

# KIC 004949769

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004949769-01	OBS	No	1.564091	132.951619	862.9	1.500	8.7	-1.0	0.94	5957	2.75	1398.99

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004949769-01	OBS	FP	0.00	1	0	0	1	SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS—EPHEM_MATCH

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

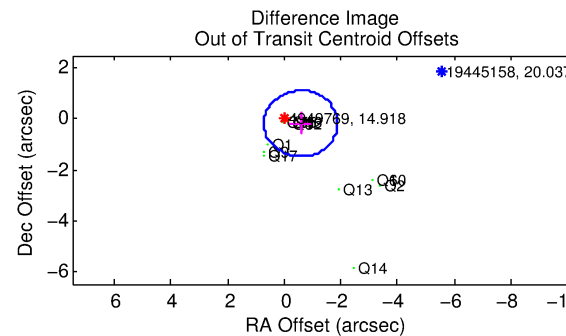
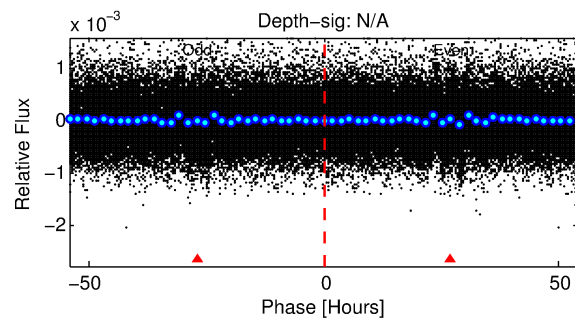
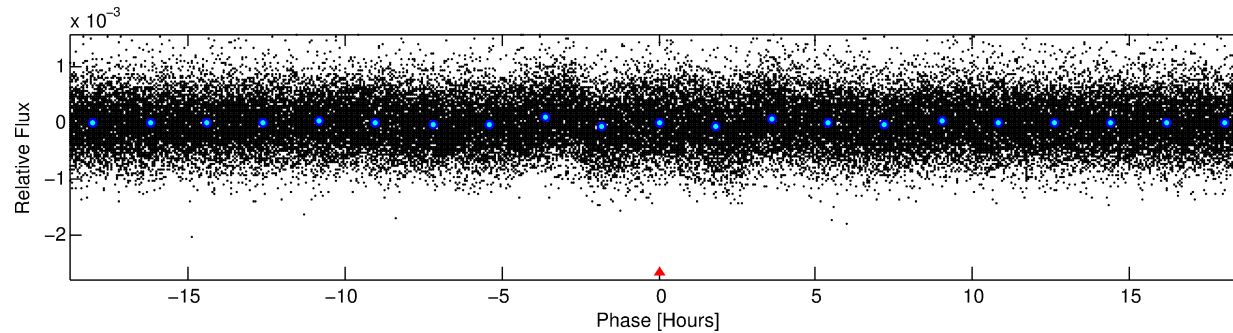
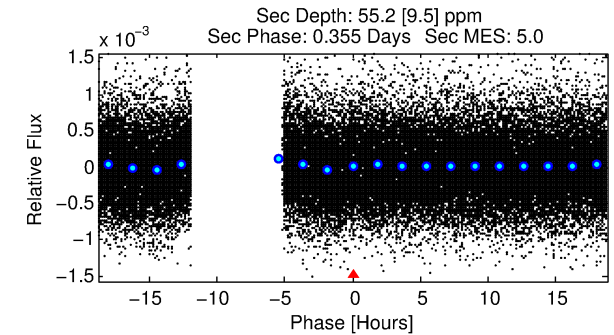
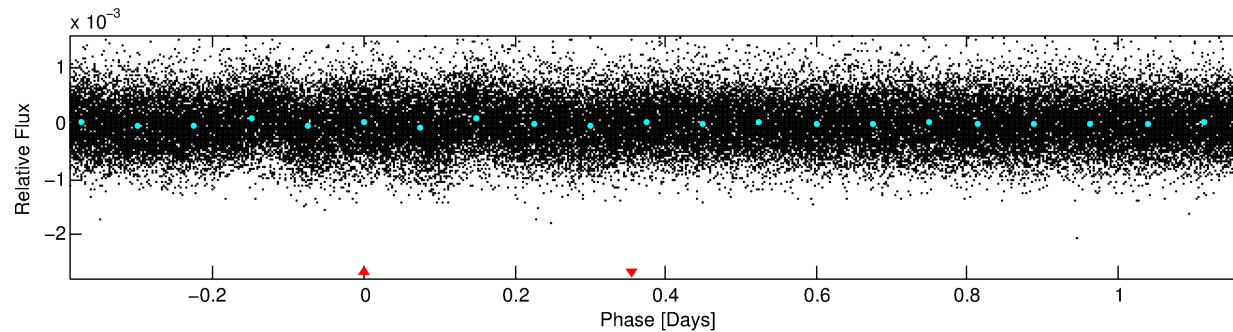
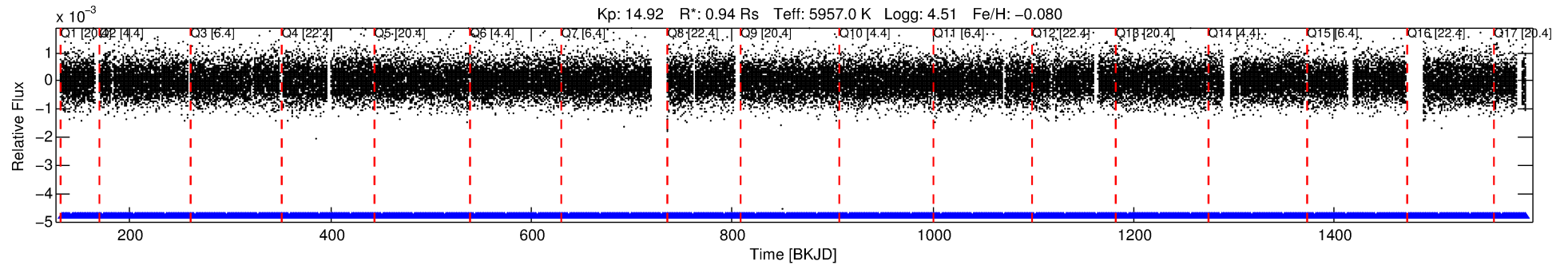
## Ephemeris Match Information For 004949769-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
004949769-01	4949769	004949770-pri	4949770	1:1	13.7	3	2	12.57	14.92	156.89	Direct-PRF	0	0.02	4.84

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 4949769 Candidate: 1 of 1 Period: 1.564 d



