

Data Validation (DV) Report  
for Kepler ID 9602613  
Quarters 1 - 16

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# 1 Summary

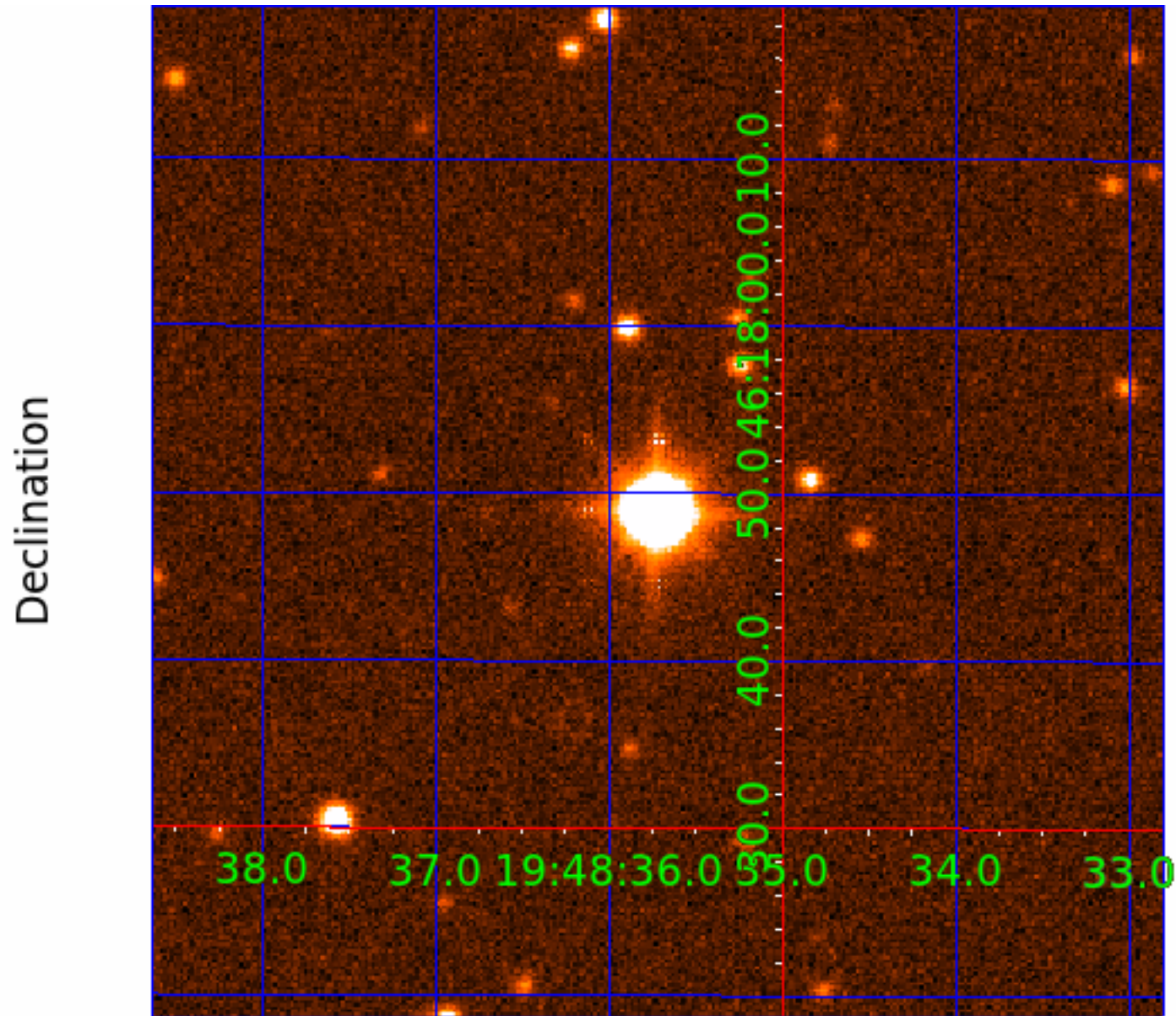
Target Properties	Value	Uncertainty	Units	Provenance
Sky Group	33			
RA	19.80992130	0	hours	KIC
Dec	46.29695000	0	degrees	KIC
Magnitude	11.83	0		KIC
Radius	0.92	0.453	Solar radii	DSEP
Effective Temperature	5461	182	Kelvin	PHO1
log(g)	4.42	0.283	cm/sec <sup>2</sup>	KIC0
[Fe/H]	-0.12	0.34	Solar metallicity	KIC0
Number of Planet Candidates	2			
Categories	ST_SC1, MERGED, ST_SC3, PLANETARY, ST_SC2, PPA_STELLAR, INCLUDE			
Prior Pipeline Instance ID	-			
External TCE Model	-			
Software Revision	svn+ssh://murzim/repo/soc/tags/release/9.1.2@52755			
Date Report Generated	16-Aug-2013 10:28:14 Z			

Quarter	Target Table	Module/ Output	Crowding Metric	Flux Fraction	Limb Darkening Coefficients			
					1	2	3	4
1	20	23/1	0.9873	0.9724	0.5291	-0.0893	0.6865	-0.3601
2	21	15/1	0.9916	0.9621	0.5291	-0.0893	0.6865	-0.3601
3	26	3/1	0.9897	0.9694	0.5291	-0.0893	0.6865	-0.3601
4	29	11/1	0.9851	0.9685	0.5291	-0.0893	0.6865	-0.3601
5	32	23/1	0.9865	0.9718	0.5291	-0.0893	0.6865	-0.3601
6	35	15/1	0.9910	0.9665	0.5291	-0.0893	0.6865	-0.3601
8	41	11/1	0.9851	0.9688	0.5291	-0.0893	0.6865	-0.3601
9	44	23/1	0.9864	0.9720	0.5291	-0.0893	0.6865	-0.3601
10	47	15/1	0.9910	0.9665	0.5291	-0.0893	0.6865	-0.3601
12	53	11/1	0.9852	0.9682	0.5291	-0.0893	0.6865	-0.3601
13	56	23/1	0.9863	0.9720	0.5291	-0.0893	0.6865	-0.3601
14	59	15/1	0.9911	0.9665	0.5291	-0.0893	0.6865	-0.3601
16	65	11/1	0.9865	0.9629	0.5291	-0.0893	0.6865	-0.3601



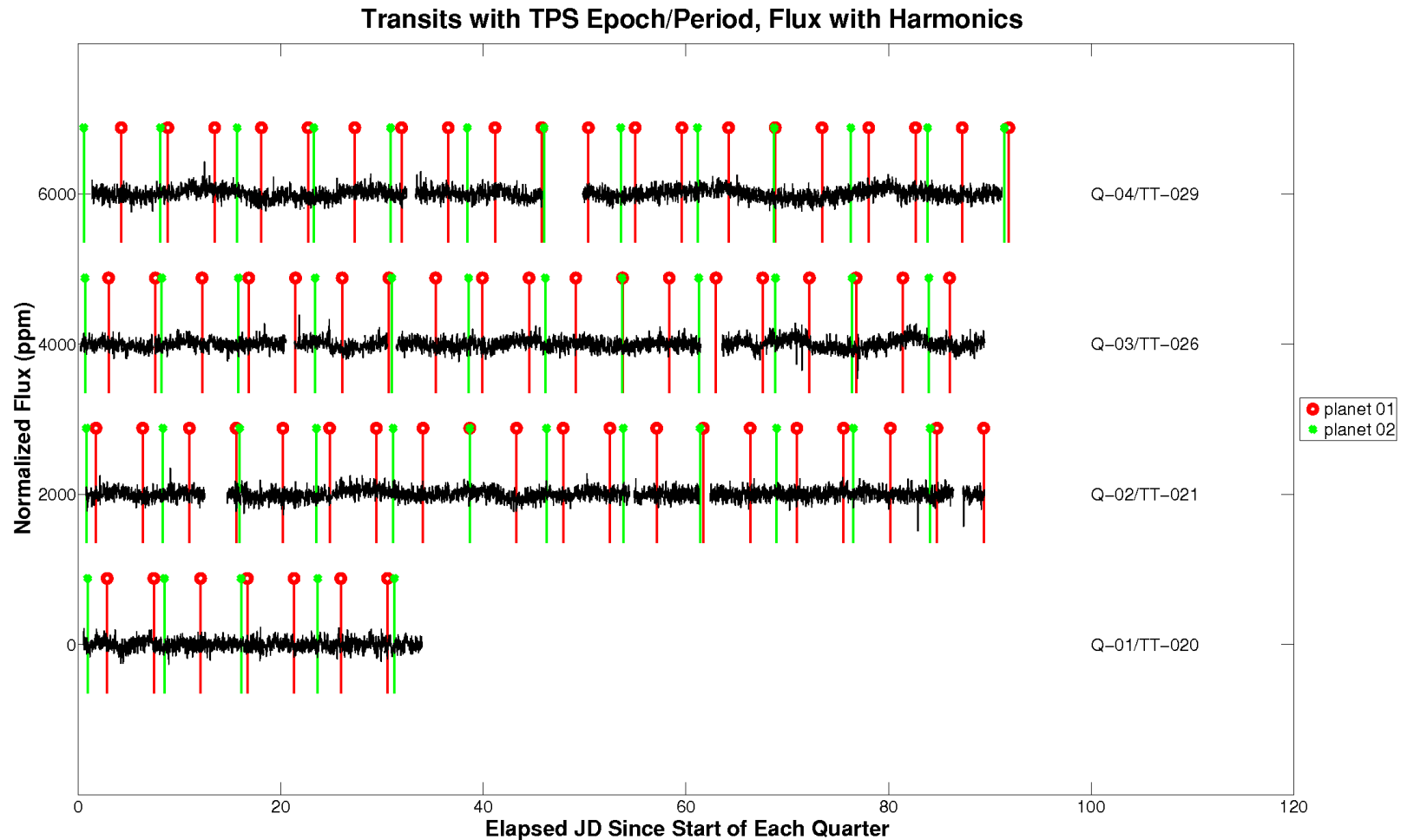
<b>Planet Candidate</b>	<b>TPS Period (days)</b>	<b>DV Period (days)</b>	<b>Period Ratio (DV)</b>	<b>TPS Epoch (JD-2454833)</b>	<b>DV Epoch (BKJD)</b>	<b>Semi-major Axis (AU)</b>	<b>Radius (Earth radii)</b>	<b>False Alarm</b>	<b>Suspected EB</b>
1	4.6	4.6	1.0	133.9	133.9	0.1	0.5	N/A	false
2	7.6	7.6	1.6	131.9	131.9	0.1	0.5	N/A	false

## 2 UKIRT Image



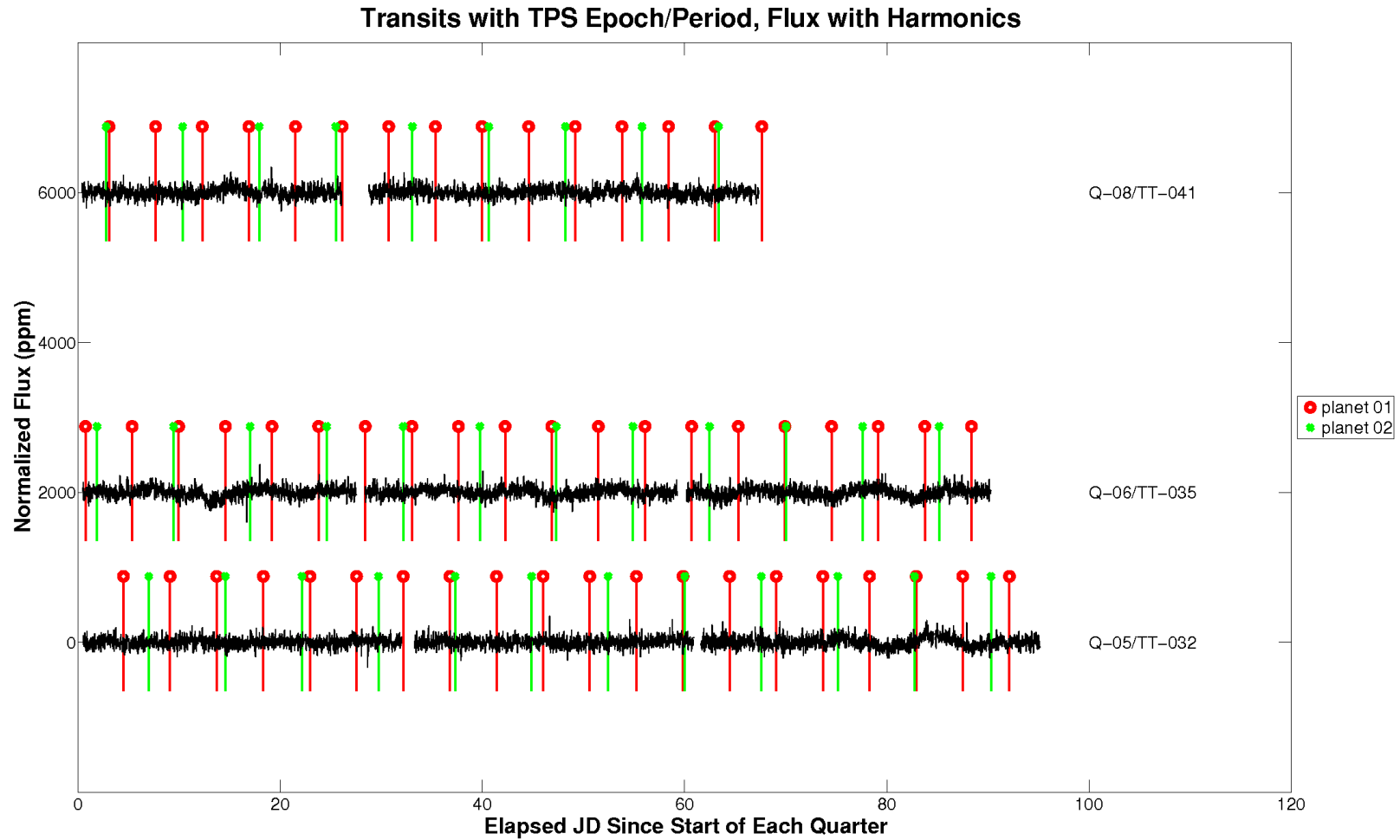
UKIRT Wide Field Camera (WFCAM) infra-red J-band image. The 1' x 1' image is centered on the target (9602613).

## 3 Flux Time Series



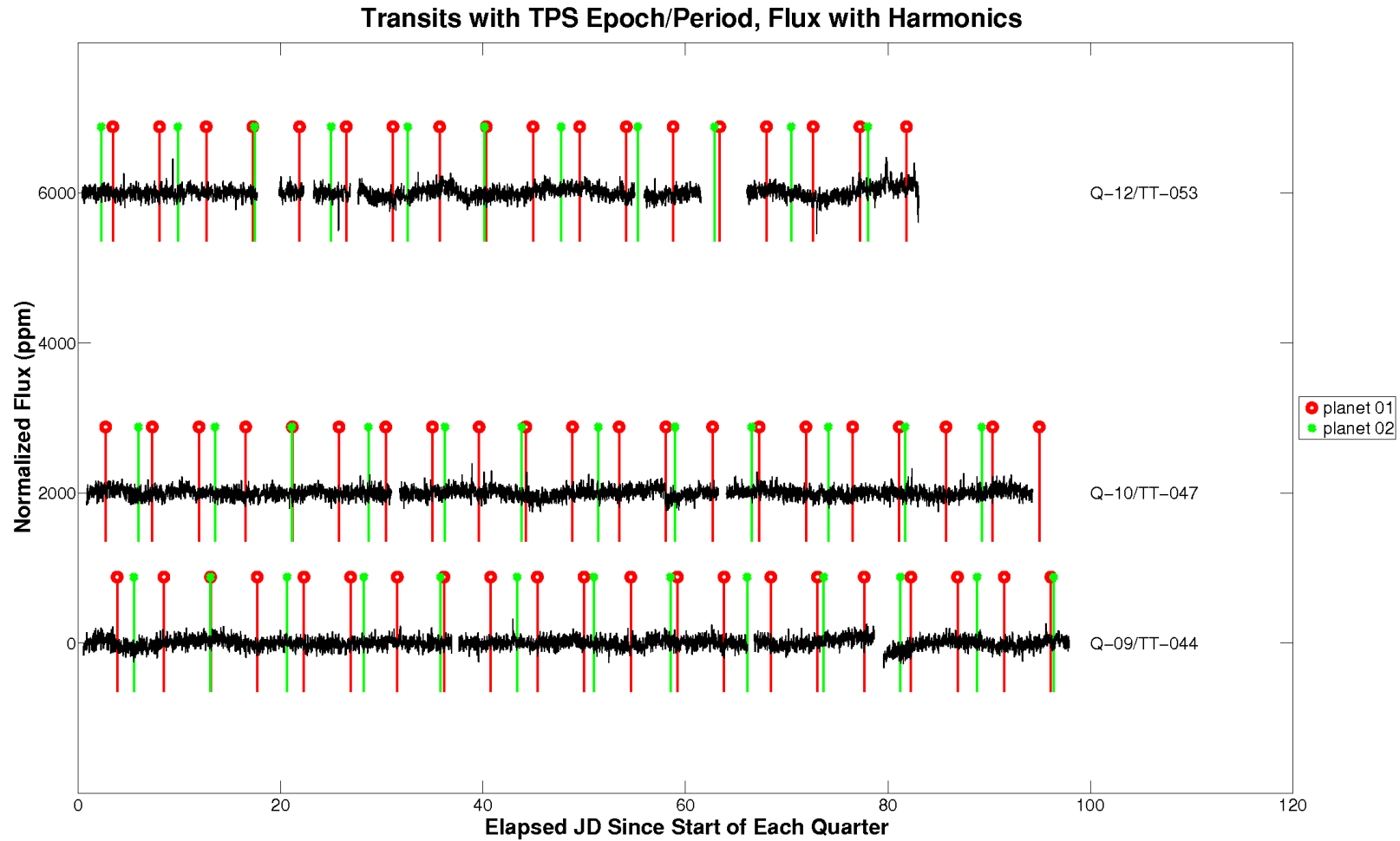
Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with TPS epoch/period. Transits of identified planets are labeled with epoch KJD and orbital period determined by TPS. For the data of quarter 1, target table 20, start JD is 2454964 and the vertical offset is 0 ppm. For the data of quarter 2, target table 21, start JD is 2455002 and the vertical offset is 2000 ppm. For the data of quarter 3, target table 26, start JD is 2455093 and the vertical offset is 4000 ppm. For the data of quarter 4, target table 29, start JD is 2455184 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-tps-01-020.fig`



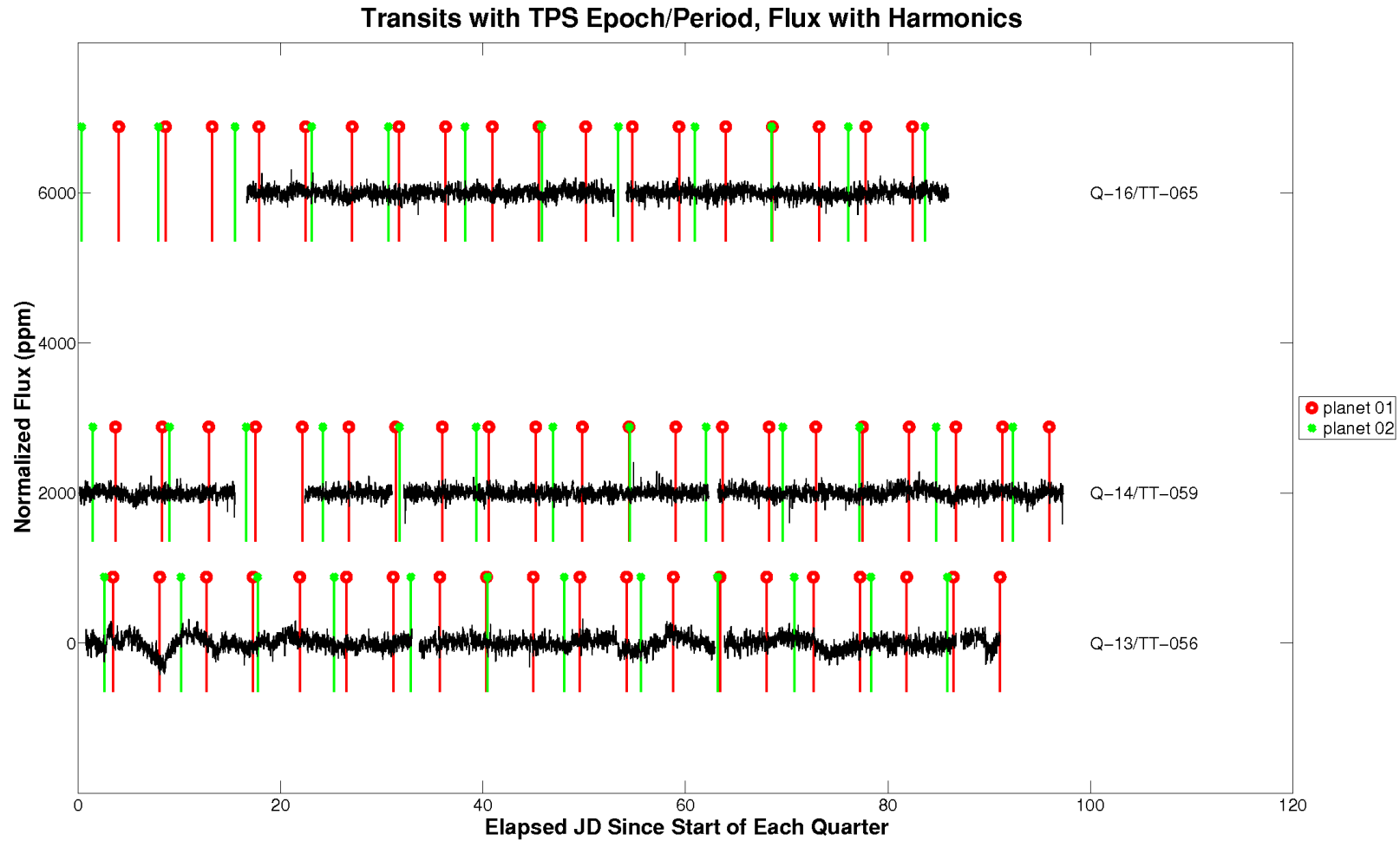
Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with TPS epoch/period. Transits of identified planets are labeled with epoch KJD and orbital period determined by TPS. For the data of quarter 5, target table 32, start JD is 2455276 and the vertical offset is 0 ppm. For the data of quarter 6, target table 35, start JD is 2455372 and the vertical offset is 2000 ppm. For the data of quarter 7, target table 38, start JD is 2455463 and the vertical offset is 4000 ppm. For the data of quarter 8, target table 41, start JD is 2455568 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-tps-05-032.fig`



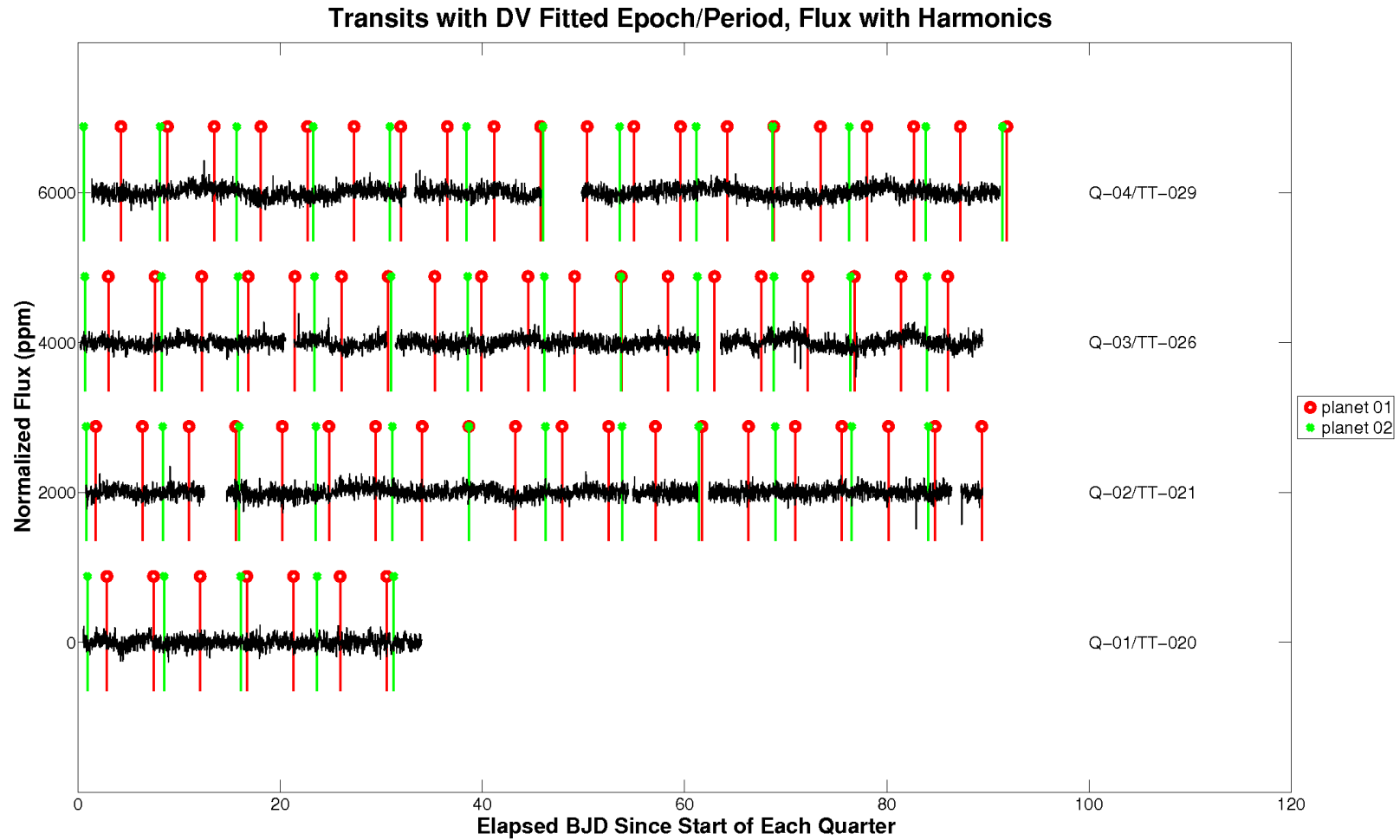
Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with TPS epoch/period. Transits of identified planets are labeled with epoch KJD and orbital period determined by TPS. For the data of quarter 9, target table 44, start JD is 2455641 and the vertical offset is 0 ppm. For the data of quarter 10, target table 47, start JD is 2455739 and the vertical offset is 2000 ppm. For the data of quarter 11, target table 50, start JD is 2455834 and the vertical offset is 4000 ppm. For the data of quarter 12, target table 53, start JD is 2455932 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-tps-09-044.fig`



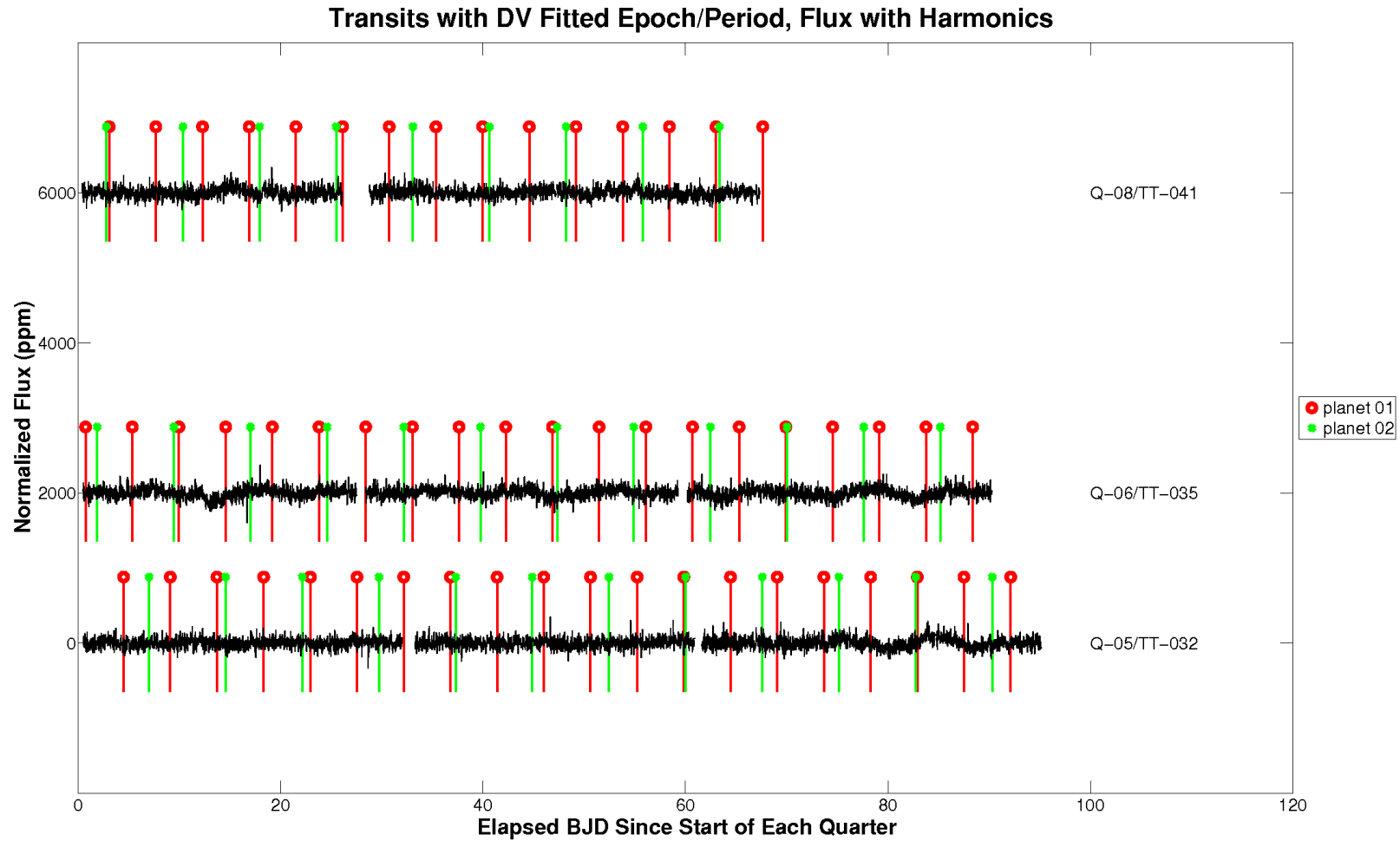
Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with TPS epoch/period. Transits of identified planets are labeled with epoch KJD and orbital period determined by TPS. For the data of quarter 13, target table 56, start JD is 2456015 and the vertical offset is 0 ppm. For the data of quarter 14, target table 59, start JD is 2456107 and the vertical offset is 2000 ppm. For the data of quarter 15, target table 62, start JD is 2456206 and the vertical offset is 4000 ppm. For the data of quarter 16, target table 65, start JD is 2456305 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-tps-13-056.fig`



Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with DV fitted epoch/period. Transits of identified planets are labeled with epoch BJD and orbital period determined by DV transit fitter. For the data of quarter 1, target table 20, start BJD is 2454964 and the vertical offset is 0 ppm. For the data of quarter 2, target table 21, start BJD is 2455002 and the vertical offset is 2000 ppm. For the data of quarter 3, target table 26, start BJD is 2455093 and the vertical offset is 4000 ppm. For the data of quarter 4, target table 29, start BJD is 2455184 and the vertical offset is 6000 ppm.

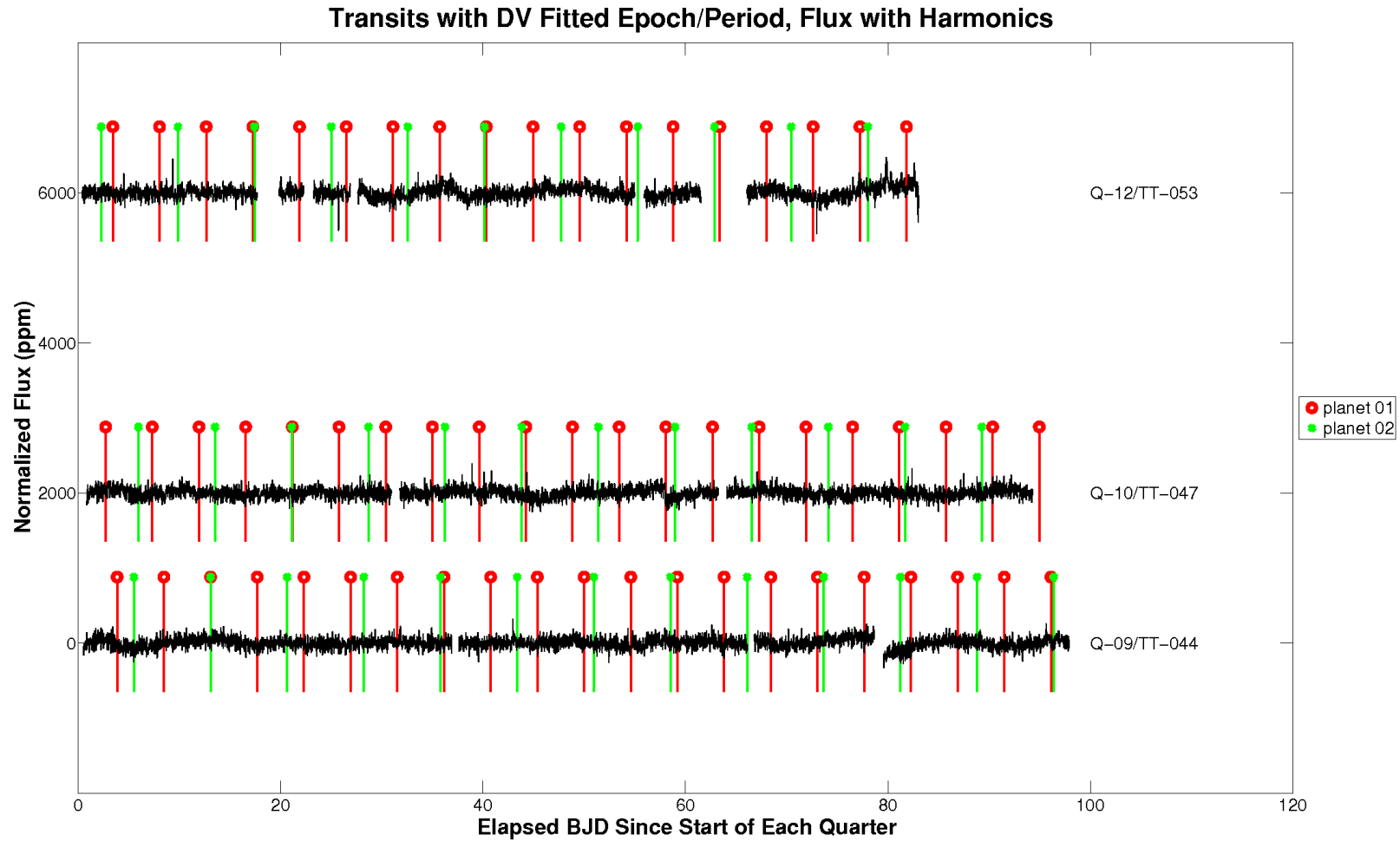
Open `./summary-plots/009602613-00-flux-with-harmonics-dv-fit-01-020.fig`



Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with DV fitted epoch/period. Transits of identified planets are labeled with epoch BJD and orbital period determined by DV transit fitter. For the data of quarter 5, target table 32, start BJD is 2455276 and the vertical offset is 0 ppm. For the data of quarter 6, target table 35, start BJD is 2455372 and the vertical offset is 2000 ppm. For the data of quarter 7, target table 38, start BJD is 2455463 and the vertical offset is 4000 ppm. For the data of quarter 8, target table 41, start BJD is 2455568 and the vertical offset is 6000 ppm.

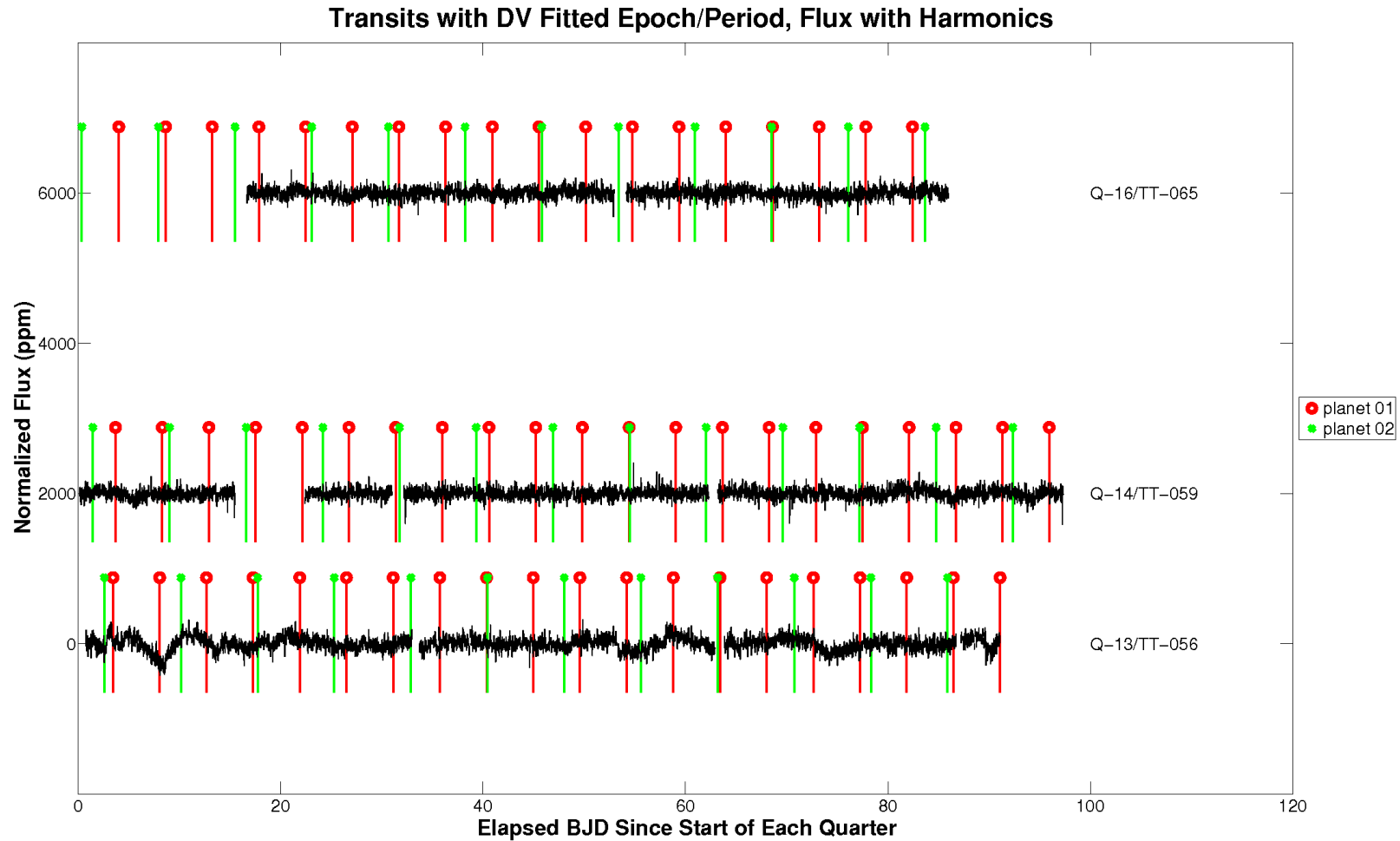
Open `./summary-plots/009602613-00-flux-with-harmonics-dv-fit-05-032.fig`





Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with DV fitted epoch/period. Transits of identified planets are labeled with epoch BJD and orbital period determined by DV transit fitter. For the data of quarter 9, target table 44, start BJD is 2455641 and the vertical offset is 0 ppm. For the data of quarter 10, target table 47, start BJD is 2455739 and the vertical offset is 2000 ppm. For the data of quarter 11, target table 50, start BJD is 2455834 and the vertical offset is 4000 ppm. For the data of quarter 12, target table 53, start BJD is 2455932 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-dv-fit-09-044.fig`

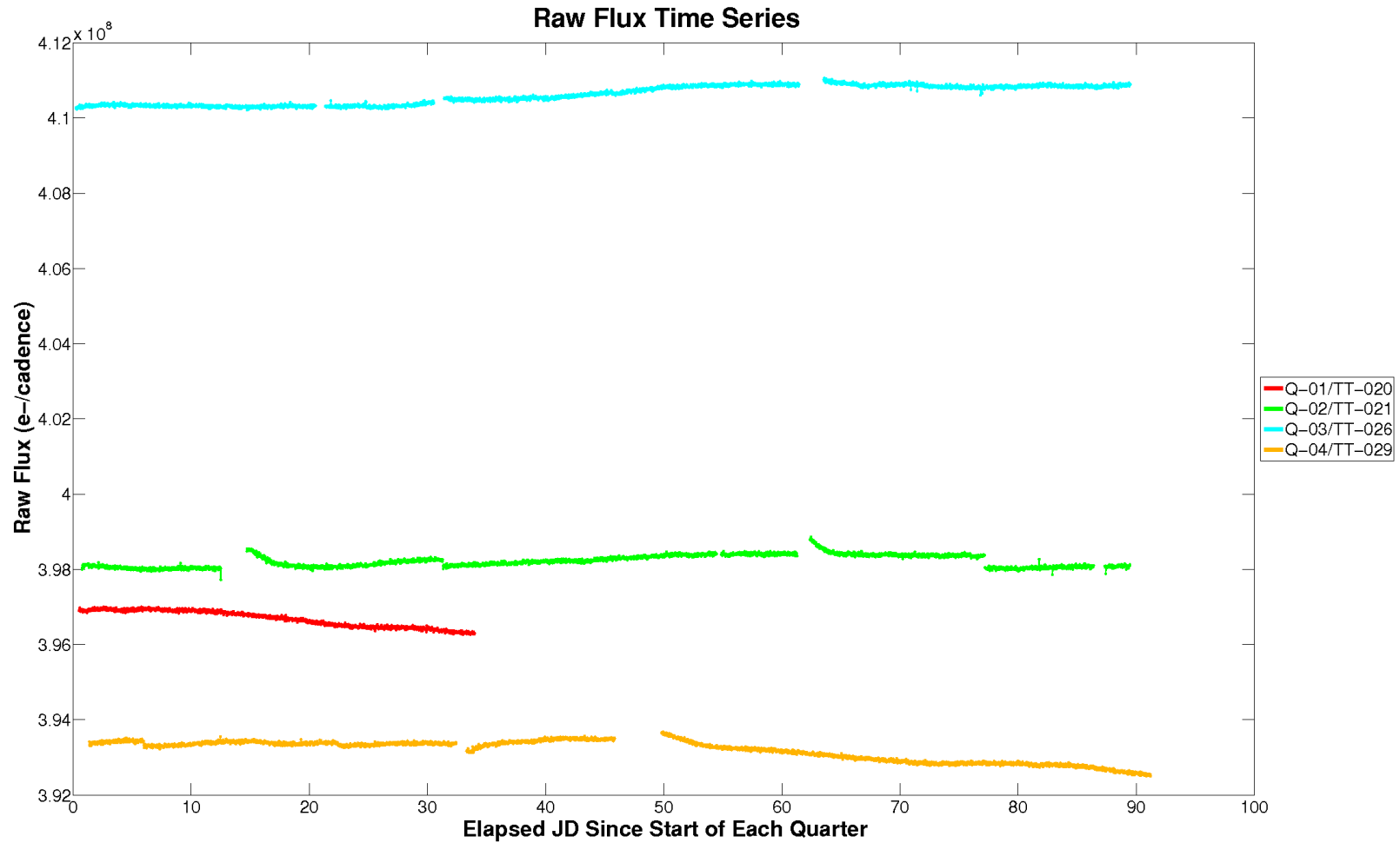


Summary plot of PDC flux time series (with harmonic content) and transits for target 9602613, marked with DV fitted epoch/period. Transits of identified planets are labeled with epoch BJD and orbital period determined by DV transit fitter. For the data of quarter 13, target table 56, start BJD is 2456015 and the vertical offset is 0 ppm. For the data of quarter 14, target table 59, start BJD is 2456107 and the vertical offset is 2000 ppm. For the data of quarter 15, target table 62, start BJD is 2456206 and the vertical offset is 4000 ppm. For the data of quarter 16, target table 65, start BJD is 2456305 and the vertical offset is 6000 ppm.

Open `./summary-plots/009602613-00-flux-with-harmonics-dv-fit-13-056.fig`

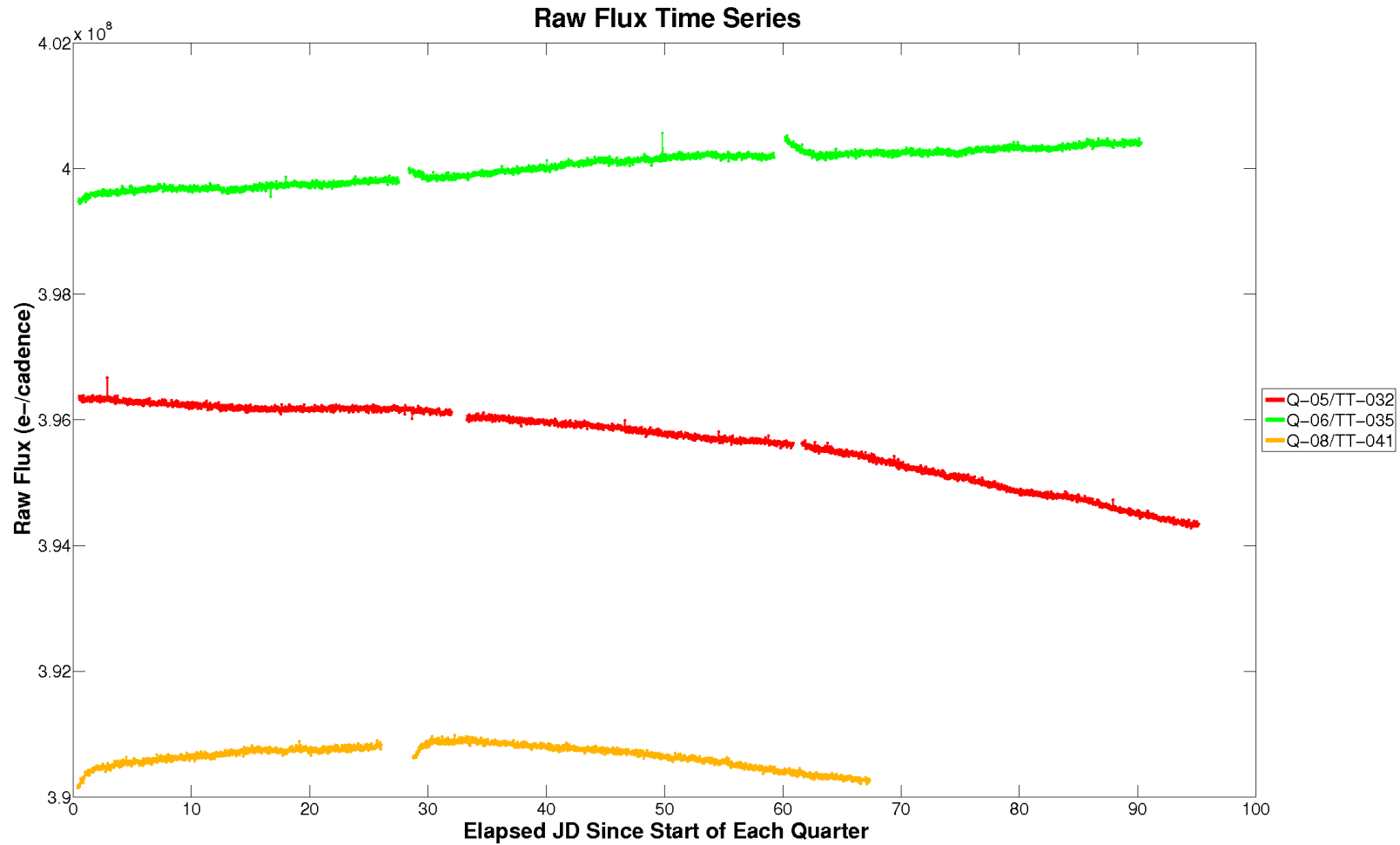
No figures named `009602613-00-flux-harmonics-free-tps-*.fig` are available.

No figures named `009602613-00-flux-harmonics-free-dv-fit-*.fig` are available.



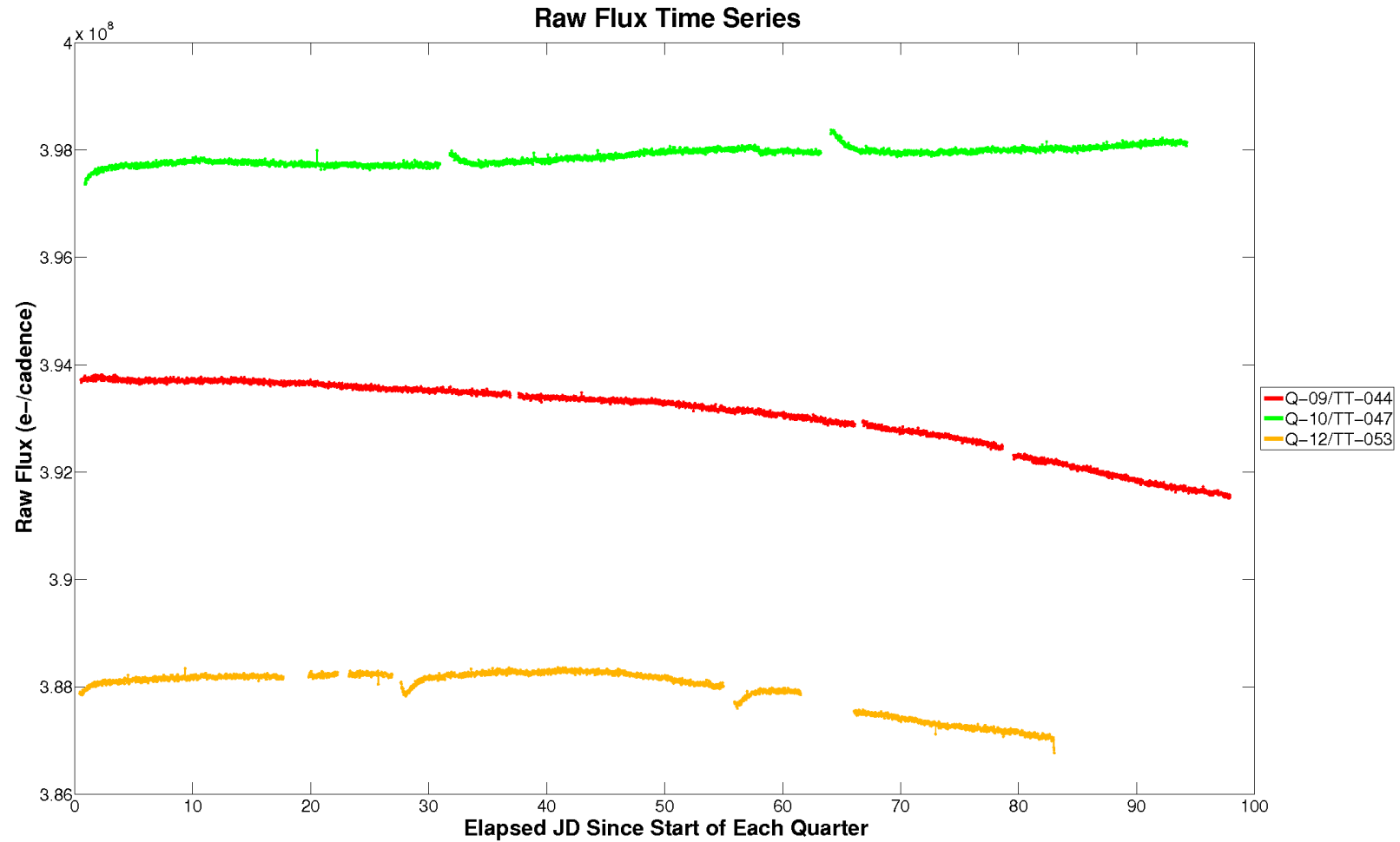
Summary plot of raw flux time series. For the data of quarter 1, target table 20, start JD is 2454964 and the vertical offset is 0 electrons/cadence. For the data of quarter 2, target table 21, start JD is 2455002 and the vertical offset is 0 electrons/cadence. For the data of quarter 3, target table 26, start JD is 2455093 and the vertical offset is 0 electrons/cadence. For the data of quarter 4, target table 29, start JD is 2455184 and the vertical offset is 0 electrons/cadence.

Open `./summary-plots/009602613-00-raw-flux-01-020.fig`



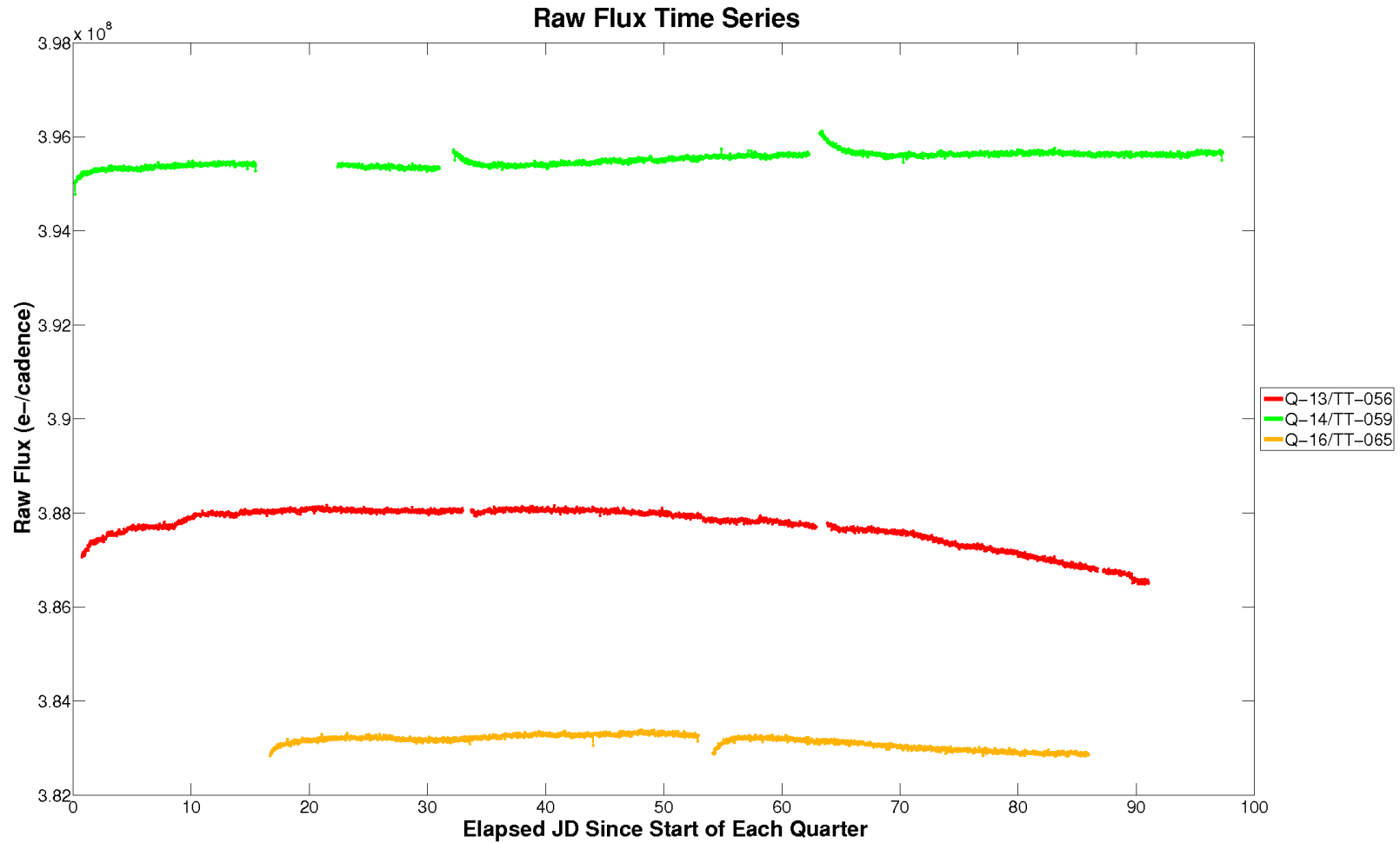
Summary plot of raw flux time series. For the data of quarter 5, target table 32, start JD is 2455276 and the vertical offset is 0 electrons/cadence. For the data of quarter 6, target table 35, start JD is 2455372 and the vertical offset is 0 electrons/cadence. For the data of quarter 7, target table 38, start JD is 2455463 and the vertical offset is 0 electrons/cadence. For the data of quarter 8, target table 41, start JD is 2455568 and the vertical offset is 0 electrons/cadence.

Open `./summary-plots/009602613-00-raw-flux-05-032.fig`



Summary plot of raw flux time series. For the data of quarter 9, target table 44, start JD is 2455641 and the vertical offset is 0 electrons/cadence. For the data of quarter 10, target table 47, start JD is 2455739 and the vertical offset is 0 electrons/cadence. For the data of quarter 11, target table 50, start JD is 2455834 and the vertical offset is 0 electrons/cadence. For the data of quarter 12, target table 53, start JD is 2455932 and the vertical offset is 0 electrons/cadence.

Open `./summary-plots/009602613-00-raw-flux-09-044.fig`



Summary plot of raw flux time series. For the data of quarter 13, target table 56, start JD is 2456015 and the vertical offset is 0 electrons/cadence. For the data of quarter 14, target table 59, start JD is 2456107 and the vertical offset is 0 electrons/cadence. For the data of quarter 15, target table 62, start JD is 2456206 and the vertical offset is 0 electrons/cadence. For the data of quarter 16, target table 65, start JD is 2456305 and the vertical offset is 0 electrons/cadence.

Open `./summary-plots/009602613-00-raw-flux-13-056.fig`

## 4 Dashboards

## Planet Candidate 1

Model Fitter	<b>Stellar Radius</b> $0.9 \pm 0.0$ Solar units		<b>Flux Weighted Motion Detection Statistic</b> Value = $2.56e+01$ Significance = 0.00% Peak RA Offset = $-3.33e-05 \pm 3.04e-05$ arcsec ( $-1.1 \sigma$ ) Peak Dec Offset = $-6.47e-05 \pm 2.41e-05$ arcsec ( $-2.7 \sigma$ ) Peak Offset Distance = $7.28e-05 \pm 2.55e-05$ arcsec ( $2.9 \sigma$ ) Source RA Offset = $1.08e+00 \pm 1.06e+00$ arcsec ( $1 \sigma$ ) Source Dec Offset = $2.16e+00 \pm 8.42e-01$ arcsec ( $2.6 \sigma$ ) Source Offset Distance = $2.42e+00 \pm 8.90e-01$ arcsec ( $2.7 \sigma$ )	Centroid Test
	Period = $4.6 \pm 0.0$ days Depth = $29 \pm 2$ ppm Planet Radius = $0.5 \pm 0.2$ Earth radii Semi-major Axis = $0.1 \pm 0.0$ AU Equilibrium Temperature = $1027 \pm 254$ Kelvin Chi-squared/DoF = 0.8 SNR = 12.0			
Eclipsing Binary Discrimination Test	<b>Odd-Even Depth Comparison Statistic</b> Value = $1.56e-03$ Significance = 96.85%	<b>Odd-Even Epoch Comparison Statistic</b> Value = $5.28e-04$ Significance = 98.17%	<b>Offsets Relative to Out of Transit Centroid</b> Source RA Offset = $1.09e+00 \pm 5.02e-01$ arcsec ( $2.16 \sigma$ ) Source Dec Offset = $1.19e+00 \pm 4.98e-01$ arcsec ( $2.39 \sigma$ ) Source Offset Distance = $1.61e+00 \pm 5.66e-01$ arcsec ( $2.84 \sigma$ )  <b>Offsets Relative to KIC Position</b> Source RA Offset = $1.10e+00 \pm 5.73e-01$ arcsec ( $1.92 \sigma$ ) Source Dec Offset = $1.16e+00 \pm 4.65e-01$ arcsec ( $2.49 \sigma$ ) Source Offset Distance = $1.60e+00 \pm 5.47e-01$ arcsec ( $2.92 \sigma$ )	Difference Image Centroid Offsets
	<b>Shorter Period Comparison Statistic</b> Value = $N/A$ Significance = $N/A$	<b>Longer Period Comparison Statistic</b> Value = $3.40e+02$ Significance = 100.00%		
<b>Shorter Period Comparison Statistic</b> Value = $N/A$ Significance = $N/A$			<b>Longer Period Comparison Statistic</b> Value = $3.40e+02$ Significance = 100.00%	Bootstrap Test

Summary of model fitter results and validation test results for target 9602613, 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 Centroid 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.

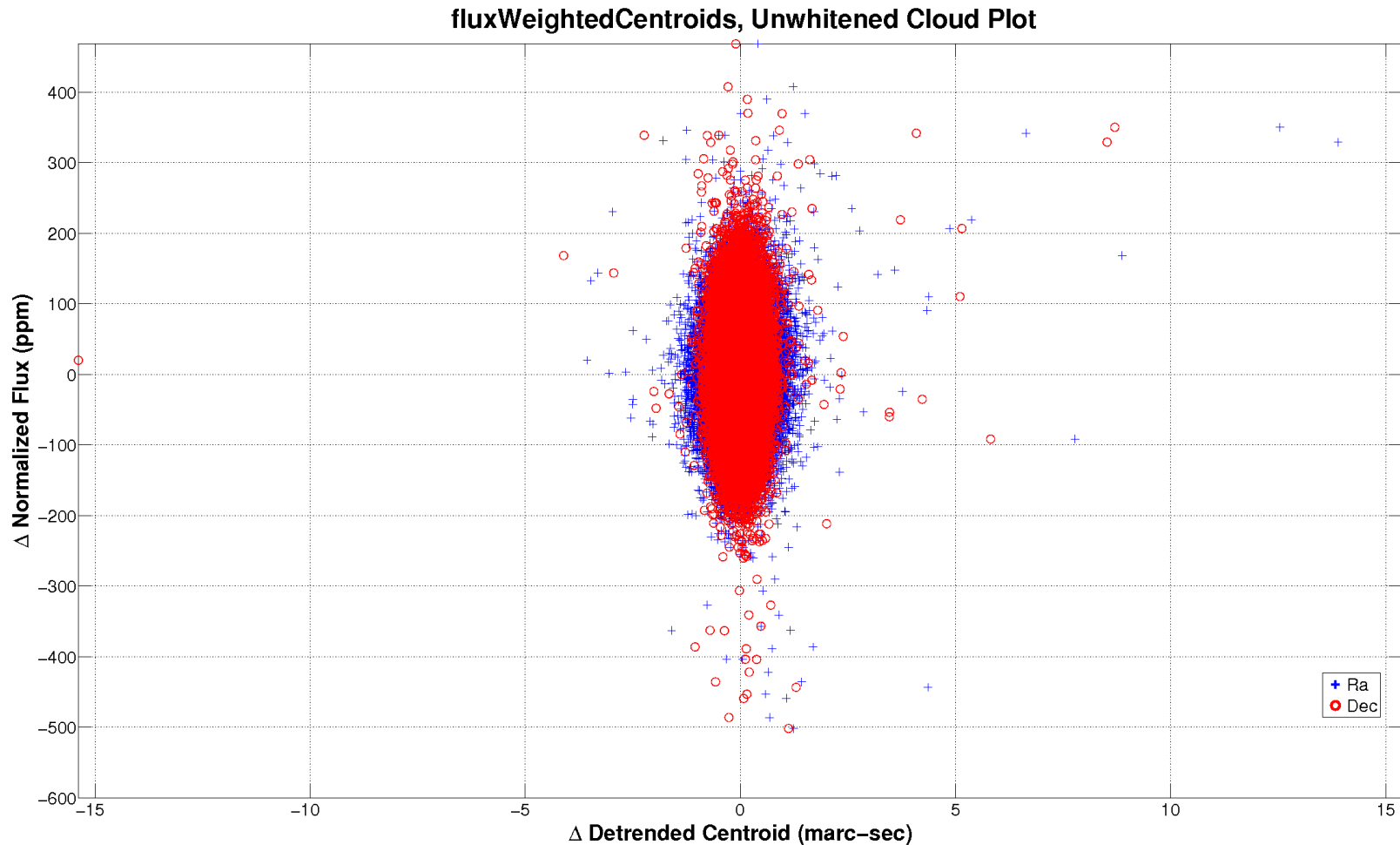
## Planet Candidate 2

<b>Model Fitter</b>	<b>Stellar Radius</b> 0.9 ± 0.0 Solar units		<b>Flux Weighted Motion Detection Statistic</b>		<b>Centroid Test</b>
	Period = 7.6 ± 0.0 days Depth = 31 ± 3 ppm Planet Radius = 0.5 ± 0.2 Earth radii Semi-major Axis = 0.1 ± 0.0 AU Equilibrium Temperature = 870 ± 215 Kelvin Chi-squared/DoF = 0.8 SNR = 9.7		Value = 1.36e+01 Significance = 0.11% Peak RA Offset 4.79e-05 ± 3.85e-05 arcsec (1.2 $\sigma$ ) Peak Dec Offset = 4.92e-05 ± 3.11e-05 arcsec (1.6 $\sigma$ ) Peak Offset Distance = 6.86e-05 ± 3.49e-05 arcsec (2 $\sigma$ ) Source RA Offset = -1.61e+00 ± 1.23e+00 arcsec (-1.3 $\sigma$ ) Source Dec Offset = -1.67e+00 ± 9.95e-01 arcsec (-1.7 $\sigma$ ) Source Offset Distance = 2.32e+00 ± 1.12e+00 arcsec (2.1 $\sigma$ )		
<b>Eclipsing Binary Discrimination Test</b>	<b>Odd-Even Depth Comparison Statistic</b> Value = 2.11e-03 Significance = 96.34%	<b>Odd-Even Epoch Comparison Statistic</b> Value = 9.25e-06 Significance = 99.76%	<b>Offsets Relative to Out of Transit Centroid</b> Source RA Offset = 1.36e+00 ± 6.96e-01 arcsec (1.96 $\sigma$ ) Source Dec Offset = 3.80e-01 ± 8.88e-01 arcsec (0.43 $\sigma$ ) Source Offset Distance = 1.42e+00 ± 7.51e-01 arcsec (1.89 $\sigma$ )  <b>Offsets Relative to KIC Position</b> Source RA Offset = 1.36e+00 ± 6.75e-01 arcsec (2.01 $\sigma$ ) Source Dec Offset = 3.34e-01 ± 1.01e+00 arcsec (0.33 $\sigma$ ) Source Offset Distance = 1.40e+00 ± 7.78e-01 arcsec (1.79 $\sigma$ )		<b>Difference Image Centroid Offsets</b>
	<b>Shorter Period Comparison Statistic</b> Value = 3.40e+02 Significance = 100.00%	<b>Longer Period Comparison Statistic</b> Value = <i>N/A</i> Significance = <i>N/A</i>	False Alarm = <i>N/A</i> Final Skip Count = <i>N/A</i> Observed Number of Transits = 125 Max Multiple Event Statistic = 9.29e+00		<b>Bootstrap Test</b>

Summary of model fitter results and validation test results for target 9602613, 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 Centroid 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 Centroid Cloud Plot



Out of Transit Centroid  
 ra(hours): mean 19.90991908, SD 6.09e-09  
 dec(degrees): mean 46.296023, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - This figure shows median detrended flux as a function of median detrended centroids for both ra and dec on the sky. Transit features above the noise jitter are seen as scatter outside the central cloud. Features in the flux time series are seen in the vertical direction while features in the centroid time series are seen in the horizontal direction. Any tilt to the out-of-cloud scatter indicates correlation between transit features in the flux and centroid time series. The out of transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust values.

