1253.27 \pm 2.12e-04$	pixels	$124.53330276 \pm 0.00e+00$	$-68.31482736 \pm 0.00e+00$	degrees
Difference Image Centroid	$51.69 \pm 6.06e-02$	$1253.52 \pm 6.53e-02$	pixels	$124.53114999 \pm 3.46e-04$	$-68.31610072 \pm 3.75e-04$	degrees
Offset	$-0.0867 \pm 6.06e-02$	$0.2505 \pm 6.53e-02$	pixels	$-2.8637 \pm 4.60e-01$	$-4.5841 \pm 1.35e+00$	arcseconds
Offset/σ	-1.43	3.83		-6.23	-3.40	
Offset Distance	$0.2651 \pm 6.62e-02$		pixels	$5.4050 \pm 1.19e+00$		arcseconds
Offset Distance/σ	4.00			4.53		



Difference image for target 307210830, planet candidate 2, sector 12, target pixel table 161. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 3; number of valid in-transit cadences = 52; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 173; number of out-of-transit cadence gaps = 4. Difference image quality metric = 0.96 (good).
Open `./planet-02/difference-image/0000000307210830-02-difference-image-12-161.fig`

PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$613.65 \pm 4.72e-05$	$1763.98 \pm 4.62e-05$	pixels	$124.53461101 \pm 7.66e-07$	$-68.31476292 \pm 7.85e-07$	degrees
Difference Image Centroid	$613.61 \pm 5.12e-02$	$1763.76 \pm 4.73e-02$	pixels	$124.53304424 \pm 2.77e-04$	$-68.31583371 \pm 2.87e-04$	degrees
Offset	$-0.0437 \pm 5.12e-02$	$-0.2159 \pm 4.73e-02$	pixels	$-2.0842 \pm 3.69e-01$	$-3.8548 \pm 1.03e+00$	arcseconds
Offset/σ	-0.85	-4.56		-5.65	-3.74	
Offset Distance	$0.2203 \pm 4.74e-02$		pixels	$4.3822 \pm 9.12e-01$		arcseconds
Offset Distance/σ	4.65			4.80		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$613.71 \pm 1.25e-04$	$1763.91 \pm 1.29e-04$	pixels	$124.53330843 \pm 0.00e+00$	$-68.31483476 \pm 0.00e+00$	degrees
Difference Image Centroid	$613.61 \pm 5.12e-02$	$1763.76 \pm 4.73e-02$	pixels	$124.53304424 \pm 2.77e-04$	$-68.31583371 \pm 2.87e-04$	degrees
Offset	$-0.1025 \pm 5.12e-02$	$-0.1460 \pm 4.73e-02$	pixels	$-0.3514 \pm 3.68e-01$	$-3.5962 \pm 1.03e+00$	arcseconds
Offset/σ	-2.00	-3.09		-0.95	-3.48	
Offset Distance	$0.1784 \pm 4.84e-02$		pixels	$3.6134 \pm 1.03e+00$		arcseconds
Offset Distance/σ	3.68			3.52		

5.3 Planet Candidate 3

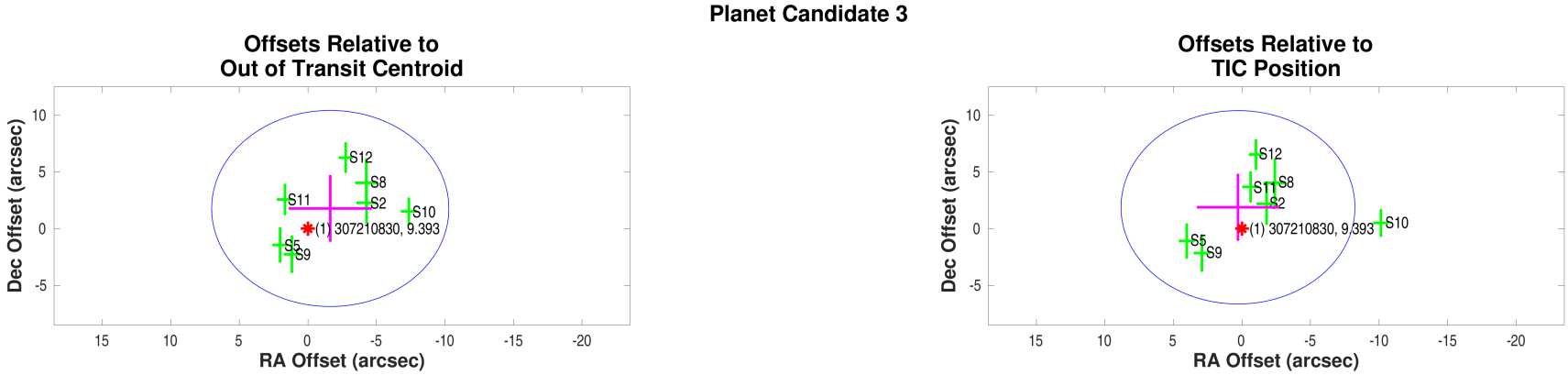
Multi-Sector Average PRF Fit of the Difference Images

Mean offset from the PRF fit to the out of transit image

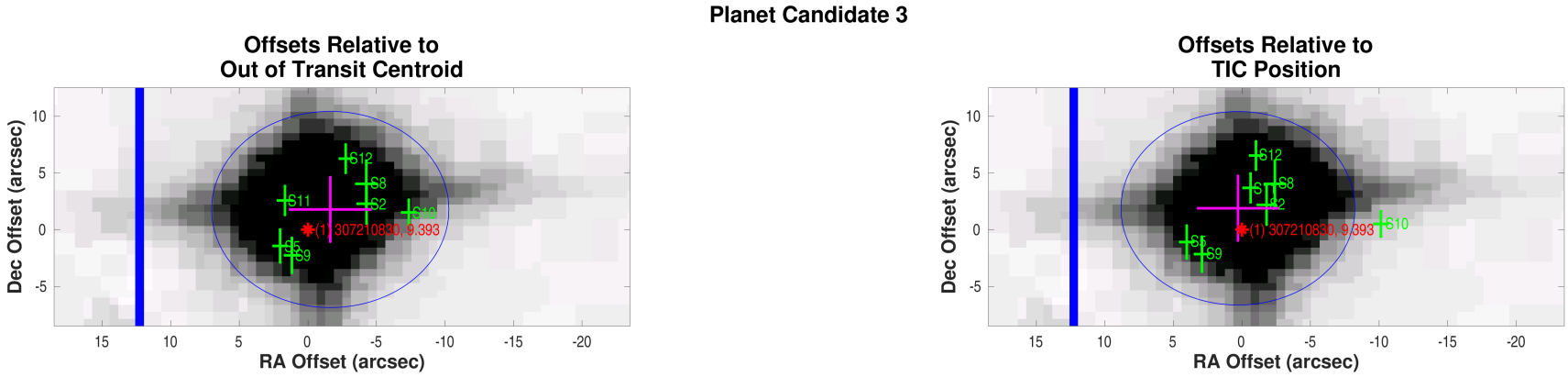
	RA	Dec	Units
Offset	$-1.6336 \pm 2.94e+00$	$1.7811 \pm 2.84e+00$	arcseconds
Offset/σ	-0.56	0.63	
Offset Distance	$2.4168 \pm 2.88e+00$		arcseconds
Offset Distance/σ	0.84		
3σ Radius	8.6495		arcseconds

Mean offset from the TIC RA and Dec

	RA	Dec	Units
Offset	$0.2912 \pm 2.92e+00$	$1.8853 \pm 2.84e+00$	arcseconds
Offset/σ	0.10	0.66	
Offset Distance	$1.9077 \pm 2.84e+00$		arcseconds
Offset Distance/σ	0.67		
3σ Radius	8.5307		arcseconds



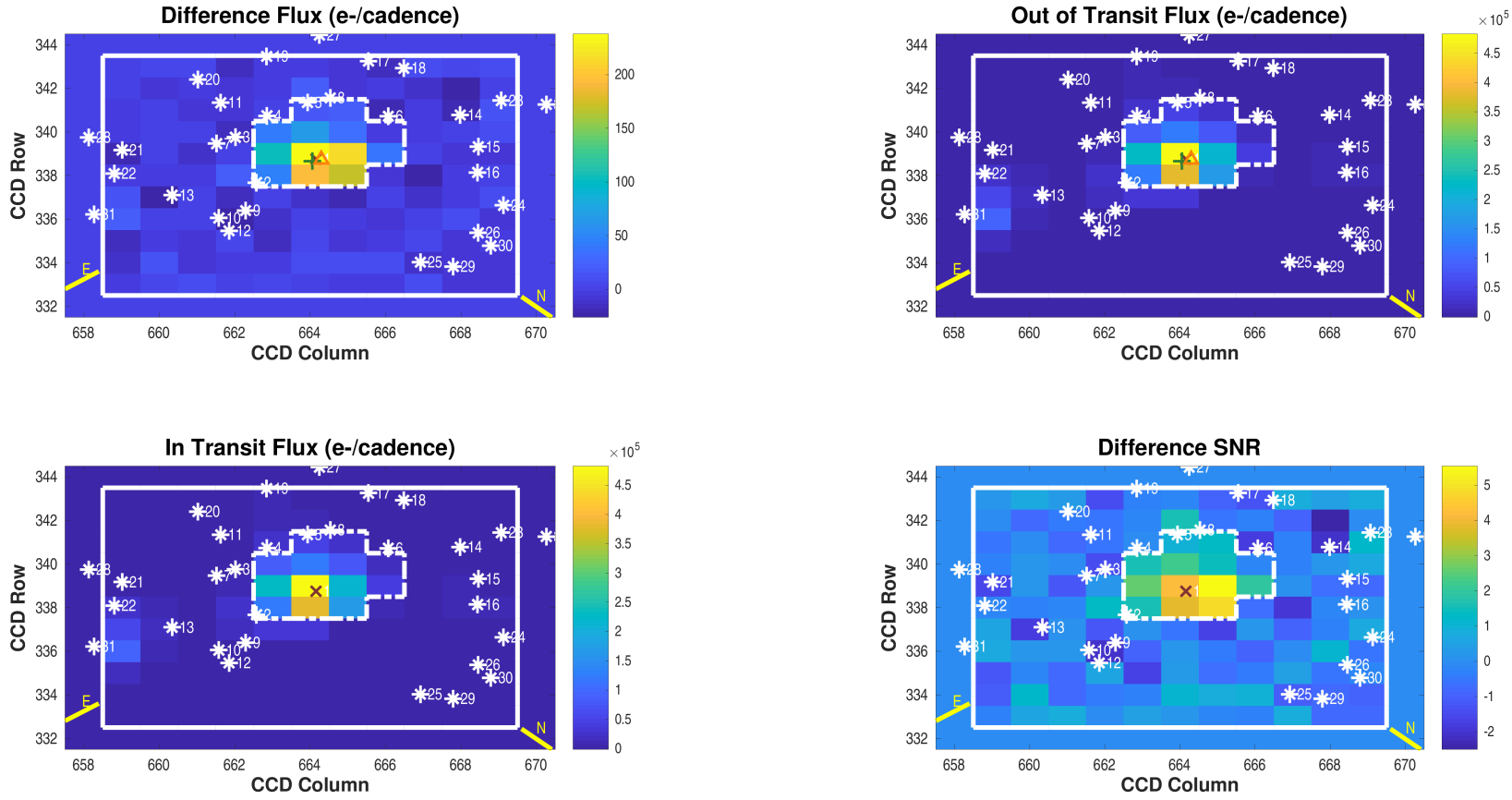
Difference image centroid offsets for target 307210830, planet candidate 3. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-03/difference-image/0000000307210830-03-difference-image-centroid-offsets.fig`



Difference image centroid offsets for target 307210830, planet candidate 3, diplayed on survey image for given target. Left: difference image PRF centroid offsets in RA and Dec with respect to the per sector out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the TIC coordinates of the given target. Symbol key: green cross: per sector centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all sectors with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red asterisk: location of target star; blue asterisk: location of other TIC objects in the neighborhood. TIC ID and magnitude are noted in the text associated with each marked object. A constant error term of 2.5000 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset.
Open `./planet-03/difference-image/0000000307210830-03-difference-image-centroid-offsets-survey.fig`

Difference Image Summary Metrics

Number of Difference Images	Number of Metrics	Number of Good Metrics	Fraction of Good Metrics	Quality Threshold
7	7	7	1.0000	0.70



Difference image for target 307210830, planet candidate 3, sector 2, target pixel table 129. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 9; number of valid in-transit cadences = 222; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 606; number of out-of-transit cadence gaps = 3. Difference image quality metric = 0.95 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-02-129.fig`

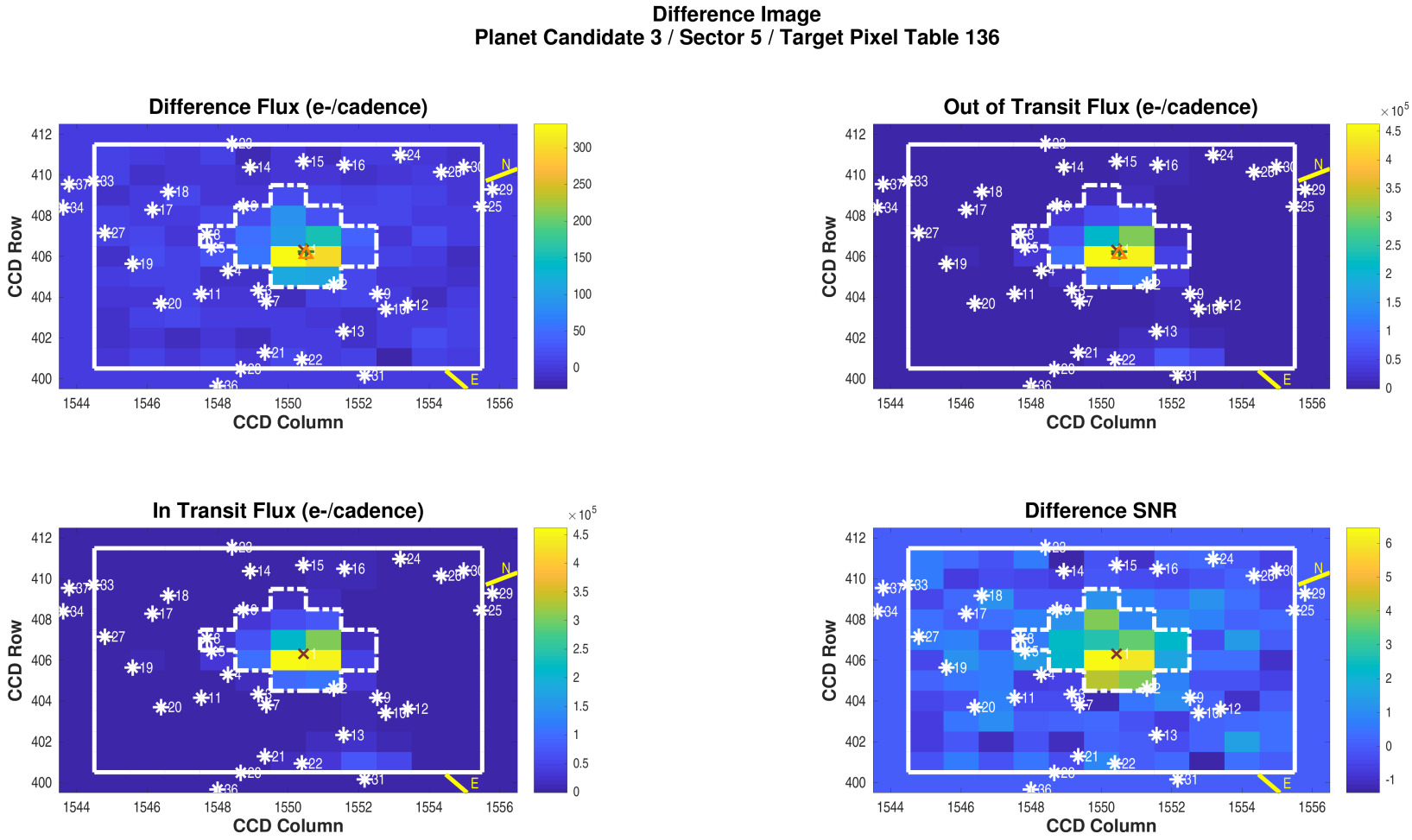
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$338.67 \pm 2.64e-05$	$664.06 \pm 2.51e-05$	pixels	$124.53512438 \pm 8.13e-07$	$-68.31479097 \pm 8.75e-07$	degrees
Difference Image Centroid	$338.73 \pm 8.89e-02$	$664.30 \pm 7.99e-02$	pixels	$124.53190607 \pm 4.83e-04$	$-68.31415632 \pm 4.84e-04$	degrees
Offset	$0.0634 \pm 8.89e-02$	$0.2397 \pm 7.99e-02$	pixels	$-4.2811 \pm 6.43e-01$	$2.2848 \pm 1.74e+00$	arcseconds
Offset/σ	0.71	3.00		-6.66	1.31	
Offset Distance	$0.2479 \pm 8.04e-02$		pixels	$4.8526 \pm 9.44e-01$		arcseconds
Offset Distance/σ	3.09			5.14		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$338.75 \pm 1.30e-04$	$664.16 \pm 1.59e-04$	pixels	$124.53325461 \pm 0.00e+00$	$-68.31476464 \pm 0.00e+00$	degrees
Difference Image Centroid	$338.73 \pm 8.89e-02$	$664.30 \pm 7.99e-02$	pixels	$124.53190607 \pm 4.83e-04$	$-68.31415632 \pm 4.84e-04$	degrees
Offset	$-0.0194 \pm 8.89e-02$	$0.1401 \pm 7.99e-02$	pixels	$-1.7939 \pm 6.42e-01$	$2.1900 \pm 1.74e+00$	arcseconds
Offset/σ	-0.22	1.75		-2.79	1.26	
Offset Distance	$0.1414 \pm 8.02e-02$		pixels	$2.8309 \pm 1.36e+00$		arcseconds
Offset Distance/σ	1.76			2.08		



Difference image for target 307210830, planet candidate 3, sector 5, target pixel table 136. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 11; number of valid in-transit cadences = 273; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 743; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.97 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-05-136.fig`

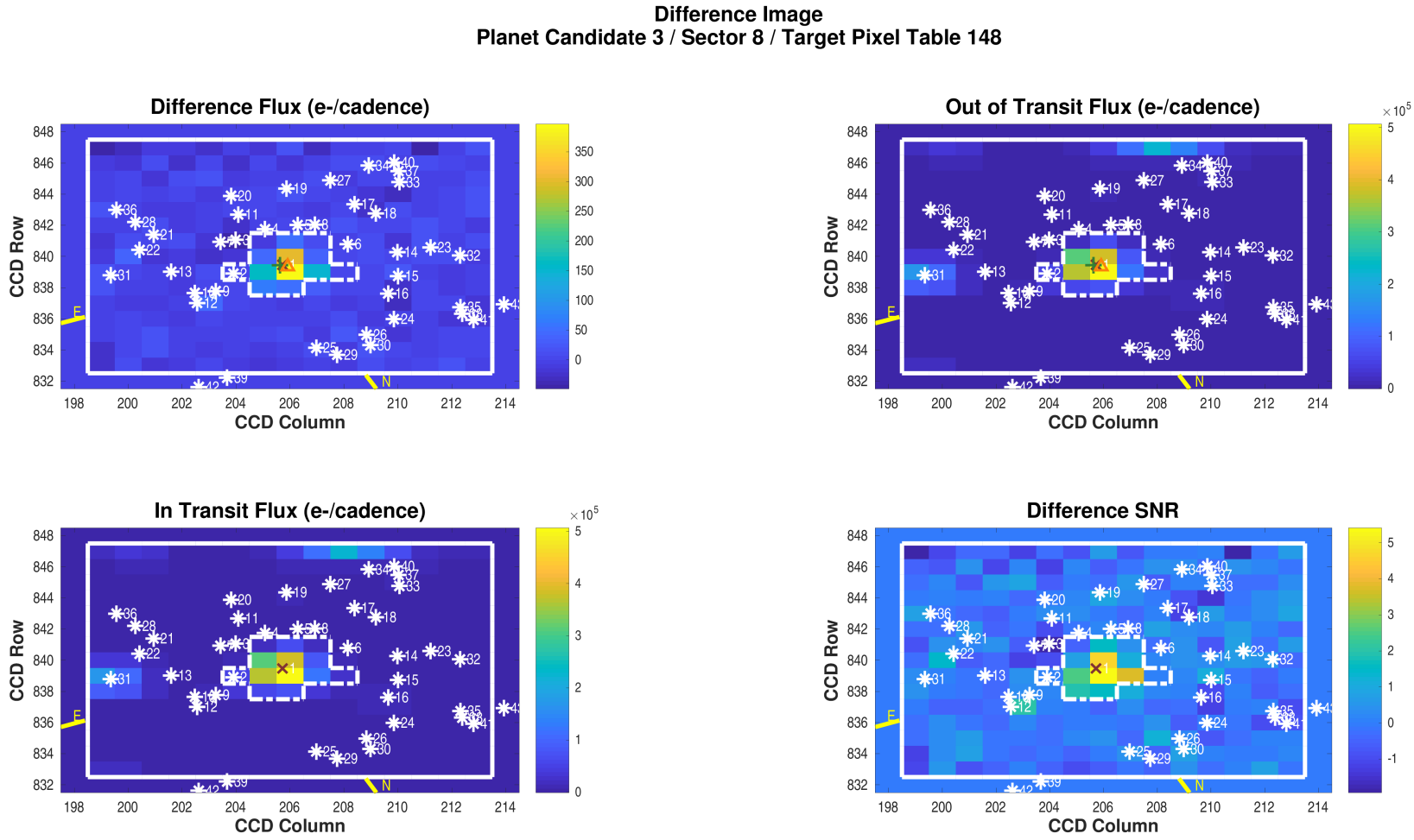
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$406.24 \pm 2.19e-05$	$1550.50 \pm 2.47e-05$	pixels	$124.53477962 \pm 8.75e-07$	$-68.31468983 \pm 8.93e-07$	degrees
Difference Image Centroid	$406.11 \pm 6.46e-02$	$1550.50 \pm 6.88e-02$	pixels	$124.53630038 \pm 3.61e-04$	$-68.31508906 \pm 4.02e-04$	degrees
Offset	$-0.1259 \pm 6.46e-02$	$0.0001 \pm 6.88e-02$	pixels	$2.0230 \pm 4.80e-01$	$-1.4372 \pm 1.45e+00$	arcseconds
Offset/σ	-1.95	0.00		4.21	-0.99	
Offset Distance	$0.1259 \pm 6.46e-02$		pixels	$2.4815 \pm 9.03e-01$		arcseconds
Offset Distance/σ	1.95			2.75		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$406.32 \pm 1.58e-04$	$1550.43 \pm 1.48e-04$	pixels	$124.53327115 \pm 0.00e+00$	$-68.31478619 \pm 0.00e+00$	degrees
Difference Image Centroid	$406.11 \pm 6.46e-02$	$1550.50 \pm 6.88e-02$	pixels	$124.53630038 \pm 3.61e-04$	$-68.31508906 \pm 4.02e-04$	degrees
Offset	$-0.2028 \pm 6.46e-02$	$0.0733 \pm 6.88e-02$	pixels	$4.0296 \pm 4.80e-01$	$-1.0903 \pm 1.45e+00$	arcseconds
Offset/σ	-3.14	1.06		8.40	-0.75	
Offset Distance	$0.2157 \pm 6.33e-02$		pixels	$4.1745 \pm 5.79e-01$		arcseconds
Offset Distance/σ	3.41			7.21		



Difference image for target 307210830, planet candidate 3, sector 8, target pixel table 148. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 6; number of valid in-transit cadences = 149; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 406; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.93 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-08-148.fig`

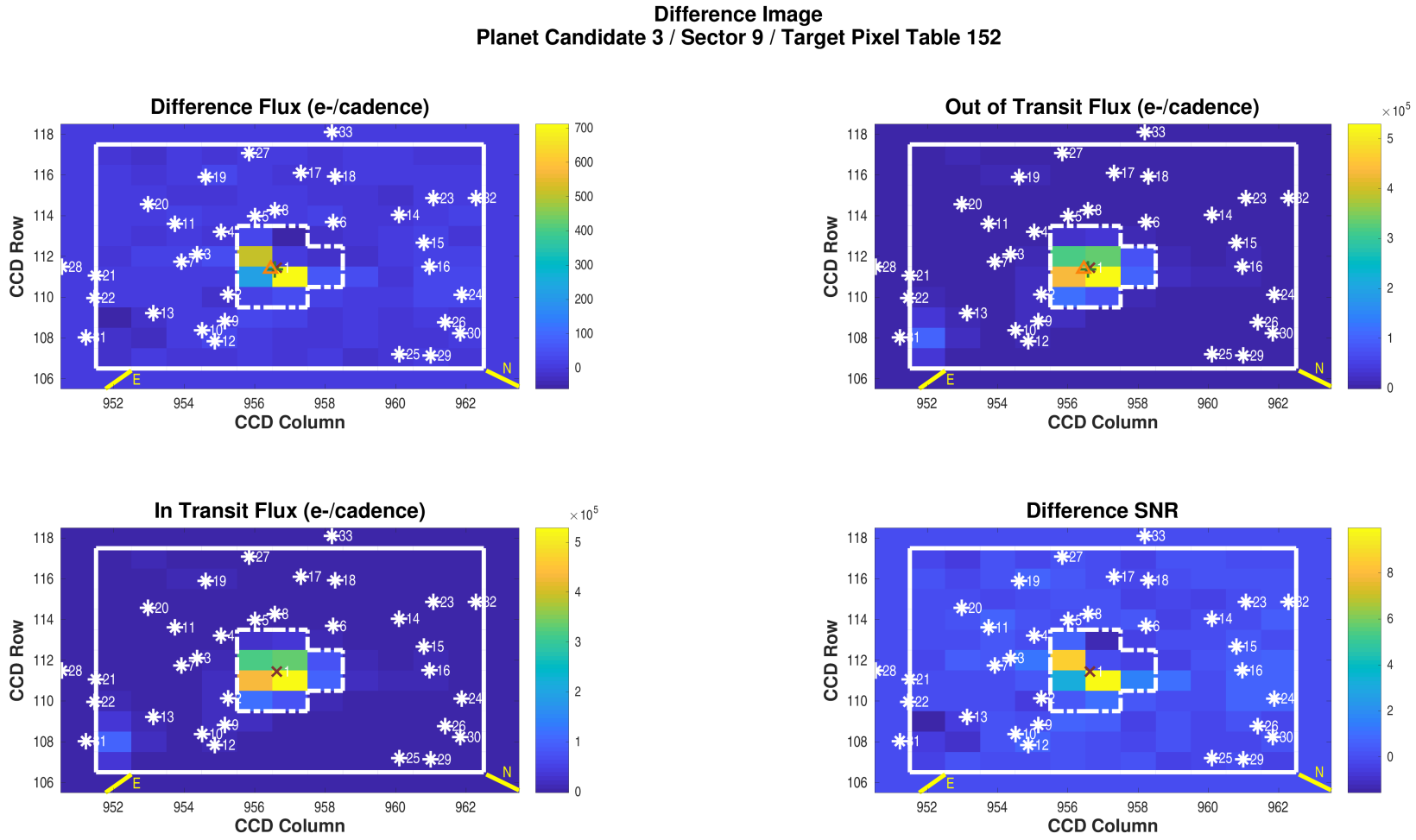
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$839.43 \pm 3.23e-05$	$205.63 \pm 2.92e-05$	pixels	$124.53468784 \pm 9.41e-07$	$-68.31480783 \pm 9.51e-07$	degrees
Difference Image Centroid	$839.34 \pm 9.01e-02$	$205.91 \pm 1.04e-01$	pixels	$124.53148548 \pm 5.46e-04$	$-68.31368508 \pm 5.68e-04$	degrees
Offset	$-0.0901 \pm 9.01e-02$	$0.2813 \pm 1.04e-01$	pixels	$-4.2599 \pm 7.27e-01$	$4.0419 \pm 2.05e+00$	arcseconds
Offset/σ	−1.00	2.70		−5.86	1.98	
Offset Distance	$0.2954 \pm 1.05e-01$		pixels	$5.8722 \pm 1.58e+00$		arcseconds
Offset Distance/σ	2.82			3.71		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$839.47 \pm 1.59e-04$	$205.72 \pm 1.66e-04$	pixels	$124.53328674 \pm 0.00e+00$	$-68.31480650 \pm 0.00e+00$	degrees
Difference Image Centroid	$839.34 \pm 9.01e-02$	$205.91 \pm 1.04e-01$	pixels	$124.53148548 \pm 5.46e-04$	$-68.31368508 \pm 5.68e-04$	degrees
Offset	$-0.1303 \pm 9.01e-02$	$0.1930 \pm 1.04e-01$	pixels	$-2.3961 \pm 7.26e-01$	$4.0371 \pm 2.05e+00$	arcseconds
Offset/σ	−1.45	1.85		−3.30	1.97	
Offset Distance	$0.2329 \pm 1.03e-01$		pixels	$4.6946 \pm 1.86e+00$		arcseconds
Offset Distance/σ	2.26			2.53		



Difference image for target 307210830, planet candidate 3, sector 9, target pixel table 152. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 8; number of valid in-transit cadences = 198; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 519; number of out-of-transit cadence gaps = 23. Difference image quality metric = 0.80 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-09-152.fig`

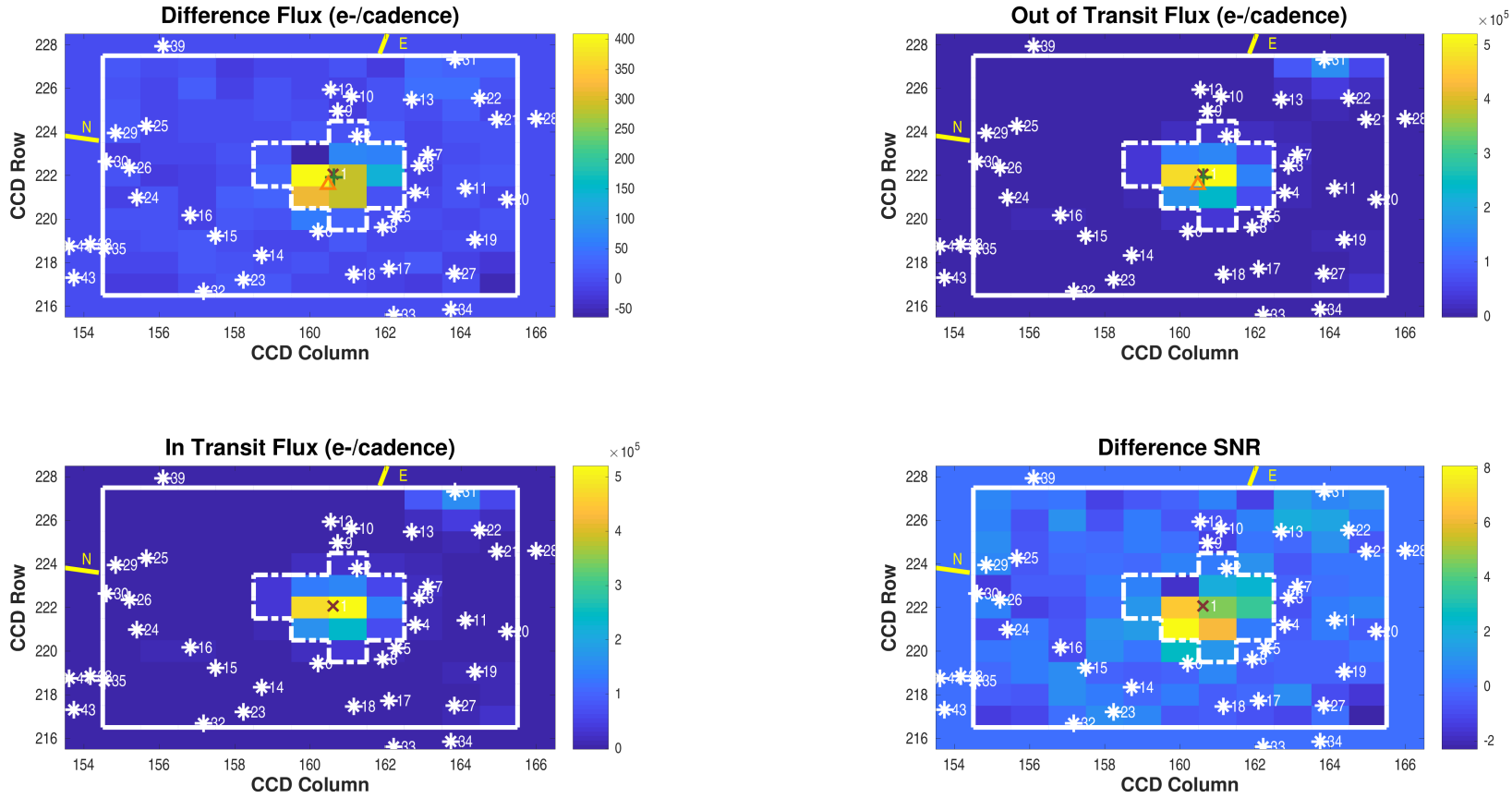
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$111.37 \pm 3.38e-05$	$956.57 \pm 3.43e-05$	pixels	$124.53461583 \pm 1.02e-06$	$-68.31478304 \pm 1.03e-06$	degrees
Difference Image Centroid	$111.39 \pm 6.94e-02$	$956.45 \pm 7.26e-02$	pixels	$124.53548882 \pm 3.83e-04$	$-68.31541201 \pm 4.27e-04$	degrees
Offset	$0.0253 \pm 6.94e-02$	$-0.1233 \pm 7.26e-02$	pixels	$1.1613 \pm 5.10e-01$	$-2.2643 \pm 1.54e+00$	arcseconds
Offset/σ	0.36	−1.70		2.28	−1.47	
Offset Distance	$0.1259 \pm 7.35e-02$		pixels	$2.5447 \pm 1.38e+00$		arcseconds
Offset Distance/σ	1.71			1.84		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$111.44 \pm 1.79e-04$	$956.63 \pm 1.74e-04$	pixels	$124.53329194 \pm 0.00e+00$	$-68.31481327 \pm 0.00e+00$	degrees
Difference Image Centroid	$111.39 \pm 6.94e-02$	$956.45 \pm 7.26e-02$	pixels	$124.53548882 \pm 3.83e-04$	$-68.31541201 \pm 4.27e-04$	degrees
Offset	$-0.0491 \pm 6.94e-02$	$-0.1772 \pm 7.26e-02$	pixels	$2.9223 \pm 5.10e-01$	$-2.1554 \pm 1.54e+00$	arcseconds
Offset/σ	−0.71	−2.44		5.73	−1.40	
Offset Distance	$0.1839 \pm 7.10e-02$		pixels	$3.6313 \pm 9.93e-01$		arcseconds
Offset Distance/σ	2.59			3.66		



Difference image for target 307210830, planet candidate 3, sector 10, target pixel table 154. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 8; number of valid in-transit cadences = 199; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 541; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.94 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-10-154.fig`

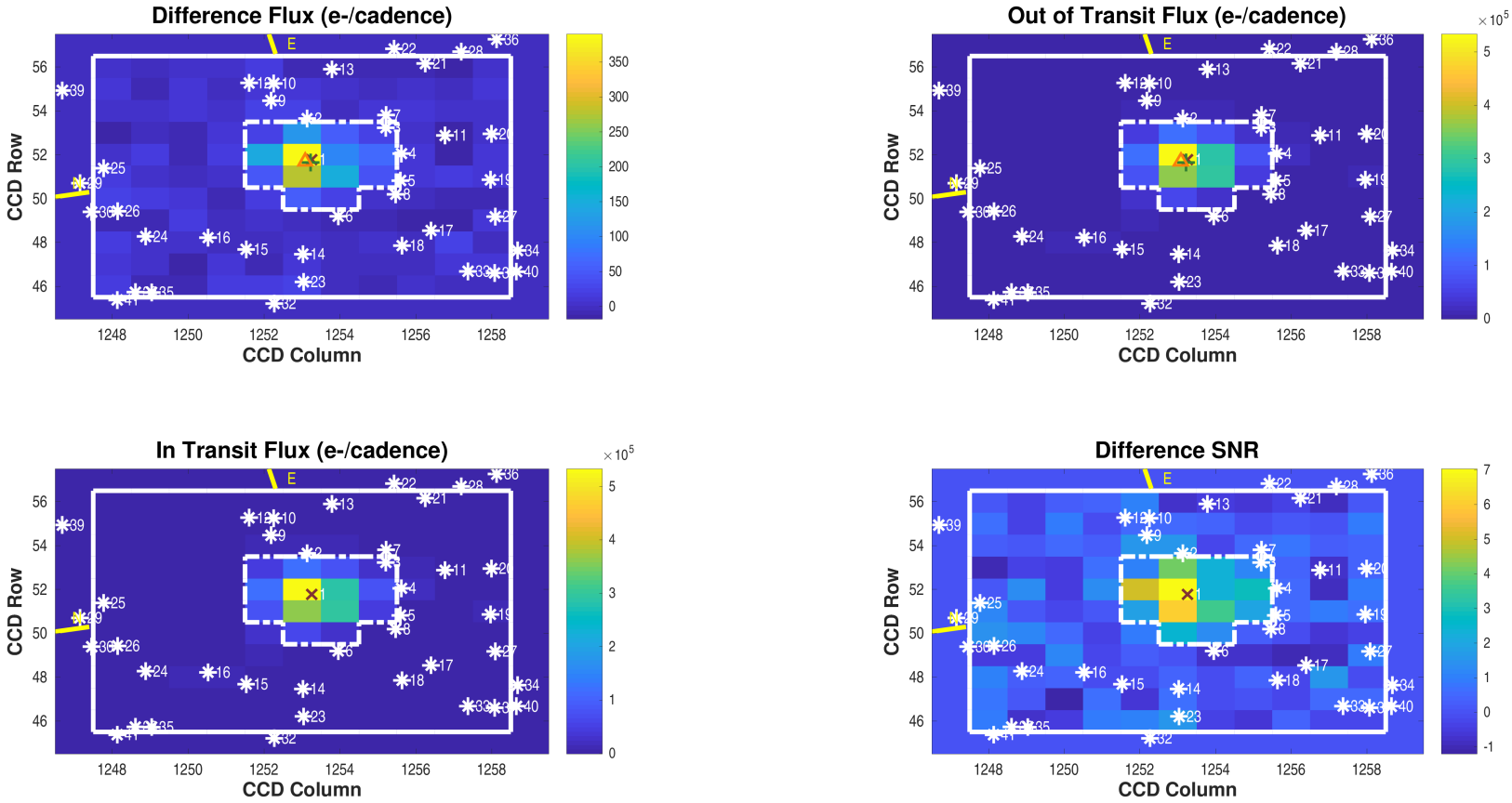
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$221.92 \pm 3.00e-05$	$160.63 \pm 2.70e-05$	pixels	$124.53121578 \pm 1.27e-06$	$-68.31510240 \pm 1.22e-06$	degrees
Difference Image Centroid	$221.57 \pm 6.26e-02$	$160.47 \pm 5.52e-02$	pixels	$124.52568068 \pm 3.64e-04$	$-68.31467979 \pm 3.09e-04$	degrees
Offset	$-0.3428 \pm 6.26e-02$	$-0.1526 \pm 5.52e-02$	pixels	$-7.3628 \pm 4.91e-01$	$1.5214 \pm 1.11e+00$	arcseconds
Offset/σ	-5.47	-2.76		-14.99	1.37	
Offset Distance	$0.3753 \pm 6.34e-02$		pixels	$7.5184 \pm 5.21e-01$		arcseconds
Offset Distance/σ	5.92			14.43		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$222.06 \pm 2.19e-04$	$160.61 \pm 2.13e-04$	pixels	$124.53329724 \pm 0.00e+00$	$-68.31482018 \pm 0.00e+00$	degrees
Difference Image Centroid	$221.57 \pm 6.26e-02$	$160.47 \pm 5.52e-02$	pixels	$124.52568068 \pm 3.64e-04$	$-68.31467979 \pm 3.09e-04$	degrees
Offset	$-0.4903 \pm 6.26e-02$	$-0.1349 \pm 5.52e-02$	pixels	$-10.1317 \pm 4.85e-01$	$0.5054 \pm 1.11e+00$	arcseconds
Offset/σ	-7.83	-2.44		-20.91	0.45	
Offset Distance	$0.5086 \pm 6.34e-02$		pixels	$10.1443 \pm 4.84e-01$		arcseconds
Offset Distance/σ	8.02			20.94		