## TPS TCE Results:

Period = 1.56409 d  
Epoch = 132.9516 BKJD

DV fit results are unavailable

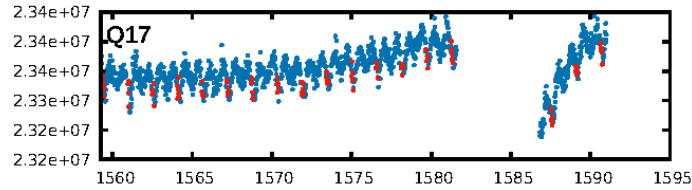
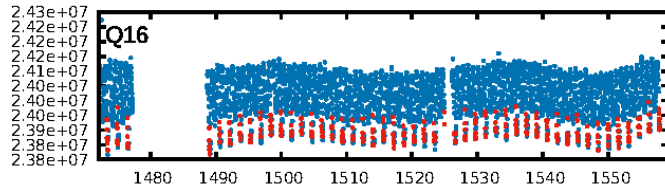
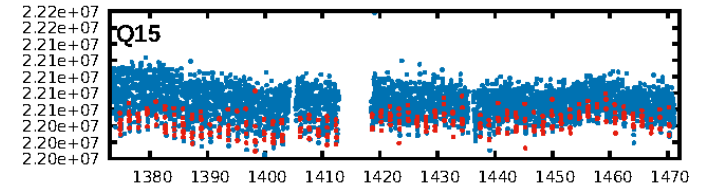
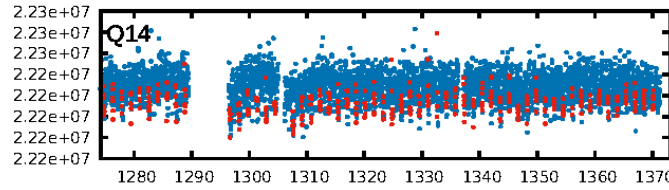
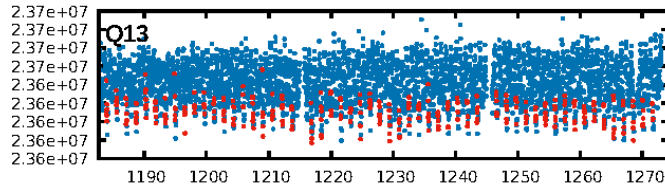
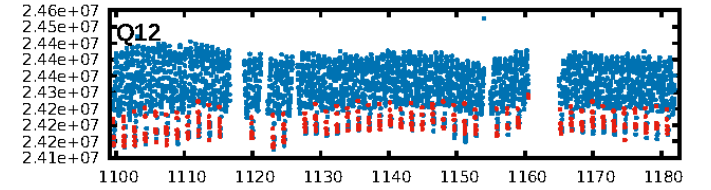
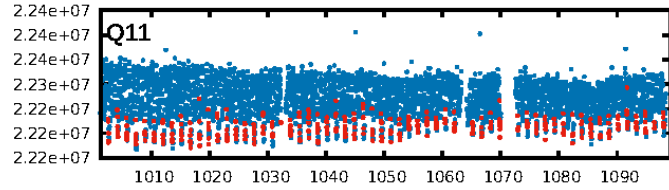
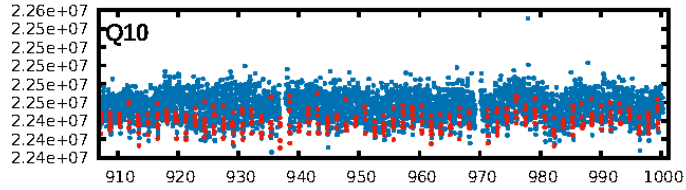
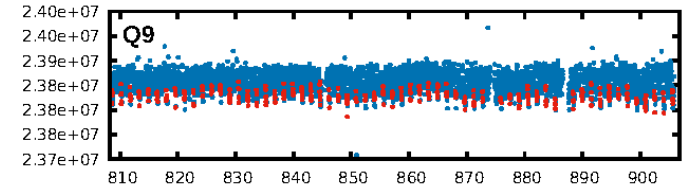
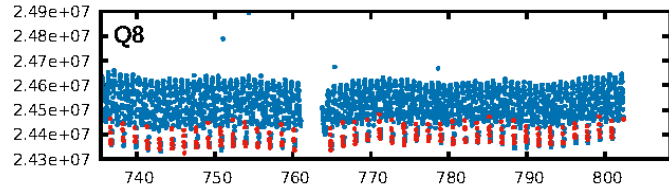
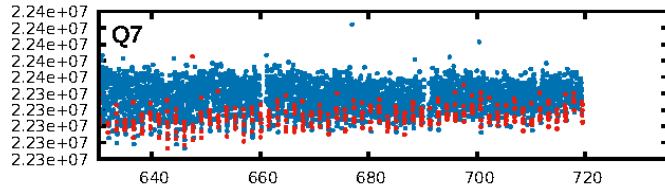
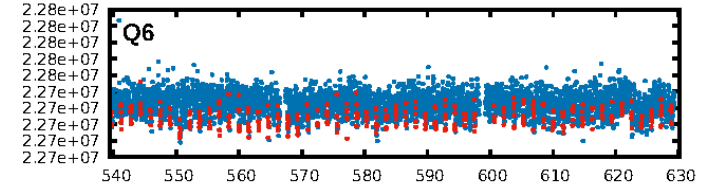
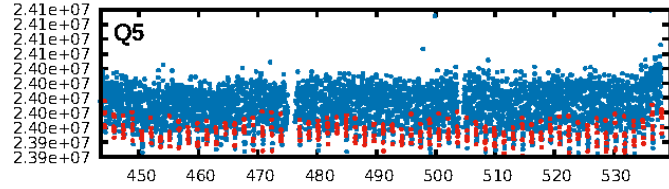
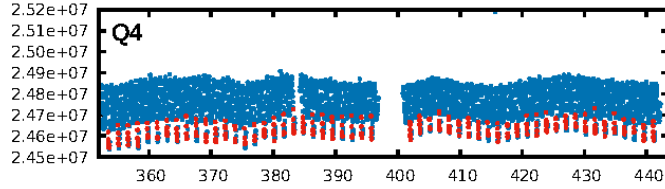
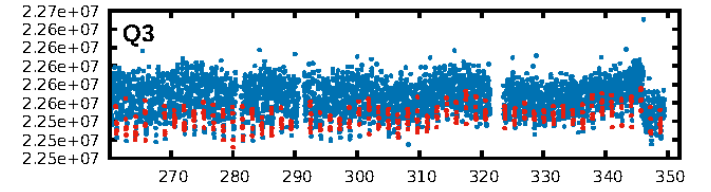
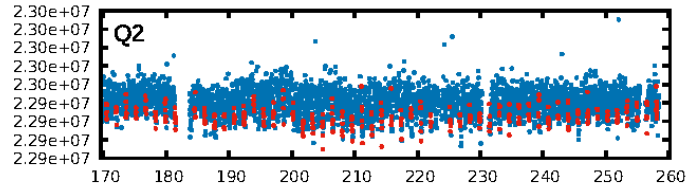
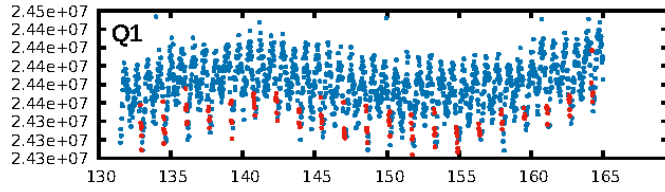
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.99e-18  
RollingBand-fgt: 1.00 [829/829]  
GhostDiagnostic-chr: -0.7912  
Centroid-sig: 0.0%  
Centroid-so: 3.355 arcsec [15.13 $\sigma$ ]  
OotOffset-rm: 0.605 arcsec [1.39 $\sigma$ ]  
KicOffset-rm: 9.499 arcsec [26.40 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [17/17]

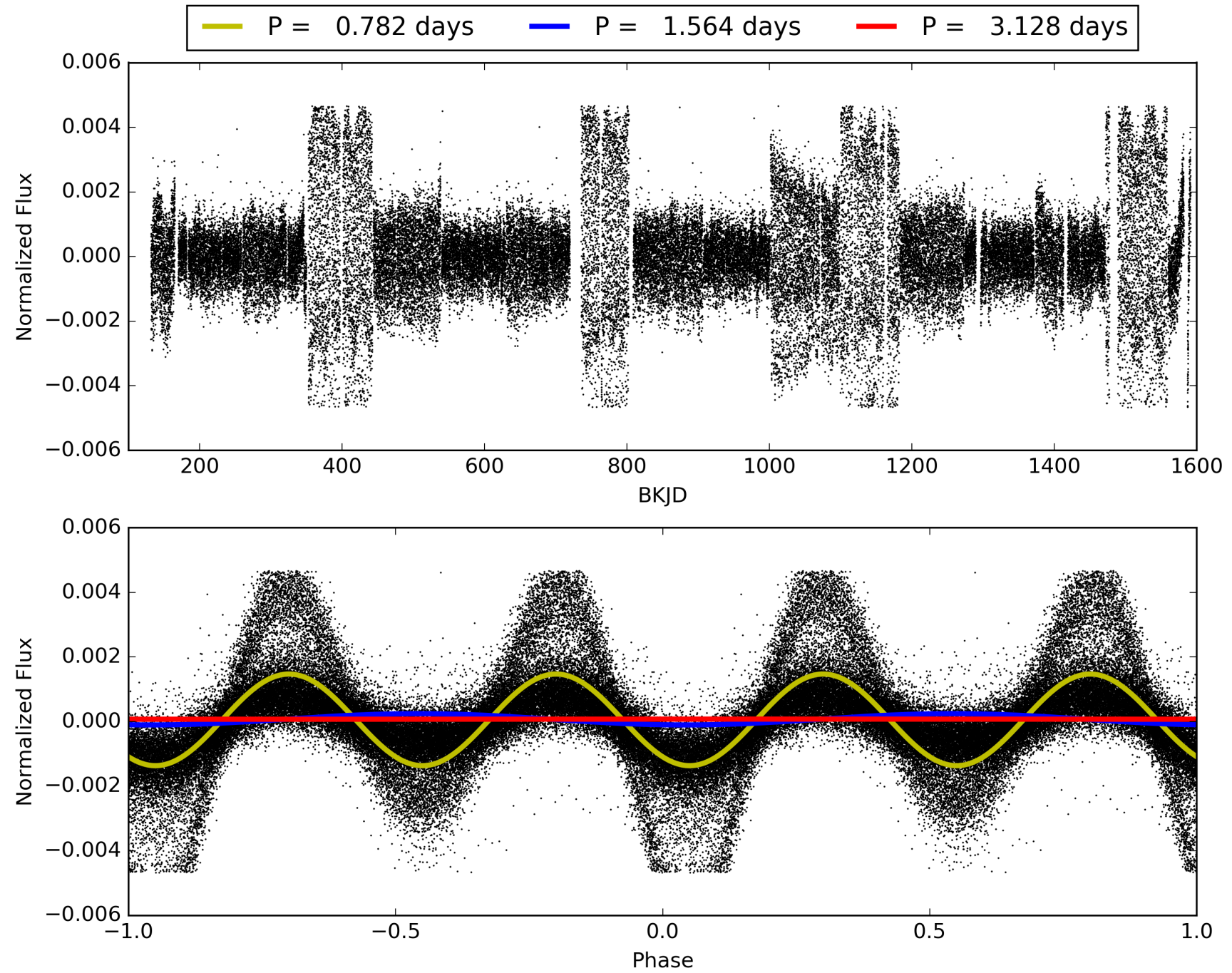
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:20:31 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004949769-01, PDC Light Curves