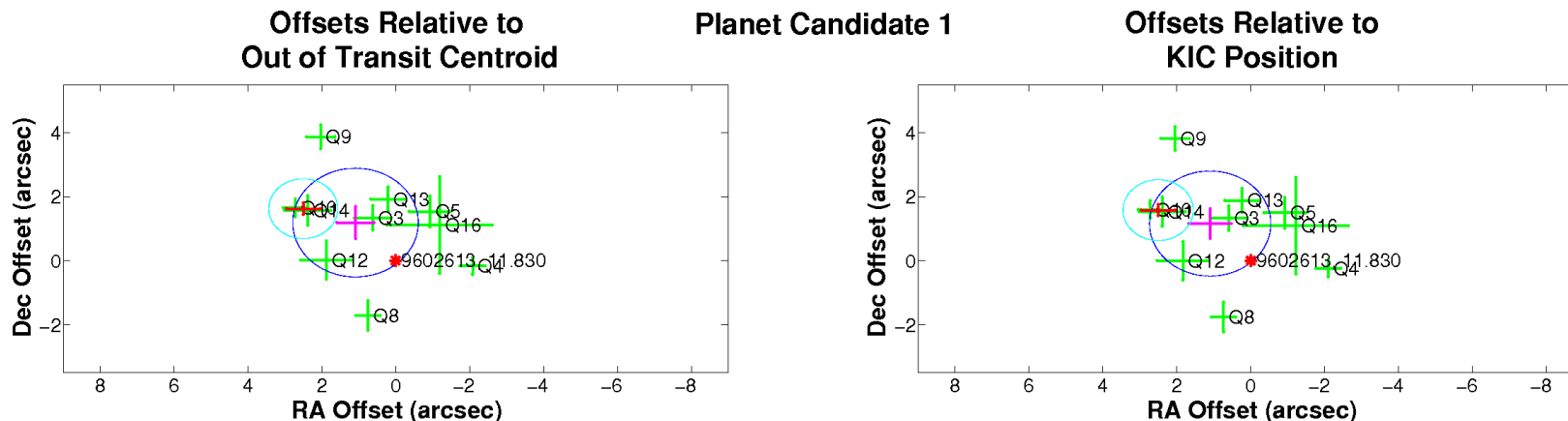
Open `./summary-plots/009602613-00-fluxWeighted-centroids-cloud.fig`

## 6 Pixel Level Diagnostics

### 6.1 Planet Candidate 1

Difference Image Summary Metrics

Number of Difference Images	Number of Metrics	Number of Good Metrics	Fraction of Good Metrics	Quality Threshold
13	10	7	0.7000	0.70



Difference image centroid offsets for target 9602613, planet candidate 1. Left: difference image PRF centroid offsets in RA and Dec with respect to the quarterly out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the KIC coordinates of the given target. Symbol key: green cross: quarterly centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all quarters with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red cross (where applicable): multi-quarter PRF centroid offset with 1-sigma error bars in RA and Dec; cyan circle (where applicable): 3-sigma radius of confusion for multi-quarter PRF offset; red asterisk: location of target star; blue asterisk: location of other KIC objects in the neighborhood. KIC ID and magnitude are noted in the text associated with each marked object (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000). A constant error term of 0.0667 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset and the multi-quarter PRF offset.

Open `./planet-01/difference-image/009602613-01-difference-image-centroid-offsets.fig`

## Multi-Quarter Average PRF Fit of the Difference Images

Mean offset from the PRF fit to the out of transit image			
	RA	Dec	Units
Offset	$1.0859 \pm 5.02e - 01$	$1.1888 \pm 4.98e - 01$	arcseconds
Offset/ $\sigma$	2.16	2.39	
Offset Distance	$1.6101 \pm 5.66e - 01$		arcseconds
Offset Distance/ $\sigma$	2.84		
$3\sigma$ Radius	1.6990		arcseconds

Mean offset from the KIC RA and Dec			
	RA	Dec	Units
Offset	$1.0984 \pm 5.73e - 01$	$1.1588 \pm 4.65e - 01$	arcseconds
Offset/ $\sigma$	1.92	2.49	
Offset Distance	$1.5966 \pm 5.47e - 01$		arcseconds
Offset Distance/ $\sigma$	2.92		
$3\sigma$ Radius	1.6419		arcseconds

## Bootstrap Multi-Quarter PRF Fit of the Difference Images

Bootstrap offset from the PRF fit to the out of transit image			
	RA	Dec	Units
Out of Transit	$19.80992145 \pm 4.51e - 07$	$46.29693741 \pm 1.83e - 06$	hours/degrees
Difference Image	$19.80998843 \pm 1.21e - 05$	$46.29738839 \pm 4.47e - 05$	hours/degrees
Offset	$2.4990 \pm 4.55e - 01$	$1.6235 \pm 1.75e - 01$	arcseconds
Offset/ $\sigma$	5.49	9.29	
Offset Distance	$2.9801 \pm 3.11e - 01$		arcseconds
Offset Distance/ $\sigma$	9.57		
$3\sigma$ Radius	0.9337		arcseconds
Bootstrap offset from the KIC RA and Dec			
	RA	Dec	Units
KIC Reference	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image	$19.80998843 \pm 1.21e - 05$	$46.29738839 \pm 4.47e - 05$	hours/degrees
Offset	$2.5048 \pm 4.55e - 01$	$1.5782 \pm 1.74e - 01$	arcseconds
Offset/ $\sigma$	5.50	9.06	
Offset Distance	$2.9605 \pm 3.17e - 01$		arcseconds
Offset Distance/ $\sigma$	9.35		
$3\sigma$ Radius	0.9503		arcseconds

Pixel correlation centroid offsets figure cannot be generated because there are no valid centroid offsets.



The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 20.

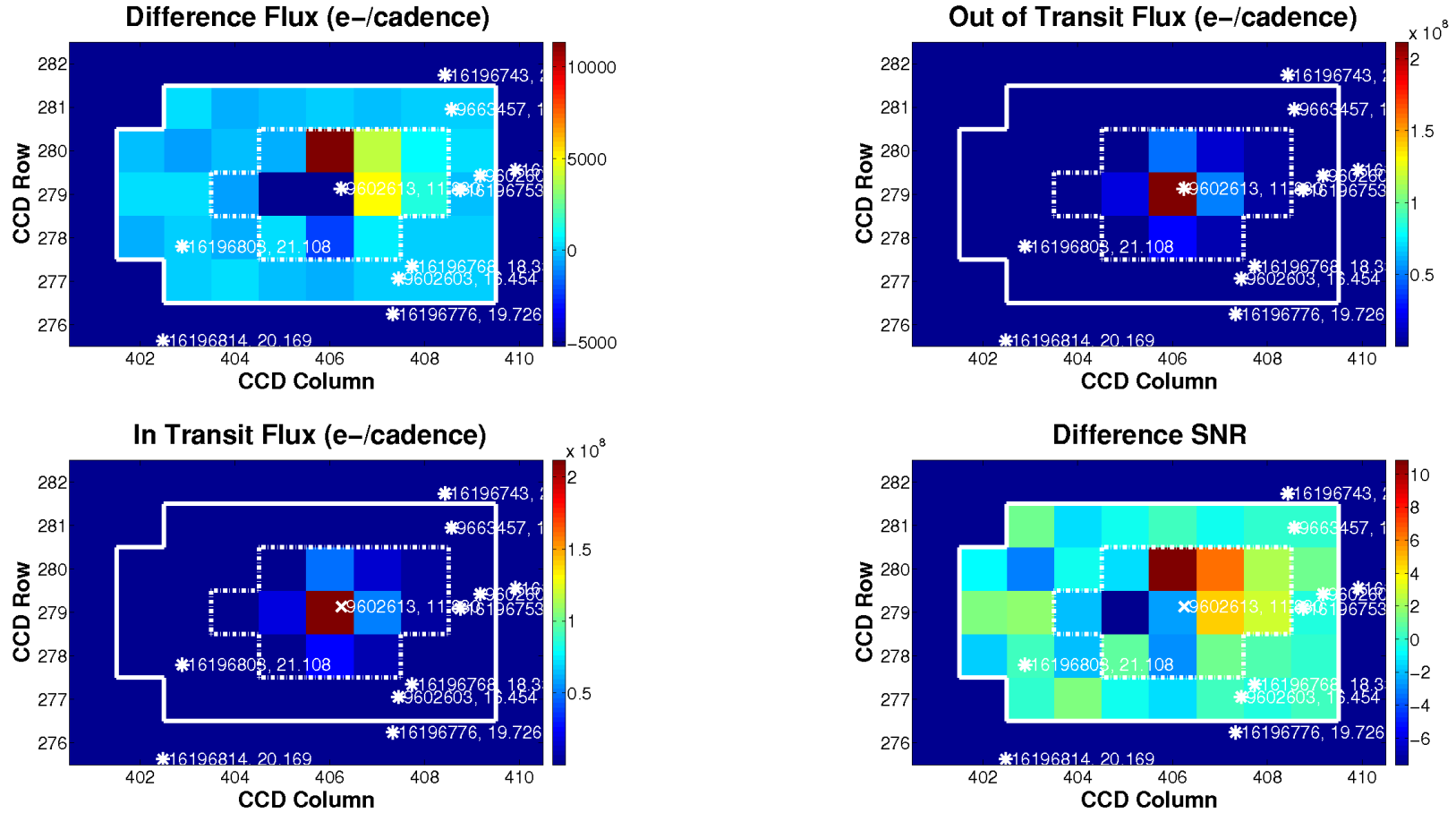
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 1, in target table 20.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 20.

### Difference Image Planet Candidate 1 / Quarter 2 / Target Table 21



Difference image for target 9602613, planet candidate 1, quarter 2, target table 21. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 16; number of valid in-transit cadences = 70; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 177; number of out-of-transit cadence gaps = 2. Difference image quality metric = N/A.

Open `./planet-01/difference-image/009602613-01-difference-image-02-021.fig`



The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 21.

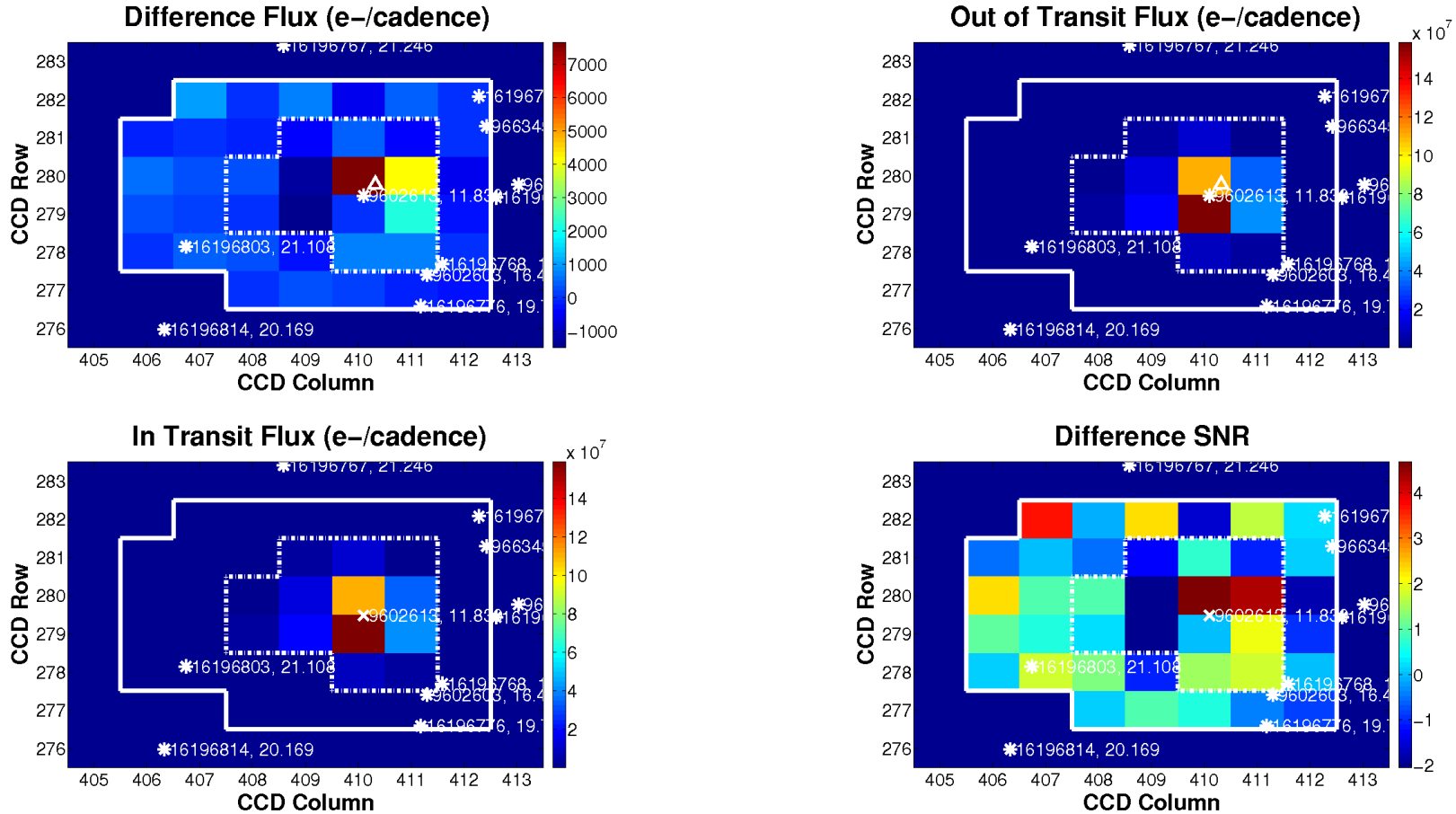
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 1, in target table 21.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 21.

**Difference Image**  
**Planet Candidate 1 / Quarter 3 / Target Table 26**



Difference image for target 9602613, planet candidate 1, quarter 3, target table 26. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 14; number of valid in-transit cadences = 61; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 153; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.87 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-03-026.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 26.

## 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	$279.47 \pm 1.89e - 06$	$410.10 \pm 2.57e - 06$	pixels	$19.80992070 \pm 7.99e - 10$	$46.29694739 \pm 7.36e - 09$	hours/degrees
Difference Image Centroid	$279.77 \pm 1.32e - 01$	$410.32 \pm 8.46e - 02$	pixels	$19.80993727 \pm 1.33e - 05$	$46.29731874 \pm 1.06e - 04$	hours/degrees
Offset	$0.2966 \pm 1.32e - 01$	$0.2224 \pm 8.46e - 02$	pixels	$0.6183 \pm 4.96e - 01$	$1.3369 \pm 3.82e - 01$	arcseconds
Offset/ $\sigma$	2.24	2.63		1.25	3.50	
Offset Distance	$0.3707 \pm 1.16e - 01$		pixels	$1.4729 \pm 4.62e - 01$		arcseconds
Offset Distance/ $\sigma$	3.19			3.19		

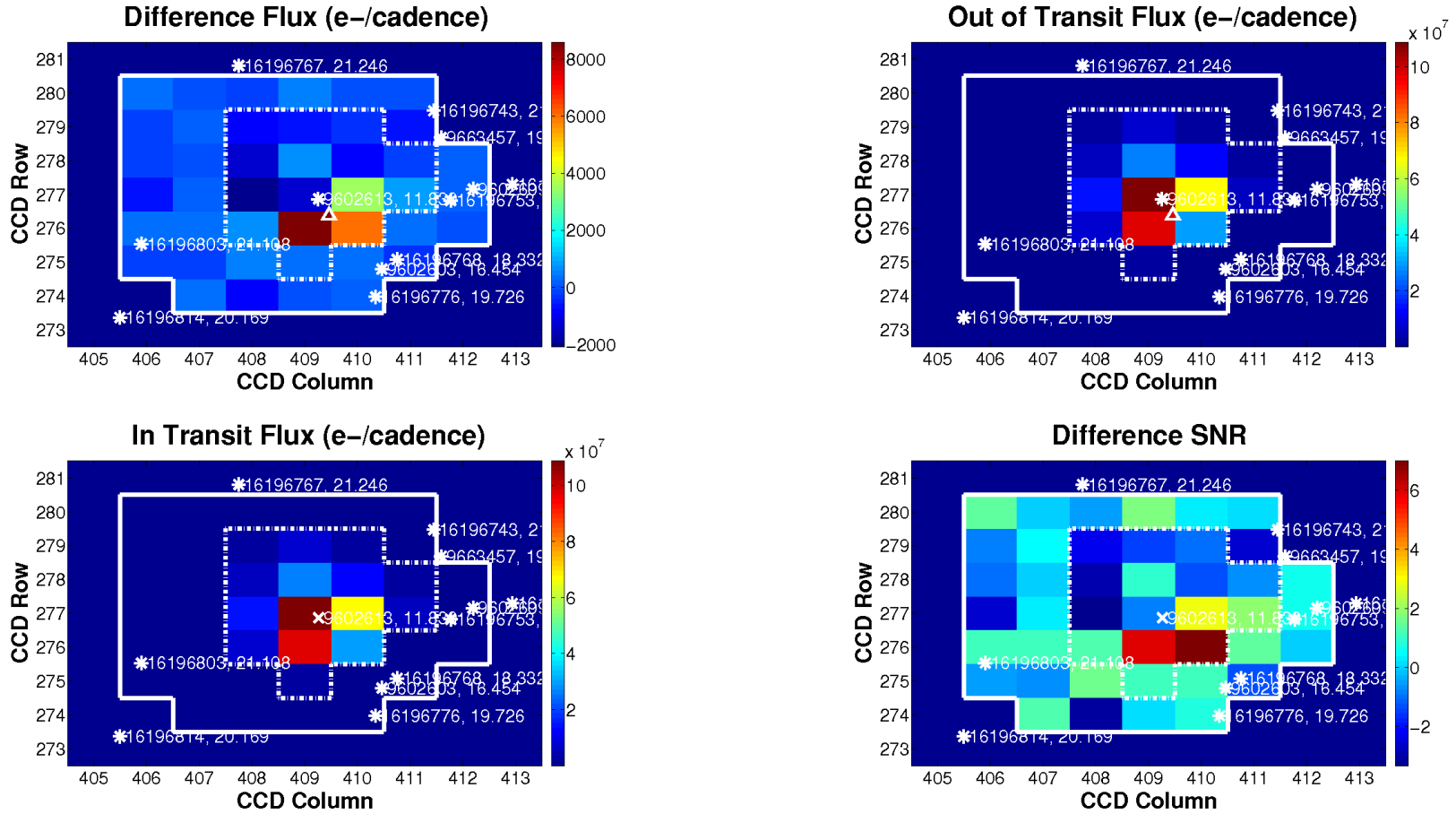
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.48 \pm 7.51e - 06$	$410.10 \pm 5.78e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.77 \pm 1.32e - 01$	$410.32 \pm 8.46e - 02$	pixels	$19.80993727 \pm 1.33e - 05$	$46.29731874 \pm 1.06e - 04$	hours/degrees
Offset	$0.2905 \pm 1.32e - 01$	$0.2229 \pm 8.46e - 02$	pixels	$0.5959 \pm 4.96e - 01$	$1.3275 \pm 3.82e - 01$	arcseconds
Offset/ $\sigma$	2.20	2.64		1.20	3.48	
Offset Distance	$0.3662 \pm 1.16e - 01$		pixels	$1.4551 \pm 4.60e - 01$		arcseconds
Offset Distance/ $\sigma$	3.17			3.16		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 26.

### Difference Image Planet Candidate 1 / Quarter 4 / Target Table 29



Difference image for target 9602613, planet candidate 1, quarter 4, target table 29. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 16; number of valid in-transit cadences = 70; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 174; number of out-of-transit cadence gaps = 5. Difference image quality metric = 0.88 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-04-029.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 29.

## 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	$276.86 \pm 2.08e - 06$	$409.25 \pm 2.49e - 06$	pixels	$19.80992091 \pm 1.17e - 09$	$46.29693019 \pm 1.17e - 08$	hours/degrees
Difference Image Centroid	$276.38 \pm 9.09e - 02$	$409.46 \pm 5.80e - 02$	pixels	$19.80986514 \pm 9.05e - 06$	$46.29688437 \pm 7.40e - 05$	hours/degrees
Offset	$-0.4804 \pm 9.09e - 02$	$0.2117 \pm 5.80e - 02$	pixels	$-2.0810 \pm 3.38e - 01$	$-0.1650 \pm 2.67e - 01$	arcseconds
Offset/ $\sigma$	-5.28	3.65		-6.16	-0.62	
Offset Distance	$0.5249 \pm 8.62e - 02$		pixels	$2.0875 \pm 3.45e - 01$		arcseconds
Offset Distance/ $\sigma$	6.09			6.05		

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

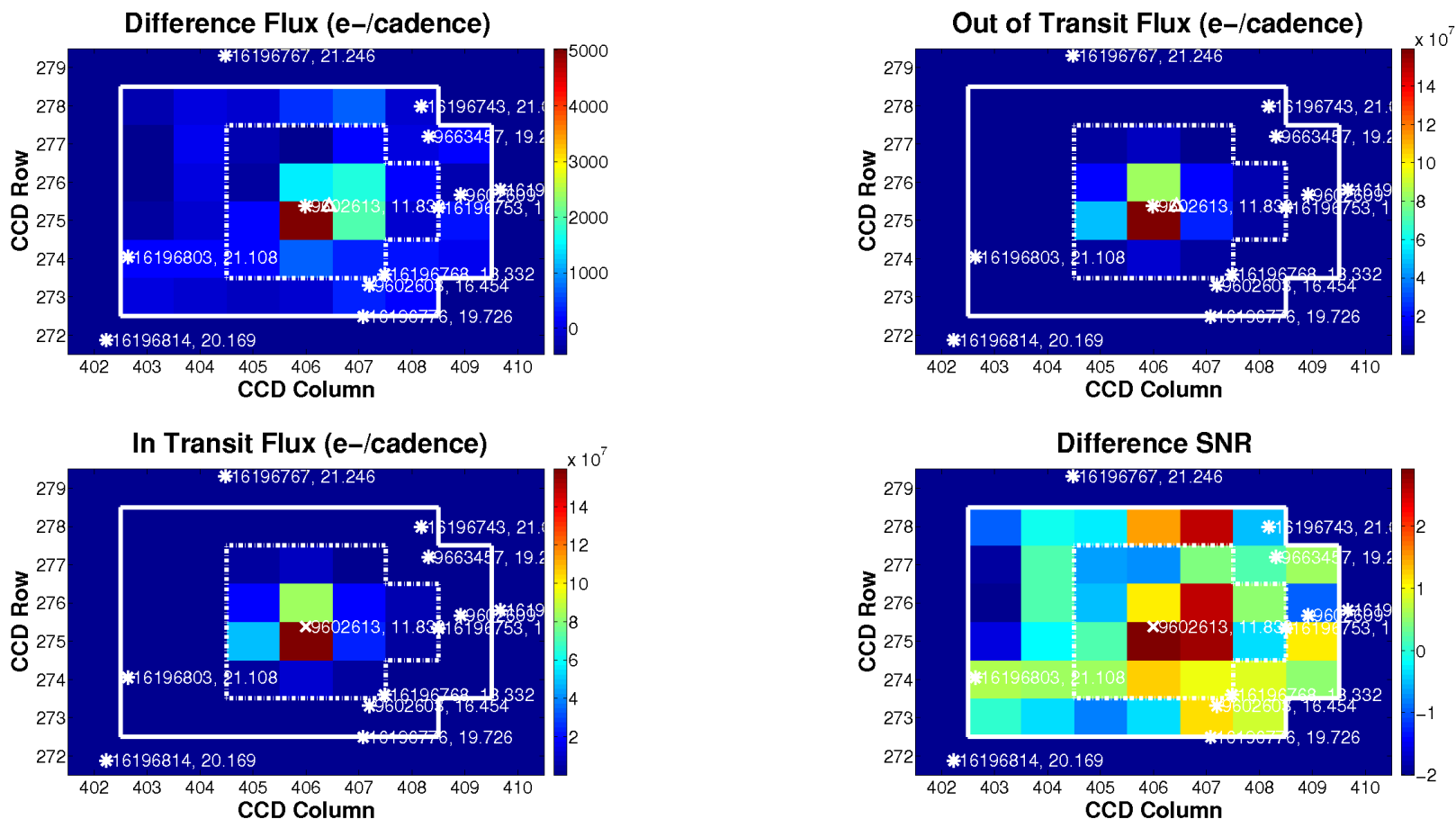
	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.87 \pm 1.09e - 05$	$409.26 \pm 1.01e - 05$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.38 \pm 9.09e - 02$	$409.46 \pm 5.80e - 02$	pixels	$19.80986514 \pm 9.05e - 06$	$46.29688437 \pm 7.40e - 05$	hours/degrees
Offset	$-0.4921 \pm 9.09e - 02$	$0.1976 \pm 5.80e - 02$	pixels	$-2.0954 \pm 3.38e - 01$	$-0.2363 \pm 2.67e - 01$	arcseconds
Offset/ $\sigma$	-5.41	3.41		-6.20	-0.89	
Offset Distance	$0.5303 \pm 8.69e - 02$		pixels	$2.1087 \pm 3.48e - 01$		arcseconds
Offset Distance/ $\sigma$	6.10			6.07		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 29.



**Difference Image**  
**Planet Candidate 1 / Quarter 5 / Target Table 32**



Difference image for target 9602613, planet candidate 1, quarter 5, target table 32. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 17; number of valid in-transit cadences = 76; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 185; number of out-of-transit cadence gaps = 3. Difference image quality metric = 0.95 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-05-032.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 32.

## 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	$275.38 \pm 2.64e - 06$	$405.99 \pm 2.43e - 06$	pixels	$19.80992151 \pm 1.02e - 09$	$46.29693879 \pm 1.02e - 08$	hours/degrees
Difference Image Centroid	$275.36 \pm 1.38e - 01$	$406.44 \pm 1.25e - 01$	pixels	$19.80989661 \pm 1.51e - 05$	$46.29736576 \pm 1.34e - 04$	hours/degrees
Offset	$-0.0218 \pm 1.38e - 01$	$0.4512 \pm 1.25e - 01$	pixels	$-0.9288 \pm 5.63e - 01$	$1.5371 \pm 4.82e - 01$	arcseconds
Offset/ $\sigma$	-0.16	3.62		-1.65	3.19	
Offset Distance	$0.4517 \pm 1.25e - 01$		pixels	$1.7959 \pm 5.00e - 01$		arcseconds
Offset Distance/ $\sigma$	3.60			3.59		

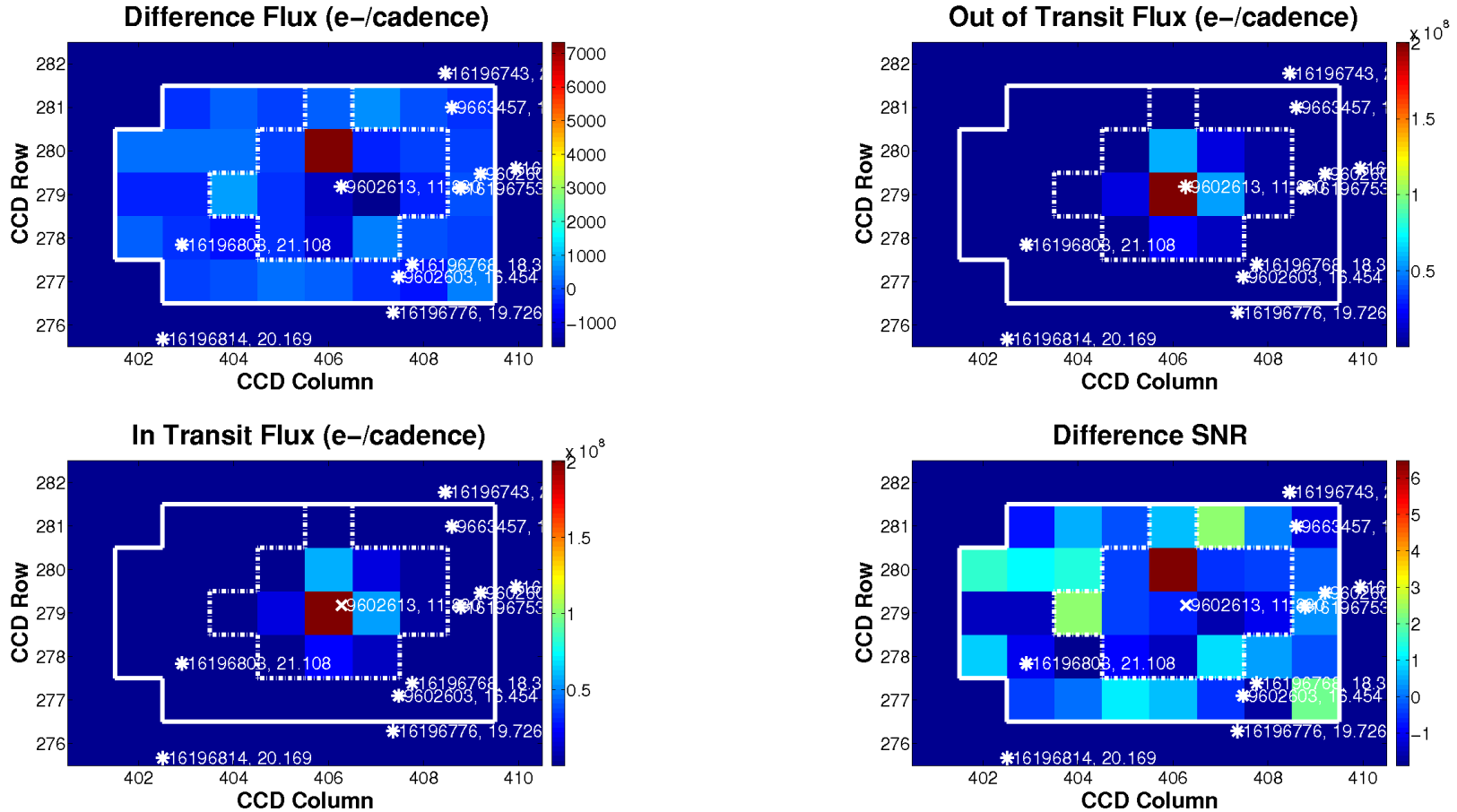
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.38 \pm 9.22e - 06$	$406.00 \pm 8.80e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$275.36 \pm 1.38e - 01$	$406.44 \pm 1.25e - 01$	pixels	$19.80989661 \pm 1.51e - 05$	$46.29736576 \pm 1.34e - 04$	hours/degrees
Offset	$-0.0249 \pm 1.38e - 01$	$0.4413 \pm 1.25e - 01$	pixels	$-0.9211 \pm 5.63e - 01$	$1.4967 \pm 4.82e - 01$	arcseconds
Offset/ $\sigma$	-0.18	3.54		-1.64	3.10	
Offset Distance	$0.4420 \pm 1.25e - 01$		pixels	$1.7574 \pm 5.00e - 01$		arcseconds
Offset Distance/ $\sigma$	3.52			3.51		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 32.

**Difference Image**  
**Planet Candidate 1 / Quarter 6 / Target Table 35**



Difference image for target 9602613, planet candidate 1, quarter 6, target table 35. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 16; number of valid in-transit cadences = 72; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 173; number of out-of-transit cadence gaps = 1. Difference image quality metric = N/A.

Open `./planet-01/difference-image/009602613-01-difference-image-06-035.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 35.

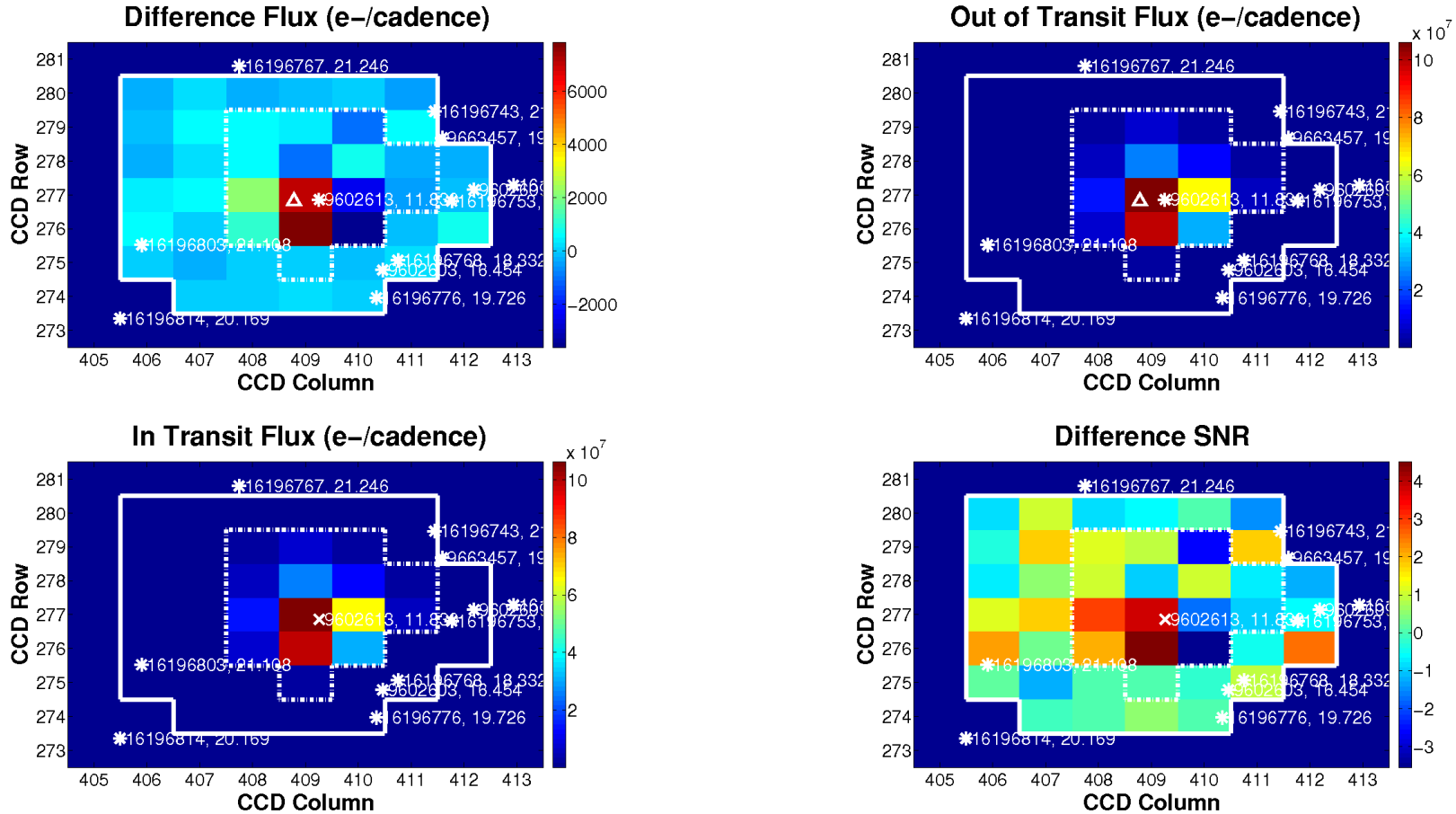
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 1, in target table 35.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 35.

### Difference Image Planet Candidate 1 / Quarter 8 / Target Table 41



Difference image for target 9602613, planet candidate 1, quarter 8, target table 41. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 11; number of valid in-transit cadences = 49; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 121; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.84 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-08-041.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 41.



## 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	$276.85 \pm 2.51e - 06$	$409.25 \pm 2.98e - 06$	pixels	$19.80992098 \pm 1.06e - 09$	$46.29693628 \pm 1.08e - 08$	hours/degrees
Difference Image Centroid	$276.81 \pm 8.30e - 02$	$408.78 \pm 1.16e - 01$	pixels	$19.80994102 \pm 8.85e - 06$	$46.29646011 \pm 1.29e - 04$	hours/degrees
Offset	$-0.0393 \pm 8.30e - 02$	$-0.4688 \pm 1.16e - 01$	pixels	$0.7477 \pm 3.30e - 01$	$-1.7142 \pm 4.63e - 01$	arcseconds
Offset/ $\sigma$	-0.47	-4.04		2.26	-3.71	
Offset Distance	$0.4704 \pm 1.17e - 01$		pixels	$1.8702 \pm 4.66e - 01$		arcseconds
Offset Distance/ $\sigma$	4.02			4.01		

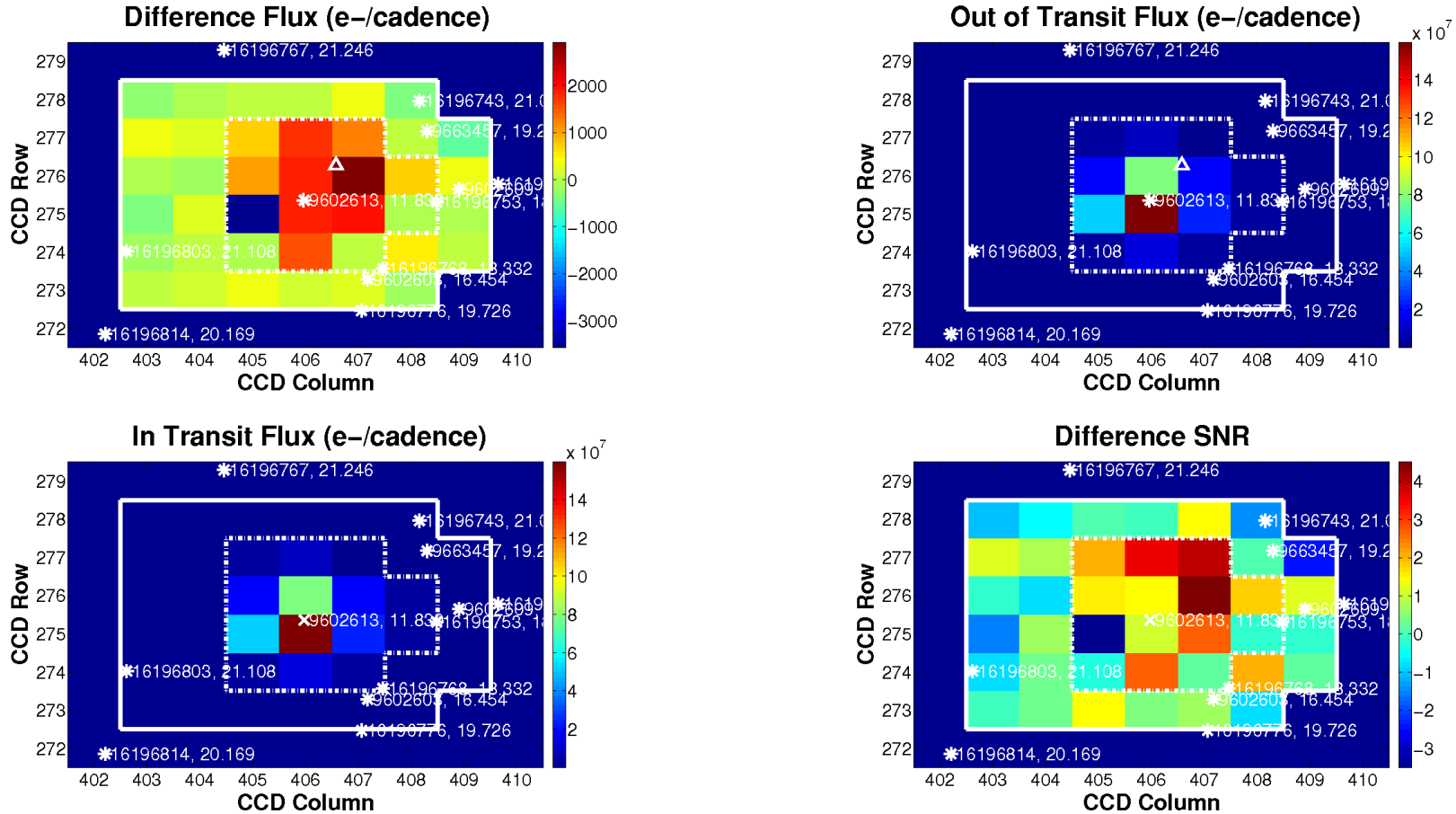
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.86 \pm 9.63e - 06$	$409.26 \pm 9.25e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.81 \pm 8.30e - 02$	$408.78 \pm 1.16e - 01$	pixels	$19.80994102 \pm 8.85e - 06$	$46.29646011 \pm 1.29e - 04$	hours/degrees
Offset	$-0.0478 \pm 8.30e - 02$	$-0.4783 \pm 1.16e - 01$	pixels	$0.7357 \pm 3.30e - 01$	$-1.7636 \pm 4.63e - 01$	arcseconds
Offset/ $\sigma$	-0.58	-4.12		2.23	-3.81	
Offset Distance	$0.4807 \pm 1.17e - 01$		pixels	$1.9109 \pm 4.67e - 01$		arcseconds
Offset Distance/ $\sigma$	4.10			4.09		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 41.

### Difference Image Planet Candidate 1 / Quarter 9 / Target Table 44



Difference image for target 9602613, planet candidate 1, quarter 9, target table 44. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 18; number of valid in-transit cadences = 77; number of in-transit cadence gaps = 2; number of valid out-of-transit cadences = 198; number of out-of-transit cadence gaps = 2. Difference image quality metric = 0.59 (not good).

Open `./planet-01/difference-image/009602613-01-difference-image-09-044.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 44.

## 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	$275.36 \pm 2.61e - 06$	$405.96 \pm 2.33e - 06$	pixels	$19.80992175 \pm 1.05e - 09$	$46.29693548 \pm 1.04e - 08$	hours/degrees
Difference Image Centroid	$276.27 \pm 9.39e - 02$	$406.58 \pm 9.48e - 02$	pixels	$19.80997615 \pm 1.03e - 05$	$46.29801048 \pm 1.02e - 04$	hours/degrees
Offset	$0.9117 \pm 9.39e - 02$	$0.6144 \pm 9.48e - 02$	pixels	$2.0296 \pm 3.84e - 01$	$3.8700 \pm 3.69e - 01$	arcseconds
Offset/ $\sigma$	9.71	6.48		5.29	10.50	
Offset Distance	$1.0994 \pm 9.21e - 02$		pixels	$4.3699 \pm 3.67e - 01$		arcseconds
Offset Distance/ $\sigma$	11.94			11.92		

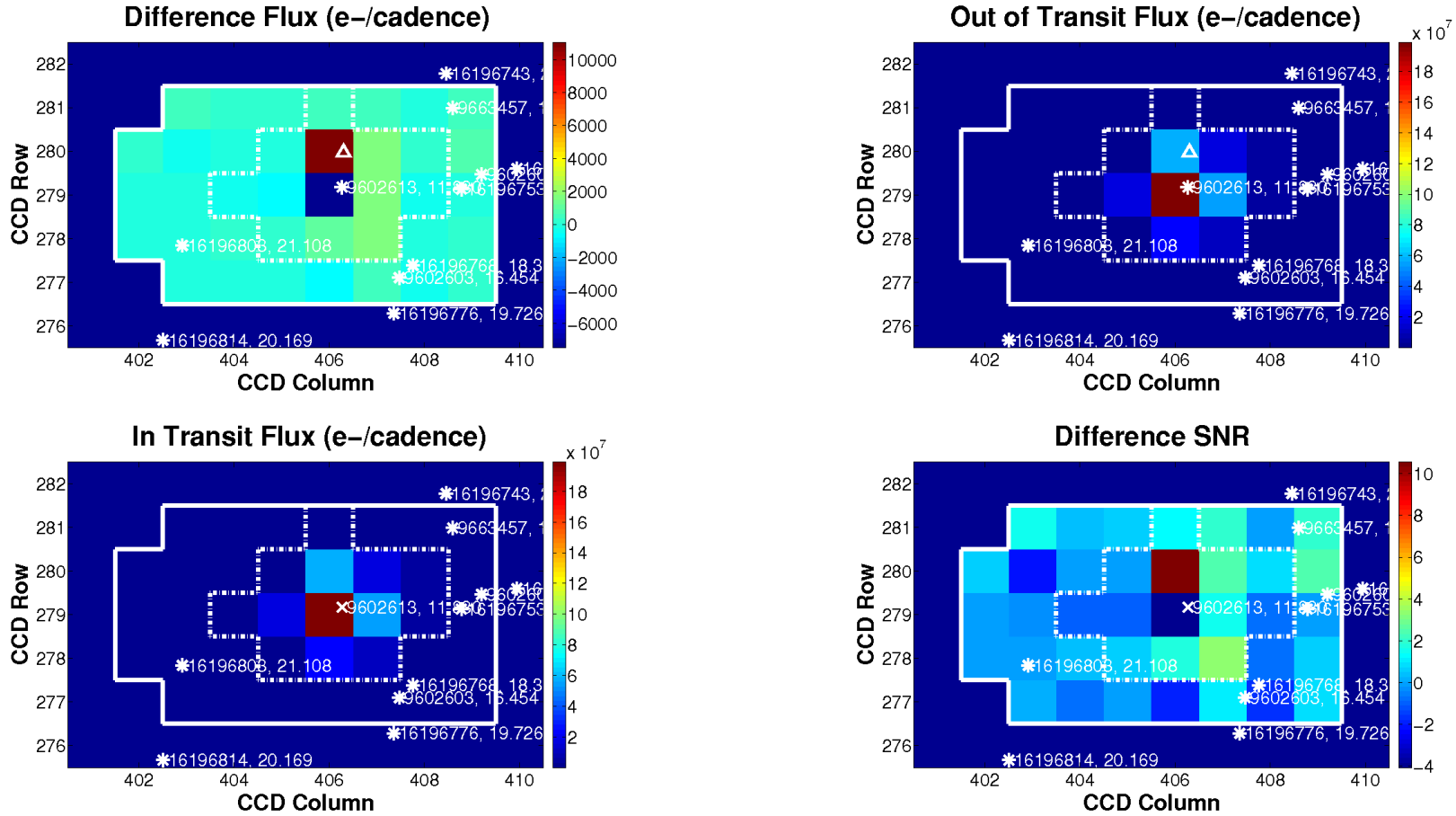
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.36 \pm 9.50e - 06$	$405.98 \pm 9.06e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.27 \pm 9.39e - 02$	$406.58 \pm 9.48e - 02$	pixels	$19.80997615 \pm 1.03e - 05$	$46.29801048 \pm 1.02e - 04$	hours/degrees
Offset	$0.9092 \pm 9.39e - 02$	$0.6008 \pm 9.48e - 02$	pixels	$2.0465 \pm 3.84e - 01$	$3.8177 \pm 3.69e - 01$	arcseconds
Offset/ $\sigma$	9.68	6.34		5.33	10.36	
Offset Distance	$1.0898 \pm 9.21e - 02$		pixels	$4.3316 \pm 3.67e - 01$		arcseconds
Offset Distance/ $\sigma$	11.83			11.81		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 44.

**Difference Image**  
**Planet Candidate 1 / Quarter 10 / Target Table 47**



Difference image for target 9602613, planet candidate 1, quarter 10, target table 47. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 19; number of valid in-transit cadences = 84; number of in-transit cadence gaps = 2; number of valid out-of-transit cadences = 205; number of out-of-transit cadence gaps = 3. Difference image quality metric = 0.73 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-10-047.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 47.

## 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	$279.17 \pm 2.04e - 06$	$406.26 \pm 2.86e - 06$	pixels	$19.80992141 \pm 9.56e - 10$	$46.29693721 \pm 1.07e - 08$	hours/degrees
Difference Image Centroid	$279.97 \pm 7.37e - 02$	$406.30 \pm 7.78e - 02$	pixels	$19.80999415 \pm 8.78e - 06$	$46.29739432 \pm 7.62e - 05$	hours/degrees
Offset	$0.7974 \pm 7.37e - 02$	$0.0403 \pm 7.78e - 02$	pixels	$2.7142 \pm 3.28e - 01$	$1.6456 \pm 2.74e - 01$	arcseconds
Offset/ $\sigma$	10.82	0.52		8.28	6.00	
Offset Distance	$0.7984 \pm 7.28e - 02$		pixels	$3.1741 \pm 2.91e - 01$		arcseconds
Offset Distance/ $\sigma$	10.97			10.92		

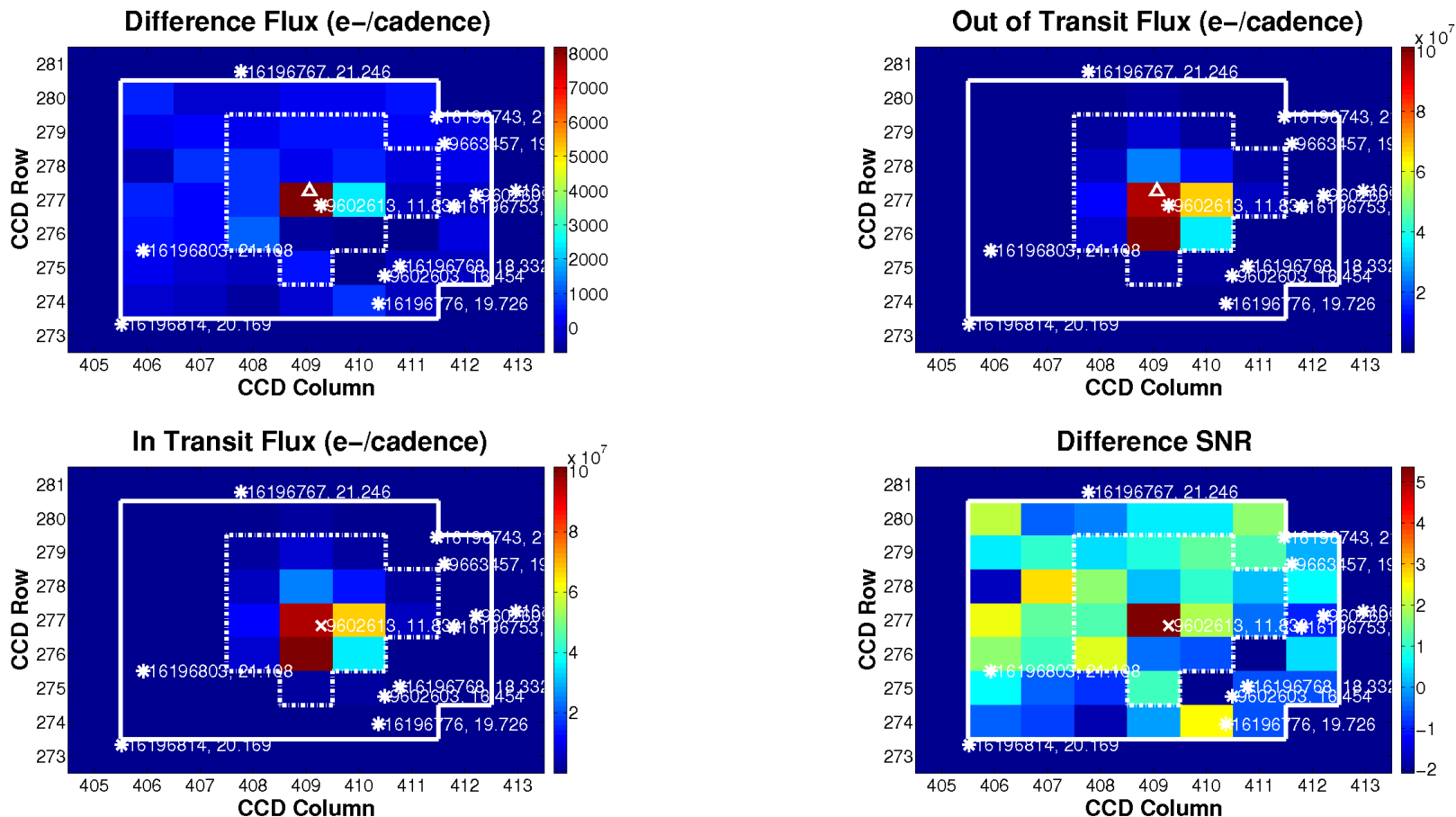
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.18 \pm 8.28e - 06$	$406.27 \pm 9.62e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.97 \pm 7.37e - 02$	$406.30 \pm 7.78e - 02$	pixels	$19.80999415 \pm 8.78e - 06$	$46.29739432 \pm 7.62e - 05$	hours/degrees
Offset	$0.7928 \pm 7.37e - 02$	$0.0296 \pm 7.78e - 02$	pixels	$2.7182 \pm 3.28e - 01$	$1.5996 \pm 2.74e - 01$	arcseconds
Offset/ $\sigma$	10.76	0.38		8.30	5.83	
Offset Distance	$0.7933 \pm 7.30e - 02$		pixels	$3.1539 \pm 2.92e - 01$		arcseconds
Offset Distance/ $\sigma$	10.87			10.82		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 47.

**Difference Image**  
**Planet Candidate 1 / Quarter 12 / Target Table 53**



Difference image for target 9602613, planet candidate 1, quarter 12, target table 53. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 14; number of valid in-transit cadences = 63; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 152; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.91 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-12-053.fig`



The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 53.

## 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	$276.82 \pm 2.32e - 06$	$409.29 \pm 2.60e - 06$	pixels	$19.80992035 \pm 1.05e - 09$	$46.29694447 \pm 9.28e - 09$	hours/degrees
Difference Image Centroid	$277.24 \pm 1.97e - 01$	$409.07 \pm 1.20e - 01$	pixels	$19.80997054 \pm 1.87e - 05$	$46.29694991 \pm 1.67e - 04$	hours/degrees
Offset	$0.4168 \pm 1.97e - 01$	$-0.2190 \pm 1.20e - 01$	pixels	$1.8724 \pm 6.96e - 01$	$0.0196 \pm 6.01e - 01$	arcseconds
Offset/ $\sigma$	2.12	-1.82		2.69	0.03	
Offset Distance	$0.4708 \pm 1.75e - 01$		pixels	$1.8725 \pm 6.99e - 01$		arcseconds
Offset Distance/ $\sigma$	2.70			2.68		

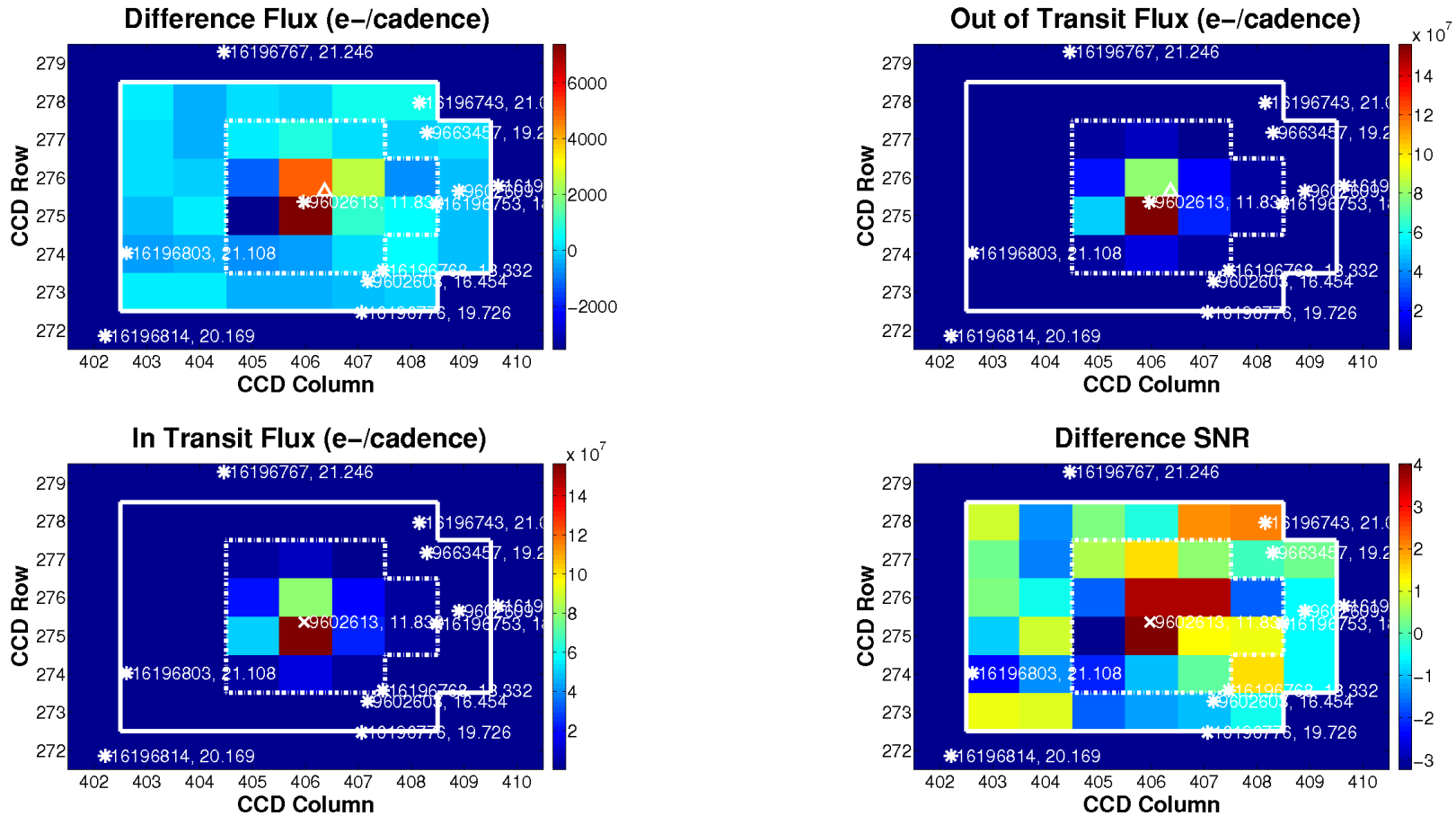
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.83 \pm 1.00e - 05$	$409.29 \pm 7.34e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$277.24 \pm 1.97e - 01$	$409.07 \pm 1.20e - 01$	pixels	$19.80997054 \pm 1.87e - 05$	$46.29694991 \pm 1.67e - 04$	hours/degrees
Offset	$0.4066 \pm 1.97e - 01$	$-0.2192 \pm 1.20e - 01$	pixels	$1.8371 \pm 6.96e - 01$	$-0.0003 \pm 6.01e - 01$	arcseconds
Offset/ $\sigma$	2.07	-1.82		2.64	-0.00	
Offset Distance	$0.4619 \pm 1.74e - 01$		pixels	$1.8371 \pm 6.96e - 01$		arcseconds
Offset Distance/ $\sigma$	2.66			2.64		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 53.

### Difference Image Planet Candidate 1 / Quarter 13 / Target Table 56



Difference image for target 9602613, planet candidate 1, quarter 13, target table 56. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 15; number of valid in-transit cadences = 64; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 168; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.86 (good).

Open `./planet-01/difference-image/009602613-01-difference-image-13-056.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 56.

## 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	$275.36 \pm 2.85e - 06$	$405.96 \pm 2.56e - 06$	pixels	$19.80992215 \pm 1.11e - 09$	$46.29693845 \pm 1.11e - 08$	hours/degrees
Difference Image Centroid	$275.64 \pm 1.10e - 01$	$406.36 \pm 1.04e - 01$	pixels	$19.80992760 \pm 1.26e - 05$	$46.29747262 \pm 1.06e - 04$	hours/degrees
Offset	$0.2749 \pm 1.10e - 01$	$0.4014 \pm 1.04e - 01$	pixels	$0.2037 \pm 4.70e - 01$	$1.9230 \pm 3.80e - 01$	arcseconds
Offset/ $\sigma$	2.51	3.84		0.43	5.06	
Offset Distance	$0.4865 \pm 9.48e - 02$		pixels	$1.9338 \pm 3.77e - 01$		arcseconds
Offset Distance/ $\sigma$	5.13			5.13		

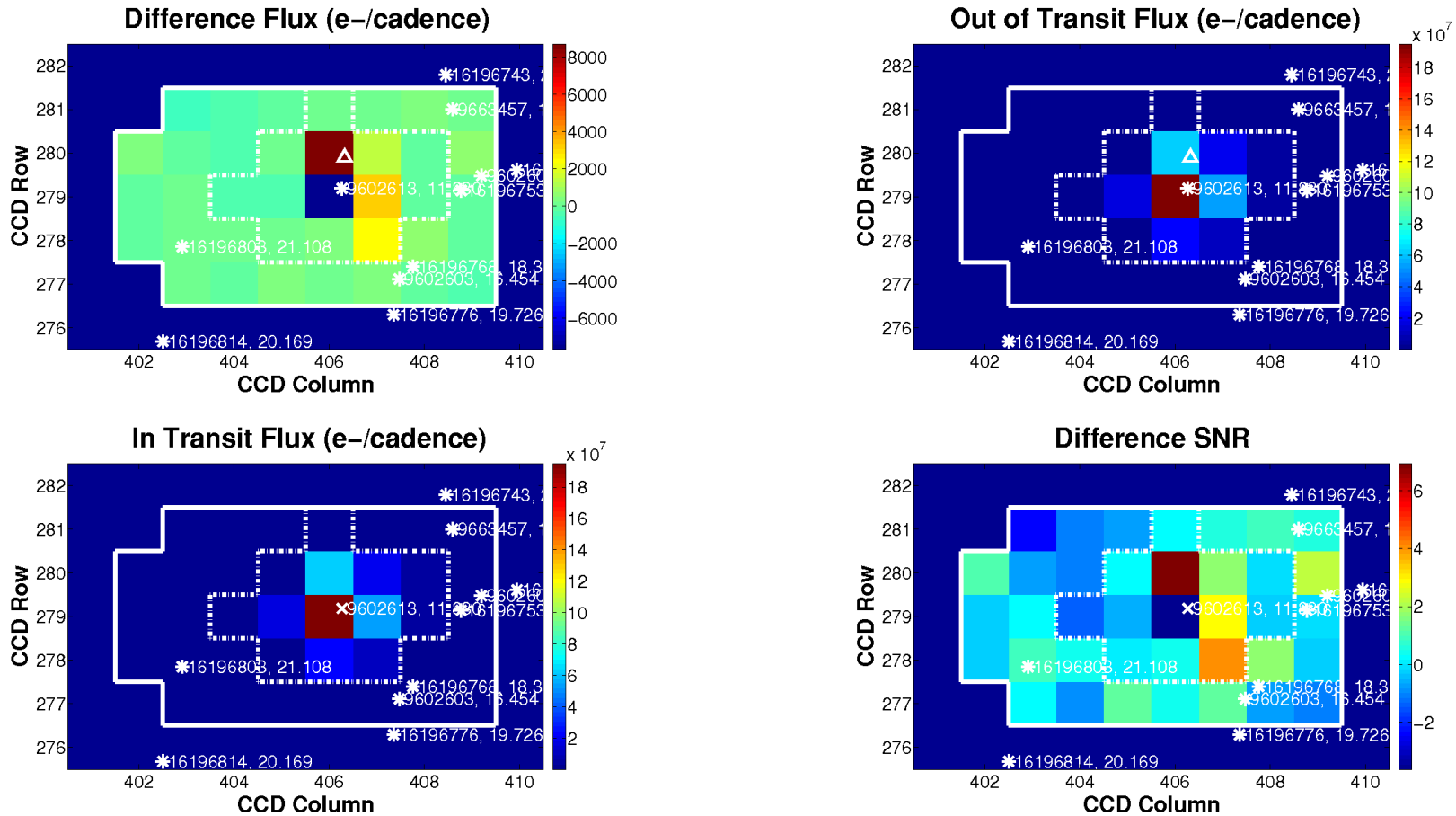
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.36 \pm 1.01e - 05$	$405.98 \pm 9.63e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$275.64 \pm 1.10e - 01$	$406.36 \pm 1.04e - 01$	pixels	$19.80992760 \pm 1.26e - 05$	$46.29747262 \pm 1.06e - 04$	hours/degrees
Offset	$0.2770 \pm 1.10e - 01$	$0.3884 \pm 1.04e - 01$	pixels	$0.2352 \pm 4.70e - 01$	$1.8814 \pm 3.80e - 01$	arcseconds
Offset/ $\sigma$	2.53	3.72		0.50	4.95	
Offset Distance	$0.4771 \pm 9.48e - 02$		pixels	$1.8961 \pm 3.77e - 01$		arcseconds
Offset Distance/ $\sigma$	5.03			5.03		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 56.