Difference image for target 307210830, planet candidate 3, sector 11, target pixel table 155. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 11; number of valid in-transit cadences = 269; number of in-transit cadence gaps = 3; number of valid out-of-transit cadences = 734; number of out-of-transit cadence gaps = 11. Difference image quality metric = 0.97 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-11-155.fig`

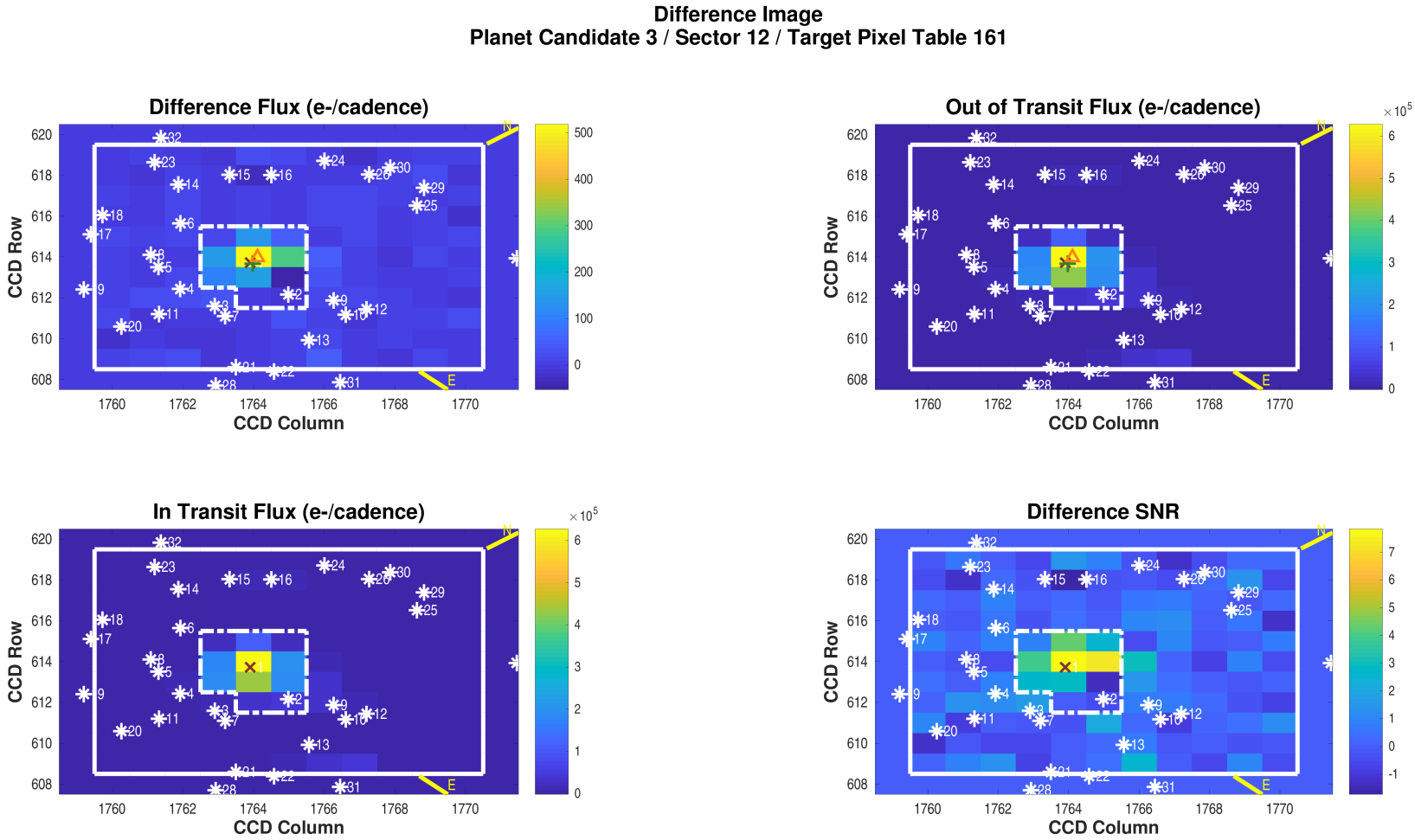
PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$51.65 \pm 2.59e-05$	$1253.22 \pm 2.35e-05$	pixels	$124.53157609 \pm 1.31e-06$	$-68.31451927 \pm 1.24e-06$	degrees
Difference Image Centroid	$51.70 \pm 6.77e-02$	$1253.08 \pm 6.18e-02$	pixels	$124.53283154 \pm 3.87e-04$	$-68.31380396 \pm 3.52e-04$	degrees
Offset	$0.0518 \pm 6.77e-02$	$-0.1413 \pm 6.18e-02$	pixels	$1.6701 \pm 5.15e-01$	$2.5751 \pm 1.27e+00$	arcseconds
Offset/σ	0.76	−2.29		3.24	2.03	
Offset Distance	$0.1505 \pm 6.04e-02$		pixels	$3.0693 \pm 1.08e+00$		arcseconds
Offset Distance/σ	2.49			2.84		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$51.78 \pm 2.28e-04$	$1253.26 \pm 2.16e-04$	pixels	$124.53330276 \pm 0.00e+00$	$-68.31482736 \pm 0.00e+00$	degrees
Difference Image Centroid	$51.70 \pm 6.77e-02$	$1253.08 \pm 6.18e-02$	pixels	$124.53283154 \pm 3.87e-04$	$-68.31380396 \pm 3.52e-04$	degrees
Offset	$-0.0763 \pm 6.77e-02$	$-0.1725 \pm 6.18e-02$	pixels	$-0.6268 \pm 5.15e-01$	$3.6842 \pm 1.27e+00$	arcseconds
Offset/σ	−1.13	−2.79		−1.22	2.91	
Offset Distance	$0.1886 \pm 6.51e-02$		pixels	$3.7372 \pm 1.26e+00$		arcseconds
Offset Distance/σ	2.90			2.97		



Difference image for target 307210830, planet candidate 3, sector 12, target pixel table 161. Upper left: difference between mean flux out-of-transit and in-transit; upper right: mean out-of-transit flux; lower left: mean in-transit flux; lower right: difference between mean flux out-of-transit and in-transit after normalizing by the uncertainty in the difference for each pixel. The optimal aperture is outlined with a white dash-dotted line in each panel and the target mask is outlined with a solid white line. Symbol key: x: target position from TIC RA and Dec converted to CCD coordinates via motion polynomials; *: position of nearby TIC objects converted to CCD coordinates via motion polynomials; +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. Number of transits = 9; number of valid in-transit cadences = 223; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 594; number of out-of-transit cadence gaps = 15. Difference image quality metric = 0.93 (good).
Open `./planet-03/difference-image/0000000307210830-03-difference-image-12-161.fig`

PRF Fit of the Difference Image

Offset from the PRF fit to the out of transit image

	Row	Column	Units	RA	Dec	Units
Out of Transit Image Centroid	$613.67 \pm 2.52e-05$	$1763.97 \pm 2.48e-05$	pixels	$124.53461584 \pm 7.33e-07$	$-68.31475858 \pm 7.46e-07$	degrees
Difference Image Centroid	$613.97 \pm 5.88e-02$	$1764.11 \pm 5.79e-02$	pixels	$124.53254111 \pm 3.22e-04$	$-68.31301914 \pm 3.46e-04$	degrees
Offset	$0.3089 \pm 5.88e-02$	$0.1369 \pm 5.79e-02$	pixels	$-2.7599 \pm 4.29e-01$	$6.2620 \pm 1.24e+00$	arcseconds
Offset/σ	5.25	2.36		-6.44	5.03	
Offset Distance	$0.3379 \pm 5.97e-02$		pixels	$6.8432 \pm 1.15e+00$		arcseconds
Offset Distance/σ	5.66			5.94		

Offset from the TIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
TIC Reference Centroid	$613.72 \pm 1.25e-04$	$1763.90 \pm 1.29e-04$	pixels	$124.53330843 \pm 0.00e+00$	$-68.31483476 \pm 0.00e+00$	degrees
Difference Image Centroid	$613.97 \pm 5.88e-02$	$1764.11 \pm 5.79e-02$	pixels	$124.53254111 \pm 3.22e-04$	$-68.31301914 \pm 3.46e-04$	degrees
Offset	$0.2504 \pm 5.88e-02$	$0.2076 \pm 5.79e-02$	pixels	$-1.0207 \pm 4.28e-01$	$6.5362 \pm 1.24e+00$	arcseconds
Offset/σ	4.26	3.58		-2.38	5.25	
Offset Distance	$0.3253 \pm 5.98e-02$		pixels	$6.6154 \pm 1.23e+00$		arcseconds
Offset Distance/σ	5.44			5.37		

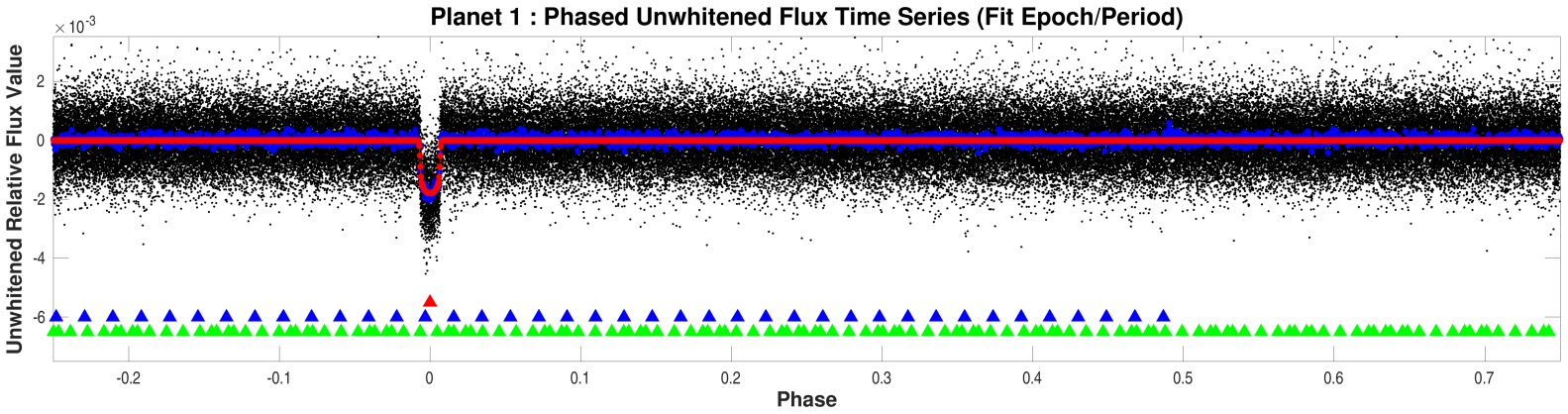
5.4 Difference Image TIC Key

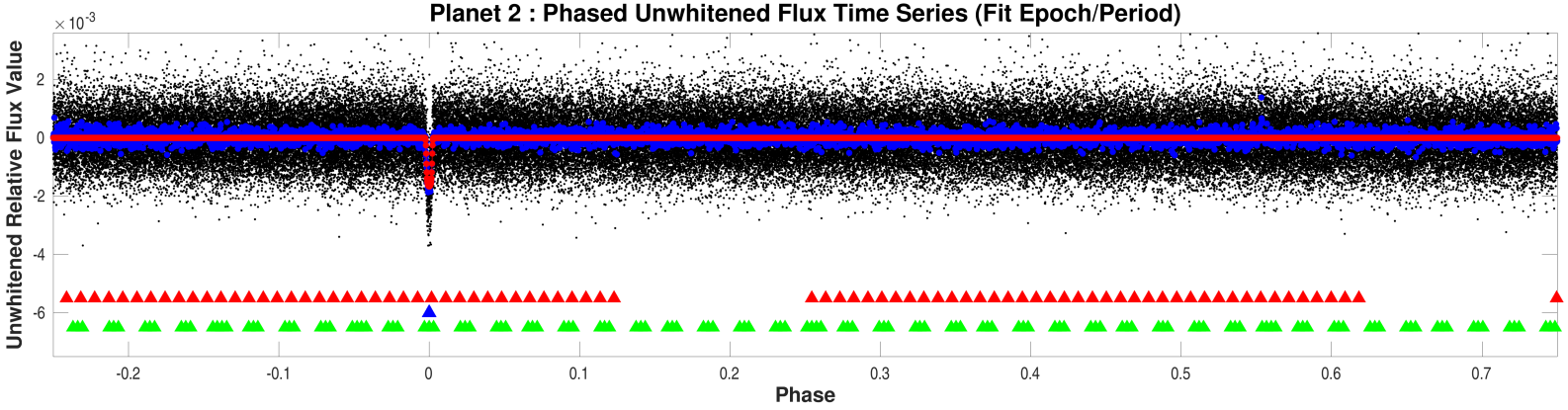
Index	Catalog ID	Mag	RA (degrees)	Dec (degrees)	Distance (arcsec)
1	307210830	9.393	124.53328155	-68.31479973	0.00
2	307210836	17.610	124.56063600	-68.31618500	36.73
3	307210845	16.042	124.54709277	-68.32705630	47.80
4	307210847	17.373	124.52866784	-68.32803206	48.03
5	307210844	16.928	124.51111446	-68.32655743	51.59
6	307210835	17.595	124.49367363	-68.31585075	52.82
7	307210846	16.651	124.55531500	-68.32769800	54.91
8	307210842	16.733	124.50253642	-68.32517629	55.39
9	307210828	15.093	124.57585644	-68.31188111	57.60
10	307210831	17.406	124.58681842	-68.31311061	71.48
11	307210850	16.876	124.53639110	-68.33517456	73.47
12	307210827	17.523	124.58942517	-68.30960057	76.99
13	307210839	17.447	124.59052499	-68.32215780	80.62
14	307210826	17.461	124.47229567	-68.30890917	83.85
15	307210821	18.662	124.48083900	-68.30098000	85.68
16	307210817	13.448	124.49214477	-68.29609632	86.76
17	307210848	15.908	124.47547057	-68.32847092	91.30
18	307210841	17.366	124.46836539	-68.32357170	91.95
19	307210858	14.124	124.50304783	-68.33952636	97.68
20	307210862	17.295	124.53296880	-68.34194216	97.71
21	307210852	17.431	124.58547150	-68.33587003	102.83
22	307217499	14.418	124.59797765	-68.33209484	106.22
23	307210825	17.850	124.45414055	-68.30761331	108.41
24	307210810	17.722	124.49885706	-68.28718399	109.46
25	307210806	16.783	124.54752727	-68.28448667	110.76
26	307210805	17.415	124.51809283	-68.28440293	111.28
27	307210855	16.995	124.47842072	-68.33838293	111.95
28	307210861	18.143	124.58977079	-68.34161307	122.33
29	307210796	14.832	124.53995084	-68.28036959	124.27
30	307210798	16.902	124.52002920	-68.28062996	124.27
31	307217504	10.727	124.62149802	-68.32624289	124.37
32	307210823	17.490	124.44276865	-68.30234144	128.48
33	307210849	14.943	124.44517929	-68.33177345	132.17
34	307210859	17.074	124.45409511	-68.33991670	138.82
35	307210807	16.885	124.46180963	-68.28529102	142.56
36	307217485	15.615	124.59452497	-68.34731641	142.62
37	307210851	16.556	124.44152300	-68.33550300	143.02
38	307210803	15.746	124.46343442	-68.28294880	147.58

Index	Catalog ID	Mag	RA (degrees)	Dec (degrees)	Distance (arcsec)
39	307210802	17.813	124.60233959	-68.28237806	148.53
40	307210856	17.813	124.44037579	-68.33872164	150.63
41	307210793	16.826	124.46011257	-68.27996228	158.75
42	307217543	17.655	124.61965756	-68.28180094	165.27
43	307210801	15.657	124.43951617	-68.28242965	170.70

RA, Dec and Distances are corrected for proper motion. This table may not contain all of the objects shown.

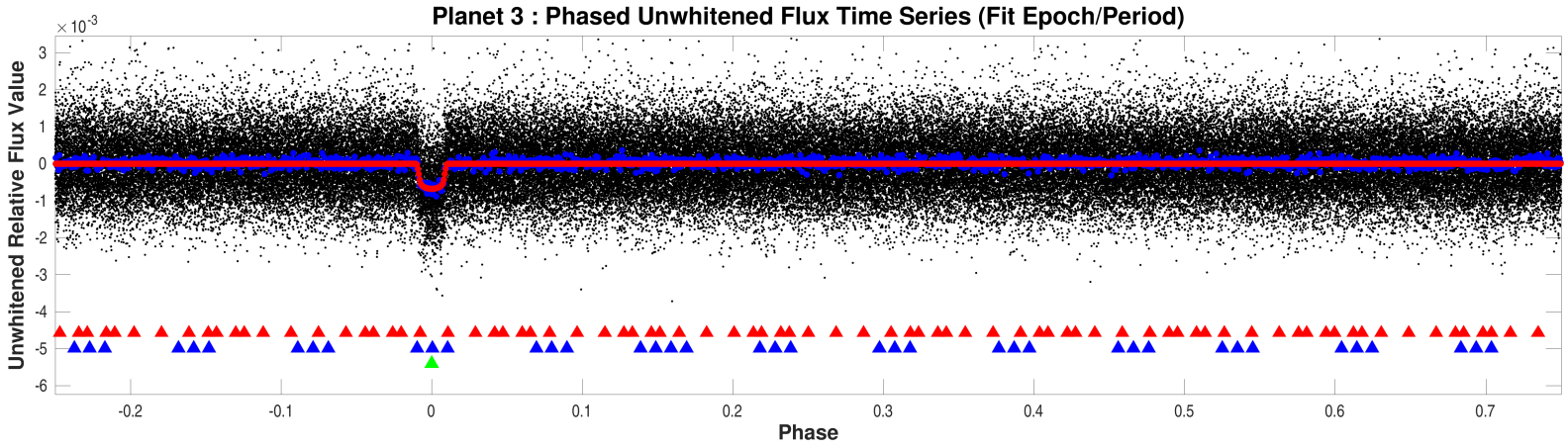
6 Phased Light Curves





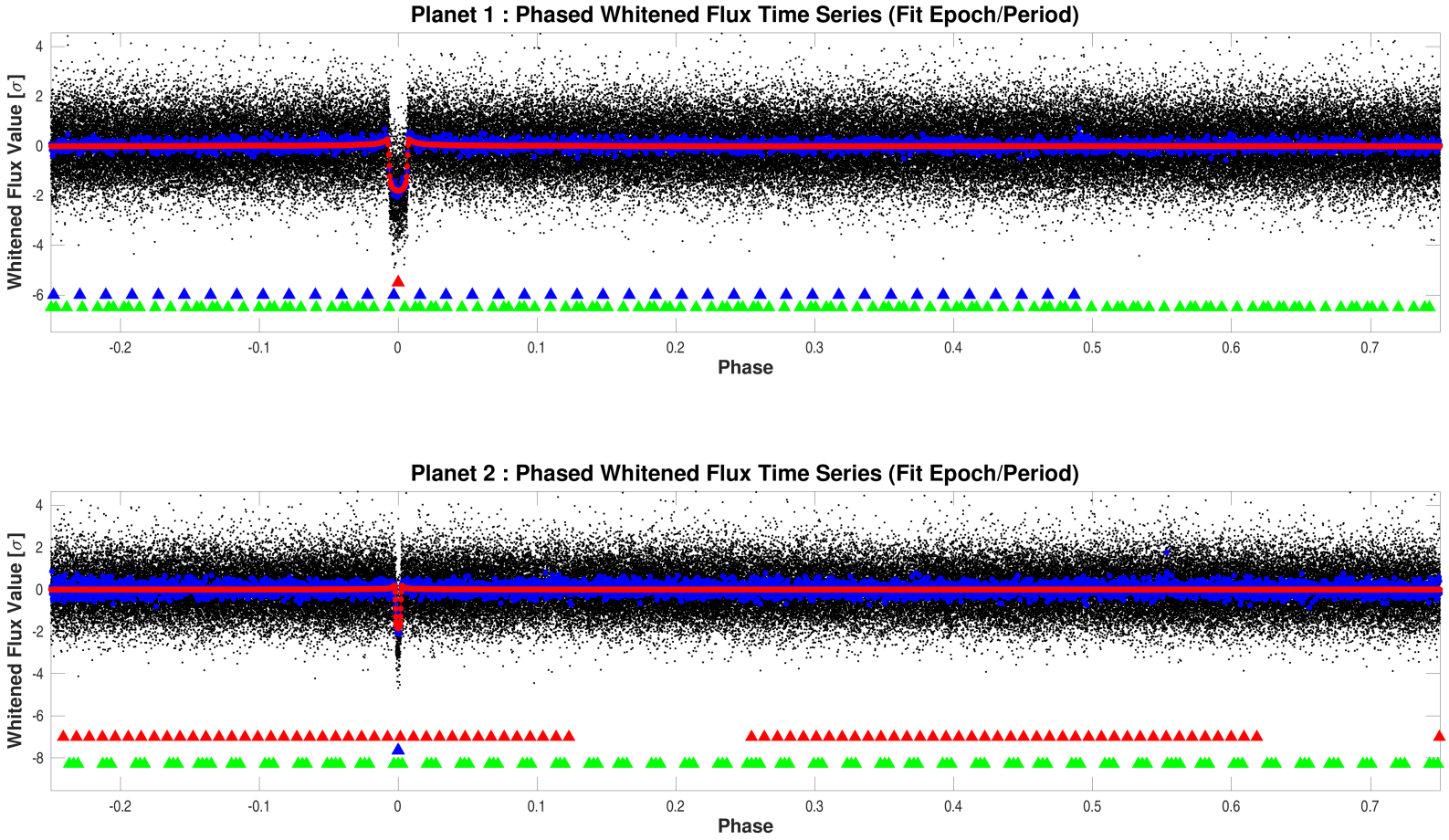
Phased unwhitened flux time series is plotted in black dots. When all transits fit completed with full or secondary convergence, the phase is determined with the fitted epoch and period; otherwise, the phase is determined with the TPS epoch and period. The values of the phased unwhitened flux time series averaged in one cadence wide bins are plotted in bigger blue dots. When all transits fit completes with full or secondary convergence, the averaged values of the phased unwhitened fitted model light curve are plotted in red dots. Transit event markers in different colors indicate the locations of the transits of all planet candidates. The transits of the same planet candidate are labeled with the markers of the same color, for example, blue markers for transits of plane candidate #1, red markers for transits of planet candidate #2, etc.

Open `./summary-plots/0000000307210830-01-phased-unwhitened-flux-time-series.fig`

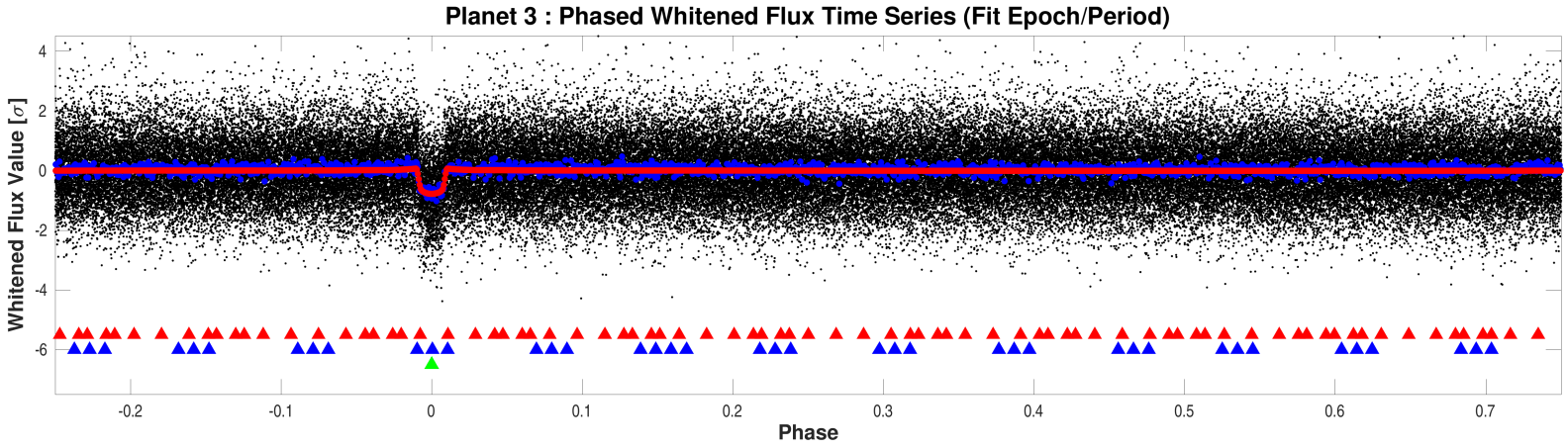


Phased unwhitened flux time series is plotted in black dots. When all transits fit completed with full or secondary convergence, the phase is determined with the fitted epoch and period; otherwise, the phase is determined with the TPS epoch and period. The values of the phased unwhitened flux time series averaged in one cadence wide bins are plotted in bigger blue dots. When all transits fit completes with full or secondary convergence, the averaged values of the phased unwhitened fitted model light curve are plotted in red dots. Transit event markers in different colors indicate the locations of the transits of all planet candidates. The transits of the same planet candidate are labeled with the markers of the same color, for example, blue markers for transits of plane candidate #1, red markers for transits of planet candidate #2, etc.

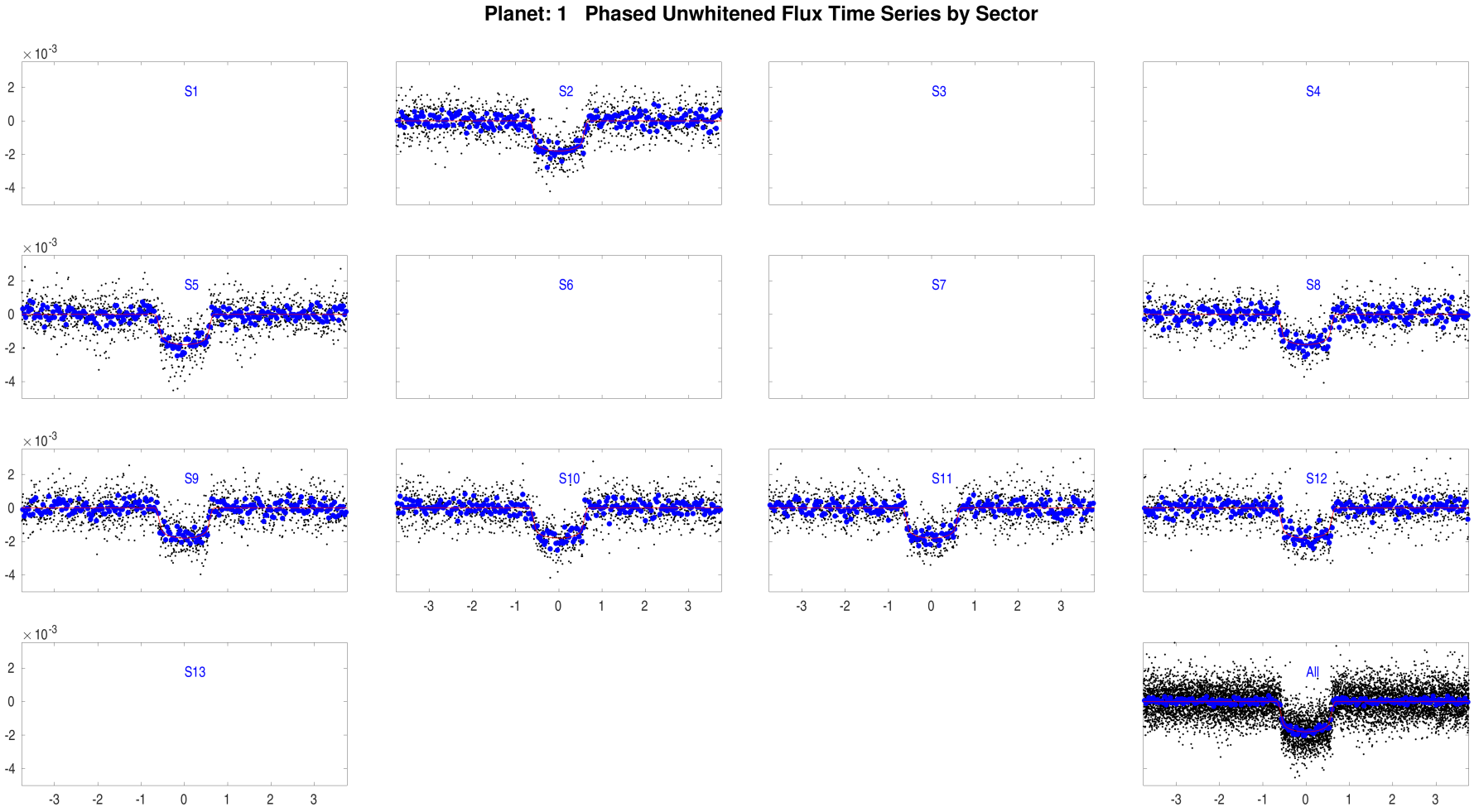
Open `./summary-plots/0000000307210830-03-phased-unwhitened-flux-time-series.fig`



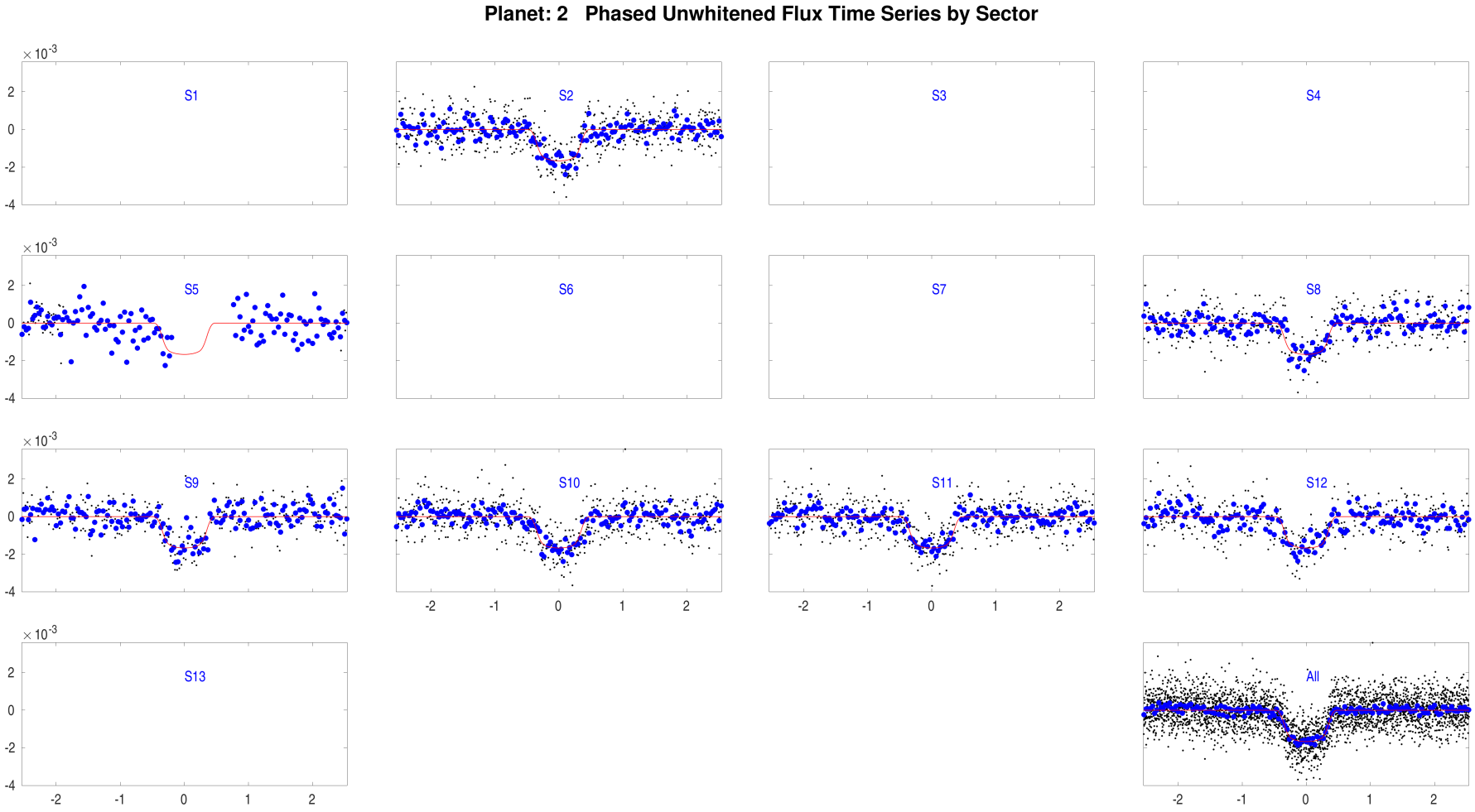
Phased whitened flux time series is plotted in black dots. When all transits fit completed with full or secondary convergence, the phase is determined with the fitted epoch and period; otherwise, the phase is determined with the TPS epoch and period. The values of the phased whitened flux time series averaged in one cadence wide bins are plotted in bigger blue dots. When all transits fit completes with full or secondary convergence, the averaged values of the phased whitened fitted model light curve are plotted in red dots. Transit event markers in different colors indicate the locations of the transits of all planet candidates. The transits of the same planet candidate are labeled with the markers of the same color, for example, blue markers for transits of plane candidate #1, red markers for transits of planet candidate #2, etc.
Open `./summary-plots/0000000307210830-01-phased-whitened-flux-time-series.fig`



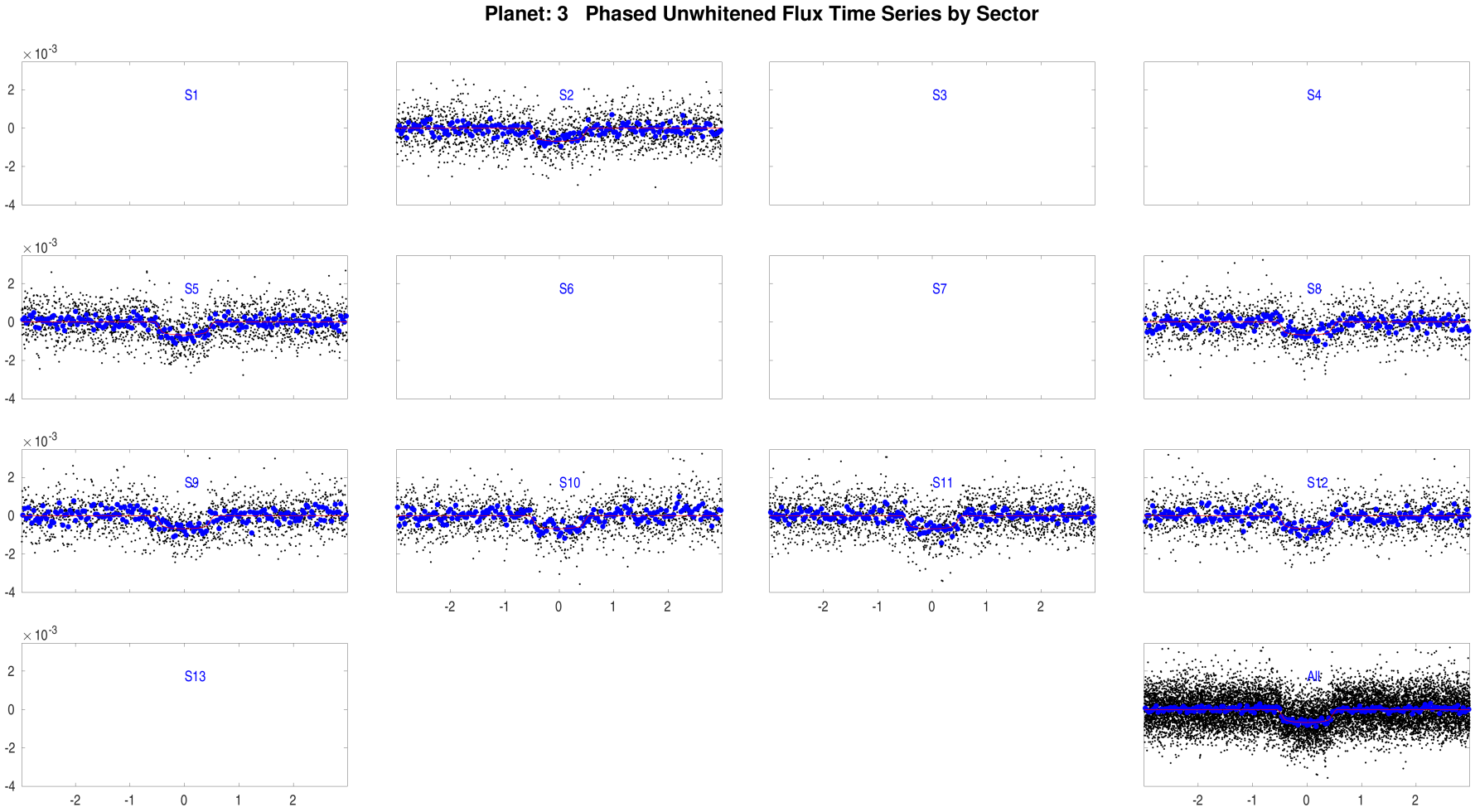
Phased whitened flux time series is plotted in black dots. When all transits fit completed with full or secondary convergence, the phase is determined with the fitted epoch and period; otherwise, the phase is determined with the TPS epoch and period. The values of the phased whitened flux time series averaged in one cadence wide bins are plotted in bigger blue dots. When all transits fit completes with full or secondary convergence, the averaged values of the phased whitened fitted model light curve are plotted in red dots. Transit event markers in different colors indicate the locations of the transits of all planet candidates. The transits of the same planet candidate are labeled with the markers of the same color, for example, blue markers for transits of plane candidate #1, red markers for transits of planet candidate #2, etc.
Open `./summary-plots/0000000307210830-03-phased-whitened-flux-time-series.fig`