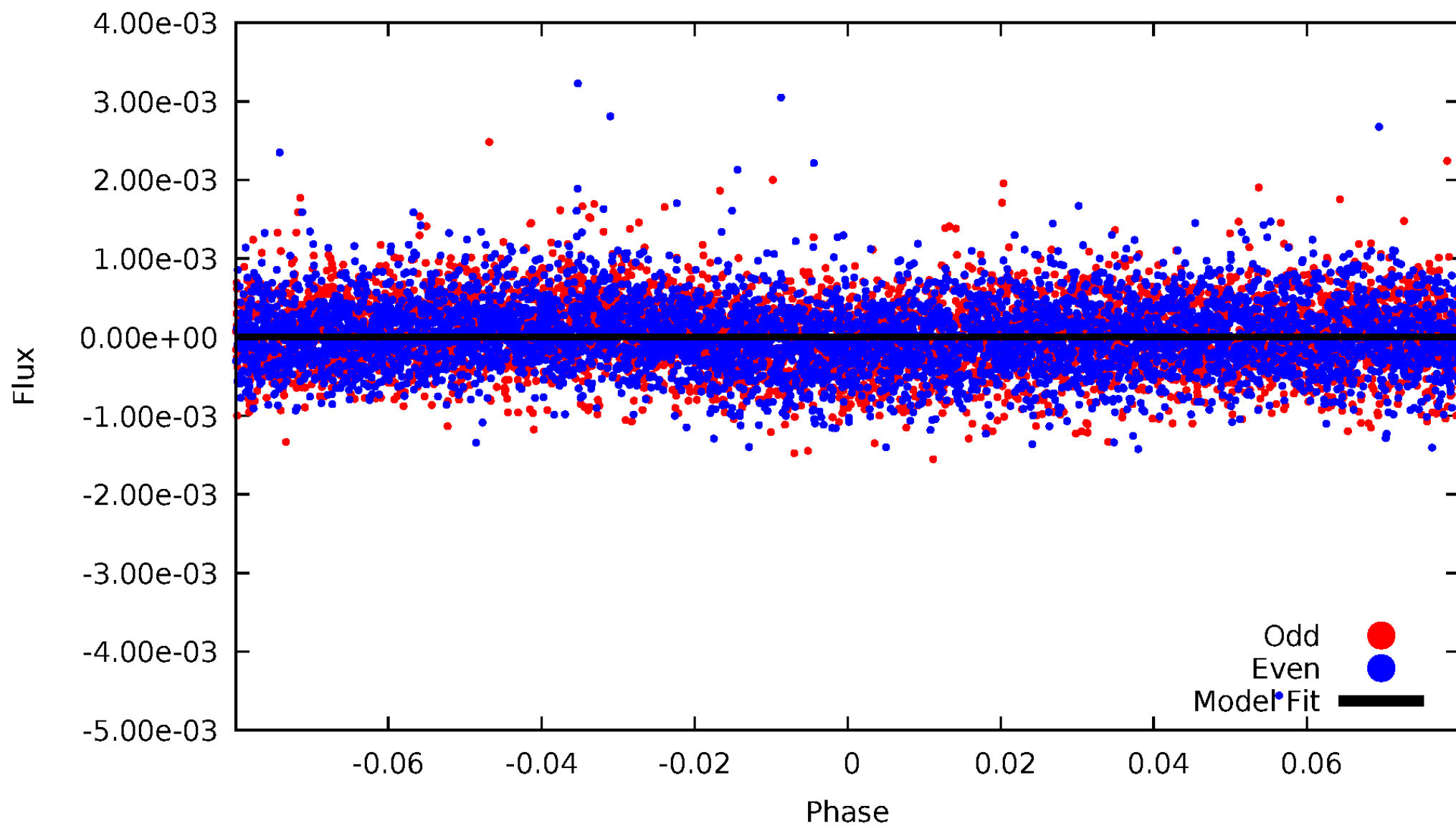


TCE 004949769-01



# DV Odd/Even

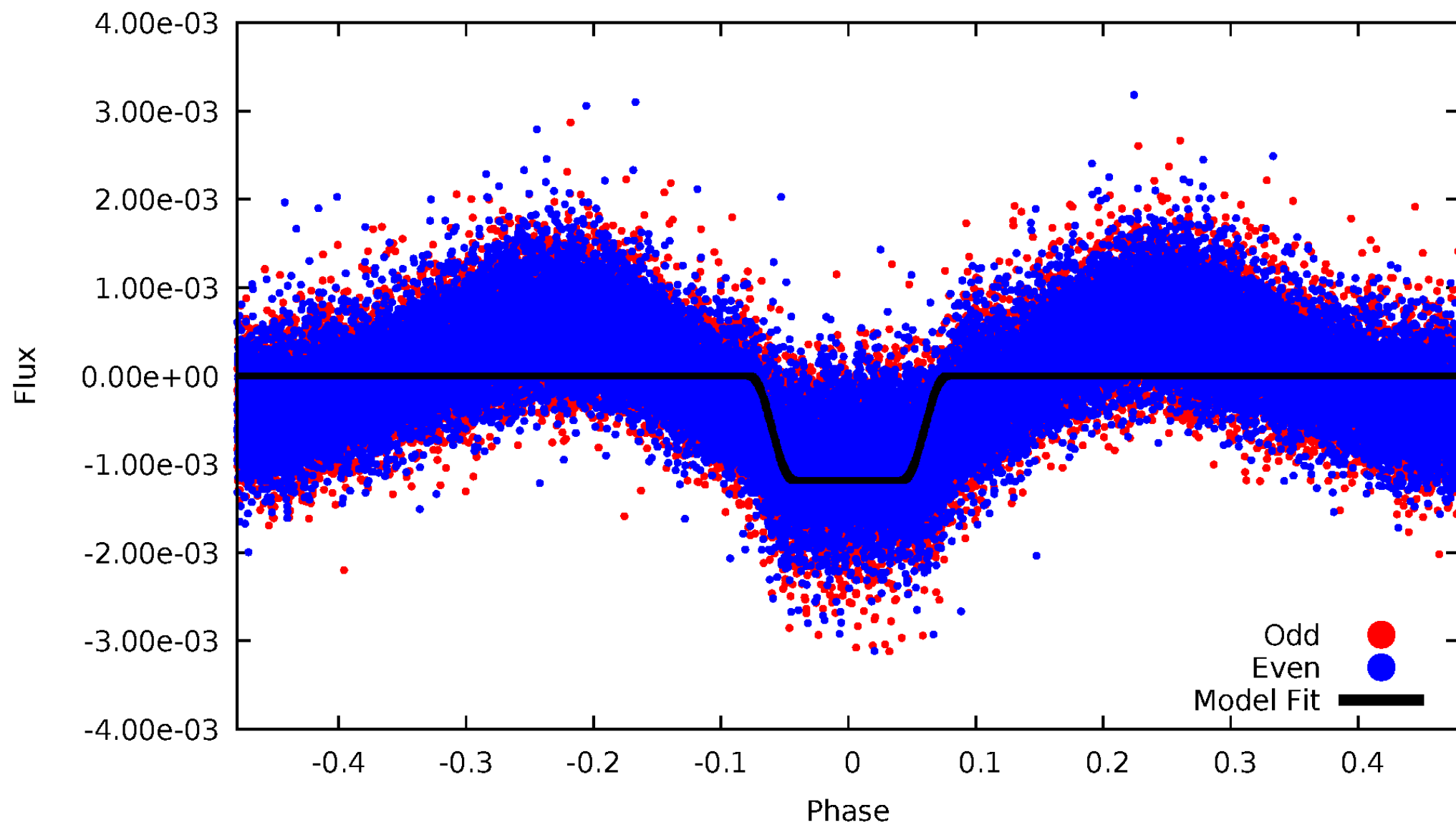
TCE 004949769-01



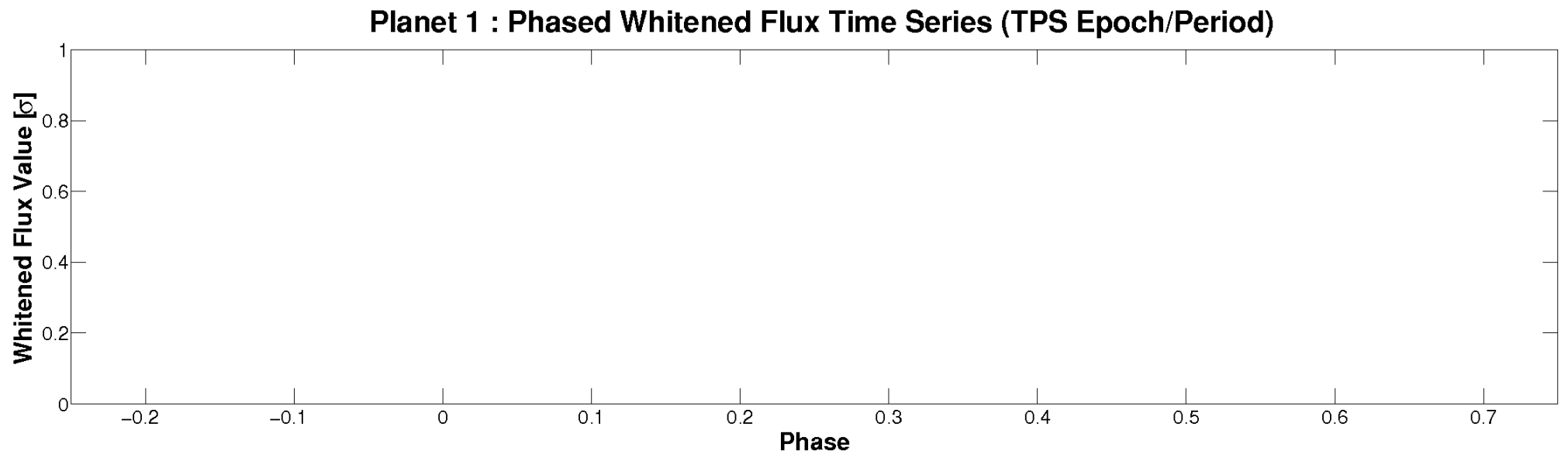
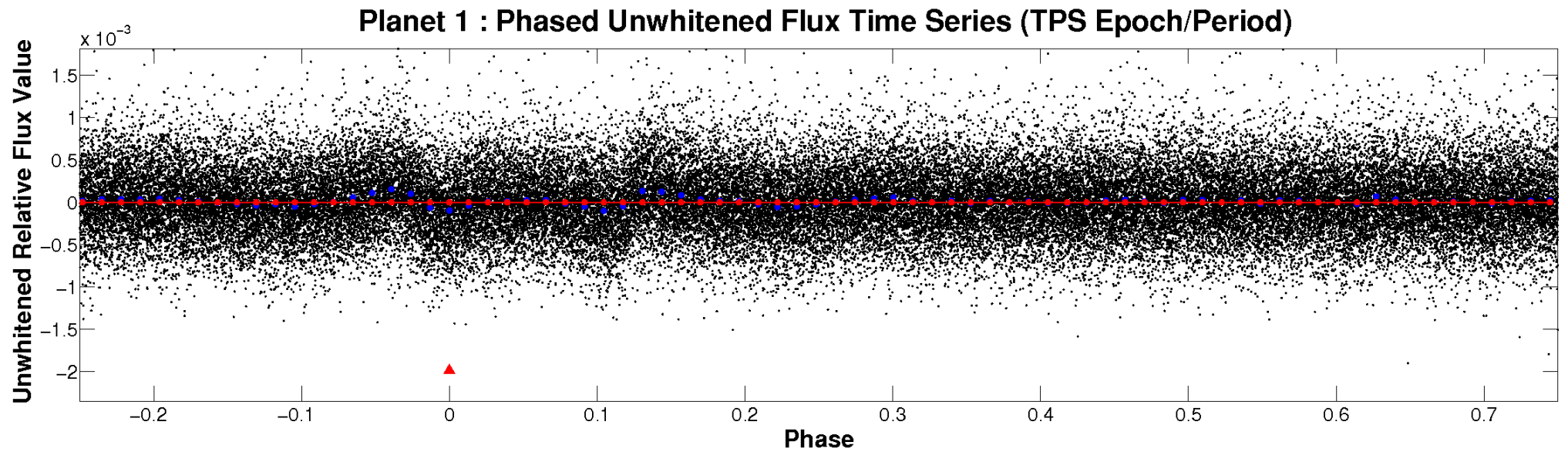