**Difference Image**  
**Planet Candidate 1 / Quarter 14 / Target Table 59**



Difference image for target 9602613, planet candidate 1, quarter 14, target table 59. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 14; number of valid in-transit cadences = 61; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 154; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.61 (not good).

Open `./planet-01/difference-image/009602613-01-difference-image-14-059.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 59.

## 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	$279.19 \pm 2.37e - 06$	$406.26 \pm 3.31e - 06$	pixels	$19.80992166 \pm 9.63e - 10$	$46.29694007 \pm 1.09e - 08$	hours/degrees
Difference Image Centroid	$279.90 \pm 1.55e - 01$	$406.32 \pm 1.17e - 01$	pixels	$19.80998545 \pm 1.66e - 05$	$46.29737535 \pm 1.28e - 04$	hours/degrees
Offset	$0.7141 \pm 1.55e - 01$	$0.0628 \pm 1.17e - 01$	pixels	$2.3800 \pm 6.21e - 01$	$1.5670 \pm 4.61e - 01$	arcseconds
Offset/ $\sigma$	4.62	0.54		3.83	3.40	
Offset Distance	$0.7168 \pm 1.53e - 01$		pixels	$2.8495 \pm 6.09e - 01$		arcseconds
Offset Distance/ $\sigma$	4.70			4.68		

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

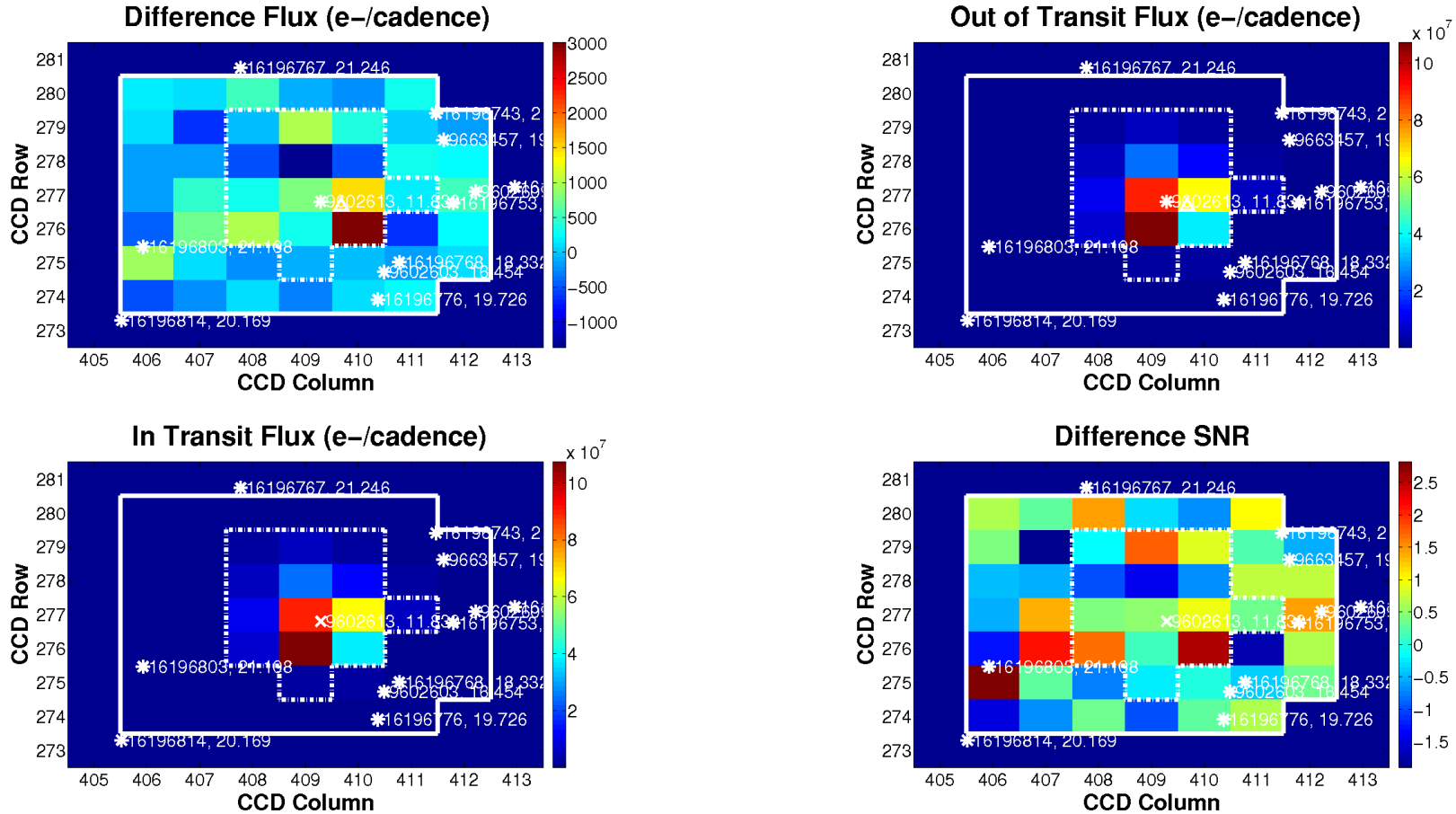
	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.19 \pm 8.21e - 06$	$406.27 \pm 9.66e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.90 \pm 1.55e - 01$	$406.32 \pm 1.17e - 01$	pixels	$19.80998545 \pm 1.66e - 05$	$46.29737535 \pm 1.28e - 04$	hours/degrees
Offset	$0.7128 \pm 1.55e - 01$	$0.0533 \pm 1.17e - 01$	pixels	$2.3936 \pm 6.21e - 01$	$1.5312 \pm 4.61e - 01$	arcseconds
Offset/ $\sigma$	4.61	0.46		3.86	3.32	
Offset Distance	$0.7148 \pm 1.53e - 01$		pixels	$2.8415 \pm 6.11e - 01$		arcseconds
Offset Distance/ $\sigma$	4.67			4.65		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 59.



**Difference Image**  
**Planet Candidate 1 / Quarter 16 / Target Table 65**



Difference image for target 9602613, planet candidate 1, quarter 16, target table 65. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 10; number of valid in-transit cadences = 45; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 110; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.66 (not good).

Open `./planet-01/difference-image/009602613-01-difference-image-16-065.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 1 failed, or there were no observed transits for this candidate in target table 65.

## 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	$276.79 \pm 2.87e - 06$	$409.29 \pm 3.05e - 06$	pixels	$19.80992037 \pm 1.03e - 09$	$46.29694418 \pm 9.00e - 09$	hours/degrees
Difference Image Centroid	$276.66 \pm 3.05e - 01$	$409.68 \pm 4.21e - 01$	pixels	$19.80988851 \pm 3.81e - 05$	$46.29725293 \pm 4.20e - 04$	hours/degrees
Offset	$-0.1304 \pm 3.05e - 01$	$0.3880 \pm 4.21e - 01$	pixels	$-1.1890 \pm 1.42e + 00$	$1.1115 \pm 1.51e + 00$	arcseconds
Offset/ $\sigma$	-0.43	0.92		-0.84	0.74	
Offset Distance	$0.4093 \pm 4.23e - 01$		pixels	$1.6276 \pm 1.69e + 00$		arcseconds
Offset Distance/ $\sigma$	0.97			0.96		

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

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.80 \pm 9.65e - 06$	$409.29 \pm 6.91e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.66 \pm 3.05e - 01$	$409.68 \pm 4.21e - 01$	pixels	$19.80988851 \pm 3.81e - 05$	$46.29725293 \pm 4.20e - 04$	hours/degrees
Offset	$-0.1405 \pm 3.05e - 01$	$0.3874 \pm 4.21e - 01$	pixels	$-1.2235 \pm 1.42e + 00$	$1.0906 \pm 1.51e + 00$	arcseconds
Offset/ $\sigma$	-0.46	0.92		-0.86	0.72	
Offset Distance	$0.4121 \pm 4.22e - 01$		pixels	$1.6390 \pm 1.68e + 00$		arcseconds
Offset Distance/ $\sigma$	0.98			0.97		

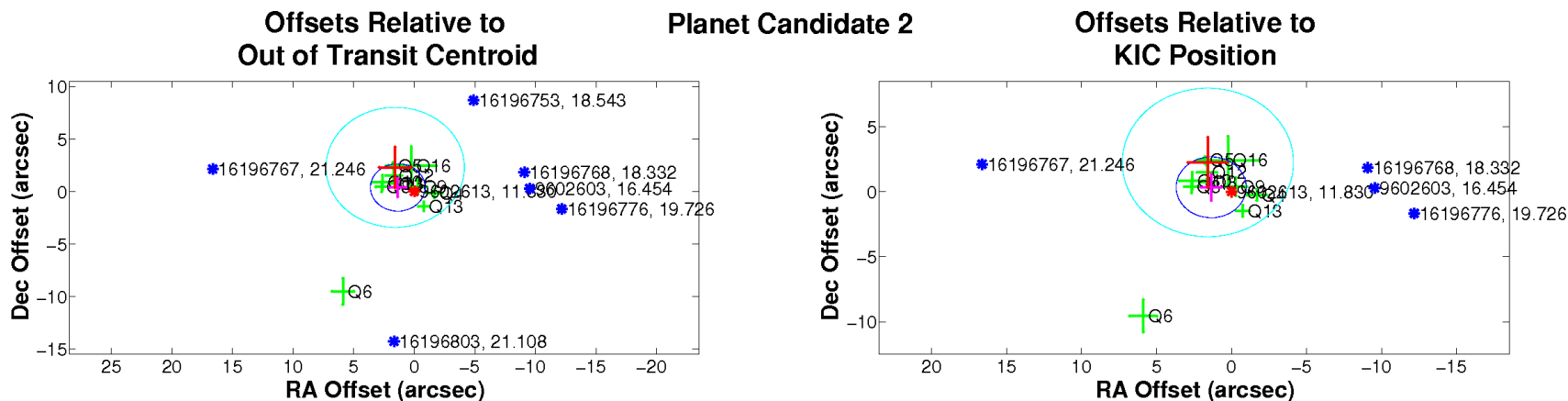
## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 1, in target table 65.

## 6.2 Planet Candidate 2

Difference Image Summary Metrics

Number of Difference Images	Number of Metrics	Number of Good Metrics	Fraction of Good Metrics	Quality Threshold
13	10	7	0.7000	0.70



Difference image centroid offsets for target 9602613, planet candidate 2. Left: difference image PRF centroid offsets in RA and Dec with respect to the quarterly out-of-transit centroids for the given target. Right: difference image PRF centroid offsets in RA and Dec with respect to the KIC coordinates of the given target. Symbol key: green cross: quarterly centroid offsets with 1-sigma error bars in RA and Dec; magenta cross: robust weighted mean offset over all quarters with 1-sigma error bars in RA and Dec; blue circle: 3-sigma radius of confusion for weighted mean offset; red cross (where applicable): multi-quarter PRF centroid offset with 1-sigma error bars in RA and Dec; cyan circle (where applicable): 3-sigma radius of confusion for multi-quarter PRF offset; red asterisk: location of target star; blue asterisk: location of other KIC objects in the neighborhood. KIC ID and magnitude are noted in the text associated with each marked object (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000). A constant error term of 0.0667 arcseconds has been added in quadrature to the computed uncertainty in the RA and Dec components of the robust mean offset and the multi-quarter PRF offset.

Open `./planet-02/difference-image/009602613-02-difference-image-centroid-offsets.fig`

## Multi-Quarter Average PRF Fit of the Difference Images

Mean offset from the PRF fit to the out of transit image			
	RA	Dec	Units
Offset	$1.3643 \pm 6.96e - 01$	$0.3796 \pm 8.88e - 01$	arcseconds
Offset/ $\sigma$	1.96	0.43	
Offset Distance	$1.4161 \pm 7.51e - 01$		arcseconds
Offset Distance/ $\sigma$	1.89		
$3\sigma$ Radius	2.2532		arcseconds

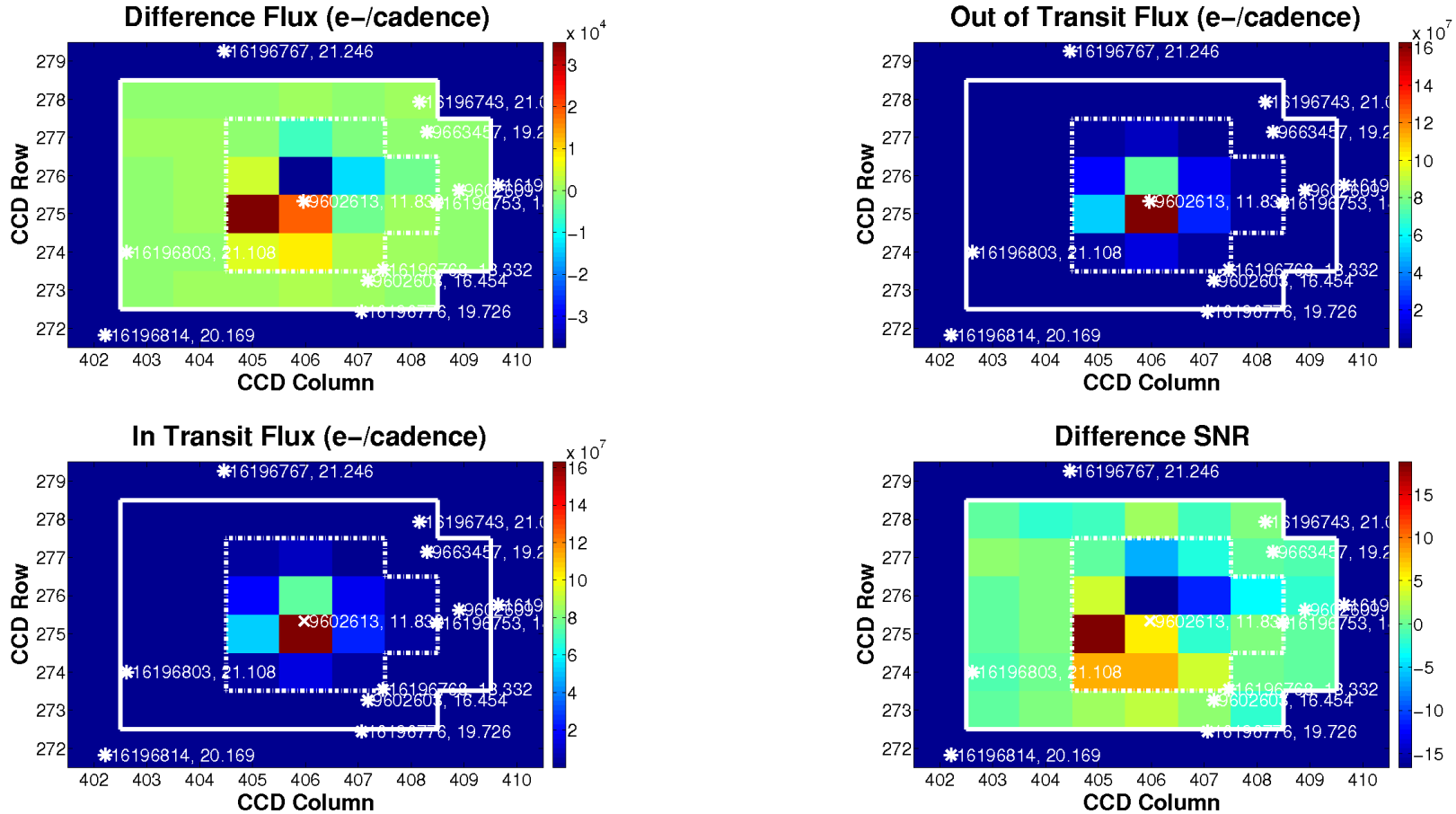
Mean offset from the KIC RA and Dec			
	RA	Dec	Units
Offset	$1.3553 \pm 6.75e - 01$	$0.3337 \pm 1.01e + 00$	arcseconds
Offset/ $\sigma$	2.01	0.33	
Offset Distance	$1.3958 \pm 7.78e - 01$		arcseconds
Offset Distance/ $\sigma$	1.79		
$3\sigma$ Radius	2.3355		arcseconds

## Bootstrap Multi-Quarter PRF Fit of the Difference Images

Bootstrap offset from the PRF fit to the out of transit image			
	RA	Dec	Units
Out of Transit	$19.80992133 \pm 4.55e - 07$	$46.29693704 \pm 1.49e - 06$	hours/degrees
Difference Image	$19.80996358 \pm 3.52e - 05$	$46.29757470 \pm 5.36e - 04$	hours/degrees
Offset	$1.5764 \pm 1.32e + 00$	$2.2955 \pm 1.93e + 00$	arcseconds
Offset/ $\sigma$	1.20	1.19	
Offset Distance	$2.7847 \pm 1.90e + 00$		arcseconds
Offset Distance/ $\sigma$	1.46		
$3\sigma$ Radius	5.7126		arcseconds
Bootstrap offset from the KIC RA and Dec			
	RA	Dec	Units
KIC Reference	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image	$19.80996358 \pm 3.52e - 05$	$46.29757470 \pm 5.36e - 04$	hours/degrees
Offset	$1.5775 \pm 1.32e + 00$	$2.2489 \pm 1.93e + 00$	arcseconds
Offset/ $\sigma$	1.20	1.17	
Offset Distance	$2.7470 \pm 1.90e + 00$		arcseconds
Offset Distance/ $\sigma$	1.44		
$3\sigma$ Radius	5.7068		arcseconds

Pixel correlation centroid offsets figure cannot be generated because there are no valid centroid offsets.

### Difference Image Planet Candidate 2 / Quarter 1 / Target Table 20



Difference image for target 9602613, planet candidate 2, quarter 1, target table 20. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 5; number of valid in-transit cadences = 23; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 56; number of out-of-transit cadence gaps = 0. Difference image quality metric = N/A.

Open `./planet-02/difference-image/009602613-02-difference-image-01-020.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 20.



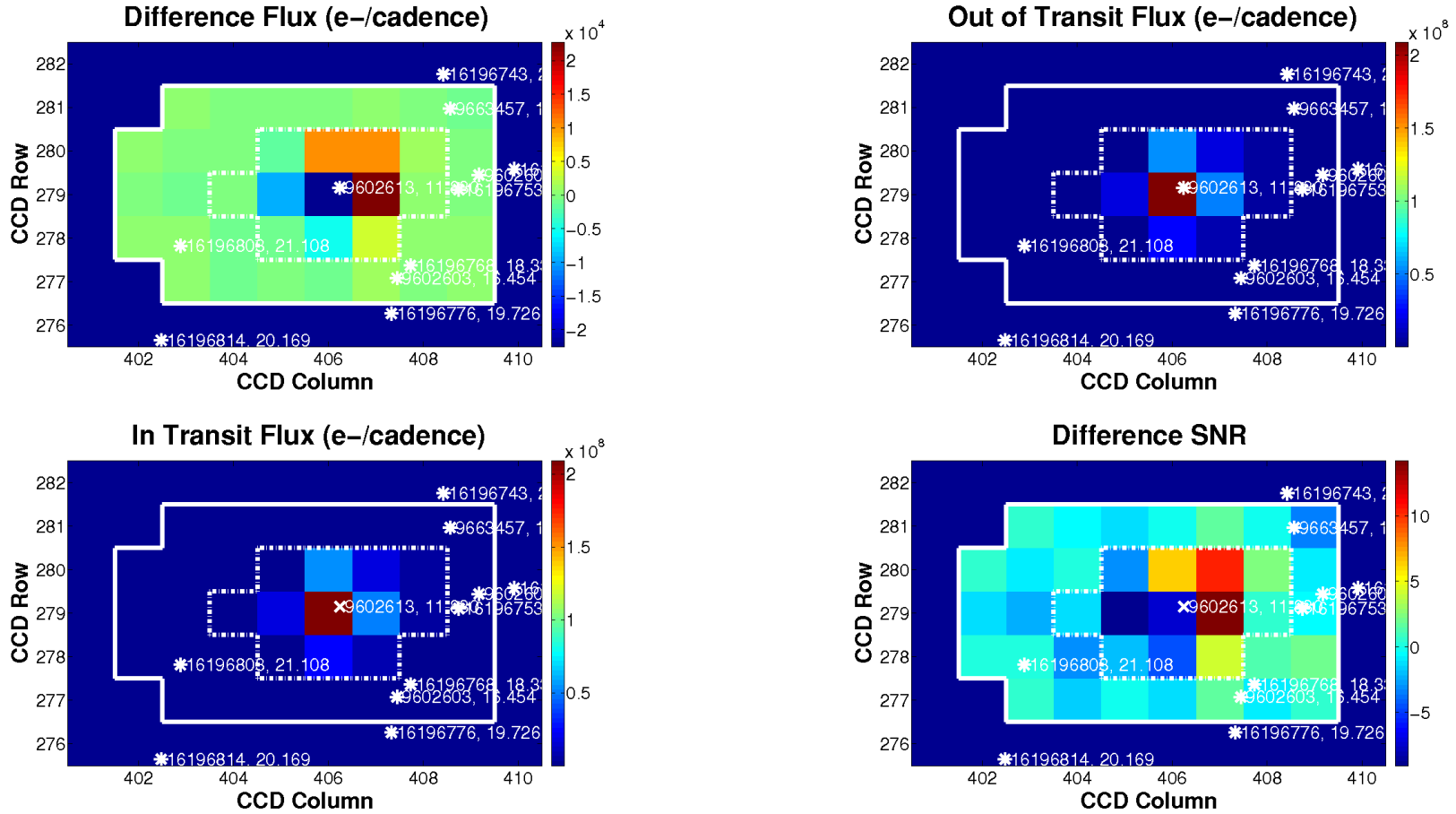
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 2, in target table 20.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 20.

### Difference Image Planet Candidate 2 / Quarter 2 / Target Table 21



Difference image for target 9602613, planet candidate 2, quarter 2, target table 21. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 7; number of valid in-transit cadences = 31; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 79; number of out-of-transit cadence gaps = 0. Difference image quality metric = N/A.

Open `./planet-02/difference-image/009602613-02-difference-image-02-021.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 21.

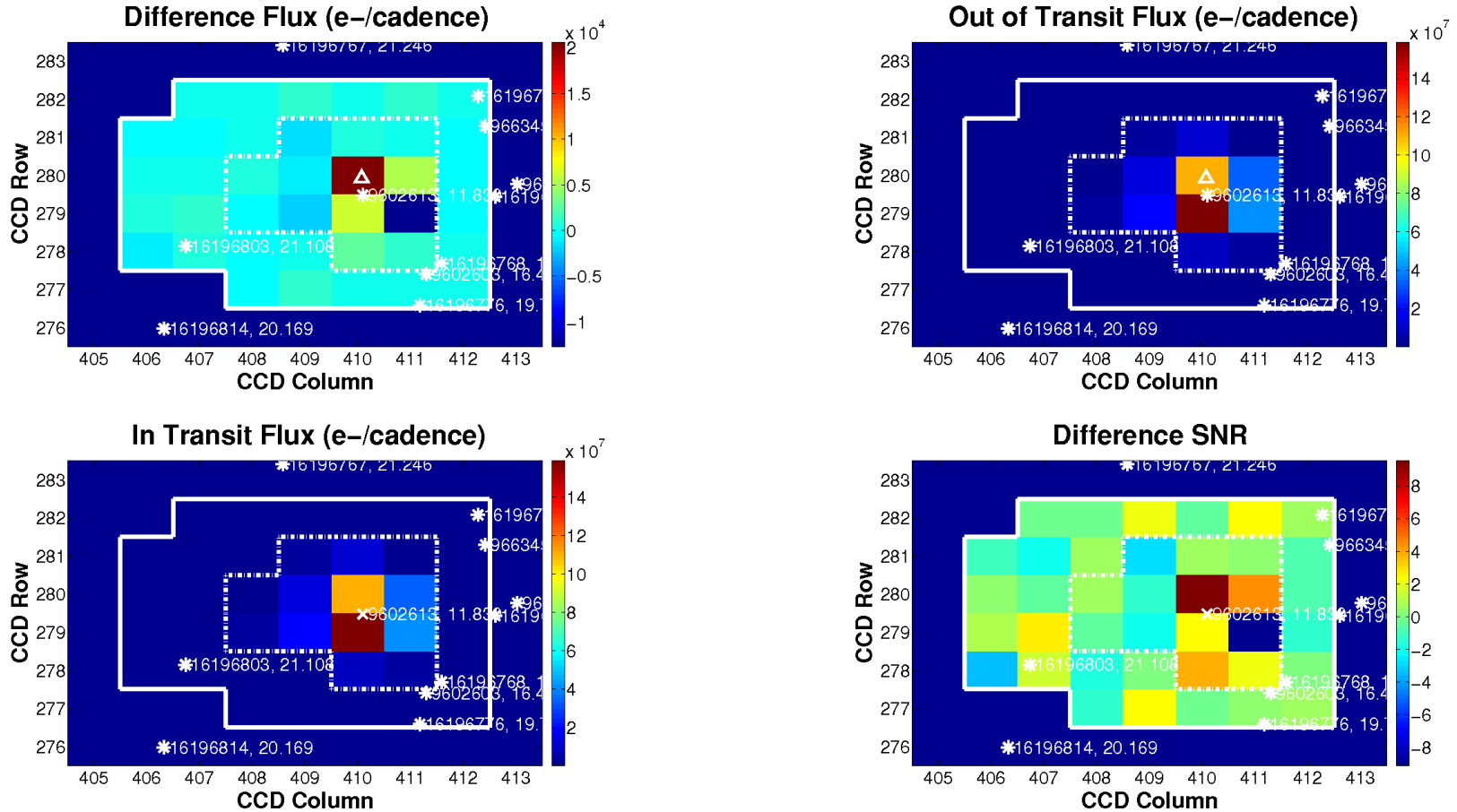
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 2, in target table 21.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 21.

**Difference Image**  
**Planet Candidate 2 / Quarter 3 / Target Table 26**



Difference image for target 9602613, planet candidate 2, quarter 3, target table 26. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 8; number of valid in-transit cadences = 35; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 88; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.81 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-03-026.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 26.

## 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	$279.47 \pm 2.49e - 06$	$410.10 \pm 3.38e - 06$	pixels	$19.80992047 \pm 8.21e - 10$	$46.29694822 \pm 7.71e - 09$	hours/degrees
Difference Image Centroid	$279.92 \pm 1.17e - 01$	$410.08 \pm 7.48e - 02$	pixels	$19.80996384 \pm 1.19e - 05$	$46.29716137 \pm 9.14e - 05$	hours/degrees
Offset	$0.4499 \pm 1.17e - 01$	$-0.0230 \pm 7.48e - 02$	pixels	$1.6181 \pm 4.45e - 01$	$0.7674 \pm 3.29e - 01$	arcseconds
Offset/ $\sigma$	3.85	-0.31		3.63	2.33	
Offset Distance	$0.4505 \pm 1.17e - 01$		pixels	$1.7909 \pm 4.67e - 01$		arcseconds
Offset Distance/ $\sigma$	3.85			3.83		

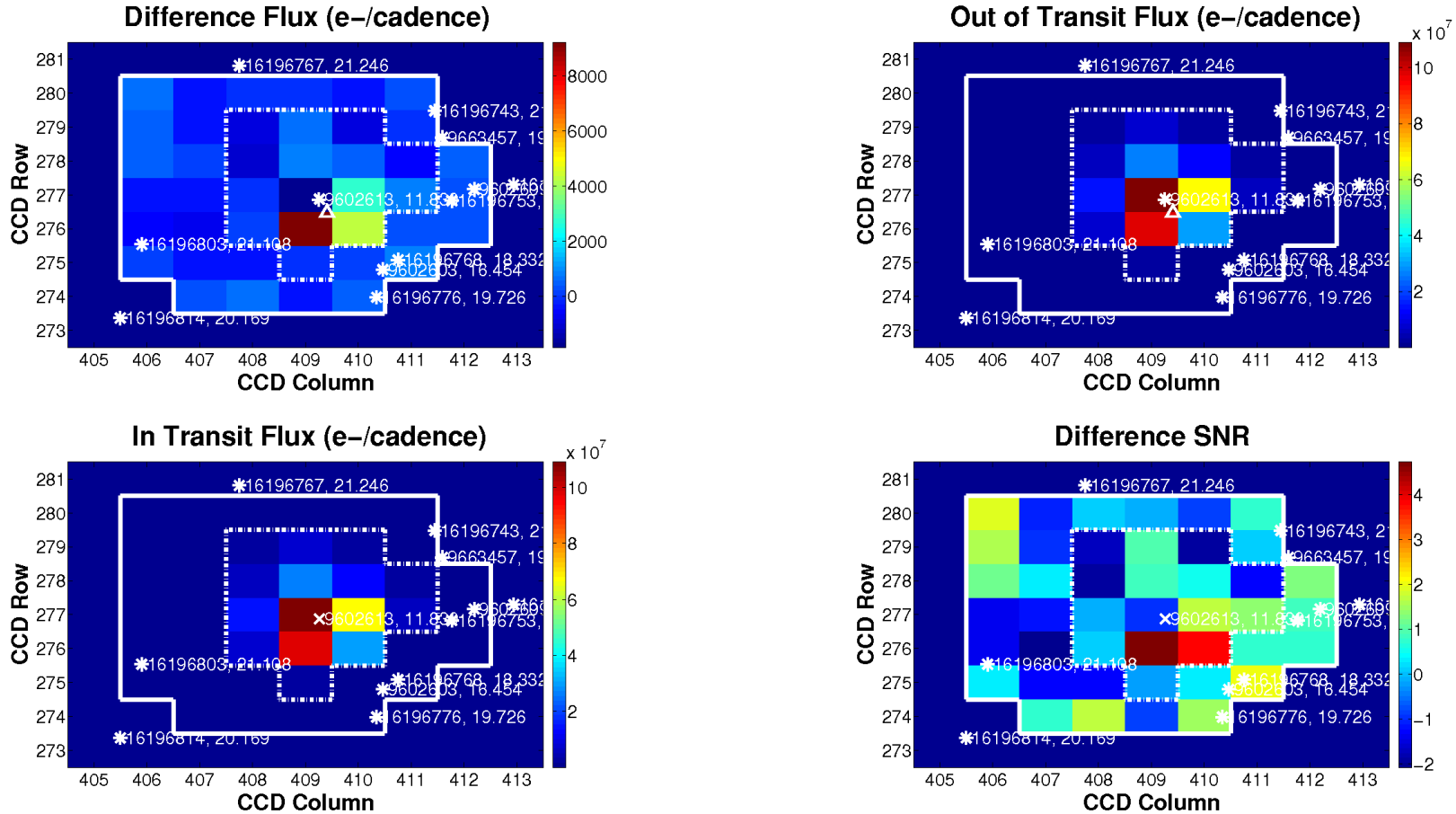
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.48 \pm 7.52e - 06$	$410.10 \pm 5.77e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.92 \pm 1.17e - 01$	$410.08 \pm 7.48e - 02$	pixels	$19.80996384 \pm 1.19e - 05$	$46.29716137 \pm 9.14e - 05$	hours/degrees
Offset	$0.4423 \pm 1.17e - 01$	$-0.0208 \pm 7.48e - 02$	pixels	$1.5873 \pm 4.45e - 01$	$0.7609 \pm 3.29e - 01$	arcseconds
Offset/ $\sigma$	3.79	-0.28		3.56	2.31	
Offset Distance	$0.4428 \pm 1.17e - 01$		pixels	$1.7603 \pm 4.67e - 01$		arcseconds
Offset Distance/ $\sigma$	3.78			3.77		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 26.

### Difference Image Planet Candidate 2 / Quarter 4 / Target Table 29



Difference image for target 9602613, planet candidate 2, quarter 4, target table 29. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 9; number of valid in-transit cadences = 39; number of in-transit cadence gaps = 2; number of valid out-of-transit cadences = 97; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.85 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-04-029.fig`



The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 29.

## 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	$276.86 \pm 2.78e - 06$	$409.25 \pm 3.34e - 06$	pixels	$19.80992055 \pm 1.19e - 09$	$46.29692803 \pm 1.19e - 08$	hours/degrees
Difference Image Centroid	$276.47 \pm 1.71e - 01$	$409.41 \pm 9.01e - 02$	pixels	$19.80987612 \pm 1.74e - 05$	$46.29687932 \pm 1.16e - 04$	hours/degrees
Offset	$-0.3879 \pm 1.71e - 01$	$0.1589 \pm 9.01e - 02$	pixels	$-1.6577 \pm 6.48e - 01$	$-0.1754 \pm 4.19e - 01$	arcseconds
Offset/ $\sigma$	-2.27	1.76		-2.56	-0.42	
Offset Distance	$0.4192 \pm 1.66e - 01$		pixels	$1.6669 \pm 6.65e - 01$		arcseconds
Offset Distance/ $\sigma$	2.52			2.51		

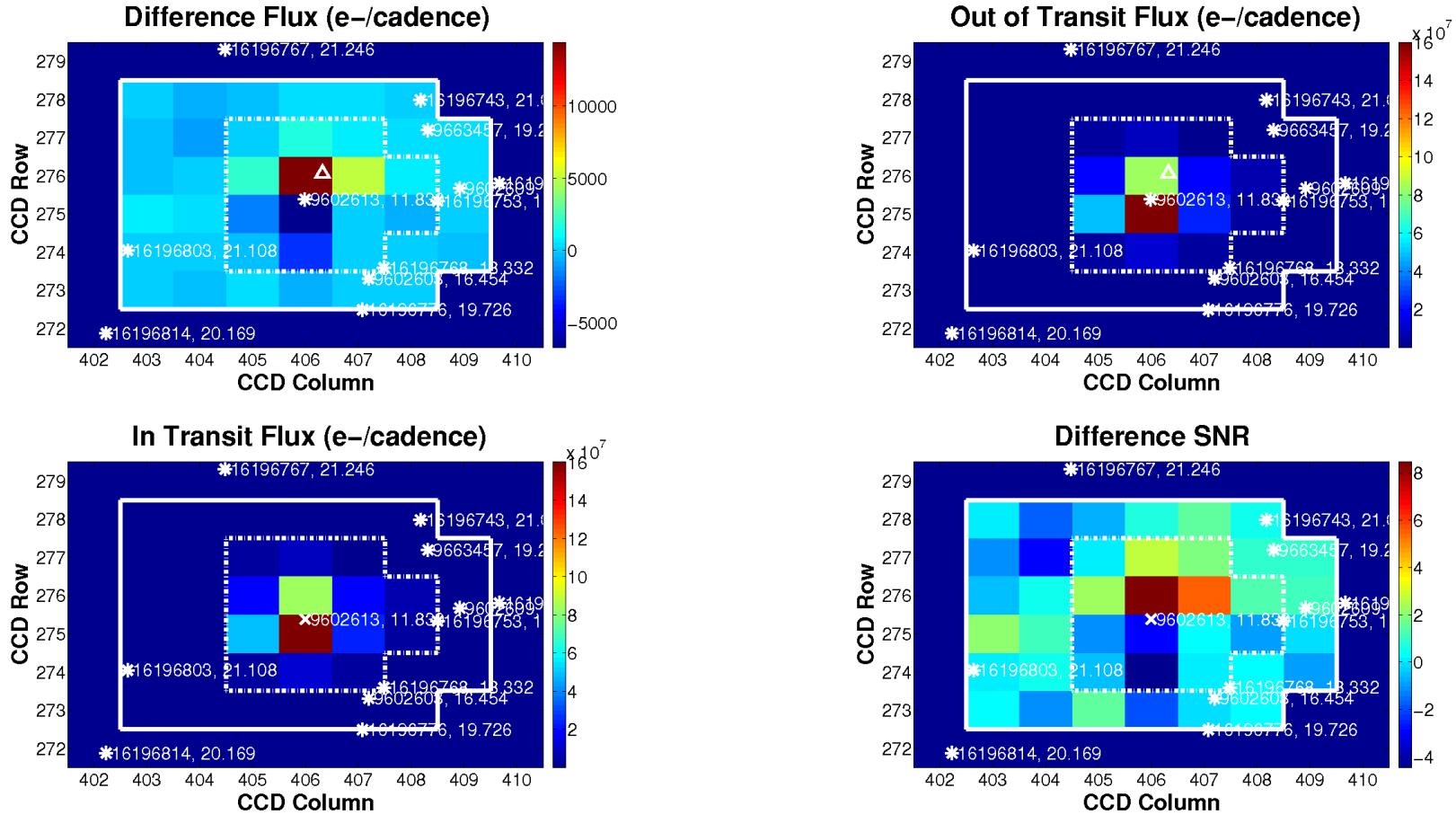
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.88 \pm 1.09e - 05$	$409.26 \pm 1.01e - 05$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.47 \pm 1.71e - 01$	$409.41 \pm 9.01e - 02$	pixels	$19.80987612 \pm 1.74e - 05$	$46.29687932 \pm 1.16e - 04$	hours/degrees
Offset	$-0.4036 \pm 1.71e - 01$	$0.1447 \pm 9.01e - 02$	pixels	$-1.6858 \pm 6.48e - 01$	$-0.2545 \pm 4.19e - 01$	arcseconds
Offset/ $\sigma$	-2.36	1.61		-2.60	-0.61	
Offset Distance	$0.4287 \pm 1.68e - 01$		pixels	$1.7048 \pm 6.71e - 01$		arcseconds
Offset Distance/ $\sigma$	2.56			2.54		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 29.

**Difference Image**  
**Planet Candidate 2 / Quarter 5 / Target Table 32**



Difference image for target 9602613, planet candidate 2, quarter 5, target table 32. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 10; number of valid in-transit cadences = 44; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 112; number of out-of-transit cadence gaps = 1. Difference image quality metric = 0.82 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-05-032.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 32.

## 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	$275.38 \pm 3.38e - 06$	$405.99 \pm 3.12e - 06$	pixels	$19.80992148 \pm 1.05e - 09$	$46.29693971 \pm 1.04e - 08$	hours/degrees
Difference Image Centroid	$276.06 \pm 9.01e - 02$	$406.32 \pm 6.49e - 02$	pixels	$19.80996870 \pm 9.49e - 06$	$46.29762713 \pm 7.41e - 05$	hours/degrees
Offset	$0.6857 \pm 9.01e - 02$	$0.3375 \pm 6.49e - 02$	pixels	$1.7619 \pm 3.54e - 01$	$2.4747 \pm 2.67e - 01$	arcseconds
Offset/ $\sigma$	7.61	5.20		4.98	9.28	
Offset Distance	$0.7643 \pm 8.25e - 02$		pixels	$3.0378 \pm 3.29e - 01$		arcseconds
Offset Distance/ $\sigma$	9.27			9.24		

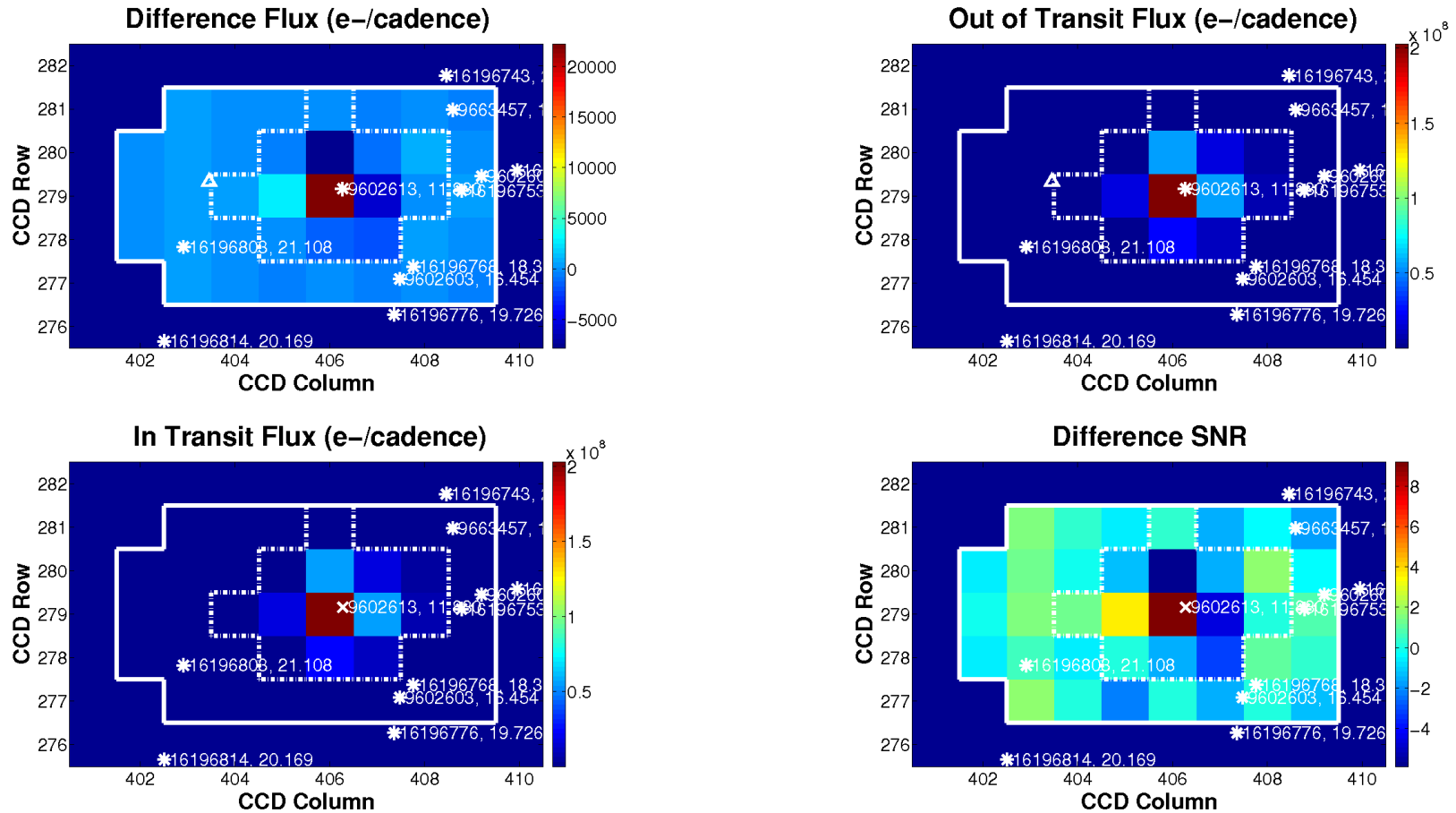
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.38 \pm 9.21e - 06$	$406.00 \pm 8.80e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$276.06 \pm 9.01e - 02$	$406.32 \pm 6.49e - 02$	pixels	$19.80996870 \pm 9.49e - 06$	$46.29762713 \pm 7.41e - 05$	hours/degrees
Offset	$0.6827 \pm 9.01e - 02$	$0.3285 \pm 6.49e - 02$	pixels	$1.7686 \pm 3.54e - 01$	$2.4377 \pm 2.67e - 01$	arcseconds
Offset/ $\sigma$	7.58	5.06		5.00	9.14	
Offset Distance	$0.7577 \pm 8.27e - 02$		pixels	$3.0117 \pm 3.29e - 01$		arcseconds
Offset Distance/ $\sigma$	9.16			9.14		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 32.

**Difference Image**  
**Planet Candidate 2 / Quarter 6 / Target Table 35**



Difference image for target 9602613, planet candidate 2, quarter 6, target table 35. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 11; number of valid in-transit cadences = 50; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 119; number of out-of-transit cadence gaps = 2. Difference image quality metric = 0.02 (not good).

Open `./planet-02/difference-image/009602613-02-difference-image-06-035.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 35.

## 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	$279.16 \pm 2.68e - 06$	$406.26 \pm 3.75e - 06$	pixels	$19.80992134 \pm 9.76e - 10$	$46.29693533 \pm 1.10e - 08$	hours/degrees
Difference Image Centroid	$279.33 \pm 2.13e - 01$	$403.46 \pm 3.20e - 01$	pixels	$19.81007898 \pm 2.41e - 05$	$46.29429455 \pm 3.45e - 04$	hours/degrees
Offset	$0.1650 \pm 2.13e - 01$	$-2.8071 \pm 3.20e - 01$	pixels	$5.8817 \pm 9.01e - 01$	$-9.5068 \pm 1.24e + 00$	arcseconds
Offset/ $\sigma$	0.77	-8.76		6.53	-7.66	
Offset Distance	$2.8119 \pm 3.18e - 01$		pixels	$11.1792 \pm 1.27e + 00$		arcseconds
Offset Distance/ $\sigma$	8.83			8.82		

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

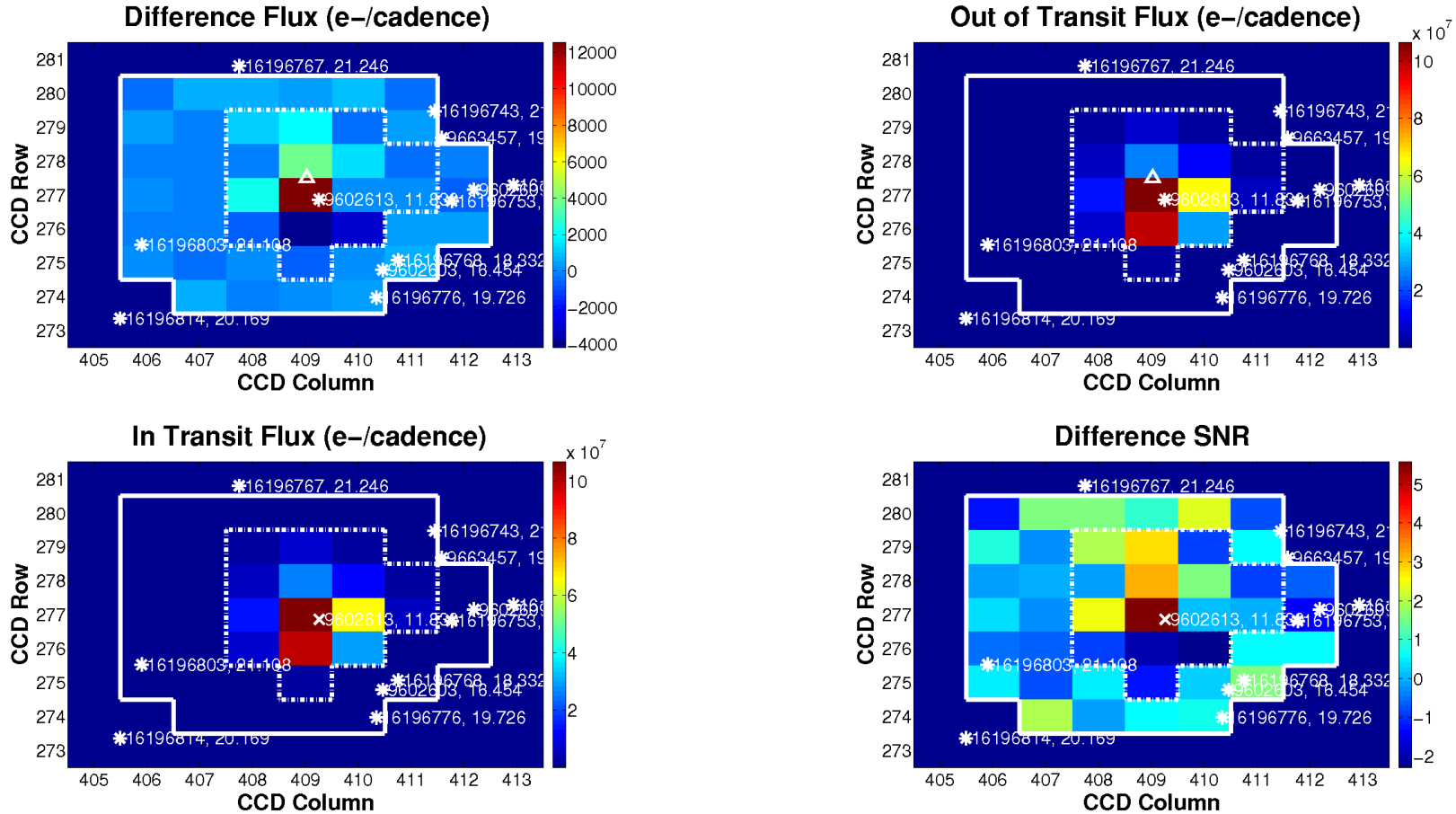
	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.17 \pm 8.22e - 06$	$406.27 \pm 9.62e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.33 \pm 2.13e - 01$	$403.46 \pm 3.20e - 01$	pixels	$19.81007898 \pm 2.41e - 05$	$46.29429455 \pm 3.45e - 04$	hours/degrees
Offset	$0.1590 \pm 2.13e - 01$	$-2.8189 \pm 3.20e - 01$	pixels	$5.8831 \pm 9.01e - 01$	$-9.5596 \pm 1.24e + 00$	arcseconds
Offset/ $\sigma$	0.75	-8.80		6.53	-7.70	
Offset Distance	$2.8234 \pm 3.18e - 01$		pixels	$11.2249 \pm 1.27e + 00$		arcseconds
Offset Distance/ $\sigma$	8.87			8.86		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 35.



### Difference Image Planet Candidate 2 / Quarter 8 / Target Table 41



Difference image for target 9602613, planet candidate 2, quarter 8, target table 41. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 7; number of valid in-transit cadences = 32; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 74; number of out-of-transit cadence gaps = 4. Difference image quality metric = 0.89 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-08-041.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 41.

## 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	$276.85 \pm 3.21e - 06$	$409.25 \pm 3.82e - 06$	pixels	$19.80992074 \pm 1.09e - 09$	$46.29693480 \pm 1.11e - 08$	hours/degrees
Difference Image Centroid	$277.50 \pm 1.30e - 01$	$409.03 \pm 1.06e - 01$	pixels	$19.80999294 \pm 1.28e - 05$	$46.29705575 \pm 1.30e - 04$	hours/degrees
Offset	$0.6483 \pm 1.30e - 01$	$-0.2248 \pm 1.06e - 01$	pixels	$2.6935 \pm 4.76e - 01$	$0.4354 \pm 4.69e - 01$	arcseconds
Offset/ $\sigma$	5.00	-2.12		5.65	0.93	
Offset Distance	$0.6861 \pm 1.23e - 01$		pixels	$2.7285 \pm 4.93e - 01$		arcseconds
Offset Distance/ $\sigma$	5.57			5.54		

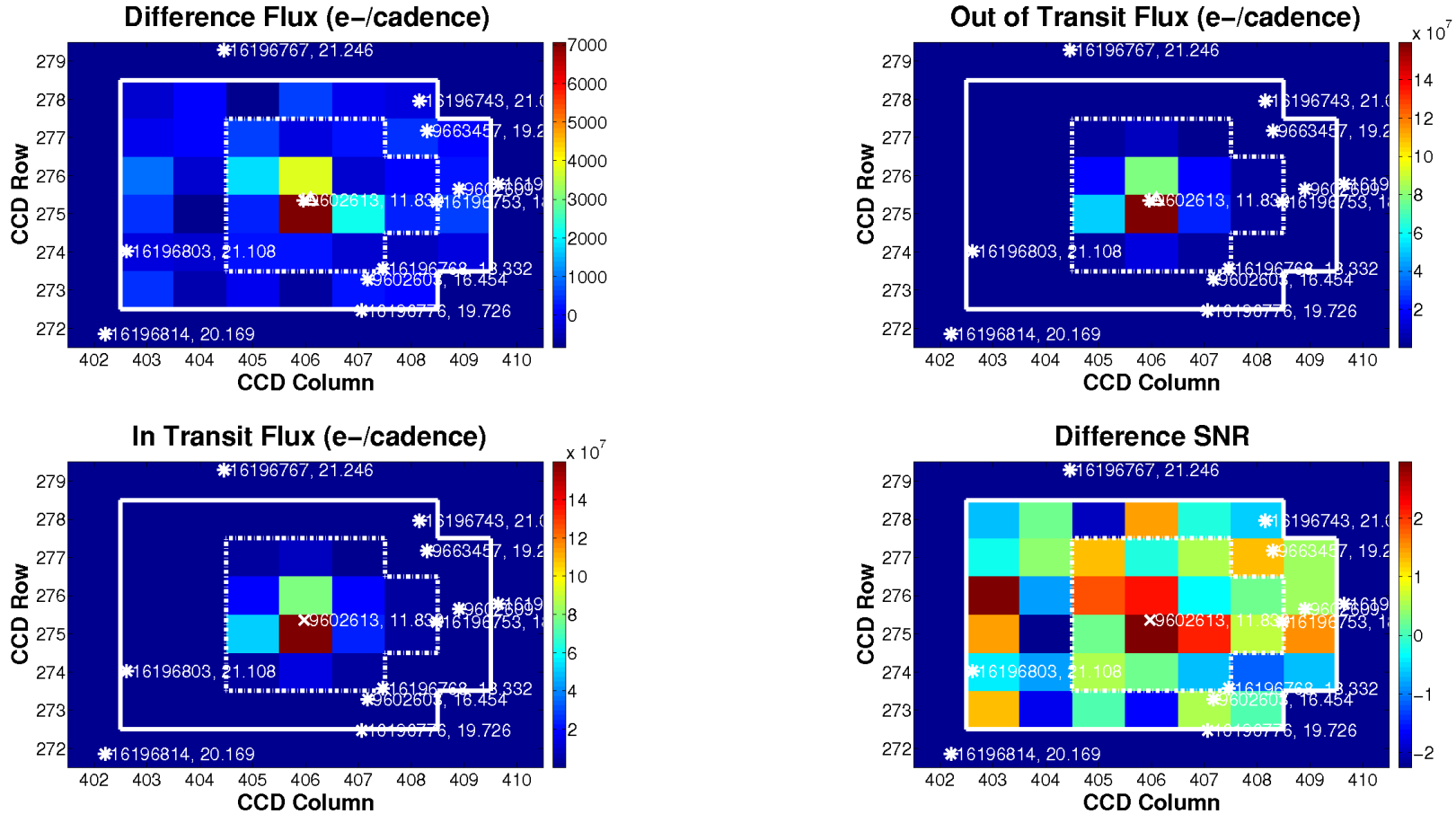
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.86 \pm 9.63e - 06$	$409.26 \pm 9.25e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$277.50 \pm 1.30e - 01$	$409.03 \pm 1.06e - 01$	pixels	$19.80999294 \pm 1.28e - 05$	$46.29705575 \pm 1.30e - 04$	hours/degrees
Offset	$0.6371 \pm 1.30e - 01$	$-0.2345 \pm 1.06e - 01$	pixels	$2.6728 \pm 4.76e - 01$	$0.3807 \pm 4.69e - 01$	arcseconds
Offset/ $\sigma$	4.91	-2.21		5.61	0.81	
Offset Distance	$0.6789 \pm 1.23e - 01$		pixels	$2.6998 \pm 4.91e - 01$		arcseconds
Offset Distance/ $\sigma$	5.53			5.50		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 41.

### Difference Image Planet Candidate 2 / Quarter 9 / Target Table 44



Difference image for target 9602613, planet candidate 2, quarter 9, target table 44. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 9; number of valid in-transit cadences = 38; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 101; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.92 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-09-044.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 44.

## 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	$275.36 \pm 3.65e - 06$	$405.96 \pm 3.26e - 06$	pixels	$19.80992168 \pm 1.08e - 09$	$46.29693510 \pm 1.07e - 08$	hours/degrees
Difference Image Centroid	$275.34 \pm 1.72e - 01$	$406.10 \pm 1.88e - 01$	pixels	$19.80991390 \pm 2.00e - 05$	$46.29705672 \pm 1.91e - 04$	hours/degrees
Offset	$-0.0119 \pm 1.72e - 01$	$0.1316 \pm 1.88e - 01$	pixels	$-0.2901 \pm 7.47e - 01$	$0.4378 \pm 6.88e - 01$	arcseconds
Offset/ $\sigma$	-0.07	0.70		-0.39	0.64	
Offset Distance	$0.1321 \pm 1.90e - 01$		pixels	$0.5252 \pm 7.58e - 01$		arcseconds
Offset Distance/ $\sigma$	0.69			0.69		

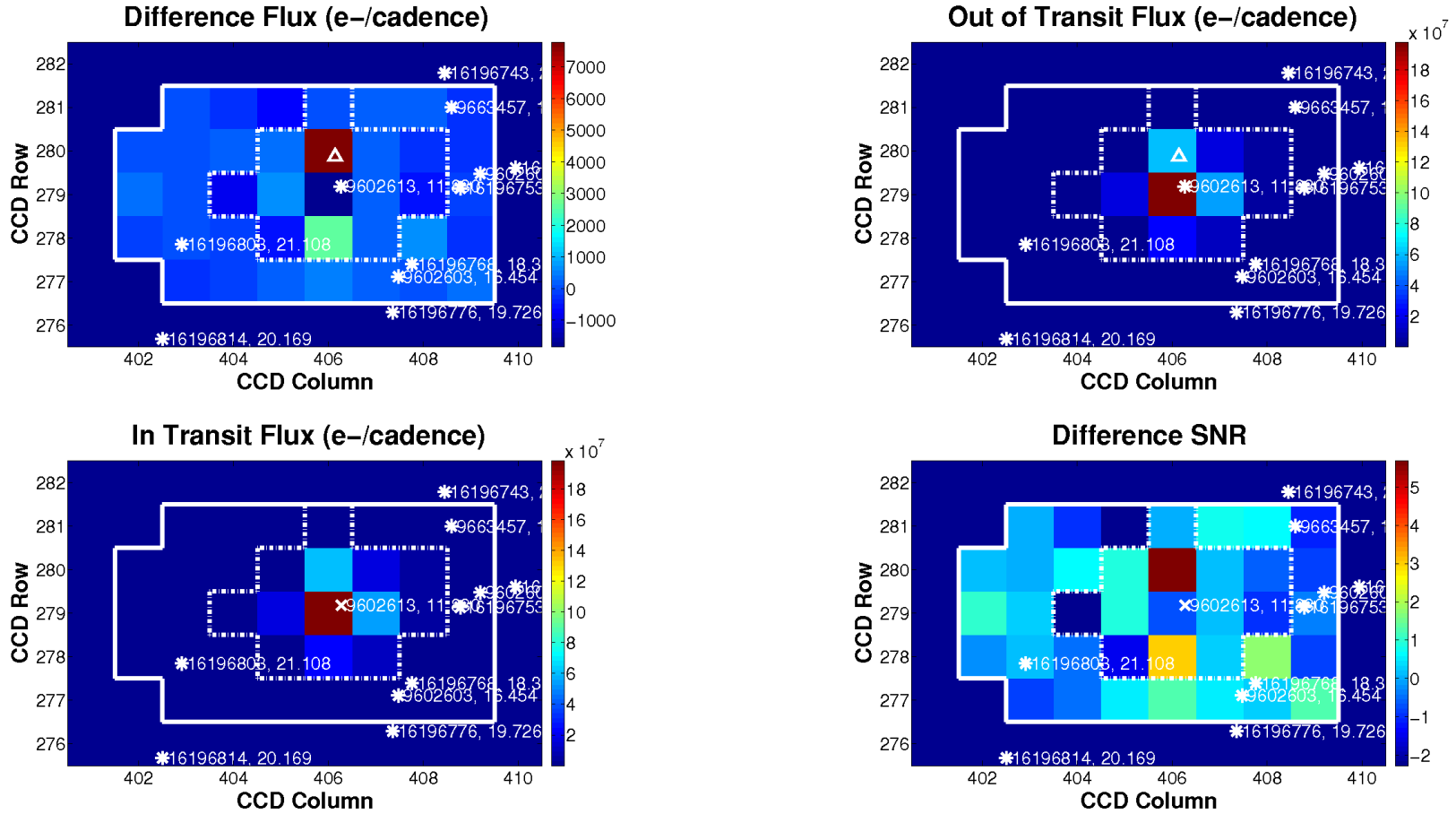
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.36 \pm 9.51e - 06$	$405.98 \pm 9.06e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$275.34 \pm 1.72e - 01$	$406.10 \pm 1.88e - 01$	pixels	$19.80991390 \pm 2.00e - 05$	$46.29705672 \pm 1.91e - 04$	hours/degrees
Offset	$-0.0151 \pm 1.72e - 01$	$0.1180 \pm 1.88e - 01$	pixels	$-0.2759 \pm 7.47e - 01$	$0.3842 \pm 6.88e - 01$	arcseconds
Offset/ $\sigma$	-0.09	0.63		-0.37	0.56	
Offset Distance	$0.1190 \pm 1.91e - 01$		pixels	$0.4730 \pm 7.62e - 01$		arcseconds
Offset Distance/ $\sigma$	0.62			0.62		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 44.

### Difference Image Planet Candidate 2 / Quarter 10 / Target Table 47



Difference image for target 9602613, planet candidate 2, quarter 10, target table 47. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 11; number of valid in-transit cadences = 50; number of in-transit cadence gaps = 1; number of valid out-of-transit cadences = 122; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.83 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-10-047.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 47.



## 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	$279.18 \pm 2.64e - 06$	$406.26 \pm 3.70e - 06$	pixels	$19.80992111 \pm 9.78e - 10$	$46.29693586 \pm 1.10e - 08$	hours/degrees
Difference Image Centroid	$279.87 \pm 2.19e - 01$	$406.14 \pm 1.62e - 01$	pixels	$19.80999160 \pm 2.31e - 05$	$46.29718084 \pm 1.84e - 04$	hours/degrees
Offset	$0.6875 \pm 2.19e - 01$	$-0.1187 \pm 1.62e - 01$	pixels	$2.6300 \pm 8.63e - 01$	$0.8820 \pm 6.64e - 01$	arcseconds
Offset/ $\sigma$	3.13	-0.73		3.05	1.33	
Offset Distance	$0.6977 \pm 2.21e - 01$		pixels	$2.7740 \pm 8.83e - 01$		arcseconds
Offset Distance/ $\sigma$	3.16			3.14		

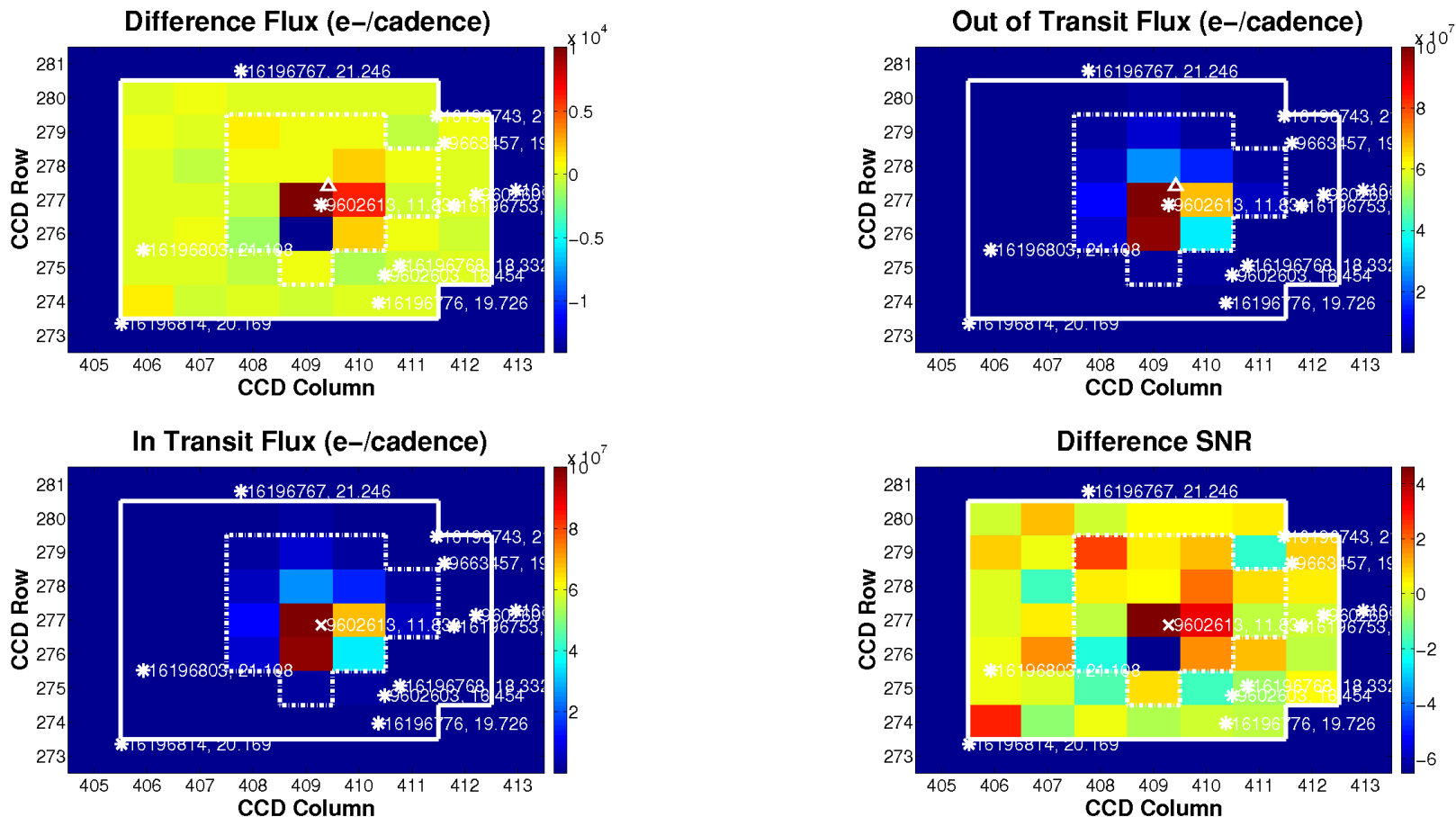
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$279.19 \pm 8.28e - 06$	$406.27 \pm 9.62e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$279.87 \pm 2.19e - 01$	$406.14 \pm 1.62e - 01$	pixels	$19.80999160 \pm 2.31e - 05$	$46.29718084 \pm 1.84e - 04$	hours/degrees
Offset	$0.6798 \pm 2.19e - 01$	$-0.1292 \pm 1.62e - 01$	pixels	$2.6229 \pm 8.63e - 01$	$0.8310 \pm 6.64e - 01$	arcseconds
Offset/ $\sigma$	3.10	-0.80		3.04	1.25	
Offset Distance	$0.6920 \pm 2.21e - 01$		pixels	$2.7514 \pm 8.83e - 01$		arcseconds
Offset Distance/ $\sigma$	3.13			3.12		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 47.