Phased unwhitened flux time series by sector for target 307210830, planet candidate 1. Period = 3.6906 days; transit epoch = 1356.2031 BTJD.
Open `./summary-plots/0000000307210830-01-phased-unwhitened-flux-time-series-by-sector.fig`



Phased unwhitened flux time series by sector for target 307210830, planet candidate 2. Period = 7.4508 days; transit epoch = 1355.2874 BTJD.
Open `./summary-plots/0000000307210830-02-phased-unwhitened-flux-time-series-by-sector.fig`



Phased unwhitened flux time series by sector for target 307210830, planet candidate 3. Period = 2.2531 days; transit epoch = 1354.9063 BTJD.
Open `./summary-plots/0000000307210830-03-phased-unwhitened-flux-time-series-by-sector.fig`

7 Planet Candidate 1

7.1 Model Fitter: All Transits

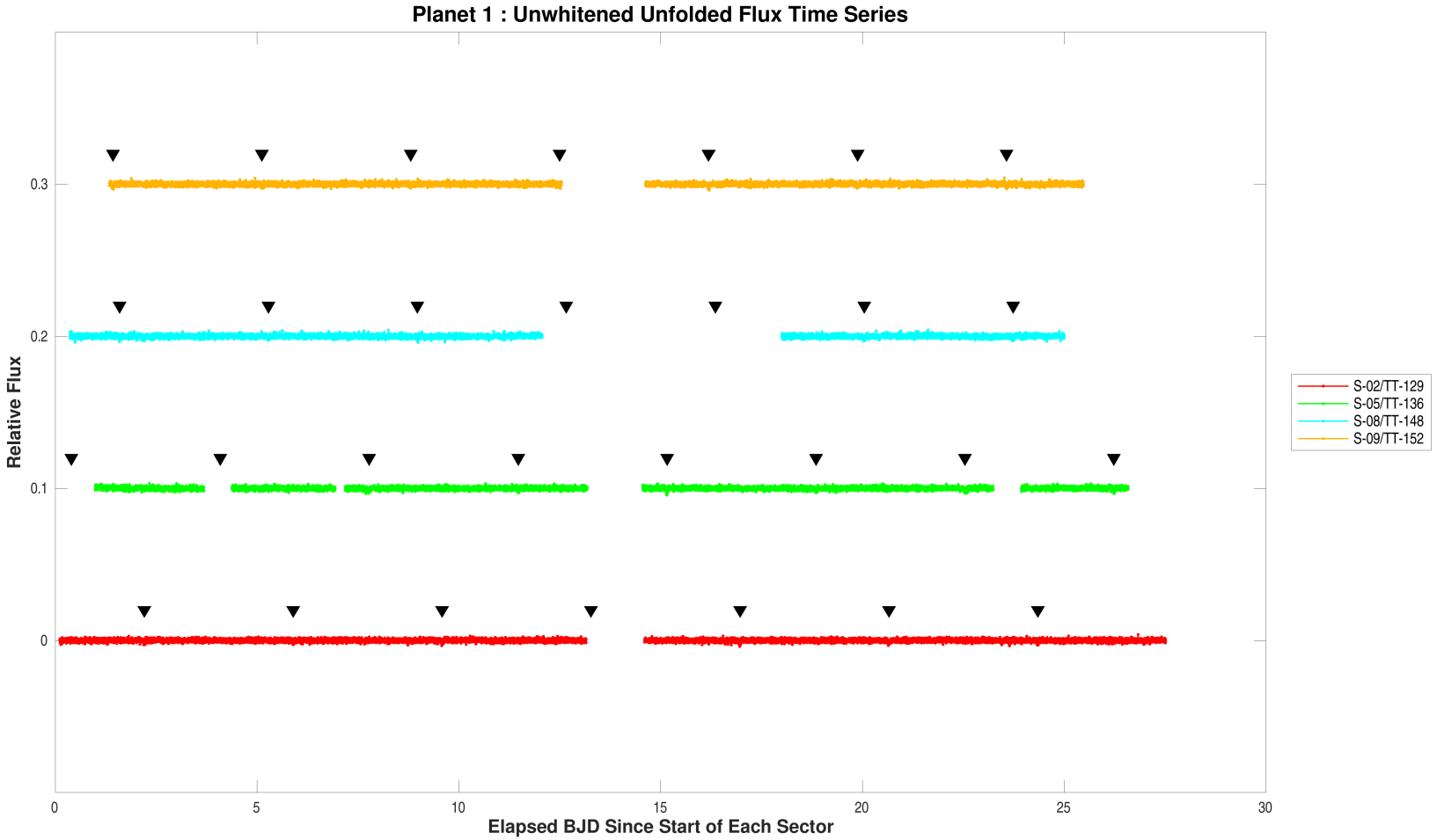
Model Characteristic	Name
Transit Model	mandel-agol_geometric_transit_model
Limb Darkening Model	claret_tess_nonlinear_limb_darkening_model

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1356.2047550	TJD
Orbital Period	3.6906037	days
Maximum SES	13.3	
Maximum MES	51.3	
Robust Statistic	55.8	
Chi Square Goodness of Fit Statistic (DoF)	1462.6 (1252)	
Chi Square2 Statistic (DoF)	190.4 (313.2)	
Threshold for Desired PFA		

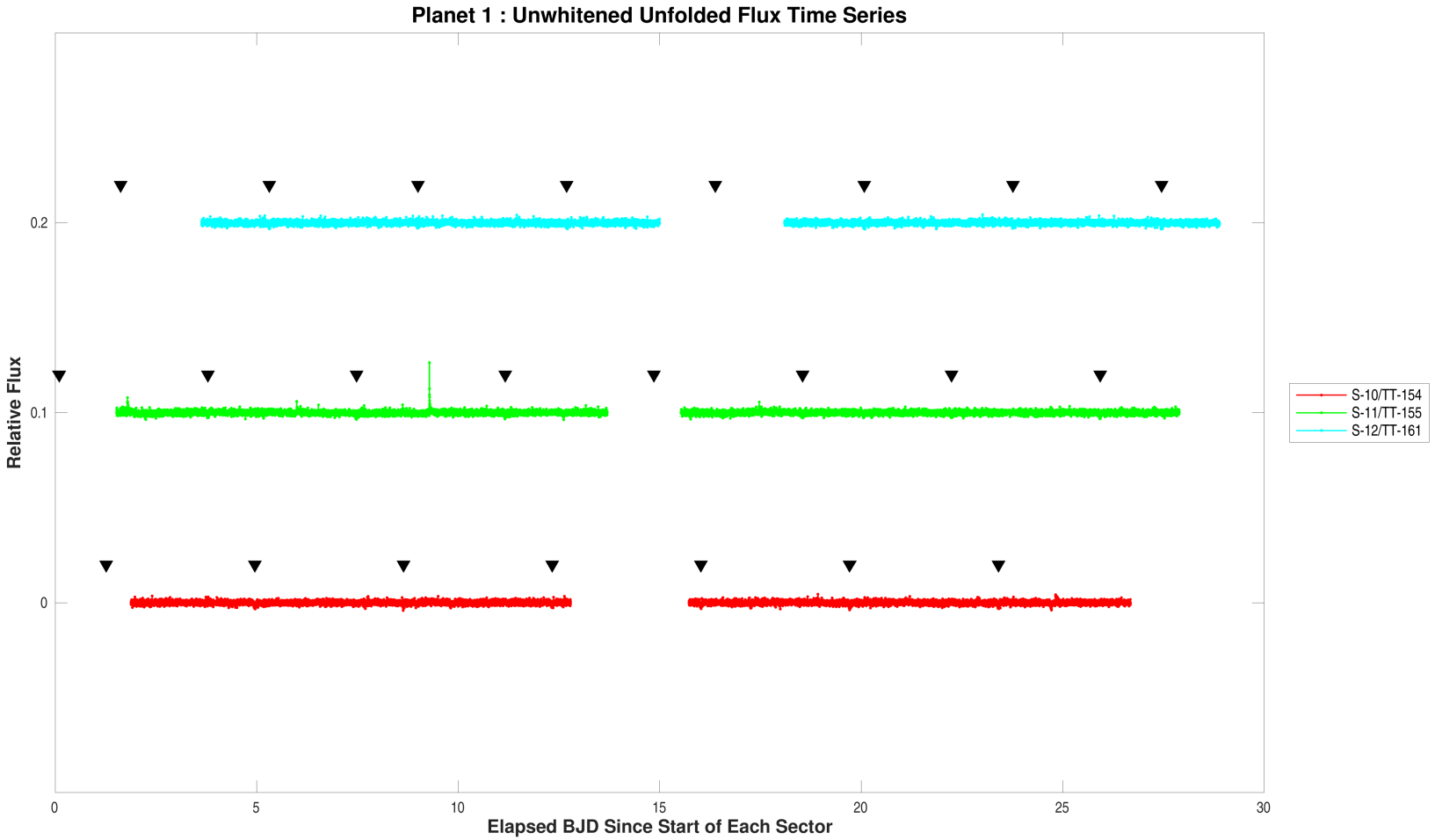
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	60.8		
Orbital Period	3.6906380	5.9777e-06	days
Transit Epoch	1356.2030906	2.5536e-04	BTJD
Impact Parameter	0.4987	7.8050e-01	
Planet Radius to Star Radius Ratio	0.0400997	3.8255e-03	
Semi-major Axis to Star Radius Ratio	20.5639	1.0600e+01	
Planet Radius	1.3702	1.3653e-01	Earth radii
Semi-major Axis	0.0317	1.5568e-03	AU
Effective Stellar Flux	12.6558	1.5343e+00	Goldilocks
Equilibrium Temperature	481	1.4580e+01	Kelvin
Stellar Density	8.5772	1.3264e+01	Solar density
Transit Depth	1797	3.2219e+01	ppm
Transit Duration	1.2522	6.8549e-02	hours
Transit Ingress Duration	0.0635	7.1900e-02	hours
Eccentricity	0.0000	0.0000e+00	
Peri Longitude	0.0000	0.0000e+00	degrees
Model Chi Square Statistic (DoF)	6646.5 (7954.1)		
Model Chi Square Goodness of Fit Statistic (DoF)	1065.3 (1718)		
Model Chi Square2 Statistic (DoF)	40.6 (41)		

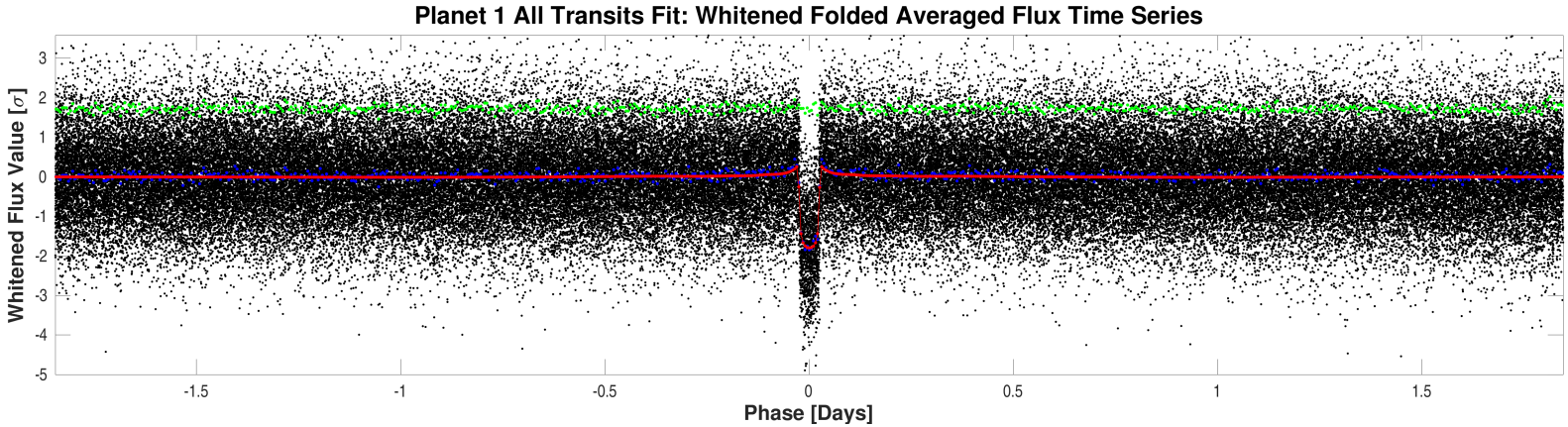
DoF: Degrees of Freedom



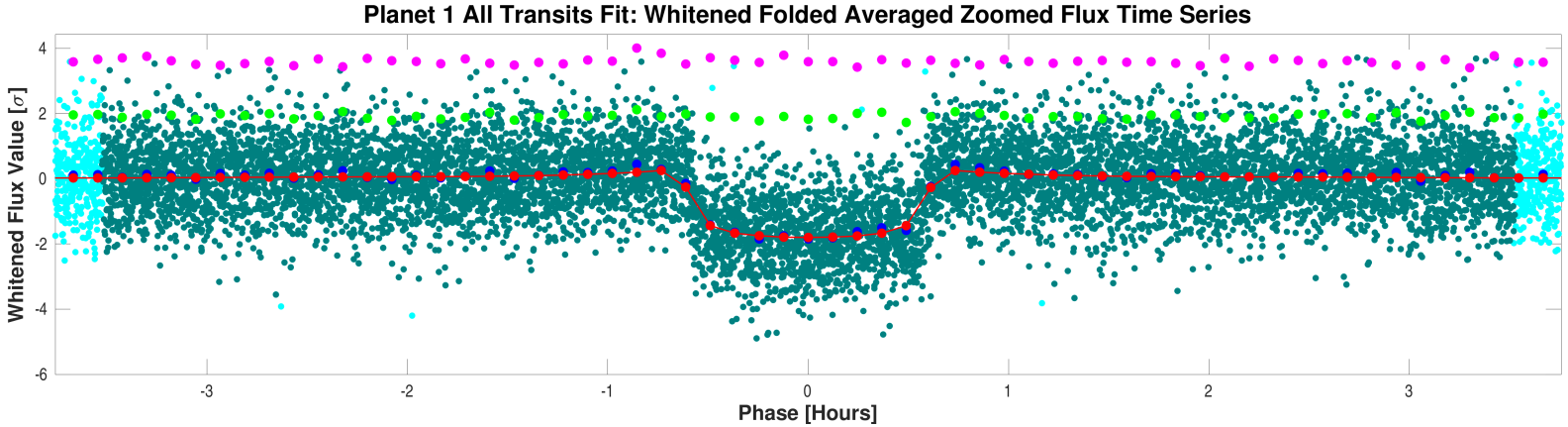
Flux time series for CatId 307210830, Planet candidate 1 in the unwhitened domain. For the data of Sector-02/TargetTableId-129, start BJD is 2458354 and the vertical offset is 0. For the data of Sector-05/TargetTableId-136, start BJD is 2458437 and the vertical offset is 0.1. For the data of Sector-08/TargetTableId-148, start BJD is 2458517 and the vertical offset is 0.2. For the data of Sector-09/TargetTableId-152, start BJD is 2458543 and the vertical offset is 0.3. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-unwhitened-02-129.fig`



Flux time series for CatId 307210830, Planet candidate 1 in the unwhitened domain. For the data of Sector-10/TargetTableId-154, start BJD is 2458569 and the vertical offset is 0. For the data of Sector-11/TargetTableId-155, start BJD is 2458596 and the vertical offset is 0.1. For the data of Sector-12/TargetTableId-161, start BJD is 2458624 and the vertical offset is 0.2. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence. Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-unwhitened-10-154.fig`



Folded flux time series for CatId 307210830, Planet candidate 1 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-whitened.fig`

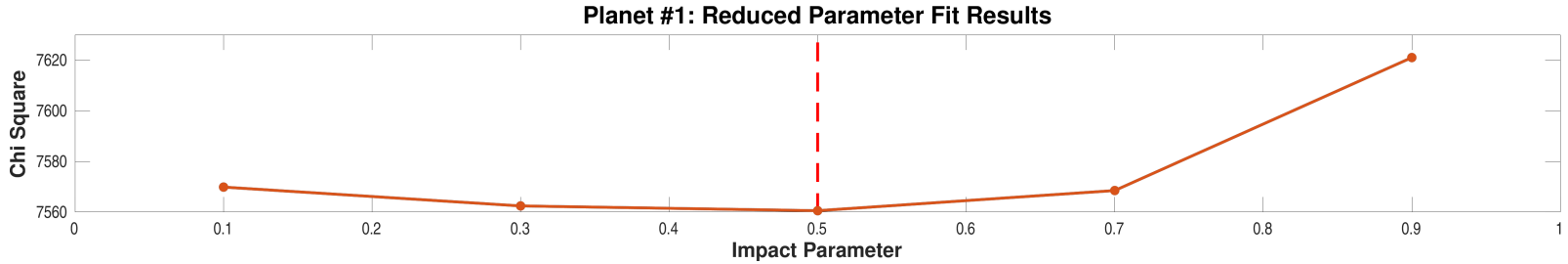


Folded flux time series for CatId 307210830, Planet candidate 1 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-whitened-zoomed.fig`

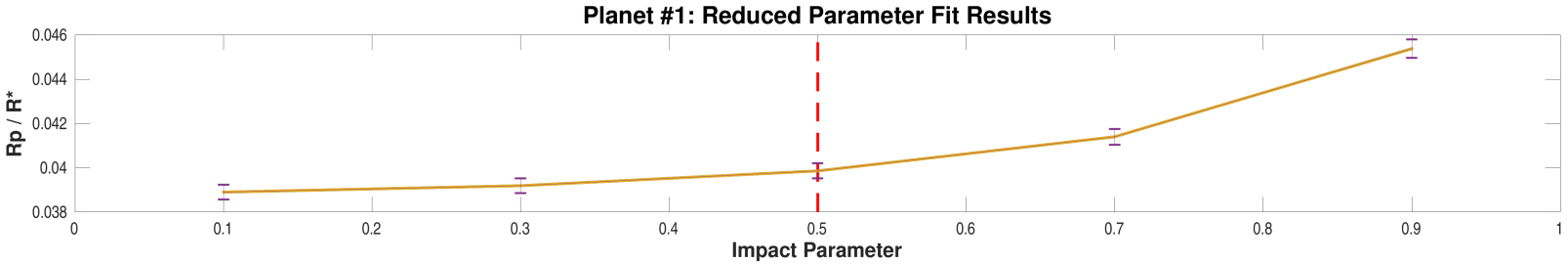
7.2 Model Fitter: Reduced Parameter Fit Results

Impact Parameter	SNR	Model Chi Square	Planet Radius to Star Radius	Uncert	Semi-major Axis to Star Radius	Uncert	Transit Depth (ppm)	Uncert	Transit Duration (hours)	Uncert
0.10	63.2	7569.9	0.0388999	3.3241e-04	23.5987	1.8881e-01	1778	3.0232e+01	1.2359	9.8247e-03
0.30	63.1	7562.4	0.0391893	3.3548e-04	22.6303	1.8136e-01	1777	3.0272e+01	1.2401	9.8708e-03
0.50	63.0	7560.5	0.0398596	3.4175e-04	20.5561	1.6766e-01	1775	3.0280e+01	1.2513	1.0126e-02
0.70	63.3	7568.5	0.0414000	3.5495e-04	16.9790	1.4313e-01	1785	3.0441e+01	1.2819	1.0697e-02
0.90	62.2	7621.0	0.0453779	4.1155e-04	10.4728	1.1712e-01	1791	3.2169e+01	1.4376	1.5751e-02

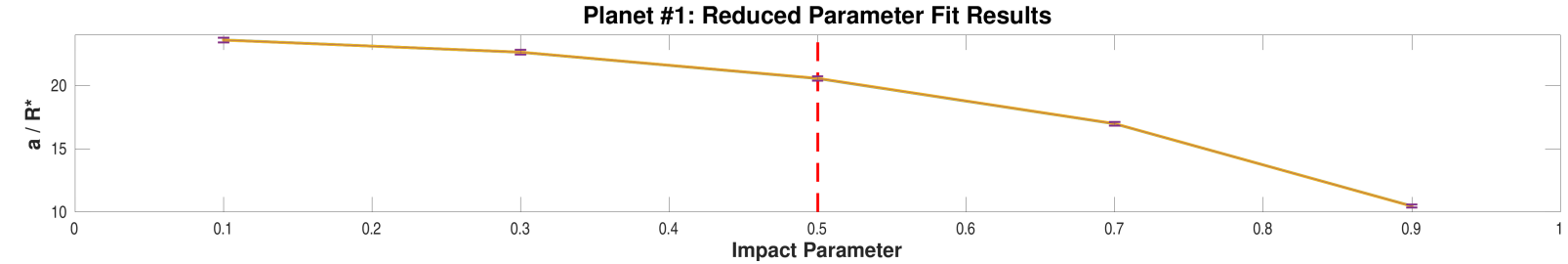
Highlighted row is the best reduced-parameter model fit.



Model chi squares of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-01-reduced-fits-chi-square.fig`



Ratios of planet radius to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-01-reduced-fits-rp-over-rstar.fig`



Ratios of semimajor axis to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-01-reduced-fits-a-over-rstar.fig`

7.3 Model Fitter: Trapezoidal Fit Results

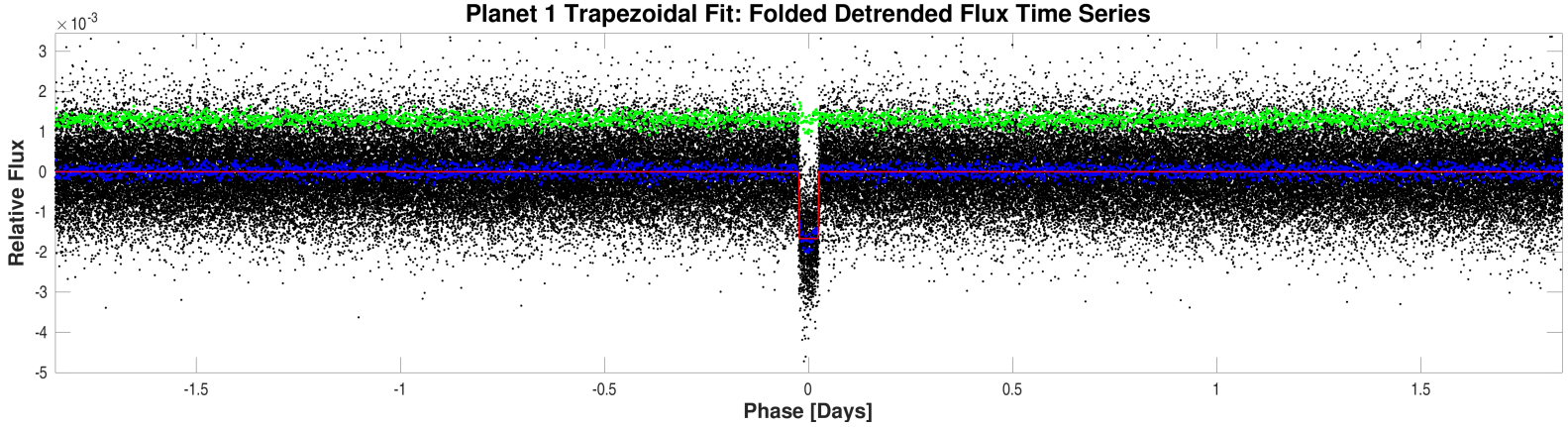
Model Characteristic	Name
Transit Model	trapezoidal_model
Limb Darkening Model	

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1356.2047550	TJD
Orbital Period	3.6906037	days
Maximum SES	13.3	
Maximum MES	51.3	
Robust Statistic	55.8	
Chi Square Goodness of Fit Statistic (DoF)	1462.6 (1252)	
Chi Square2 Statistic (DoF)	190.4 (313.2)	
Threshold for Desired PFA		

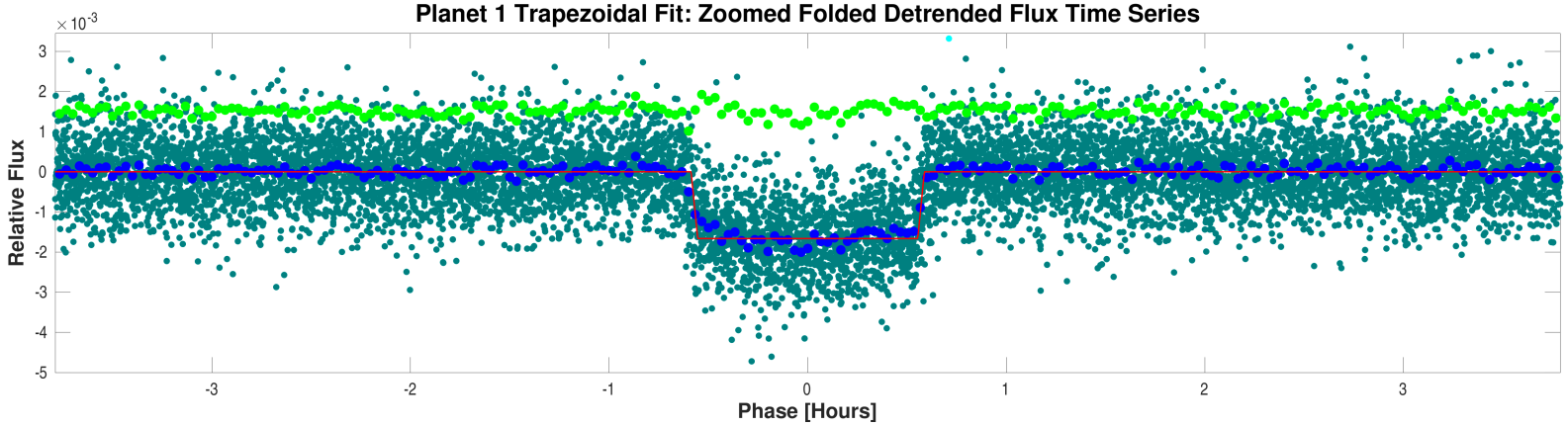
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	78.2		
Orbital Period	3.6906037		days
Transit Epoch	1356.2050114		BTJD
Transit Depth	1664		ppm
Transit Duration	1.2629		hours
Transit Ingress Duration	0.1218		hours
Model Chi Square Statistic (DoF)	117566.5 (9876)		

DoF: Degrees of Freedom



Folded detrended flux time series for CatId 307210830, Planet candidate 1 and folded trapezoidal model light curve.
Open `./planet-01/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-01-all-trapezoidal.fig`



Zoomed folded detrended flux time series for CatId 307210830, Planet candidate 1 and folded trapezoidal model light curve.
Open `./planet-01/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-01-all-trapezoidal-zoomed.fig`

7.4 Validation Tests

The Centroid Test and Eclipsing Binary Discrimination Test are chi-squared hypothesis tests. For these tests, a significance of 100% favors a planet, while 0% indicates an unlikely planet.

7.4.1 Weak Secondary Test

Result	Value	Uncertainty	Units	Statistic in Sigmas	Significance (%)
Orbital Period	3.6906		days		
Transit Duration	1		hours		
Maximum MES	51.3				
Secondary Phase	-0.91806		days		
Secondary MES	2.5				
Minimum Phase	1.4125		days		
Minimum MES	-3.6				
Median MES	0.0				
MAD MES	0.5906				
Robust Statistic	2.2				
Secondary Depth	71.1	3.1780e+01	ppm		
Geometric Albedo	20.9	1.0352e+01		1.9244	2.72
Planet Effective Temperature	1591	1.9580e+02	Kelvin	5.6515	0.00

7.4.2 Eclipsing Binary Discrimination Test

Result	Value	Value in Sigmas	Significance (%)
Odd Even Transit Depth Comparison Statistic	7.5683e-02	0.2751	78.32
Shorter Period Comparison Statistic	4.6517e+02	21.5679	100.00
Longer Period Comparison Statistic	3.5666e+03	59.7210	100.00

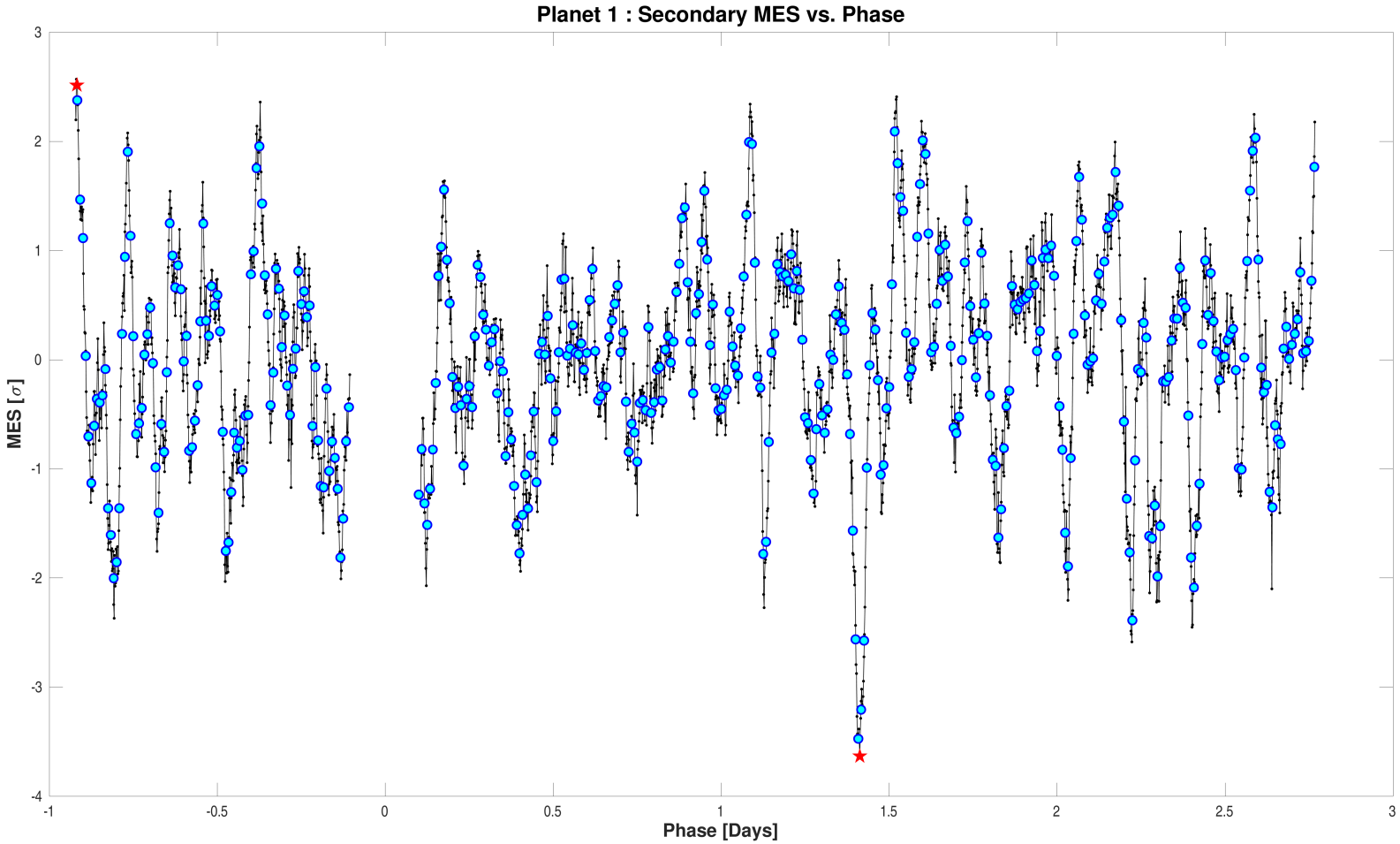
7.4.3 Bootstrap Test

Result	Value
False Alarm Probability	0.0000e+00
Bootstrap Threshold for Desired PFA	6.8
MES Mean	-0.09
MES Standard Deviation	0.96
Transit Count	81

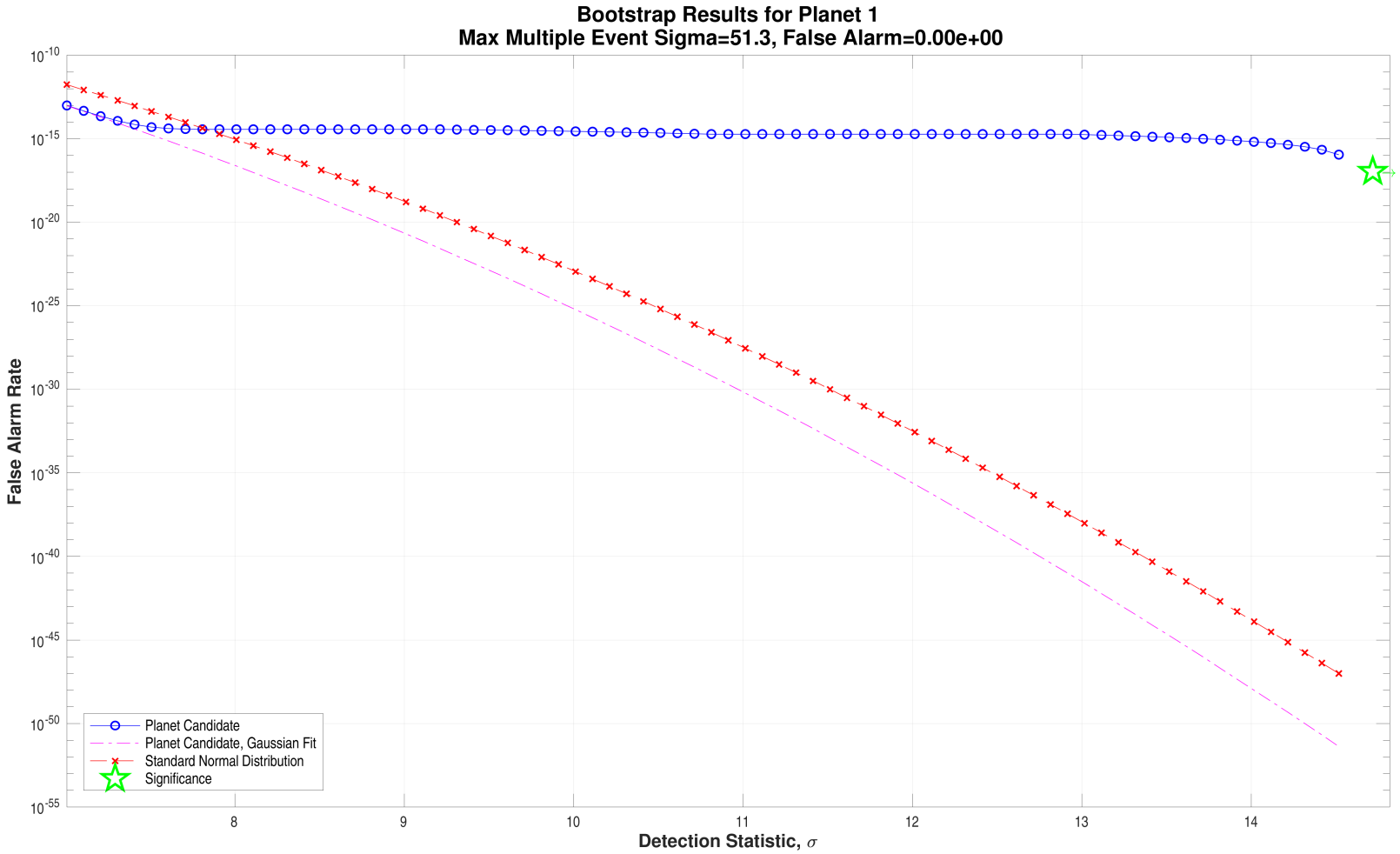
7.4.4 Ghost Diagnostic Test

Result	Value	Significance (%)
Maximum MES	51.3	
SNR	60.8	
Core Aperture Statistic	4.0250e+01	100.00
Halo Aperture Statistic	6.6692e+00	100.00
Ratio of Core/Halo Aperture Statistics	6.0352e+00	

