

# KIC 003458028

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003458028-01	OBS	2276.01	1.442574	132.634397	100.5	3.002	39.2	46.0	2.04	7216	2.38	12591.44

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458028-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

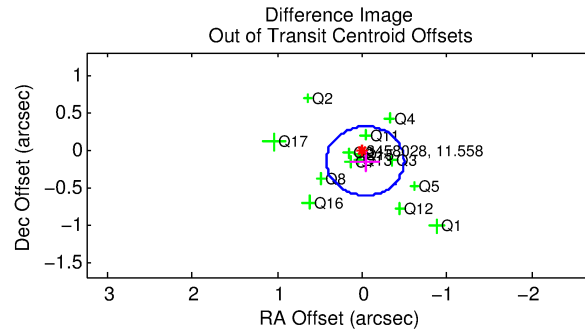
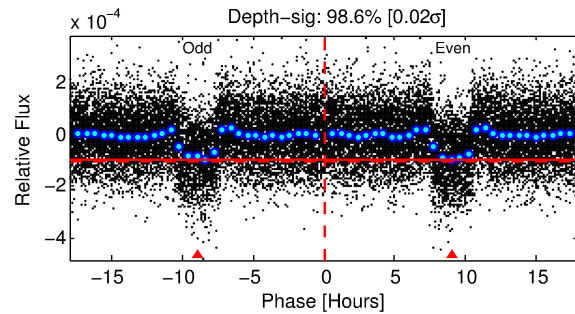
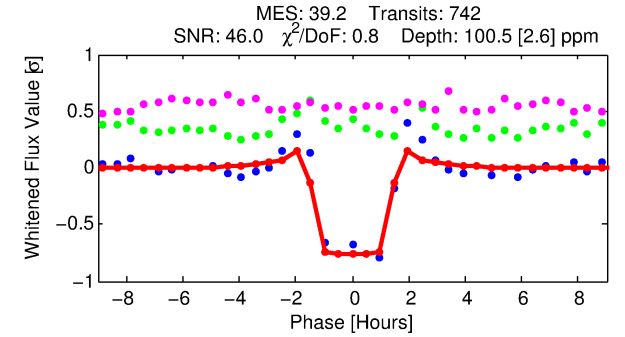
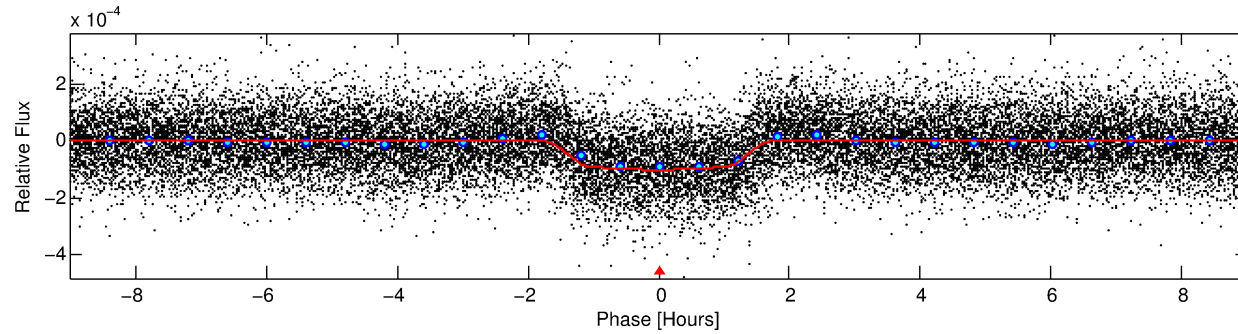
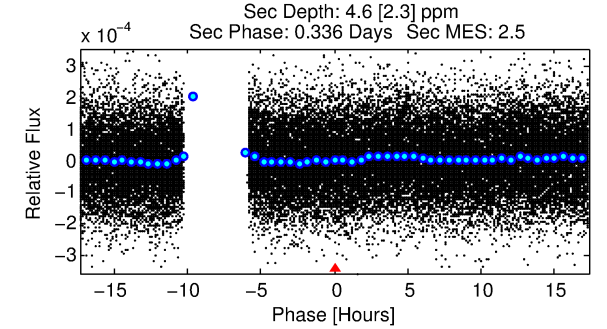
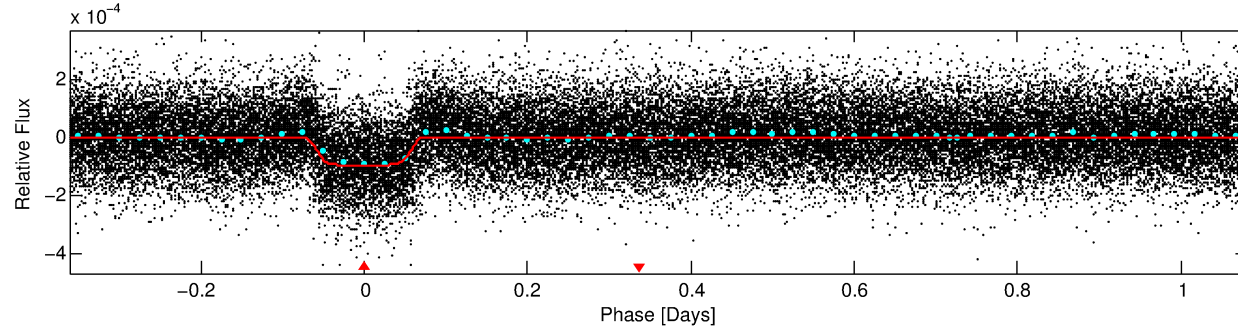
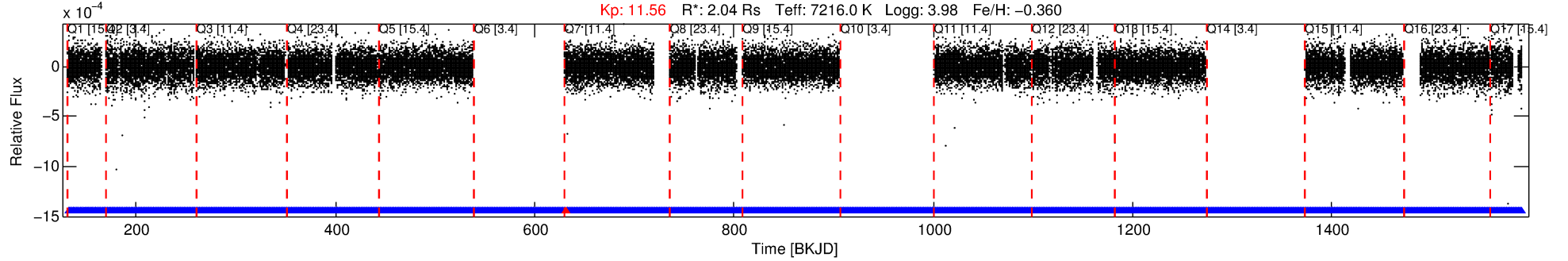
## Ephemeris Match Information For 003458028-01