**Difference Image**  
**Planet Candidate 2 / Quarter 12 / Target Table 53**



Difference image for target 9602613, planet candidate 2, quarter 12, target table 53. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 7; number of valid in-transit cadences = 31; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 80; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.58 (not good).

Open `./planet-02/difference-image/009602613-02-difference-image-12-053.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 53.

## 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	$276.84 \pm 3.10e - 06$	$409.29 \pm 3.61e - 06$	pixels	$19.80992017 \pm 1.08e - 09$	$46.29694251 \pm 9.67e - 09$	hours/degrees
Difference Image Centroid	$277.40 \pm 1.76e - 01$	$409.42 \pm 1.11e - 01$	pixels	$19.80996516 \pm 1.76e - 05$	$46.29736411 \pm 1.41e - 04$	hours/degrees
Offset	$0.5529 \pm 1.76e - 01$	$0.1359 \pm 1.11e - 01$	pixels	$1.6786 \pm 6.58e - 01$	$1.5178 \pm 5.06e - 01$	arcseconds
Offset/ $\sigma$	3.14	1.23		2.55	3.00	
Offset Distance	$0.5693 \pm 1.73e - 01$		pixels	$2.2630 \pm 6.89e - 01$		arcseconds
Offset Distance/ $\sigma$	3.29			3.28		

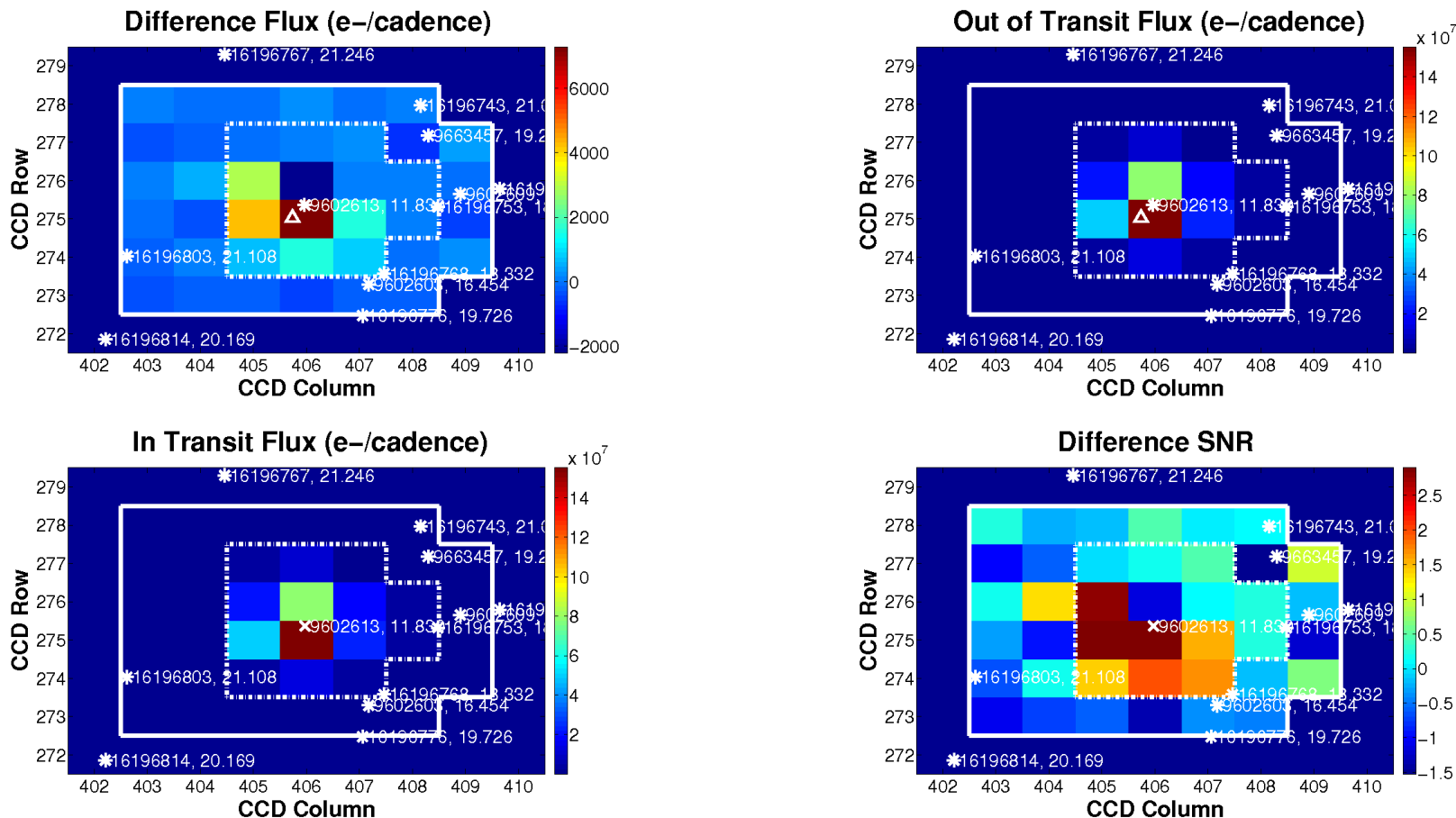
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.85 \pm 1.01e - 05$	$409.29 \pm 7.34e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$277.40 \pm 1.76e - 01$	$409.42 \pm 1.11e - 01$	pixels	$19.80996516 \pm 1.76e - 05$	$46.29736411 \pm 1.41e - 04$	hours/degrees
Offset	$0.5403 \pm 1.76e - 01$	$0.1349 \pm 1.11e - 01$	pixels	$1.6365 \pm 6.58e - 01$	$1.4908 \pm 5.06e - 01$	arcseconds
Offset/ $\sigma$	3.07	1.22		2.49	2.94	
Offset Distance	$0.5569 \pm 1.73e - 01$		pixels	$2.2137 \pm 6.89e - 01$		arcseconds
Offset Distance/ $\sigma$	3.22			3.21		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 53.

**Difference Image**  
**Planet Candidate 2 / Quarter 13 / Target Table 56**



Difference image for target 9602613, planet candidate 2, quarter 13, target table 56. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 8; number of valid in-transit cadences = 34; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 91; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.87 (good).

Open `./planet-02/difference-image/009602613-02-difference-image-13-056.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 56.

## 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	$275.37 \pm 3.86e - 06$	$405.96 \pm 3.48e - 06$	pixels	$19.80992218 \pm 1.15e - 09$	$46.29693832 \pm 1.14e - 08$	hours/degrees
Difference Image Centroid	$275.02 \pm 1.06e - 01$	$405.74 \pm 1.12e - 01$	pixels	$19.80990121 \pm 1.20e - 05$	$46.29654094 \pm 1.18e - 04$	hours/degrees
Offset	$-0.3442 \pm 1.06e - 01$	$-0.2233 \pm 1.12e - 01$	pixels	$-0.7826 \pm 4.46e - 01$	$-1.4306 \pm 4.26e - 01$	arcseconds
Offset/ $\sigma$	-3.24	-1.99		-1.75	-3.36	
Offset Distance	$0.4103 \pm 1.04e - 01$		pixels	$1.6306 \pm 4.13e - 01$		arcseconds
Offset Distance/ $\sigma$	3.96			3.95		

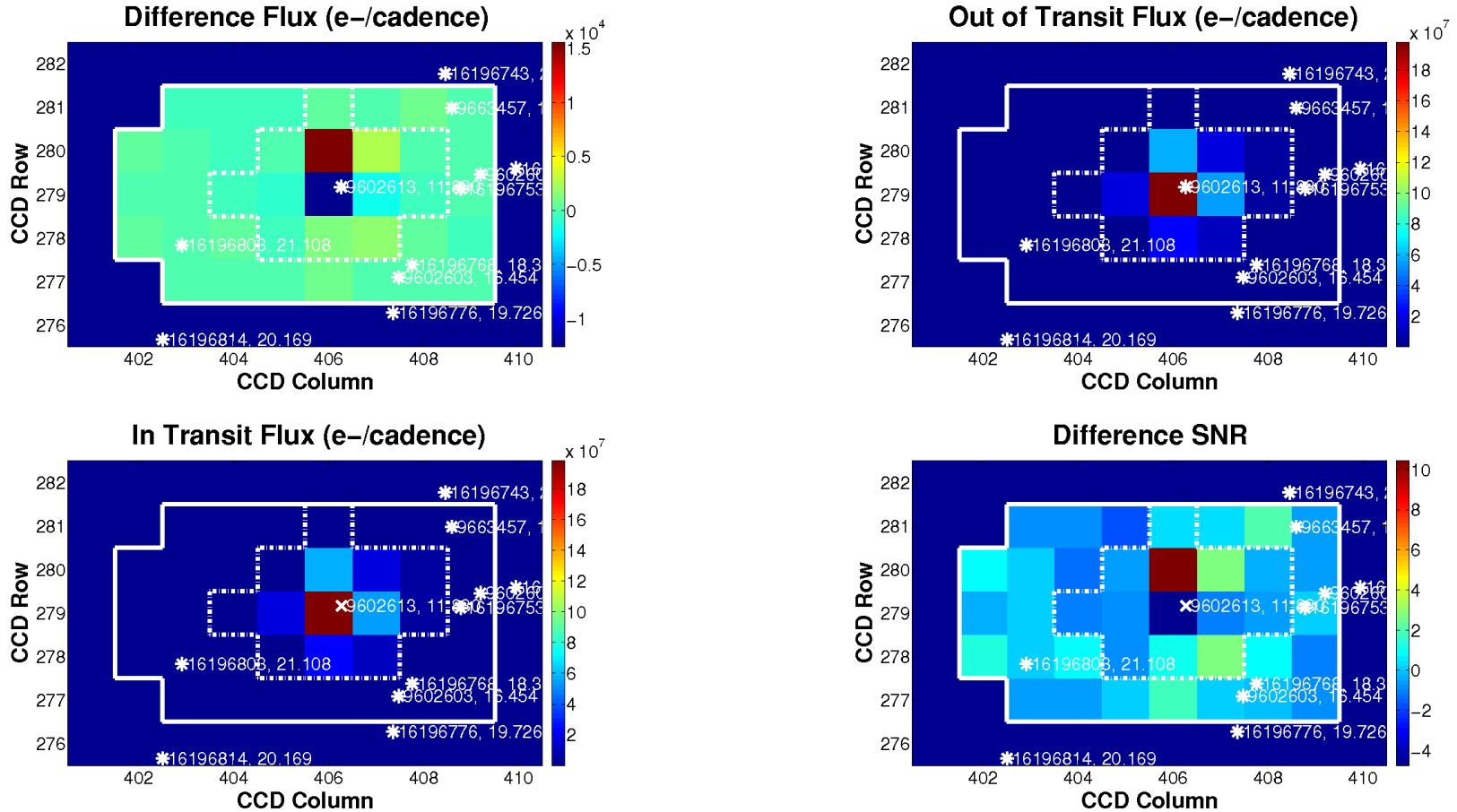
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$275.37 \pm 1.01e - 05$	$405.98 \pm 9.64e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$275.02 \pm 1.06e - 01$	$405.74 \pm 1.12e - 01$	pixels	$19.80990121 \pm 1.20e - 05$	$46.29654094 \pm 1.18e - 04$	hours/degrees
Offset	$-0.3419 \pm 1.06e - 01$	$-0.2365 \pm 1.12e - 01$	pixels	$-0.7496 \pm 4.46e - 01$	$-1.4726 \pm 4.26e - 01$	arcseconds
Offset/ $\sigma$	-3.22	-2.10		-1.68	-3.46	
Offset Distance	$0.4157 \pm 1.04e - 01$		pixels	$1.6524 \pm 4.13e - 01$		arcseconds
Offset Distance/ $\sigma$	4.01			4.00		

## PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 56.

**Difference Image**  
**Planet Candidate 2 / Quarter 14 / Target Table 59**



Difference image for target 9602613, planet candidate 2, quarter 14, target table 59. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 9; number of valid in-transit cadences = 40; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 100; number of out-of-transit cadence gaps = 1. Difference image quality metric = N/A.

Open `./planet-02/difference-image/009602613-02-difference-image-14-059.fig`



The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 59.

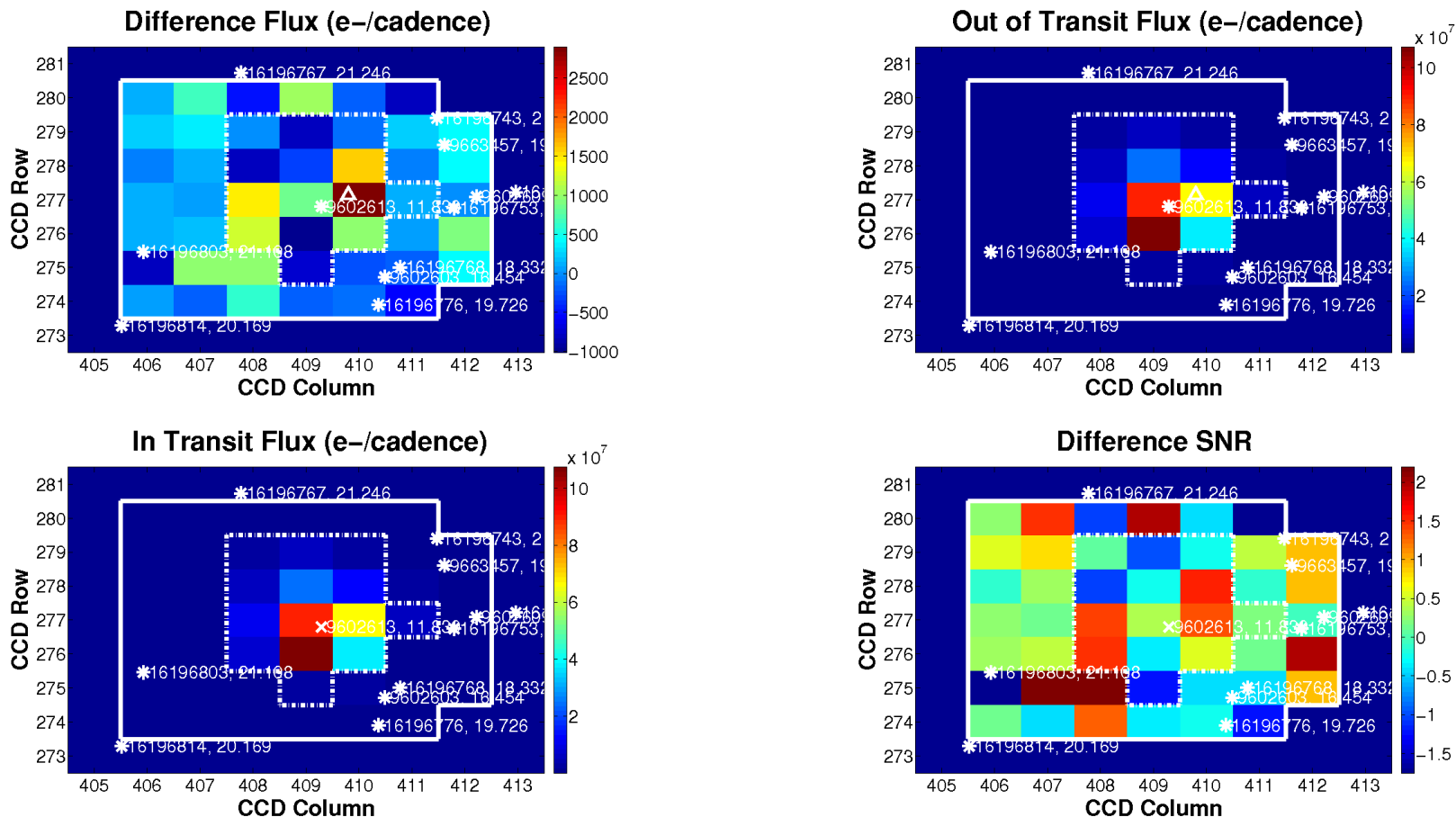
### PRF Fit of the Difference Image

The out of transit image centroid and difference image centroid could not be calculated for target 9602613, planet candidate 2, in target table 59.

### PRF Fit of the Pixel Correlation Image

The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 59.

**Difference Image**  
**Planet Candidate 2 / Quarter 16 / Target Table 65**



Difference image for target 9602613, planet candidate 2, quarter 16, target table 65. 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 KIC RA and Dec converted to CCD coordinates via motion polynomials; \*: position of nearby KIC objects converted to CCD coordinates via motion polynomials (objects in the UKIRT extension to the KIC have IDs between 15,000,000 and 30,000,000); +: PRF-fit location of target from out-of-transit image; triangle: PRF-fit location of transit source from the difference image. CCD row and column coordinates are 0-based. Number of transits = 5; number of valid in-transit cadences = 24; number of in-transit cadence gaps = 0; number of valid out-of-transit cadences = 54; number of out-of-transit cadence gaps = 0. Difference image quality metric = 0.59 (not good).

Open `./planet-02/difference-image/009602613-02-difference-image-16-065.fig`

The pixel correlation statistic plot is not available because either the fit for target 9602613, planet candidate 2 failed, or there were no observed transits for this candidate in target table 65.

## 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	$276.79 \pm 4.09e - 06$	$409.29 \pm 4.35e - 06$	pixels	$19.80992096 \pm 1.08e - 09$	$46.29694760 \pm 9.58e - 09$	hours/degrees
Difference Image Centroid	$277.14 \pm 4.78e - 01$	$409.80 \pm 5.02e - 01$	pixels	$19.80992763 \pm 5.54e - 05$	$46.29762482 \pm 5.10e - 04$	hours/degrees
Offset	$0.3463 \pm 4.78e - 01$	$0.5102 \pm 5.02e - 01$	pixels	$0.2487 \pm 2.07e + 00$	$2.4380 \pm 1.83e + 00$	arcseconds
Offset/ $\sigma$	0.72	1.02		0.12	1.33	
Offset Distance	$0.6167 \pm 4.55e - 01$		pixels	$2.4506 \pm 1.81e + 00$		arcseconds
Offset Distance/ $\sigma$	1.36			1.35		

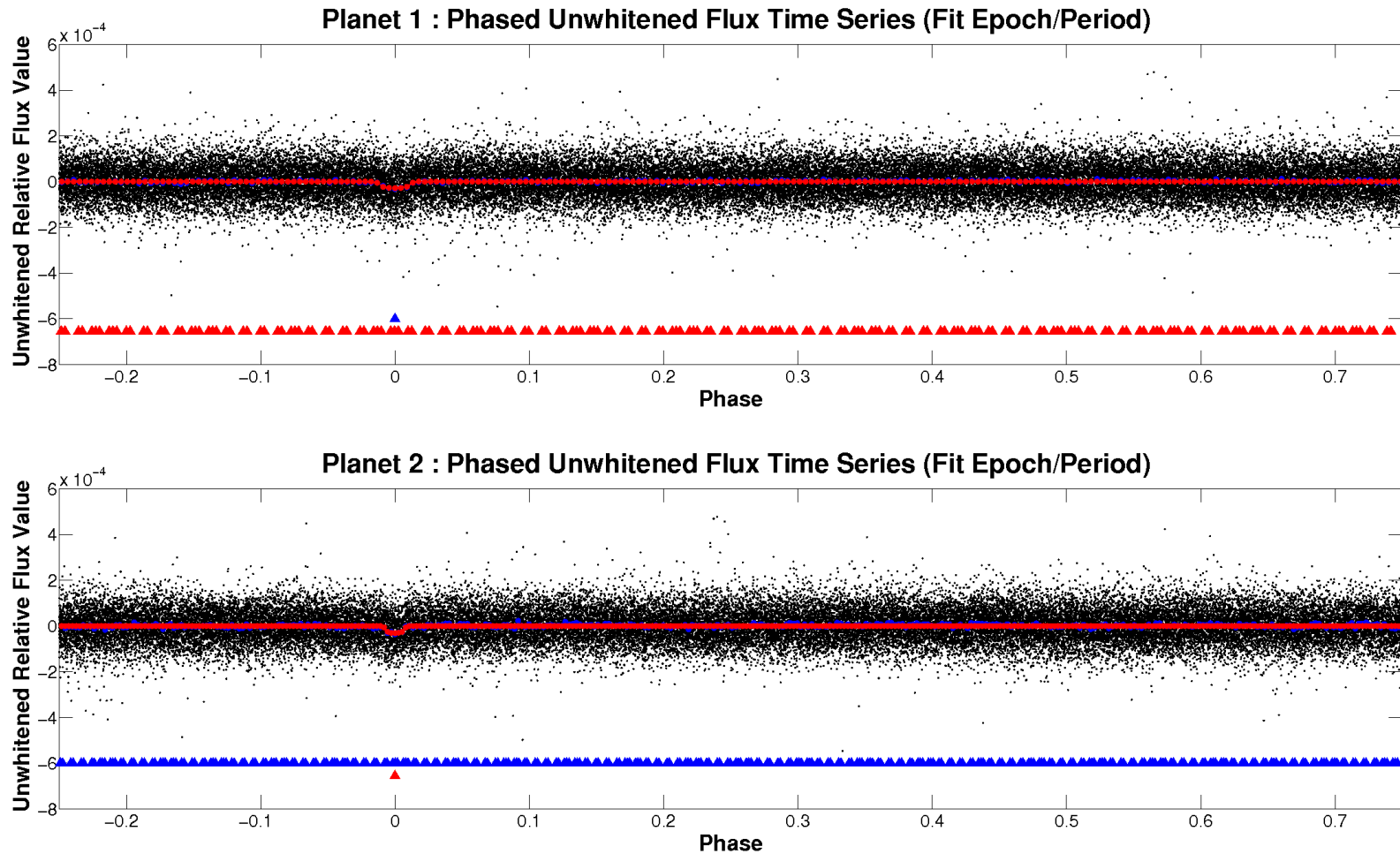
## Offset from the KIC RA and Dec converted to pixels via motion polynomials

	Row	Column	Units	RA	Dec	Units
KIC Reference Centroid	$276.80 \pm 9.65e - 06$	$409.29 \pm 6.91e - 06$	pixels	$19.80992130 \pm 0.00e + 00$	$46.29695000 \pm 0.00e + 00$	hours/degrees
Difference Image Centroid	$277.14 \pm 4.78e - 01$	$409.80 \pm 5.02e - 01$	pixels	$19.80992763 \pm 5.54e - 05$	$46.29762482 \pm 5.10e - 04$	hours/degrees
Offset	$0.3425 \pm 4.78e - 01$	$0.5098 \pm 5.02e - 01$	pixels	$0.2362 \pm 2.07e + 00$	$2.4293 \pm 1.83e + 00$	arcseconds
Offset/ $\sigma$	0.72	1.02		0.11	1.32	
Offset Distance	$0.6142 \pm 4.55e - 01$		pixels	$2.4408 \pm 1.81e + 00$		arcseconds
Offset Distance/ $\sigma$	1.35			1.35		

## PRF Fit of the Pixel Correlation Image

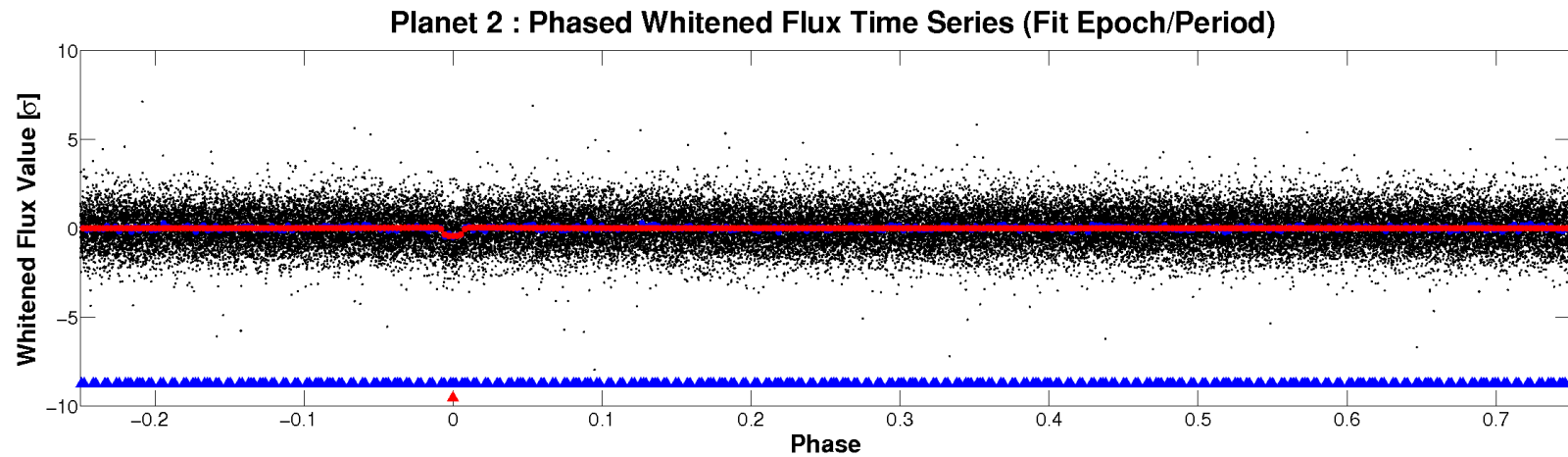
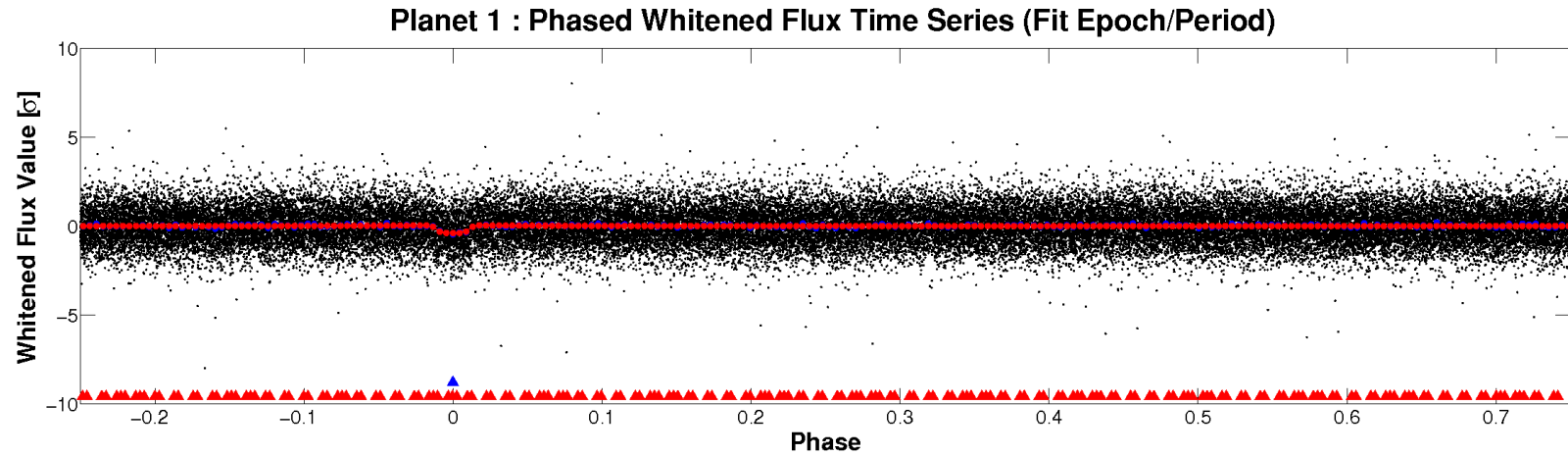
The pixel correlation image centroid could not be calculated for target 9602613, planet candidate 2, in target table 65.

## 7 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/009602613-01-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/009602613-01-phased-whitened-flux-time-series.fig`

## 8 Planet Candidate 1

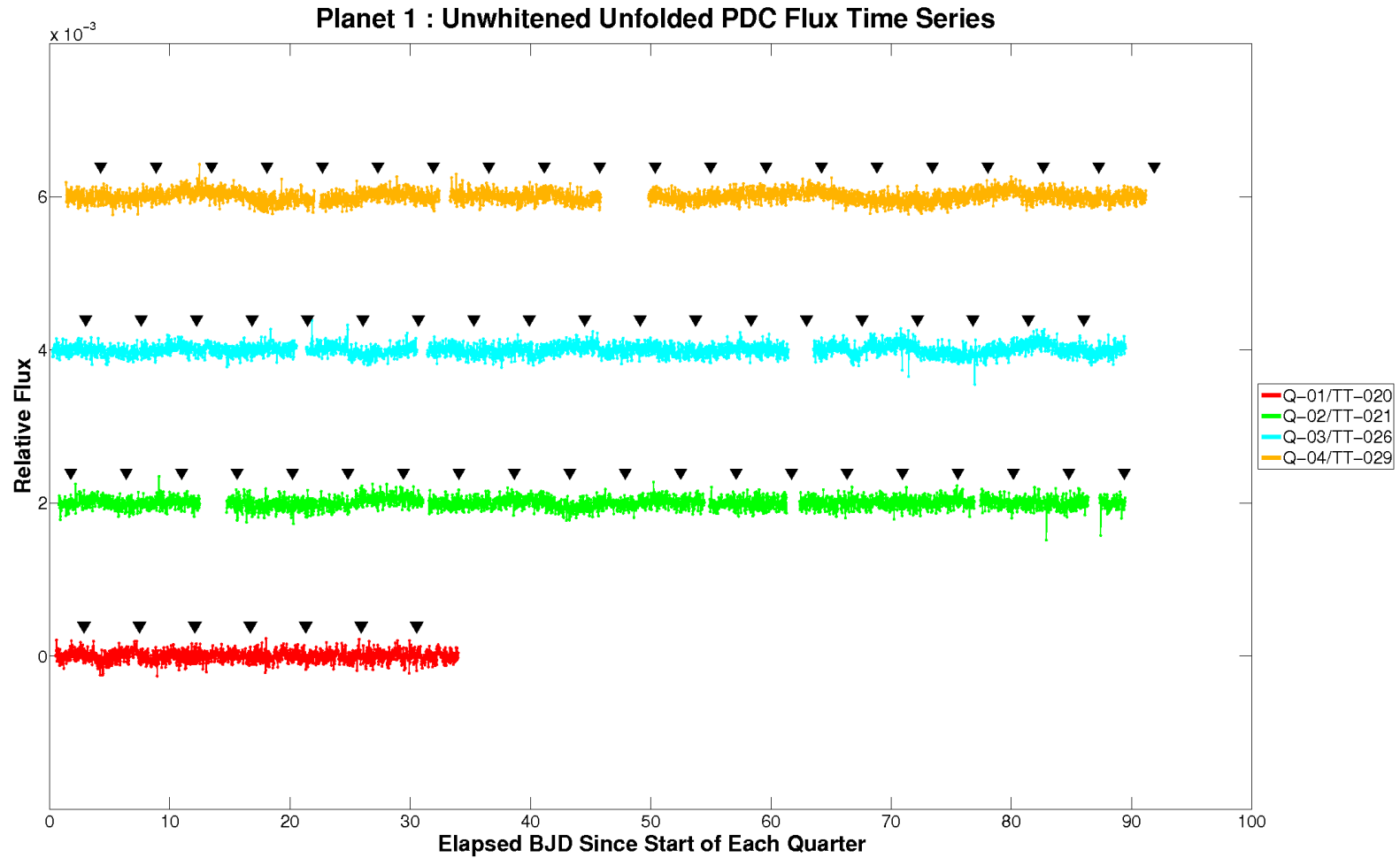
### 8.1 Model Fitter: All Transits

Model Characteristic	Name
Transit Model	mandel-agol_geometric_transit_model
Limb Darkening Model	claret_nonlinear_limb_darkening_model_2011

TCE Parameter	Value	Units
Trial Transit Pulse Duration	3.0000	hours
Transit Epoch	54966.3642634	MJD
Orbital Period	4.6122231	days
Maximum SES	4.8	
Maximum MES	11.0	
Robust Statistic	10.6	
Chi Square1 Statistic	2561.1	
Chi Square1 Degrees of Freedom	3080	
Chi Square2 Statistic	237.3	
Chi Square2 Degrees of Freedom	219	

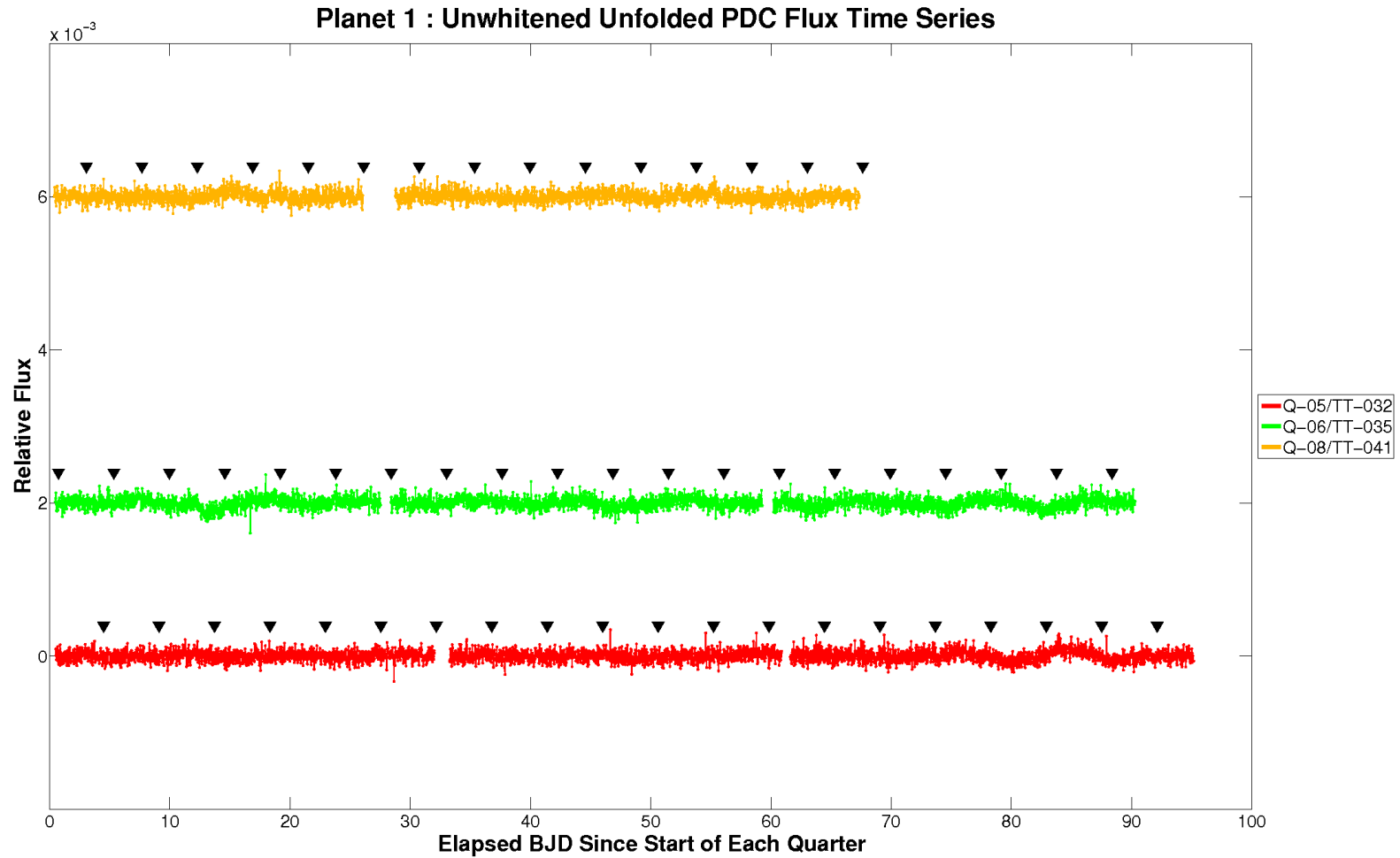
DV Fit Parameter	Value	Uncertainty	Units
SNR	12.0		
Model Chi Square	4747		
Degrees of Freedom	5788		
Transit Epoch	133.8629125	3.9662e-03	BKJD
Eccentricity	0.0000	0.0000e+00	
Peri Longitude	0.0000	0.0000e+00	degrees
Planet Radius	0.5043	1.9288e-01	Earth radii
Planet Radius to Star Radius Ratio	0.0050011	1.9130e-03	
Semi-major Axis	0.0509	2.0836e-07	AU
Semi-major Axis to Star Radius Ratio	11.2791	1.7237e+01	
Impact Parameter	0.5086	2.2683e+00	
Star Radius	0.9240	0.0000e+00	solar radii
Transit Duration	2.7078	1.1955e-01	hours
Transit Ingress Time	0.0181	6.2861e-02	hours
Transit Depth	29	2.4652e+00	ppm
Orbital Period	4.6122354	2.8340e-05	days
Equilibrium Temperature	1027	2.5402e+02	Kelvin





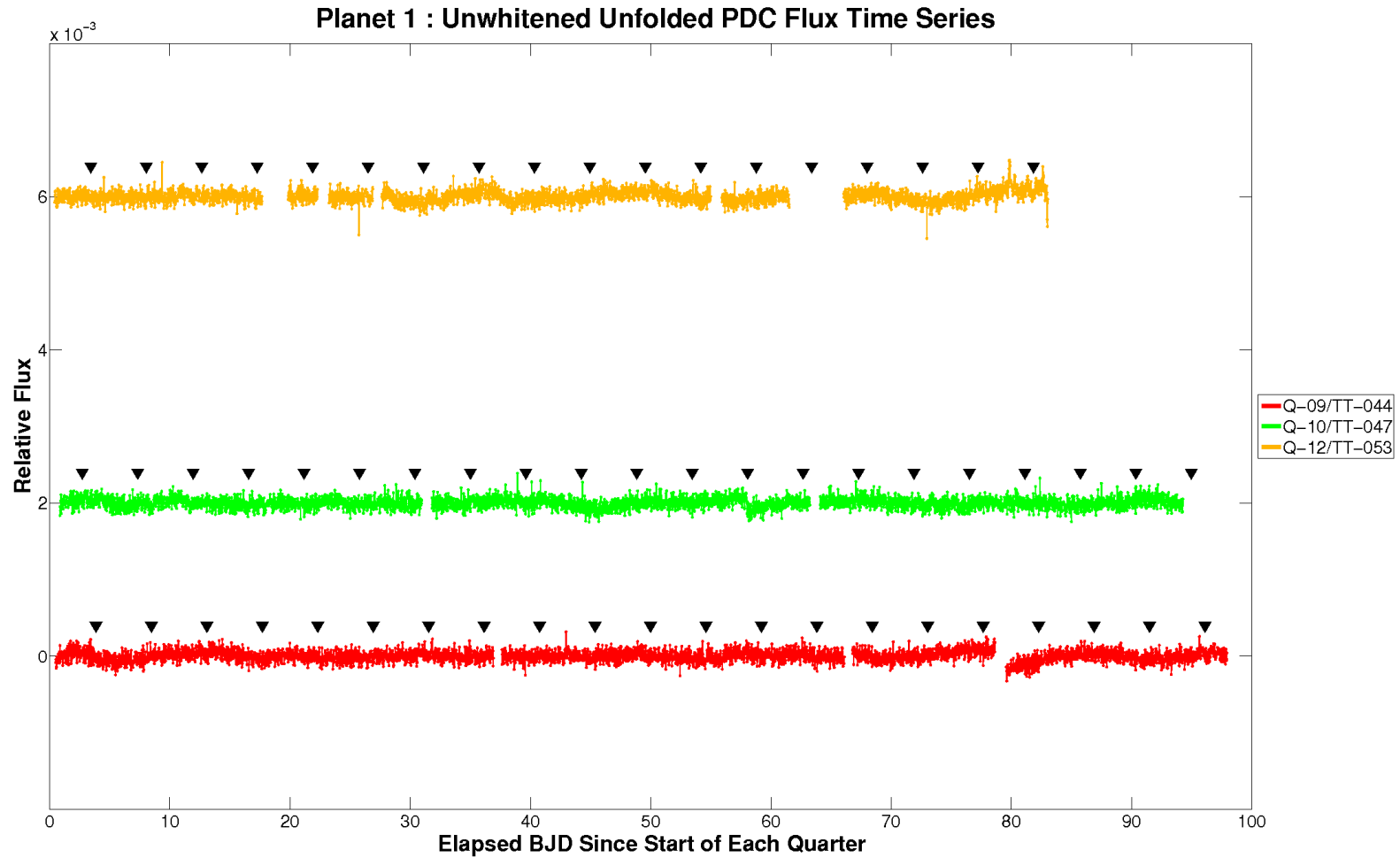
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-01/TargetTableId-020, start BJD is 2454964 and the vertical offset is 0. For the data of Quarter-02/TargetTableId-021, start BJD is 2455002 and the vertical offset is 0.002. For the data of Quarter-03/TargetTableId-026, start BJD is 2455093 and the vertical offset is 0.004. For the data of Quarter-04/TargetTableId-029, start BJD is 2455184 and the vertical offset is 0.006. 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/009602613-01-all-unwhitened-01-020.fig`



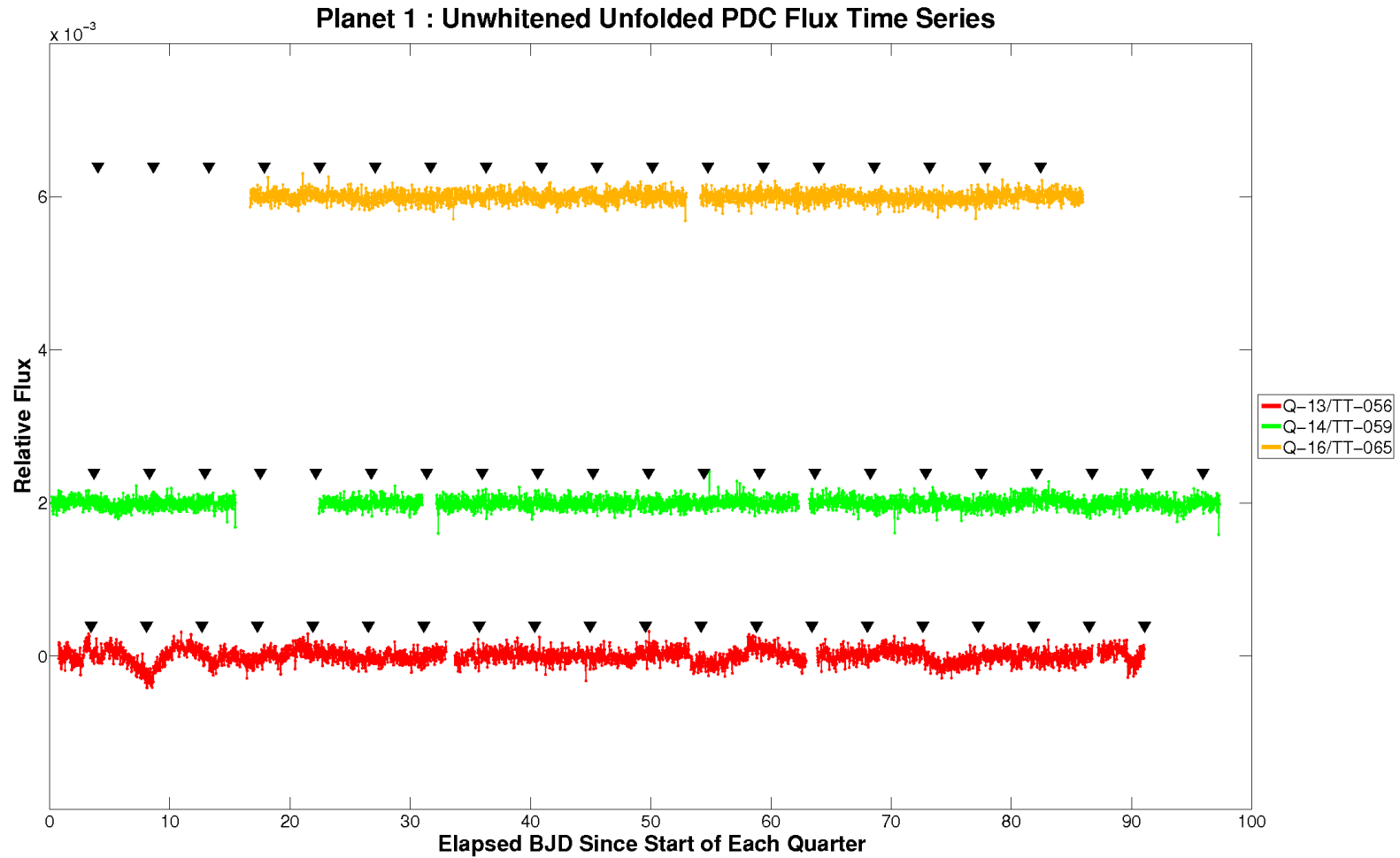
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-05/TargetTableId-032, start BJD is 2455276 and the vertical offset is 0. For the data of Quarter-06/TargetTableId-035, start BJD is 2455372 and the vertical offset is 0.002. For the data of Quarter-07/TargetTableId-038, start BJD is 2455463 and the vertical offset is 0.004. For the data of Quarter-08/TargetTableId-041, start BJD is 2455568 and the vertical offset is 0.006. 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/009602613-01-all-unwhitened-05-032.fig`



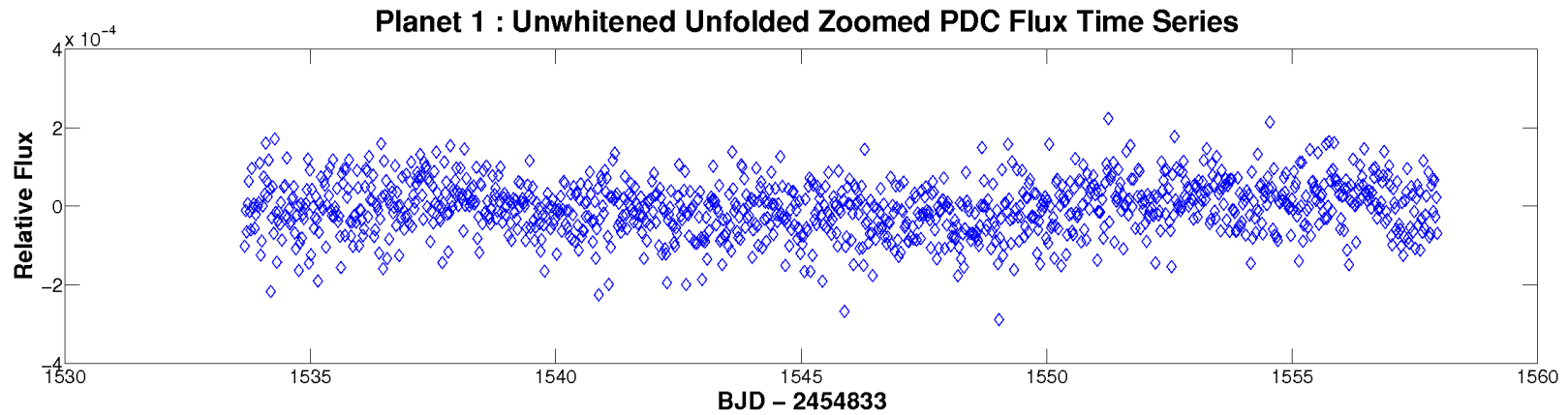
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-09/TargetTableId-044, start BJD is 2455641 and the vertical offset is 0. For the data of Quarter-10/TargetTableId-047, start BJD is 2455739 and the vertical offset is 0.002. For the data of Quarter-11/TargetTableId-050, start BJD is 2455834 and the vertical offset is 0.004. For the data of Quarter-12/TargetTableId-053, start BJD is 2455932 and the vertical offset is 0.006. 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/009602613-01-all-unwhitened-09-044.fig`



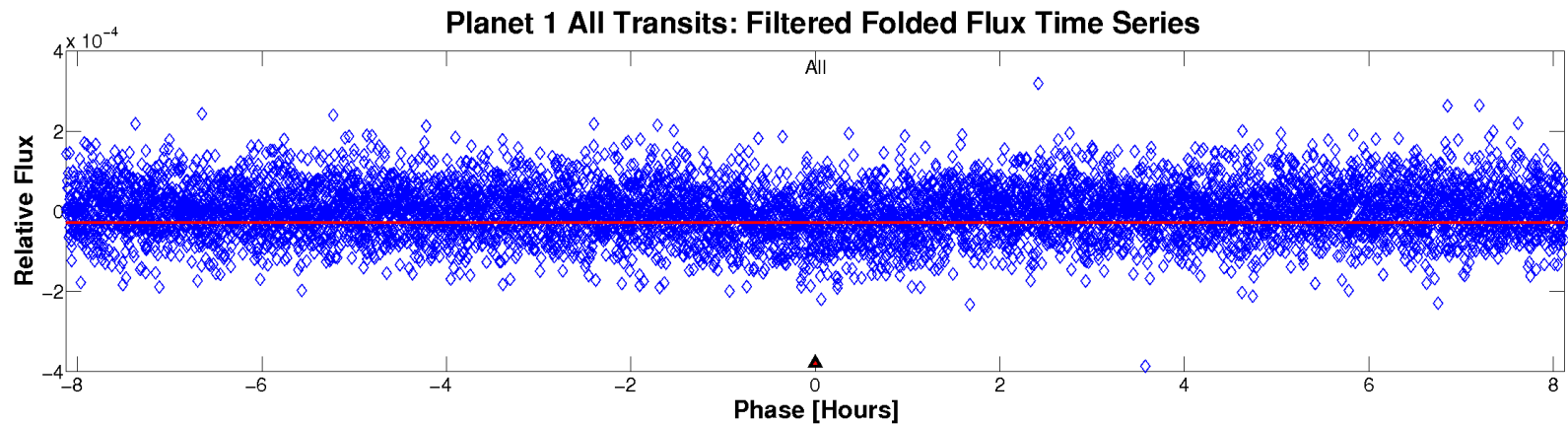
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-13/TargetTableId-056, start BJD is 2456015 and the vertical offset is 0. For the data of Quarter-14/TargetTableId-059, start BJD is 2456107 and the vertical offset is 0.002. For the data of Quarter-15/TargetTableId-062, start BJD is 2456206 and the vertical offset is 0.004. For the data of Quarter-16/TargetTableId-065, start BJD is 2456305 and the vertical offset is 0.006. 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/009602613-01-all-unwhitened-13-056.fig`



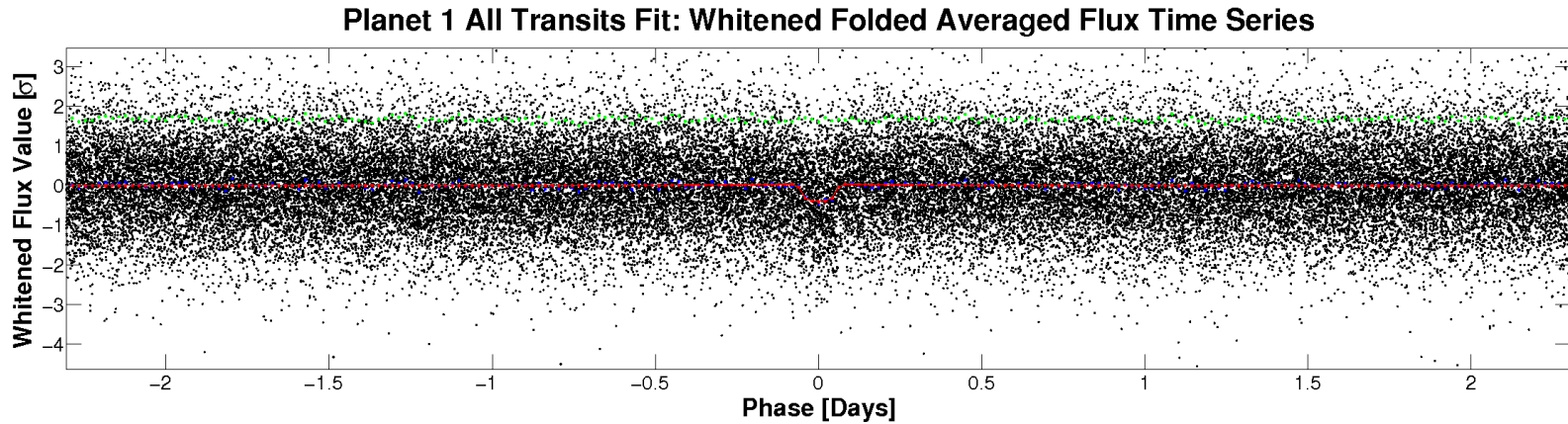
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain, zoomed on last 5 transits in the unit of work. If # of transits is smaller than 5, all transits are shown.

Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/009602613-01-all-unwhitened-zoomed.fig`



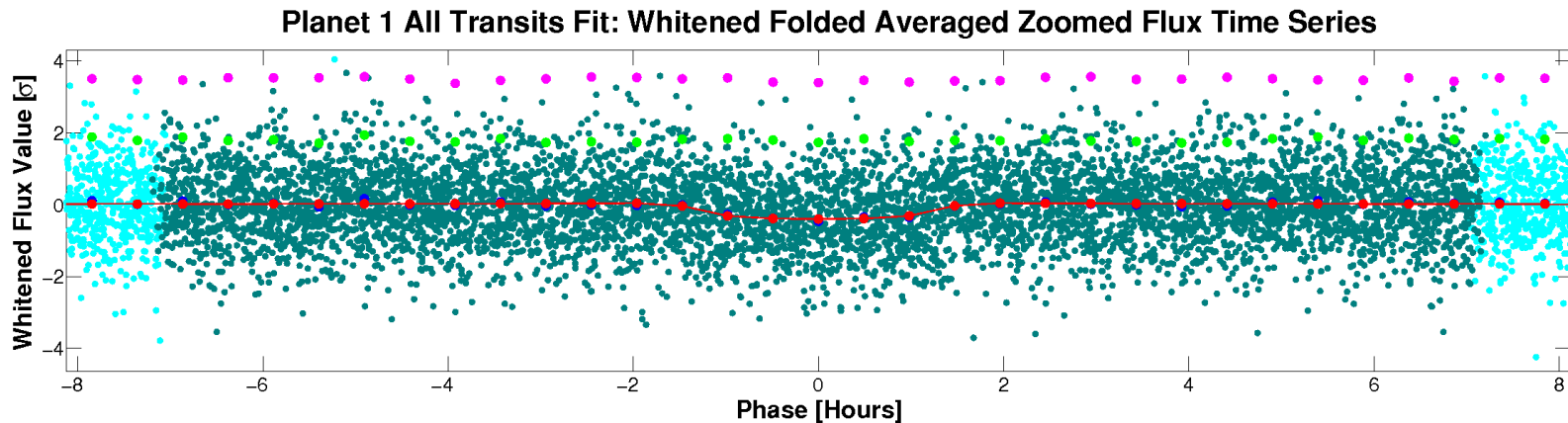
PDC Flux time series of all transits for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. Data has been high-pass filtered via a median filter operating at a specified multiple of the transit duration, folded per the fitted period and epoch, and zoomed to the location of the model transit.

Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/009602613-01-all-unwhitened-filtered-zoomed.fig`



Folded flux time series for KeplerId 9602613, 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/009602613-01-all-whitened.fig`



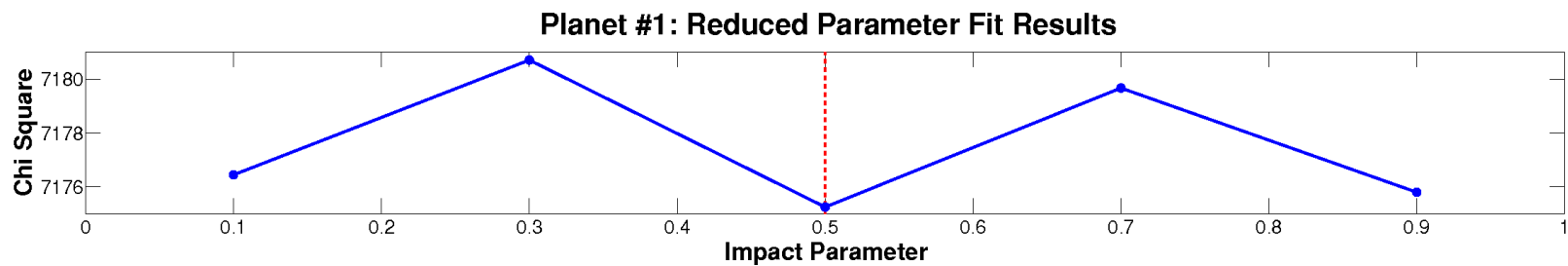
Folded flux time series for KeplerId 9602613, Planet candidate 1 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged 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/009602613-01-all-whitened-zoomed.fig`

## 8.2 Model Fitter: Reduced Parameter Fit Results

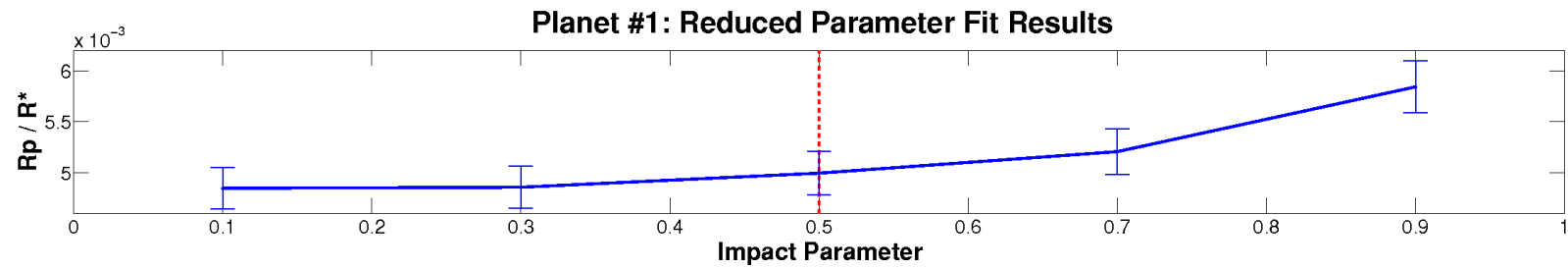
Impact Parameter	SNR	Model Chi Square	Planet Radius to Star Radius	Uncert	Semi-major Axis to Star Radius	Uncert	Transit Depth (ppm)	Uncert	Transit Duration (hours)	Uncert
0.10	12.6	7176.4	0.0048465	2.0555e-04	13.1118	5.2022e-01	29	2.4463e+00	2.6869	1.0648e-01
0.30	12.3	7180.7	0.0048561	2.0596e-04	12.7020	5.0184e-01	28	2.4061e+00	2.6603	1.0497e-01
0.50	12.6	7175.2	0.0049946	2.1414e-04	11.2075	5.1935e-01	29	2.4537e+00	2.7408	1.2682e-01
0.70	12.5	7179.7	0.0052067	2.2366e-04	9.2038	4.2964e-01	28	2.4303e+00	2.7618	1.2863e-01
0.90	12.4	7175.8	0.0058432	2.5414e-04	5.8944	3.0580e-01	28	2.4606e+00	2.6848	1.3836e-01

Highlighted row is used to seed all transits fit with all parameters.



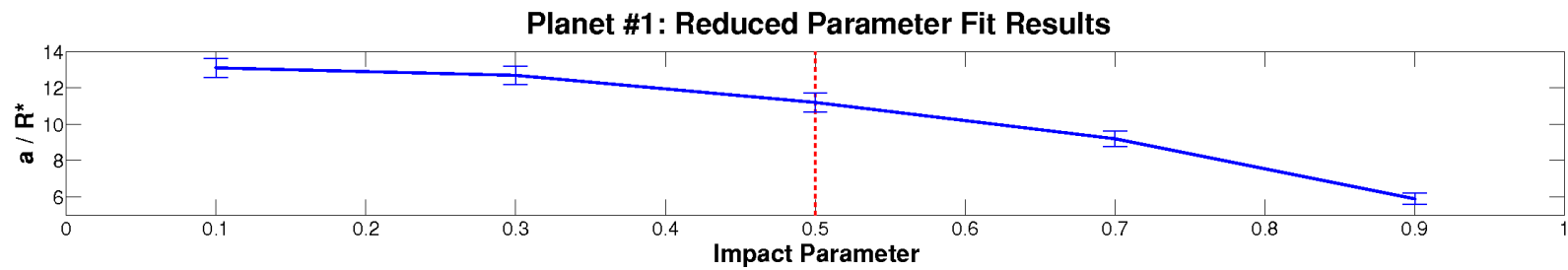
Model chi squares of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-01-reduced-fits-chi-square.fig`



Ratios of planet radius to star radius of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-01-reduced-fits-rp-over-rstar.fig`



Ratios of semimajor axis to star radius of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 1. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-01/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-01-reduced-fits-a-over-rstar.fig`



### 8.3 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.

#### 8.3.1 Weak Secondary Test

Period (days)	Duration (hours)	Max MES	Sec Phase (days)	Sec MES	Min Phase (days)	Min MES	MAD
4.6122	3	10.9975	-0.77648	2.3421	-0.64706	-2.9417	0.6035

#### 8.3.2 Flux-Weighted Centroid Test

Result	Value	Uncertainty	Units	Value in Sigmas	Significance (%)
Stellar Magnitude	11.8300				
Motion Detection Statistic	2.5626e+01				0.00
Peak RA Offset	-3.3341e-05	3.0351e-05	arcseconds	-1.0985	
Peak Dec Offset	-6.4711e-05	2.4093e-05	arcseconds	-2.6859	
Peak Offset Distance	7.2795e-05	2.5533e-05	arcseconds	2.8510	
Source RA Offset	1.0817e+00	1.0602e+00	arcseconds	1.0203	
Source Dec Offset	2.1634e+00	8.4155e-01	arcseconds	2.5708	
Source Offset Distance	2.4188e+00	8.8959e-01	arcseconds	2.7190	
Source RA	19.80995029	2.8416e-05	hours		
Source Dec	46.29755095	2.3376e-04	degrees		

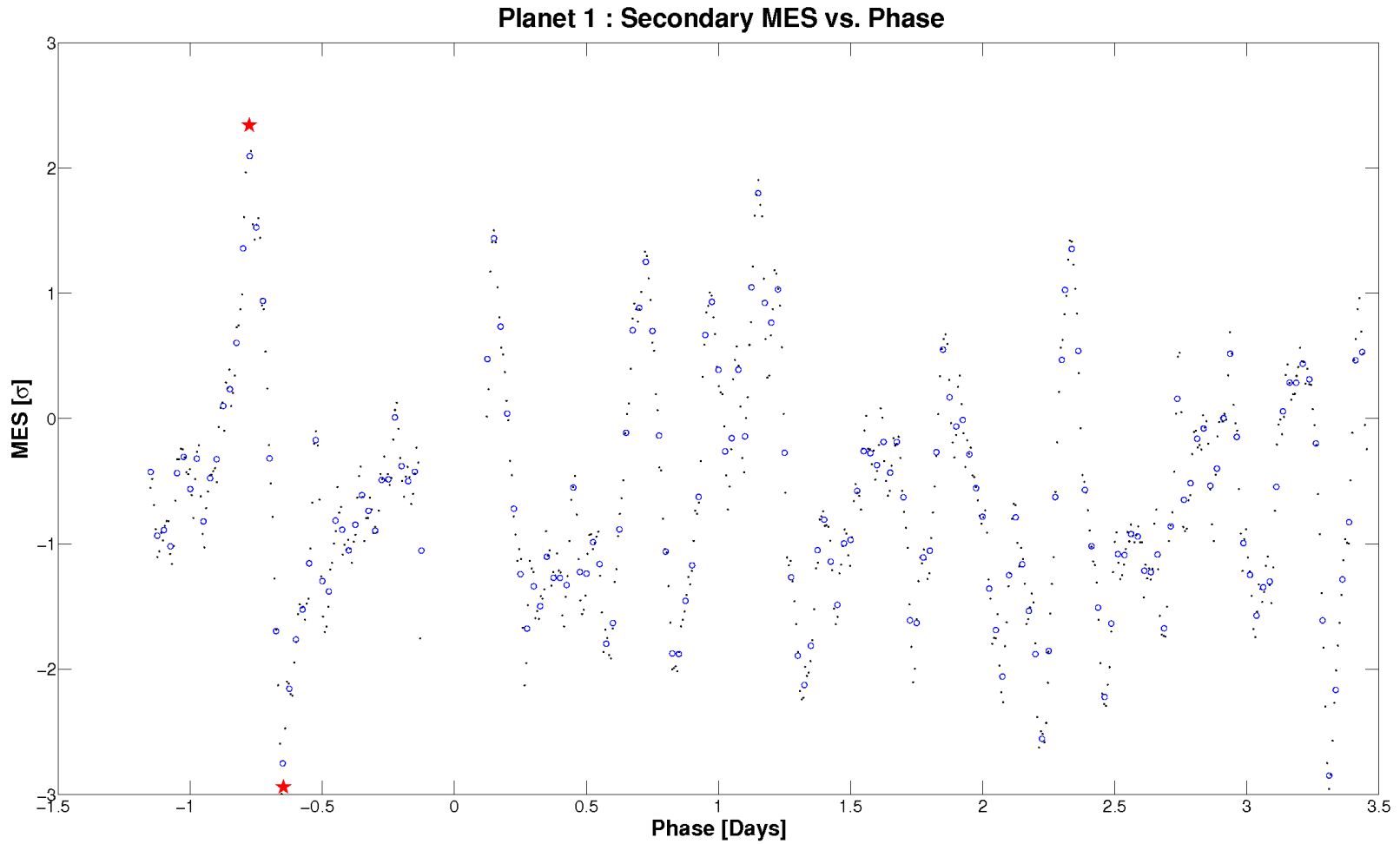
Peak offsets are relative to the out-of-transit centroid. Source offsets are relative to the KIC target location.