# ALT Odd/Even

TCE 004949769-01

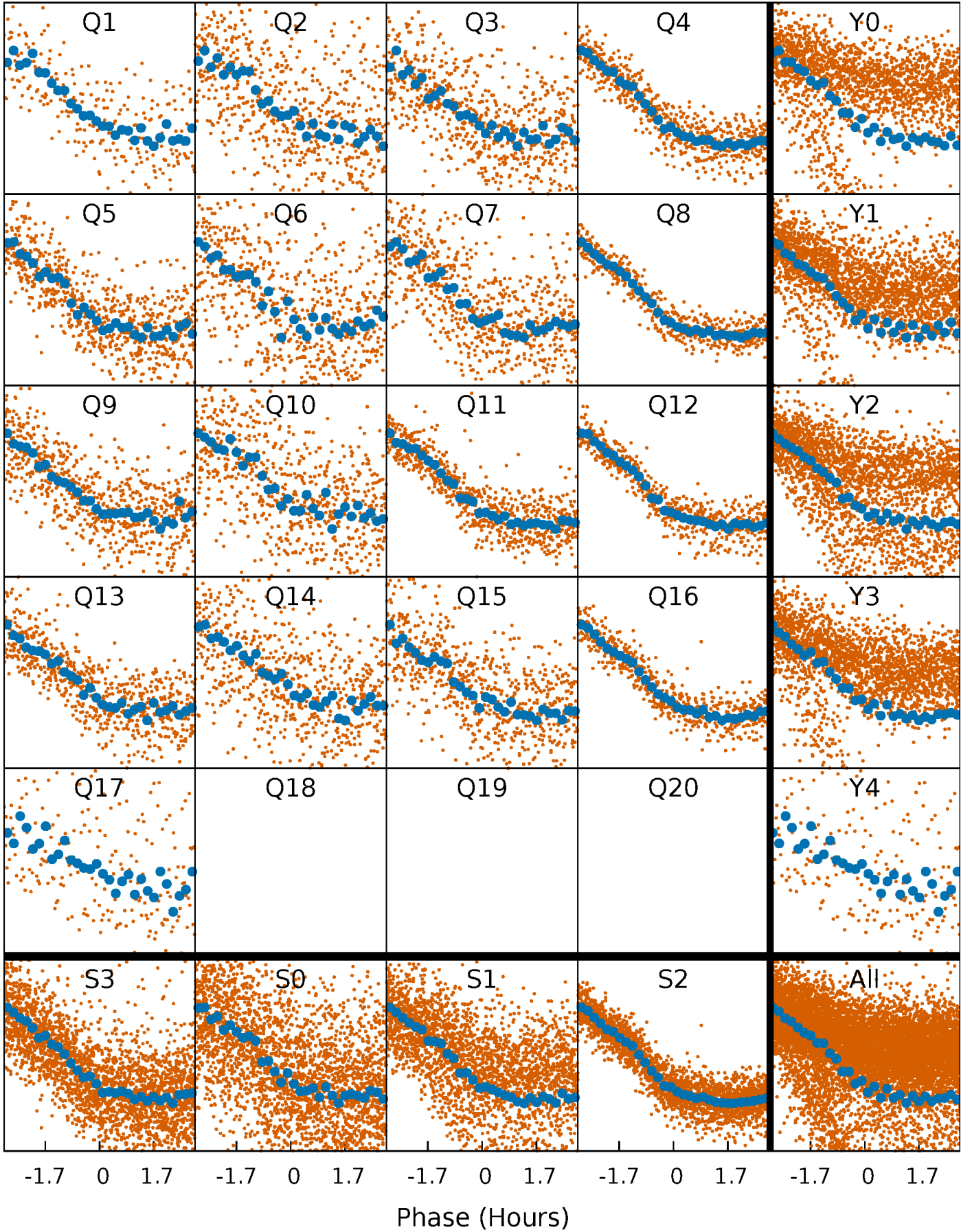


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

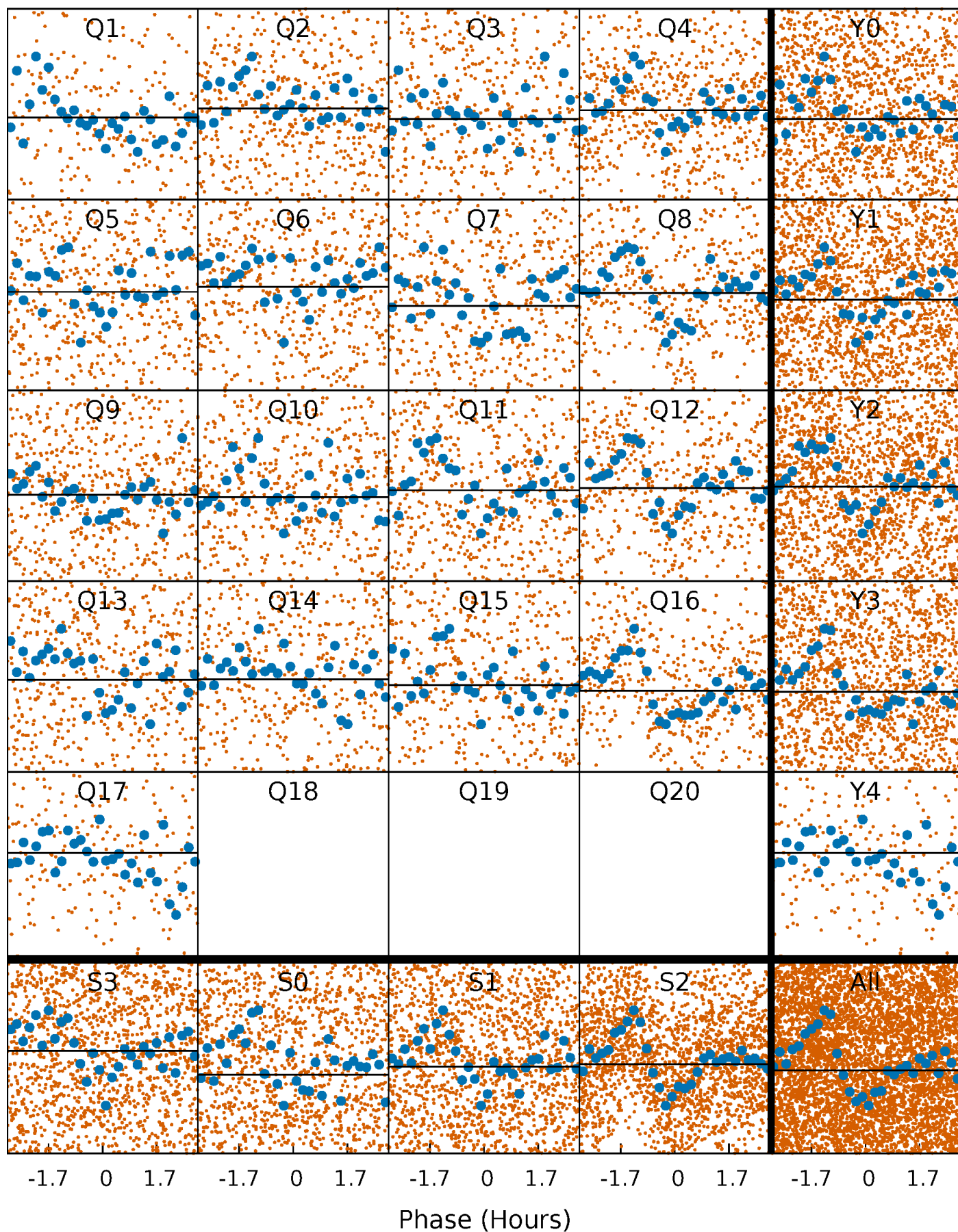
TCE 004949769-01   P= 1.564091 Days    $T_0=132.951619$  (BKJD)