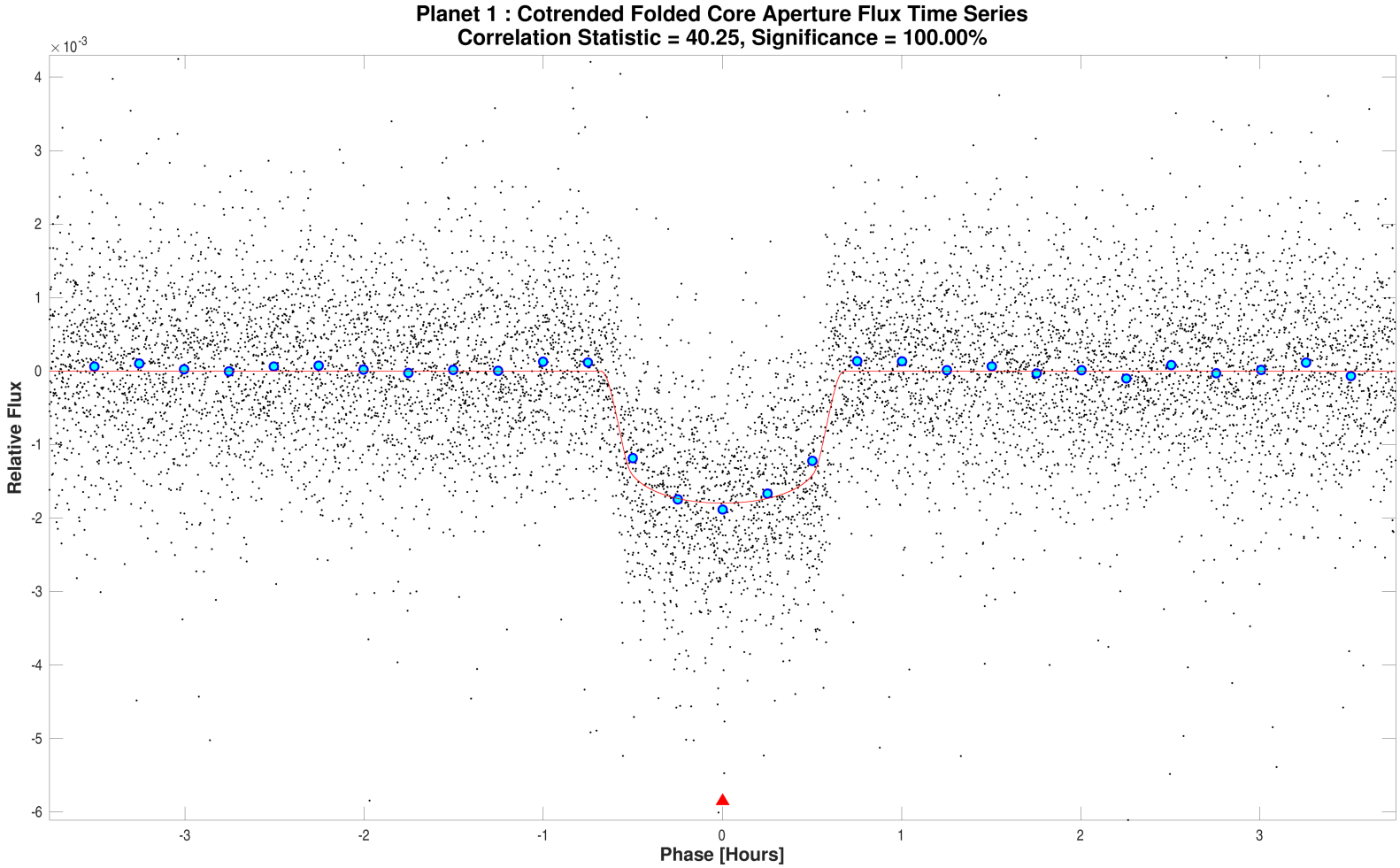
7.4.5 Validation Test Figures



The primary event has been set to zero and both the max and min of the resulting MES vs. Phase are marked with a red star. The best matched pulse duration in hours is 1. The maximum secondary MES and corresponding phase are 2.5162 and -0.91806 days respectively. The minimum secondary MES and corresponding phase are -3.6313 and 1.4125 days respectively.
Open `./planet-01/report-summary/0000000307210830-01-weak-secondary-diagnostic.fig`

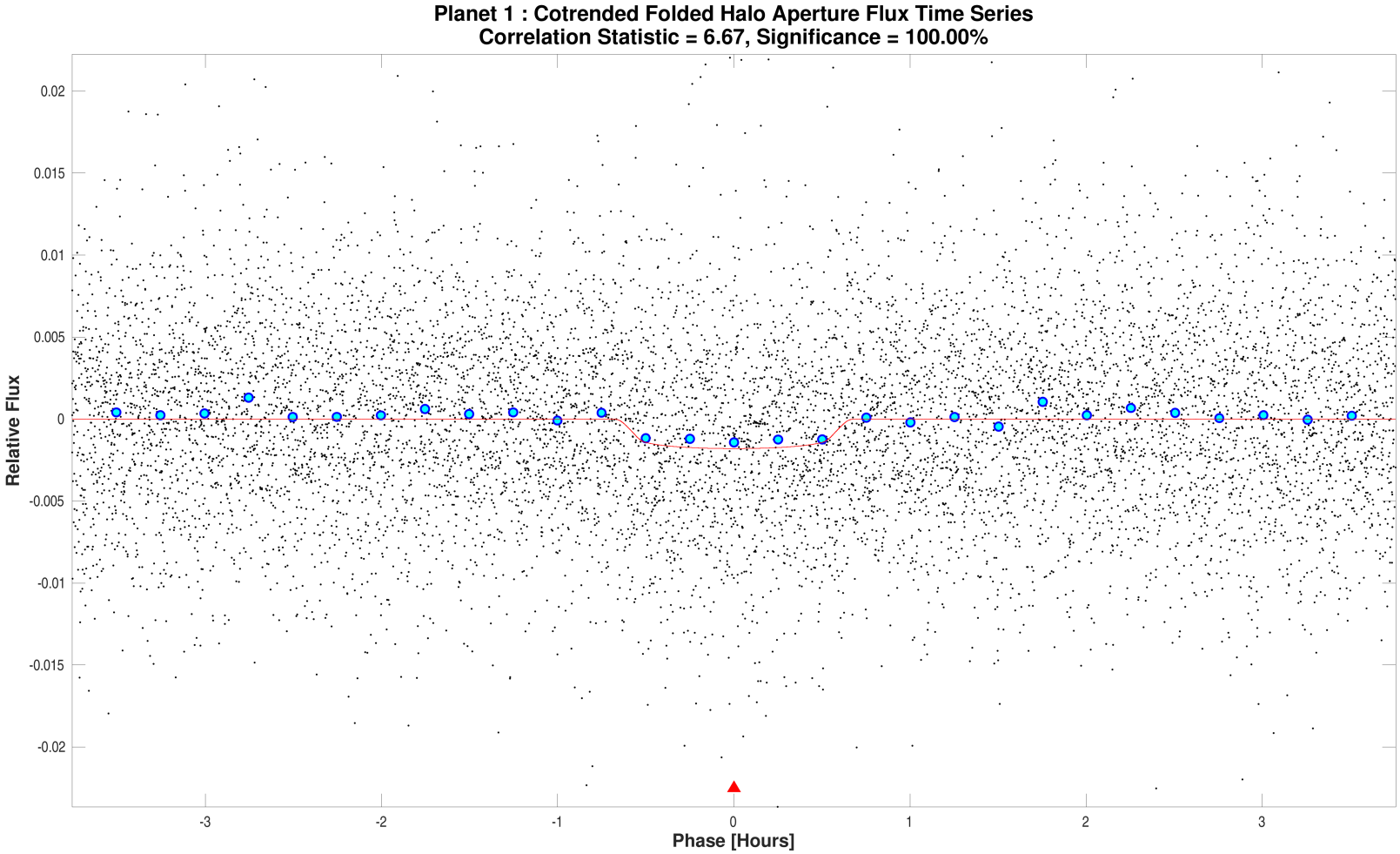


Bootstrap results for target 307210830, planet 1. Cumulative sum of the probabilities (derived from the histogram of counts) from upper tail to the search transit threshold; false alarm probability is indicated by the star. The Gaussian equivalent threshold for this false alarm probability is Inf. The threshold on this distribution that achieves the same false alarm rate as a 7.1 sigma threshold on a Gaussian distribution is 6.7711.
Open `./planet-01/bootstrap-results/0000000307210830-01-bootstrap-false-alarm.fig`



Optical ghost diagnostic core aperture flux time series for target 307210830, planet candidate 1. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the core aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

Open `./planet-01/ghost-diagnostic-results/0000000307210830-01-core-unwhitened-cotrended-zoomed-model.fig`



Optical ghost diagnostic halo aperture flux time series for target 307210830, planet candidate 1. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the halo aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

Open `./planet-01/ghost-diagnostic-results/0000000307210830-01-halo-unwhitened-cotrended-zoomed-model.fig`

8 Planet Candidate 2

8.1 Model Fitter: All Transits

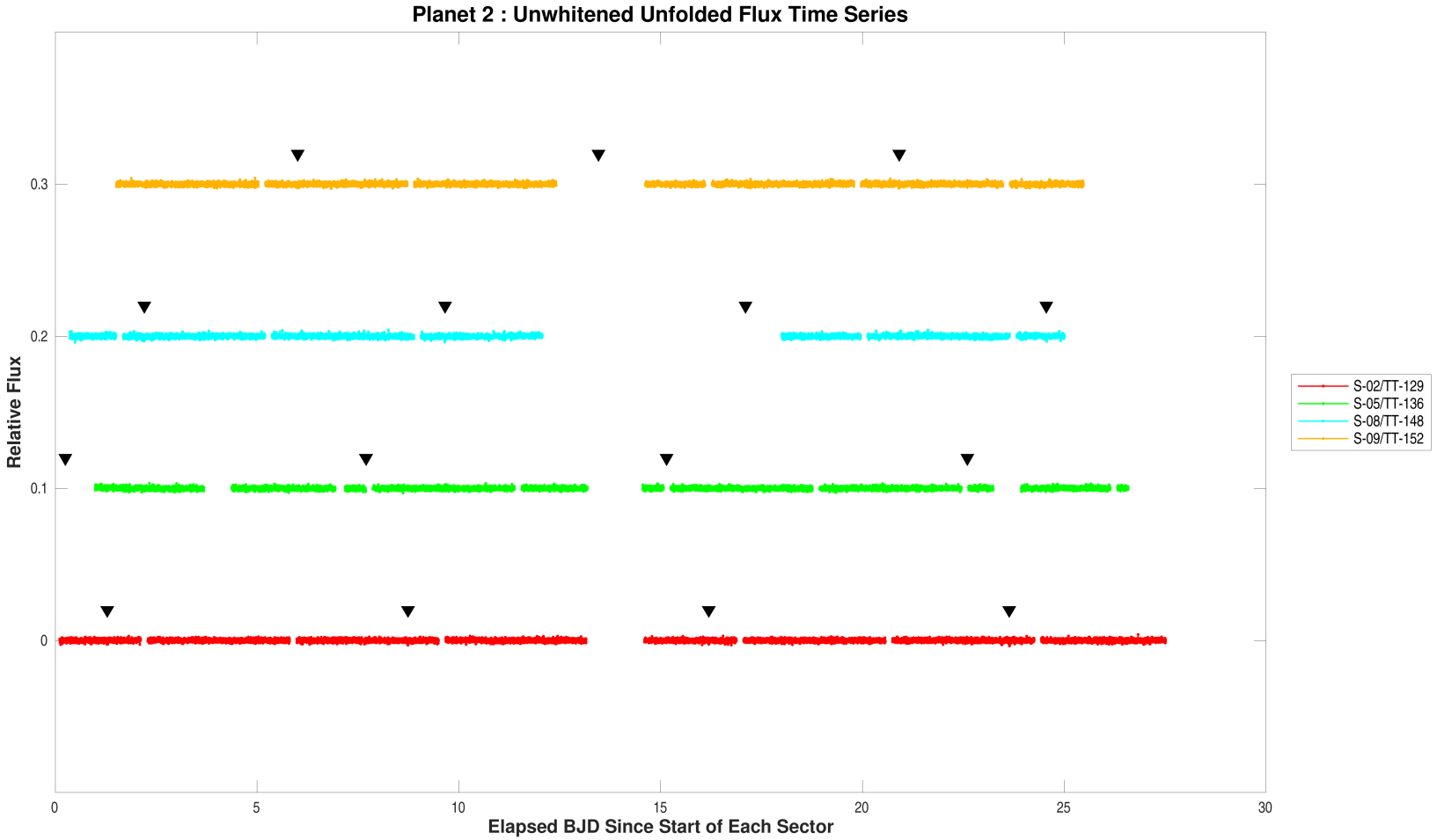
Model Characteristic	Name
Transit Model	mandel-agol_geometric_transit_model
Limb Darkening Model	claret_tess_nonlinear_limb_darkening_model

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1355.2894776	TJD
Orbital Period	7.4506808	days
Maximum SES	10.7	
Maximum MES	28.7	
Robust Statistic	28.6	
Chi Square Goodness of Fit Statistic (DoF)	808.0 (599)	
Chi Square2 Statistic (DoF)	28.7 (92.4)	
Threshold for Desired PFA		

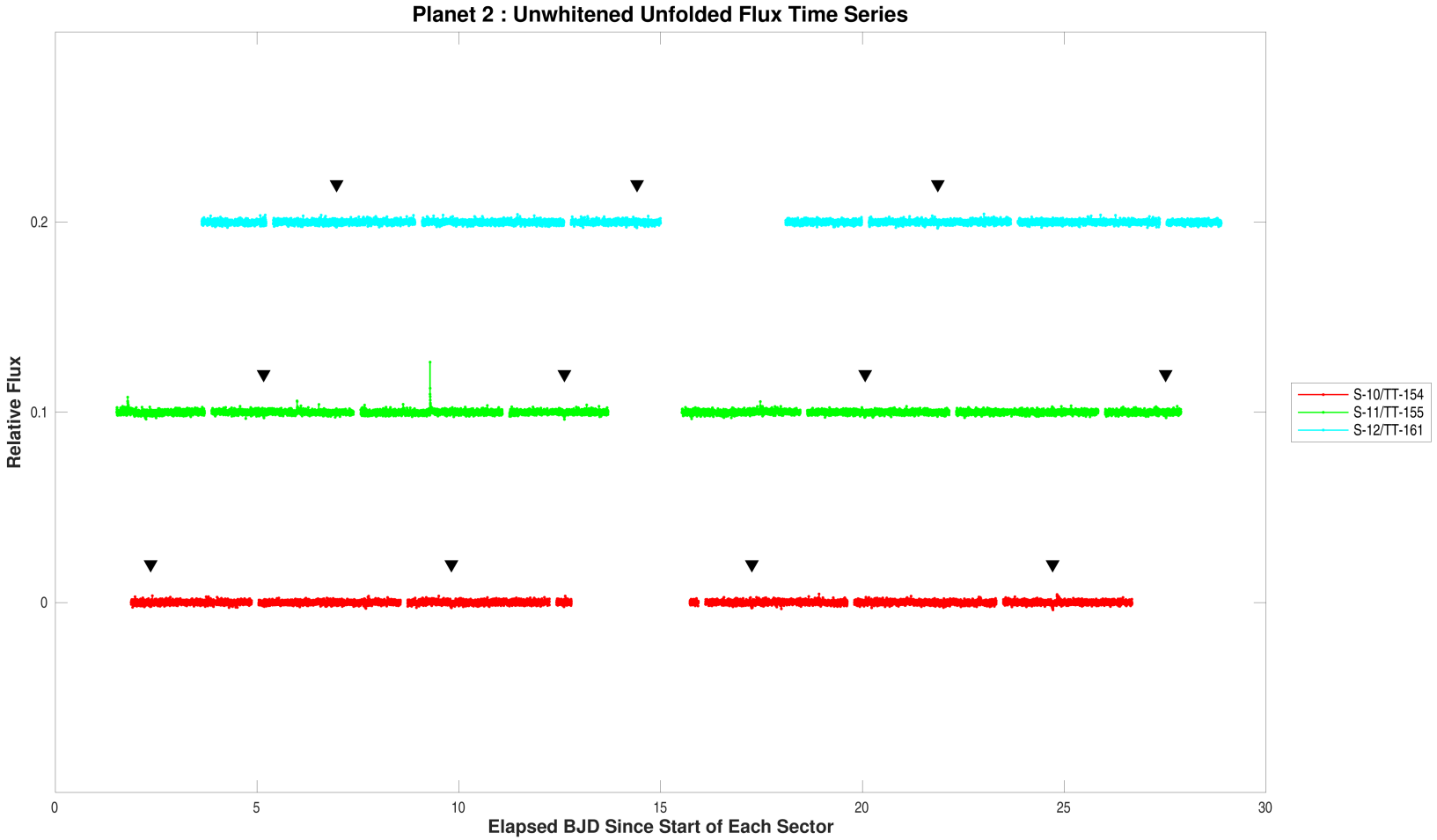
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	33.0		
Orbital Period	7.4508043	2.1299e-05	days
Transit Epoch	1355.2874263	5.3650e-04	BTJD
Impact Parameter	0.8769	6.2437e-02	
Planet Radius to Star Radius Ratio	0.0430287	2.1344e-03	
Semi-major Axis to Star Radius Ratio	38.0122	8.9264e+00	
Planet Radius	1.4703	8.4300e-02	Earth radii
Semi-major Axis	0.0506	2.4868e-03	AU
Effective Stellar Flux	4.9601	6.0134e-01	Goldilocks
Equilibrium Temperature	381	1.1536e+01	Kelvin
Stellar Density	13.2923	9.3643e+00	Solar density
Transit Depth	1668	5.6647e+01	ppm
Transit Duration	0.8458	6.0864e-02	hours
Transit Ingress Duration	0.1360	7.2885e-02	hours
Eccentricity	0.0000	0.0000e+00	
Peri Longitude	0.0000	0.0000e+00	degrees
Model Chi Square Statistic (DoF)	2455.1 (2931.7)		
Model Chi Square Goodness of Fit Statistic (DoF)	360.2 (600)		
Model Chi Square2 Statistic (DoF)	14.8 (20)		

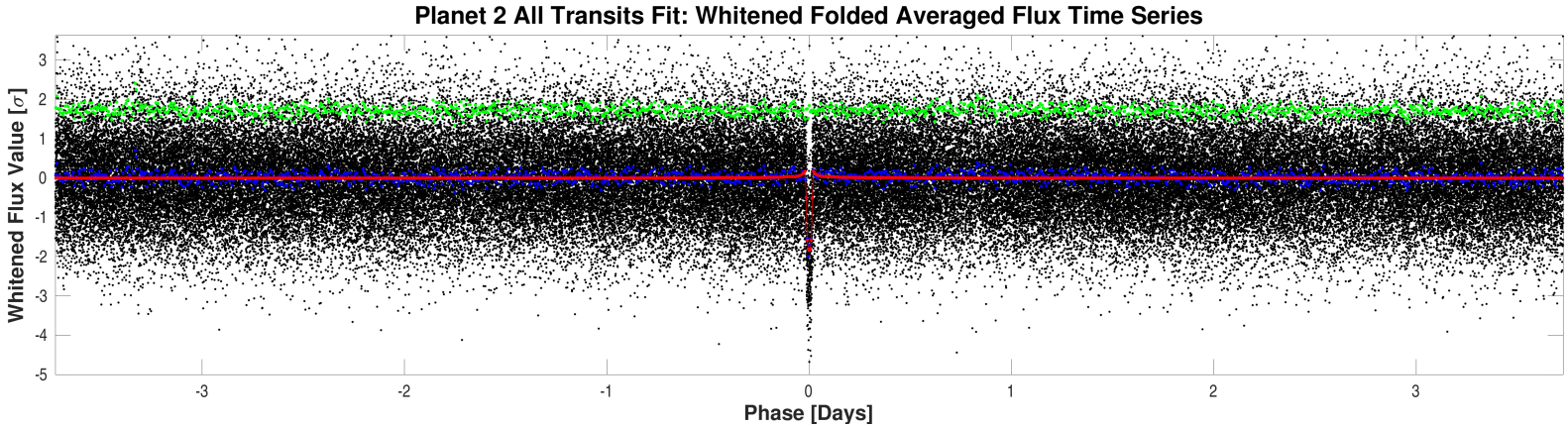
DoF: Degrees of Freedom



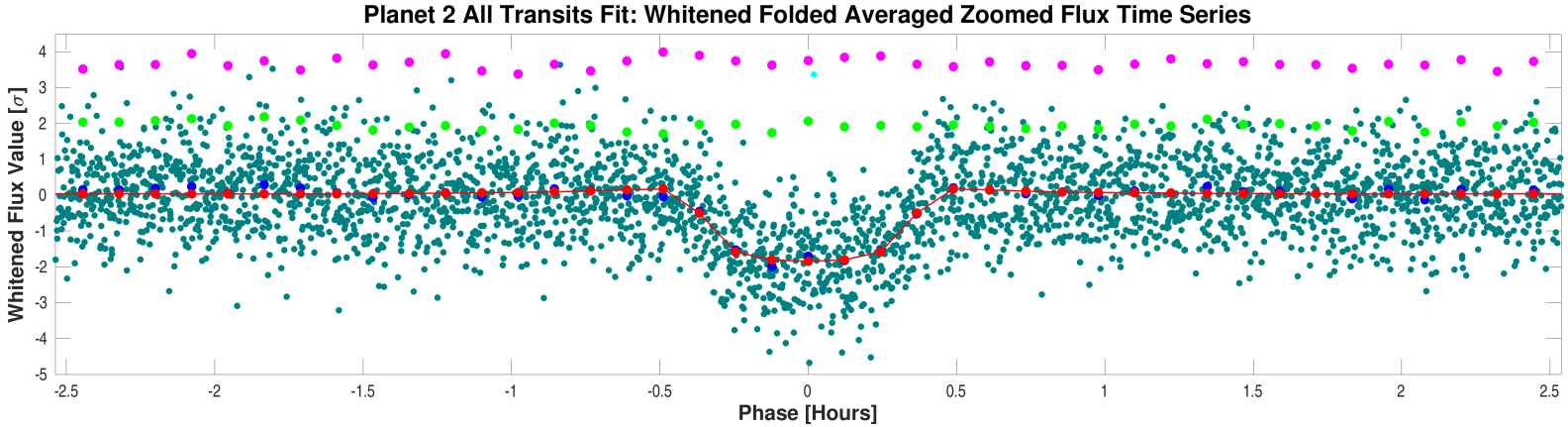
Flux time series for CatId 307210830, Planet candidate 2 in the unwhitened domain. For the data of Sector-02/TargetTableId-129, start BJD is 2458354 and the vertical offset is 0. For the data of Sector-05/TargetTableId-136, start BJD is 2458437 and the vertical offset is 0.1. For the data of Sector-08/TargetTableId-148, start BJD is 2458517 and the vertical offset is 0.2. For the data of Sector-09/TargetTableId-152, start BJD is 2458543 and the vertical offset is 0.3. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-unwhitened-02-129.fig`



Flux time series for CatId 307210830, Planet candidate 2 in the unwhitened domain. For the data of Sector-10/TargetTableId-154, start BJD is 2458569 and the vertical offset is 0. For the data of Sector-11/TargetTableId-155, start BJD is 2458596 and the vertical offset is 0.1. For the data of Sector-12/TargetTableId-161, start BJD is 2458624 and the vertical offset is 0.2. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence. Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-unwhitened-10-154.fig`



Folded flux time series for CatId 307210830, Planet candidate 2 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-whitened.fig`

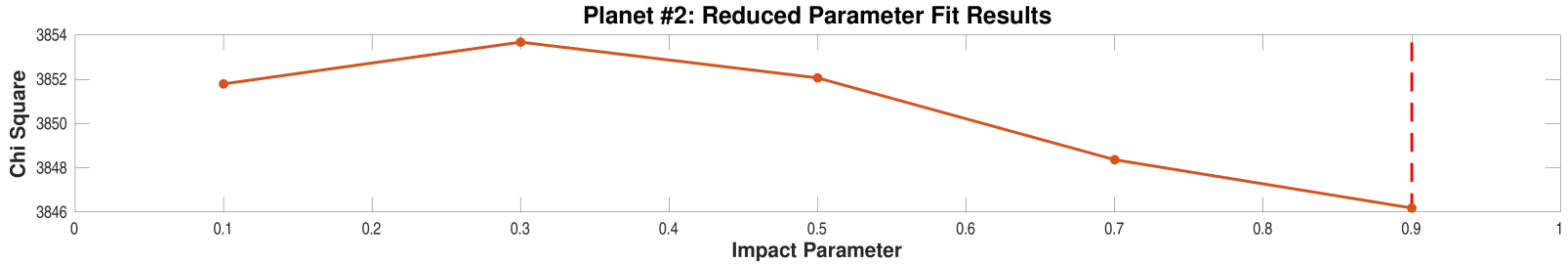


Folded flux time series for CatId 307210830, Planet candidate 2 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-whitened-zoomed.fig`

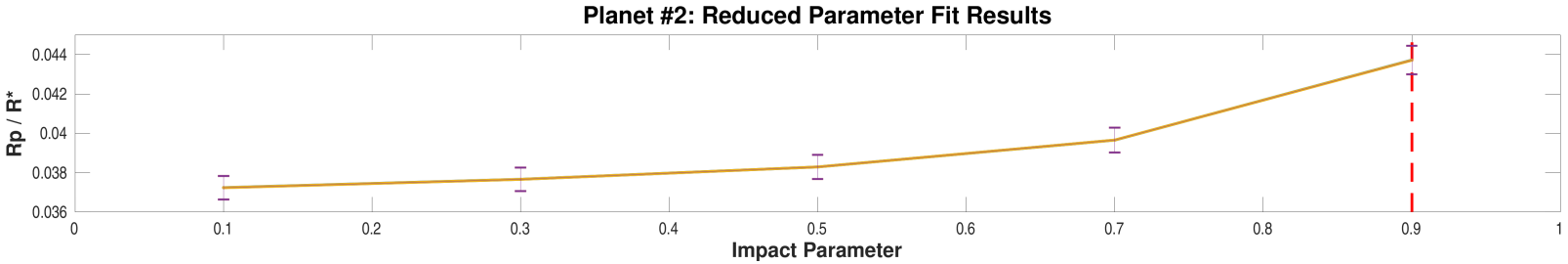
8.2 Model Fitter: Reduced Parameter Fit Results

Impact Parameter	SNR	Model Chi Square	Planet Radius to Star Radius	Uncert	Semi-major Axis to Star Radius	Uncert	Transit Depth (ppm)	Uncert	Transit Duration (hours)	Uncert
0.10	34.1	3851.8	0.0372416	5.9717e-04	78.1441	1.4656e+00	1628	5.1920e+01	0.7520	1.3996e-02
0.30	34.2	3853.7	0.0376647	6.0219e-04	75.3931	1.4196e+00	1640	5.2145e+01	0.7500	1.4005e-02
0.50	34.1	3852.1	0.0382923	6.1360e-04	68.3645	1.2879e+00	1637	5.2150e+01	0.7577	1.4131e-02
0.70	34.2	3848.4	0.0396547	6.3712e-04	56.3323	1.0879e+00	1636	5.2260e+01	0.7768	1.4792e-02
0.90	34.1	3846.2	0.0437227	7.2291e-04	34.6213	7.8189e-01	1661	5.4387e+01	0.8693	1.9036e-02

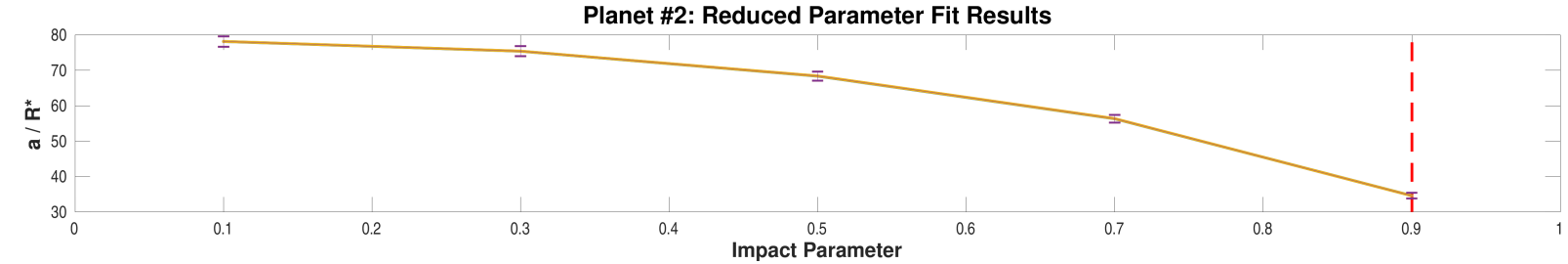
Highlighted row is the best reduced-parameter model fit.



Model chi squares of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-02-reduced-fits-chi-square.fig`



Ratios of planet radius to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-02-reduced-fits-rp-over-rstar.fig`



Ratios of semimajor axis to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-02-reduced-fits-a-over-rstar.fig`

8.3 Model Fitter: Trapezoidal Fit Results

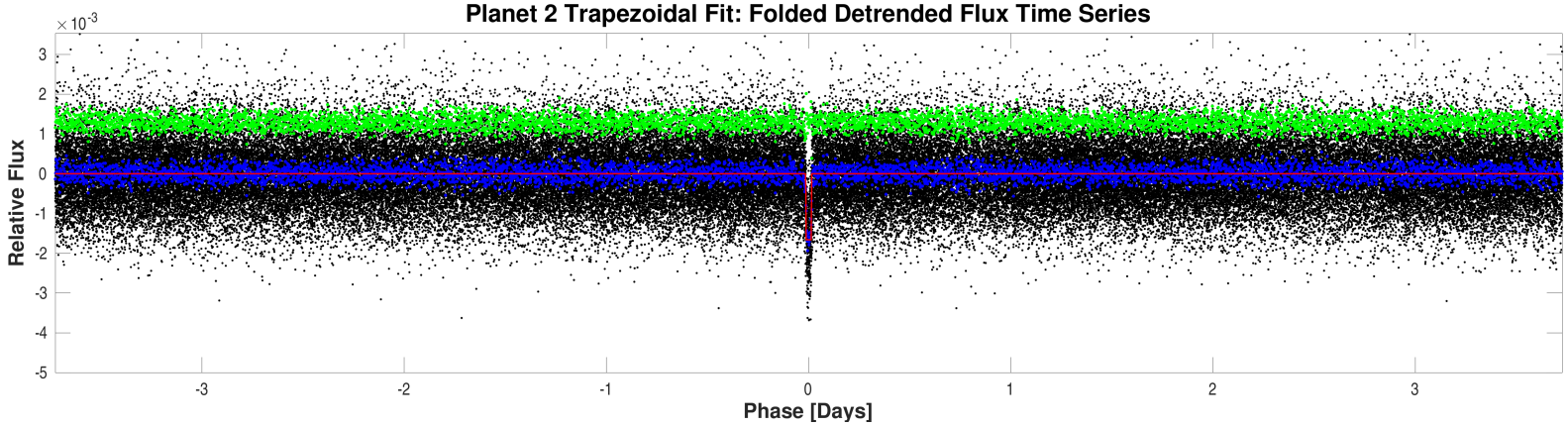
Model Characteristic	Name
Transit Model	trapezoidal_model
Limb Darkening Model	

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1355.2894776	TJD
Orbital Period	7.4506808	days
Maximum SES	10.7	
Maximum MES	28.7	
Robust Statistic	28.6	
Chi Square Goodness of Fit Statistic (DoF)	808.0 (599)	
Chi Square2 Statistic (DoF)	28.7 (92.4)	
Threshold for Desired PFA		

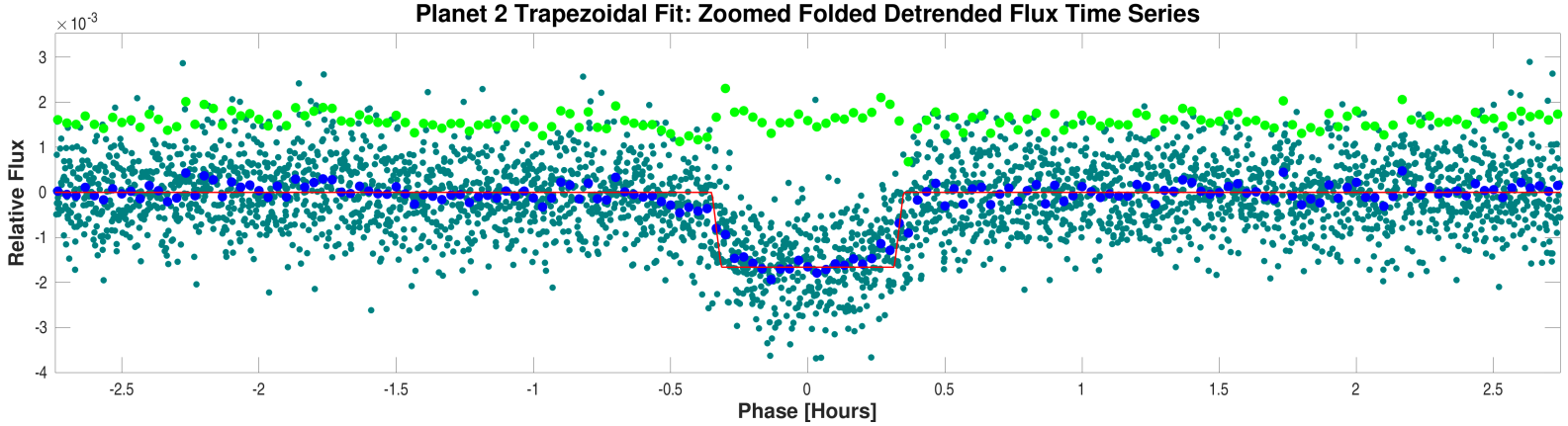
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	37.1		
Orbital Period	7.4506808		days
Transit Epoch	1355.2905272		BTJD
Transit Depth	1661		ppm
Transit Duration	0.9142		hours
Transit Ingress Duration	0.2496		hours
Model Chi Square Statistic (DoF)	111708.8 (5099)		

DoF: Degrees of Freedom



Folded detrended flux time series for CatId 307210830, Planet candidate 2 and folded trapezoidal model light curve.
Open `./planet-02/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-02-all-trapezoidal.fig`



Zoomed folded detrended flux time series for CatId 307210830, Planet candidate 2 and folded trapezoidal model light curve.
Open `./planet-02/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-02-all-trapezoidal-zoomed.fig`

8.4 Validation Tests

The Centroid Test and Eclipsing Binary Discrimination Test are chi-squared hypothesis tests. For these tests, a significance of 100% favors a planet, while 0% indicates an unlikely planet.