#### 8.3.3 Eclipsing Binary Discrimination Test

Result	Value	Value in Sigmas	Significance (%)
Odd Even Transit Depth Comparison Statistic	1.5556e-03	0.0394	96.85
Odd Even Transit Epoch Comparison Statistic	5.2768e-04	0.0230	98.17
Longer Period Comparison Statistic	3.4034e+02	18.4484	100.00

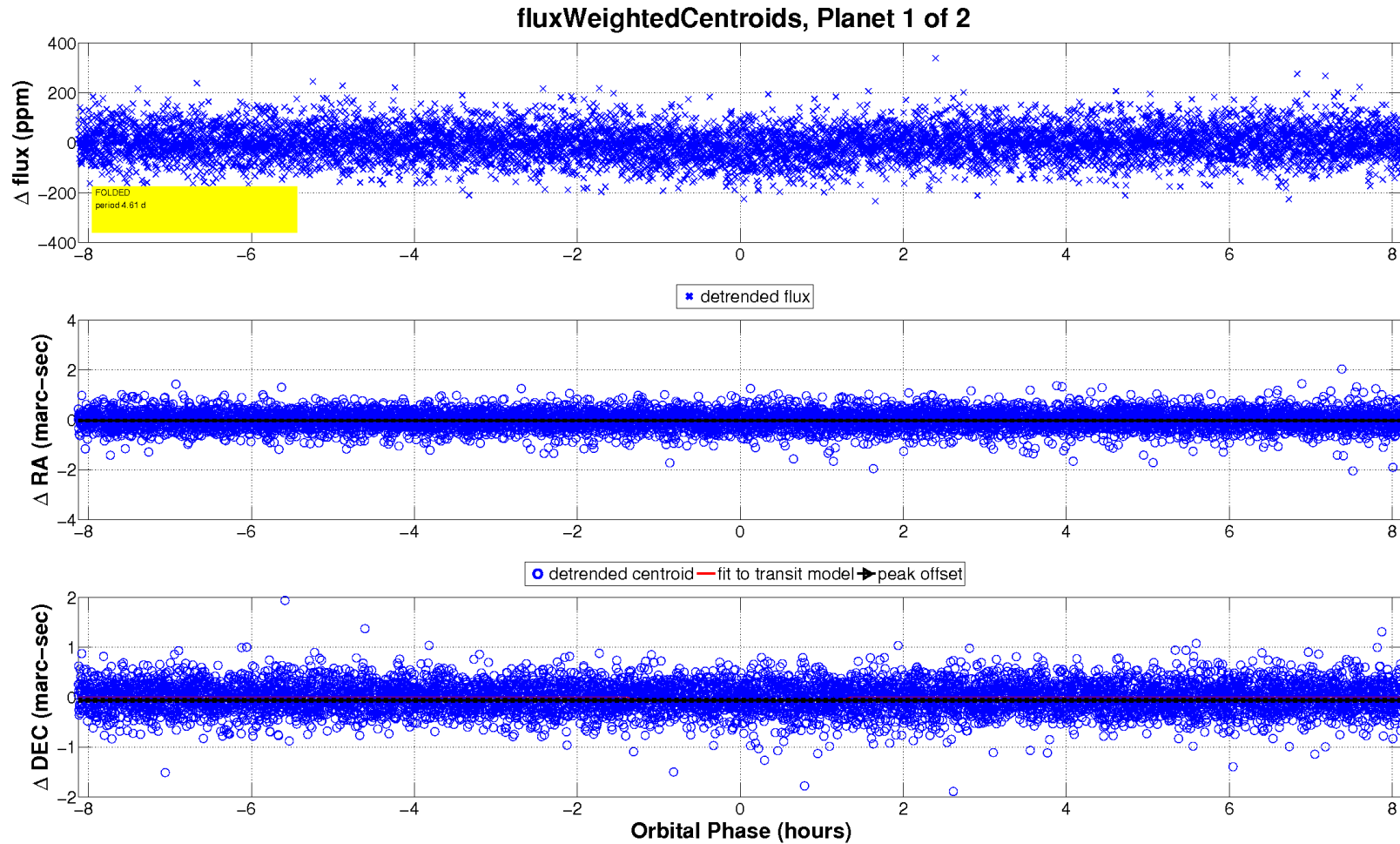
#### 8.3.4 Bootstrap Test

No bootstrap results available.



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 3. The maximum secondary MES and corresponding phase are 2.3421 and -0.77648 days respectively. The minimum secondary MES and corresponding phase are -2.9417 and -0.64706 days respectively.

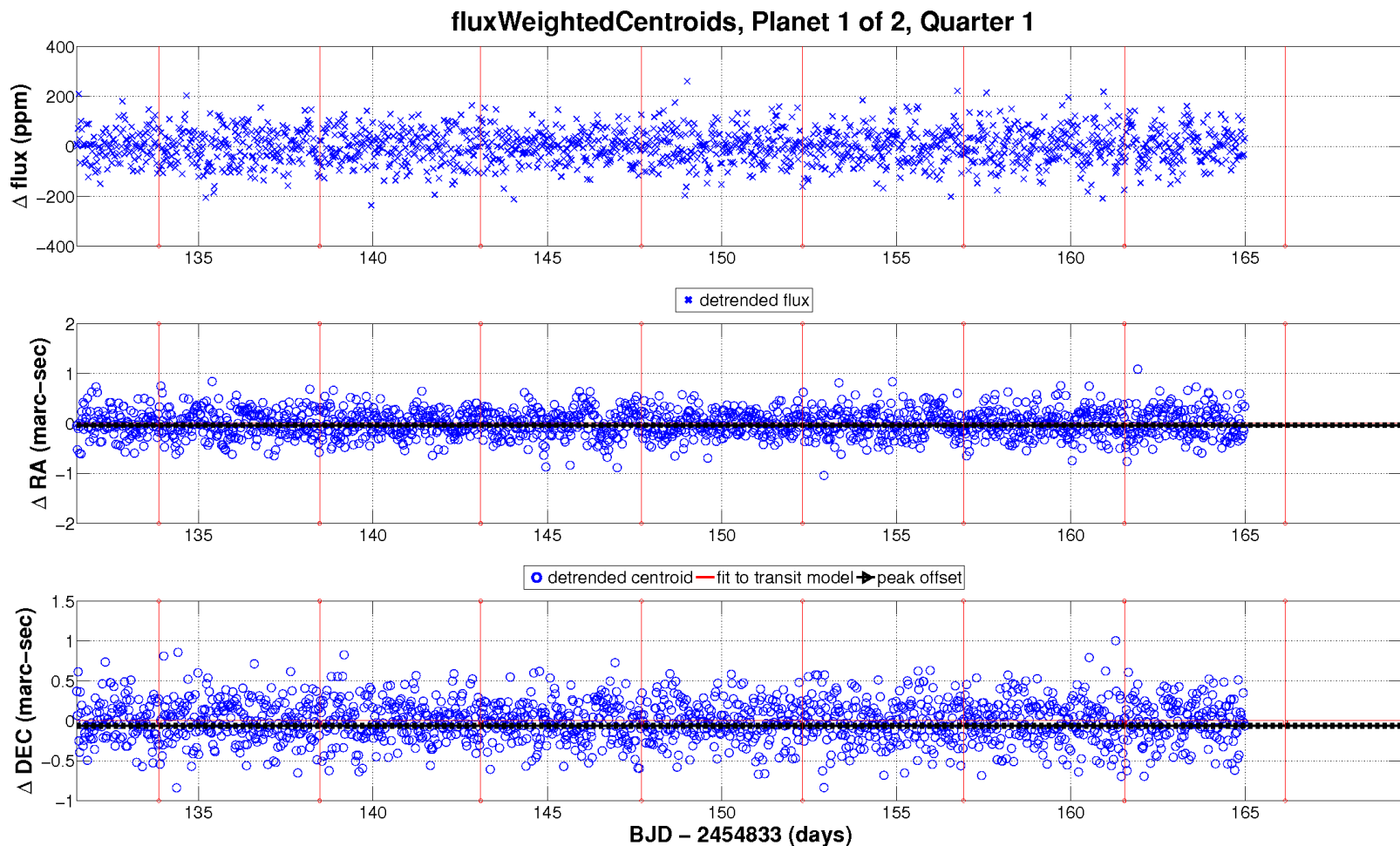
Open `./planet-01/report-summary/009602613-01-weak-secondary-diagnostic.fig`



Out of Transit Centroid  
 ra(hours): mean 19.80991908, SD 6.09e-09  
 dec(degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - FOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data folded at the fitted orbital period and centered on the fitted transit over a few fitted transit durations. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out-of-transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

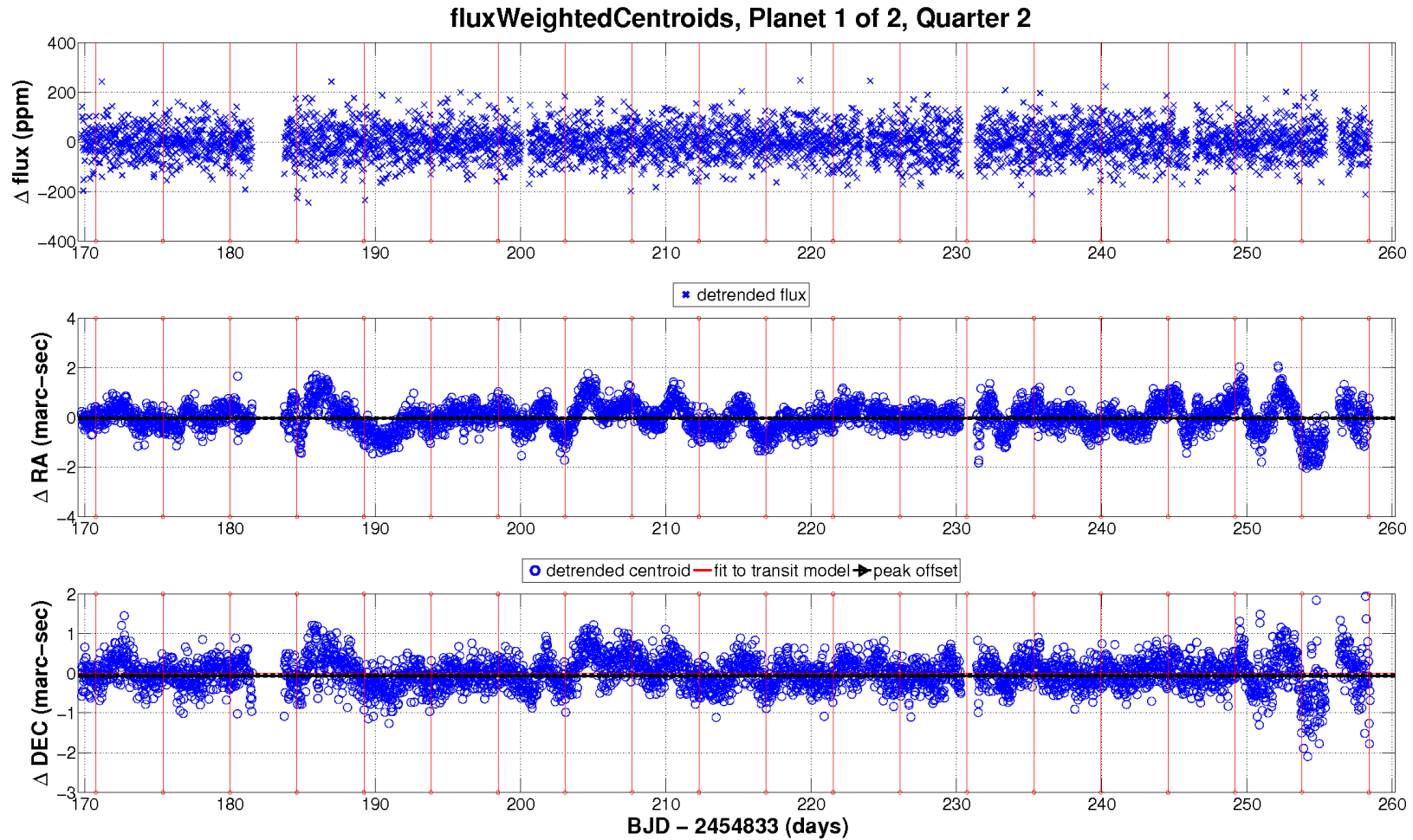
Open `./planet-01/centroid-test-results/009602613-01-folded-transit-fit-fluxWeighted-centroids.fig`



*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

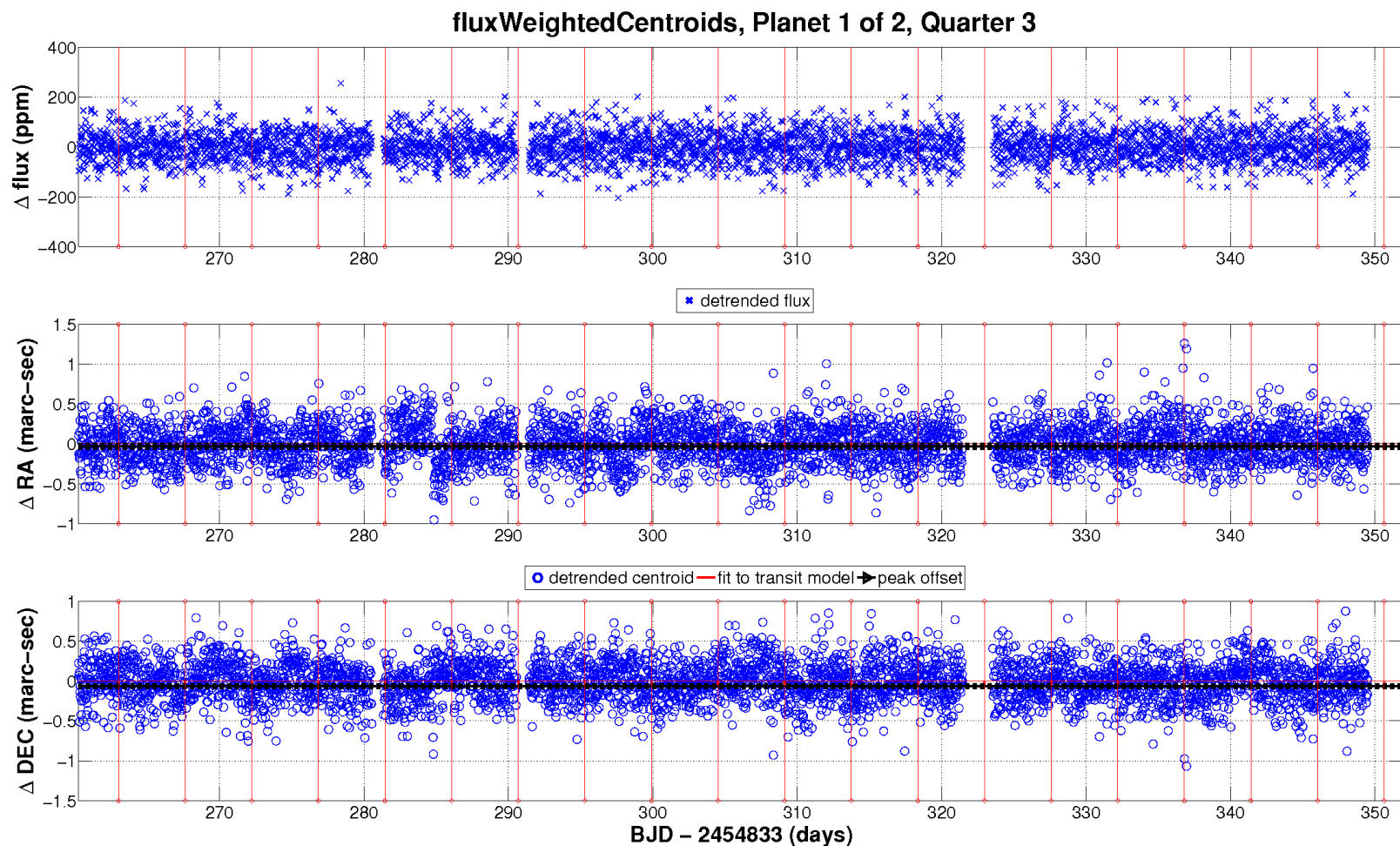
Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-01.fig`



Out of Transit Centroid  
 (ra/seconds) mean 19.80991908, SD 6.09e-09  
 (dec/degrees) mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-02.fig`

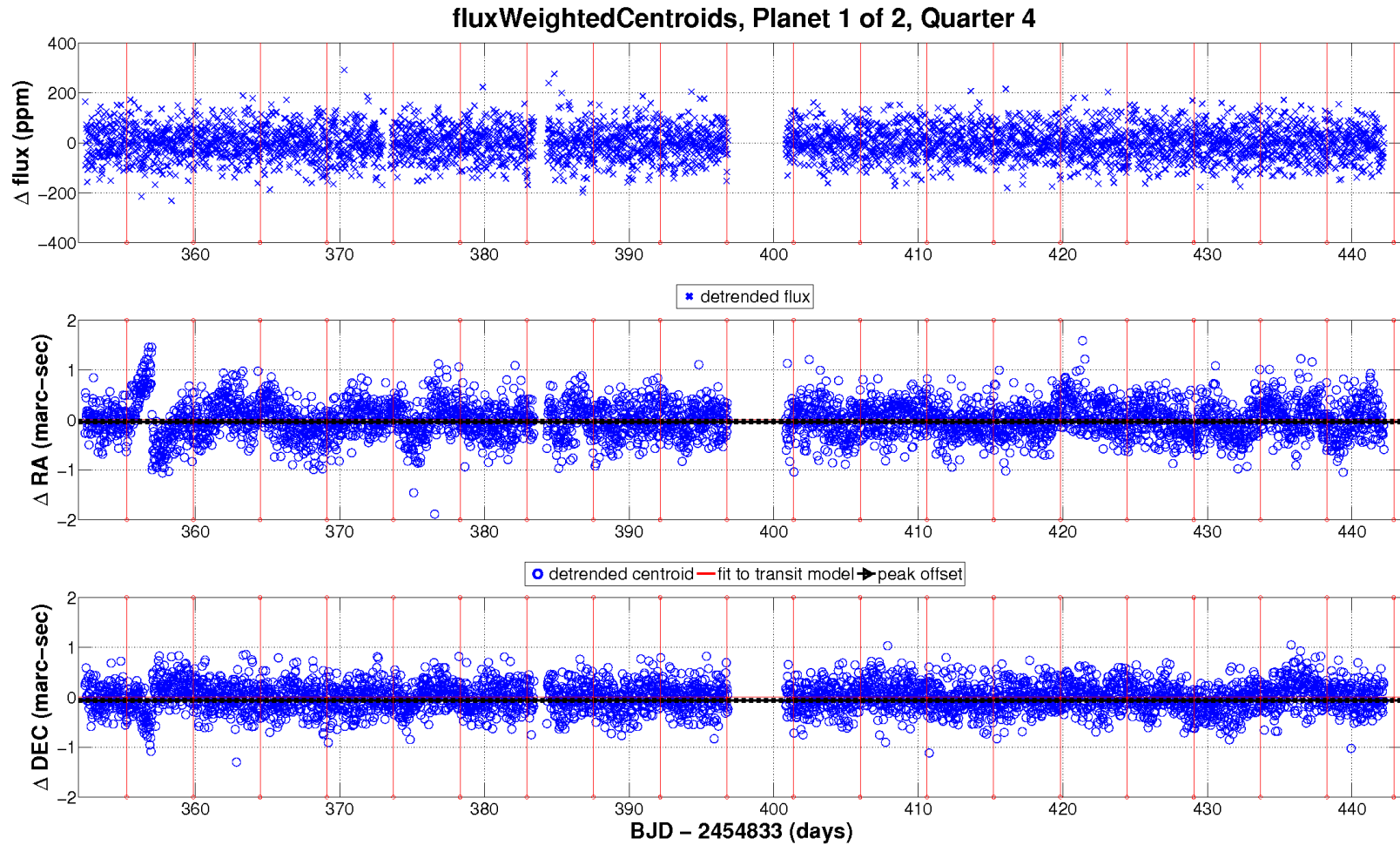


*Out of Transit Centroid*  
*ra(hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-03.fig`

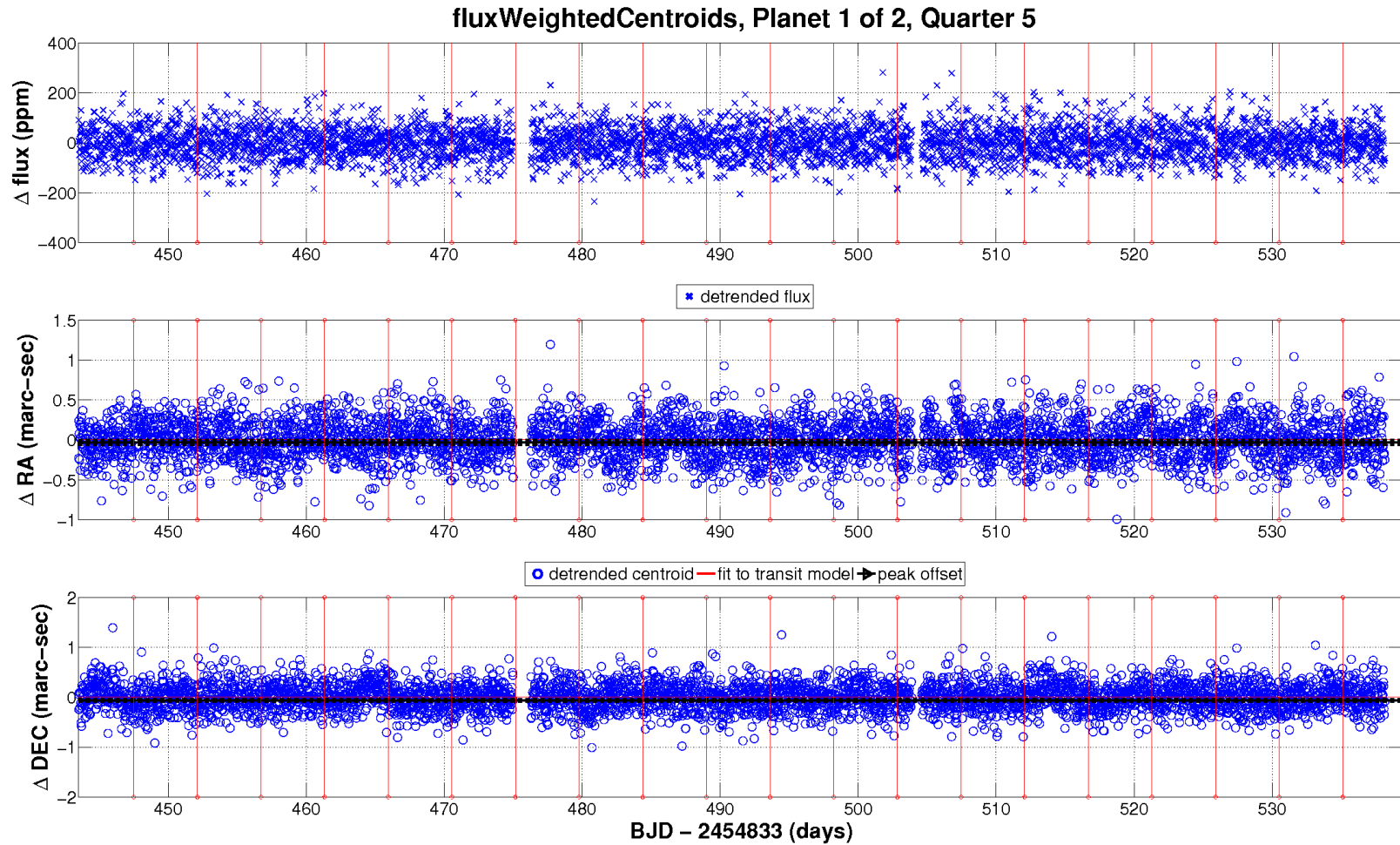




*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-04.fig`

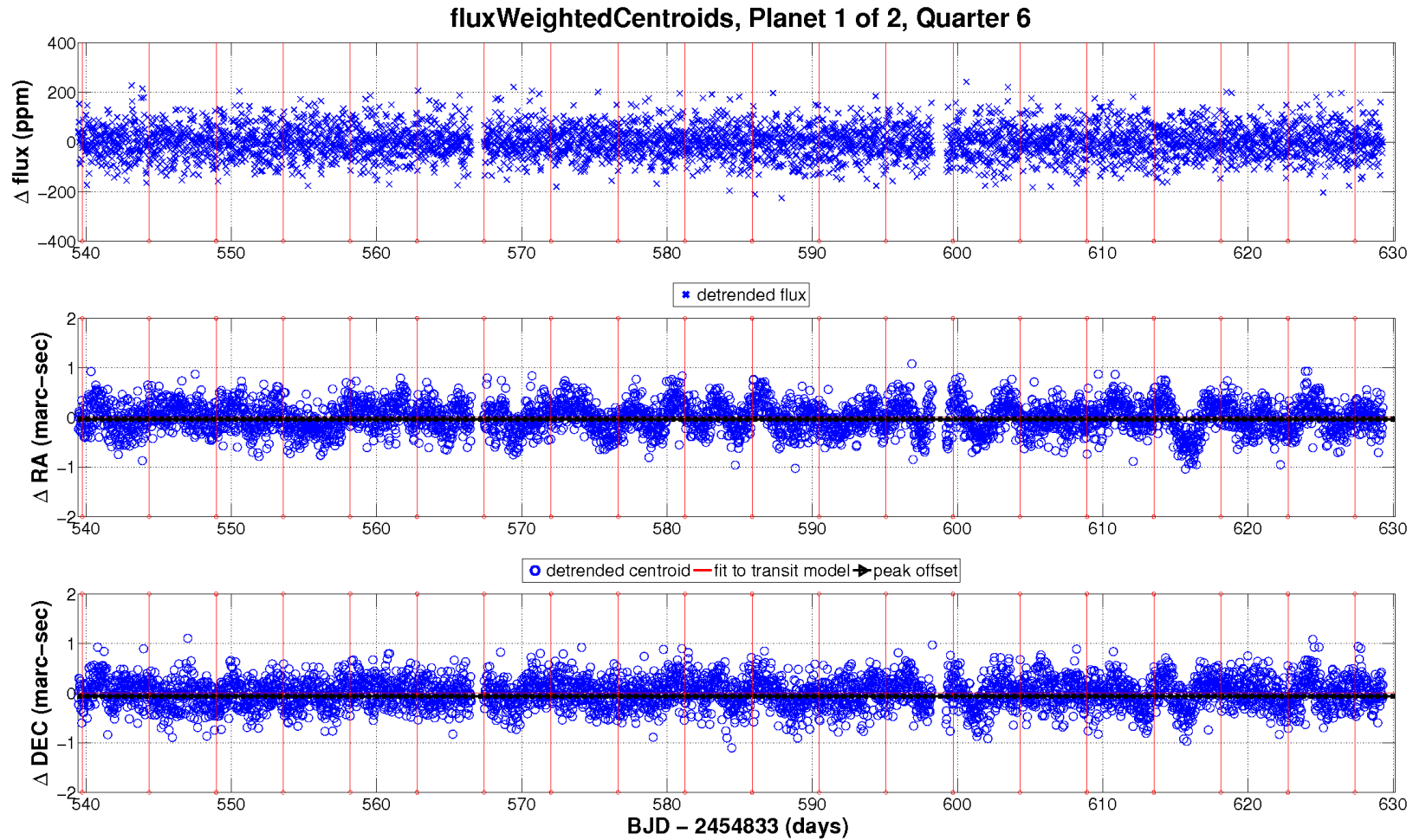


*Out of Transit Centroid*  
*ra(hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-05.fig`

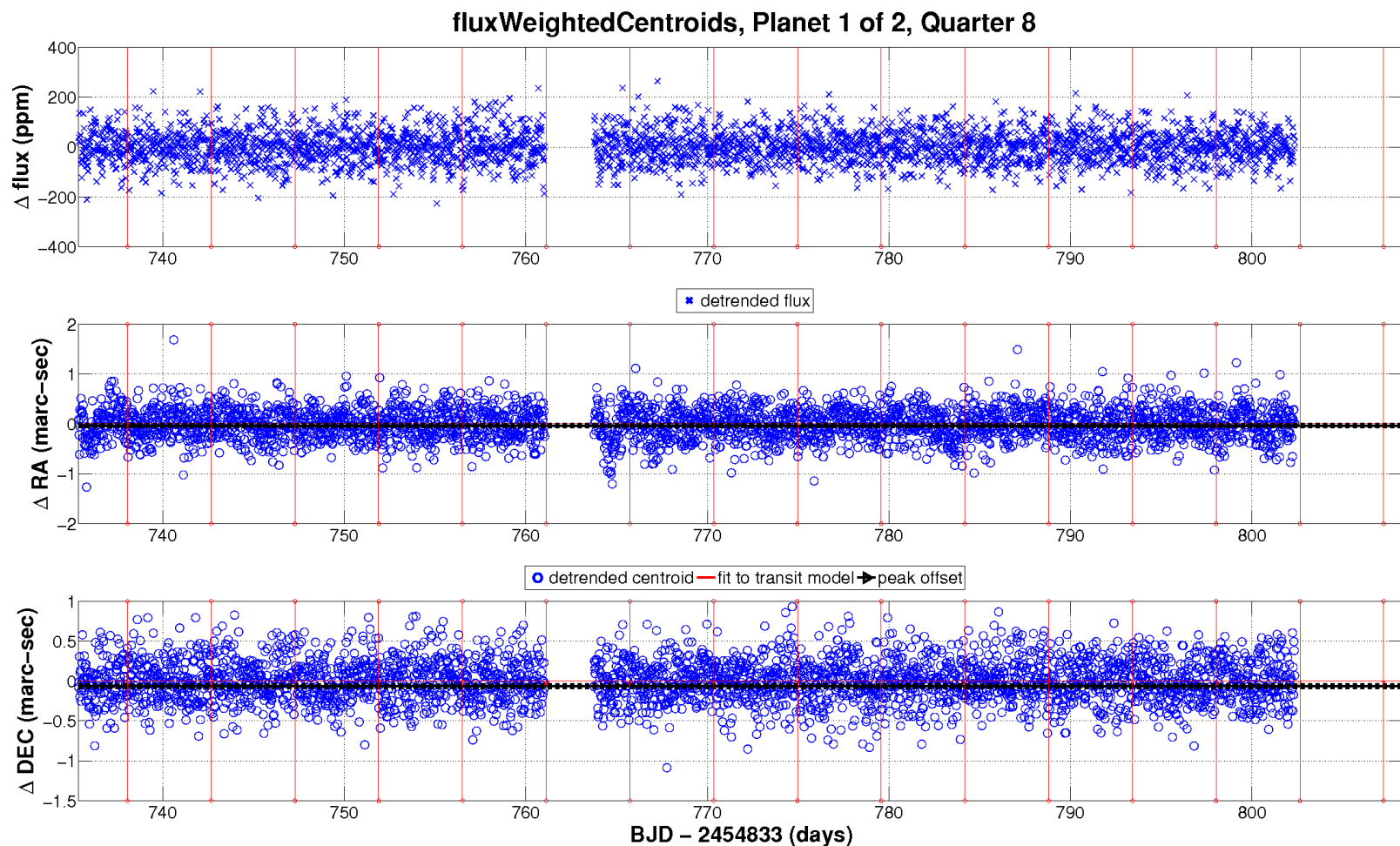




Out of Transit Centroid  
 ra(hours): mean 19.80991908, SD 6.09e-09  
 dec(degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

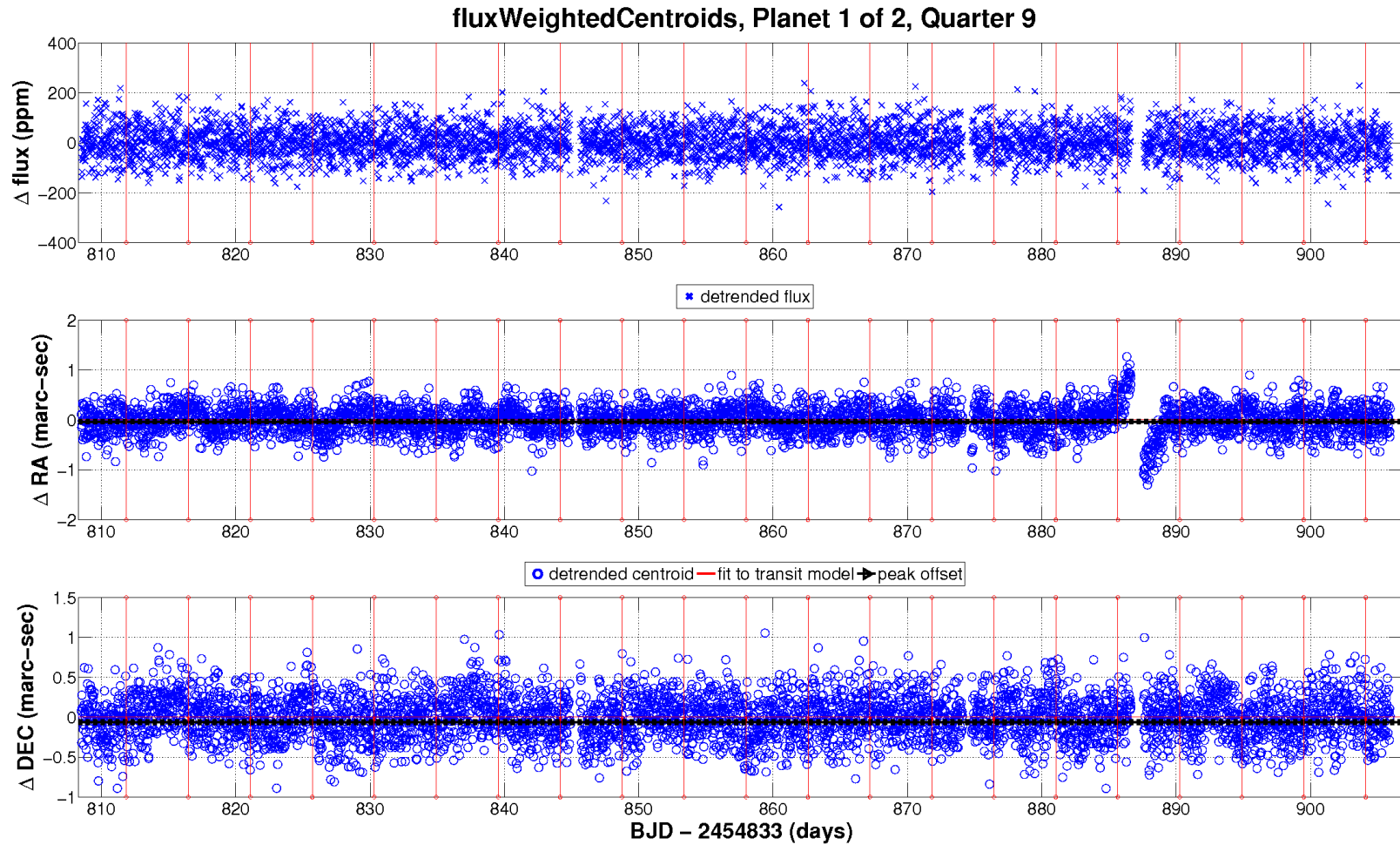
Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-06.fig`



Out of Transit Centroid  
 ra(hours): mean 19.80991908, SD 6.09e-09  
 dec(degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

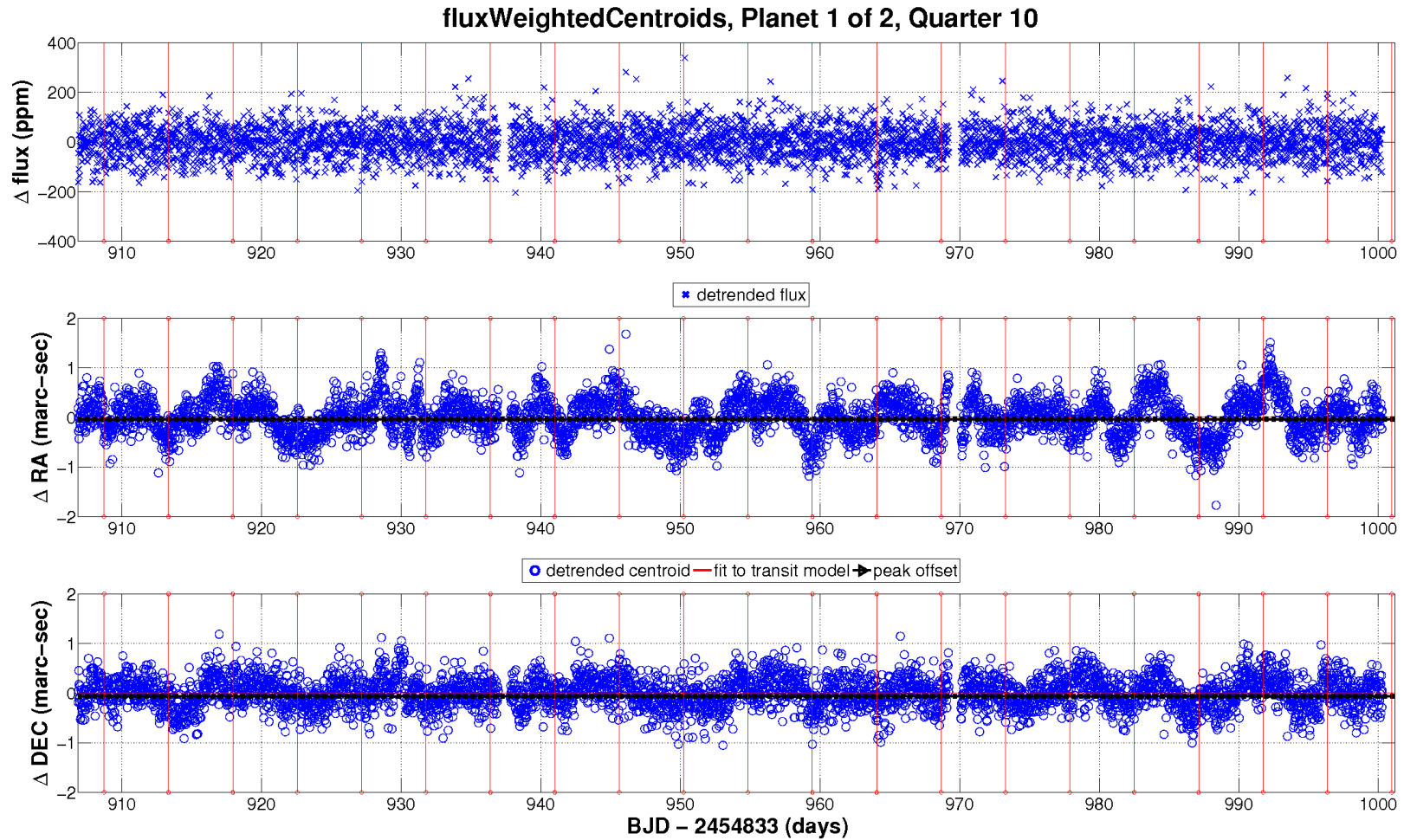
Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-08.fig`



*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

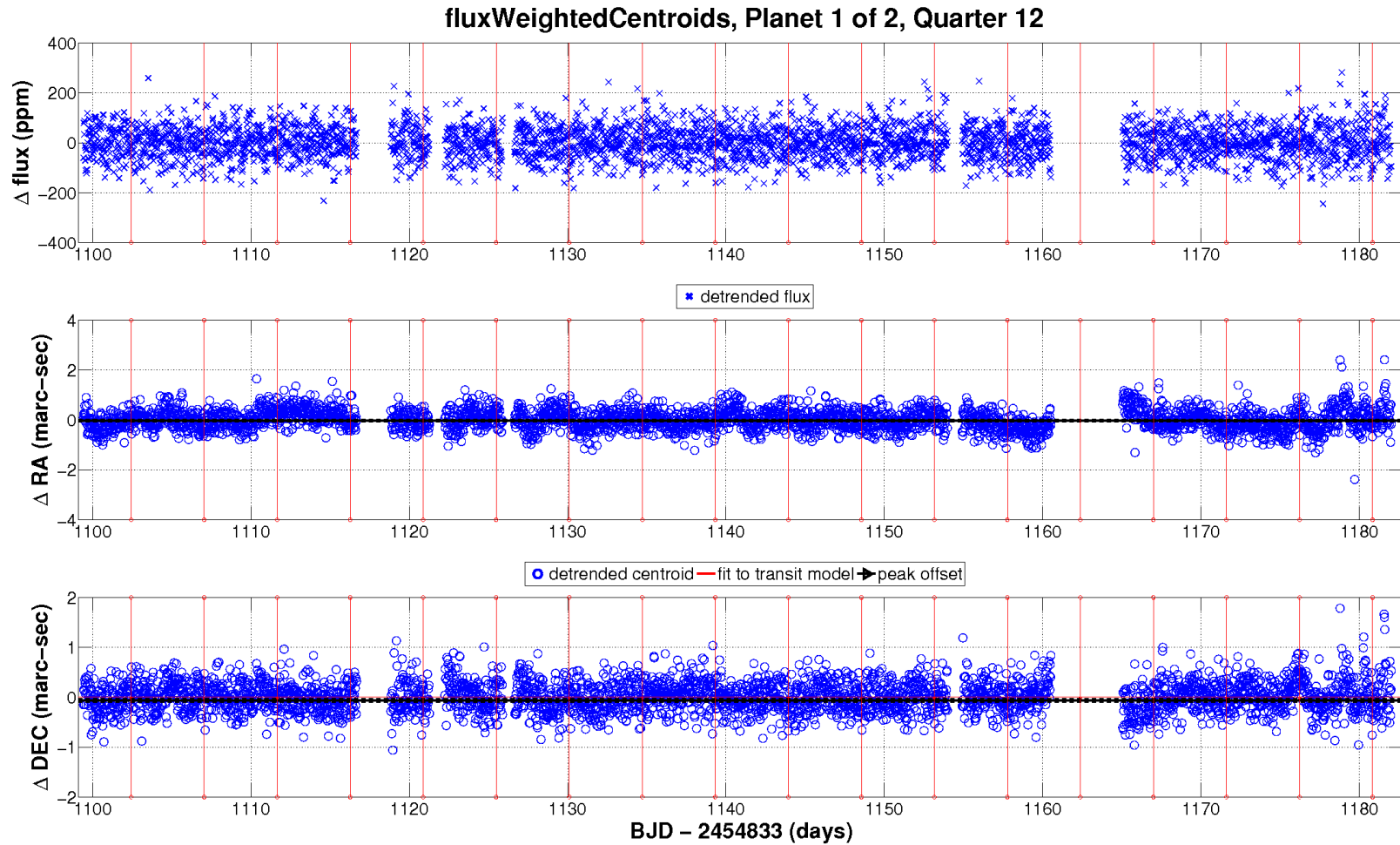
Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-09.fig`



*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-10.fig`

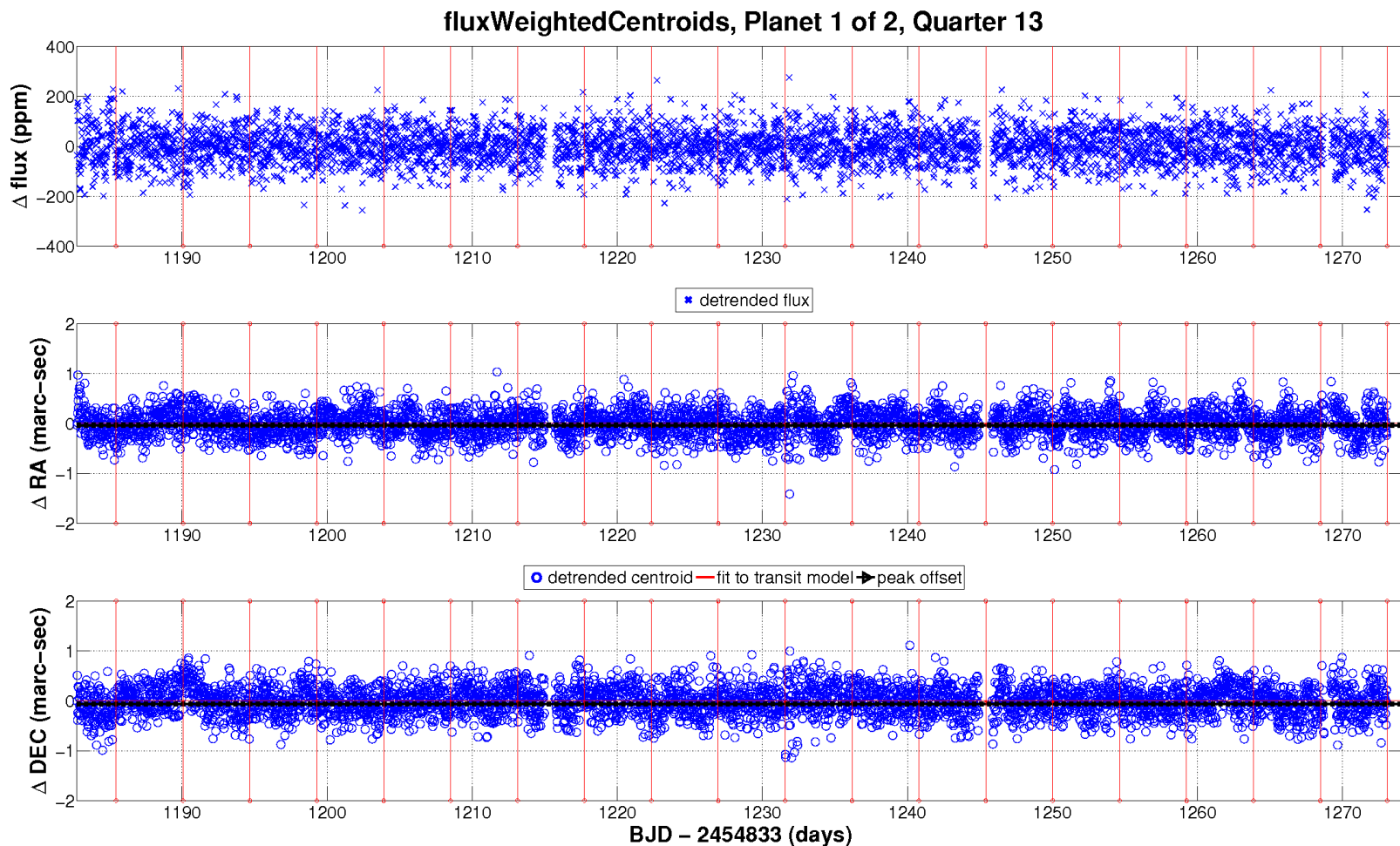


*Out of Transit Centroid*  
*(ra/seconds): mean 19.80991908, SD 6.09e-09*  
*(dec/degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-12.fig`

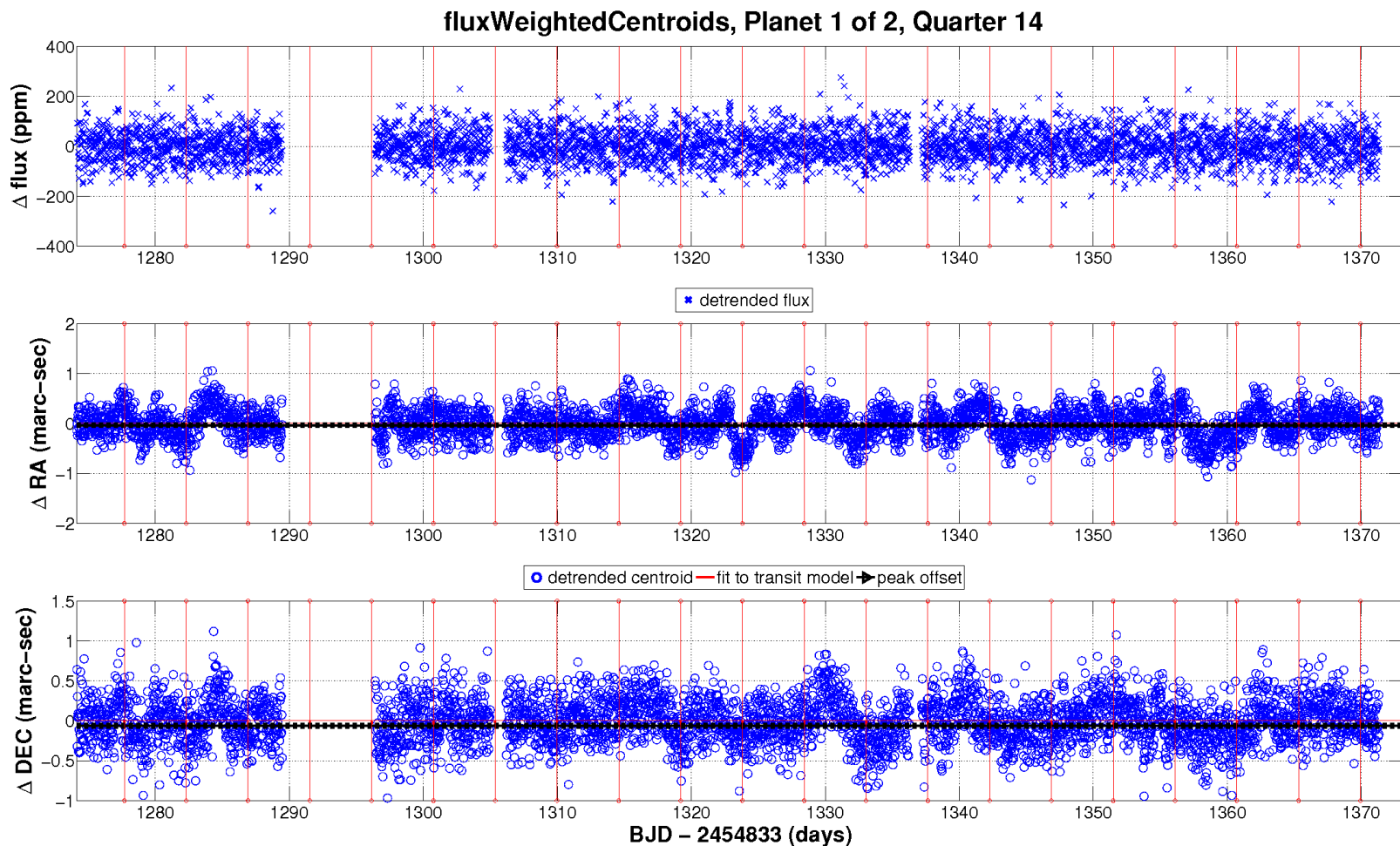




*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*(dec/degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

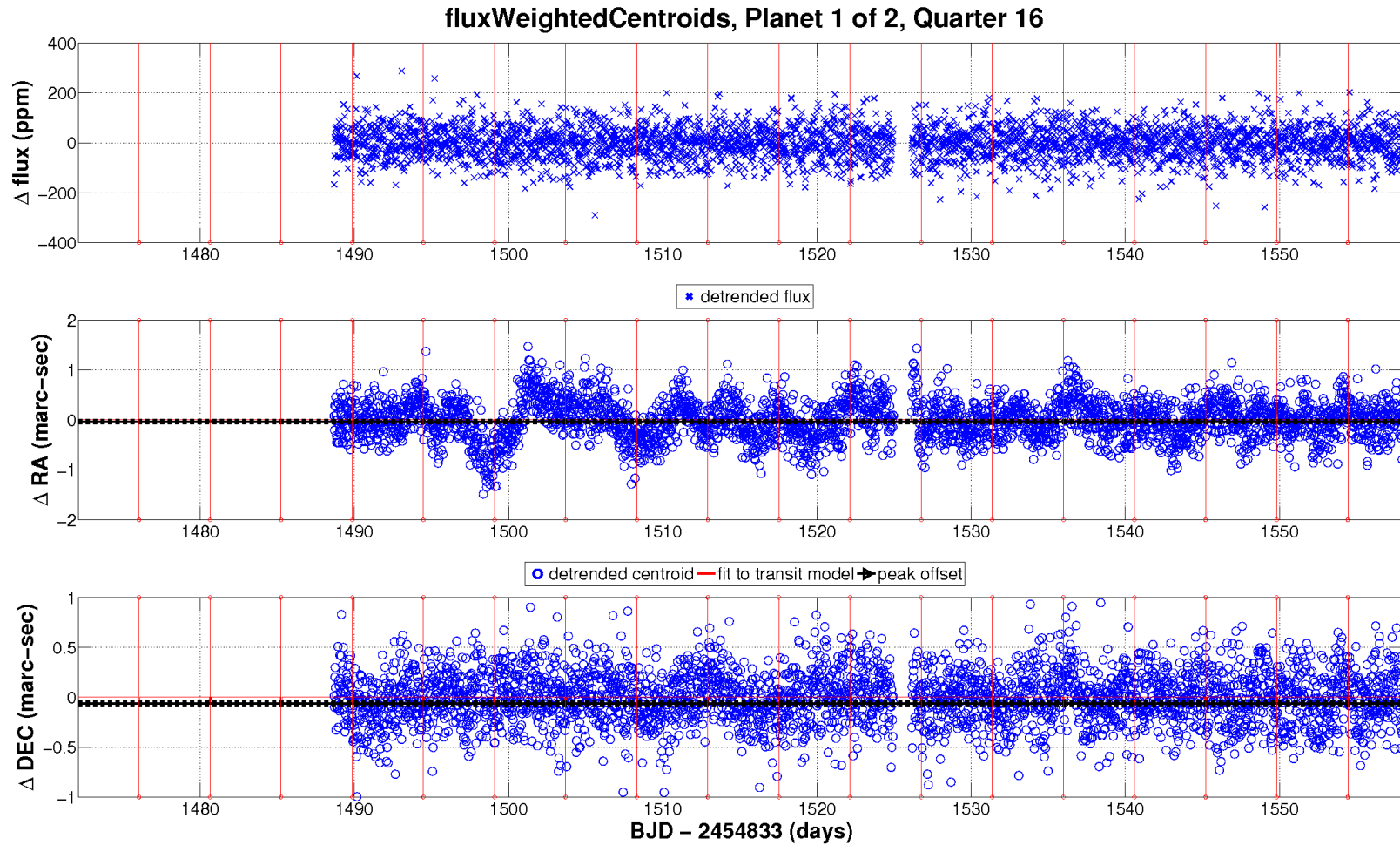
Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-13.fig`



*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-14.fig`



*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec/degrees: mean 46.2982305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-01/centroid-test-results/009602613-01-transit-fit-fluxWeighted-centroids-16.fig`



No figures named 009602613-01-bootstrap-false-alarm.fig are available.