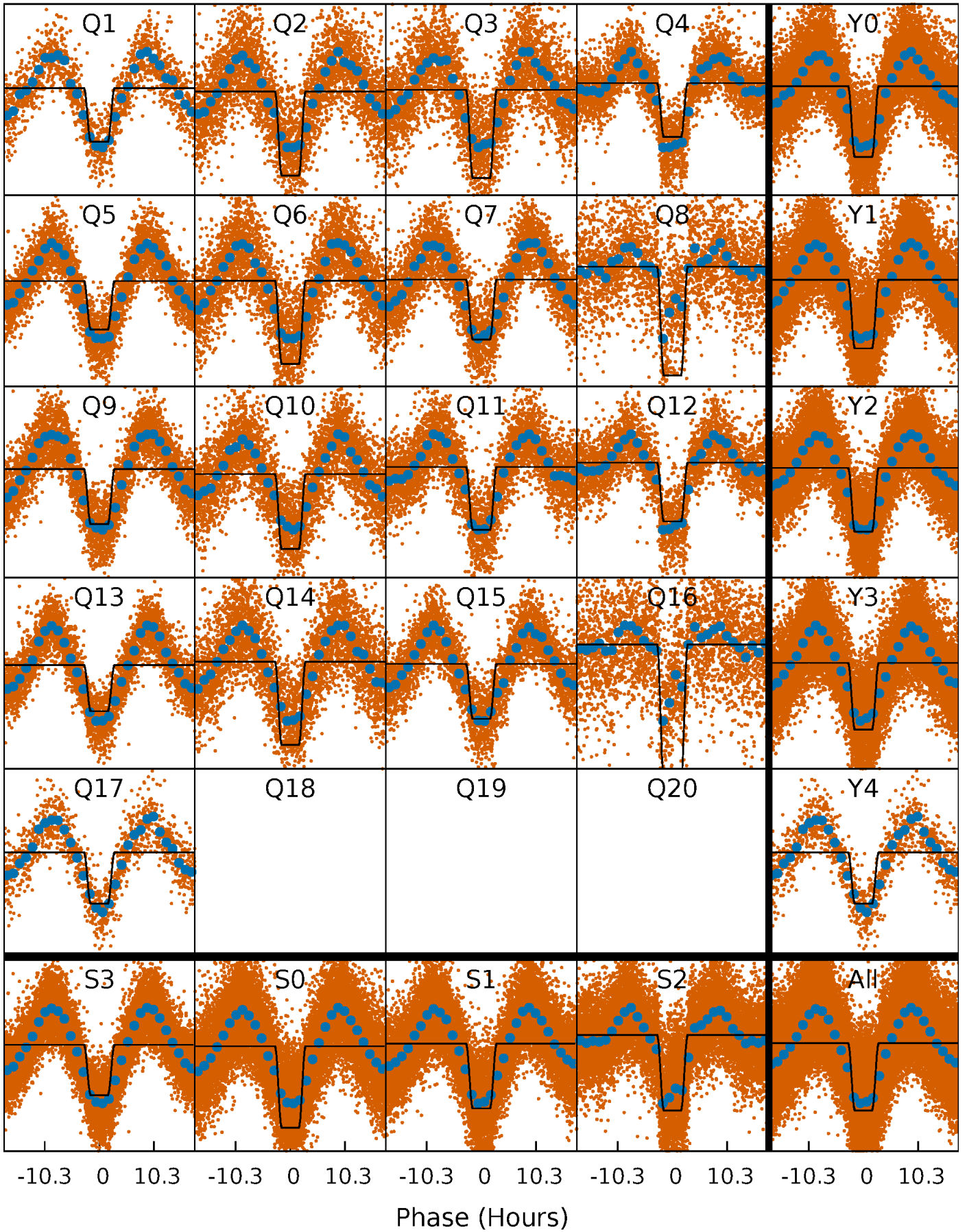
# DV Quarter-Phased Transit Curves

TCE 004949769-01 P= 1.564091 Days  $T_0=132.951619$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

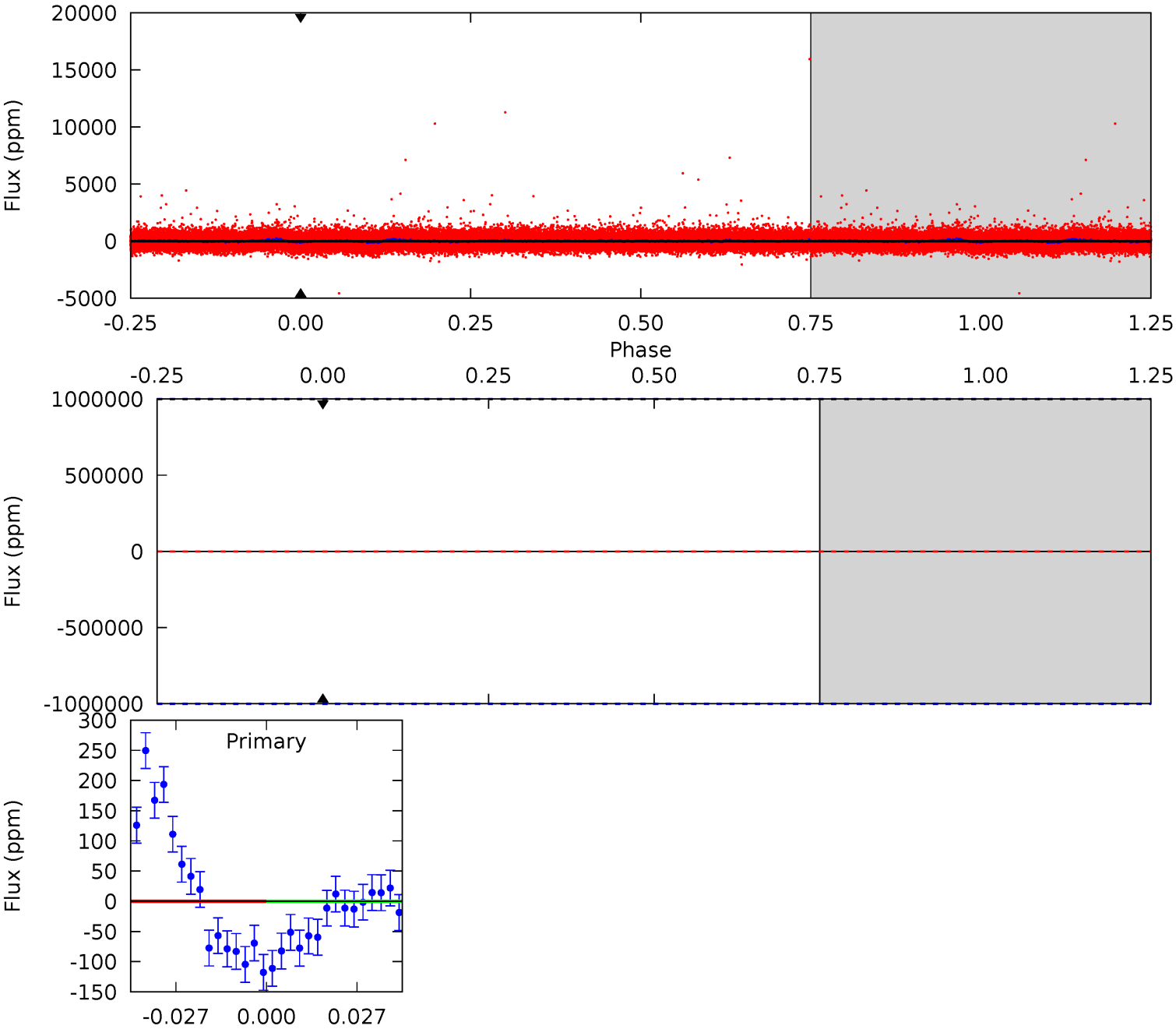
TCE 004949769-01 P= 1.564091 Days  $T_0=133.020691$  (BKJD)



# DV Model-Shift Uniqueness Test

004949769-01, P = 1.564091 Days, E = 131.387528 Days

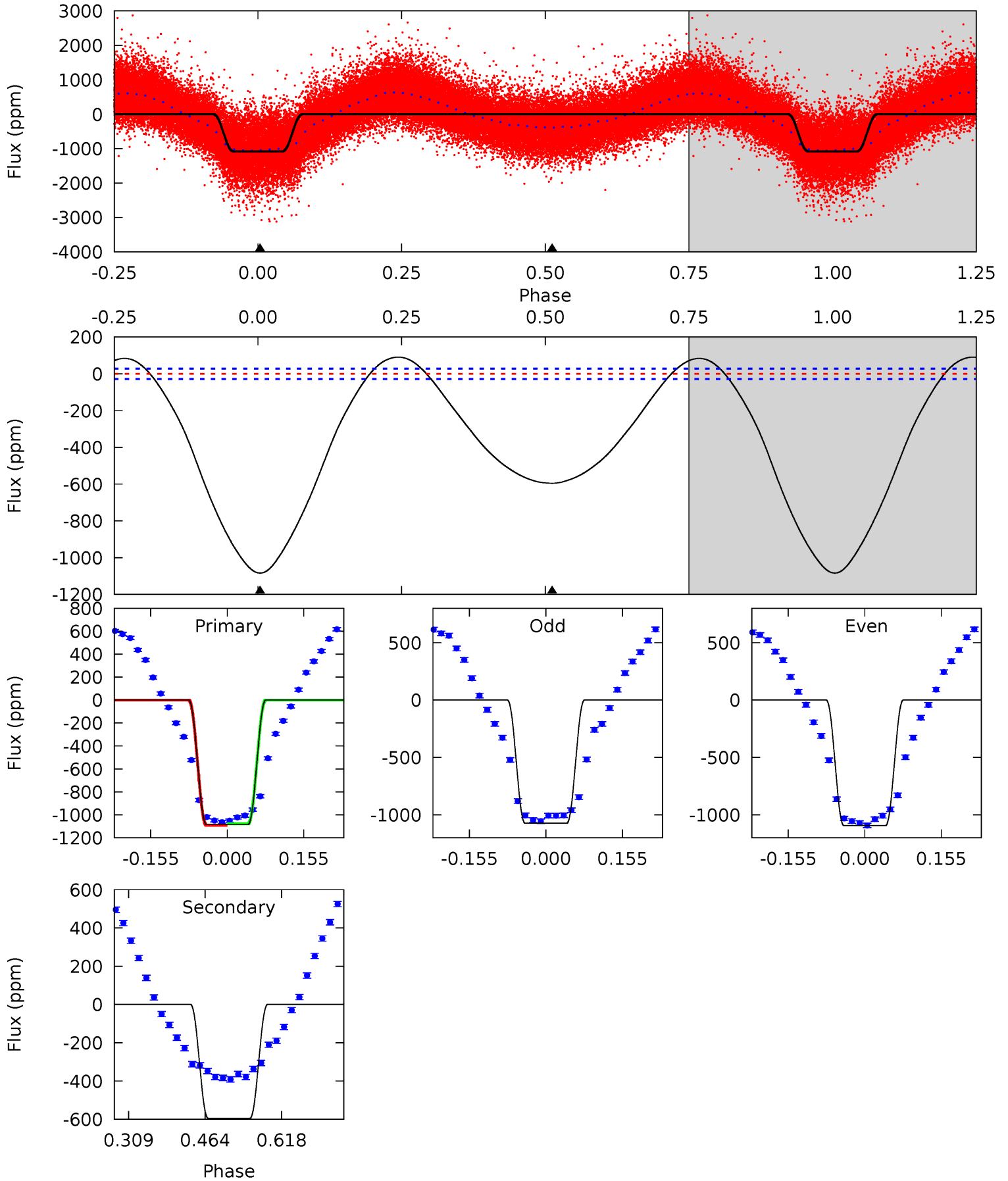
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

004949769-01, P = 1.564091 Days, E = 131.456600 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
170.5	93.6	0	0	4.47	1.42	14.9	170.5	170.5	93.6	93.6	1.61	1.02	0.08	1.03