8.4.1 Weak Secondary Test

Result	Value	Uncertainty	Units	Statistic in Sigmas	Significance (%)
Orbital Period	7.4507		days		
Transit Duration	1		hours		
Maximum MES	28.7				
Secondary Phase	2.9458		days		
Secondary MES	3.0				
Minimum Phase	3.7181		days		
Minimum MES	-3.6				
Median MES	0.0				
MAD MES	0.67745				
Robust Statistic	3.3				
Secondary Depth	154.7	4.2936e+01	ppm		
Geometric Albedo	100.9	3.1168e+01		3.2057	0.07
Planet Effective Temperature	1865	1.4219e+02	Kelvin	10.4064	0.00

8.4.2 Eclipsing Binary Discrimination Test

Result	Value	Value in Sigmas	Significance (%)
Odd Even Transit Depth Comparison Statistic	3.9946e-01	0.6320	52.74
Shorter Period Comparison Statistic	3.5666e+03	59.7210	100.00

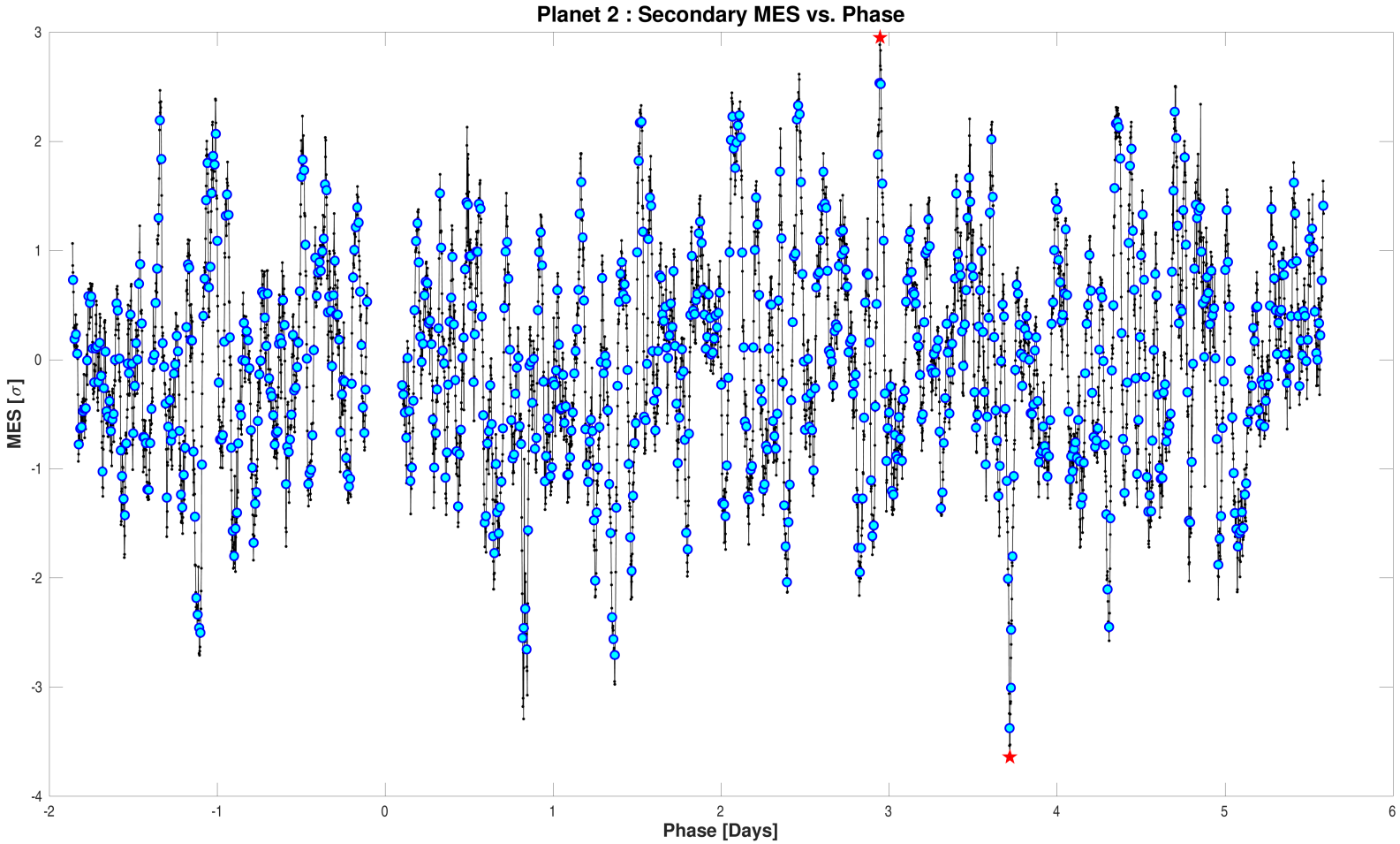
8.4.3 Bootstrap Test

Result	Value
False Alarm Probability	1.3492e-193
Bootstrap Threshold for Desired PFA	6.9
MES Mean	0.02
MES Standard Deviation	0.97
Transit Count	40

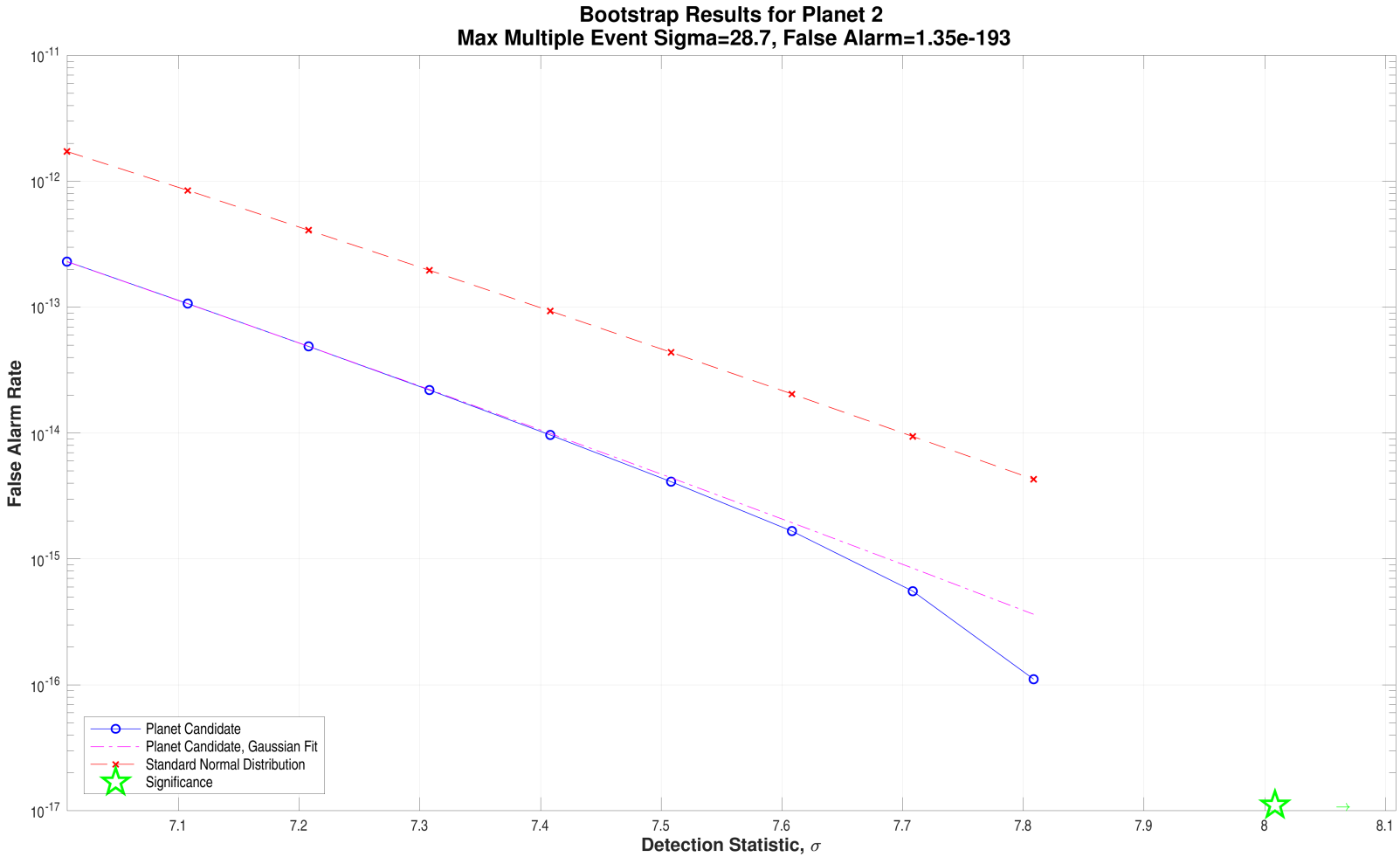
8.4.4 Ghost Diagnostic Test

Result	Value	Significance (%)
Maximum MES	28.7	
SNR	33.0	
Core Aperture Statistic	2.2944e+01	100.00
Halo Aperture Statistic	3.9313e+00	100.00
Ratio of Core/Halo Aperture Statistics	5.8363e+00	

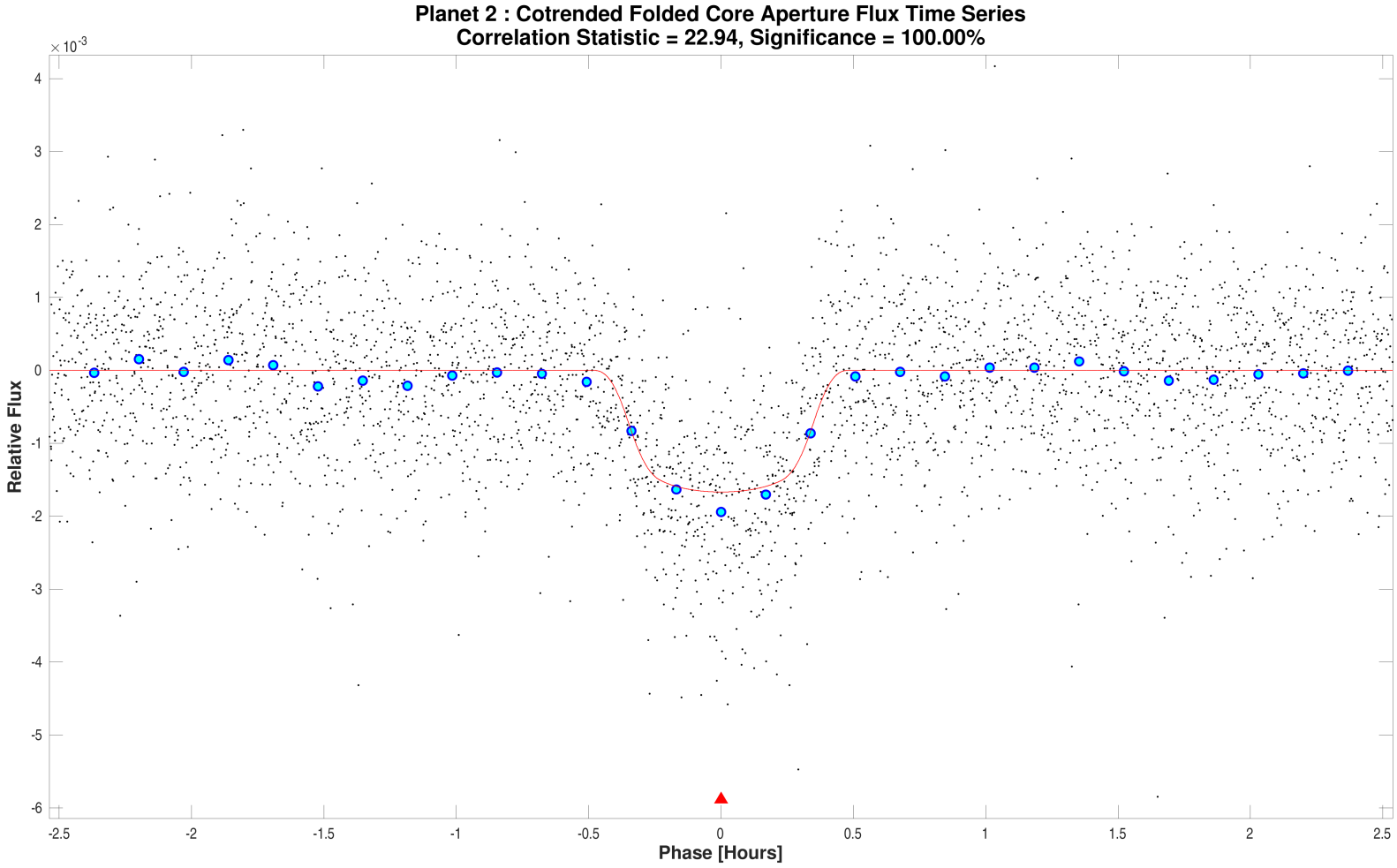
8.4.5 Validation Test Figures



The primary event has been set to zero and both the max and min of the resulting MES vs. Phase are marked with a red star. The best matched pulse duration in hours is 1. The maximum secondary MES and corresponding phase are 2.9514 and 2.9458 days respectively. The minimum secondary MES and corresponding phase are -3.6393 and 3.7181 days respectively.
Open `./planet-02/report-summary/0000000307210830-02-weak-secondary-diagnostic.fig`

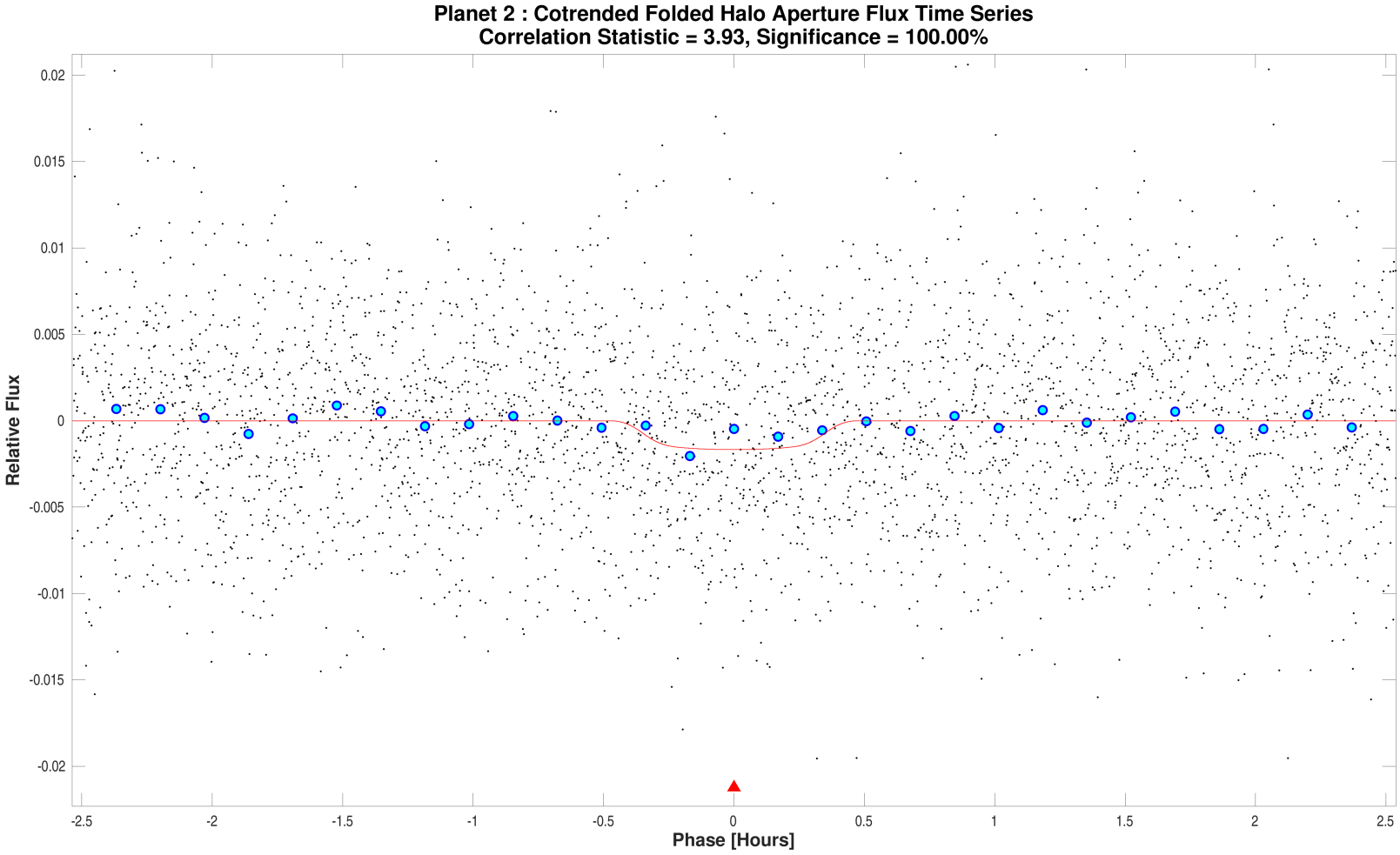


Bootstrap results for target 307210830, planet 2. Cumulative sum of the probabilities (derived from the histogram of counts) from upper tail to the search transit threshold; false alarm probability is indicated by the star. The Gaussian equivalent threshold for this false alarm probability is 29.6577. The threshold on this distribution that achieves the same false alarm rate as a 7.1 sigma threshold on a Gaussian distribution is 6.8837.
Open `./planet-02/bootstrap-results/0000000307210830-02-bootstrap-false-alarm.fig`



Optical ghost diagnostic core aperture flux time series for target 307210830, planet candidate 2. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the core aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

Open `./planet-02/ghost-diagnostic-results/0000000307210830-02-core-unwhitened-cotrended-zoomed-model.fig`



Optical ghost diagnostic halo aperture flux time series for target 307210830, planet candidate 2. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the halo aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

Open `./planet-02/ghost-diagnostic-results/0000000307210830-02-halo-unwhitened-cotrended-zoomed-model.fig`

9 Planet Candidate 3

9.1 Model Fitter: All Transits

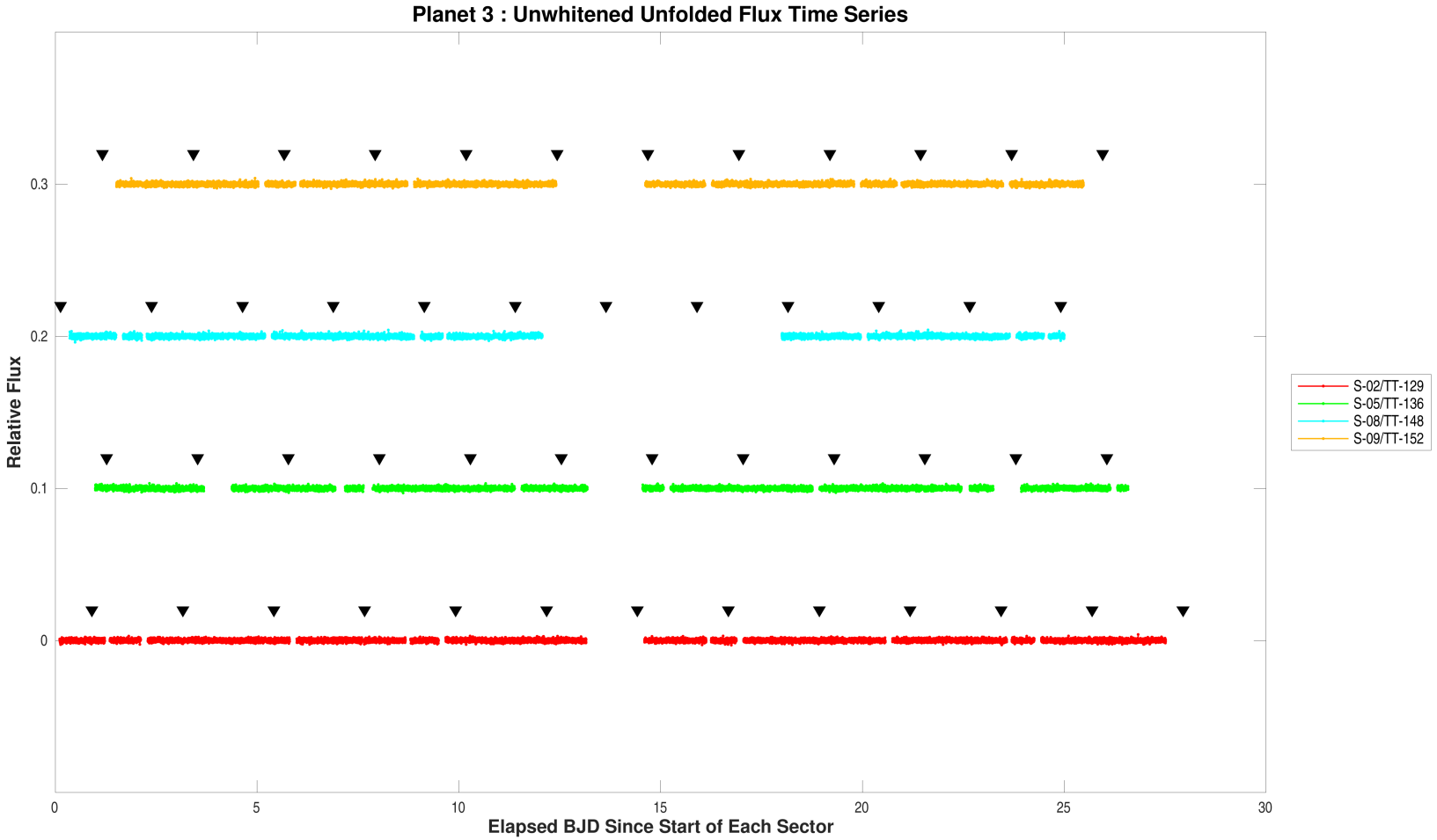
Model Characteristic	Name
Transit Model	mandel-agol_geometric_transit_model
Limb Darkening Model	claret_tess_nonlinear_limb_darkening_model

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1354.9075333	TJD
Orbital Period	2.2530793	days
Maximum SES	10.7	
Maximum MES	25.8	
Robust Statistic	25.8	
Chi Square Goodness of Fit Statistic (DoF)	1840.3 (1939)	
Chi Square2 Statistic (DoF)	75.8 (122.9)	
Threshold for Desired PFA		

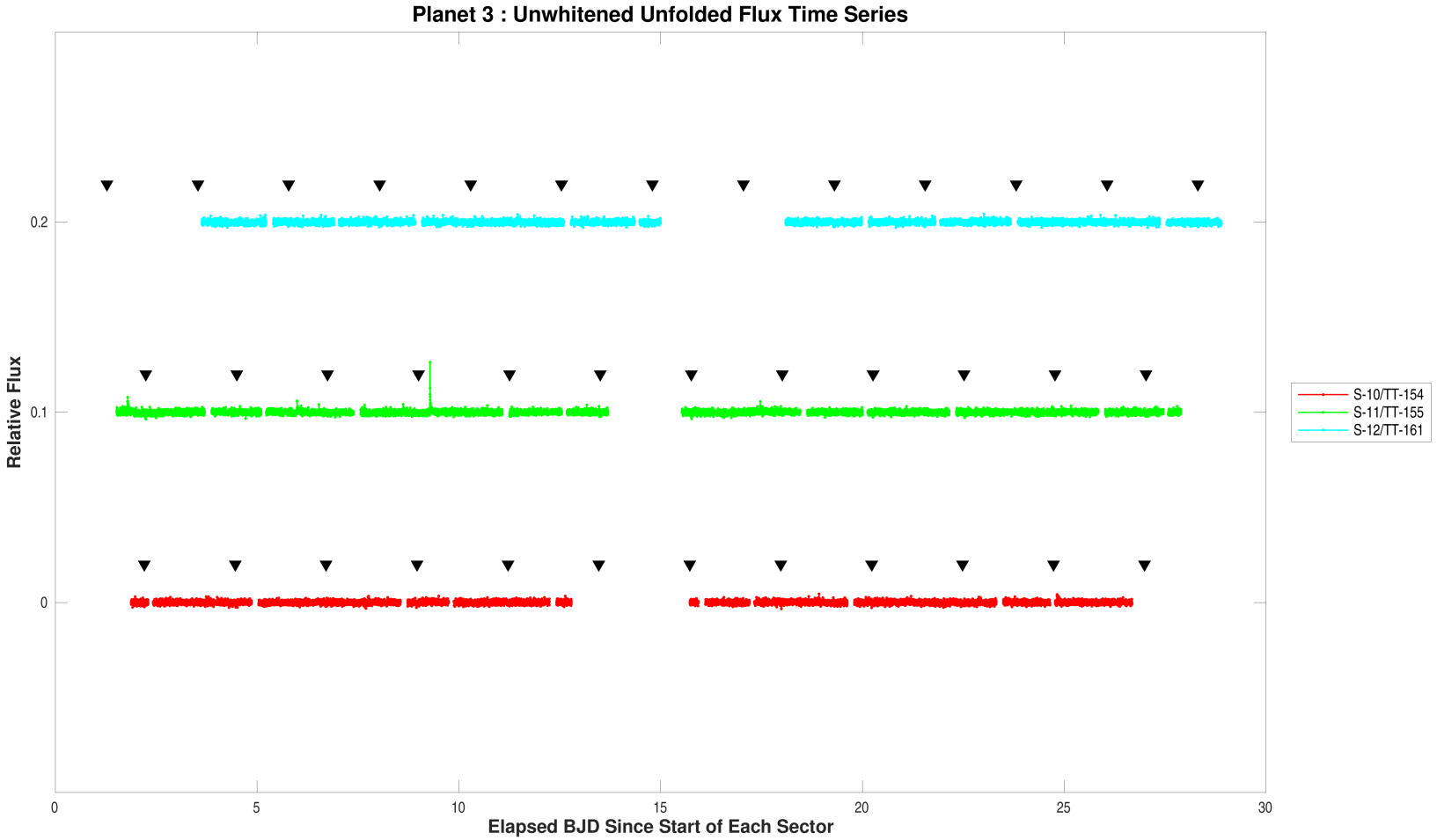
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	29.6		
Orbital Period	2.2531003	7.0289e-06	days
Transit Epoch	1354.9063398	4.2285e-04	BTJD
Impact Parameter	0.6280	1.7220e+00	
Planet Radius to Star Radius Ratio	0.0251058	8.1847e-03	
Semi-major Axis to Star Radius Ratio	14.0319	2.4821e+01	
Planet Radius	0.8579	2.8076e-01	Earth radii
Semi-major Axis	0.0228	1.1204e-03	AU
Effective Stellar Flux	24.4372	2.9627e+00	Goldilocks
Equilibrium Temperature	567	1.7187e+01	Kelvin
Stellar Density	7.3118	3.8802e+01	Solar density
Transit Depth	677	2.7797e+01	ppm
Transit Duration	0.9954	1.4418e-01	hours
Transit Ingress Duration	0.0397	1.5452e-01	hours
Eccentricity	0.0000	0.0000e+00	
Peri Longitude	0.0000	0.0000e+00	degrees
Model Chi Square Statistic (DoF)	8871.0 (10605.5)		
Model Chi Square Goodness of Fit Statistic (DoF)	1344.0 (2322)		
Model Chi Square2 Statistic (DoF)	39.6 (69)		

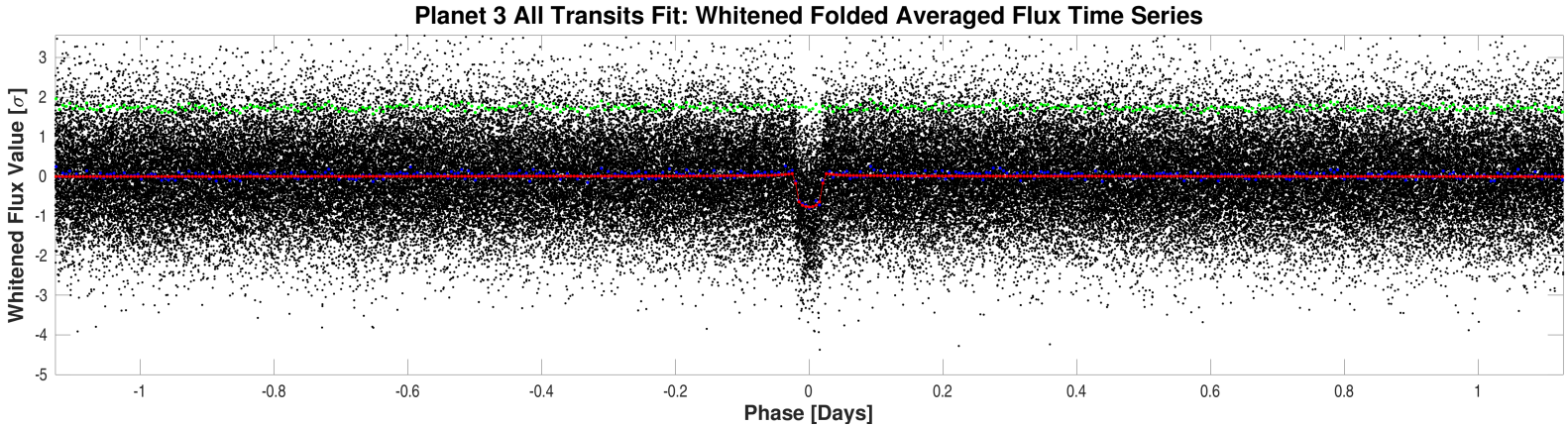
DoF: Degrees of Freedom



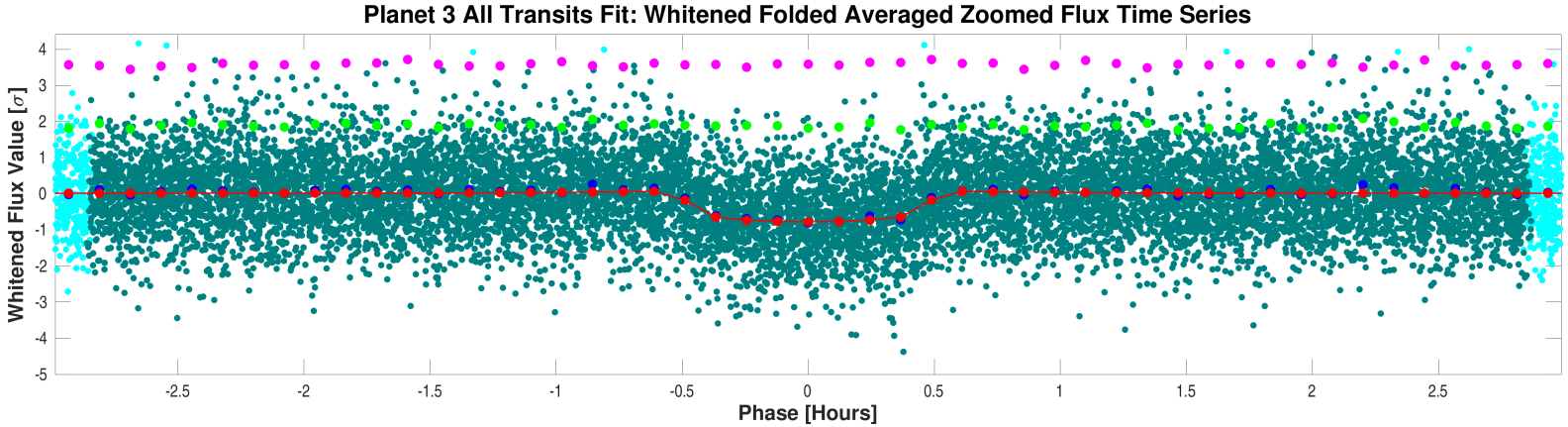
Flux time series for CatId 307210830, Planet candidate 3 in the unwhitened domain. For the data of Sector-02/TargetTableId-129, start BJD is 2458354 and the vertical offset is 0. For the data of Sector-05/TargetTableId-136, start BJD is 2458437 and the vertical offset is 0.1. For the data of Sector-08/TargetTableId-148, start BJD is 2458517 and the vertical offset is 0.2. For the data of Sector-09/TargetTableId-152, start BJD is 2458543 and the vertical offset is 0.3. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-unwhitened-02-129.fig`



Flux time series for CatId 307210830, Planet candidate 3 in the unwhitened domain. For the data of Sector-10/TargetTableId-154, start BJD is 2458569 and the vertical offset is 0. For the data of Sector-11/TargetTableId-155, start BJD is 2458596 and the vertical offset is 0.1. For the data of Sector-12/TargetTableId-161, start BJD is 2458624 and the vertical offset is 0.2. Transit event markers indicate the location of transits of the given planet candidate. All transits fit completed with full convergence. Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-unwhitened-10-154.fig`



Folded flux time series for CatId 307210830, Planet candidate 3 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-whitened.fig`

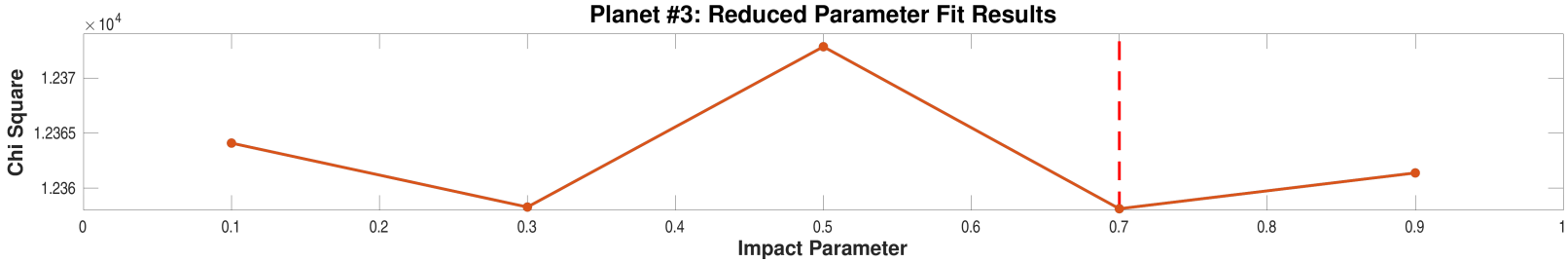


Folded flux time series for CatId 307210830, Planet candidate 3 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the all transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. All transits fit completed with full convergence.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-whitened-zoomed.fig`

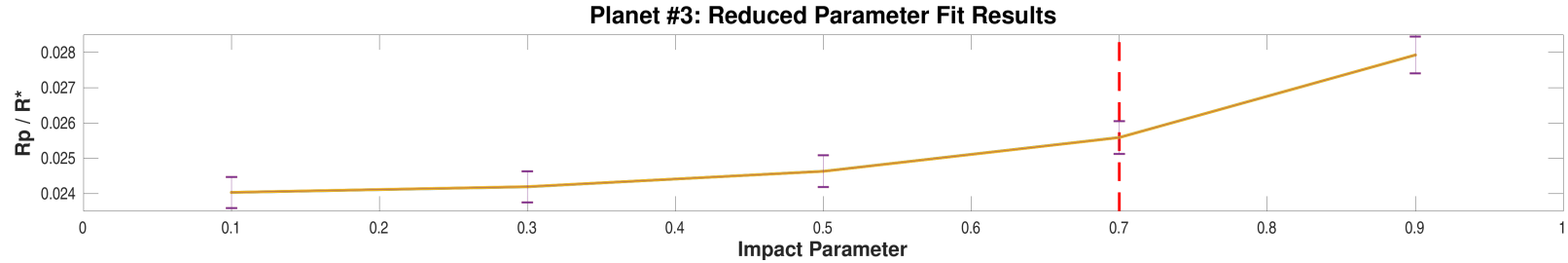
9.2 Model Fitter: Reduced Parameter Fit Results

Impact Parameter	SNR	Model Chi Square	Planet Radius to Star Radius	Uncert	Semi-major Axis to Star Radius	Uncert	Transit Depth (ppm)	Uncert	Transit Duration (hours)	Uncert
0.10	30.9	12364.1	0.0240336	4.3908e-04	18.1074	3.5031e-01	679	2.4664e+01	0.9693	1.8665e-02
0.30	30.9	12358.3	0.0241938	4.4182e-04	17.3107	3.3510e-01	677	2.4604e+01	0.9744	1.8770e-02
0.50	30.9	12372.8	0.0246331	4.4983e-04	15.7459	3.0672e-01	678	2.4625e+01	0.9787	1.8960e-02
0.70	30.9	12358.1	0.0255904	4.6263e-04	13.1643	2.5271e-01	682	2.4527e+01	0.9820	1.8714e-02
0.90	30.6	12361.4	0.0279257	5.2111e-04	8.0963	1.7338e-01	680	2.5196e+01	1.0631	2.2490e-02

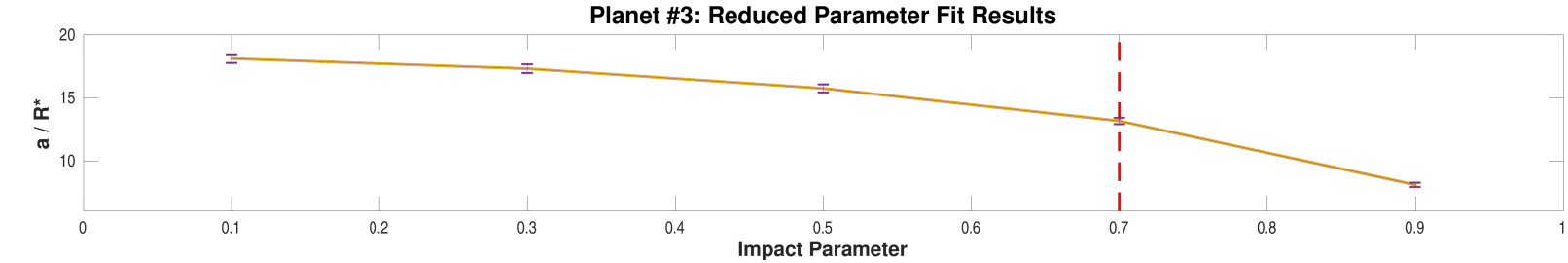
Highlighted row is the best reduced-parameter model fit.



Model chi squares of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 3. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-03/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-03-reduced-fits-chi-square.fig`



Ratios of planet radius to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 3. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-03/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-03-reduced-fits-rp-over-rstar.fig`



Ratios of semimajor axis to star radius of reduced parameter fits vs. impact parameter for CatId 307210830, Planet candidate 3. The fit result with the minimum chi square is marked with a dashed line in the plot.
Open `./planet-03/planet-search-and-model-fitting-results/reduced-parameter-fits/0000000307210830-03-reduced-fits-a-over-rstar.fig`

9.3 Model Fitter: Trapezoidal Fit Results

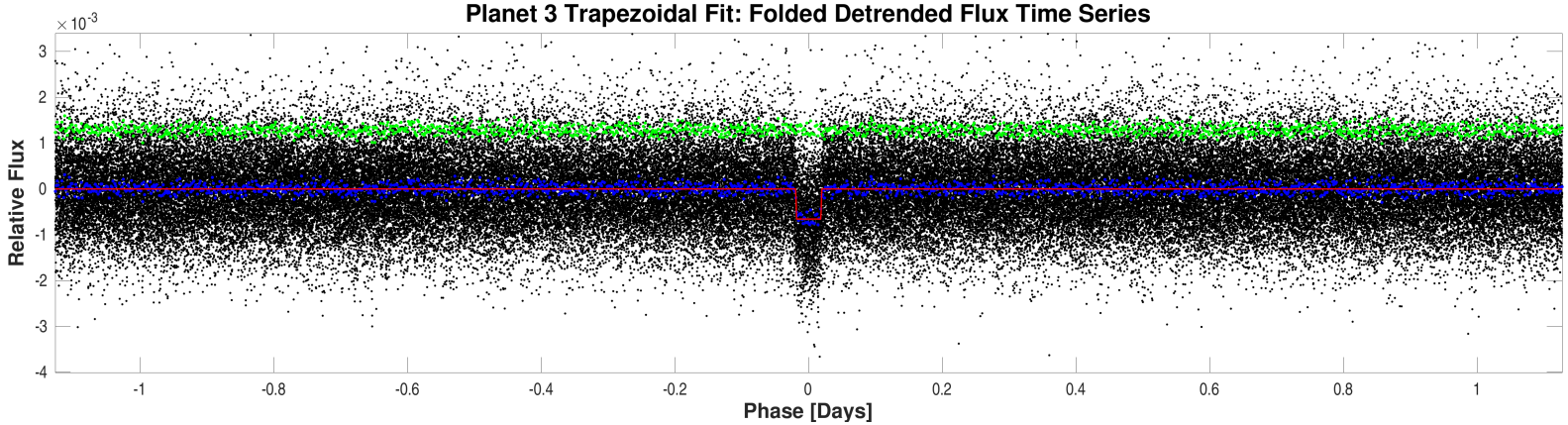
Model Characteristic	Name
Transit Model	trapezoidal_model
Limb Darkening Model	

TCE Parameter	Value	Units
Trial Transit Pulse Duration	1.0	hours
Transit Epoch	1354.9075333	TJD
Orbital Period	2.2530793	days
Maximum SES	10.7	
Maximum MES	25.8	
Robust Statistic	25.8	
Chi Square Goodness of Fit Statistic (DoF)	1840.3 (1939)	
Chi Square2 Statistic (DoF)	75.8 (122.9)	
Threshold for Desired PFA		

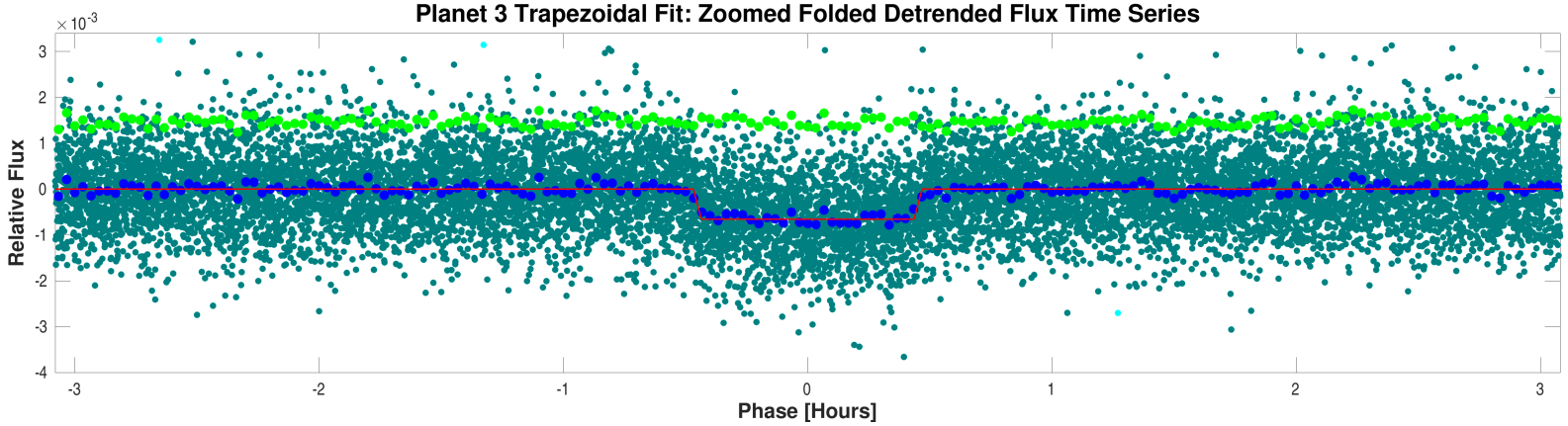
DoF: Degrees of Freedom

Parameter	Value	Uncertainty	Units
SNR	34.8		
Orbital Period	2.2530793		days
Transit Epoch	1354.9078341		BTJD
Transit Depth	657		ppm
Transit Duration	1.0267		hours
Transit Ingress Duration	0.1232		hours
Model Chi Square Statistic (DoF)	109622.0 (16243)		

DoF: Degrees of Freedom



Folded detrended flux time series for CatId 307210830, Planet candidate 3 and folded trapezoidal model light curve.
Open `./planet-03/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-03-all-trapezoidal.fig`



Zoomed folded detrended flux time series for CatId 307210830, Planet candidate 3 and folded trapezoidal model light curve.
Open `./planet-03/planet-search-and-model-fitting-results/trapezoidal-model-fit/0000000307210830-03-all-trapezoidal-zoomed.fig`

9.4 Validation Tests

The Centroid Test and Eclipsing Binary Discrimination Test are chi-squared hypothesis tests. For these tests, a significance of 100% favors a planet, while 0% indicates an unlikely planet.