No Significant Match Found

# DV One-Page Summary

KIC: 3458028 Candidate: 1 of 1 Period: 1.443 d

KOI: K02276.01 Corr: 0.953



## DV Fit Results:

Period = 1.44257 [0.00000] d  
Epoch = 132.6344 [0.0007] BKJD  
Rp/R\* = 0.0107 [0.0008]  
a/R\* = 1.93 [0.65]  
b = 0.90 [0.10]  
Seff = 12591.44 [6425.22]  
Teq = 2701 [345] K  
Rp = 2.38 [0.83] Re  
a = 0.0284 [0.0089] AU  
Ag = 0.36 [0.26] [-2.47σ]  
Teffp = 3237 [443] K [0.96σ]

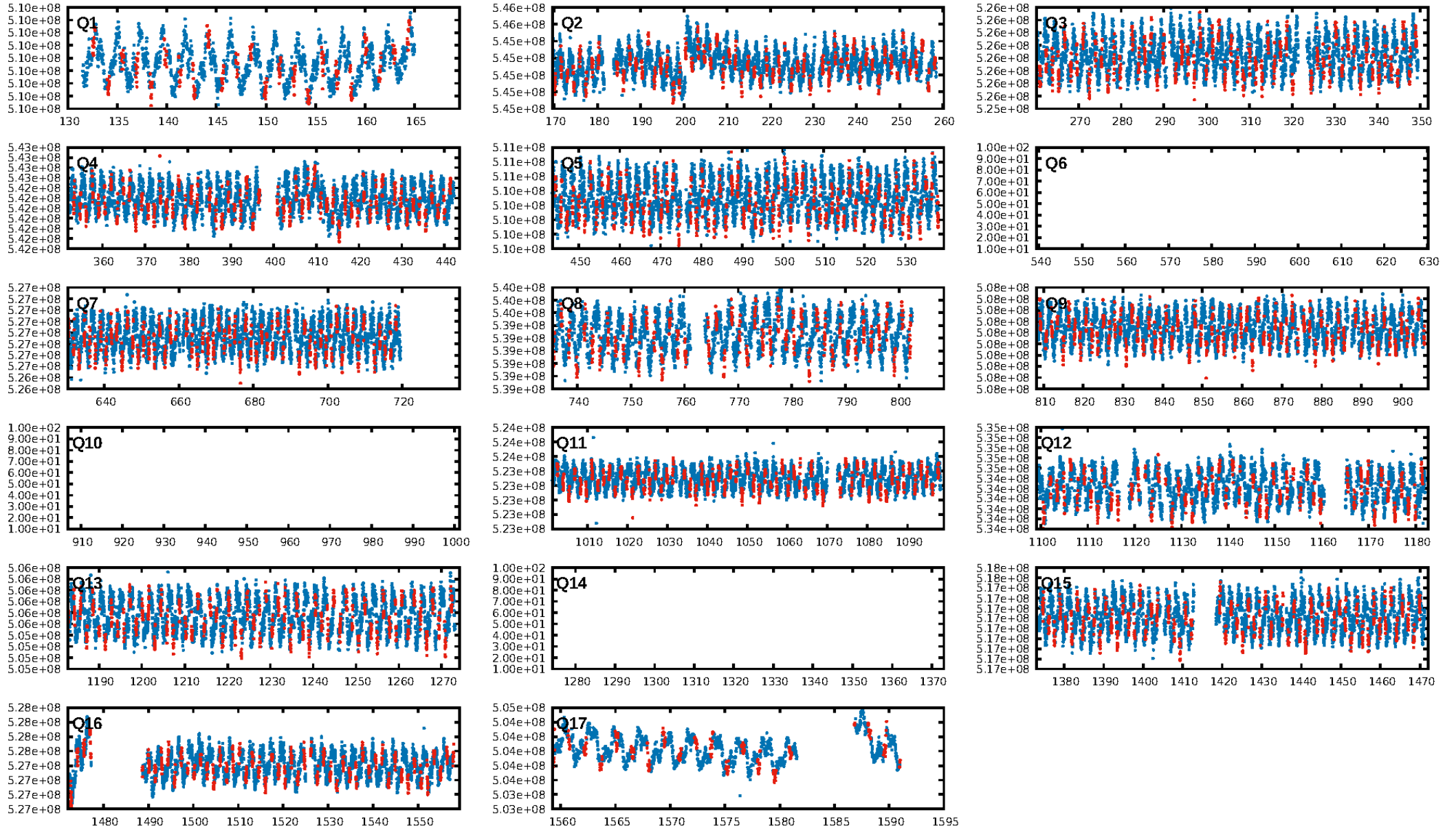
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.10e-271  
RollingBand-fgt: 1.00 [700/701]  
GhostDiagnostic-chr: 3.818  
Centroid-sig: 4.3%  
Centroid-so: 0.178 arcsec [1.14σ]  
OotOffset-rm: 0.157 arcsec [1.02σ]  
KicOffset-rm: 0.065 arcsec [0.37σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