### Stellar Parameters For KIC 004949769

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5957^{+160}_{-178}$	$4.506^{+0.040}_{-0.160}$	$-0.080^{+0.250}_{-0.300}$	$0.937^{+0.222}_{-0.095}$	$1.026^{+0.110}_{-0.134}$	$1.759^{+0.383}_{-0.787}$
	+3%/-3%	+1%/-4%	+312%/-375%	+24%/-10%	+11%/-13%	+22%/-45%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 004949769-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$8.76^{+8.74}_{-5.98}$	$2228^{+131}_{-104}$	$3801^{+21412}_{-22934}$	$4.639^{+1308.887}_{-850.874}$
Alt.	$-595 \pm 6$	$8.99^{+8.50}_{-6.07}$	$2228^{+123}_{-94}$	$3585^{+2079}_{-828}$	$2.799^{+23.715}_{-2.055}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$



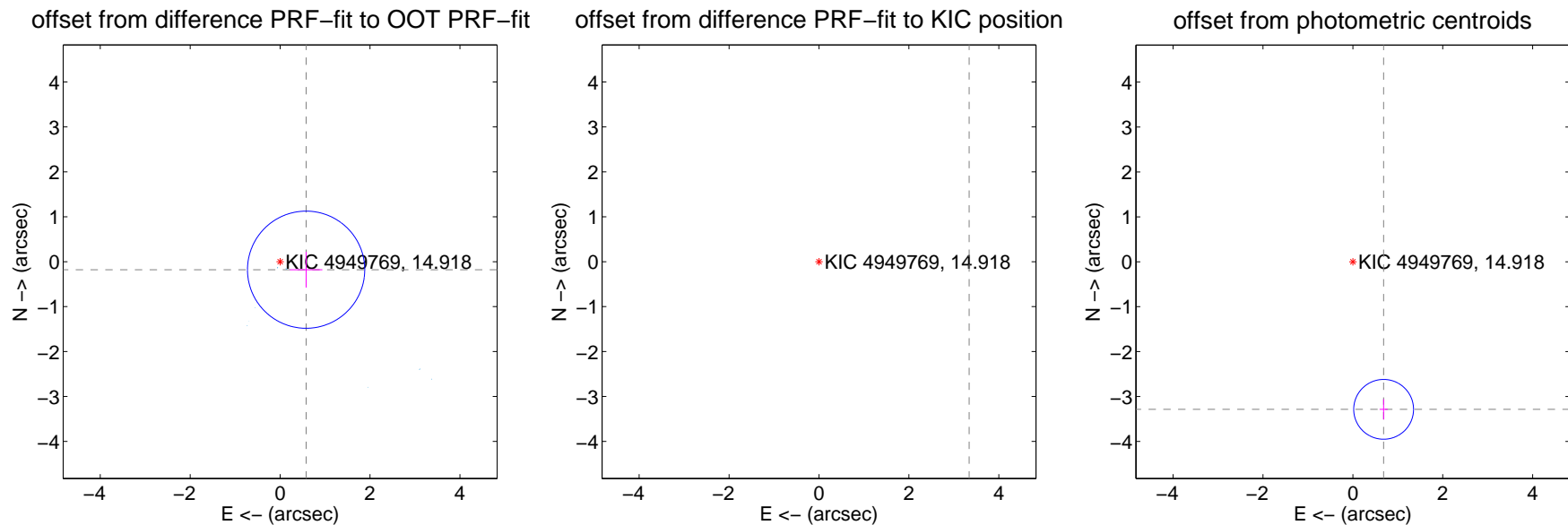
## DV Centroid Data

Supplemental centroid analysis for 004949769-01. Kepler magnitude: 14.92. Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

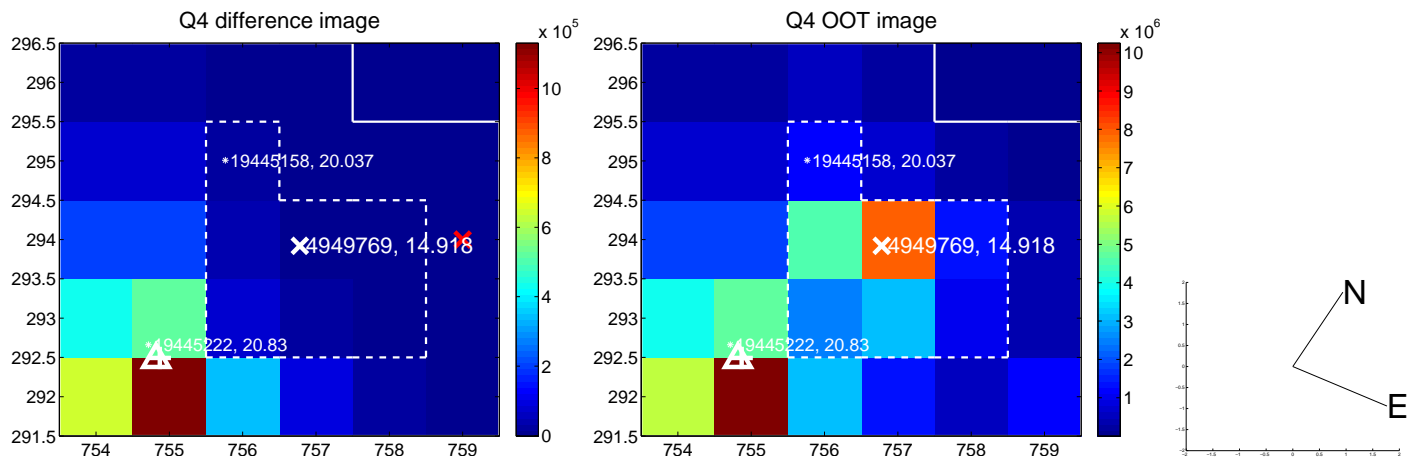
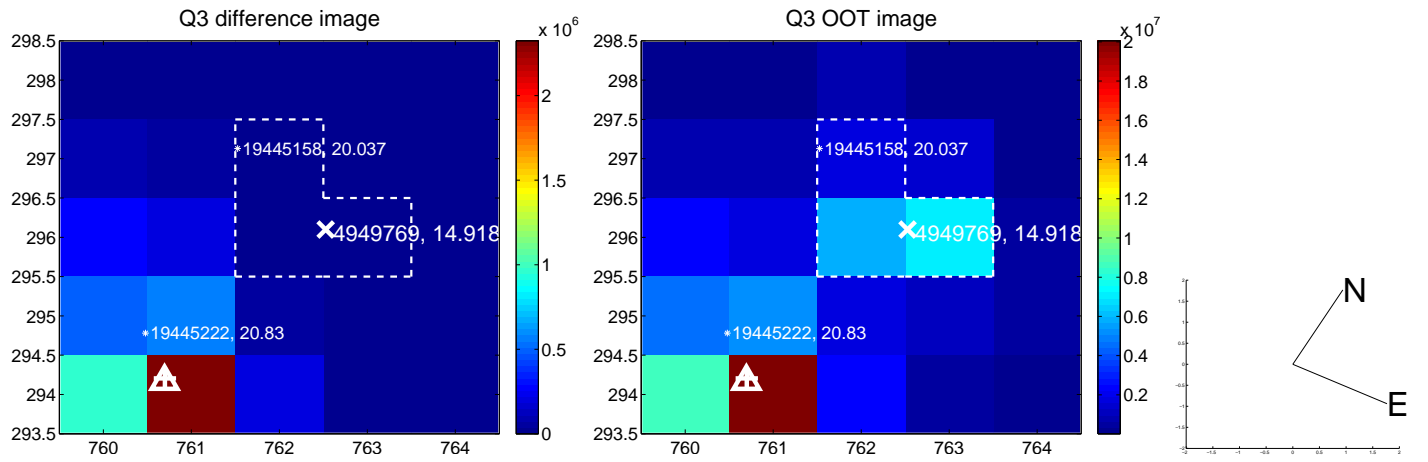
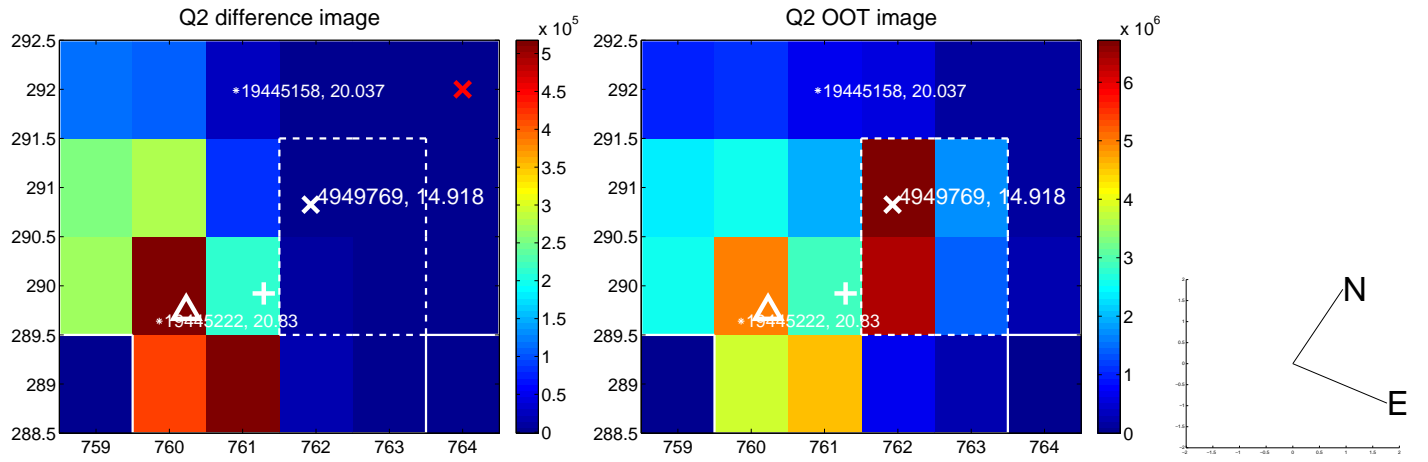
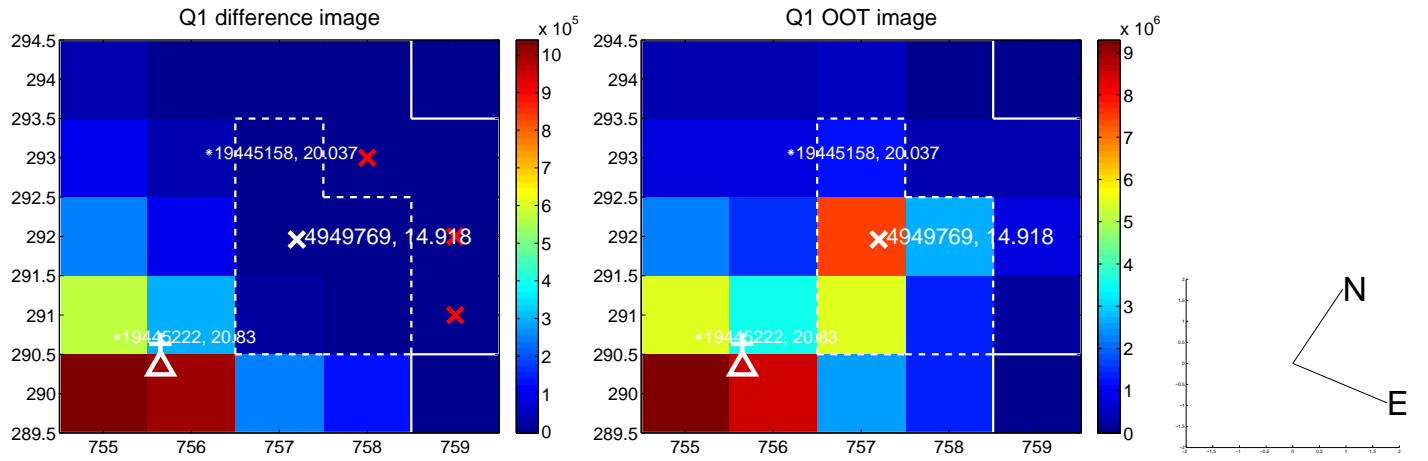
The OOT PRF centroid is offset from the target star catalog position by about 8.13 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.605 \pm 0.435$	1.39	$-0.578 \pm 0.361$	$-0.178 \pm 0.397$
PRF-fit source offset from KIC position	$9.499 \pm 0.360$	26.40	$-3.340 \pm 0.187$	$-8.893 \pm 0.378$
photometric centroid source offset	$3.36 \pm 0.22$	15.13	$-0.68 \pm 0.09$	$-3.28 \pm 0.23$