9.4.1 Weak Secondary Test

Result	Value	Uncertainty	Units	Statistic in Sigmas	Significance (%)
Orbital Period	2.2531		days		
Transit Duration	1		hours		
Maximum MES	25.8				
Secondary Phase	1.3903		days		
Secondary MES	2.5				
Minimum Phase	1.6559		days		
Minimum MES	-2.8				
Median MES	-0.2				
MAD MES	0.69957				
Robust Statistic	2.4				
Secondary Depth	58.5	2.2629e+01	ppm		
Geometric Albedo	22.7	1.7374e+01		1.2518	10.53
Planet Effective Temperature	1915	3.6484e+02	Kelvin	3.6899	0.01

9.4.2 Eclipsing Binary Discrimination Test

Result	Value	Value in Sigmas	Significance (%)
Odd Even Transit Depth Comparison Statistic	6.7478e-01	0.8215	41.14
Longer Period Comparison Statistic	4.6517e+02	21.5679	100.00

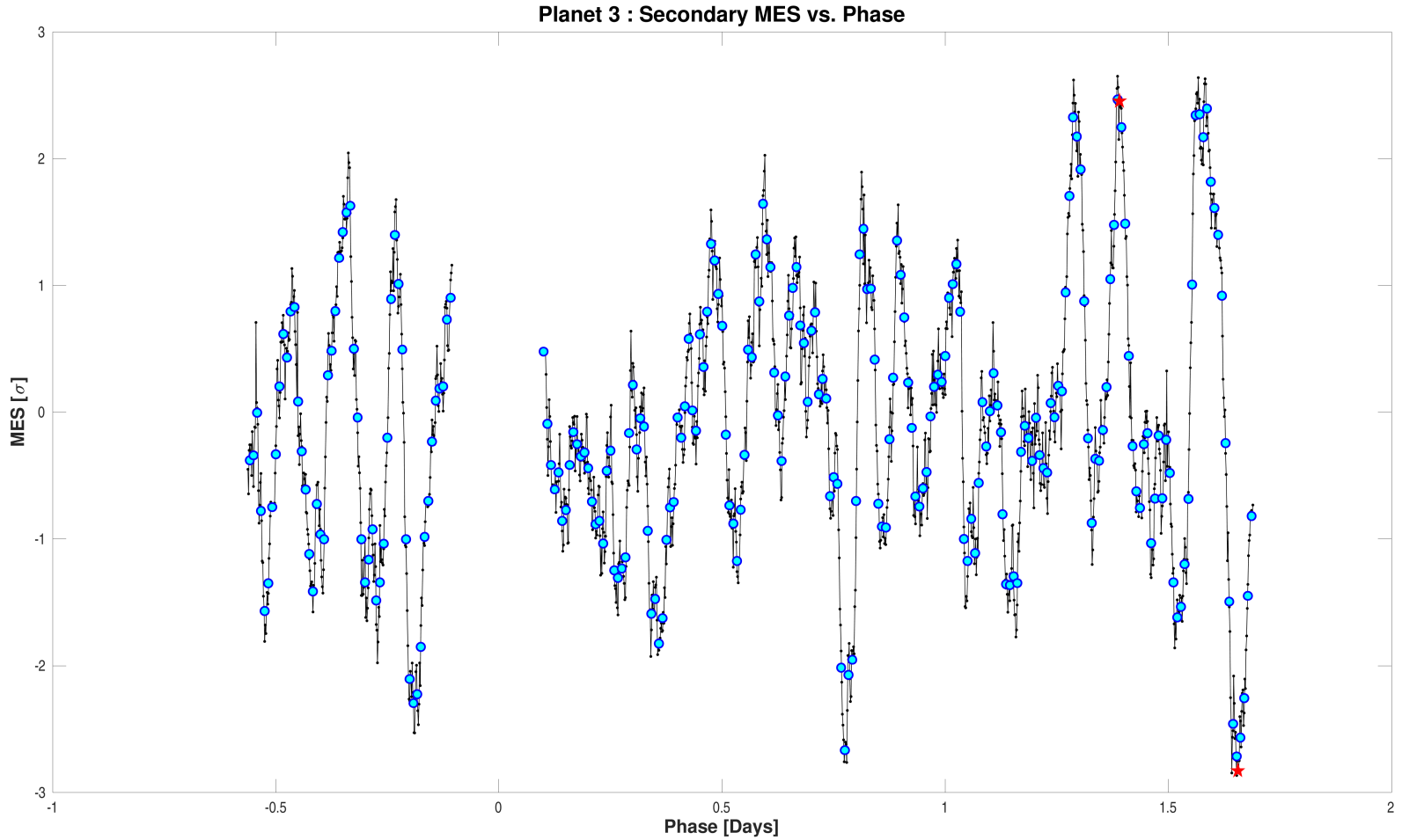
9.4.3 Bootstrap Test

Result	Value
False Alarm Probability	3.0134e-158
Bootstrap Threshold for Desired PFA	6.8
MES Mean	-0.08
MES Standard Deviation	0.97
Transit Count	133

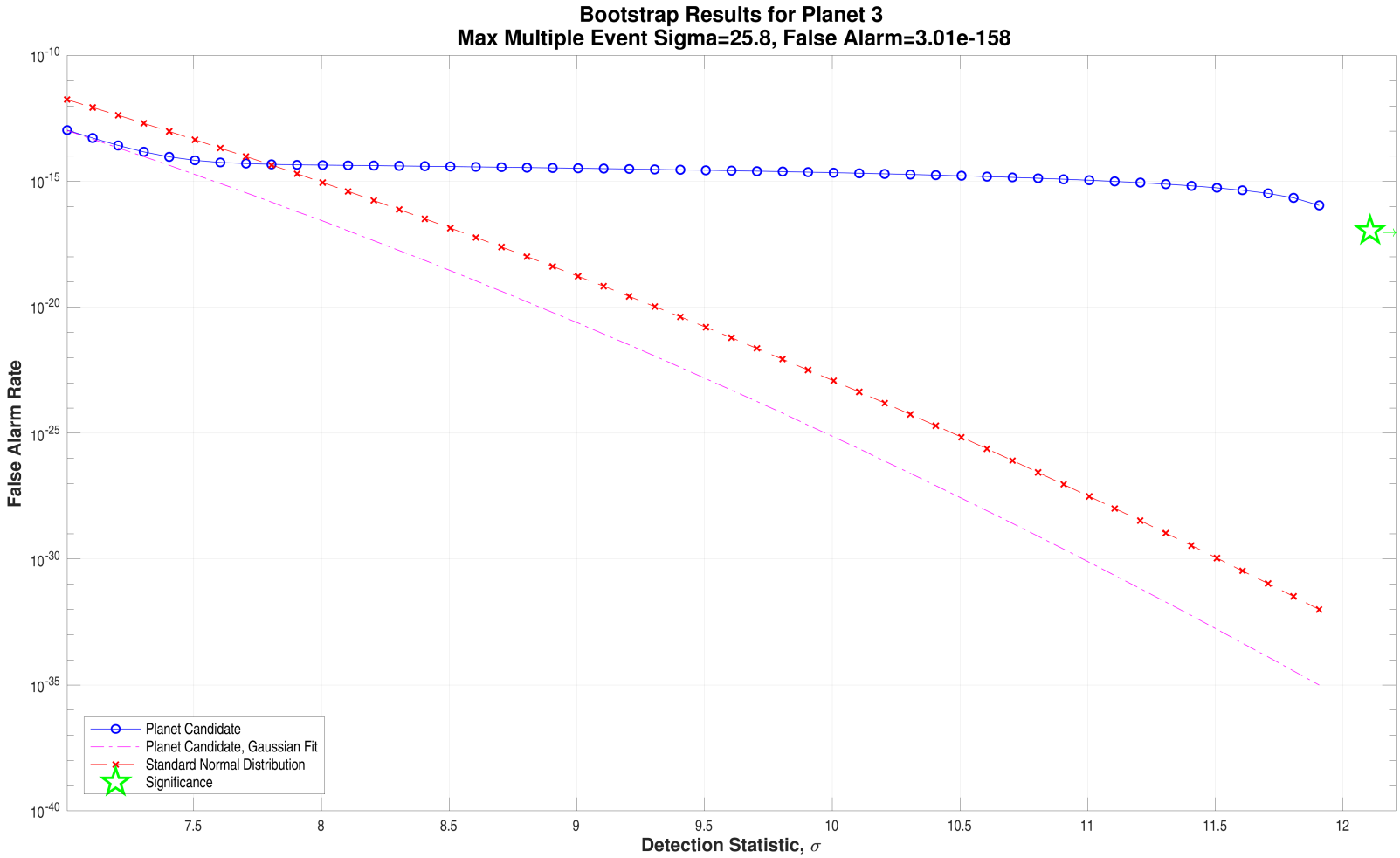
9.4.4 Ghost Diagnostic Test

Result	Value	Significance (%)
Maximum MES	25.8	
SNR	29.6	
Core Aperture Statistic	1.7960e+01	100.00
Halo Aperture Statistic	5.1079e+00	100.00
Ratio of Core/Halo Aperture Statistics	3.5161e+00	

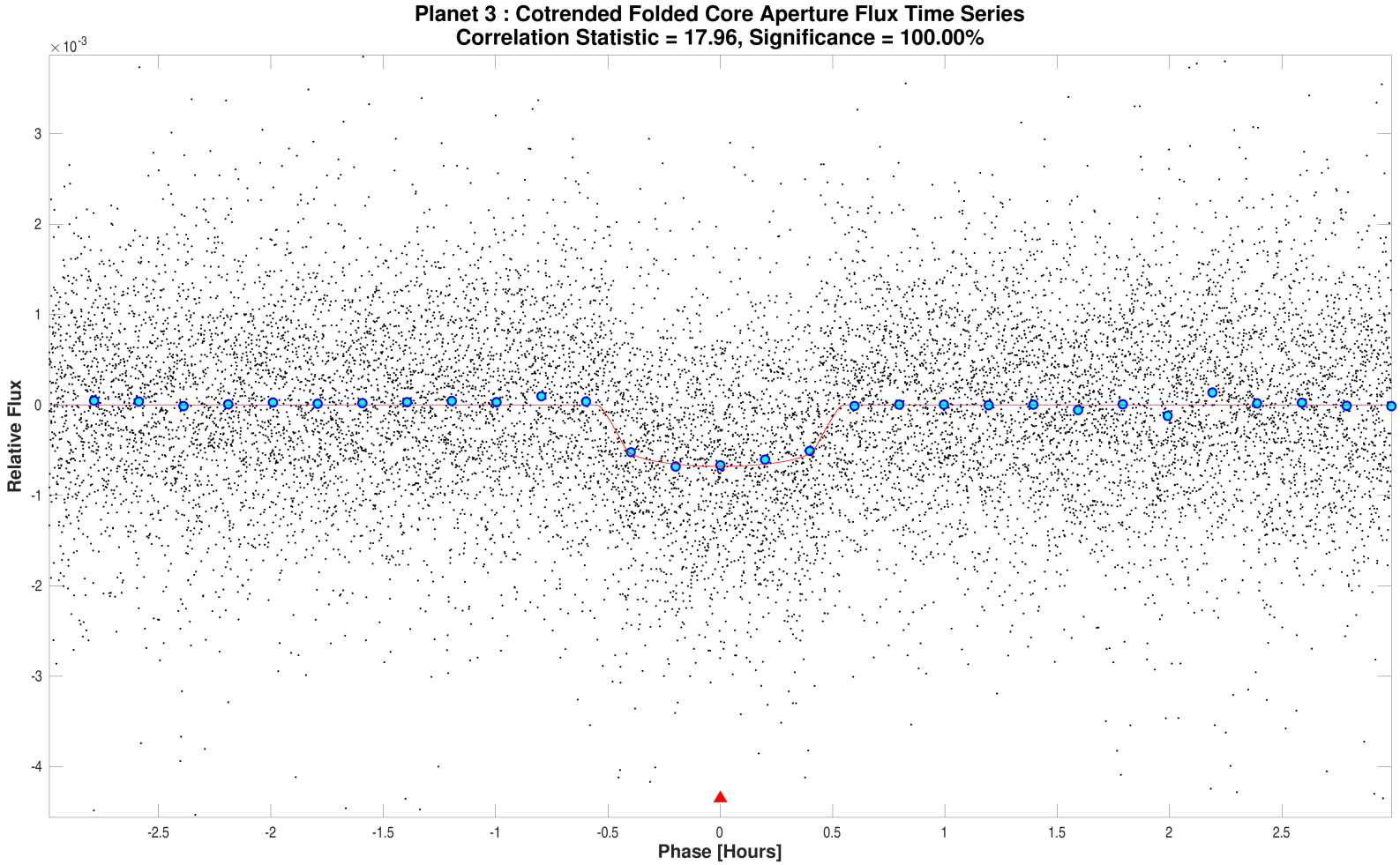
9.4.5 Validation Test Figures



The primary event has been set to zero and both the max and min of the resulting MES vs. Phase are marked with a red star. The best matched pulse duration in hours is 1. The maximum secondary MES and corresponding phase are 2.4557 and 1.3903 days respectively. The minimum secondary MES and corresponding phase are -2.8279 and 1.6559 days respectively.
Open `./planet-03/report-summary/0000000307210830-03-weak-secondary-diagnostic.fig`

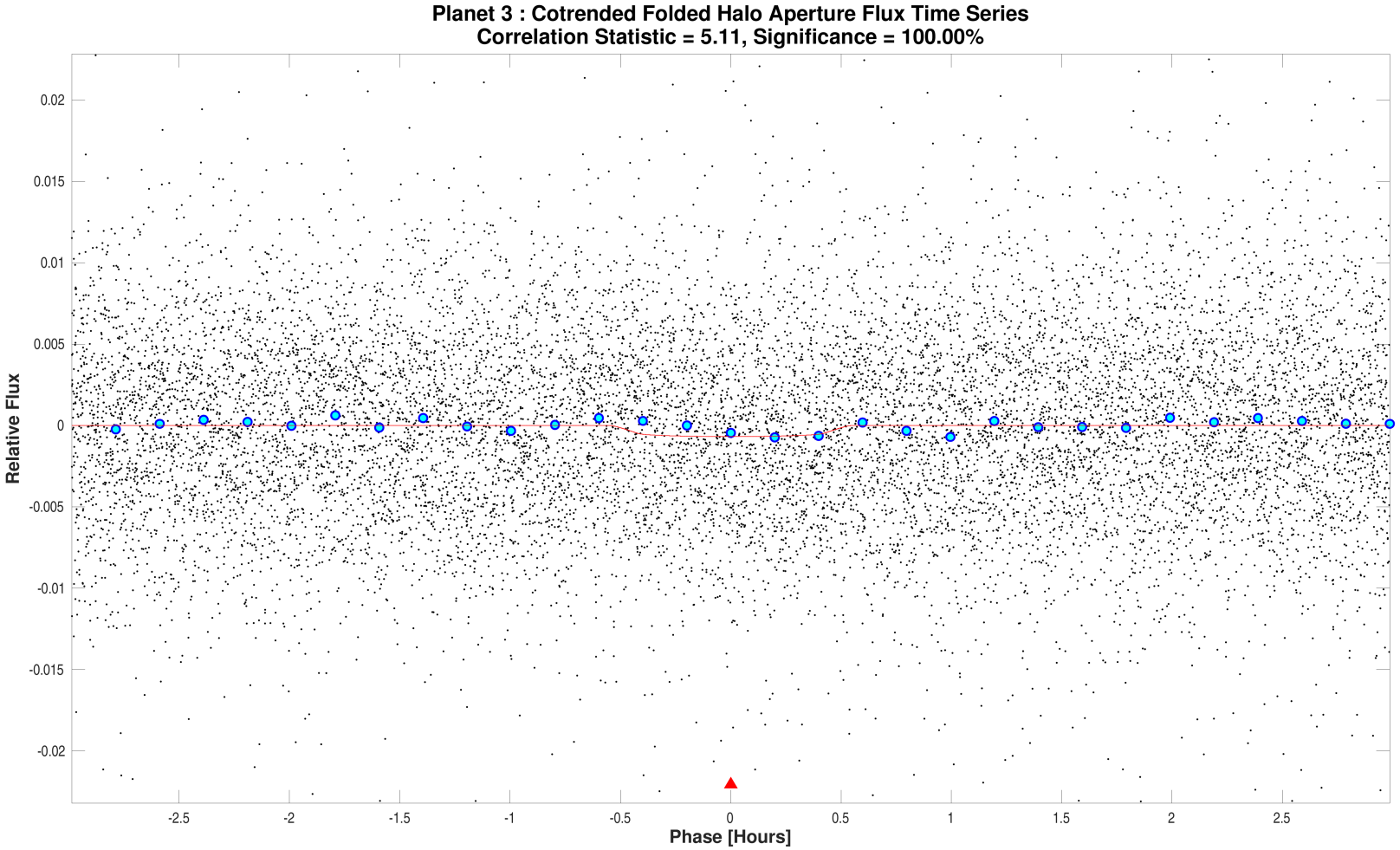


Bootstrap results for target 307210830, planet 3. Cumulative sum of the probabilities (derived from the histogram of counts) from upper tail to the search transit threshold; false alarm probability is indicated by the star. The Gaussian equivalent threshold for this false alarm probability is 26.7768. The threshold on this distribution that achieves the same false alarm rate as a 7.1 sigma threshold on a Gaussian distribution is 6.7775.
Open `./planet-03/bootstrap-results/0000000307210830-03-bootstrap-false-alarm.fig`



Optical ghost diagnostic core aperture flux time series for target 307210830, planet candidate 3. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the core aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

Open `./planet-03/ghost-diagnostic-results/0000000307210830-03-core-unwhitened-cotrended-zoomed-model.fig`

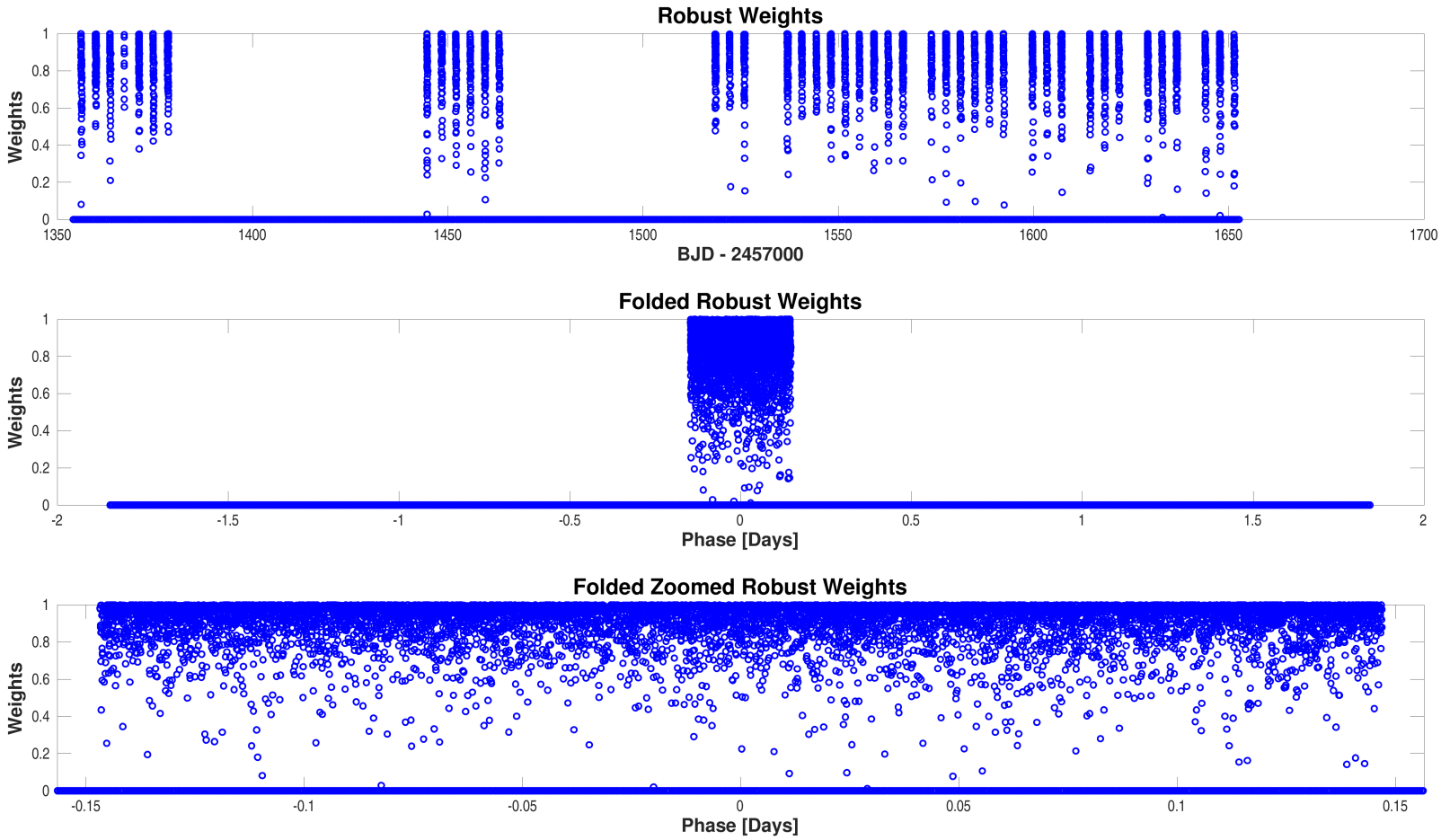


Optical ghost diagnostic halo aperture flux time series for target 307210830, planet candidate 3. The unwhitened time series is phase folded at the orbital period associated with the planet candidate and centered on the epoch of the first transit. The time series was first cotrended against spacecraft engineering data, motion proxies, and/or cotrending basis vectors (CBVs) to remove systematic effects. Flux time series data represent the mean per pixel flux in the core or haloaperture; phase folded data points are shown in the figure with black dots. Binned and averaged phase folded flux values are marked with filled blue circles. The unwhitened transit model light curve is displayed in the figure with a red line. The value and significance of the halo aperture correlation statistic are displayed in the figure title if the statistic was successfully computed.

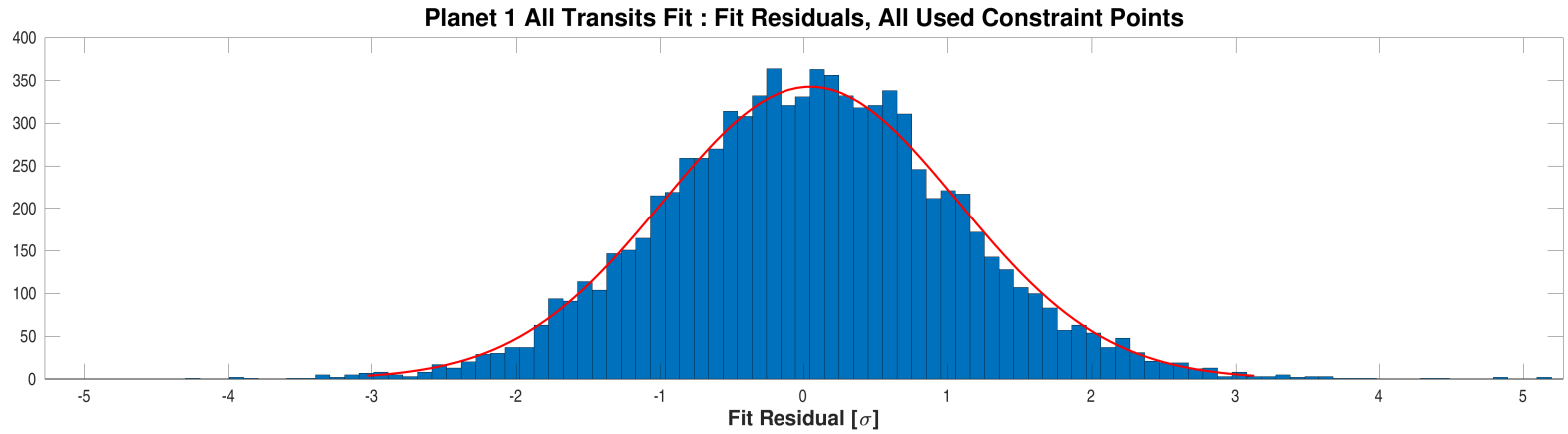
Open `./planet-03/ghost-diagnostic-results/0000000307210830-03-halo-unwhitened-cotrended-zoomed-model.fig`

Appendix A Planet Candidate 1

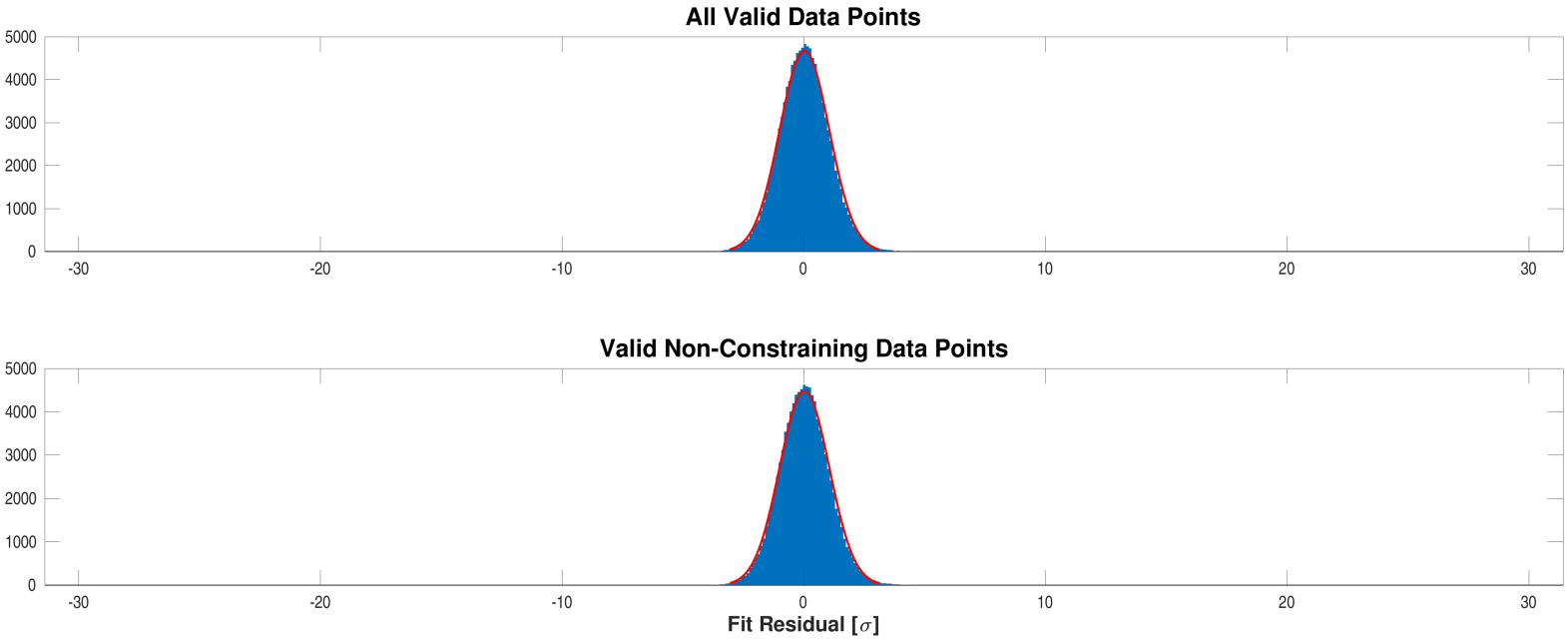
A.1 Model Fitter: All Transits



Robust weights distribution for CatId 307210830, Planet candidate 1. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-robust-weights.fig`



Fit residuals distribution for CatId 307210830, Planet candidate 1. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-histo-used.fig`

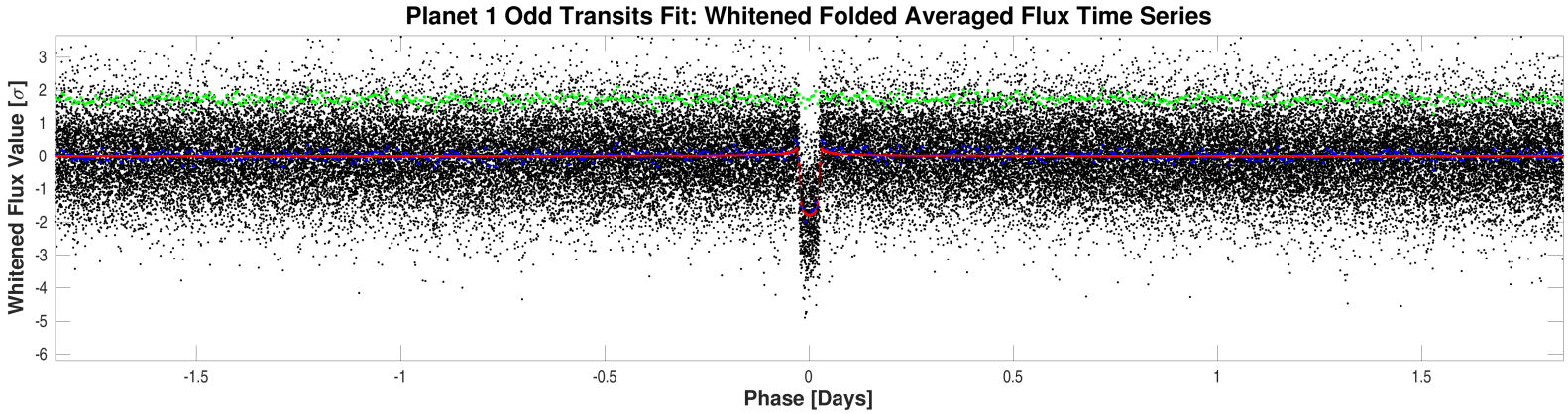


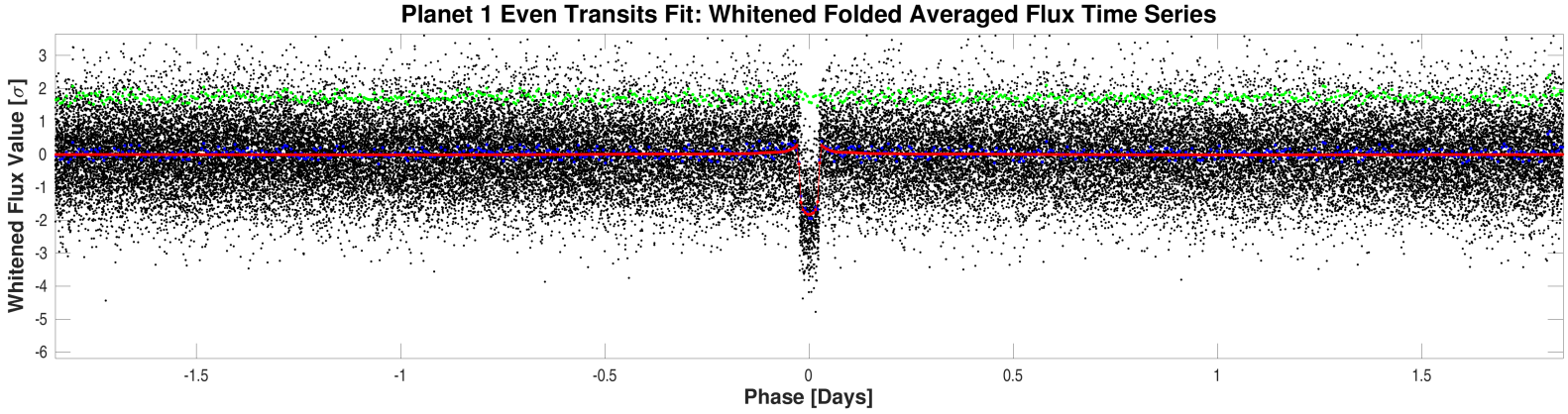
Fit residuals distribution for CatId 307210830, Planet candidate 1. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-01-all-histo-all-and-unused.fig`

A.2 Model Fitter: Odd & Even Transits

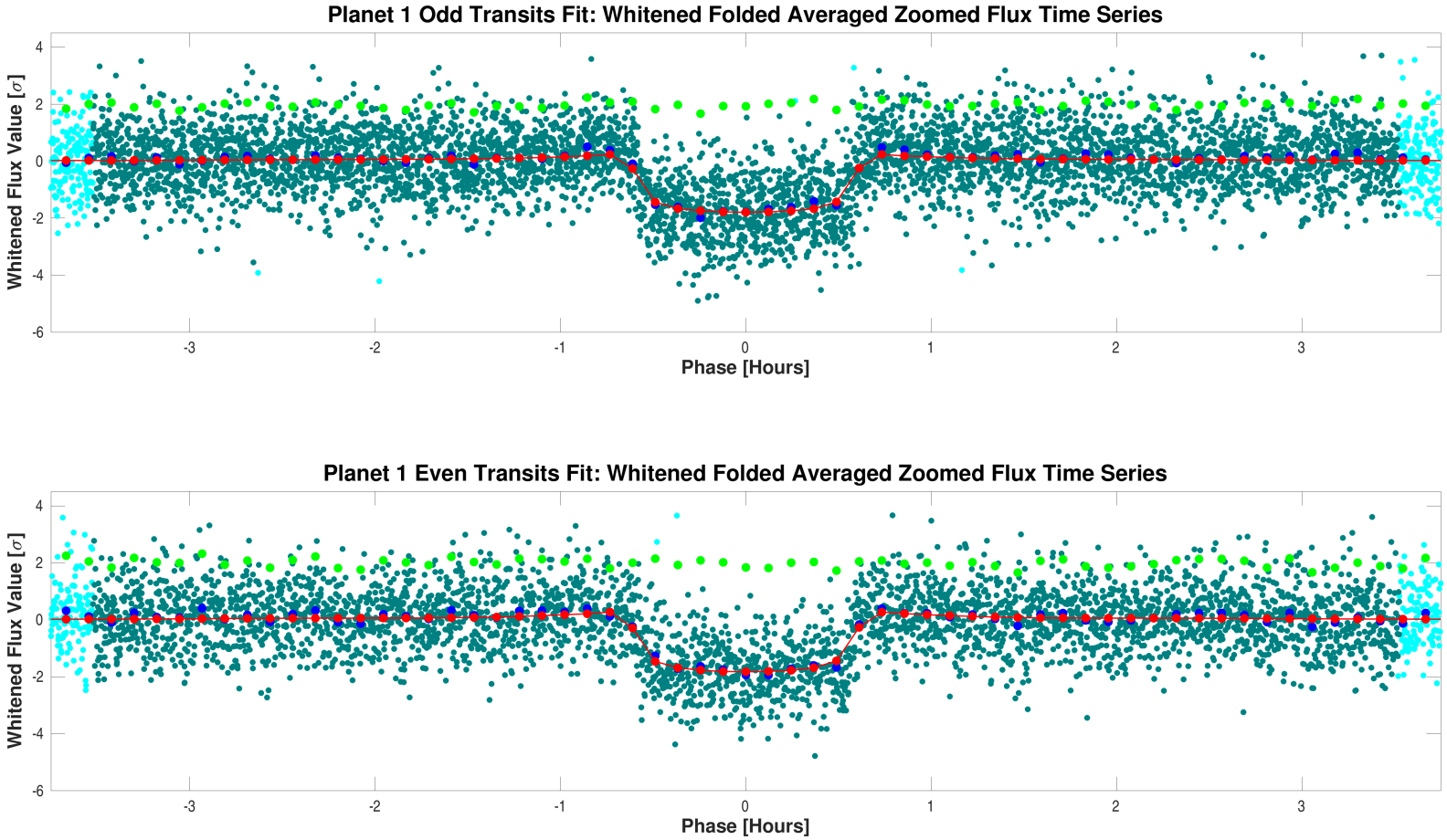
Parameter	Odd Transits Value	Odd Transits Uncertainty	Even Transits Value	Even Transits Uncertainty	Units	Difference / Uncertainty
SNR	45.5		40.4			
Orbital Period	3.6906375	7.6844e-06	3.6906376	9.4820e-06	days	8.2091e-03
Transit Epoch	1356.2031613	3.3222e-04	1359.8936739	3.9288e-04	BTJD	2.4365e-01
Impact Parameter	0.5005	1.0483e+00	0.4962	1.1777e+00		2.7636e-03
Planet Radius to Star Radius Ratio	0.0400406	5.1624e-03	0.0402193	5.7379e-03		2.3146e-02
Semi-major Axis to Star Radius Ratio	20.5850	1.4337e+01	20.5381	1.5843e+01		2.1970e-03
Planet Radius	1.3682	1.8074e-01	1.3743	2.0001e-01	Earth radii	2.2646e-02
Semi-major Axis	0.0317	1.5568e-03	0.0317	1.5568e-03	AU	2.6051e-07
Effective Stellar Flux	12.6558	1.5343e+00	12.6558	1.5343e+00	Goldilocks	2.1111e-07
Equilibrium Temperature	481	1.4580e+01	481	1.4580e+01	Kelvin	2.1111e-07
Stellar Density	8.6038	1.7977e+01	8.5450	1.9775e+01	Solar density	2.1975e-03
Transit Depth	1791	4.3020e+01	1809	4.8946e+01	ppm	2.7510e-01
Transit Duration	1.2495	9.2503e-02	1.2559	1.0308e-01	hours	4.6224e-02
Transit Ingress Duration	0.0634	9.7022e-02	0.0637	1.0785e-01	hours	1.6845e-03
Eccentricity	0.0000	0.0000e+00	0.0000	0.0000e+00		
Peri Longitude	0.0000	0.0000e+00	0.0000	0.0000e+00	degrees	
Model Chi Square Statistic (DoF)	6652.5 (7949.4)		6652.5 (7949.4)			