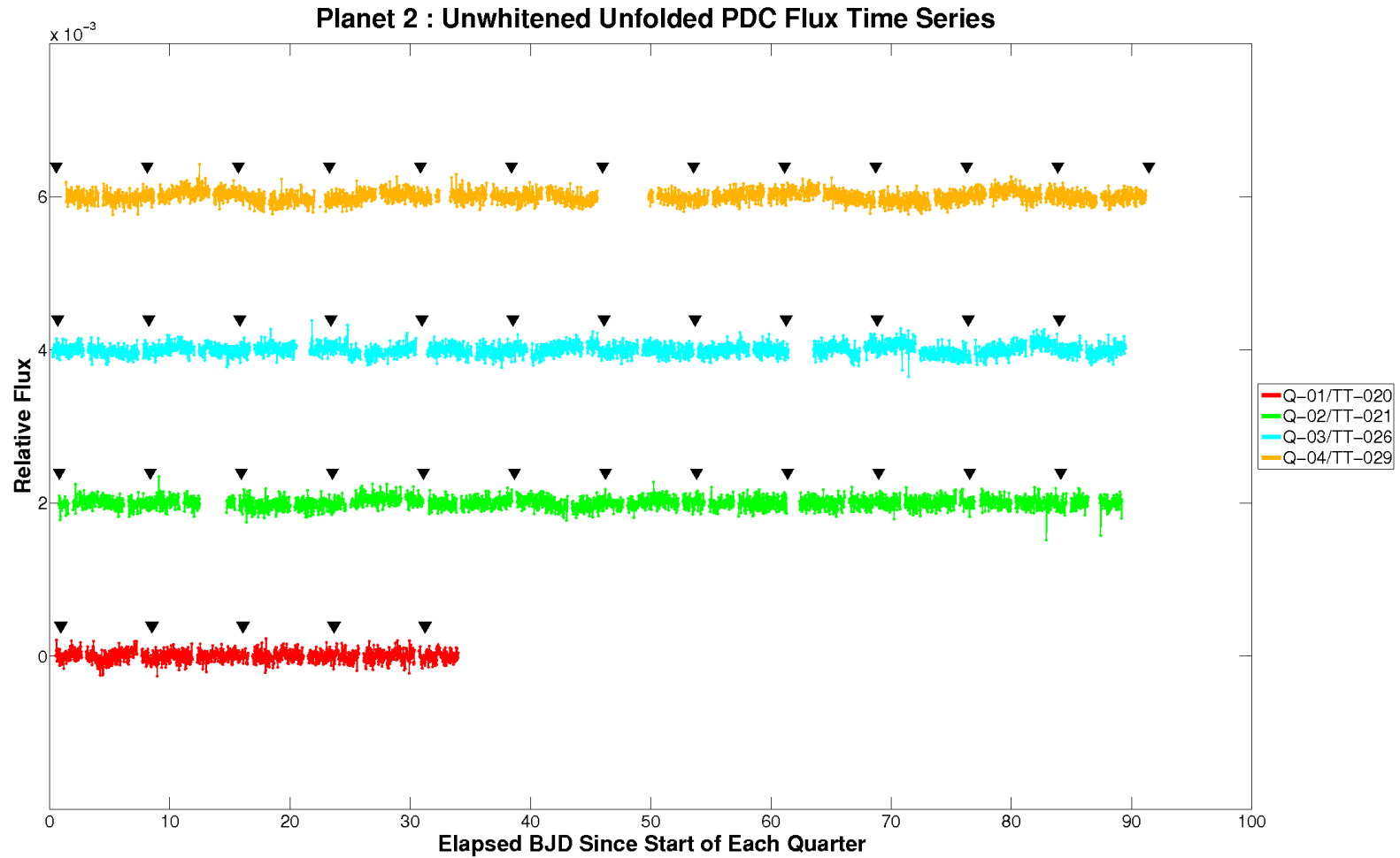
## 9 Planet Candidate 2

### 9.1 Model Fitter: All Transits

Model Characteristic	Name
Transit Model	mandel-agol_geometric_transit_model
Limb Darkening Model	claret_nonlinear_limb_darkening_model_2011

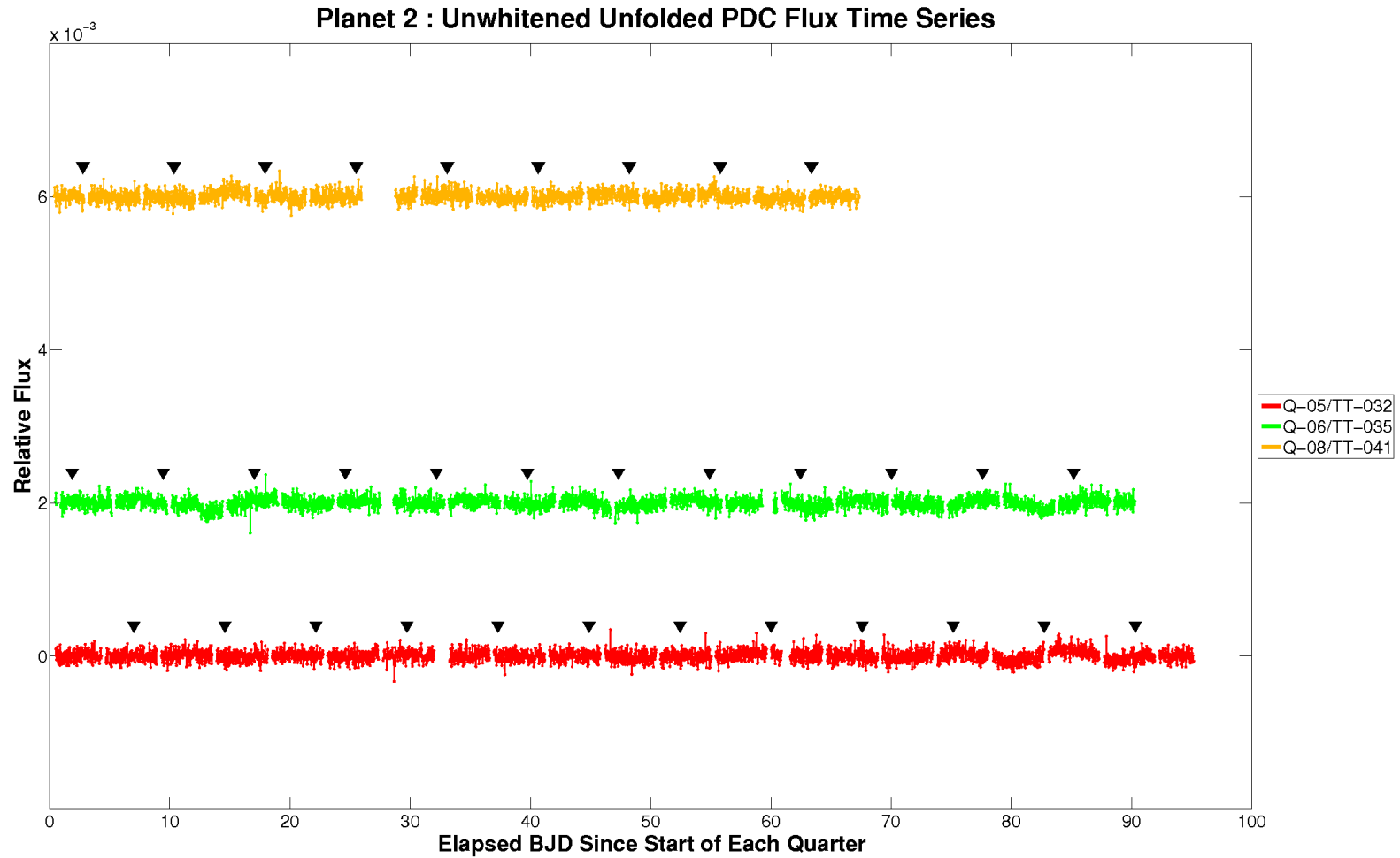
TCE Parameter	Value	Units
Trial Transit Pulse Duration	3.0000	hours
Transit Epoch	54964.4366938	MJD
Orbital Period	7.5730114	days
Maximum SES	3.3	
Maximum MES	9.3	
Robust Statistic	9.0	
Chi Square1 Statistic	1317.0	
Chi Square1 Degrees of Freedom	1624	
Chi Square2 Statistic	108.6	
Chi Square2 Degrees of Freedom	115	

DV Fit Parameter	Value	Uncertainty	Units
SNR	9.7		
Model Chi Square	2512		
Degrees of Freedom	3157		
Transit Epoch	131.9404564	5.3808e-03	BKJD
Eccentricity	0.0000	0.0000e+00	
Peri Longitude	0.0000	0.0000e+00	degrees
Planet Radius	0.5478	1.5335e-01	Earth radii
Planet Radius to Star Radius Ratio	0.0054328	1.5209e-03	
Semi-major Axis	0.0708	3.6060e-07	AU
Semi-major Axis to Star Radius Ratio	15.7137	1.7641e+01	
Impact Parameter	0.6763	9.1651e-01	
Star Radius	0.9240	0.0000e+00	solar radii
Transit Duration	2.7393	1.6199e-01	hours
Transit Ingress Time	0.0272	6.8947e-02	hours
Transit Depth	31	3.2239e+00	ppm
Orbital Period	7.5730141	5.7862e-05	days
Equilibrium Temperature	870	2.1532e+02	Kelvin



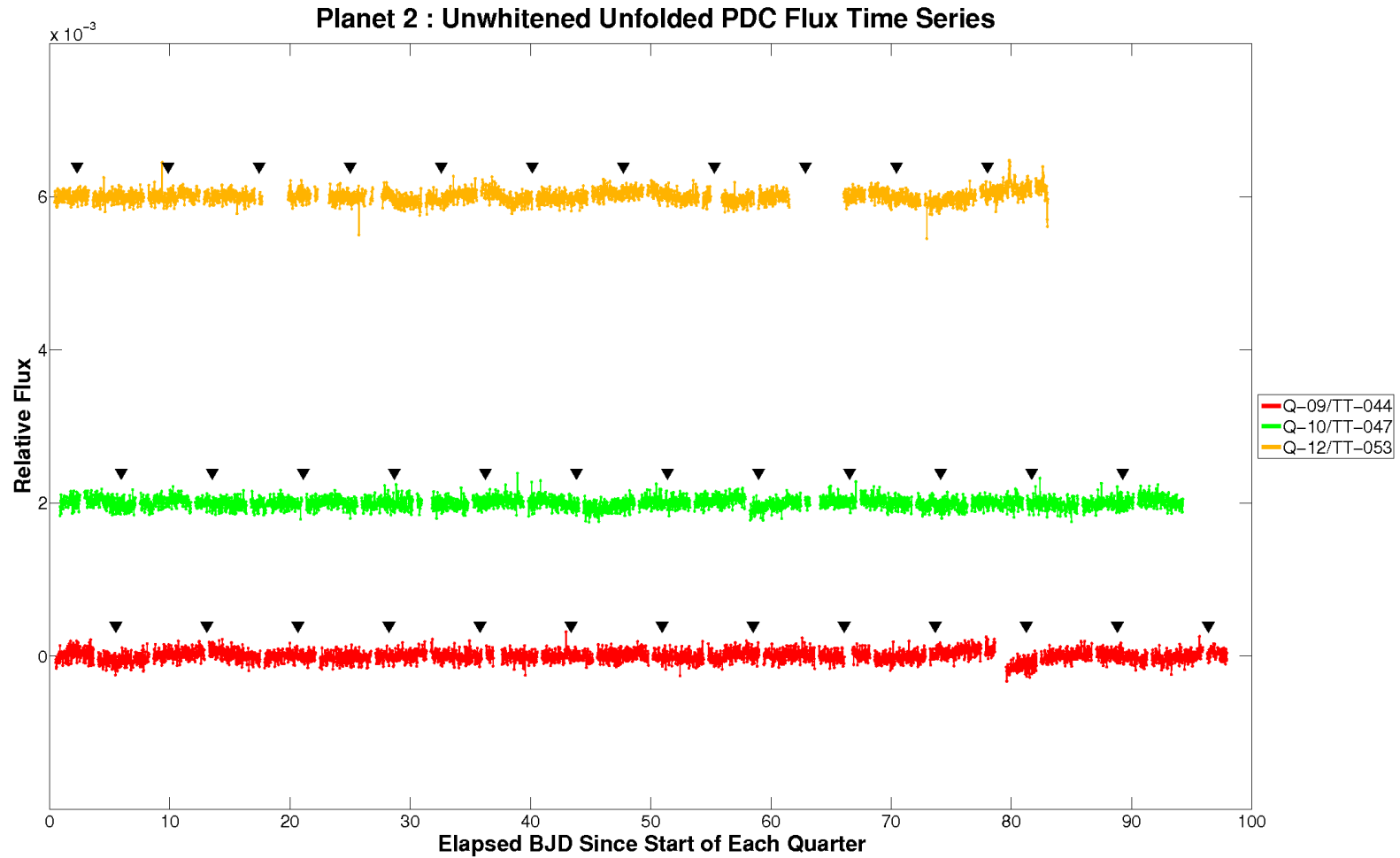
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-01/TargetTableId-020, start BJD is 2454964 and the vertical offset is 0. For the data of Quarter-02/TargetTableId-021, start BJD is 2455002 and the vertical offset is 0.002. For the data of Quarter-03/TargetTableId-026, start BJD is 2455093 and the vertical offset is 0.004. For the data of Quarter-04/TargetTableId-029, start BJD is 2455184 and the vertical offset is 0.006. 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/009602613-02-all-unwhitened-01-020.fig`



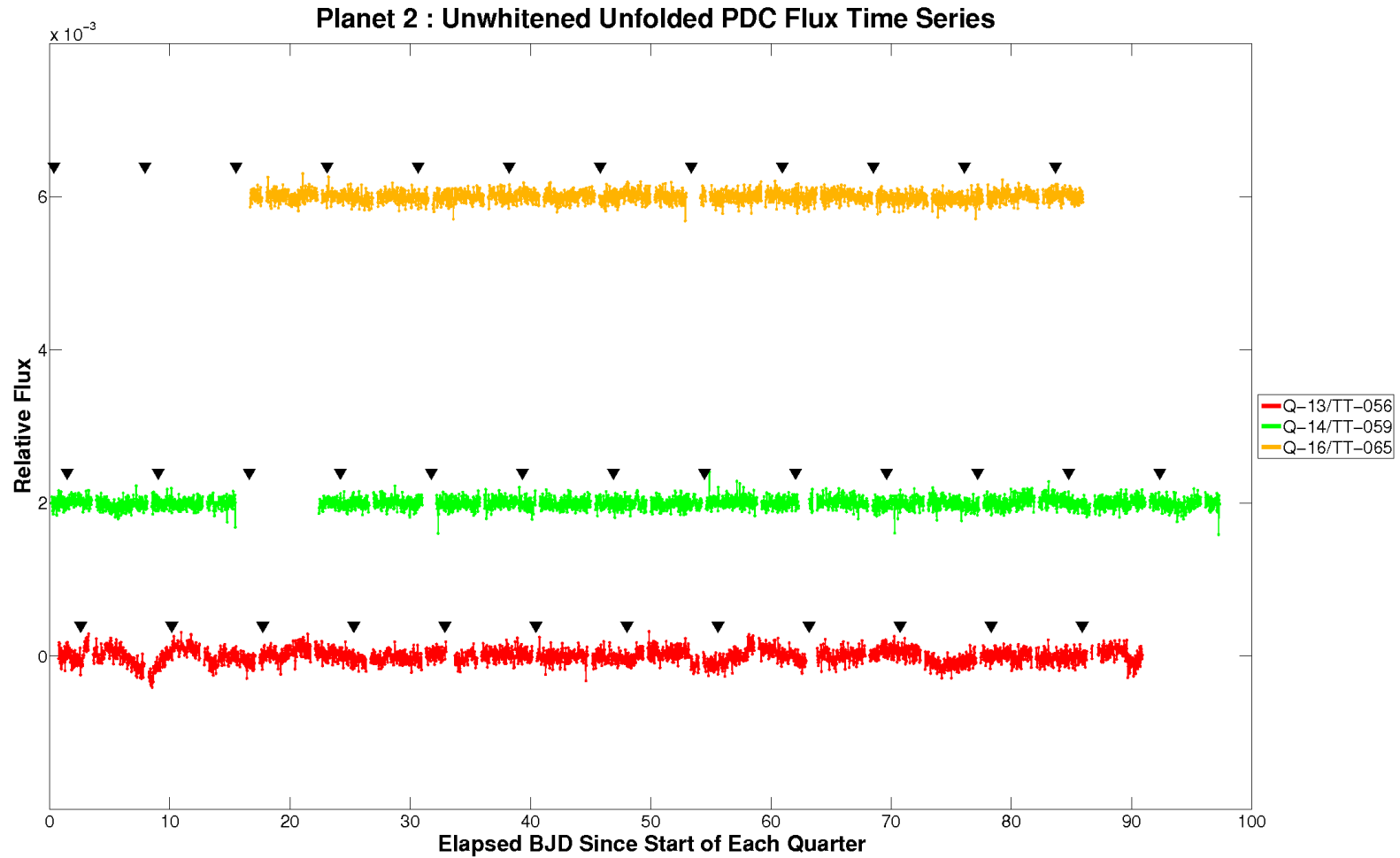
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-05/TargetTableId-032, start BJD is 2455276 and the vertical offset is 0. For the data of Quarter-06/TargetTableId-035, start BJD is 2455372 and the vertical offset is 0.002. For the data of Quarter-07/TargetTableId-038, start BJD is 2455463 and the vertical offset is 0.004. For the data of Quarter-08/TargetTableId-041, start BJD is 2455568 and the vertical offset is 0.006. 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/009602613-02-all-unwhitened-05-032.fig`



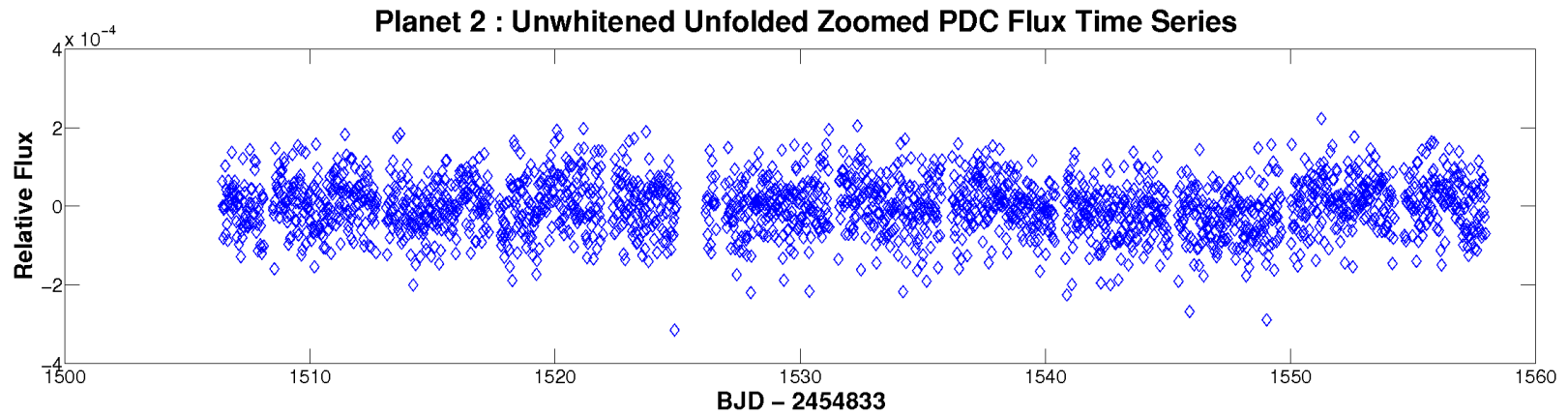
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-09/TargetTableId-044, start BJD is 2455641 and the vertical offset is 0. For the data of Quarter-10/TargetTableId-047, start BJD is 2455739 and the vertical offset is 0.002. For the data of Quarter-11/TargetTableId-050, start BJD is 2455834 and the vertical offset is 0.004. For the data of Quarter-12/TargetTableId-053, start BJD is 2455932 and the vertical offset is 0.006. 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/009602613-02-all-unwhitened-09-044.fig`



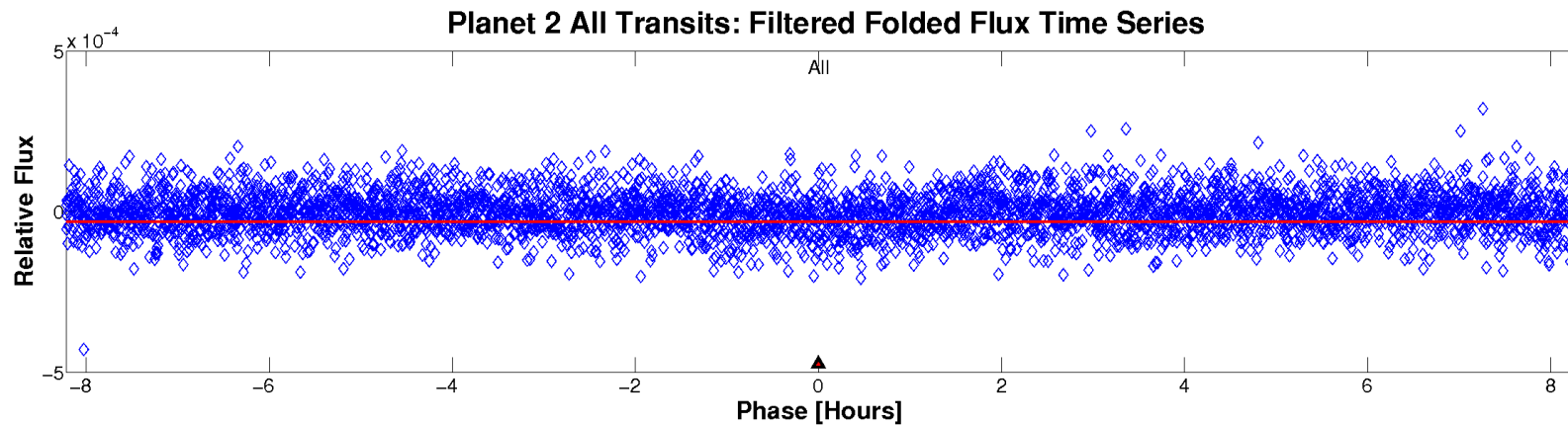
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-13/TargetTableId-056, start BJD is 2456015 and the vertical offset is 0. For the data of Quarter-14/TargetTableId-059, start BJD is 2456107 and the vertical offset is 0.002. For the data of Quarter-15/TargetTableId-062, start BJD is 2456206 and the vertical offset is 0.004. For the data of Quarter-16/TargetTableId-065, start BJD is 2456305 and the vertical offset is 0.006. 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/009602613-02-all-unwhitened-13-056.fig`



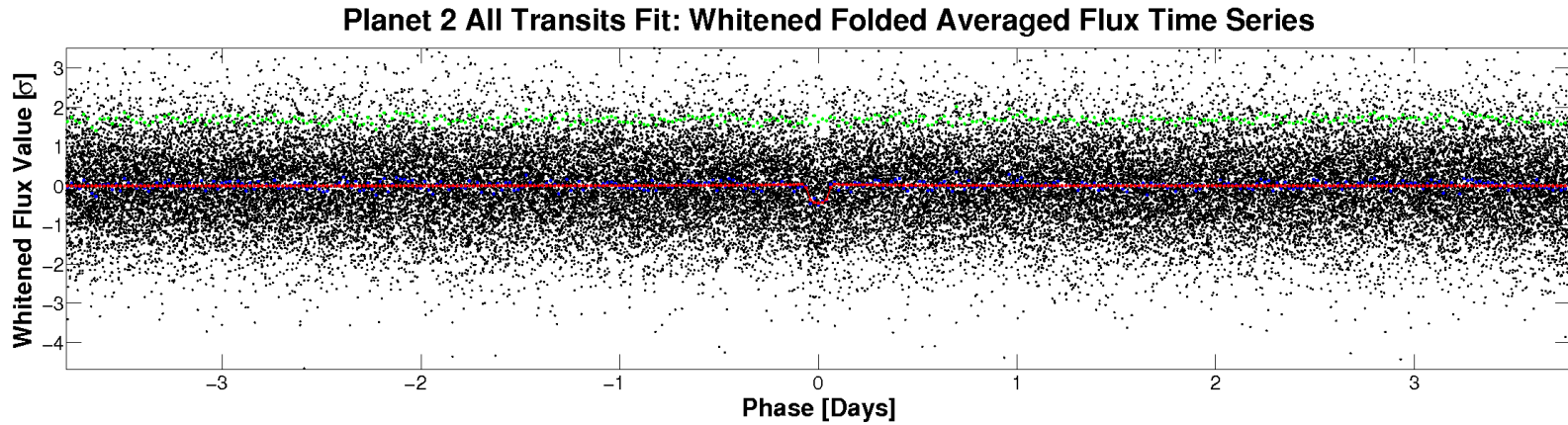
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain, zoomed on last 5 transits in the unit of work. If # of transits is smaller than 5, all transits are shown.

Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/009602613-02-all-unwhitened-zoomed.fig`



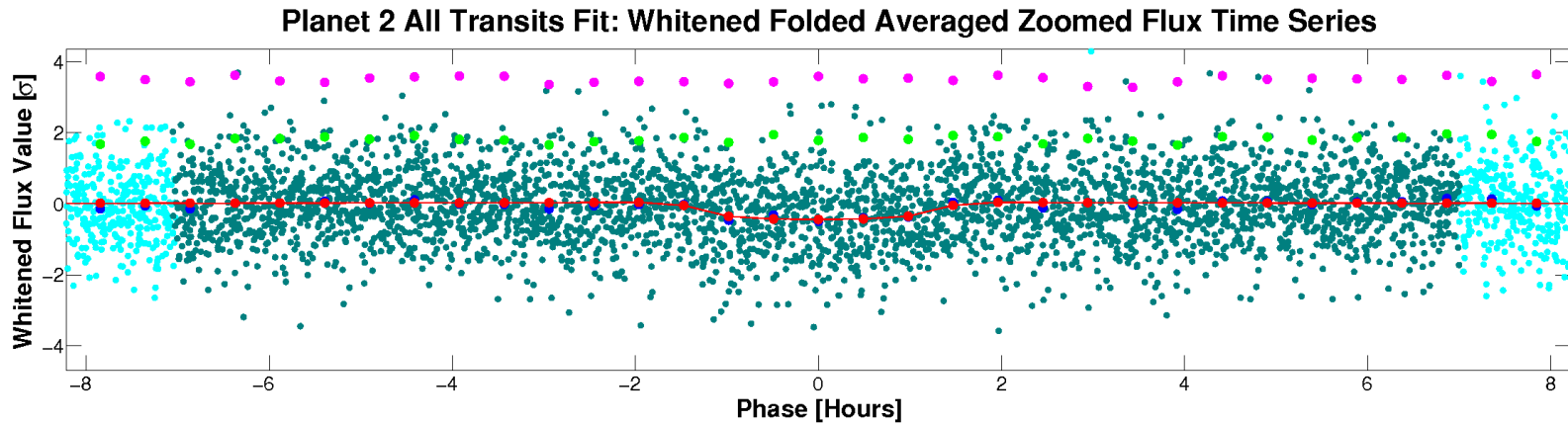
PDC Flux time series of all transits for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. Data has been high-pass filtered via a median filter operating at a specified multiple of the transit duration, folded per the fitted period and epoch, and zoomed to the location of the model transit.

Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/009602613-02-all-unwhitened-filtered-zoomed.fig`



Folded flux time series for KeplerId 9602613, 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/009602613-02-all-whitened.fig`



Folded flux time series for KeplerId 9602613, 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.

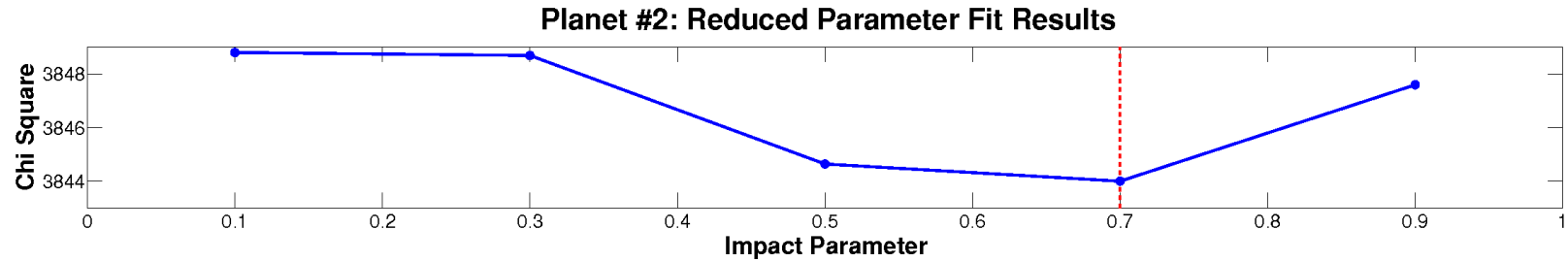
Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/009602613-02-all-whitened-zoomed.fig`



## 9.2 Model Fitter: Reduced Parameter Fit Results

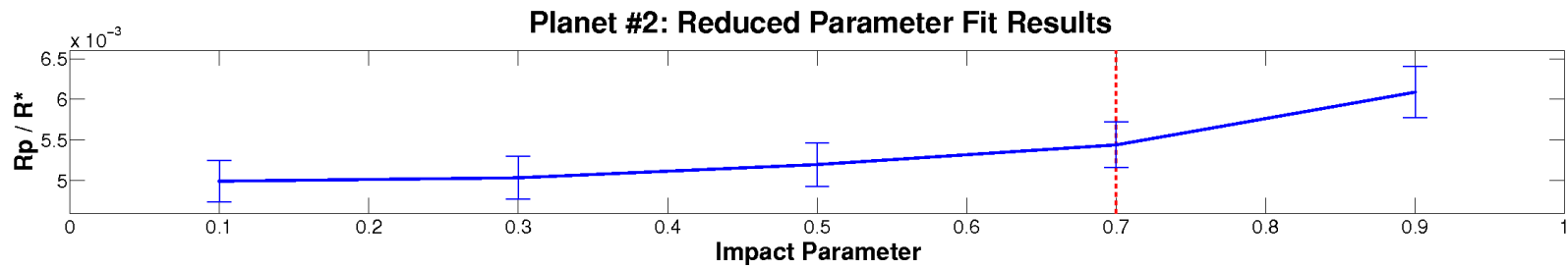
Impact Parameter	SNR	Model Chi Square	Planet Radius to Star Radius	Uncert	Semi-major Axis to Star Radius	Uncert	Transit Depth (ppm)	Uncert	Transit Duration (hours)	Uncert
0.10	10.0	3848.8	0.0049950	2.5648e-04	20.9980	1.0339e+00	31	3.1465e+00	2.7552	1.3552e-01
0.30	10.0	3848.7	0.0050364	2.6033e-04	19.9238	1.0002e+00	31	3.1549e+00	2.7853	1.3964e-01
0.50	10.0	3844.6	0.0051989	2.6688e-04	18.7491	9.8394e-01	31	3.1829e+00	2.6908	1.4099e-01
0.70	10.0	3844.0	0.0054407	2.8162e-04	15.4308	9.2226e-01	31	3.1969e+00	2.7060	1.6136e-01
0.90	10.1	3847.6	0.0060886	3.1519e-04	9.3833	5.9025e-01	31	3.1804e+00	2.7725	1.7327e-01

Highlighted row is used to seed all transits fit with all parameters.



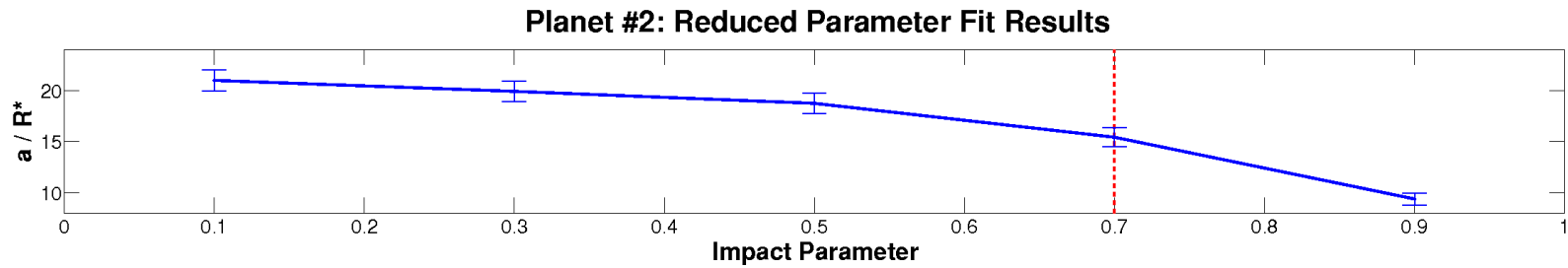
Model chi squares of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-02-reduced-fits-chi-square.fig`



Ratios of planet radius to star radius of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-02-reduced-fits-rp-over-rstar.fig`



Ratios of semimajor axis to star radius of reduced parameter fits vs. impact parameter for KeplerId 9602613, Planet candidate 2. The fit result with the minimum chi square is marked with a dashed line in the plot and set as the seed for the all transits fit with all model parameters.

Open `./planet-02/planet-search-and-model-fitting-results/reduced-parameter-fits/009602613-02-reduced-fits-a-over-rstar.fig`

### 9.3 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.

#### 9.3.1 Weak Secondary Test

Period (days)	Duration (hours)	Max MES	Sec Phase (days)	Sec MES	Min Phase (days)	Min MES	MAD
7.573	3	9.2924	3.7189	2.7914	5.5034	-4.3668	0.78982

#### 9.3.2 Flux-Weighted Centroid Test

Result	Value	Uncertainty	Units	Value in Sigmas	Significance (%)
Stellar Magnitude	11.8300				
Motion Detection Statistic	1.3551e+01				0.11
Peak RA Offset	4.7873e-05	3.8523e-05	arcseconds	1.2427	
Peak Dec Offset	4.9192e-05	3.1134e-05	arcseconds	1.5800	
Peak Offset Distance	6.8642e-05	3.4924e-05	arcseconds	1.9655	
Source RA Offset	-1.6129e+00	1.2311e+00	arcseconds	-1.3101	
Source Dec Offset	-1.6691e+00	9.9493e-01	arcseconds	-1.6776	
Source Offset Distance	2.3211e+00	1.1152e+00	arcseconds	2.0812	
Source RA	19.80987807	3.2997e-05	hours		
Source Dec	46.29648635	2.7637e-04	degrees		

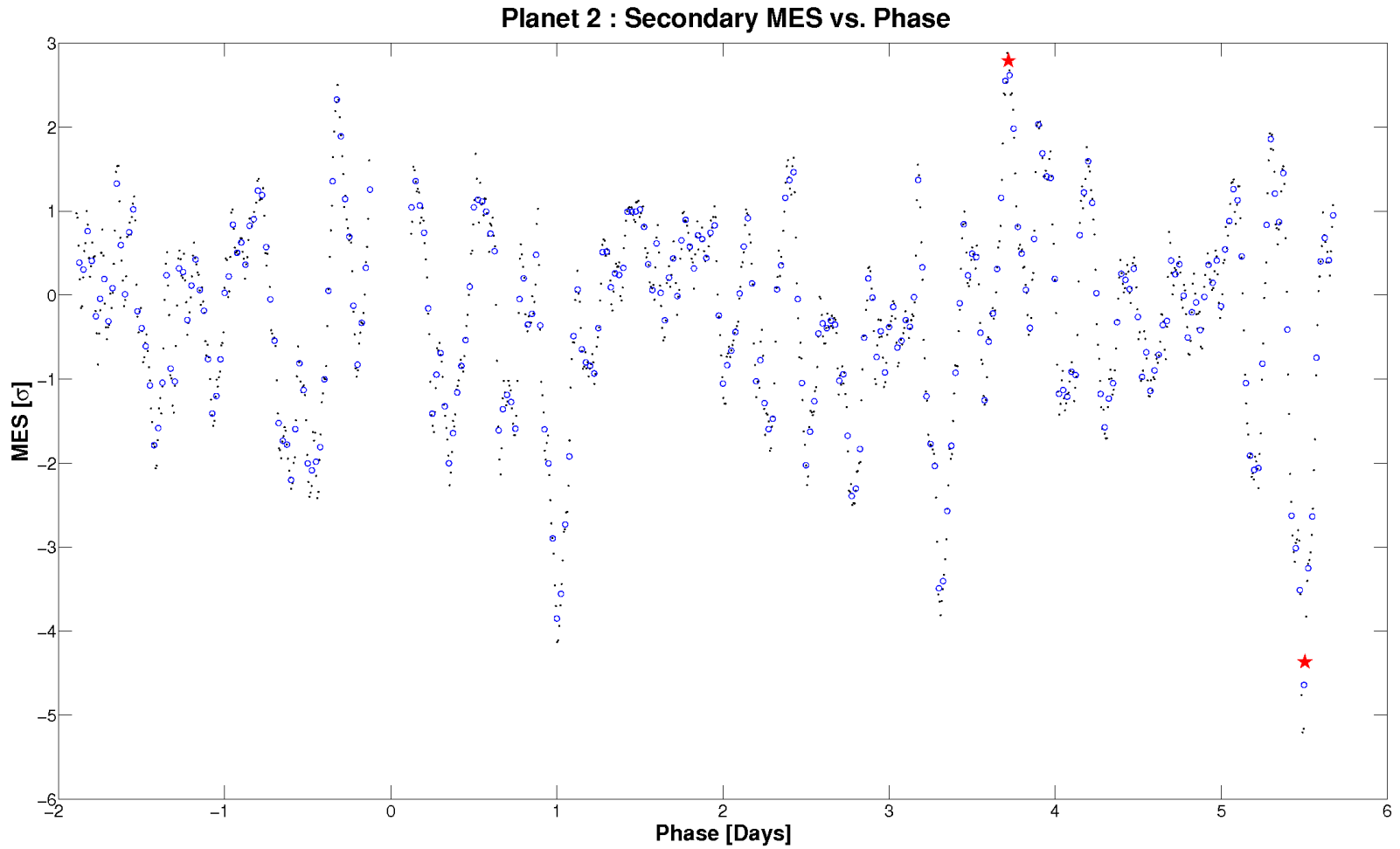
Peak offsets are relative to the out-of-transit centroid. Source offsets are relative to the KIC target location.

#### 9.3.3 Eclipsing Binary Discrimination Test

Result	Value	Value in Sigmas	Significance (%)
Odd Even Transit Depth Comparison Statistic	2.1055e-03	0.0459	96.34
Odd Even Transit Epoch Comparison Statistic	9.2544e-06	0.0030	99.76
Shorter Period Comparison Statistic	3.4034e+02	18.4484	100.00

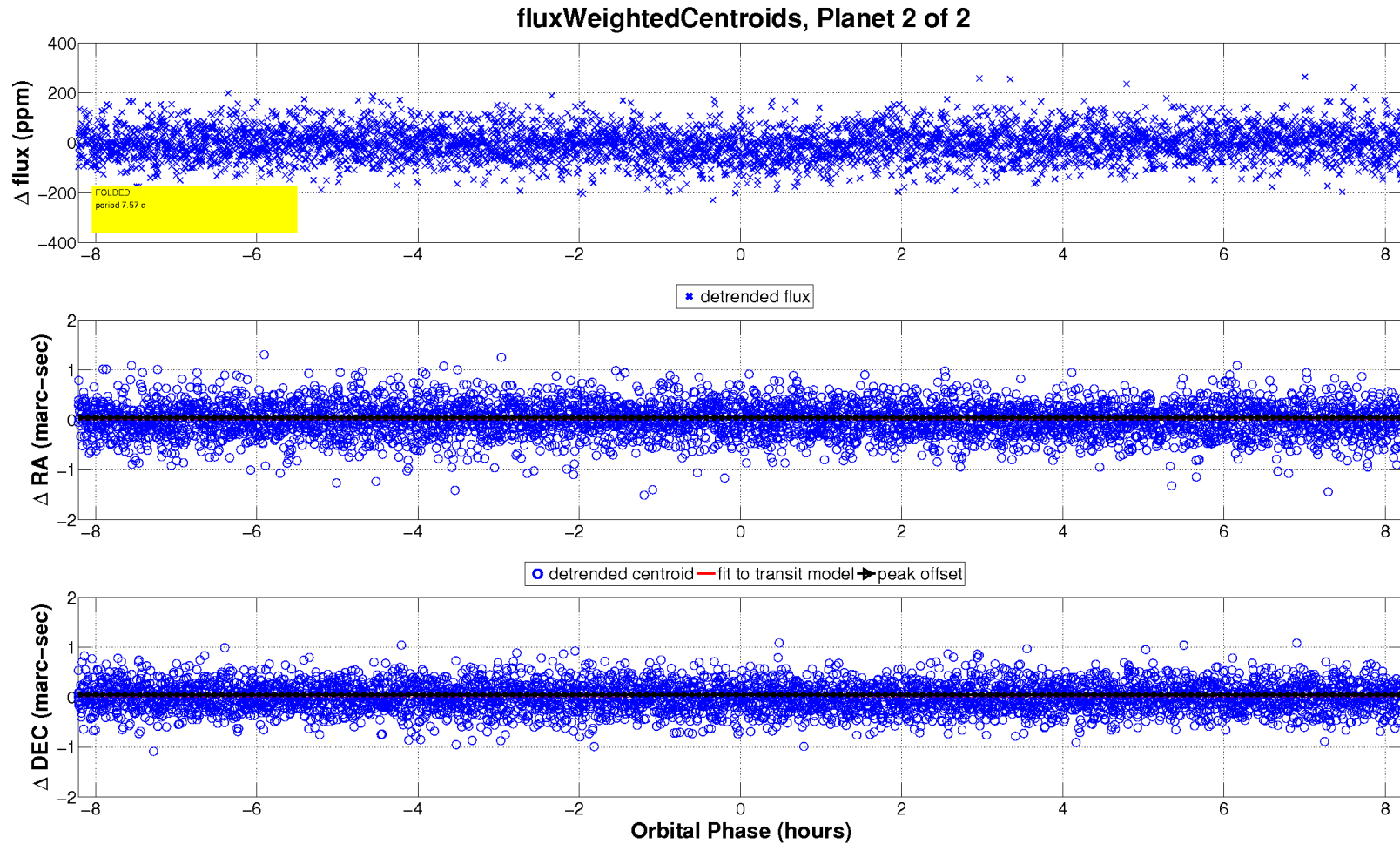
#### 9.3.4 Bootstrap Test

No bootstrap results available.



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 3. The maximum secondary MES and corresponding phase are 2.7914 and 3.7189 days respectively. The minimum secondary MES and corresponding phase are -4.3668 and 5.5034 days respectively.

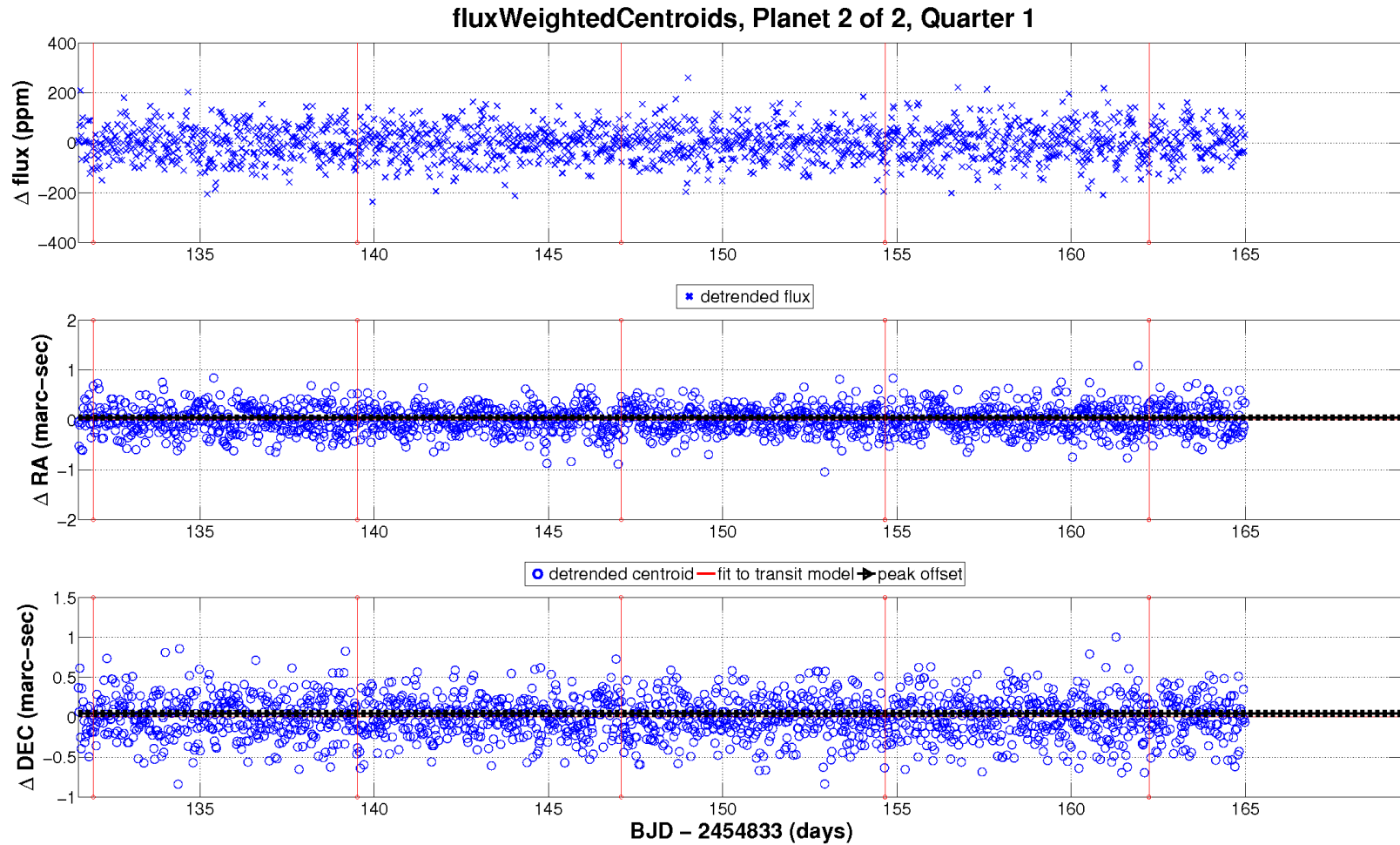
Open `./planet-02/report-summary/009602613-02-weak-secondary-diagnostic.fig`



Out of Transit Centroid  
 ra(hours): mean 19.80991908, SD 6.09e-09  
 dec(degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - FOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data folded at the fitted orbital period and centered on the fitted transit over a few fitted transit durations. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out-of-transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

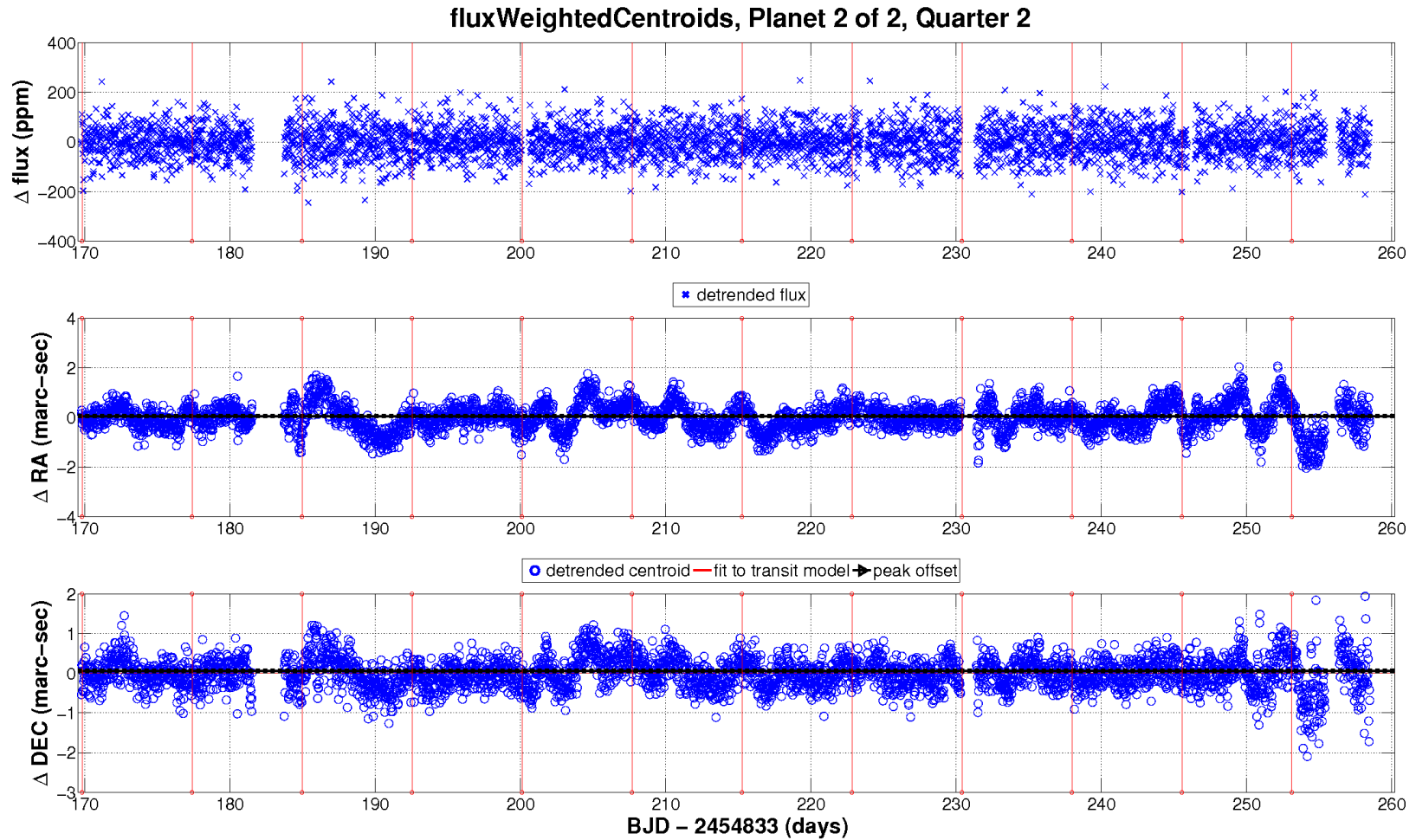
Open `./planet-02/centroid-test-results/009602613-02-folded-transit-fit-fluxWeighted-centroids.fig`



Out of Transit Centroid  
 (ra/hours): mean 19.80991908, SD 6.09e-09  
 (dec/degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

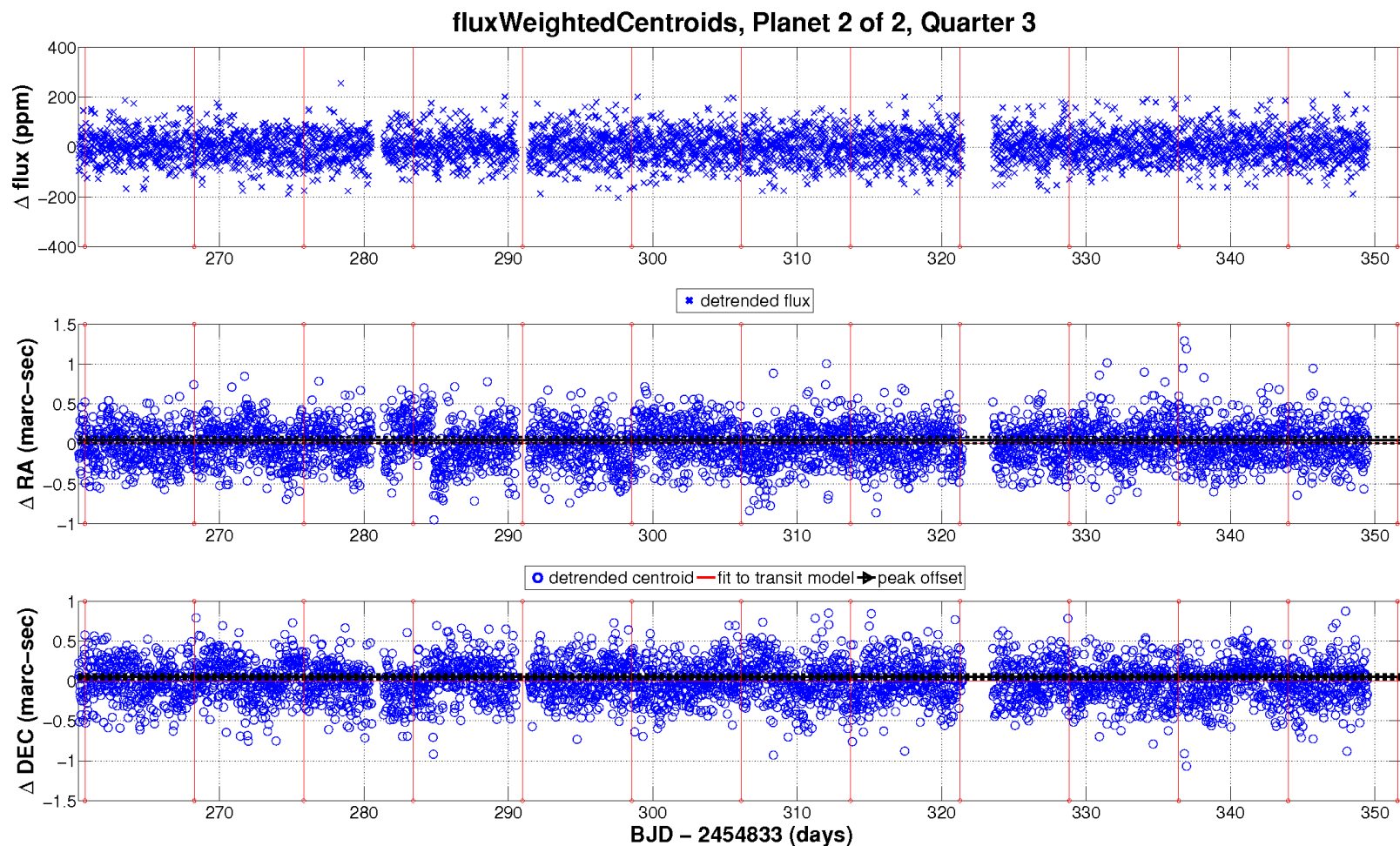
Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-01.fig`



*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*dec/arcsec): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-02.fig`

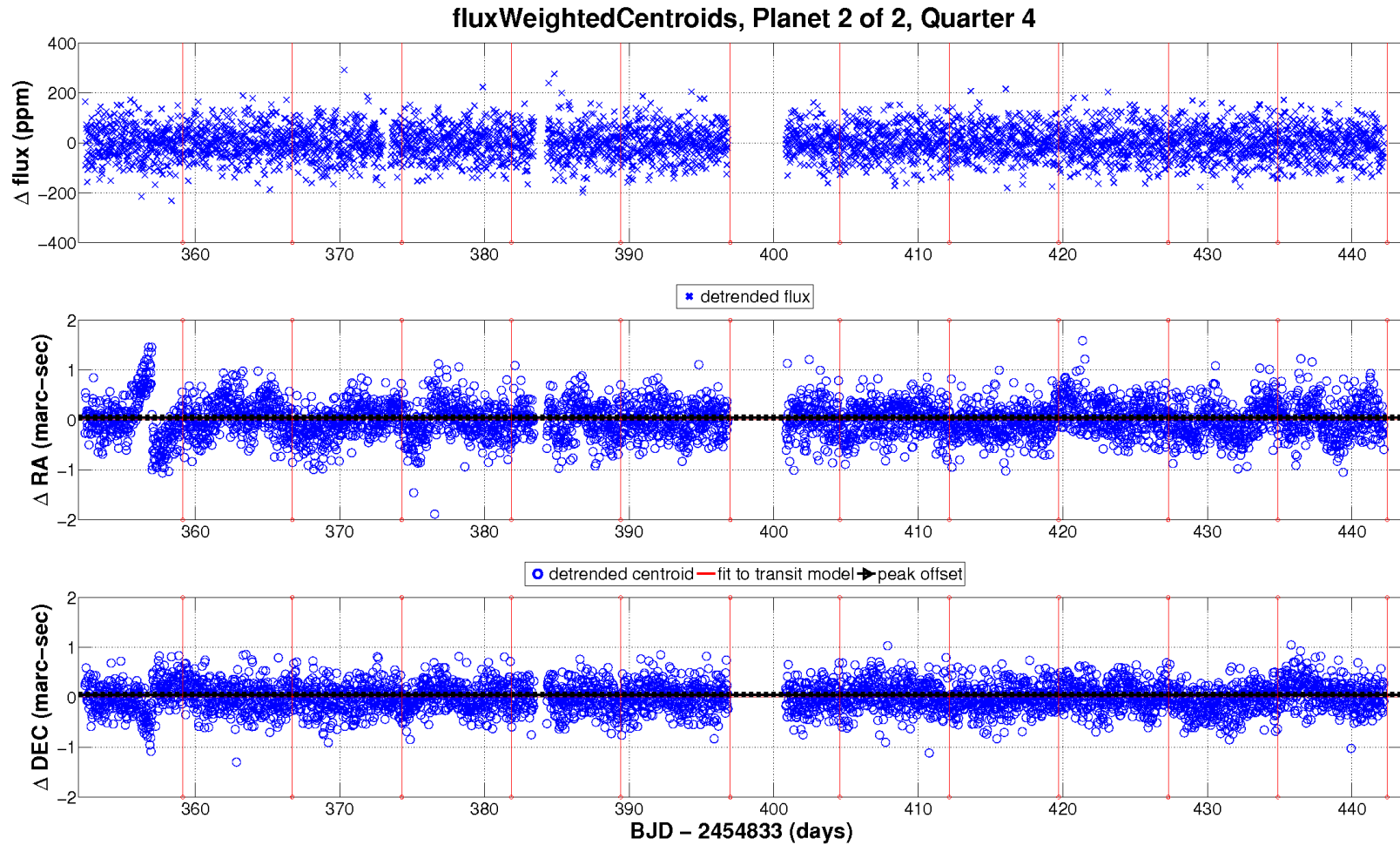


Out of Transit Centroid  
*ra(hours):* mean 19.80991908, SD 6.09e-09  
*dec(degrees):* mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-03.fig`

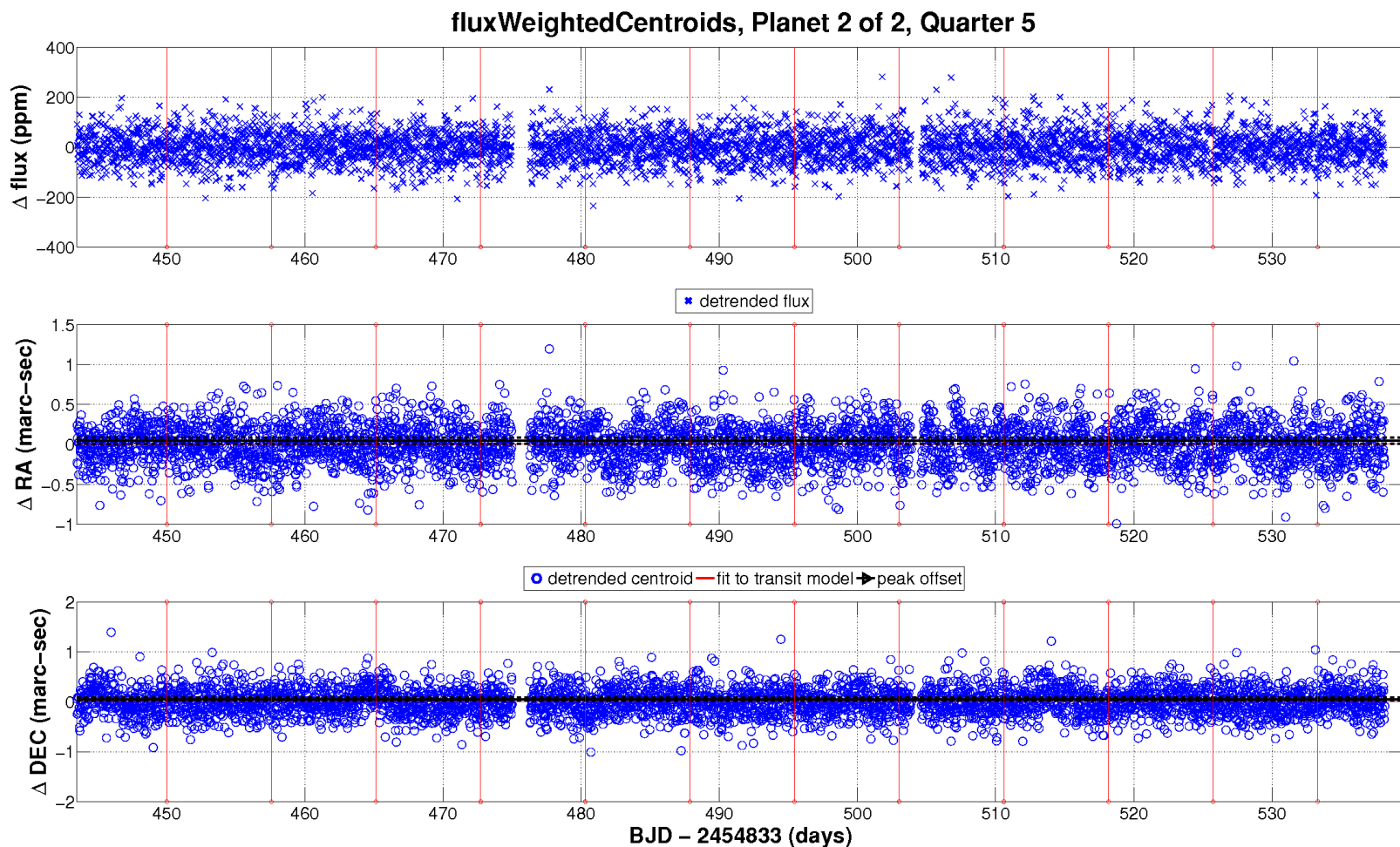




Out of Transit Centroid  
 ra(hours): mean 19.80991908, SD 6.09e-09  
 dec(degrees): mean 46.29692305, SD 5.72e-08

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

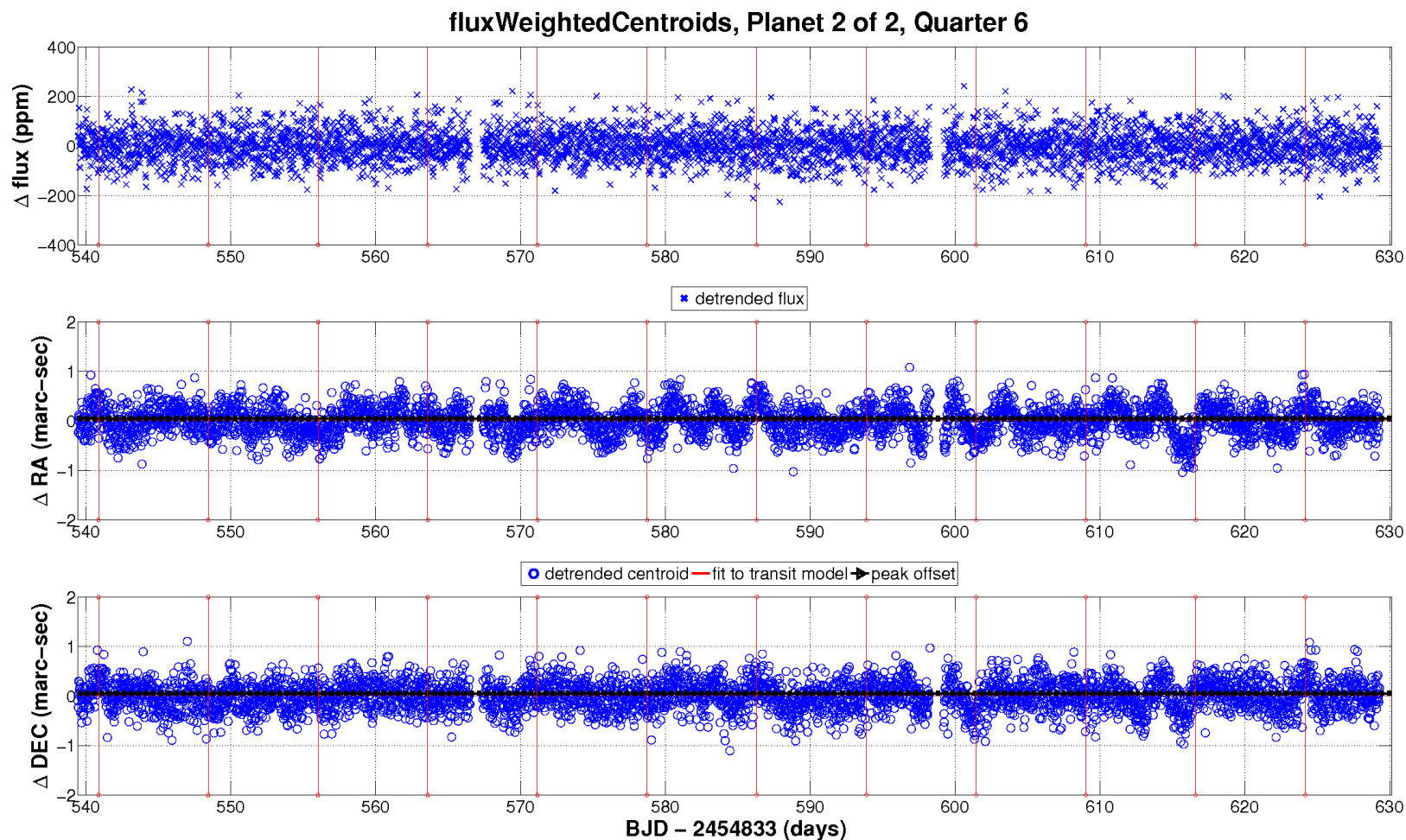
Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-04.fig`



*Out of Transit Centroid*  
*ra(hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

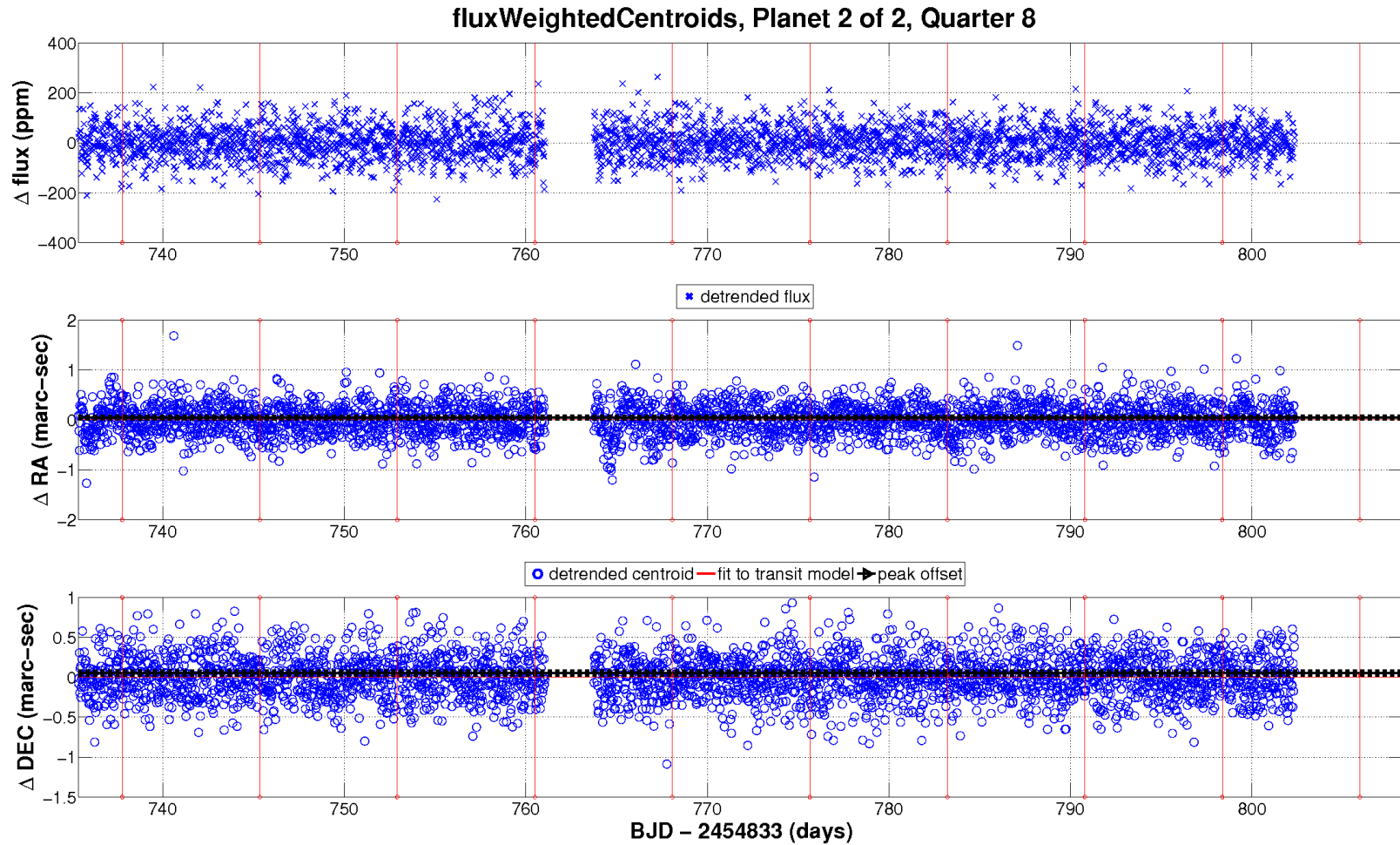
Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-05.fig`



*Out of Transit Centroid*  
*(ra/seconds): mean 19.80991908, SD 6.09e-09*  
*(dec/degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

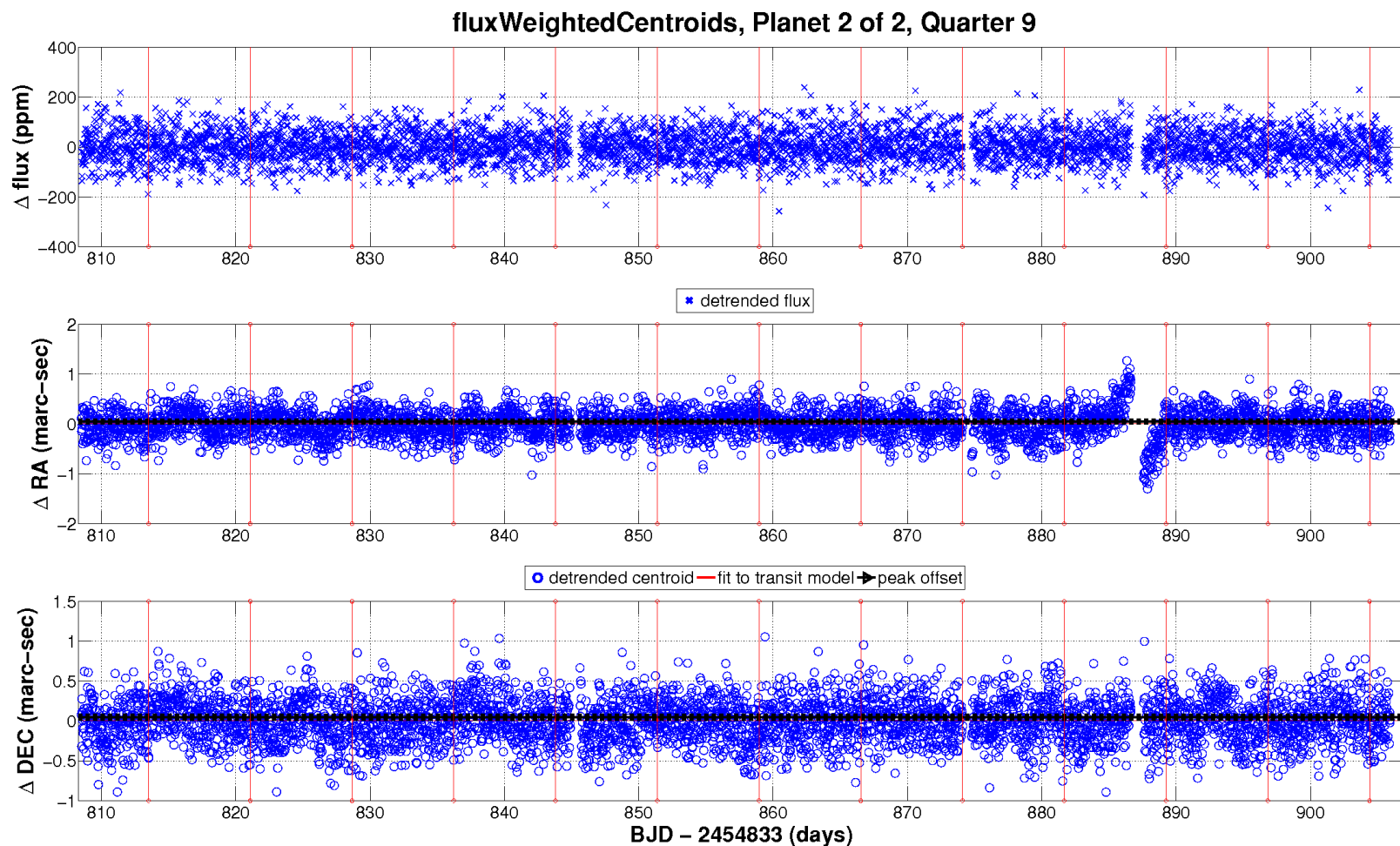
Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-06.fig`



*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*dec/degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-08.fig`