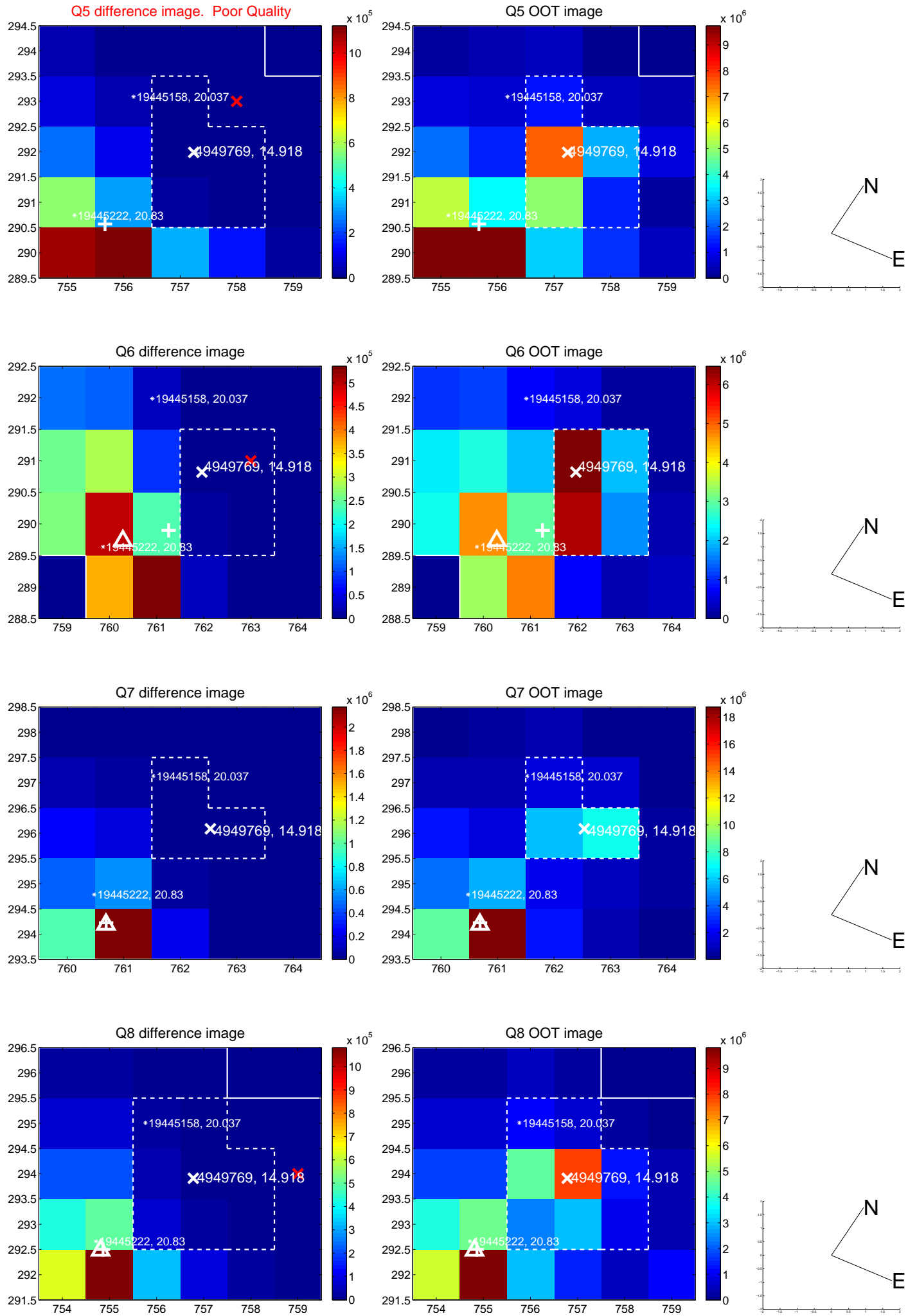


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

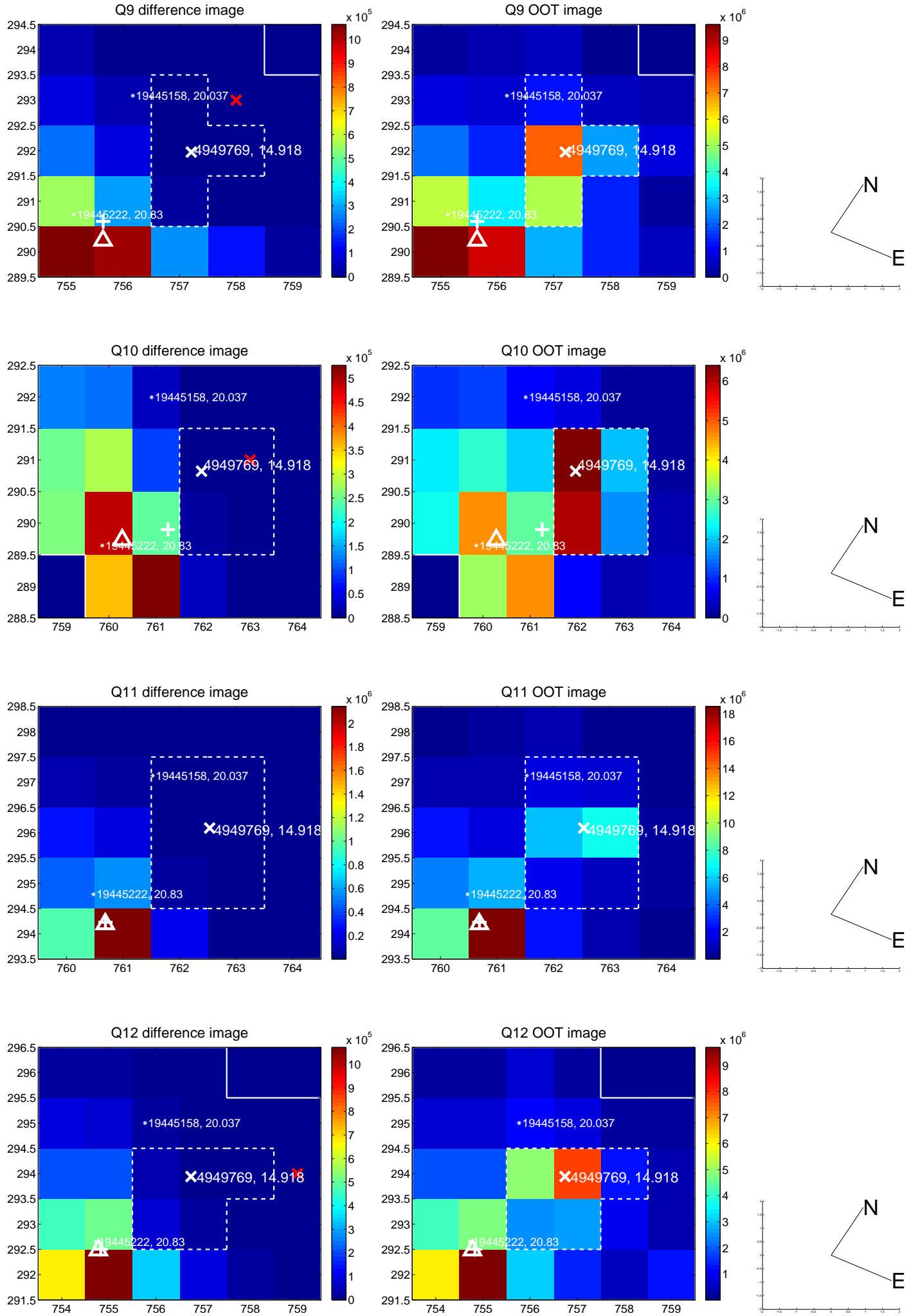
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