DoF: Degrees of Freedom

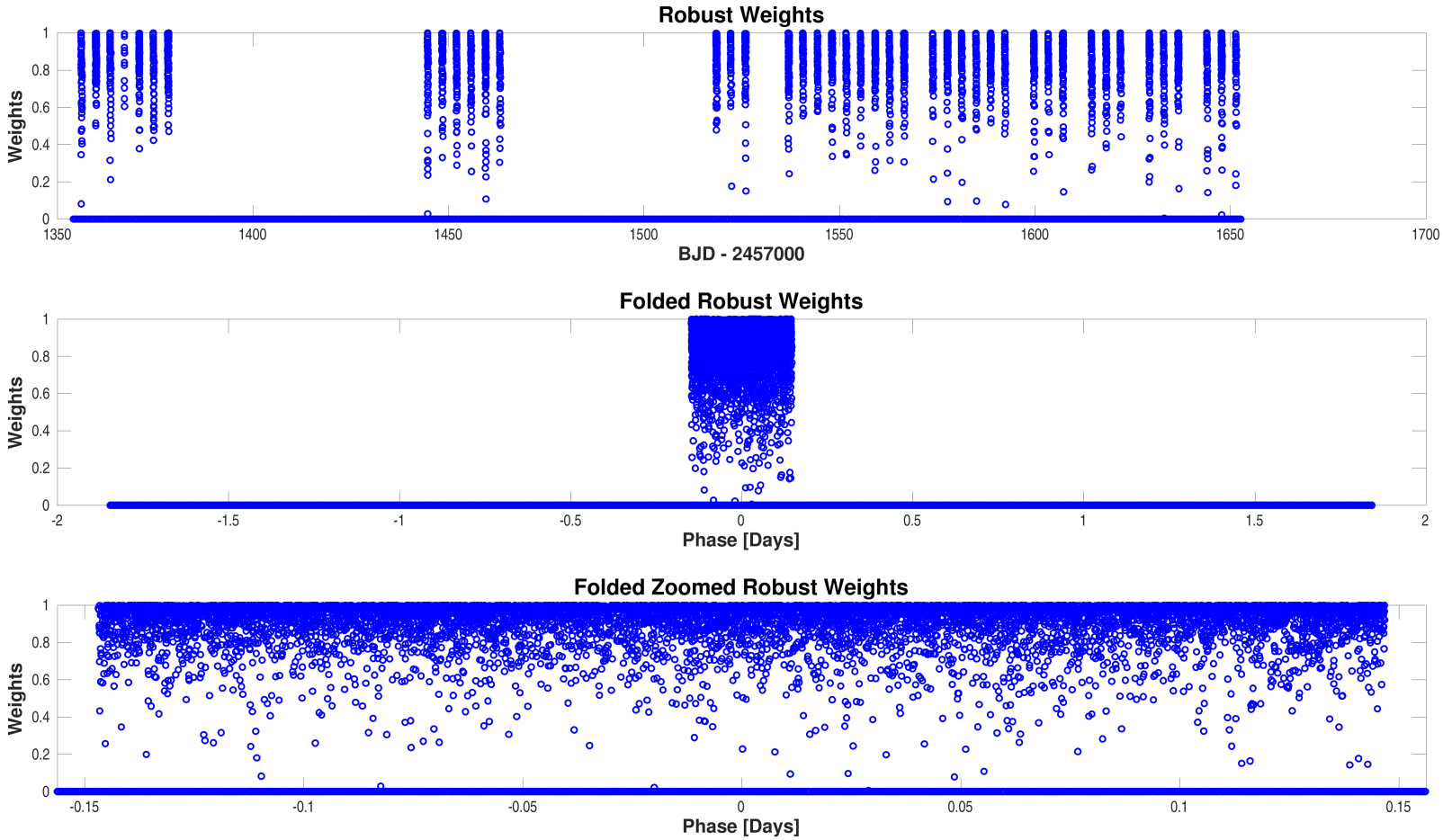




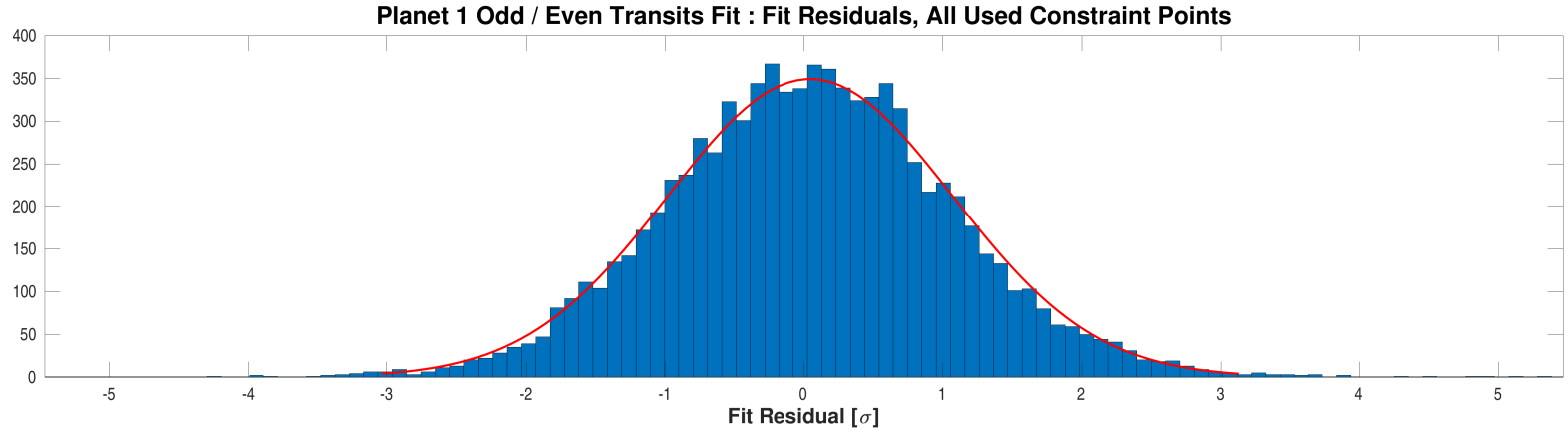
Folded flux time series for CatId 307210830, Planet candidate 1 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-01-odd-even-whitened.fig`



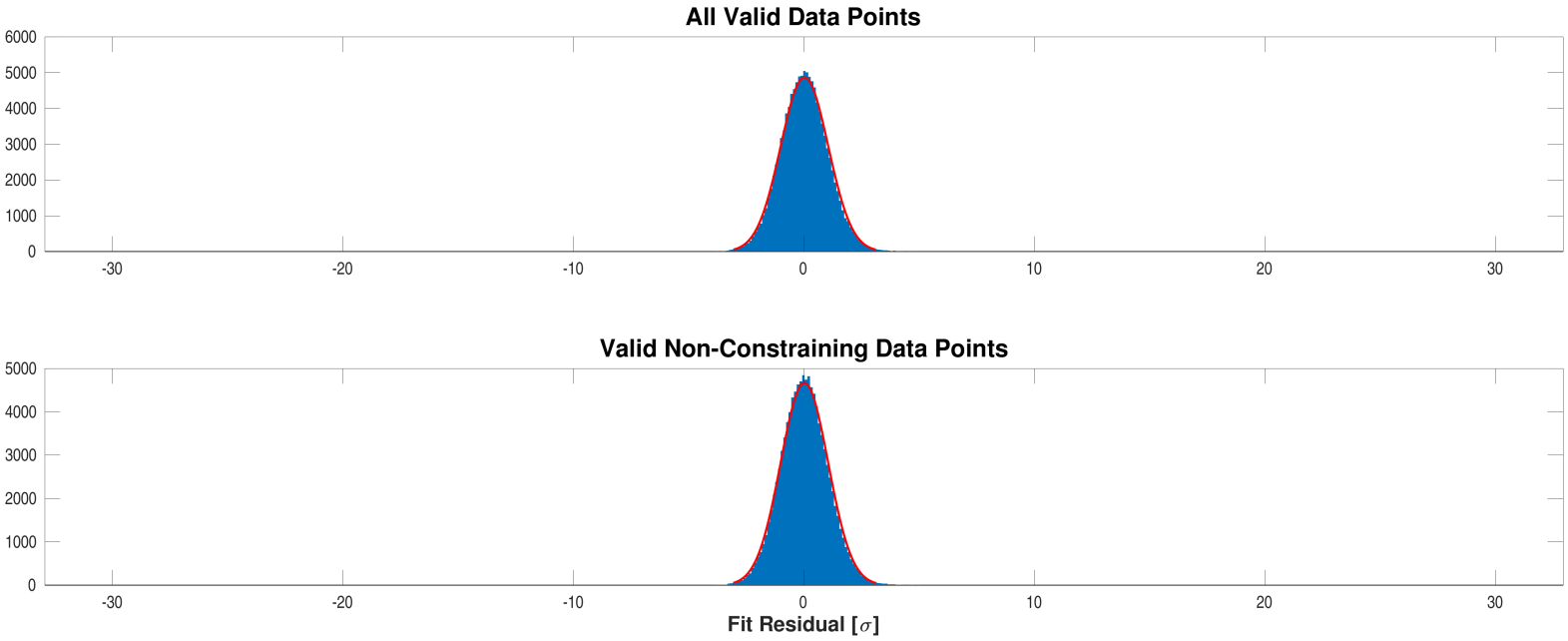
Folded flux time series for CatId 307210830, Planet candidate 1 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-01-odd-even-whitened-zoomed.fig`



Robust weights distribution for CatId 307210830, Planet candidate 1. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-01-odd-even-robust-weights.fig`

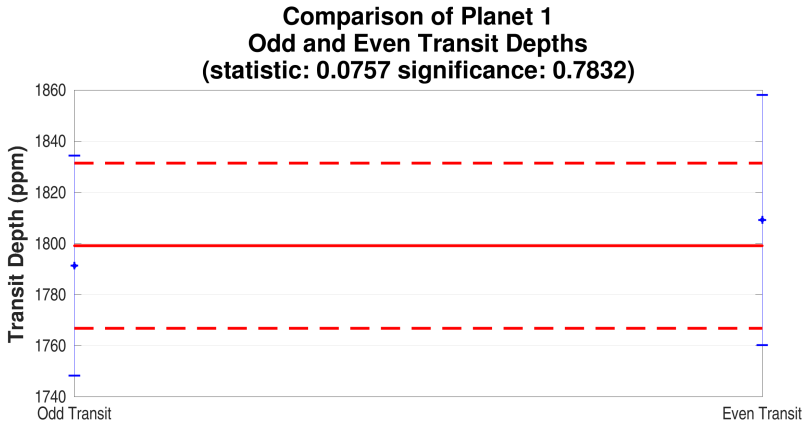


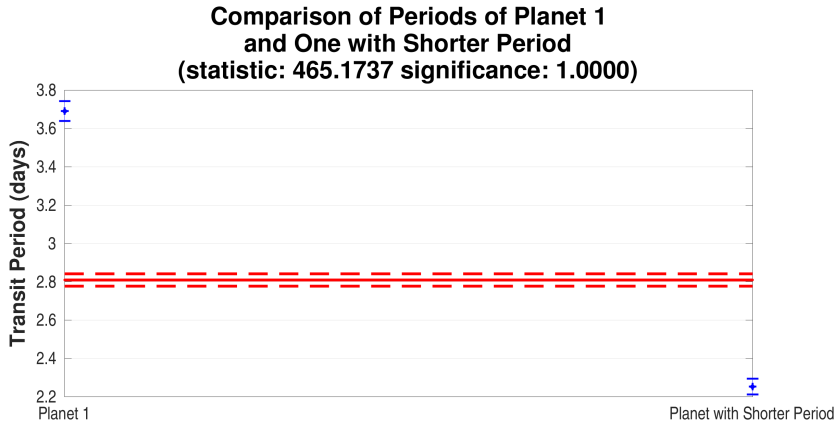
Fit residuals distribution for CatId 307210830, Planet candidate 1. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-01-odd-even-histo-used.fig`

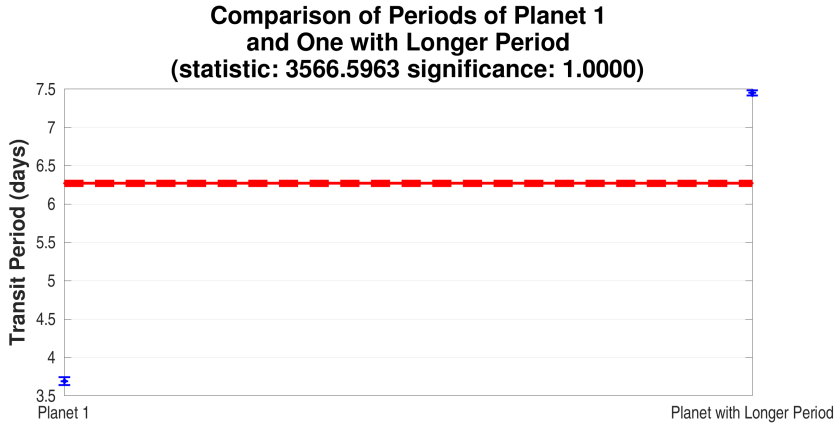


Fit residuals distribution for CatId 307210830, Planet candidate 1. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-01-odd-even-histo-all-and-unused.fig`

A.3 Eclipsing Binary Discrimination Test



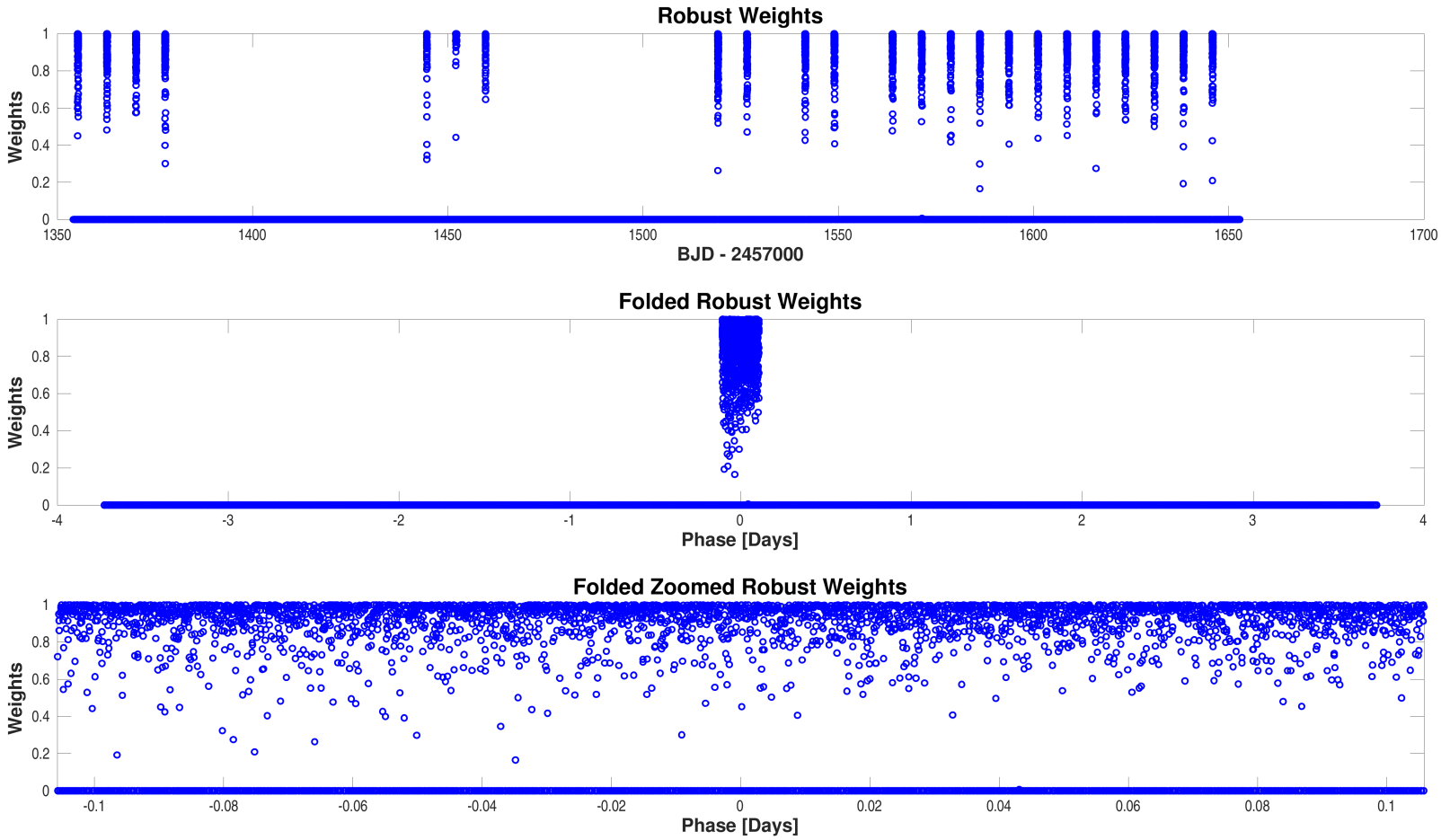




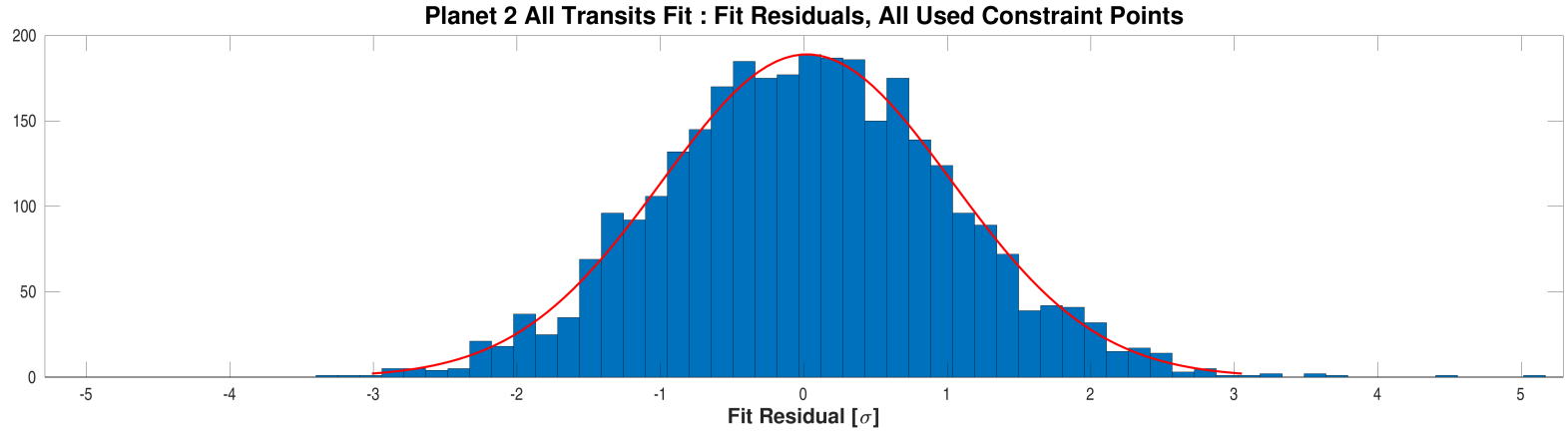
Top-left: Diagnostic plot of Odd/Even Transit Depth Test for catId 307210830, planet 1. A significance level close to 1/0 favors a transiting planet/an eclipsing binary. Top-right: Diagnostic plot of Orbital Period Test for catId 307210830. Orbital periods of planet 1 and the planet with shorter period are compared. A significance level close to 1/0 favors a transiting planet/an eclipsing binary. Bottom-left: Diagnostic plot of Orbital Period Test for catId 307210830. Orbital periods of planet 1 and the planet with longer period are compared. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.
Open `./planet-01/binary-discrimination-test-results/0000000307210830-01-eclipsing-binary-discrimination-tests.fig`

Appendix B Planet Candidate 2

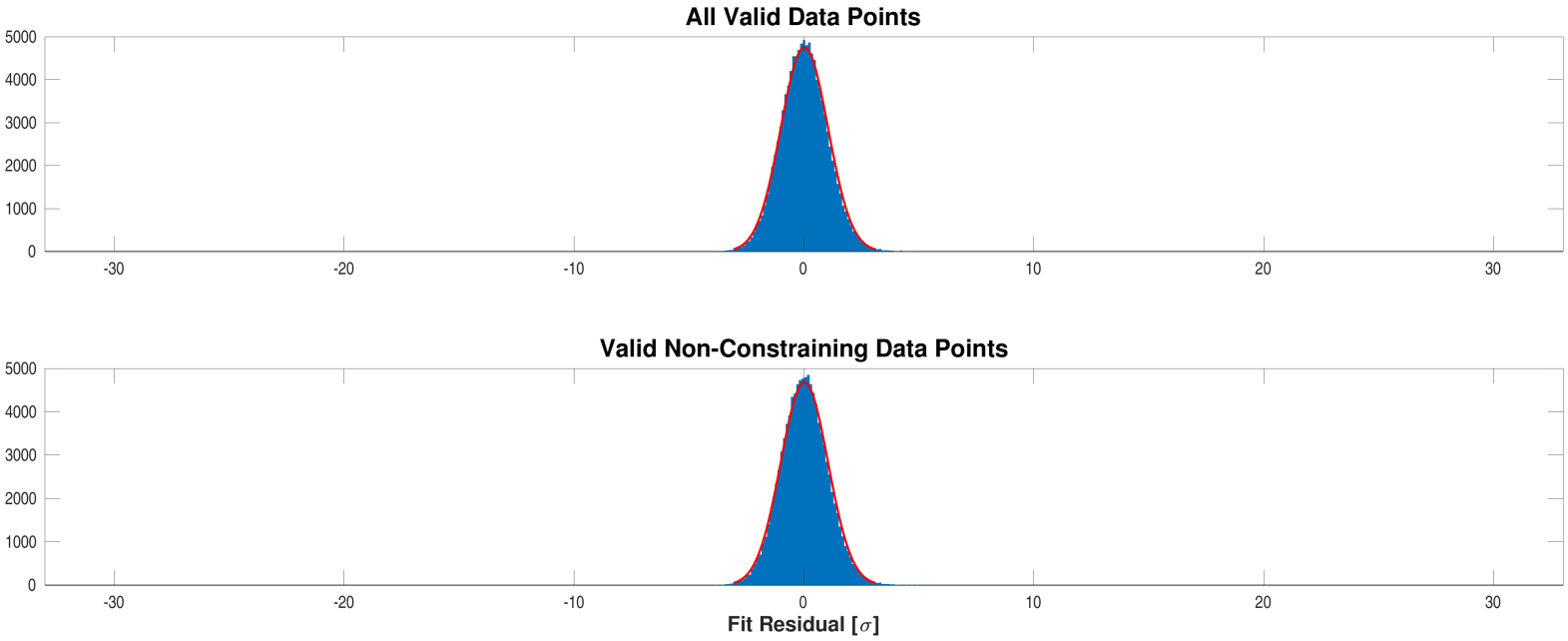
B.1 Model Fitter: All Transits



Robust weights distribution for CatId 307210830, Planet candidate 2. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-robust-weights.fig`



Fit residuals distribution for CatId 307210830, Planet candidate 2. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-histo-used.fig`

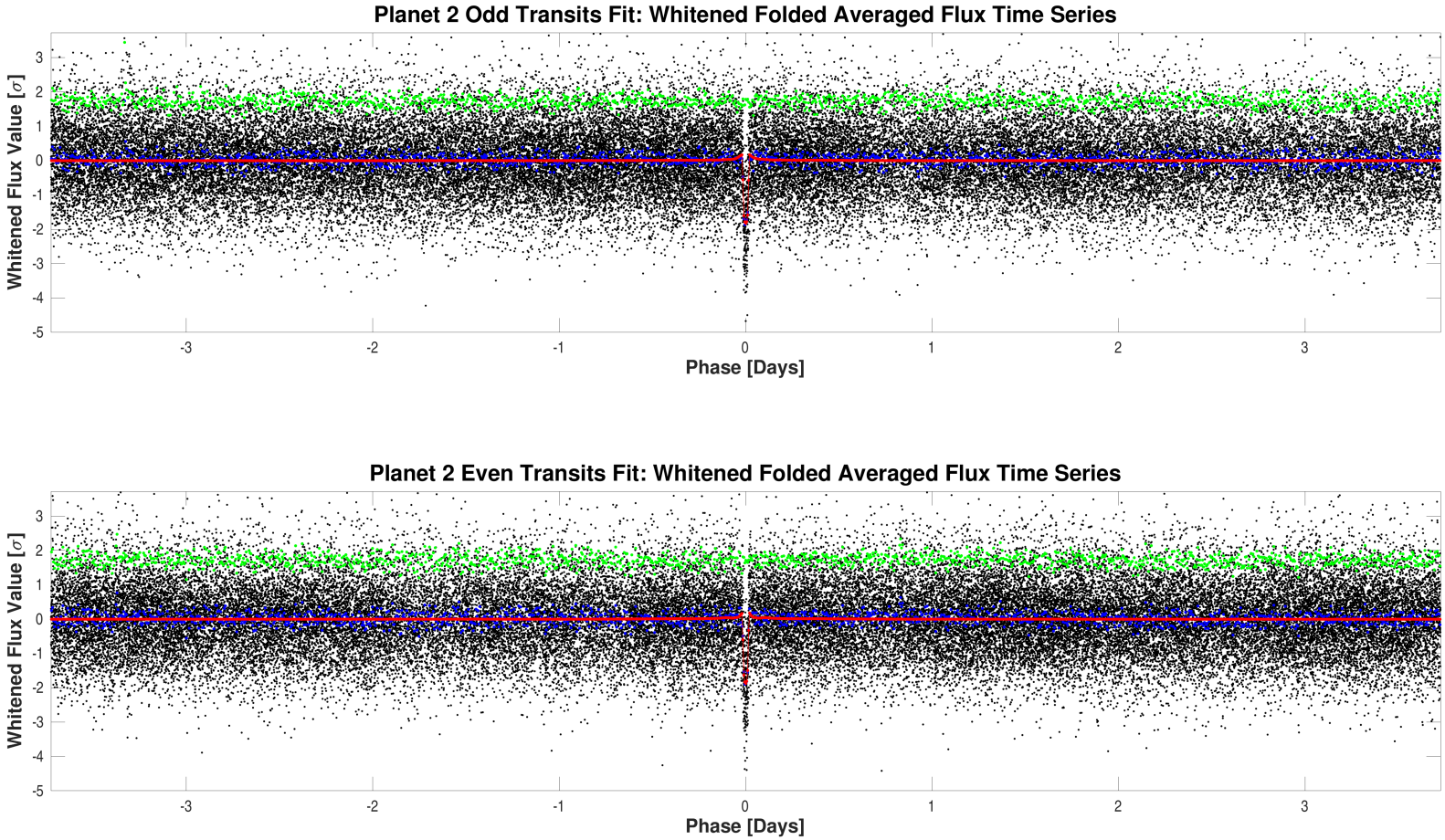


Fit residuals distribution for CatId 307210830, Planet candidate 2. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-02-all-histo-all-and-unused.fig`

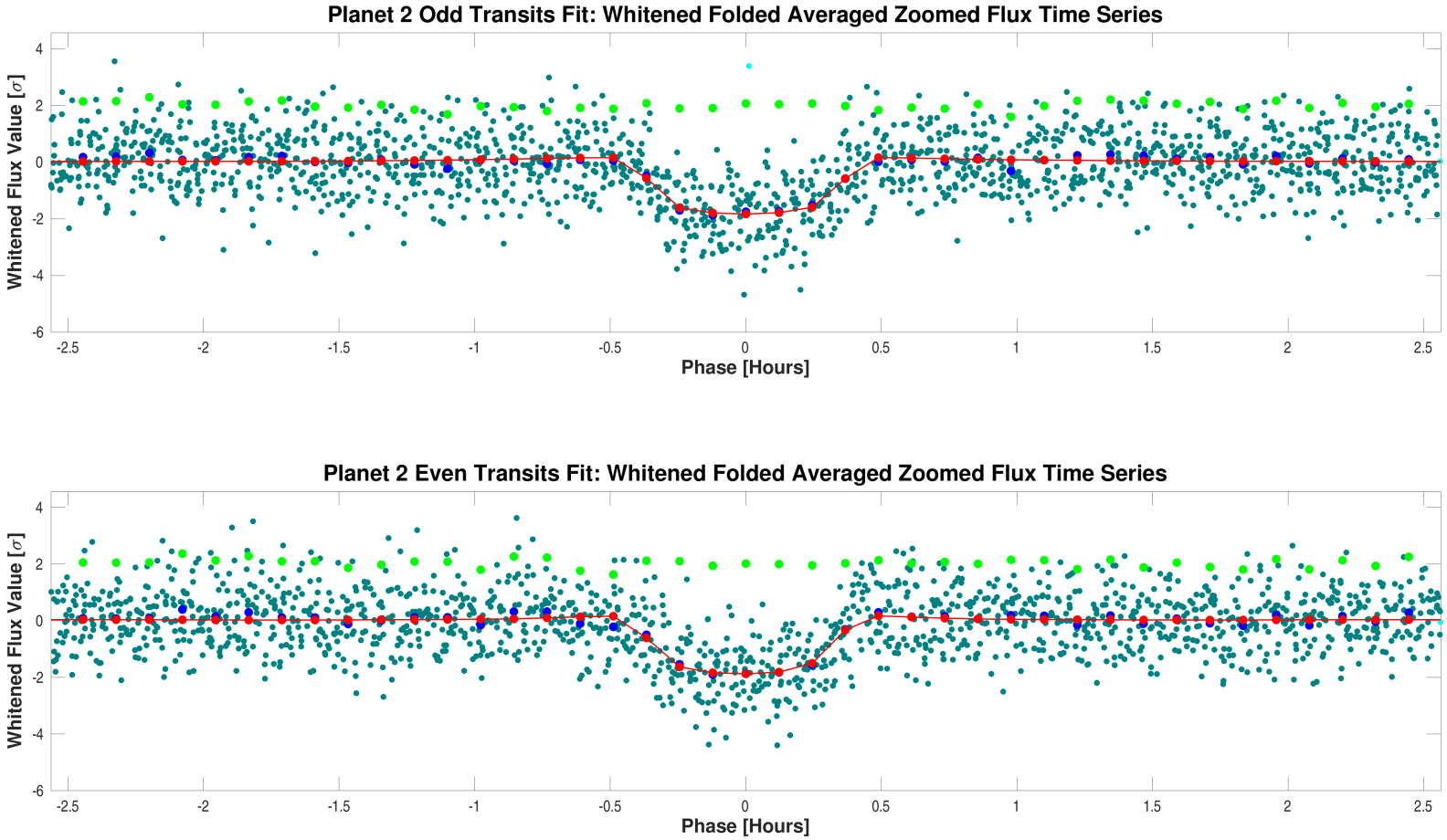
B.2 Model Fitter: Odd & Even Transits

Parameter	Odd Transits Value	Odd Transits Uncertainty	Even Transits Value	Even Transits Uncertainty	Units	Difference / Uncertainty
SNR	23.4		23.2			
Orbital Period	7.4508205	3.0164e-05	7.4507932	3.0112e-05	days	6.4115e-01
Transit Epoch	1355.2873110	7.4305e-04	1362.7383024	7.5125e-04	BTJD	1.7705e-01
Impact Parameter	0.8696	1.0199e-01	0.8833	7.6663e-02		1.0745e-01
Planet Radius to Star Radius Ratio	0.0423546	3.1700e-03	0.0436917	2.8722e-03		3.1256e-01
Semi-major Axis to Star Radius Ratio	38.3097	1.3825e+01	37.5985	1.1462e+01		3.9601e-02
Planet Radius	1.4473	1.1604e-01	1.4930	1.0712e-01	Earth radii	2.8929e-01
Semi-major Axis	0.0506	2.4868e-03	0.0506	2.4868e-03	AU	3.5195e-05
Effective Stellar Flux	4.9600	6.0134e-01	4.9601	6.0134e-01	Goldilocks	2.8522e-05
Equilibrium Temperature	381	1.1536e+01	381	1.1536e+01	Kelvin	2.8522e-05
Stellar Density	13.6067	1.4730e+01	12.8630	1.1764e+01	Solar density	3.9450e-02
Transit Depth	1632	7.7916e+01	1704	8.2331e+01	ppm	6.3203e-01
Transit Duration	0.8541	8.9632e-02	0.8418	8.2575e-02	hours	1.0081e-01
Transit Ingress Duration	0.1290	1.0560e-01	0.1435	1.0050e-01	hours	9.9120e-02
Eccentricity	0.0000	0.0000e+00	0.0000	0.0000e+00		
Peri Longitude	0.0000	0.0000e+00	0.0000	0.0000e+00	degrees	
Model Chi Square Statistic (DoF)	2449.2 (2924.9)		2449.2 (2924.9)			

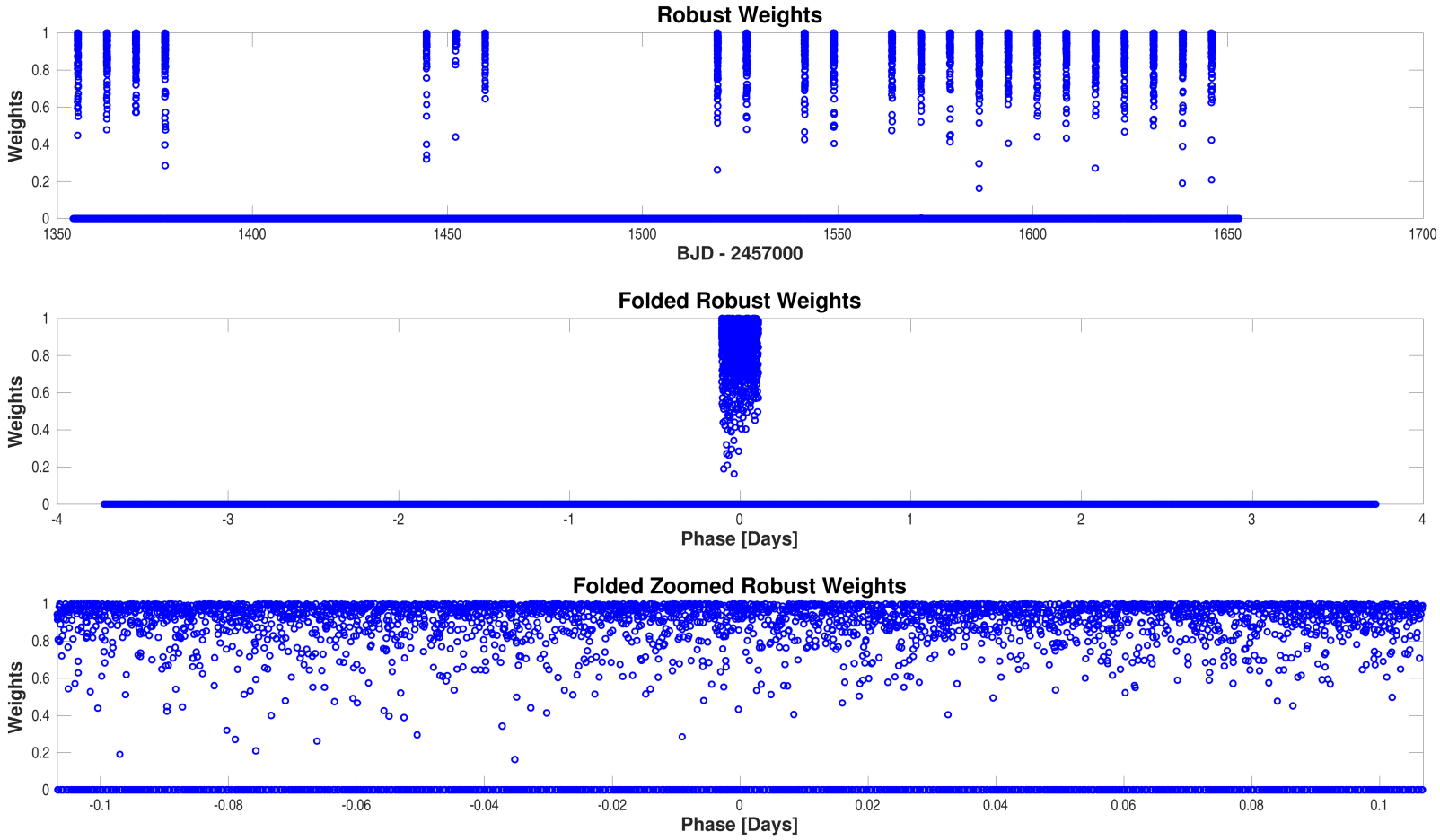
DoF: Degrees of Freedom



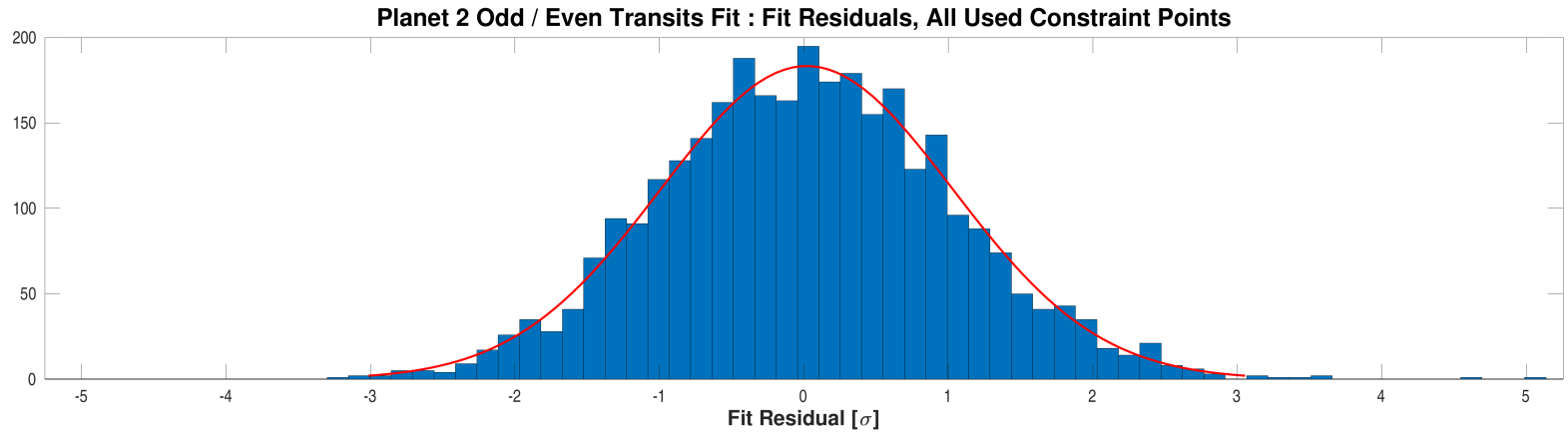
Folded flux time series for CatId 307210830, Planet candidate 2 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-02-odd-even-whitened.fig`