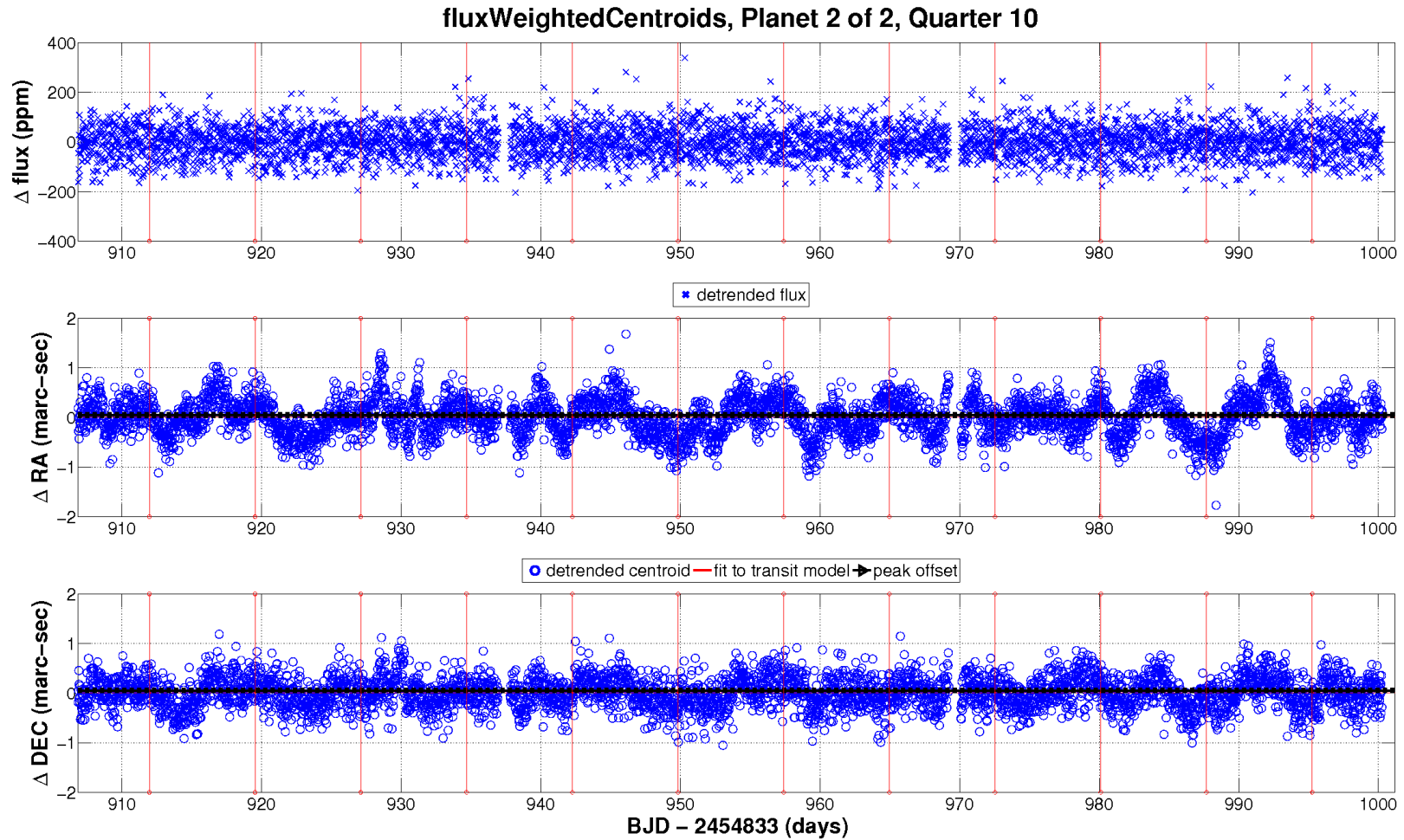


*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-09.fig`

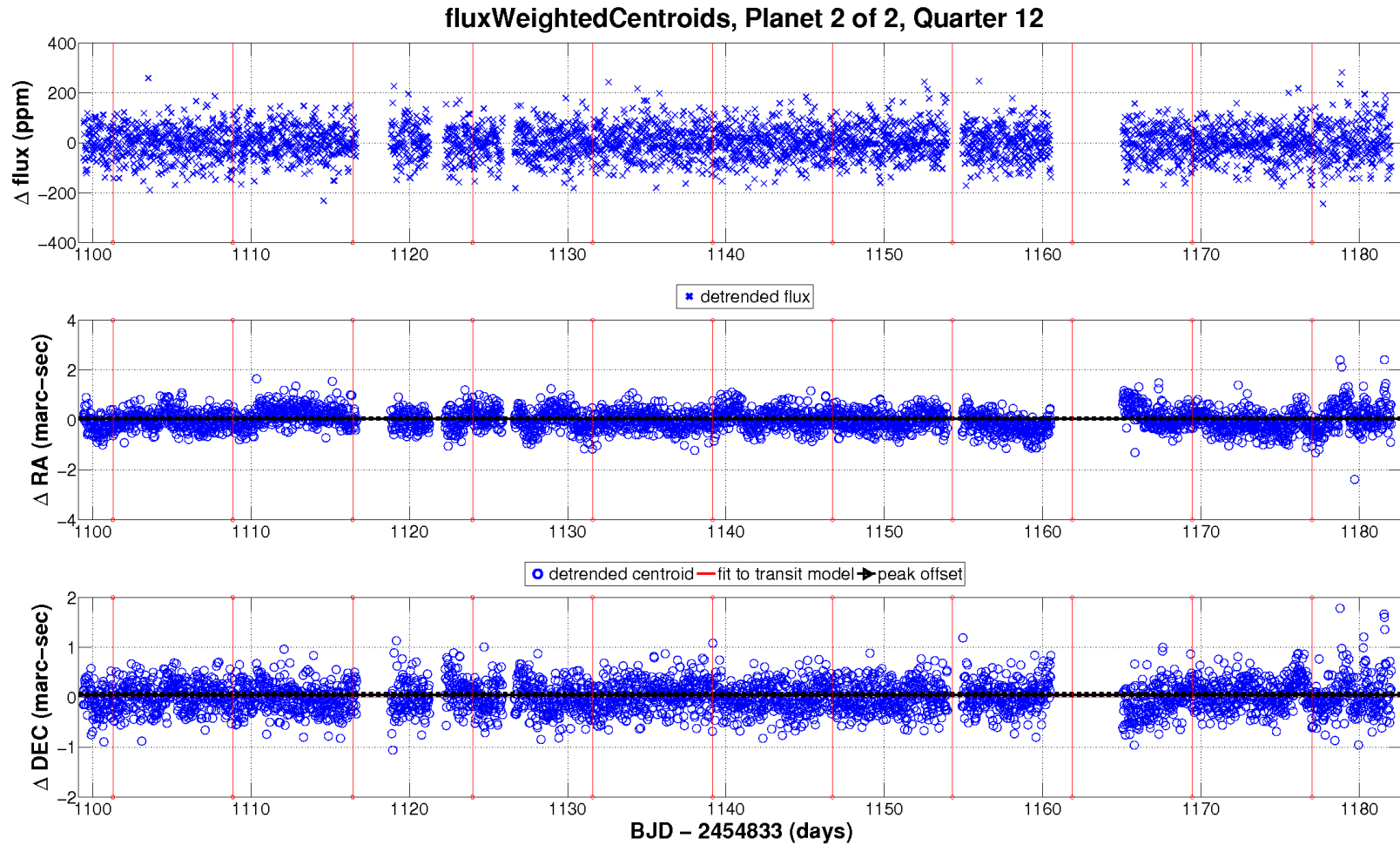




*Out of Transit Centroid*  
*(ra/arcsec): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

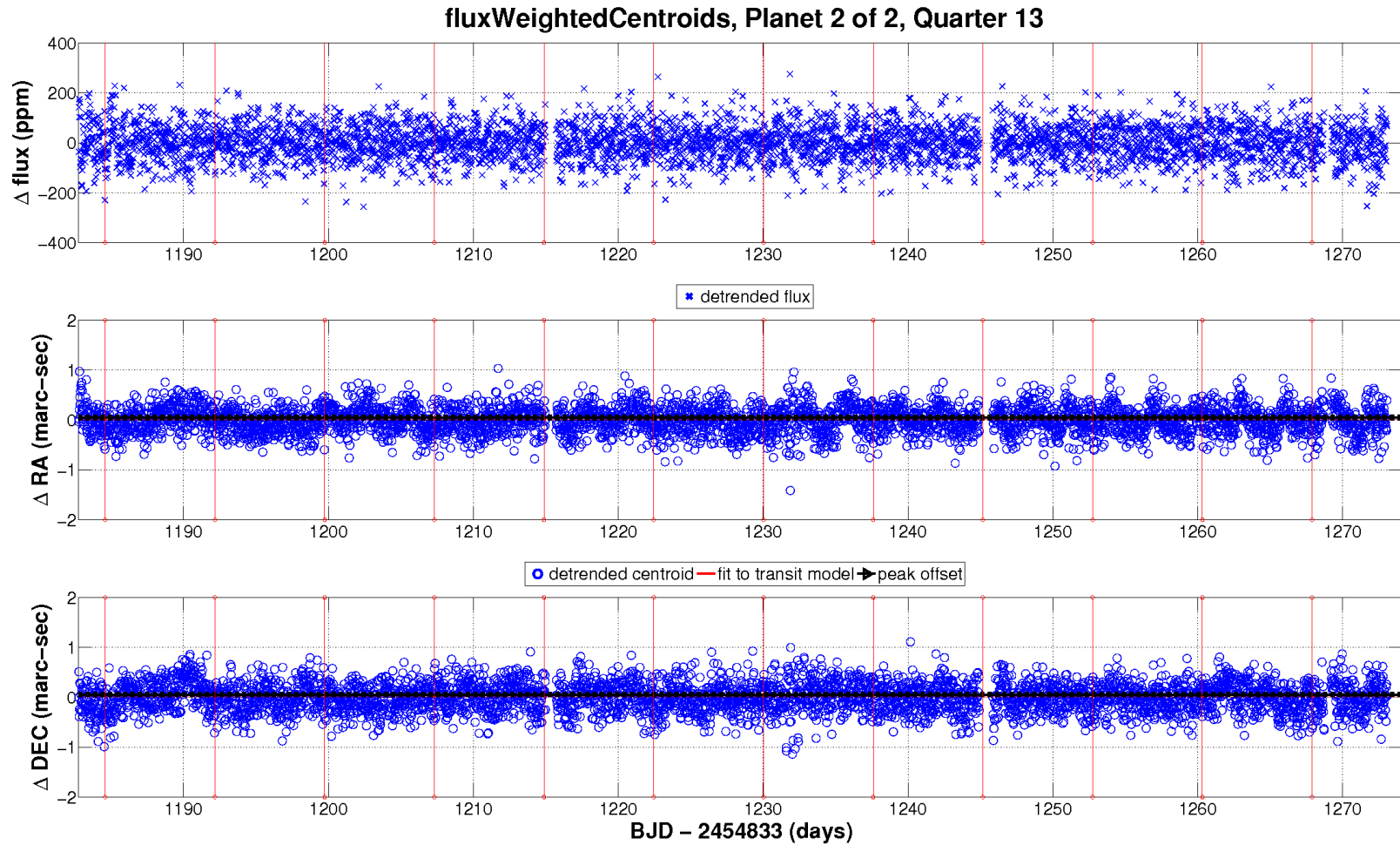
Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-10.fig`



*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-12.fig`

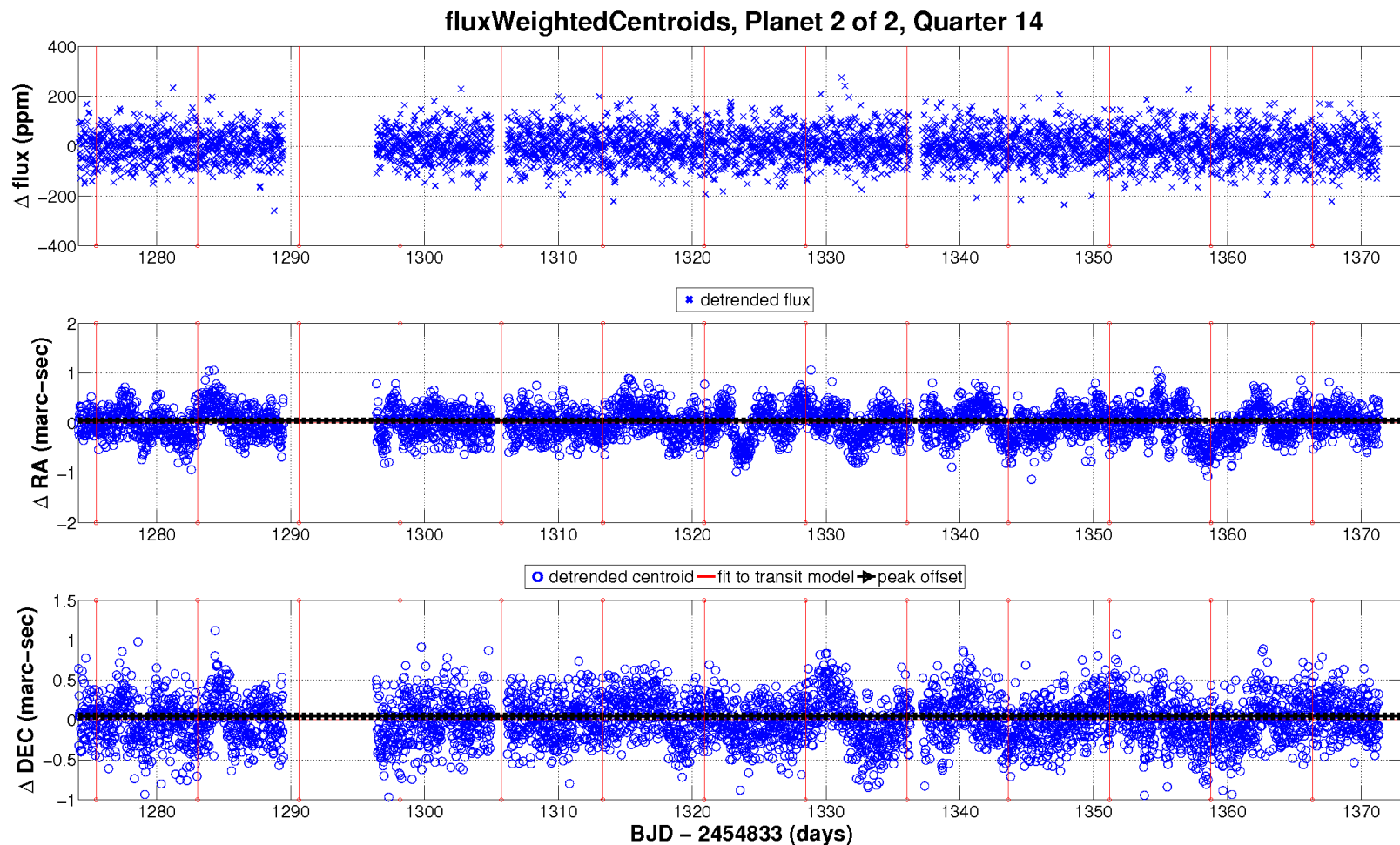


*Out of Transit Centroid*  
*(ra/hours): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-13.fig`

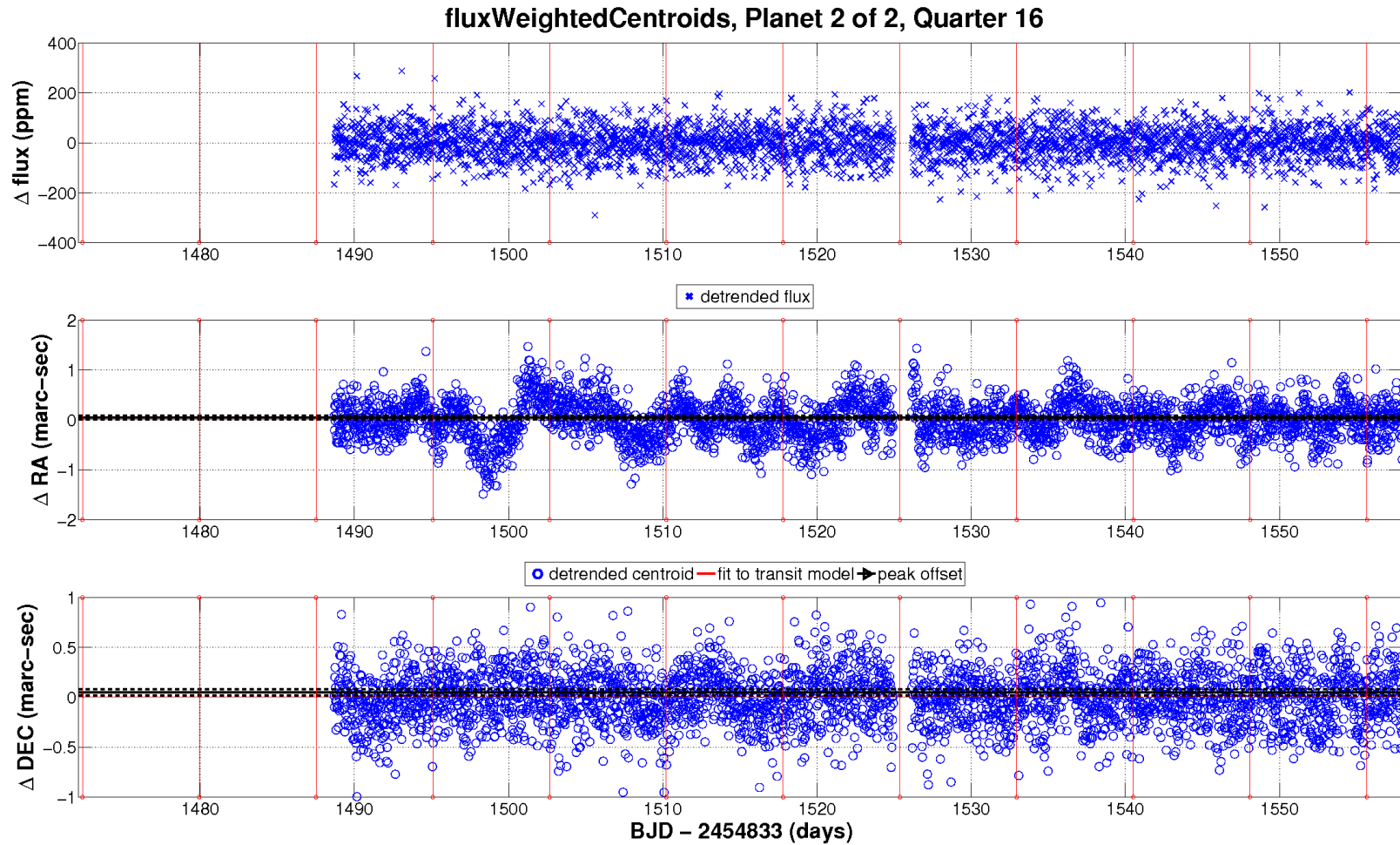




*Out of Transit Centroid*  
*(ra/hour): mean 19.80991908, SD 6.09e-09*  
*dec/degree: mean 46.29692305, SD 5.72e-08*

KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-14.fig`



*Out of Transit Centroid*  
*(ra/hrs): mean 19.80991908, SD 6.09e-09*  
*dec(degrees): mean 46.29692305, SD 5.72e-08*

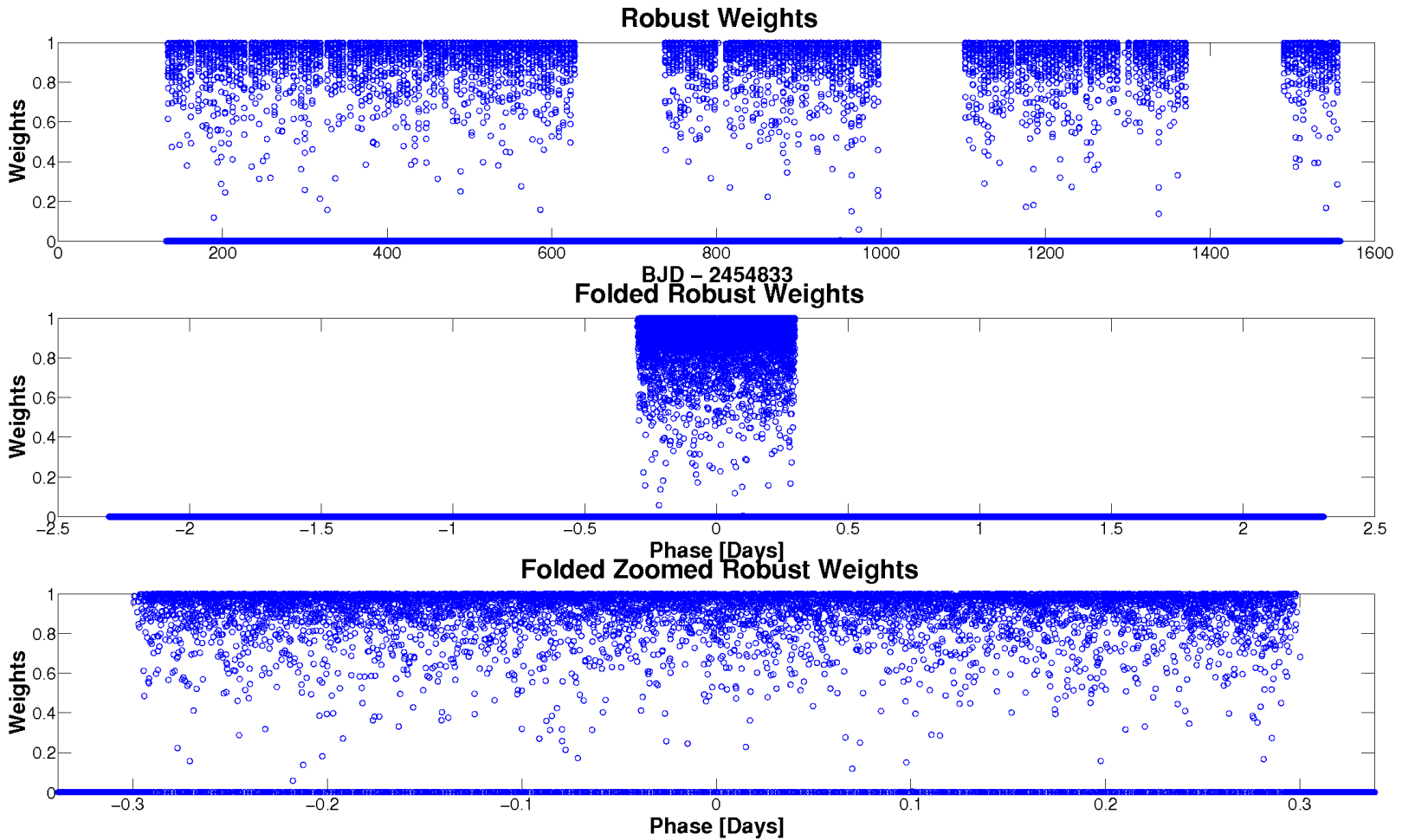
KeplerId 9602613, KeplerMag 11.83 - UNFOLDED FLUX AND CENTROIDS - This figure shows detrended flux and centroid data over the full time range of the data set. The top panel shows the change in corrected flux for this target, normalized to the median out of transit value, median detrended with the median out of transit value removed. The bottom two panels show the corresponding change in the centroid in right ascension (RA) and declination (DEC) angles on the sky. The centroids are detrended against ancillary data and have the mean out-of-transit value removed. The scaled transit model fit to the target flux is shown on the centroid plots in red. The peak fitted offset from the out of transit centroid is indicated by the solid black horizontal line. One sigma error bars are indicated with dashed black horizontal lines. Red circles and vertical lines mark the fitted transit centers. In-transit data points for any other planets identified for this target have been gapped. The out-of-transit mean and standard deviation (SD) indicated in the lower left-hand corner are robust estimates.

Open `./planet-02/centroid-test-results/009602613-02-transit-fit-fluxWeighted-centroids-16.fig`

No figures named 009602613-02-bootstrap-false-alarm.fig are available.

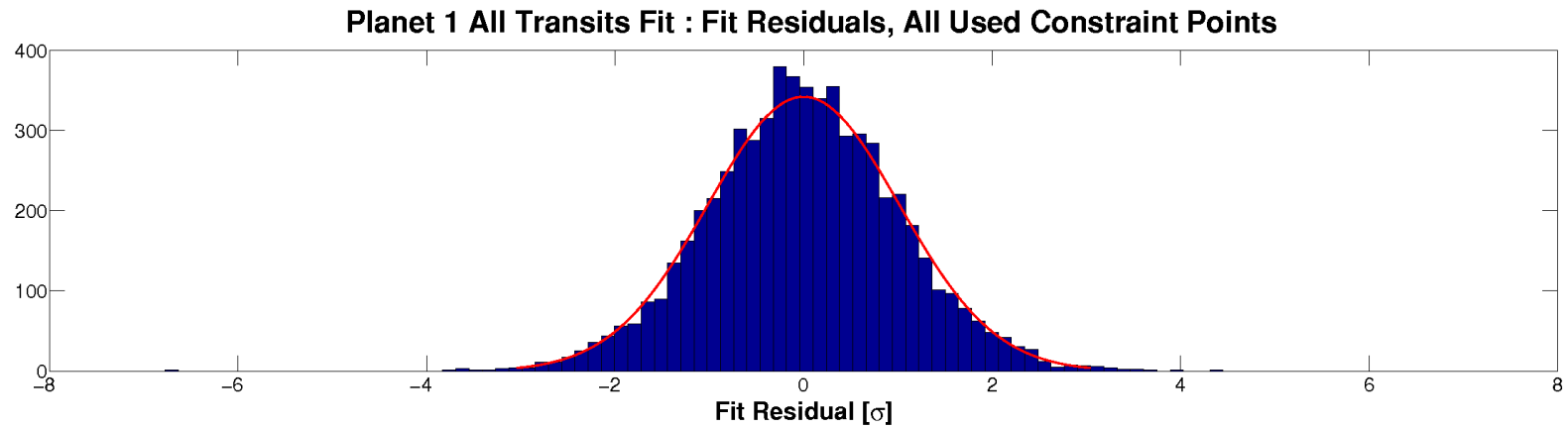
## Appendix A Planet Candidate 1

### A.1 Model Fitter: All Transits



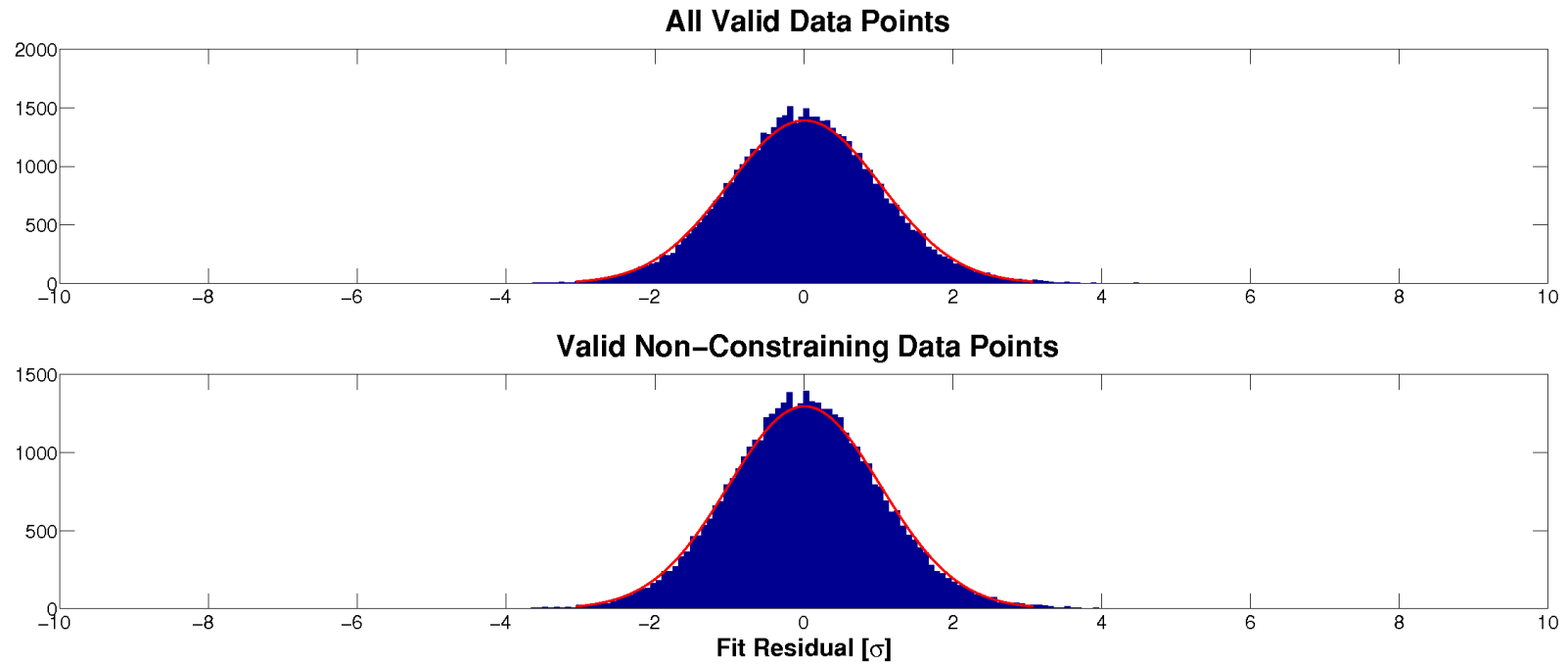
Robust weights distribution for KeplerId 9602613, Planet candidate 1. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.

Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/009602613-01-all-robust-weights.fig`



Fit residuals distribution for KeplerId 9602613, 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/009602613-01-all-histo-used.fig`

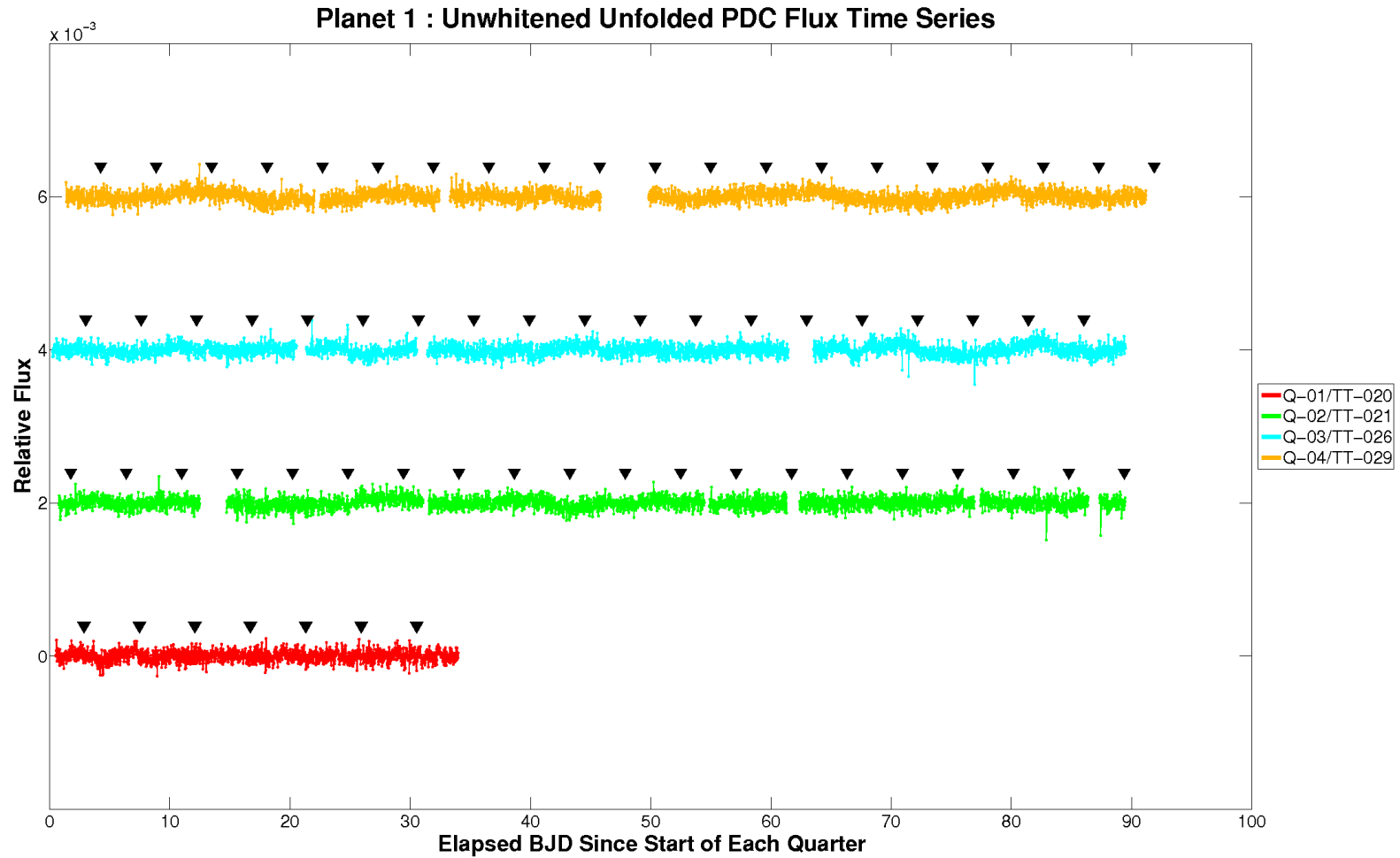


Fit residuals distribution for KeplerId 9602613, Planet candidate 1. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.

Open `./planet-01/planet-search-and-model-fitting-results/all-transits-fit/009602613-01-all-histo-all-and-unused.fig`

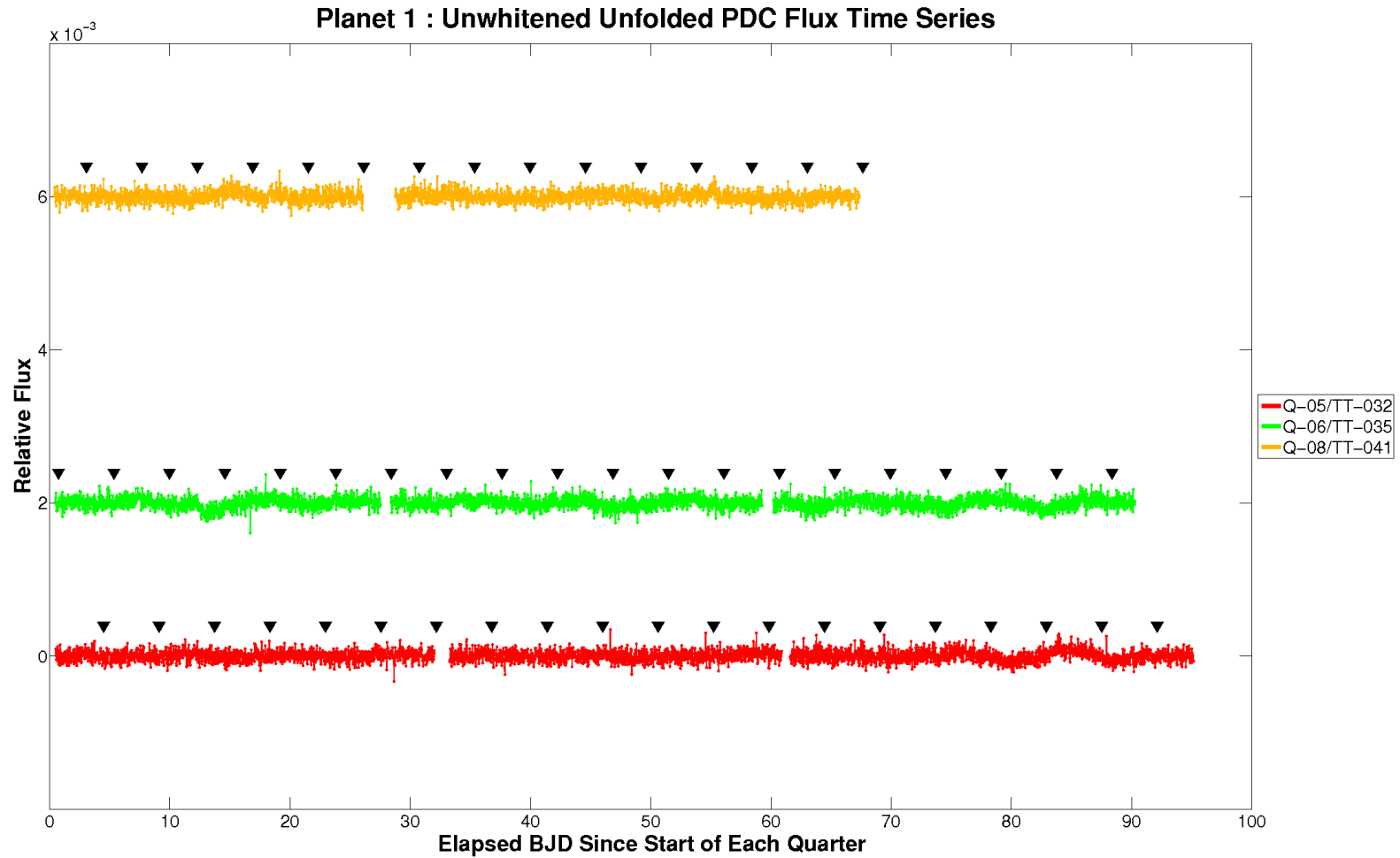
## A.2 Model Fitter: Odd &amp; Even Transits

Parameter	Odd Transits Value	Odd Transits Uncertainty	Even Transits Value	Even Transits Uncertainty	Units	$\frac{\text{Difference}}{\ \text{Uncertainty}\ }$
SNR	8.3		8.4			
Model Chi Square	4702		4702			
Degrees of Freedom	5719		5719			
Transit Epoch	133.8628364	5.4667e-03	138.4724863	5.8332e-03	BKJD	3.2342e-01
Eccentricity	0.0000	0.0000e+00	0.0000	0.0000e+00		
Peri Longitude	0.0000	0.0000e+00	0.0000	0.0000e+00	degrees	
Planet Radius	0.4911	5.9040e-01	0.5056	2.3142e-01	Earth radii	2.2948e-02
Planet Radius to Star Radius Ratio	0.0048704	5.8555e-03	0.0050148	2.2952e-03		2.2948e-02
Semi-major Axis	0.0509	2.8887e-07	0.0509	3.0850e-07	AU	8.0302e-01
Semi-major Axis to Star Radius Ratio	13.6010	6.6187e+01	10.5989	1.9303e+01		4.3543e-02
Impact Parameter	0.2864	1.5781e+01	0.5462	2.3859e+00		1.6283e-02
Star Radius	0.9240	0.0000e+00	0.9240	0.0000e+00	solar radii	
Transit Duration	2.4953	1.6311e-01	2.8045	1.8186e-01	hours	1.2656e+00
Transit Ingress Time	0.0132	1.4472e-01	0.0199	8.2233e-02	hours	4.0454e-02
Transit Depth	29	3.5680e+00	28	3.5138e+00	ppm	3.9441e-02
Orbital Period	4.6122712	3.9290e-05	4.6122251	4.1961e-05	days	8.0302e-01
Equilibrium Temperature	1027	2.5402e+02	1027	2.5402e+02	Kelvin	9.5357e-06



PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-01/TargetTableId-020, start BJD is 2454964 and the vertical offset is 0. For the data of Quarter-02/TargetTableId-021, start BJD is 2455002 and the vertical offset is 0.002. For the data of Quarter-03/TargetTableId-026, start BJD is 2455093 and the vertical offset is 0.004. For the data of Quarter-04/TargetTableId-029, start BJD is 2455184 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

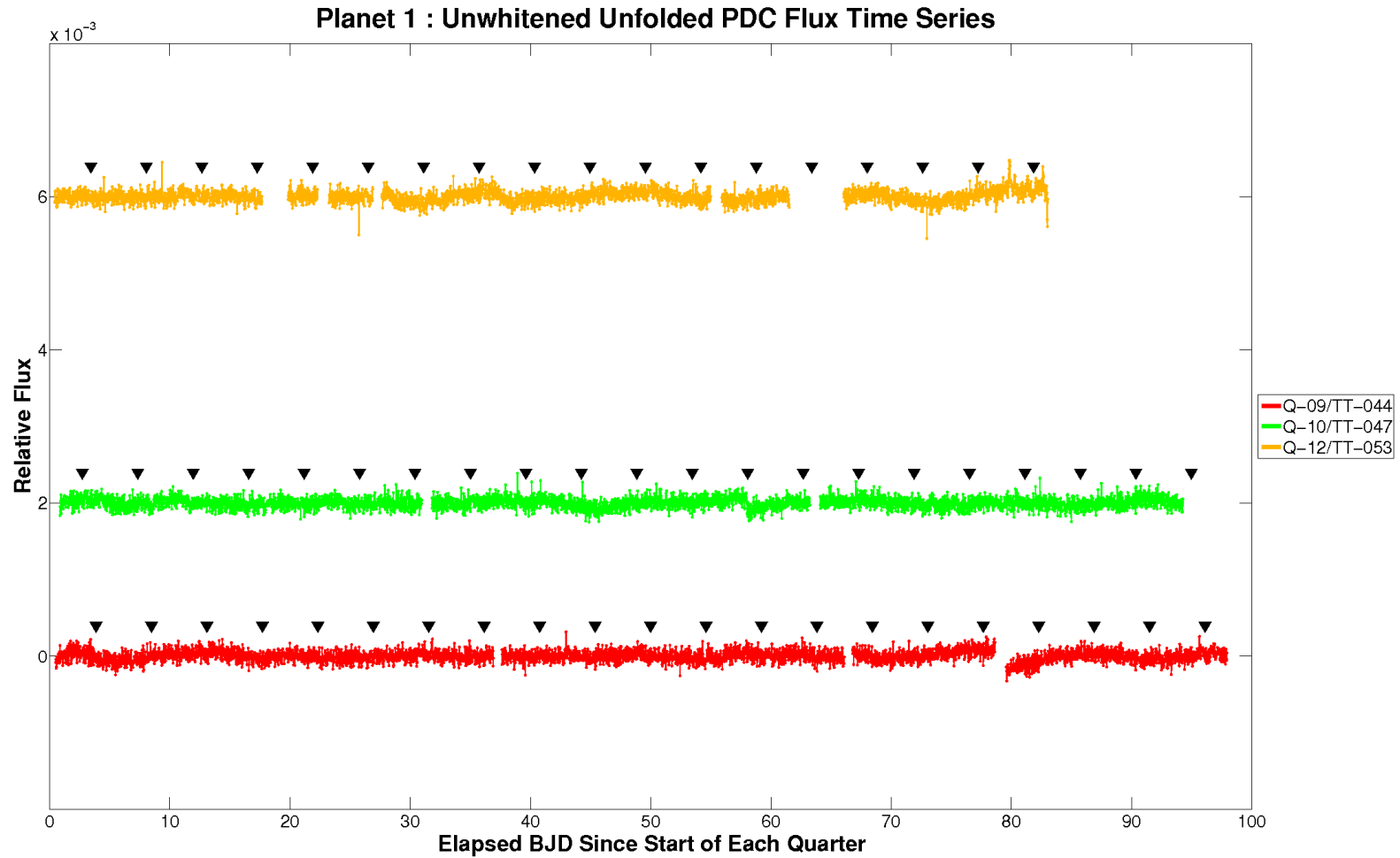
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-01-020.fig`



PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-05/TargetTableId-032, start BJD is 2455276 and the vertical offset is 0. For the data of Quarter-06/TargetTableId-035, start BJD is 2455372 and the vertical offset is 0.002. For the data of Quarter-07/TargetTableId-038, start BJD is 2455463 and the vertical offset is 0.004. For the data of Quarter-08/TargetTableId-041, start BJD is 2455568 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

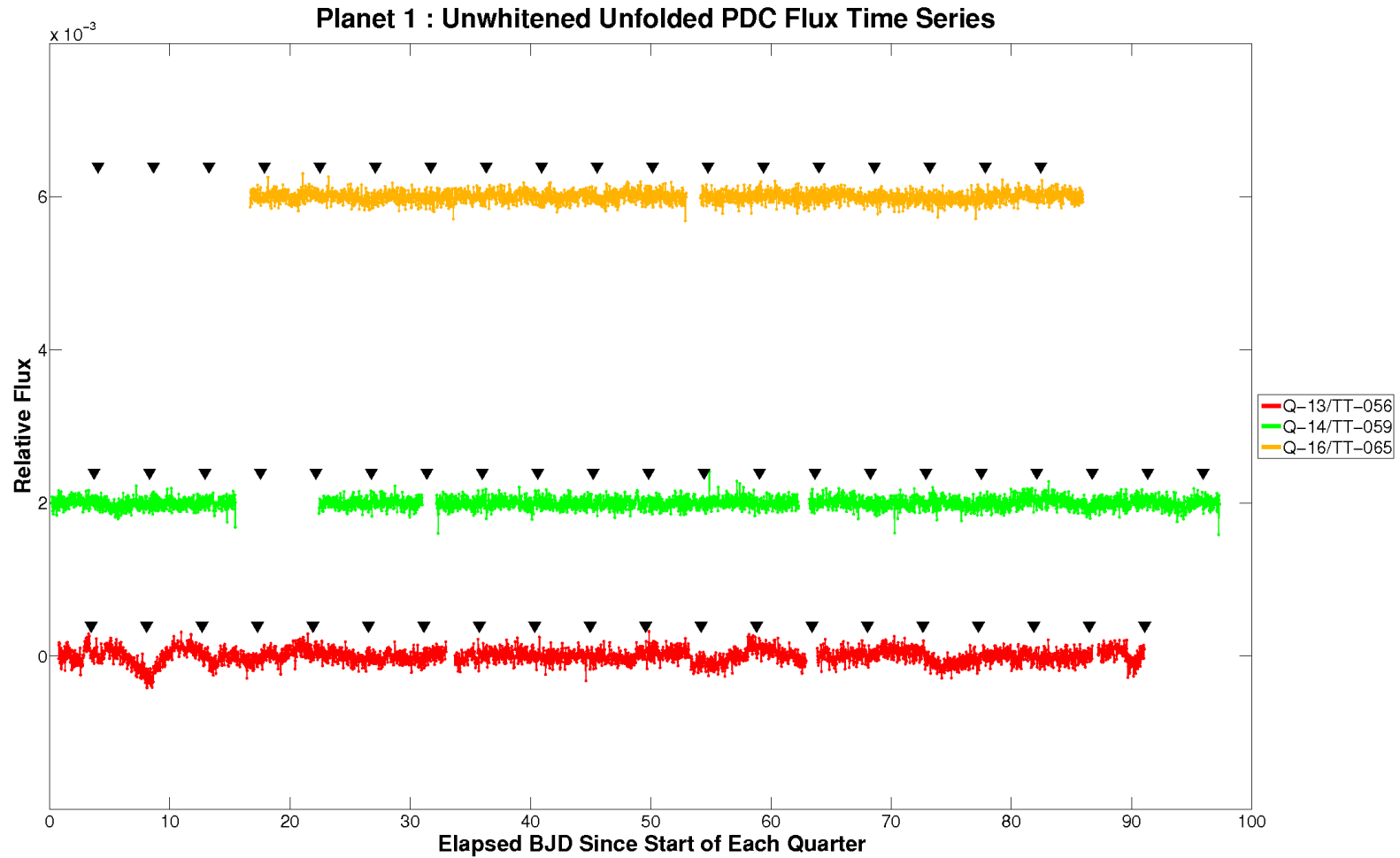
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-05-032.fig`





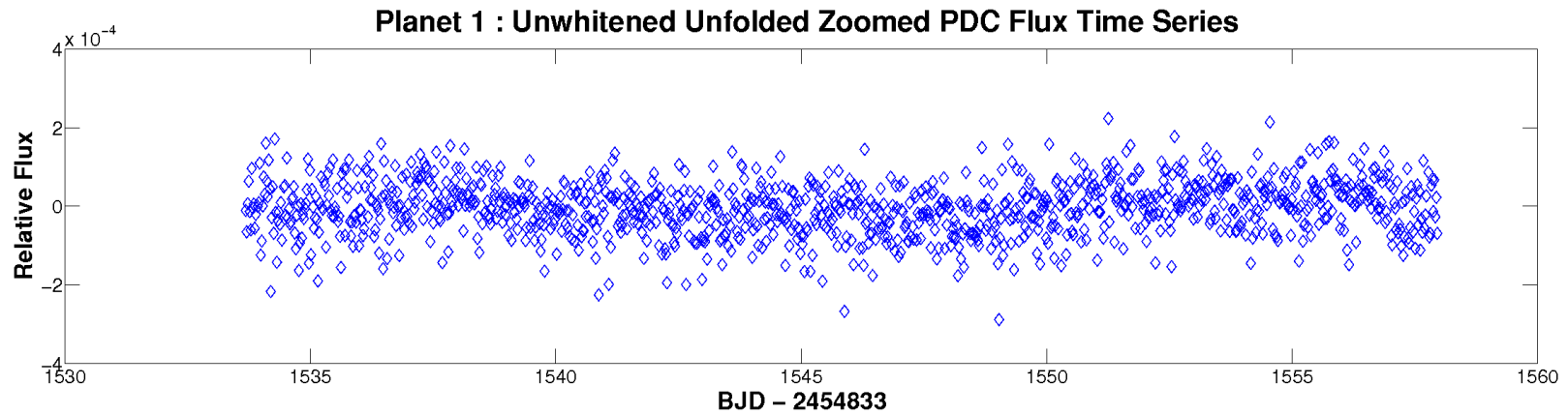
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-09/TargetTableId-044, start BJD is 2455641 and the vertical offset is 0. For the data of Quarter-10/TargetTableId-047, start BJD is 2455739 and the vertical offset is 0.002. For the data of Quarter-11/TargetTableId-050, start BJD is 2455834 and the vertical offset is 0.004. For the data of Quarter-12/TargetTableId-053, start BJD is 2455932 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-09-044.fig`



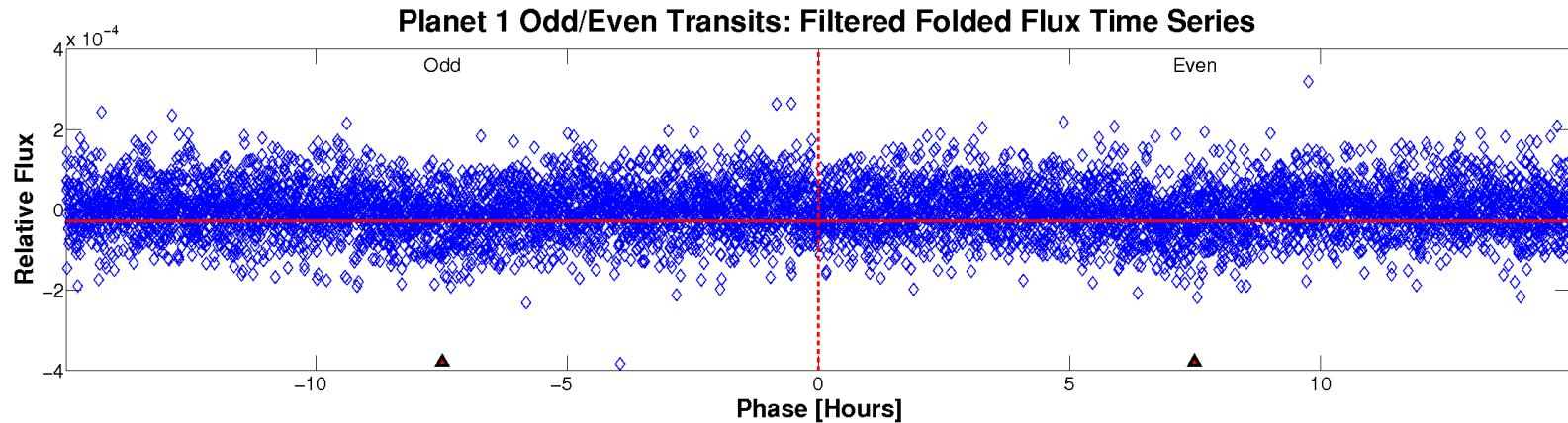
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. For the data of Quarter-13/TargetTableId-056, start BJD is 2456015 and the vertical offset is 0. For the data of Quarter-14/TargetTableId-059, start BJD is 2456107 and the vertical offset is 0.002. For the data of Quarter-15/TargetTableId-062, start BJD is 2456206 and the vertical offset is 0.004. For the data of Quarter-16/TargetTableId-065, start BJD is 2456305 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-13-056.fig`



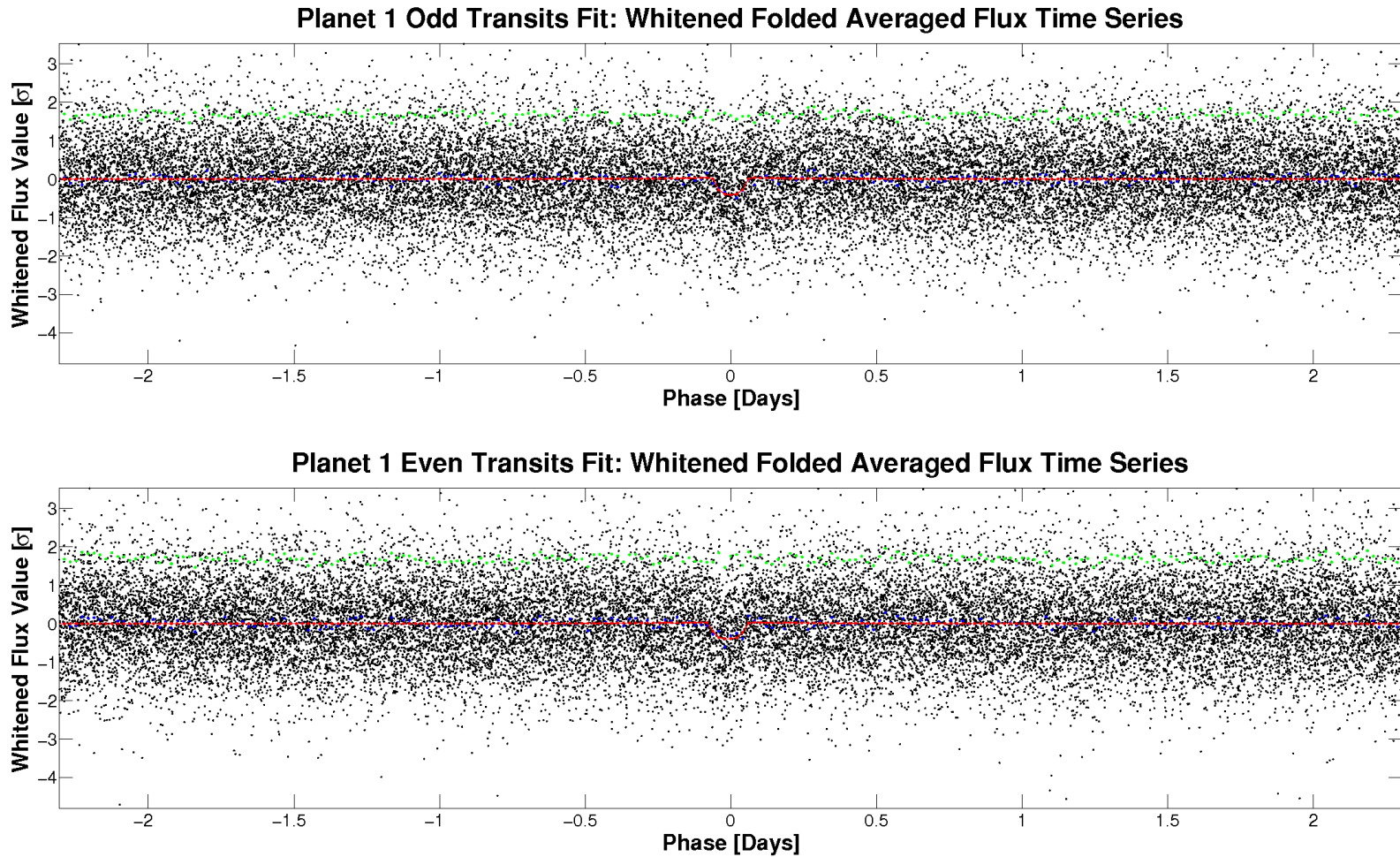
PDC Flux time series for KeplerId 9602613, Planet candidate 1 in the unwhitened domain, zoomed on last 5 transits in the unit of work. If # of transits is smaller than 5, all transits are shown.

Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-zoomed.fig`



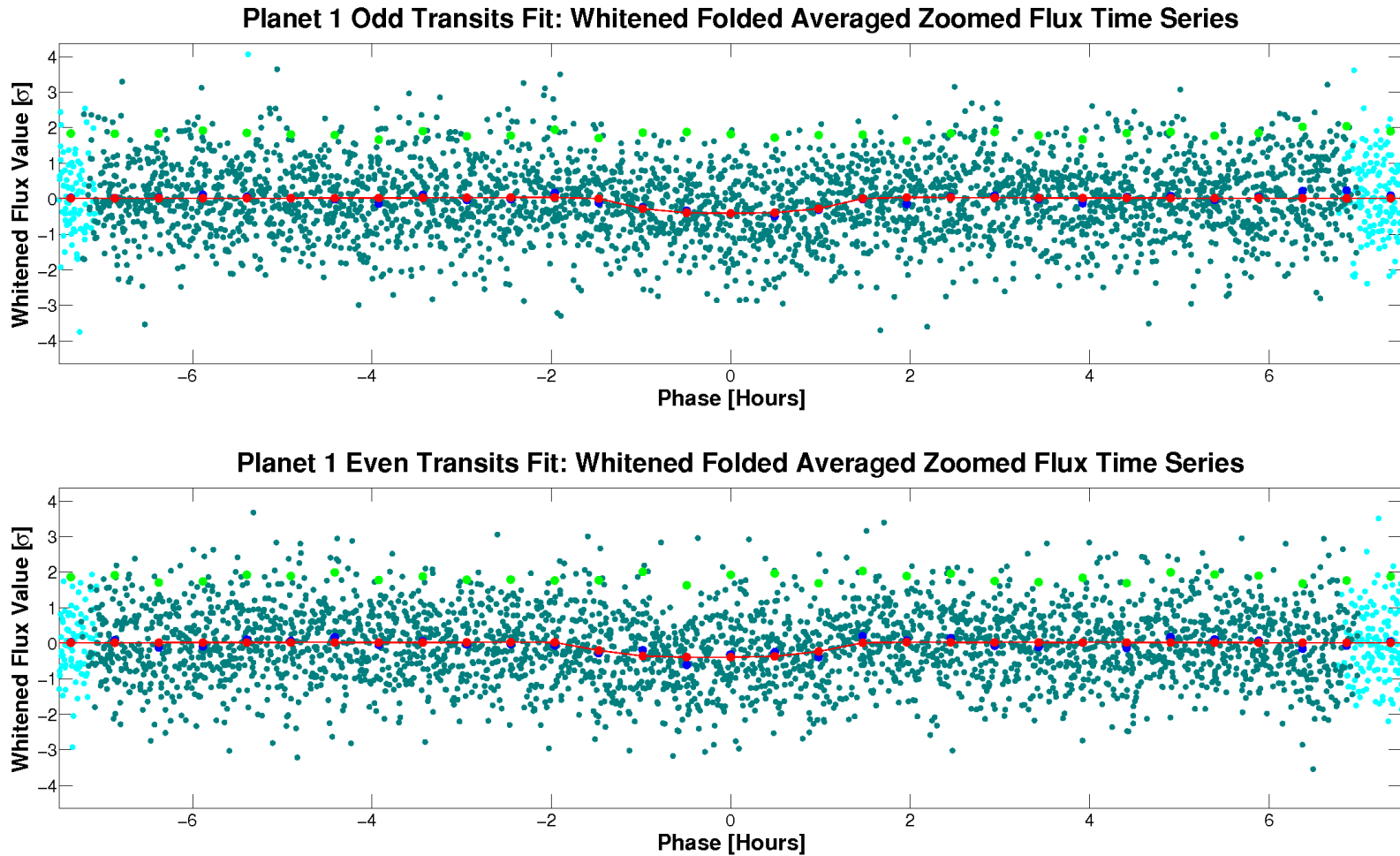
PDC Flux time series of odd/even transits for KeplerId 9602613, Planet candidate 1 in the unwhitened domain. Data has been high-pass filtered via a median filter operating at a specified multiple of the transit duration, folded per the fitted period and epoch, and zoomed to the location of the model transit.

Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-unwhitened-filtered-zoomed.fig`



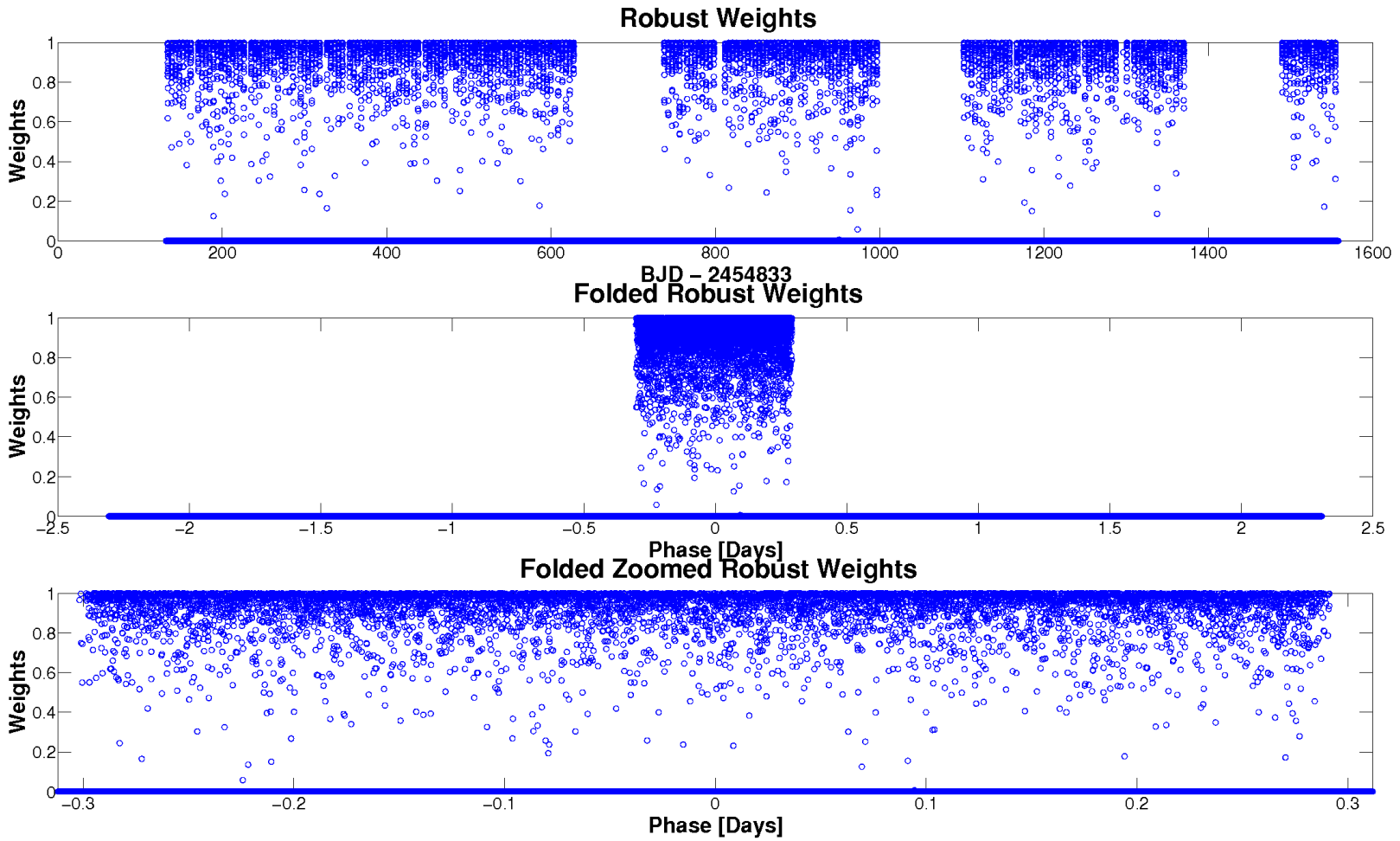
Folded flux time series for KeplerId 9602613, Planet candidate 1 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light 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/009602613-01-odd-even-whitened.fig`



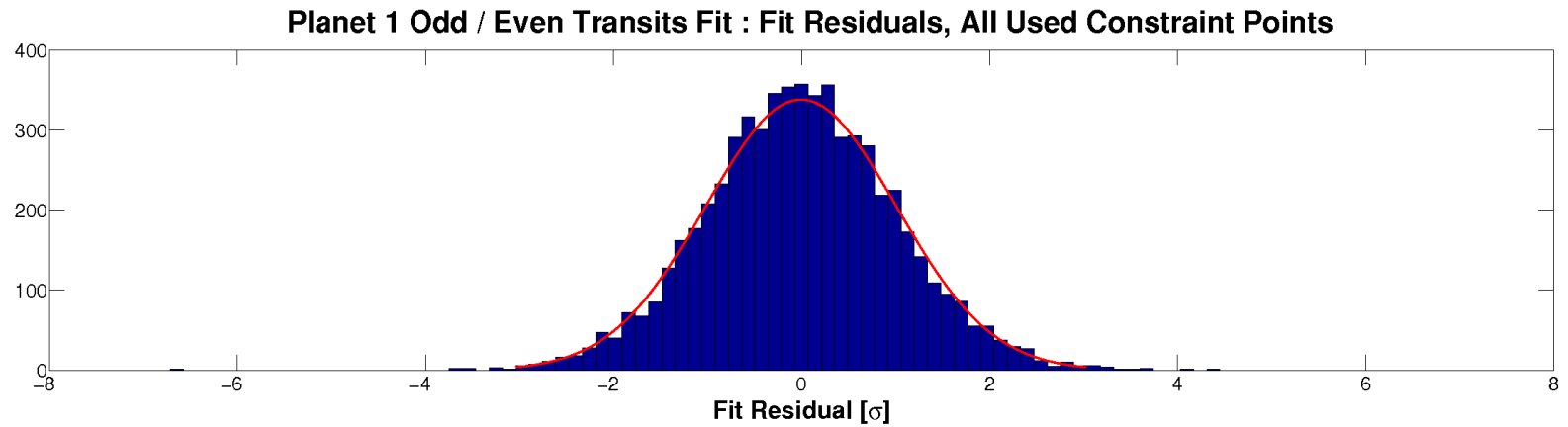
Folded flux time series for KeplerId 9602613, Planet candidate 1 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged 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/009602613-01-odd-even-whitened-zoomed.fig`



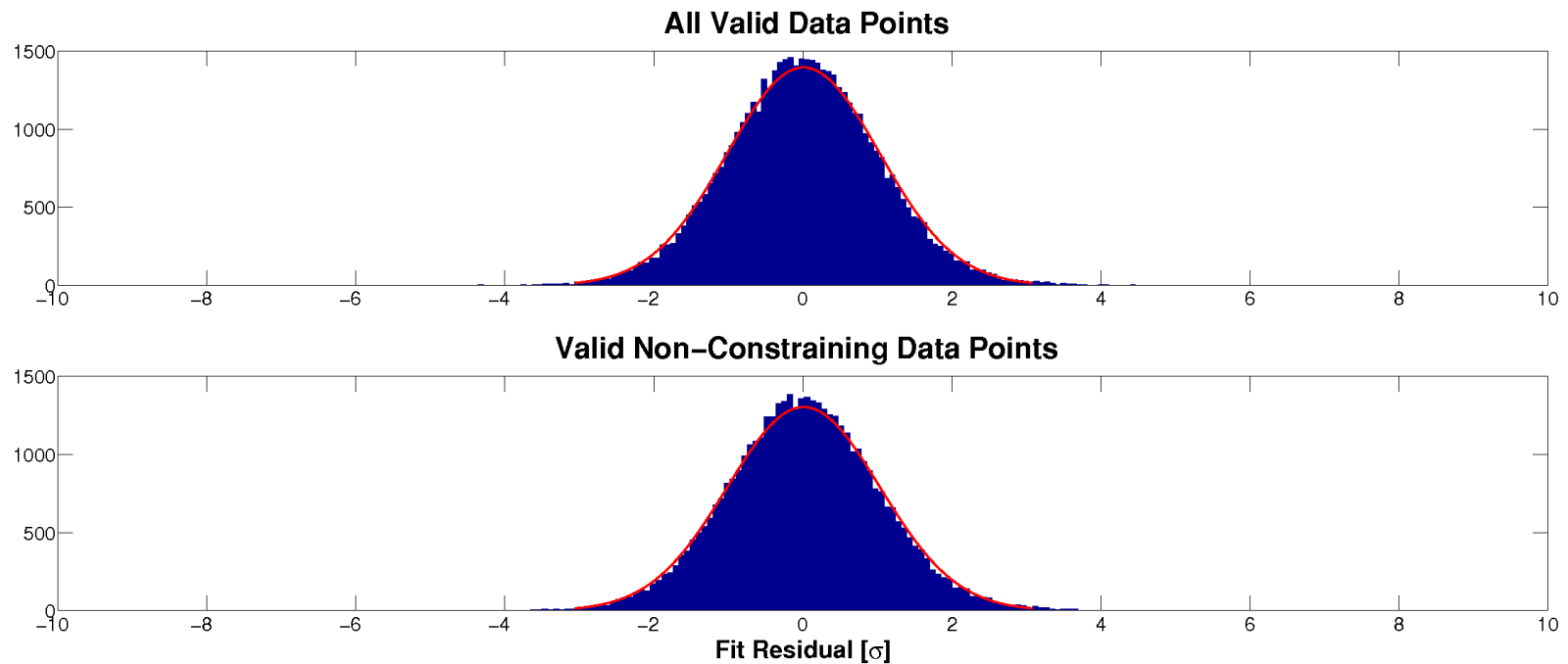
Robust weights distribution for KeplerId 9602613, Planet candidate 1. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.

Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-robust-weights.fig`



Fit residuals distribution for KeplerId 9602613, 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.

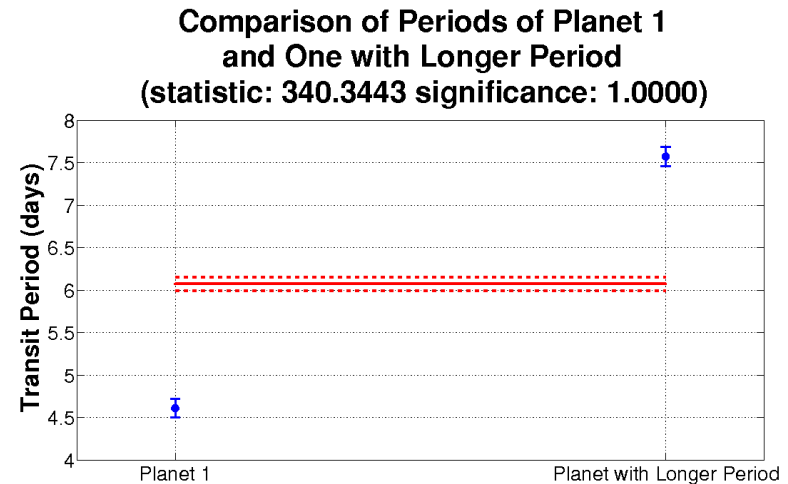
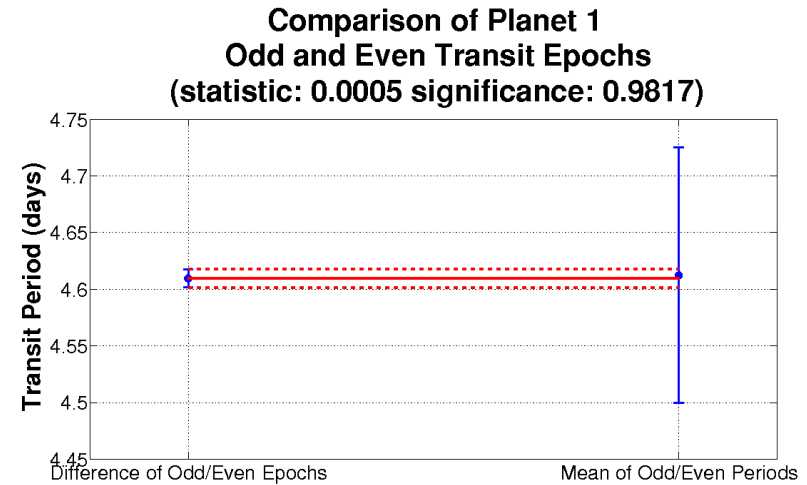
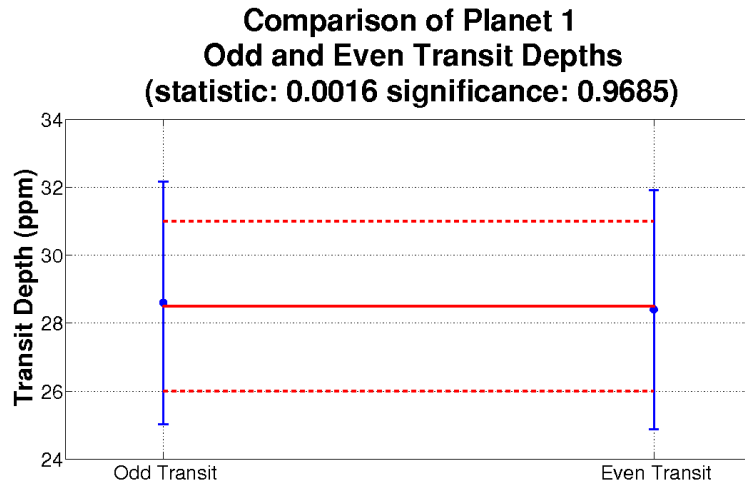
Open `./planet-01/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-01-odd-even-histo-used.fig`



Fit residuals distribution for KeplerId 9602613, 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/009602613-01-odd-even-histo-all-and-unused.fig`

## A.3 Eclipsing Binary Discrimination Test



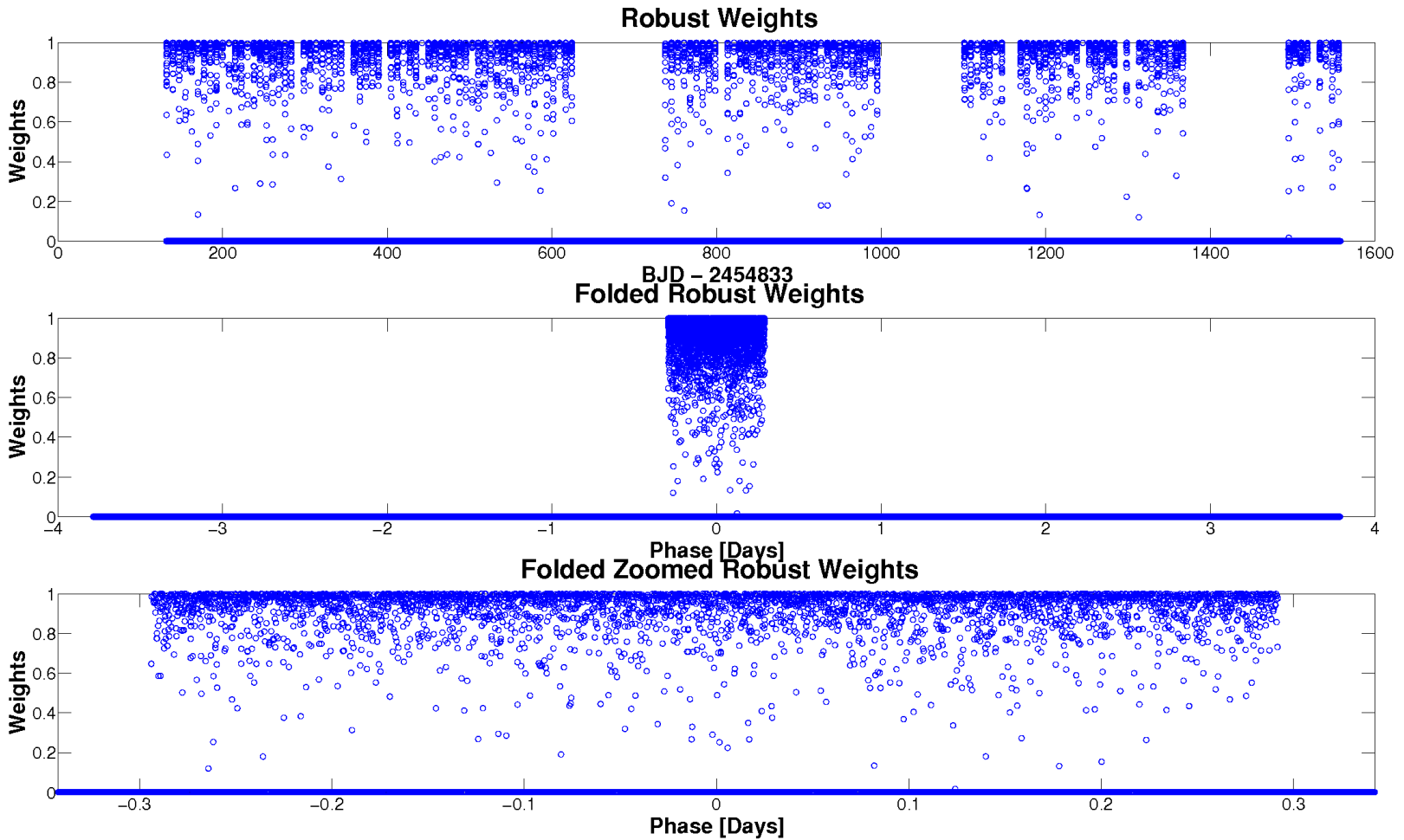
Top-left: Diagnostic plot of Odd/Even Transit Depth Test for keplerId 9602613, planet 1. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.  
 Top-right: Diagnostic plot of Odd/Even Transit Epoch Test for keplerId 9602613, planet 1. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.  
 Bottom-right: Diagnostic plot of Orbital Period Test for keplerId 9602613. 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/009602613-01-eclipsing-binary-discrimination-tests.fig`



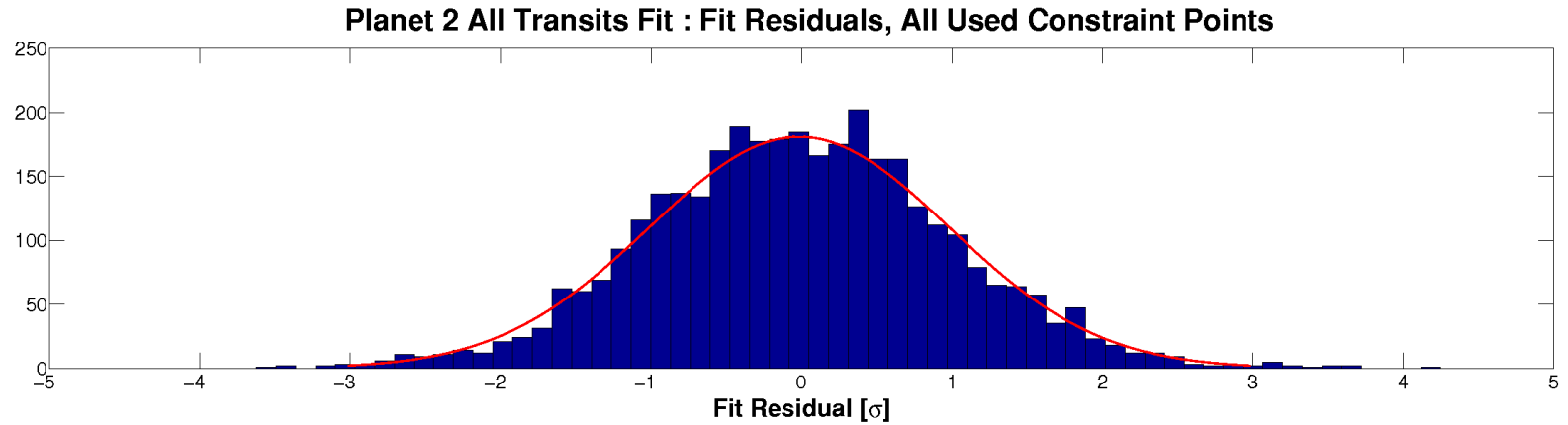
## Appendix B Planet Candidate 2

### B.1 Model Fitter: All Transits



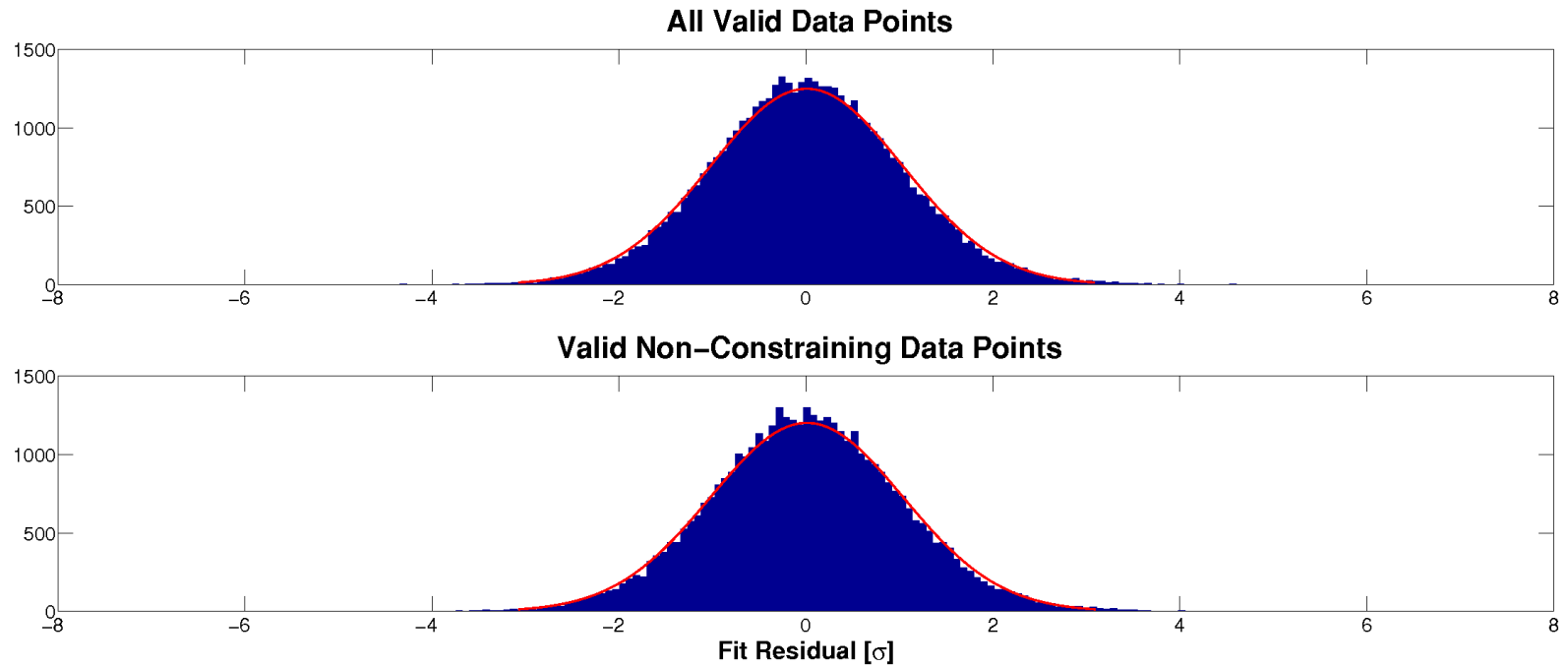
Robust weights distribution for KeplerId 9602613, Planet candidate 2. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.

Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/009602613-02-all-robust-weights.fig`



Fit residuals distribution for KeplerId 9602613, 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/009602613-02-all-histo-used.fig`

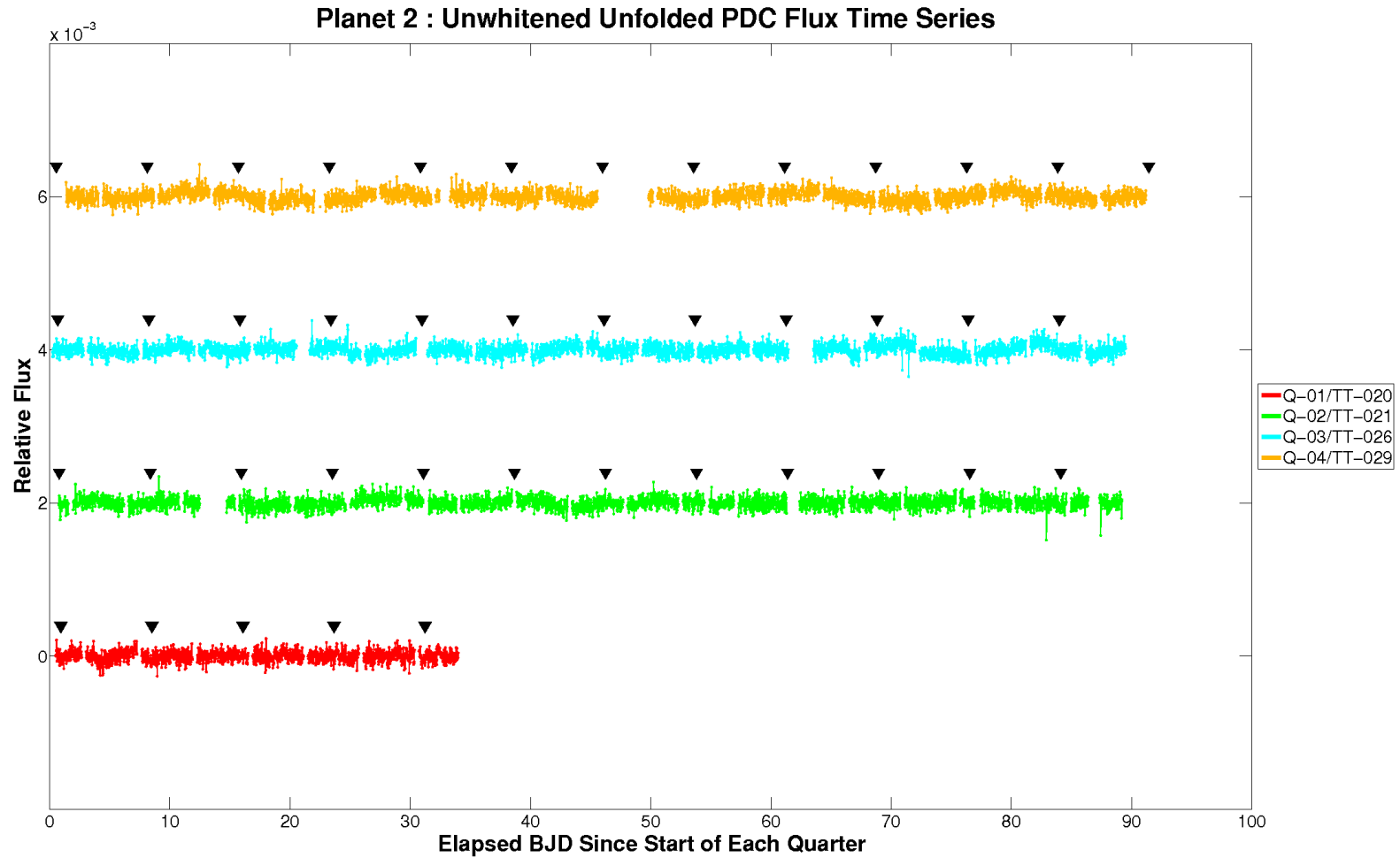


Fit residuals distribution for KeplerId 9602613, Planet candidate 2. Top plot: all valid data. Bottom plot: valid data not used to constrain fit (due to distance from a transit). Gaussian fits to the histograms are shown in red.

Open `./planet-02/planet-search-and-model-fitting-results/all-transits-fit/009602613-02-all-histo-all-and-unused.fig`

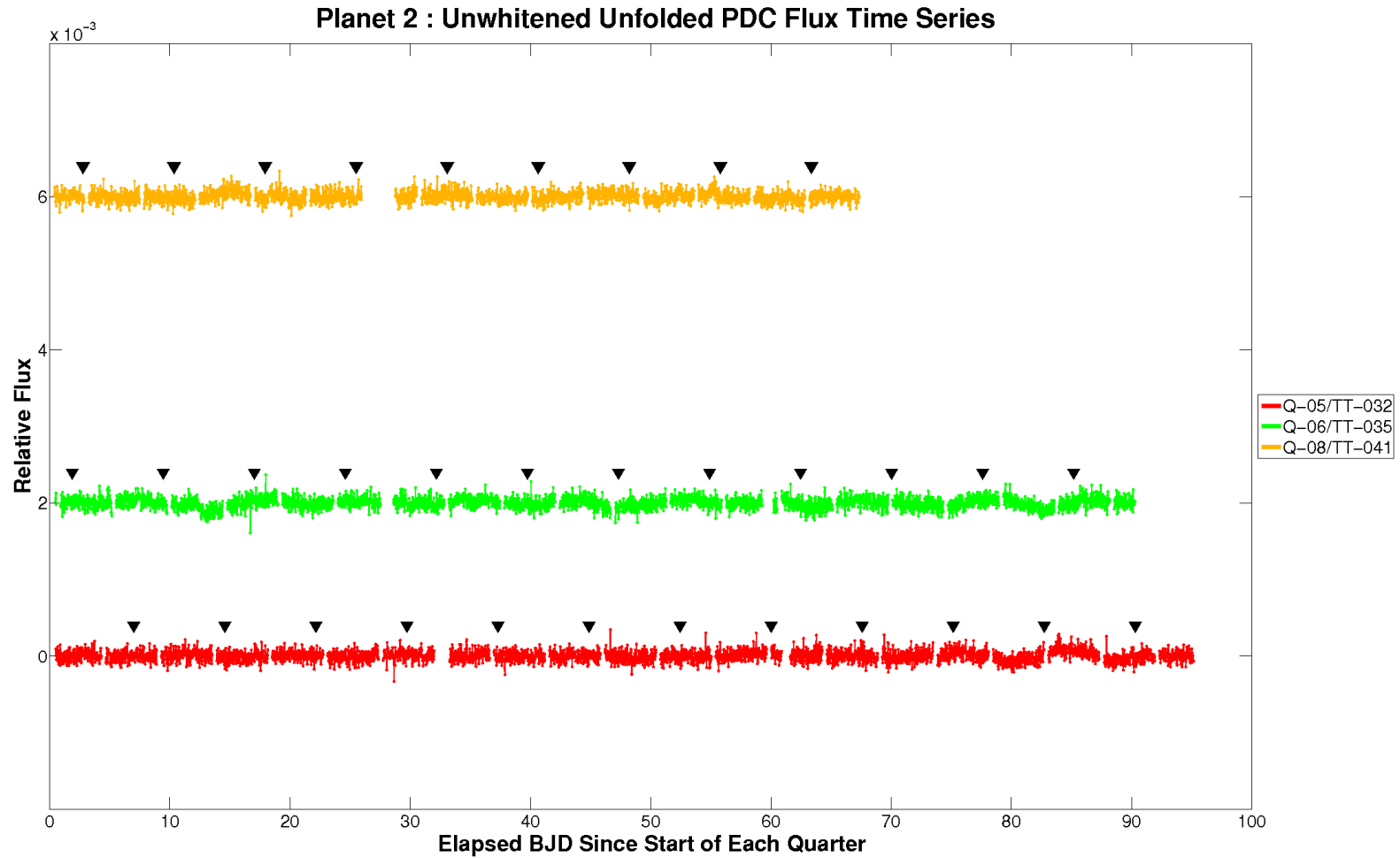
## B.2 Model Fitter: Odd &amp; Even Transits

Parameter	Odd Transits Value	Odd Transits Uncertainty	Even Transits Value	Even Transits Uncertainty	Units	$\frac{\text{Difference}}{\ \text{Uncertainty}\ }$
SNR	7.1		6.6			
Model Chi Square	2549		2549			
Degrees of Freedom	3192		3192			
Transit Epoch	131.9400791	7.4848e-03	139.5134380	7.6451e-03	BKJD	3.2238e-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	
Planet Radius	0.5481	2.1166e-01	0.5468	2.6708e-01	Earth radii	3.9013e-03
Planet Radius to Star Radius Ratio	0.0054361	2.0991e-03	0.0054229	2.6488e-03		3.9013e-03
Semi-major Axis	0.0708	5.0542e-07	0.0708	5.1978e-07	AU	2.2982e-02
Semi-major Axis to Star Radius Ratio	15.6514	2.4451e+01	15.7891	3.0885e+01		3.4964e-03
Impact Parameter	0.6733	1.2856e+00	0.6807	1.5739e+00		3.6642e-03
Star Radius	0.9240	0.0000e+00	0.9240	0.0000e+00	solar radii	
Transit Duration	2.7601	2.1857e-01	2.7111	2.2856e-01	hours	1.5492e-01
Transit Ingress Time	0.0272	9.5788e-02	0.0271	1.2029e-01	hours	3.3225e-04
Transit Depth	31	4.4025e+00	31	4.7484e+00	ppm	4.5885e-02
Orbital Period	7.5730089	8.1101e-05	7.5730116	8.3404e-05	days	2.2982e-02
Equilibrium Temperature	870	2.1532e+02	870	2.1532e+02	Kelvin	3.3637e-07



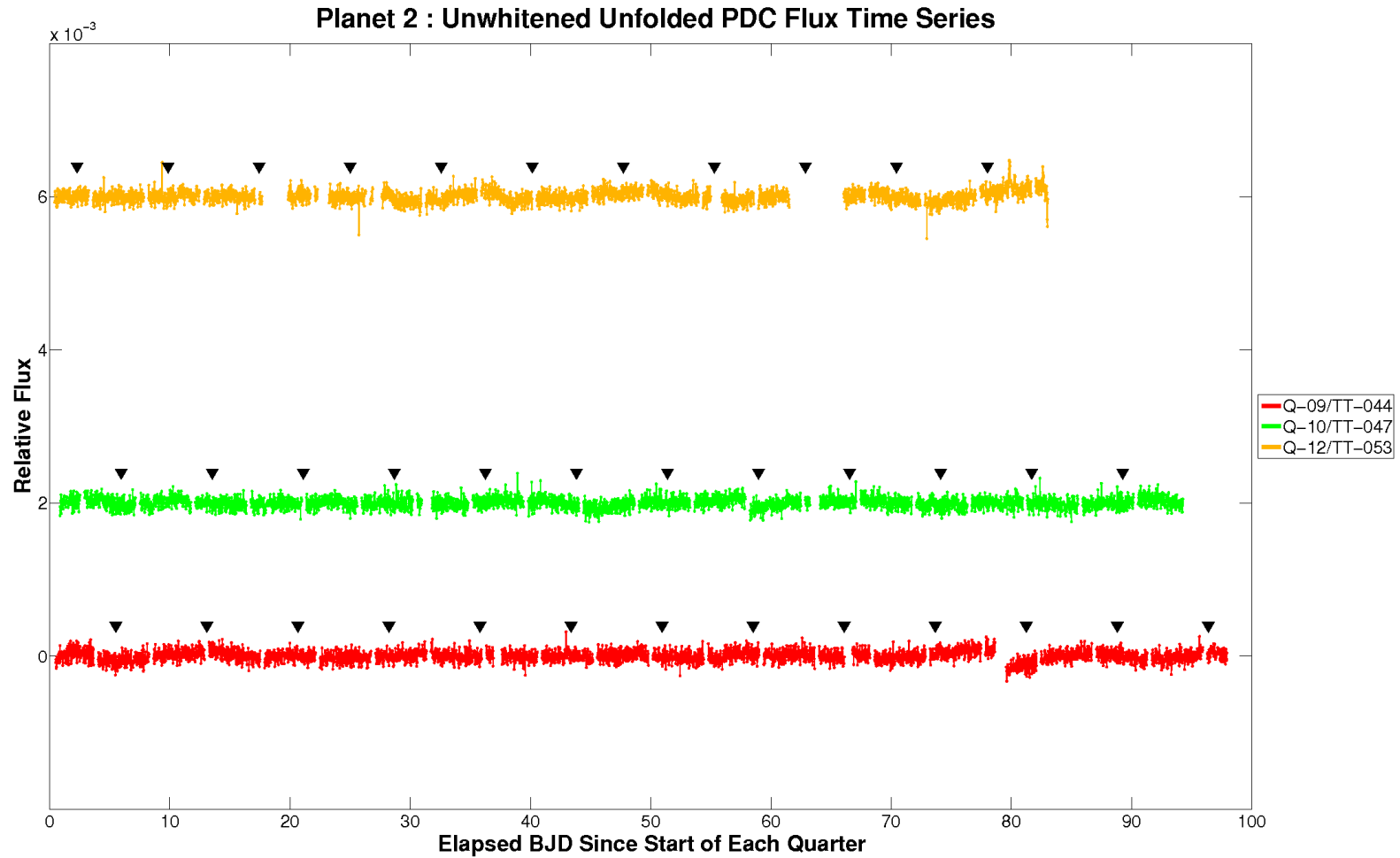
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-01/TargetTableId-020, start BJD is 2454964 and the vertical offset is 0. For the data of Quarter-02/TargetTableId-021, start BJD is 2455002 and the vertical offset is 0.002. For the data of Quarter-03/TargetTableId-026, start BJD is 2455093 and the vertical offset is 0.004. For the data of Quarter-04/TargetTableId-029, start BJD is 2455184 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-01-020.fig`



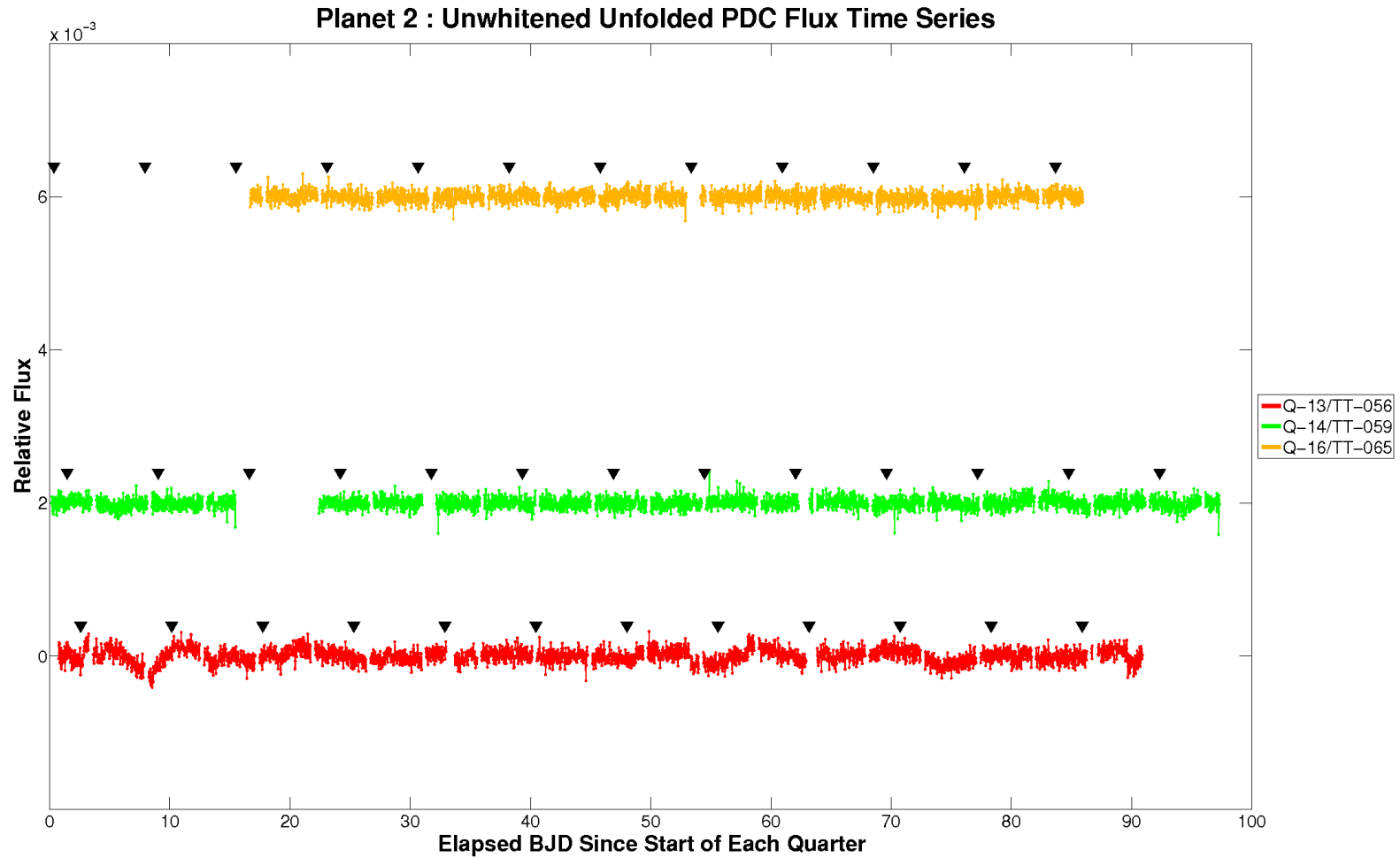
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-05/TargetTableId-032, start BJD is 2455276 and the vertical offset is 0. For the data of Quarter-06/TargetTableId-035, start BJD is 2455372 and the vertical offset is 0.002. For the data of Quarter-07/TargetTableId-038, start BJD is 2455463 and the vertical offset is 0.004. For the data of Quarter-08/TargetTableId-041, start BJD is 2455568 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-05-032.fig`



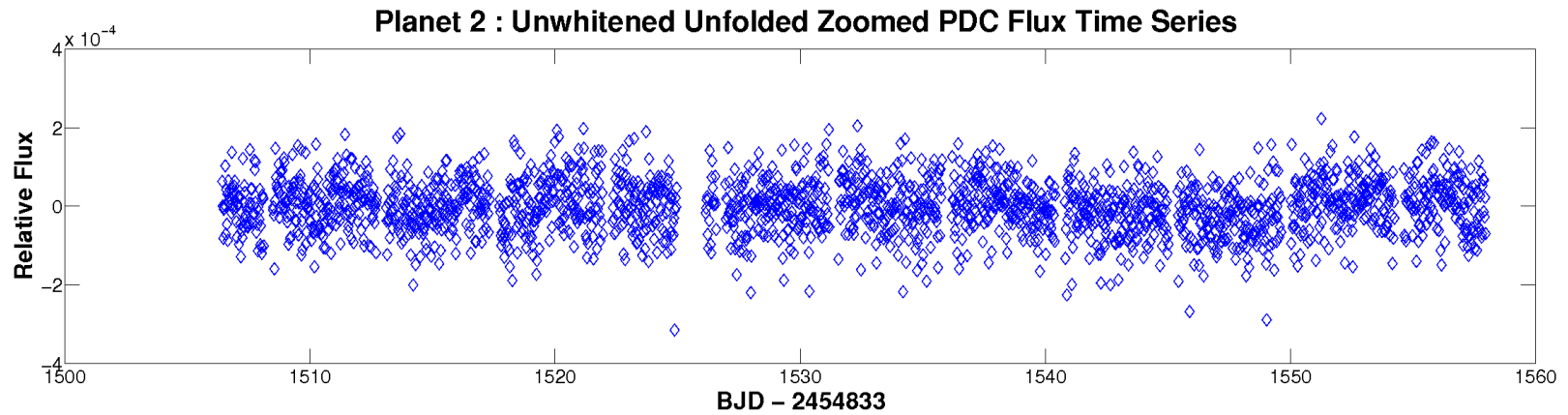
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-09/TargetTableId-044, start BJD is 2455641 and the vertical offset is 0. For the data of Quarter-10/TargetTableId-047, start BJD is 2455739 and the vertical offset is 0.002. For the data of Quarter-11/TargetTableId-050, start BJD is 2455834 and the vertical offset is 0.004. For the data of Quarter-12/TargetTableId-053, start BJD is 2455932 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-09-044.fig`



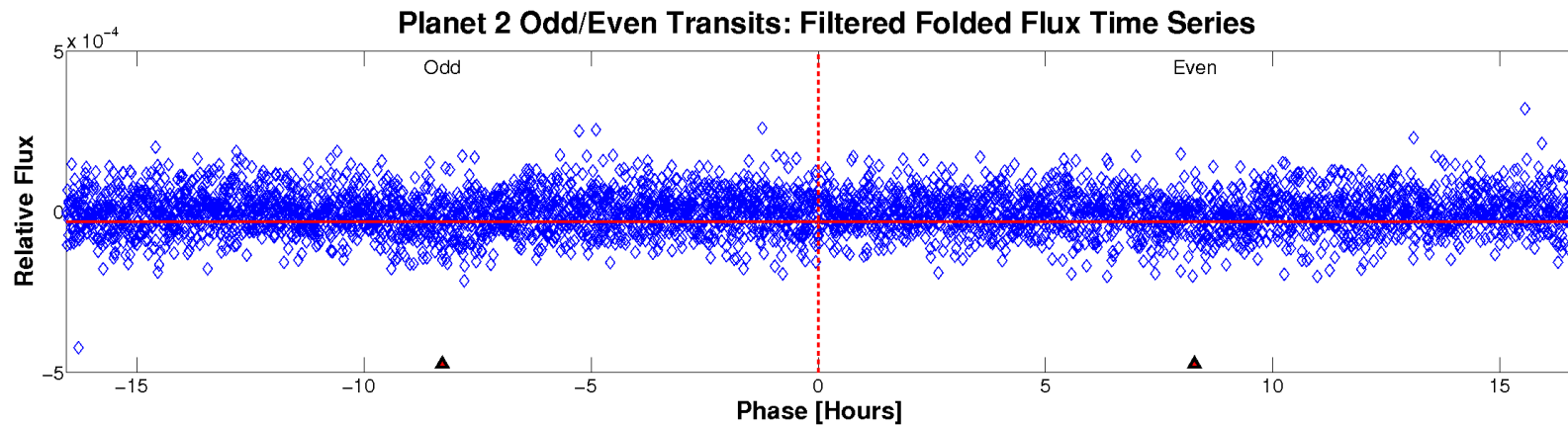
PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. For the data of Quarter-13/TargetTableId-056, start BJD is 2456015 and the vertical offset is 0. For the data of Quarter-14/TargetTableId-059, start BJD is 2456107 and the vertical offset is 0.002. For the data of Quarter-15/TargetTableId-062, start BJD is 2456206 and the vertical offset is 0.004. For the data of Quarter-16/TargetTableId-065, start BJD is 2456305 and the vertical offset is 0.006. Transit event markers indicate the location of transits of the given planet candidate. Odd-even transits fit completed with full convergence.

Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-13-056.fig`



PDC Flux time series for KeplerId 9602613, Planet candidate 2 in the unwhitened domain, zoomed on last 5 transits in the unit of work. If # of transits is smaller than 5, all transits are shown.

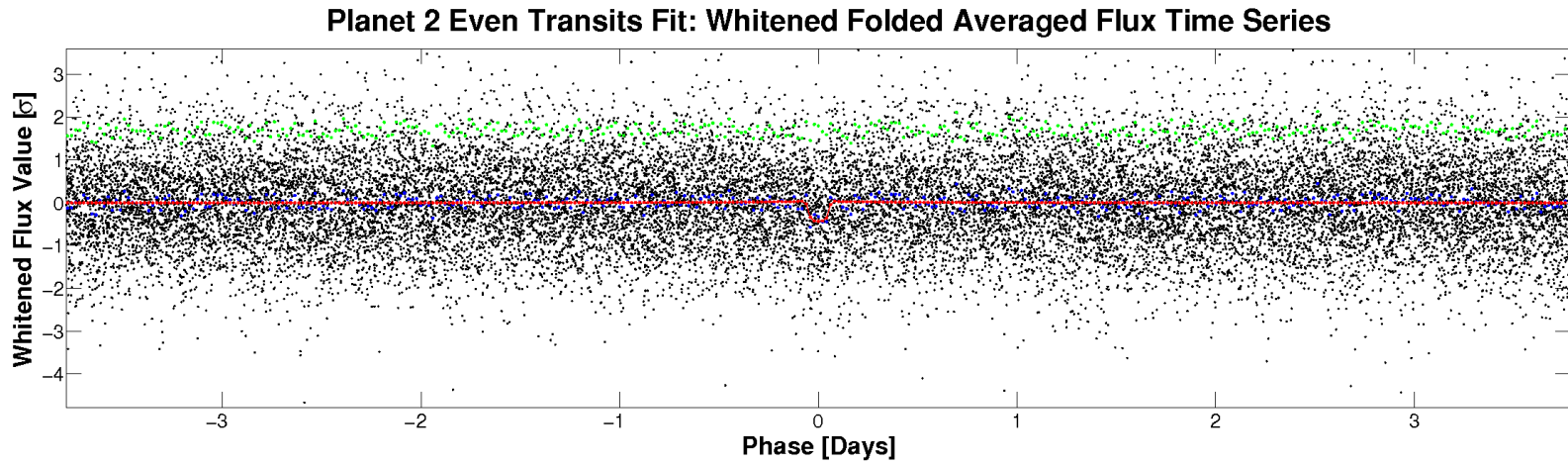
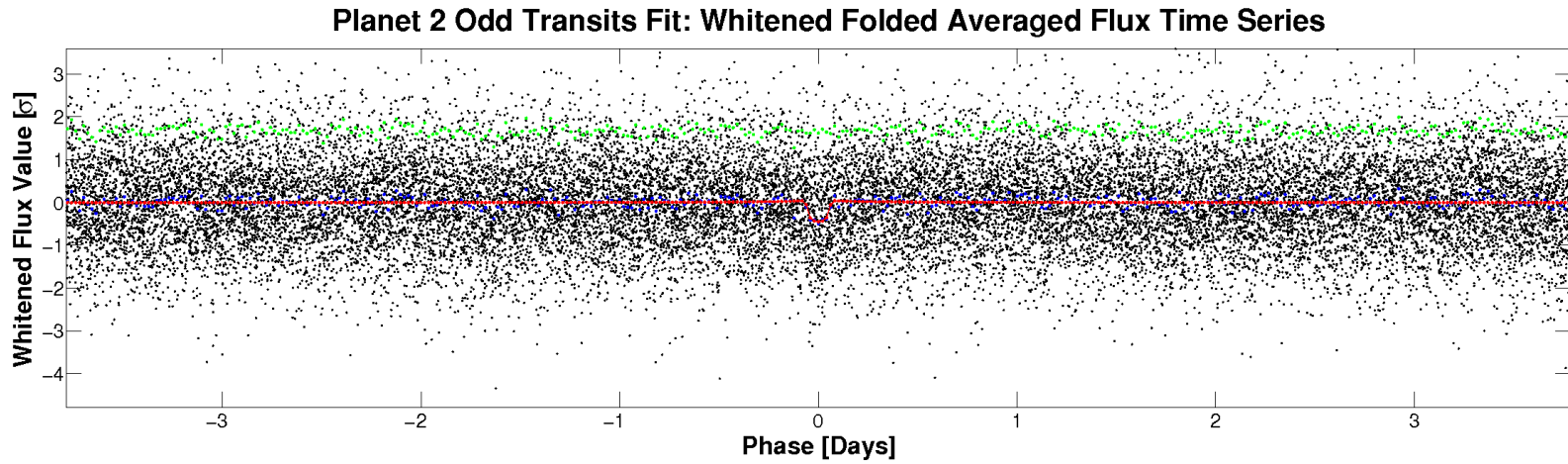
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-zoomed.fig`



PDC Flux time series of odd/even transits for KeplerId 9602613, Planet candidate 2 in the unwhitened domain. Data has been high-pass filtered via a median filter operating at a specified multiple of the transit duration, folded per the fitted period and epoch, and zoomed to the location of the model transit.

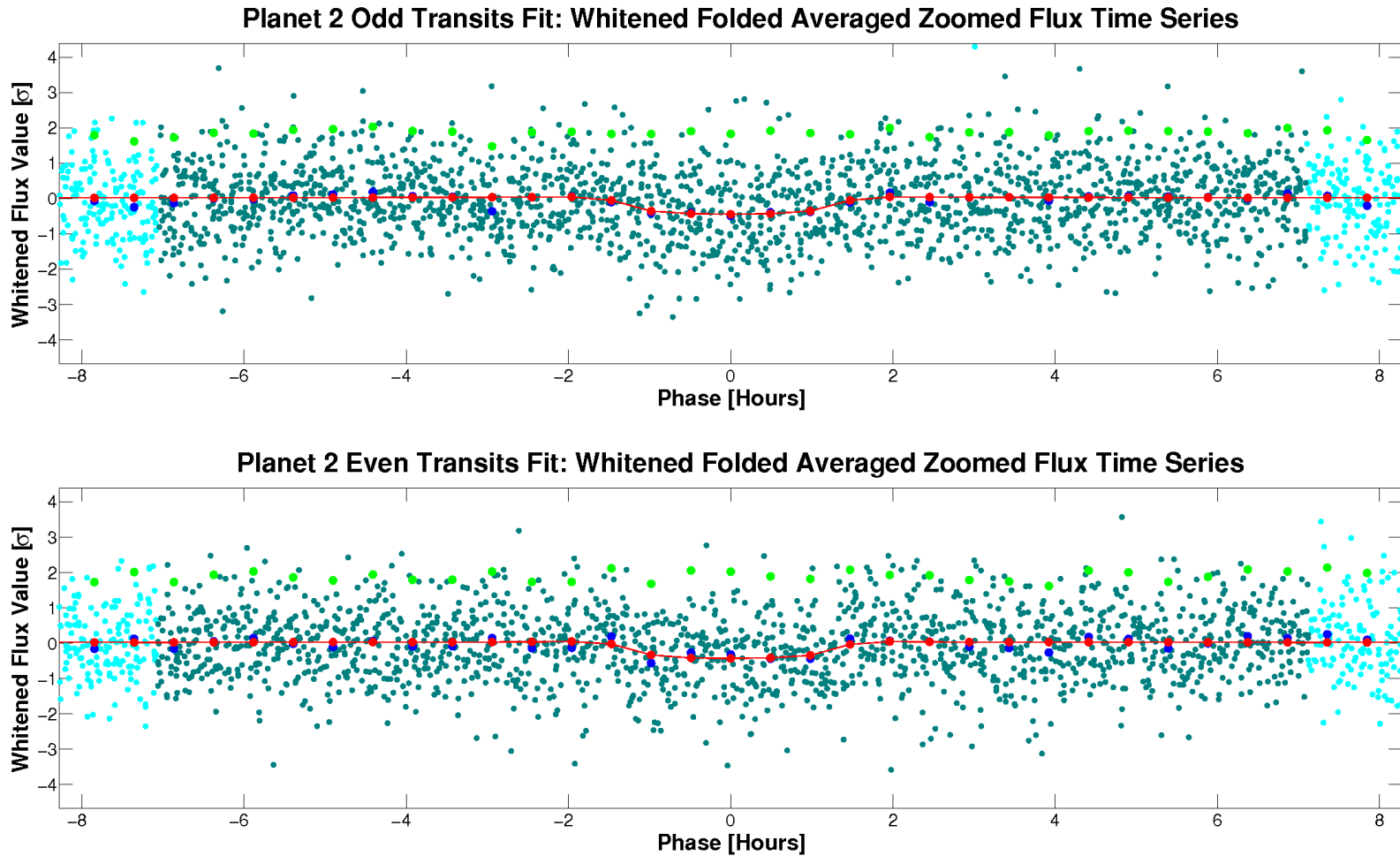
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-unwhitened-filtered-zoomed.fig`





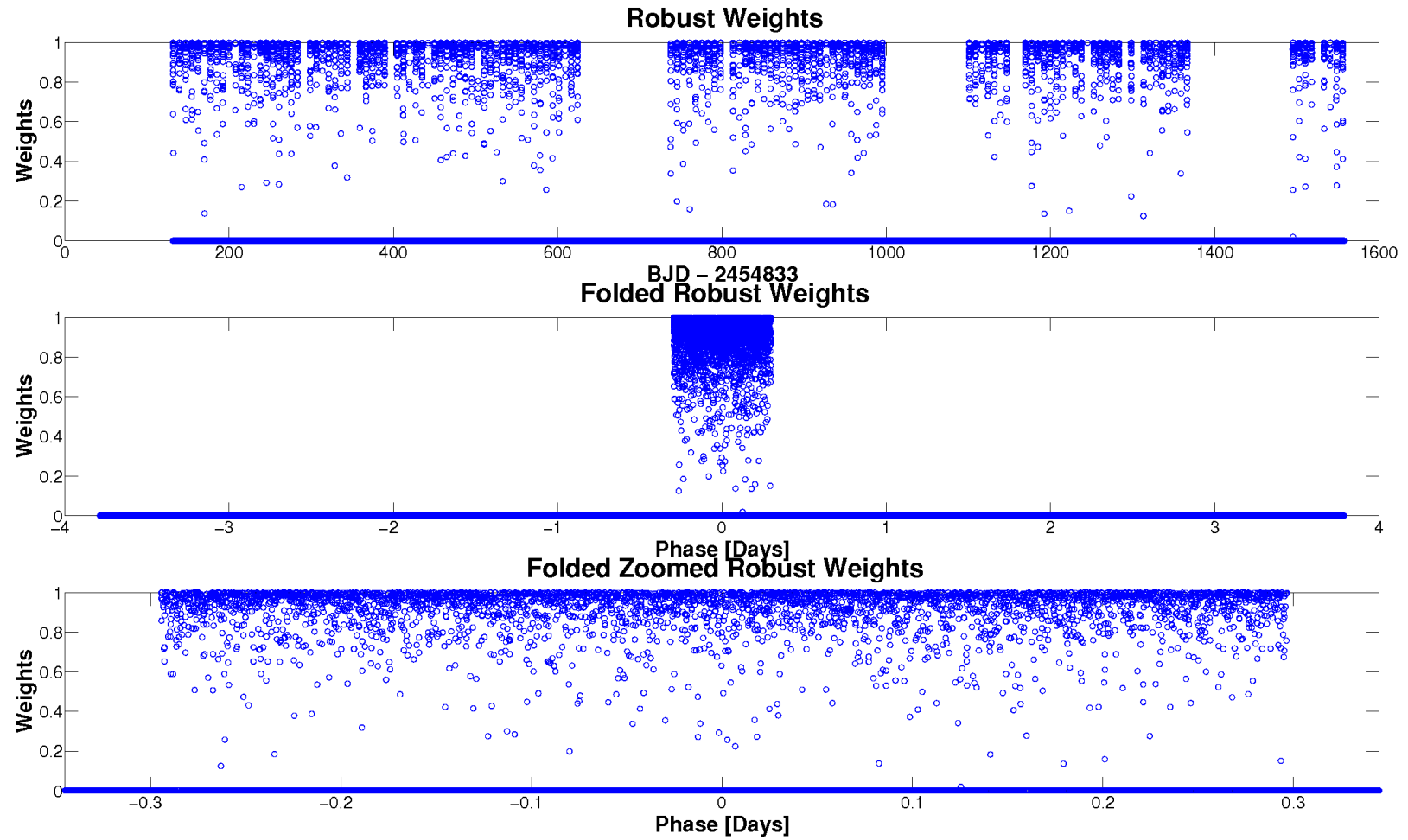
Folded flux time series for KeplerId 9602613, Planet candidate 2 in the whitened domain is plotted in black dots. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged values of the folded flux time series; the red dots represent the averaged values of the folded model light 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/009602613-02-odd-even-whitened.fig`



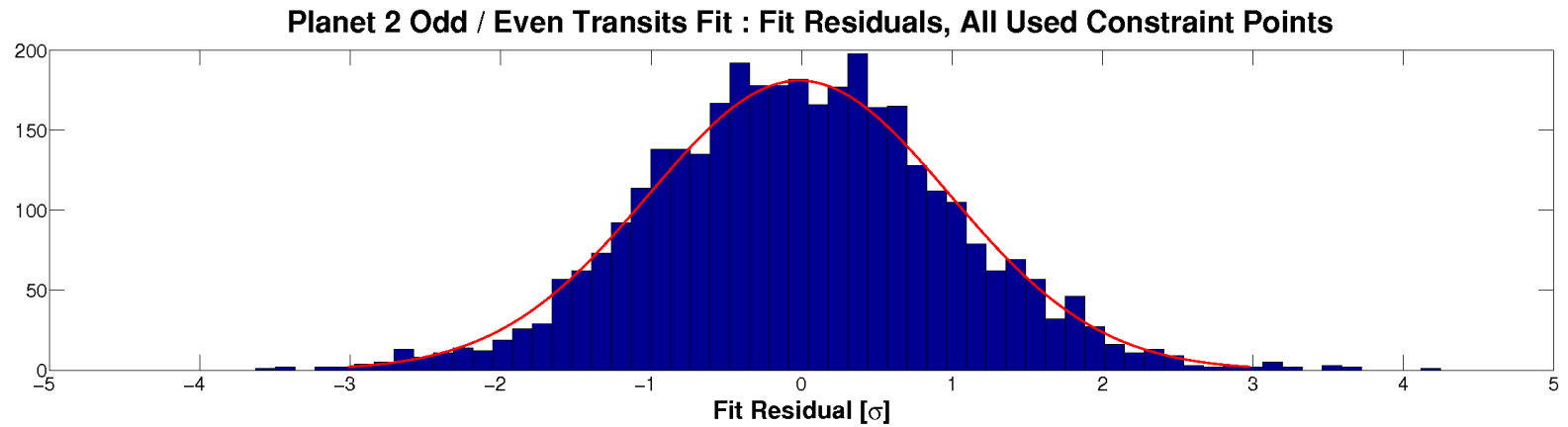
Folded flux time series for KeplerId 9602613, Planet candidate 2 in the whitened domain, zoomed on the transit. The flux data whose robust weights are larger/smaller than 0.1 are plotted in dark green/cyan dots, respectively. Values are averaged into 1 cadence wide bins. The blue dots represent the averaged 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/009602613-02-odd-even-whitened-zoomed.fig`



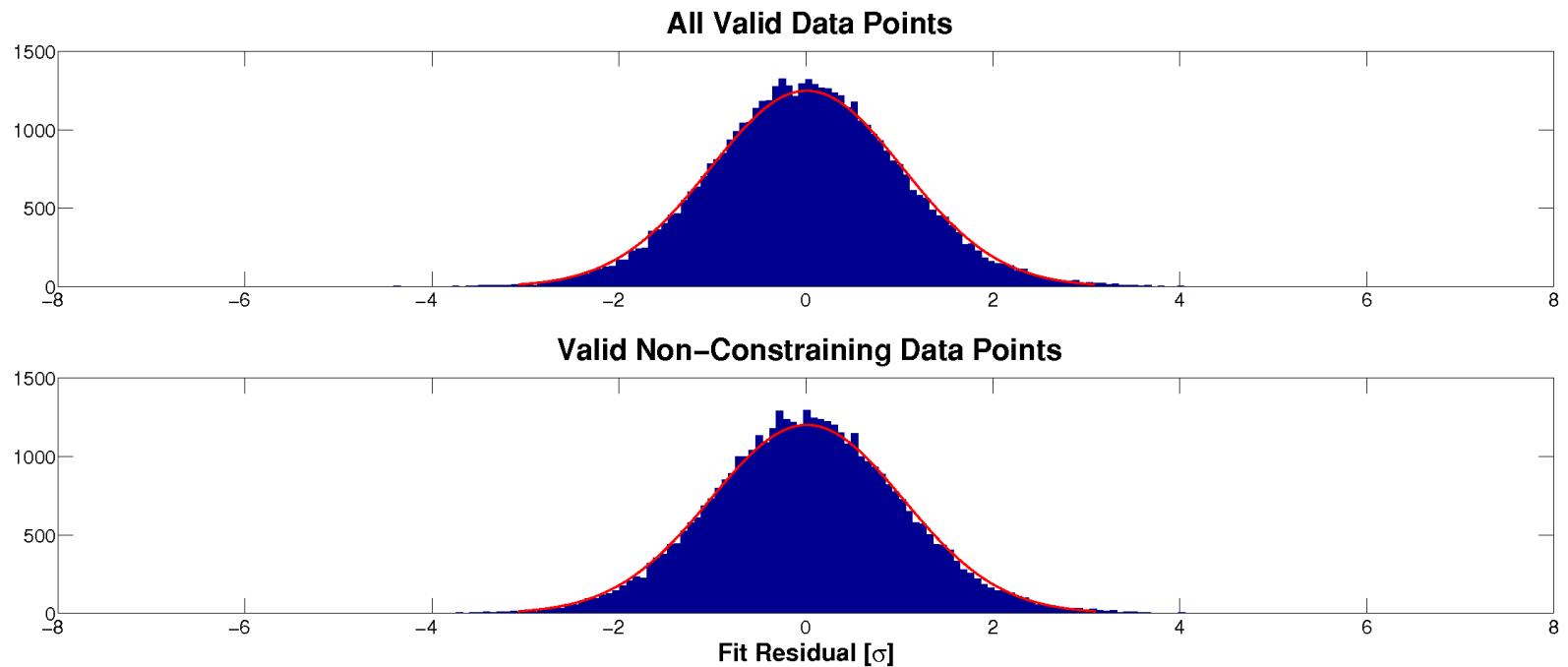
Robust weights distribution for KeplerId 9602613, Planet candidate 2. Top plot: all data points. Middle plot: all data points, folded per the fitted period and epoch. Bottom plot: all data points, folded and zoomed.

Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-robust-weights.fig`



Fit residuals distribution for KeplerId 9602613, 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.

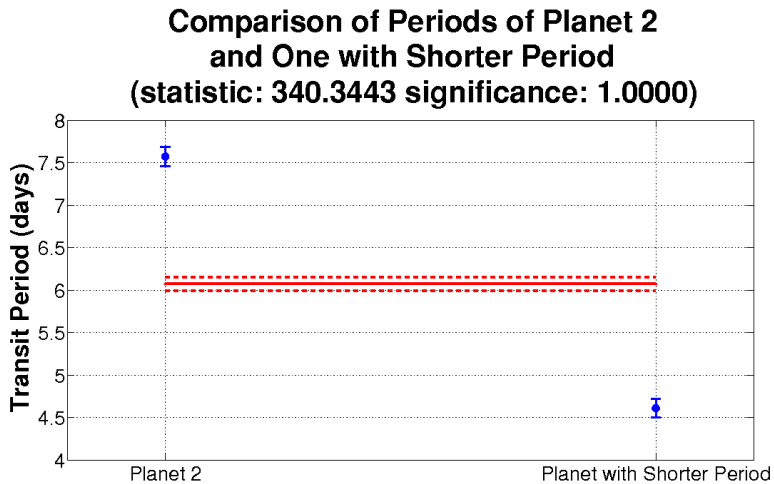
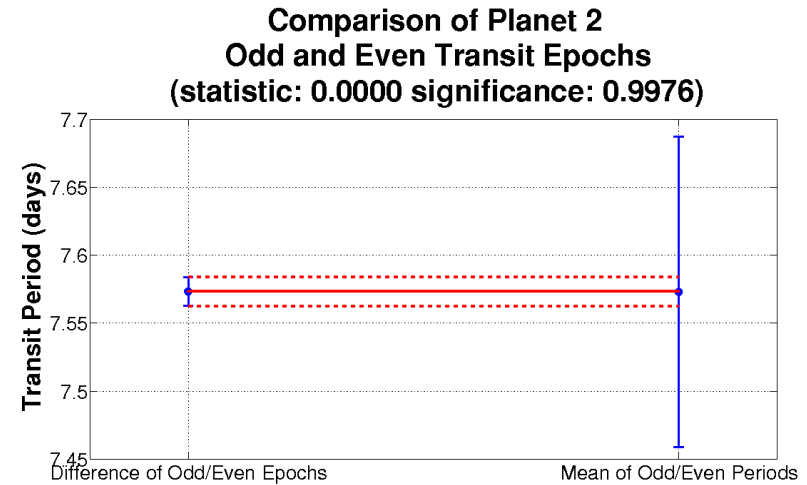
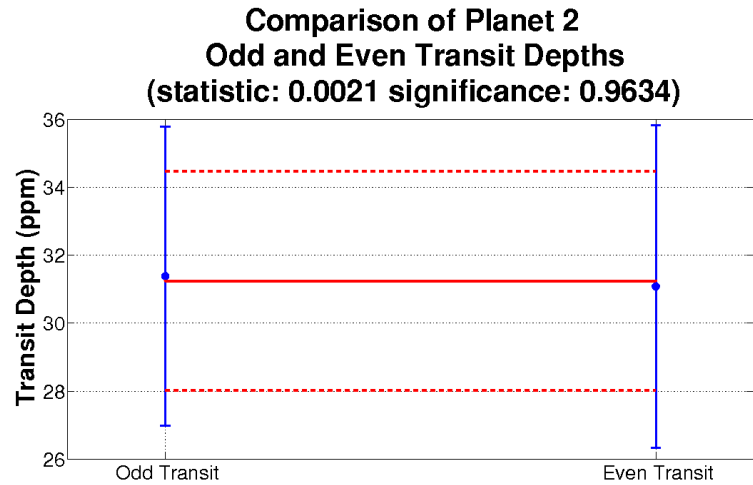
Open `./planet-02/planet-search-and-model-fitting-results/odd-even-transits-fit/009602613-02-odd-even-histo-used.fig`



Fit residuals distribution for KeplerId 9602613, 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/009602613-02-odd-even-histo-all-and-unused.fig`

### B.3 Eclipsing Binary Discrimination Test



Top-left: Diagnostic plot of Odd/Even Transit Depth Test for keplerId 9602613, planet 2. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.  
 Top-right: Diagnostic plot of Odd/Even Transit Epoch Test for keplerId 9602613, planet 2. A significance level close to 1/0 favors a transiting planet/an eclipsing binary.  
 Bottom-left: Diagnostic plot of Orbital Period Test for keplerId 9602613. 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/009602613-02-eclipsing-binary-discrimination-tests.fig`

## Appendix C Single Event Statistics from Residual Flux

No figures named 009602613-00-residual-ses-\*.fig are available.

## Appendix D Alerts

Time	Severity	Message
56520.4281	warning	All centroid and flux data gapped. 009602613-01-transit-fit-prf-centroids-07.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test prf)
56520.4284	warning	All centroid and flux data gapped. 009602613-01-transit-fit-prf-centroids-11.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test prf)
56520.4285	warning	All centroid and flux data gapped. 009602613-01-transit-fit-prf-centroids-15.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test prf)
56520.4288	warning	All centroid and flux data gapped. 009602613-02-transit-fit-prf-centroids-07.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test prf)
56520.4294	warning	All centroid and flux data gapped. 009602613-02-transit-fit-prf-centroids-11.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test prf)
56520.4295	warning	All centroid and flux data gapped. 009602613-02-transit-fit-prf-centroids-15.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test prf)
56520.4356	warning	All centroid and flux data gapped. 009602613-01-transit-fit-fluxWeighted-centroids-07.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test fluxWeighted)
56520.4357	warning	All centroid and flux data gapped. 009602613-01-transit-fit-fluxWeighted-centroids-11.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test fluxWeighted)
56520.4358	warning	All centroid and flux data gapped. 009602613-01-transit-fit-fluxWeighted-centroids-15.fig not saved. (target=1, keplerId=9602613, planet=1, component=Centroid test fluxWeighted)
56520.4360	warning	All centroid and flux data gapped. 009602613-02-transit-fit-fluxWeighted-centroids-07.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test fluxWeighted)
56520.4360	warning	All centroid and flux data gapped. 009602613-02-transit-fit-fluxWeighted-centroids-11.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test fluxWeighted)
56520.4361	warning	All centroid and flux data gapped. 009602613-02-transit-fit-fluxWeighted-centroids-15.fig not saved. (target=1, keplerId=9602613, planet=2, component=Centroid test fluxWeighted)
56520.4361	warning	Pixel correlation test is disabled (target=1, keplerId=9602613, component=Pixel correlation test)
56520.4363	warning	Statistical bootstrap is disabled (target=1, keplerId=9602613, component=bootstrap)