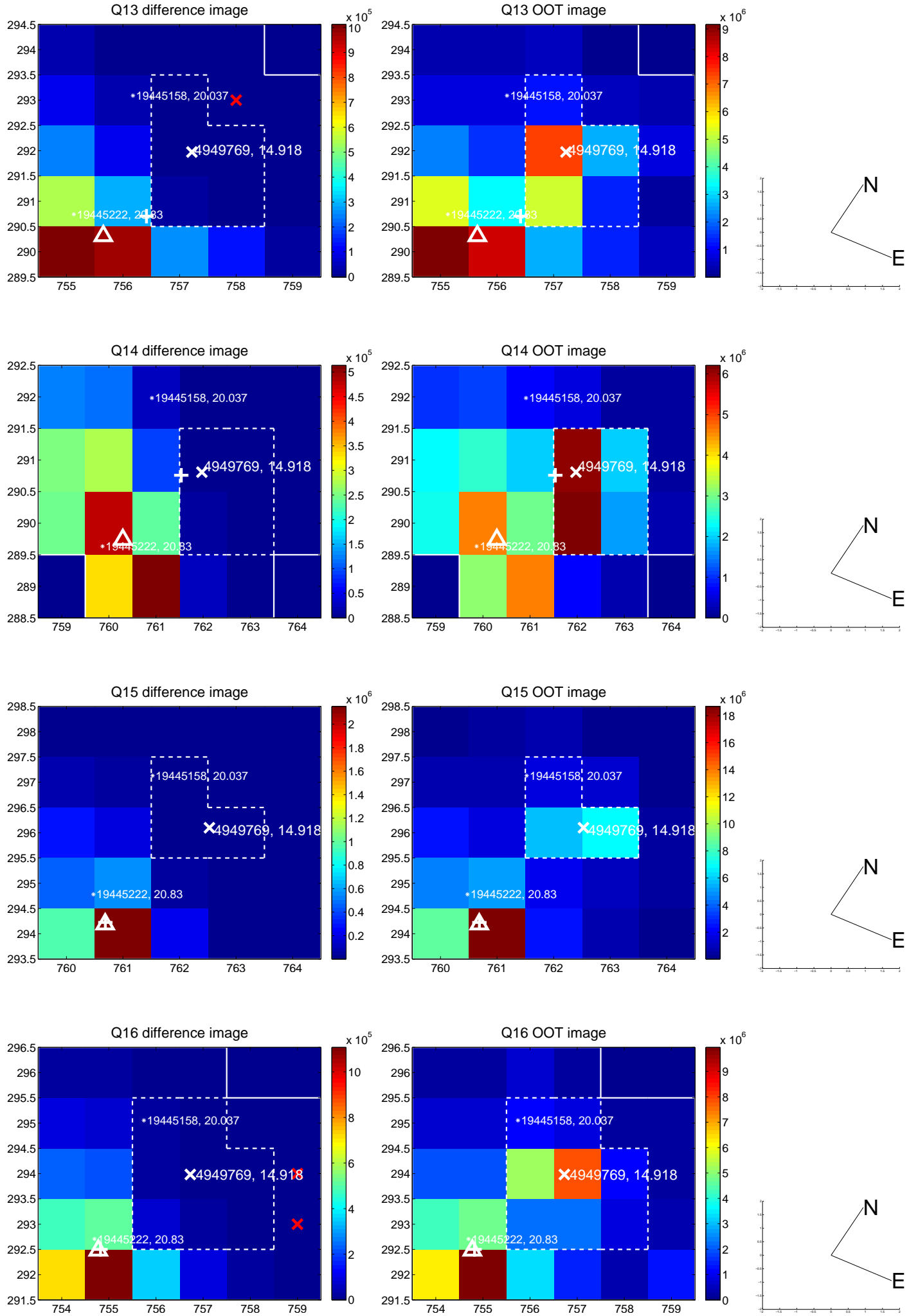
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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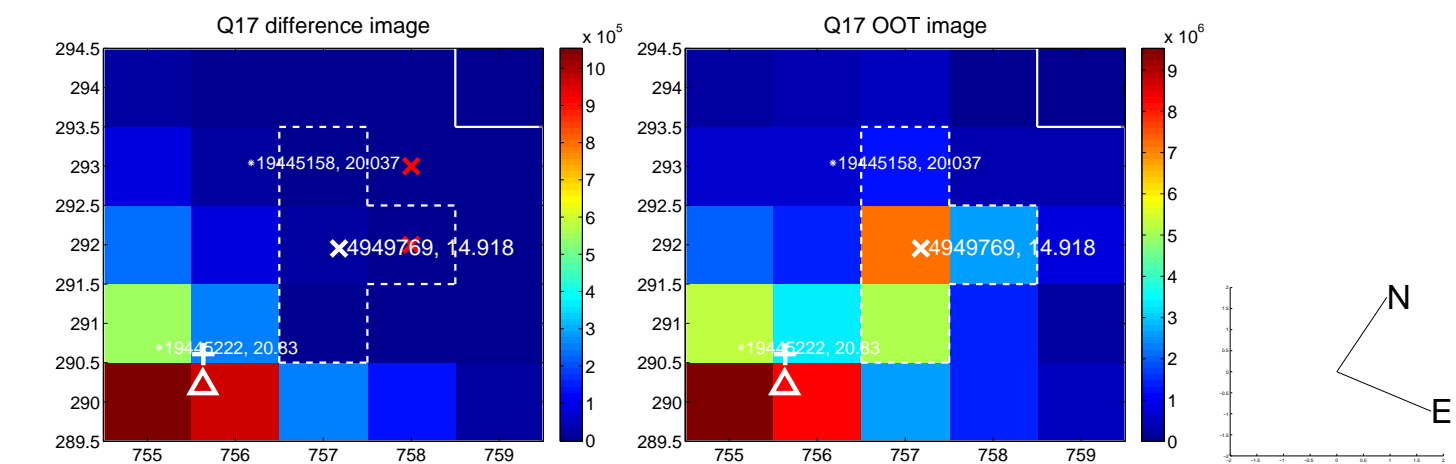


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

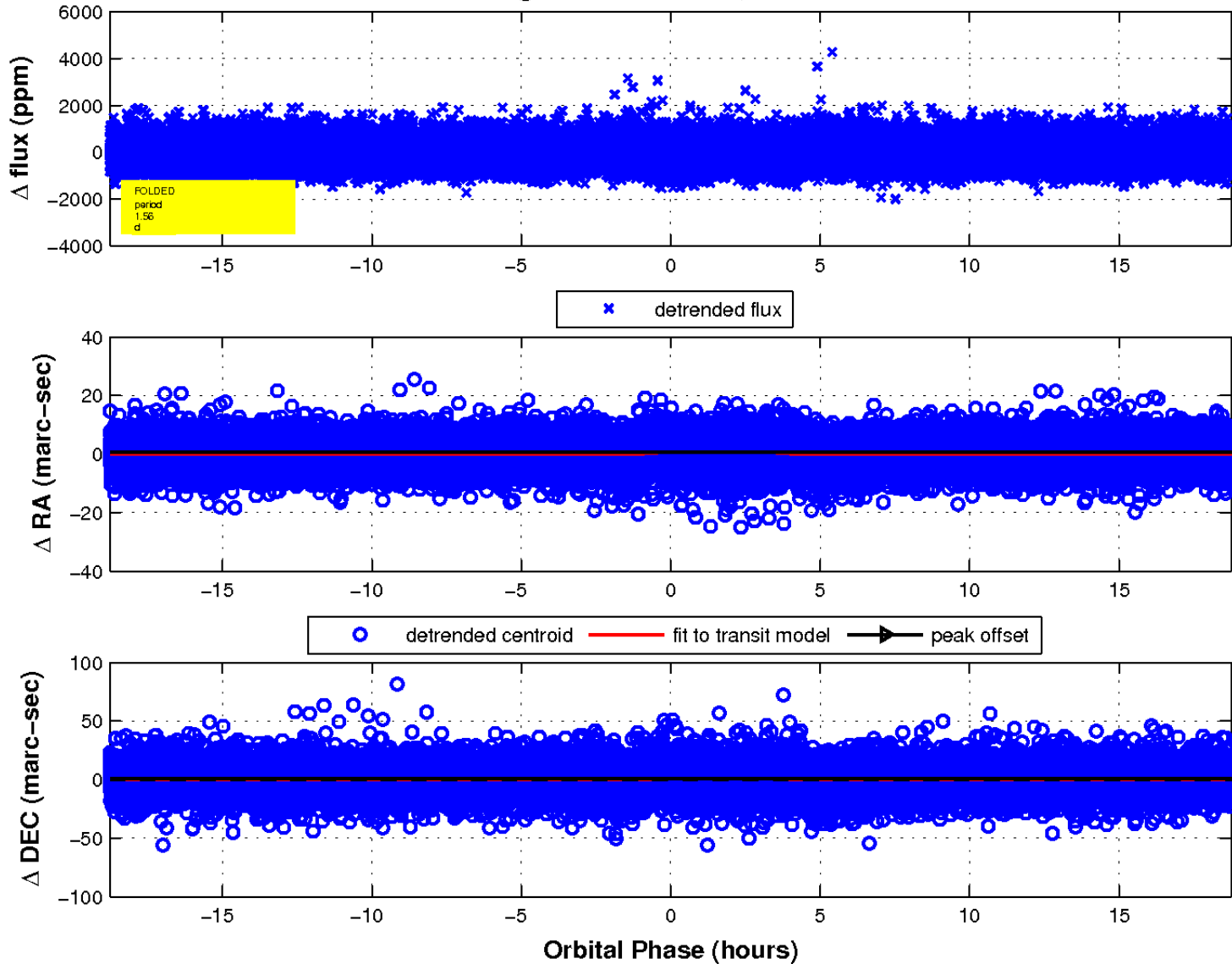




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