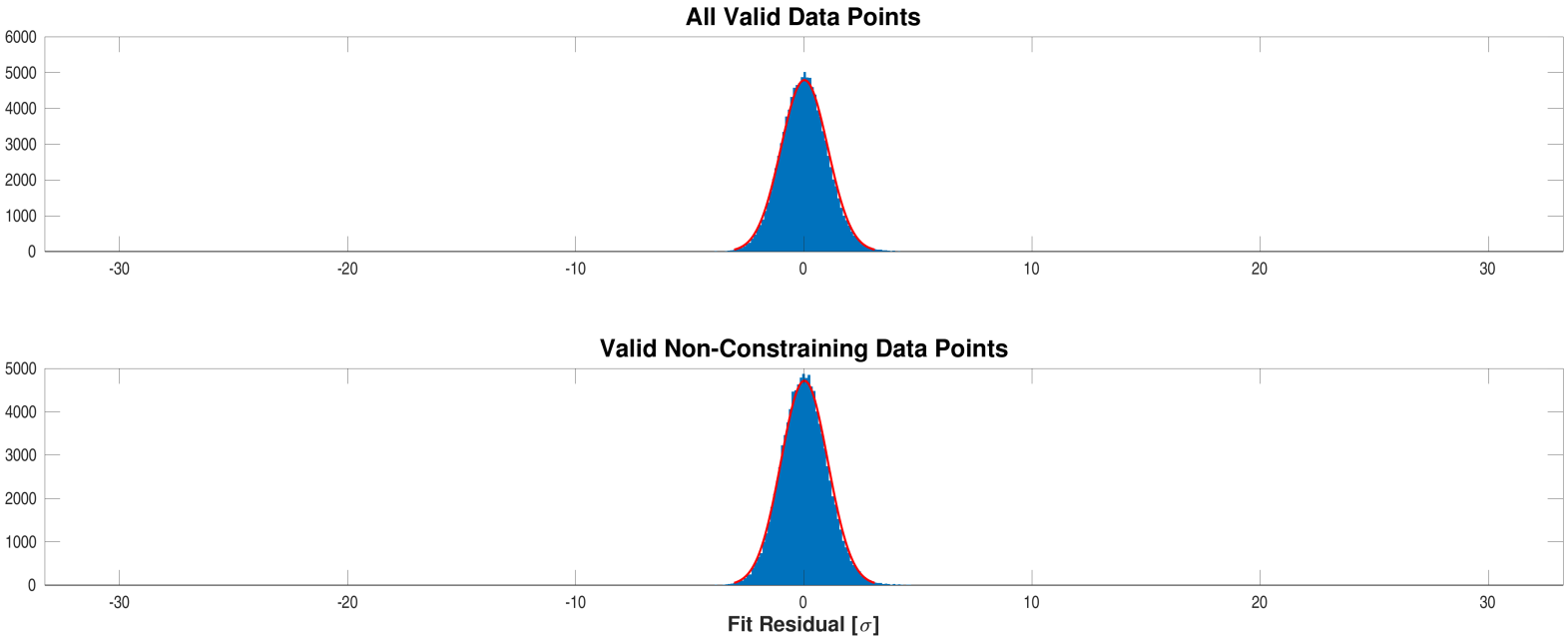
Folded flux time series for CatId 307210830, Planet candidate 2 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-02-odd-even-whitened-zoomed.fig`



Robust weights distribution for CatId 307210830, Planet candidate 2. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-02-odd-even-robust-weights.fig`

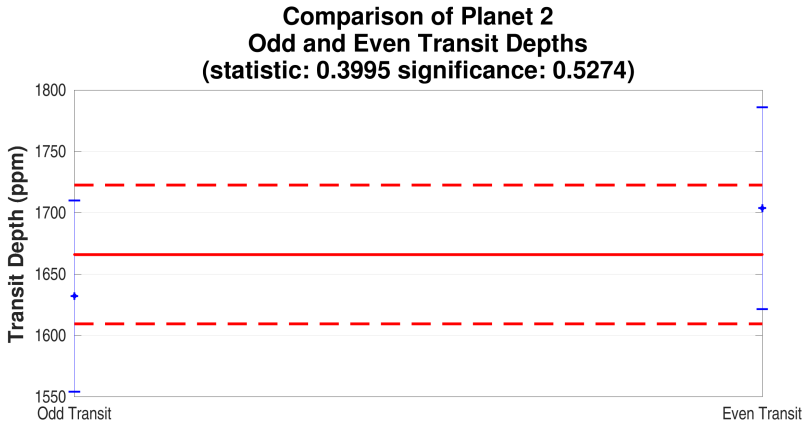


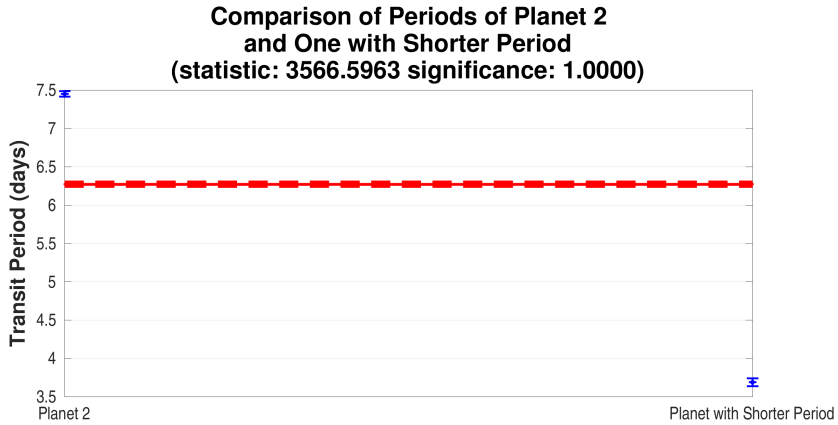
Fit residuals distribution for CatId 307210830, Planet candidate 2. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-02-odd-even-histo-used.fig`



Fit residuals distribution for CatId 307210830, Planet candidate 2. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-02-odd-even-histo-all-and-unused.fig`

B.3 Eclipsing Binary Discrimination Test

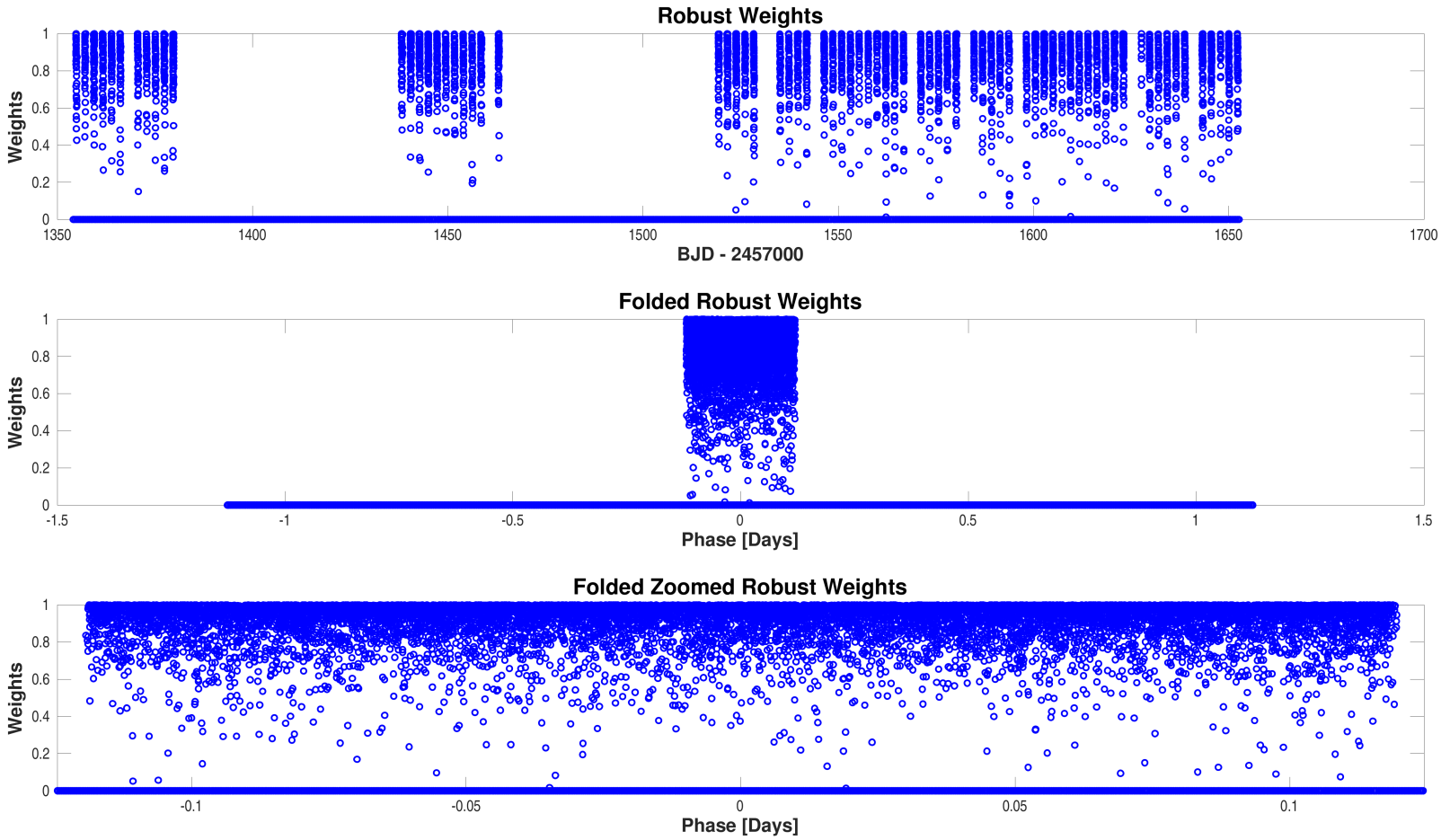




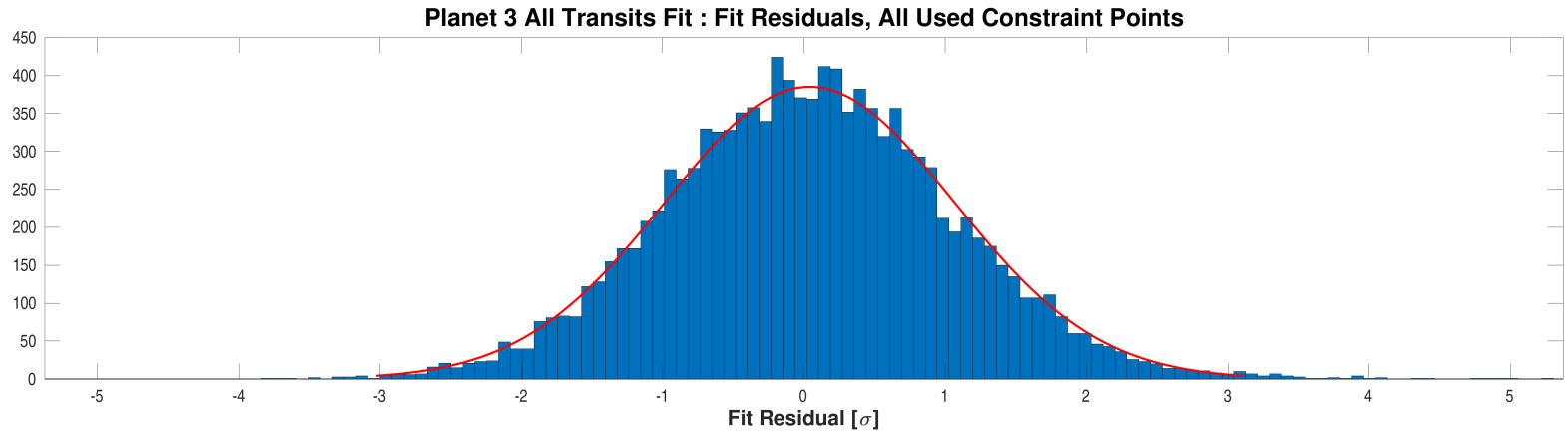
Top-left: Diagnostic plot of Odd/Even Transit Depth Test for catId 307210830, planet 2. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.
Top-right: Diagnostic plot of Orbital Period Test for catId 307210830. Orbital periods of planet 2 and the planet with shorter period are compared. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.
Open `./planet-02/binary-discrimination-test-results/0000000307210830-02-eclipsing-binary-discrimination-tests.fig`

Appendix C Planet Candidate 3

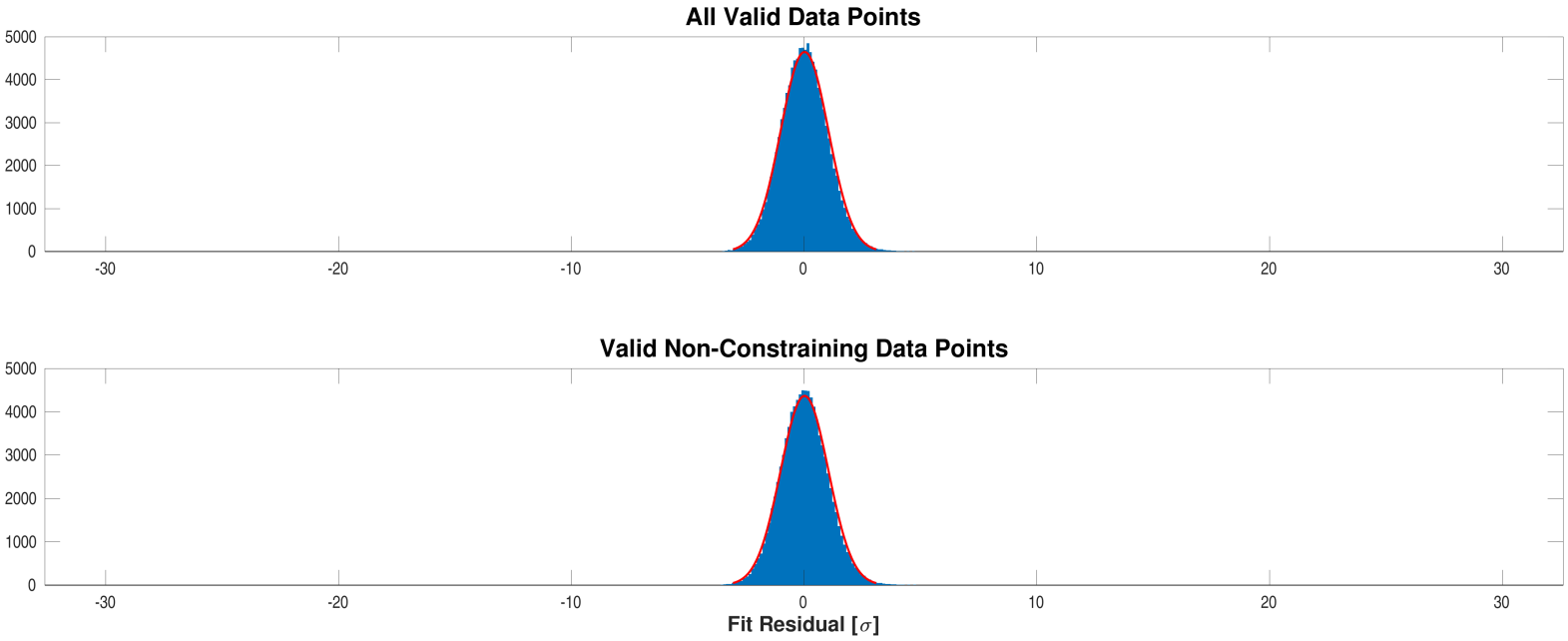
C.1 Model Fitter: All Transits



Robust weights distribution for CatId 307210830, Planet candidate 3. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-robust-weights.fig`



Fit residuals distribution for CatId 307210830, Planet candidate 3. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-histo-used.fig`

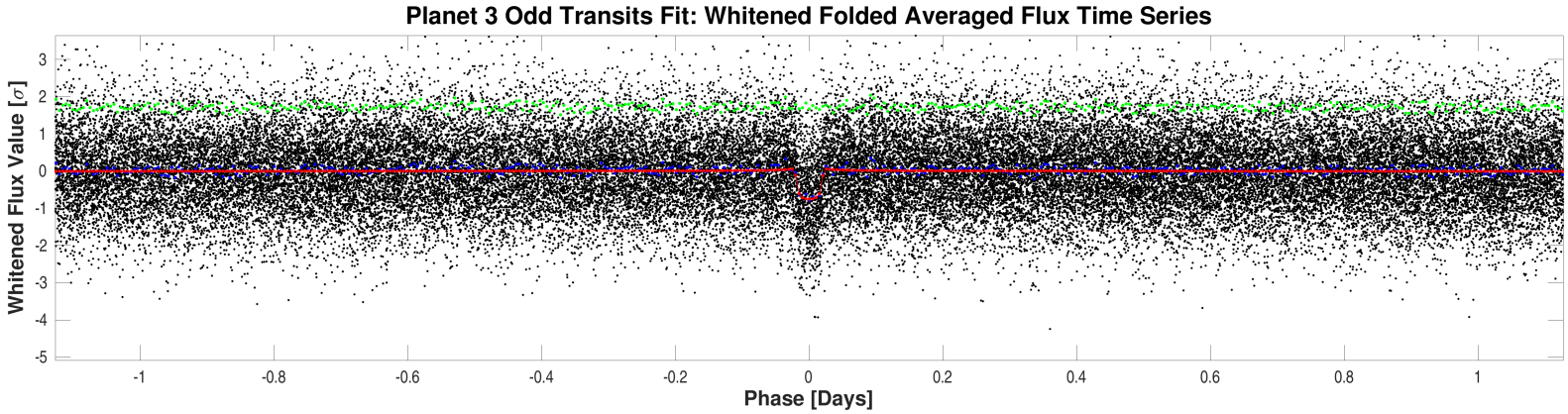


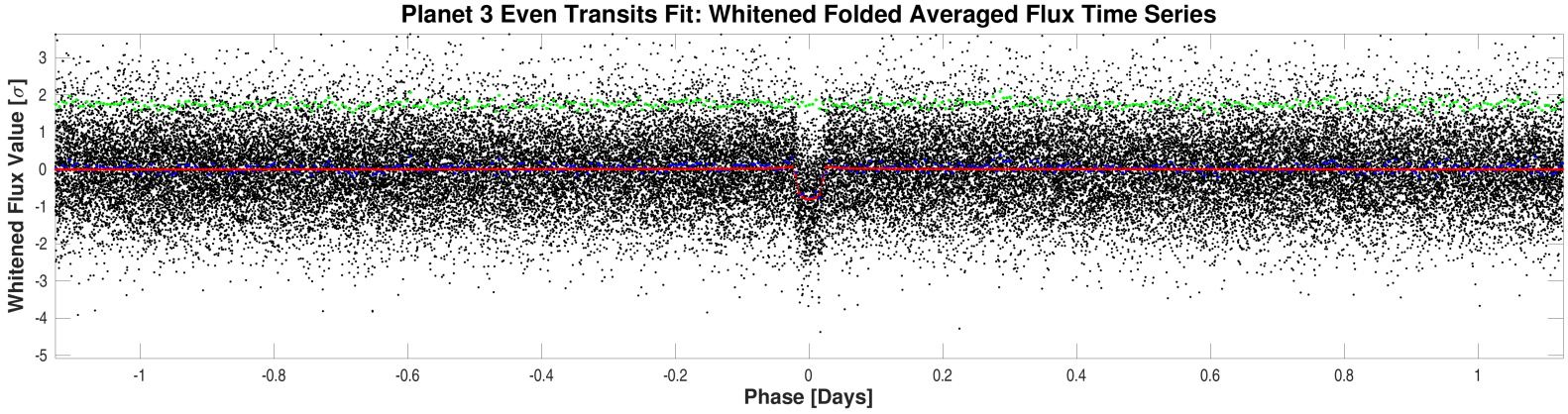
Fit residuals distribution for CatId 307210830, Planet candidate 3. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-03/planet-search-and-model-fitting-results/all-transits-fit/0000000307210830-03-all-histo-all-and-unused.fig`

C.2 Model Fitter: Odd & Even Transits

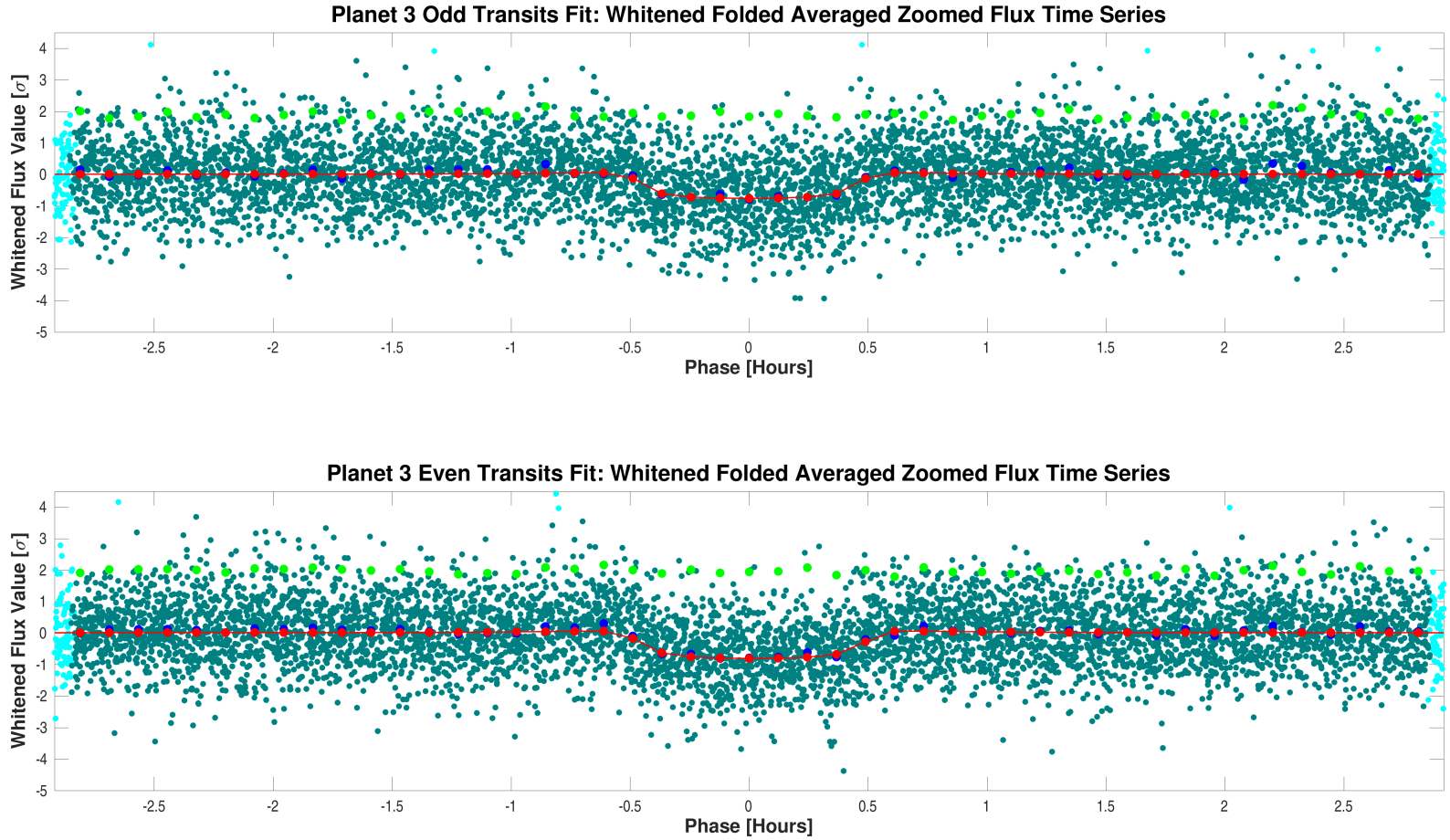
Parameter	Odd Transits Value	Odd Transits Uncertainty	Even Transits Value	Even Transits Uncertainty	Units	Difference / ‖Uncertainty‖
SNR	20.2		21.7			
Orbital Period	2.2530801	1.0076e-05	2.2531143	9.7960e-06	days	2.4337e+00
Transit Epoch	1354.9076295	6.1076e-04	1357.1586628	5.8276e-04	BTJD	2.4486e+00
Impact Parameter	0.6655	1.9670e+00	0.6872	1.4140e+00		8.9829e-03
Planet Radius to Star Radius Ratio	0.0249388	1.0699e-02	0.0259021	8.7214e-03		6.9790e-02
Semi-major Axis to Star Radius Ratio	13.8164	3.2145e+01	12.9730	2.3651e+01		2.1133e-02
Planet Radius	0.8522	3.6642e-01	0.8851	2.9910e-01	Earth radii	6.9595e-02
Semi-major Axis	0.0228	1.1204e-03	0.0228	1.1204e-03	AU	1.4567e-04
Effective Stellar Flux	24.4375	2.9627e+00	24.4370	2.9626e+00	Goldilocks	1.1805e-04
Equilibrium Temperature	567	1.7187e+01	567	1.7187e+01	Kelvin	1.1805e-04
Stellar Density	6.9802	4.8720e+01	5.7782	3.1603e+01	Solar density	2.0698e-02
Transit Depth	658	3.9170e+01	703	3.8164e+01	ppm	8.2145e-01
Transit Duration	0.9728	1.9932e-01	1.0126	1.7882e-01	hours	1.4889e-01
Transit Ingress Duration	0.0418	2.1390e-01	0.0475	1.9076e-01	hours	1.9978e-02
Eccentricity	0.0000	0.0000e+00	0.0000	0.0000e+00		
Peri Longitude	0.0000	0.0000e+00	0.0000	0.0000e+00	degrees	
Model Chi Square Statistic (DoF)	8870.7 (10600.5)		8870.7 (10600.5)			

DoF: Degrees of Freedom

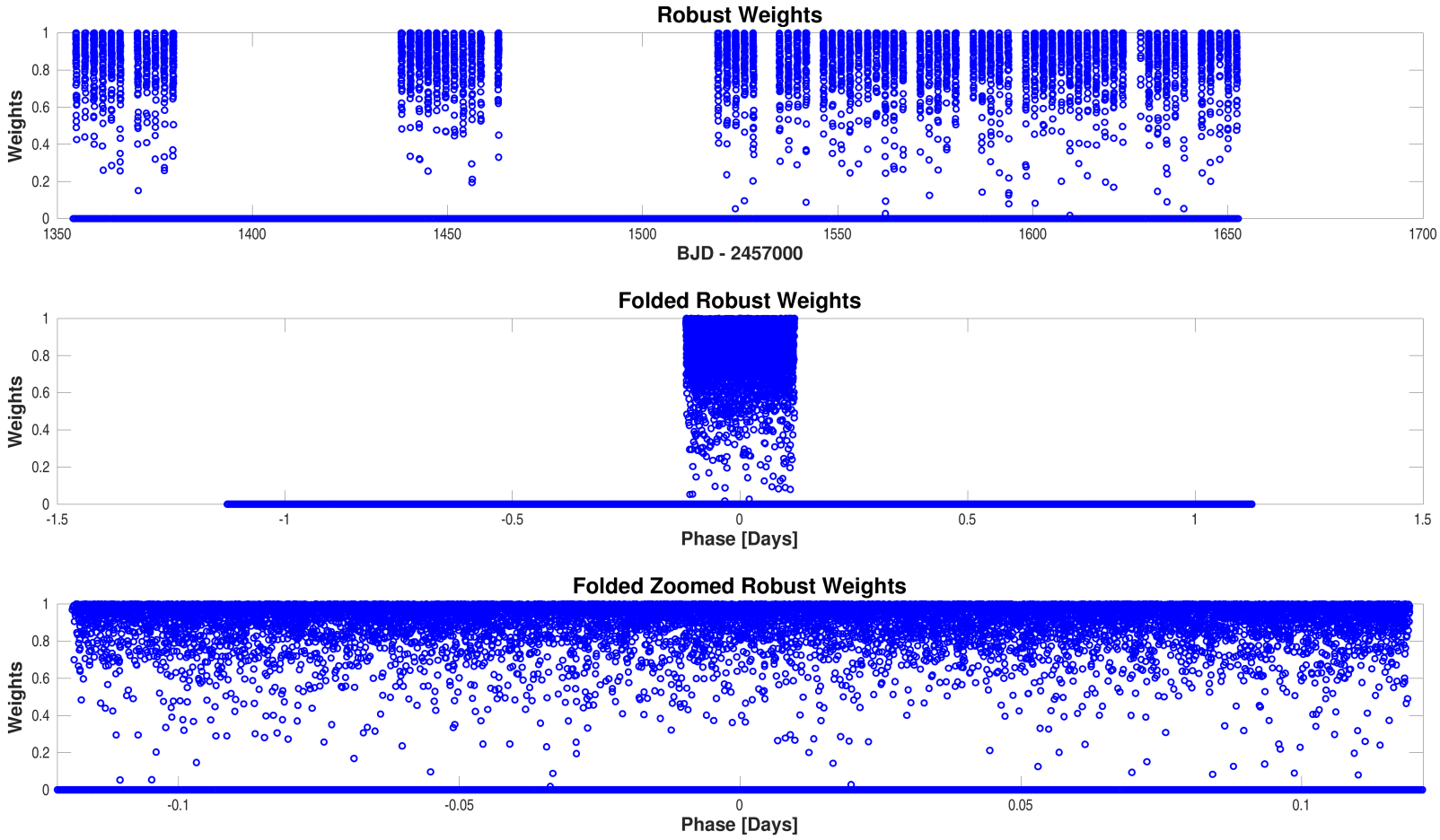




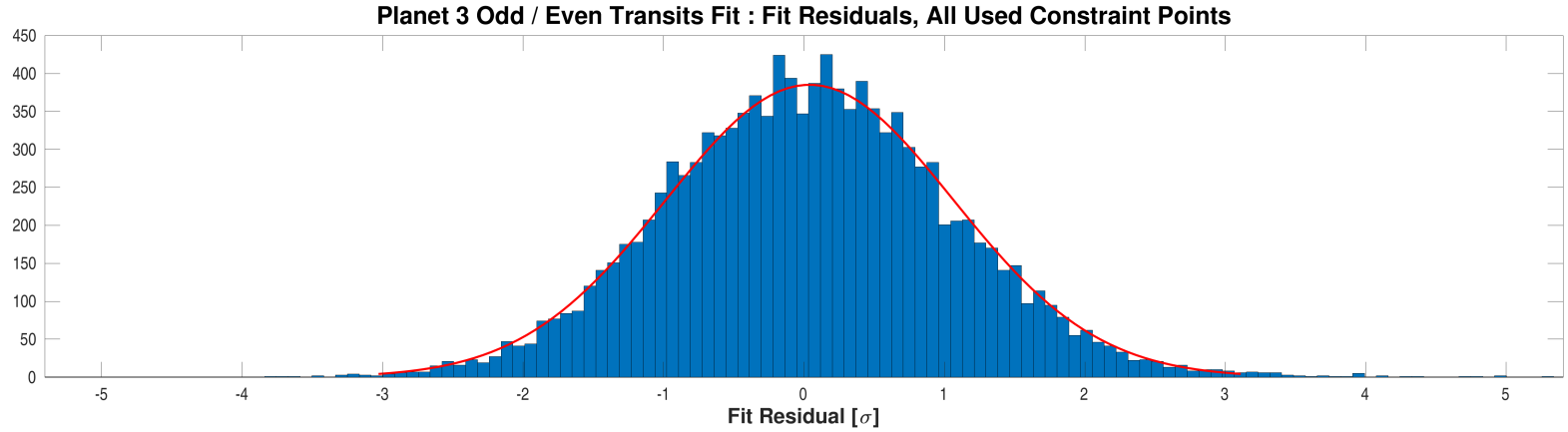
Folded flux time series for CatId 307210830, Planet candidate 3 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-03/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-03-odd-even-whitened.fig`



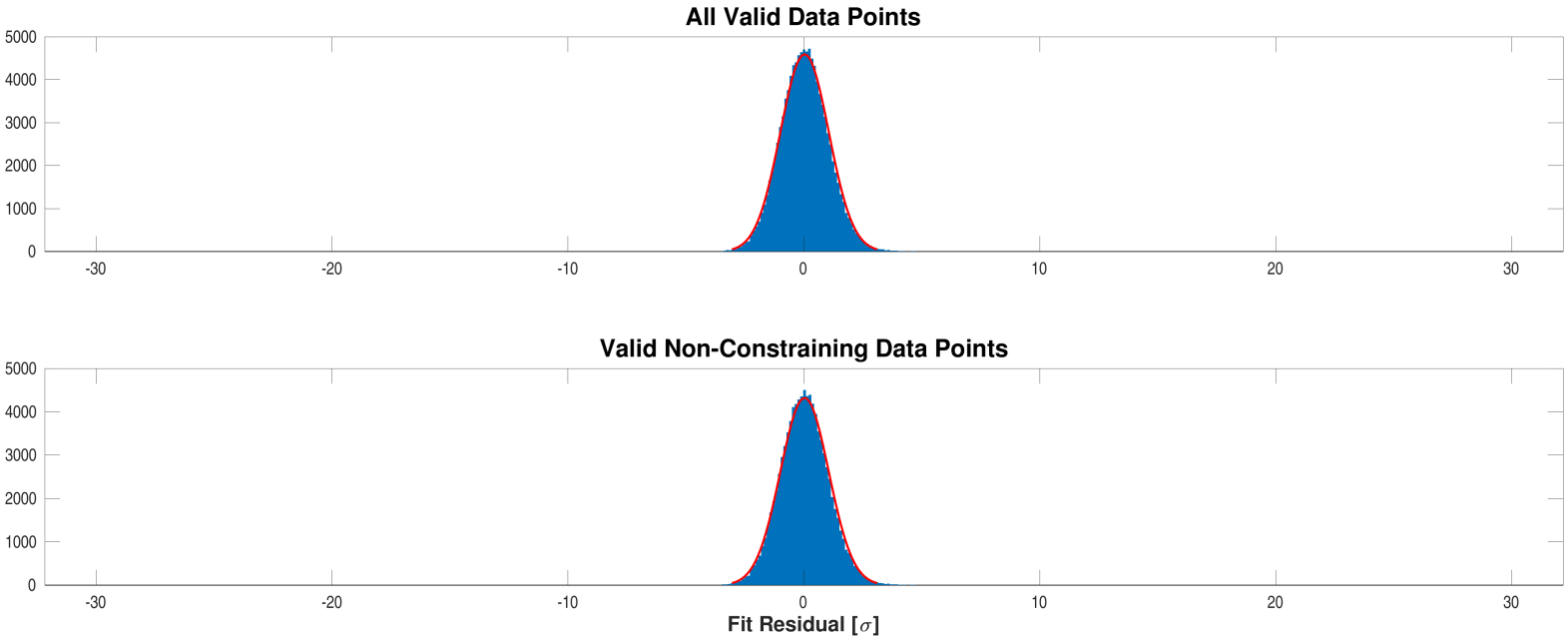
Folded flux time series for CatId 307210830, Planet candidate 3 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the fitted model light curve of the odd/even transits fit; the green dots are the averaged folded fit residuals, vertically offset for clarity. Magenta dots are the averaged values of the folded flux time series, with a phase shift of 0.5 relative to the blue dots, vertically offset for clarity. Odd-even transits fit completed with full convergence.
Open `./planet-03/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-03-odd-even-whitened-zoomed.fig`



Robust weights distribution for CatId 307210830, Planet candidate 3. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.
Open `./planet-03/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-03-odd-even-robust-weights.fig`

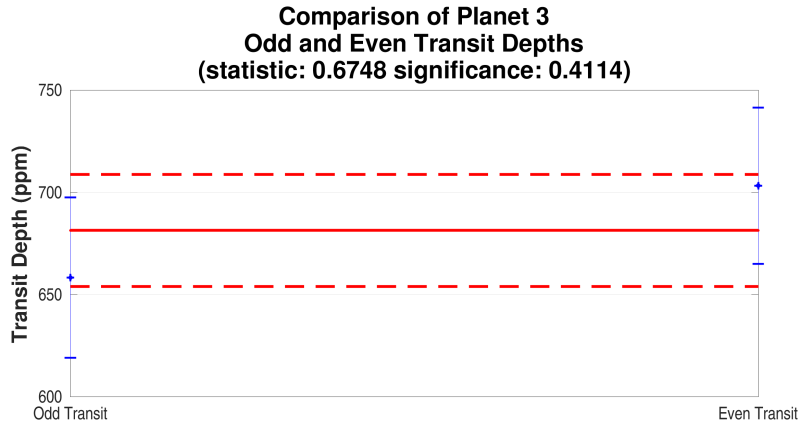


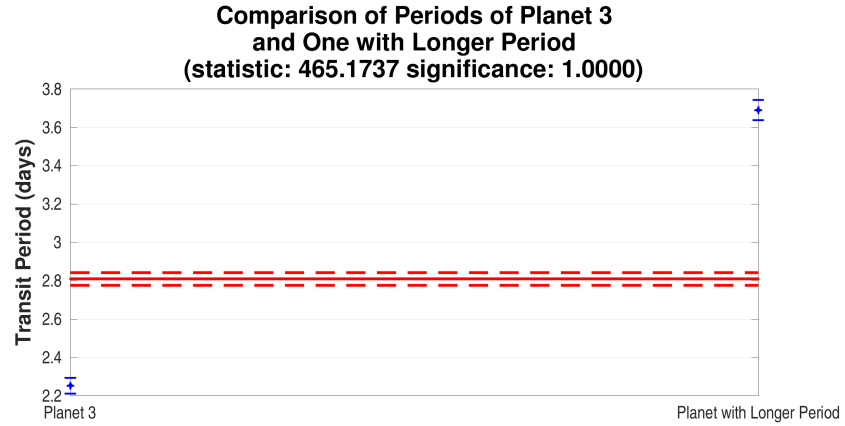
Fit residuals distribution for CatId 307210830, Planet candidate 3. Only the valid data points used to constrain the fit are shown here. A Gaussian fit to the histogram is shown in red.
Open `./planet-03/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-03-odd-even-histo-used.fig`



Fit residuals distribution for CatId 307210830, Planet candidate 3. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.
Open `./planet-03/planet-search-and-model-fitting-results/odd-even-transits-fit/0000000307210830-03-odd-even-histo-all-and-unused.fig`

C.3 Eclipsing Binary Discrimination Test





Top-left: Diagnostic plot of Odd/Even Transit Depth Test for catId 307210830, planet 3. A significance level close to 1/0 favors a transiting planet/an eclipsing binary. Bottom-left: Diagnostic plot of Orbital Period Test for catId 307210830. Orbital periods of planet 3 and the planet with longer period are compared. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.
Open `./planet-03/binary-discrimination-test-results/0000000307210830-03-eclipsing-binary-discrimination-tests.fig`

Appendix D Alerts

Time	Severity	Message
1703.3289	warning	Not excluding transits that overlap those of another candidate in S5 (target=1, catId=307210830, planet=2, targetTable=136, component=generateDvDifferenceImages)