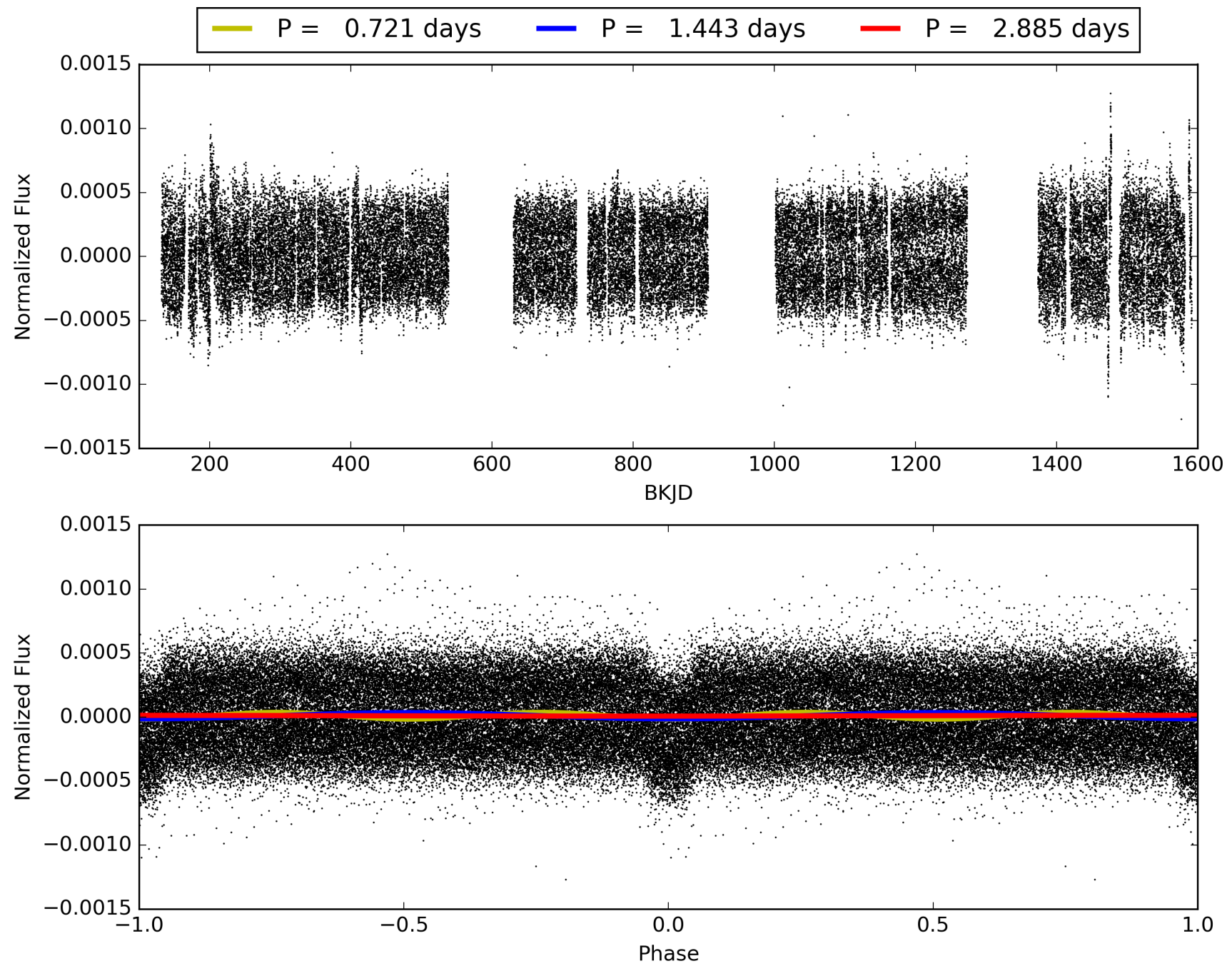
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:41:35 Z

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

# TCE 003458028-01, PDC Light Curves

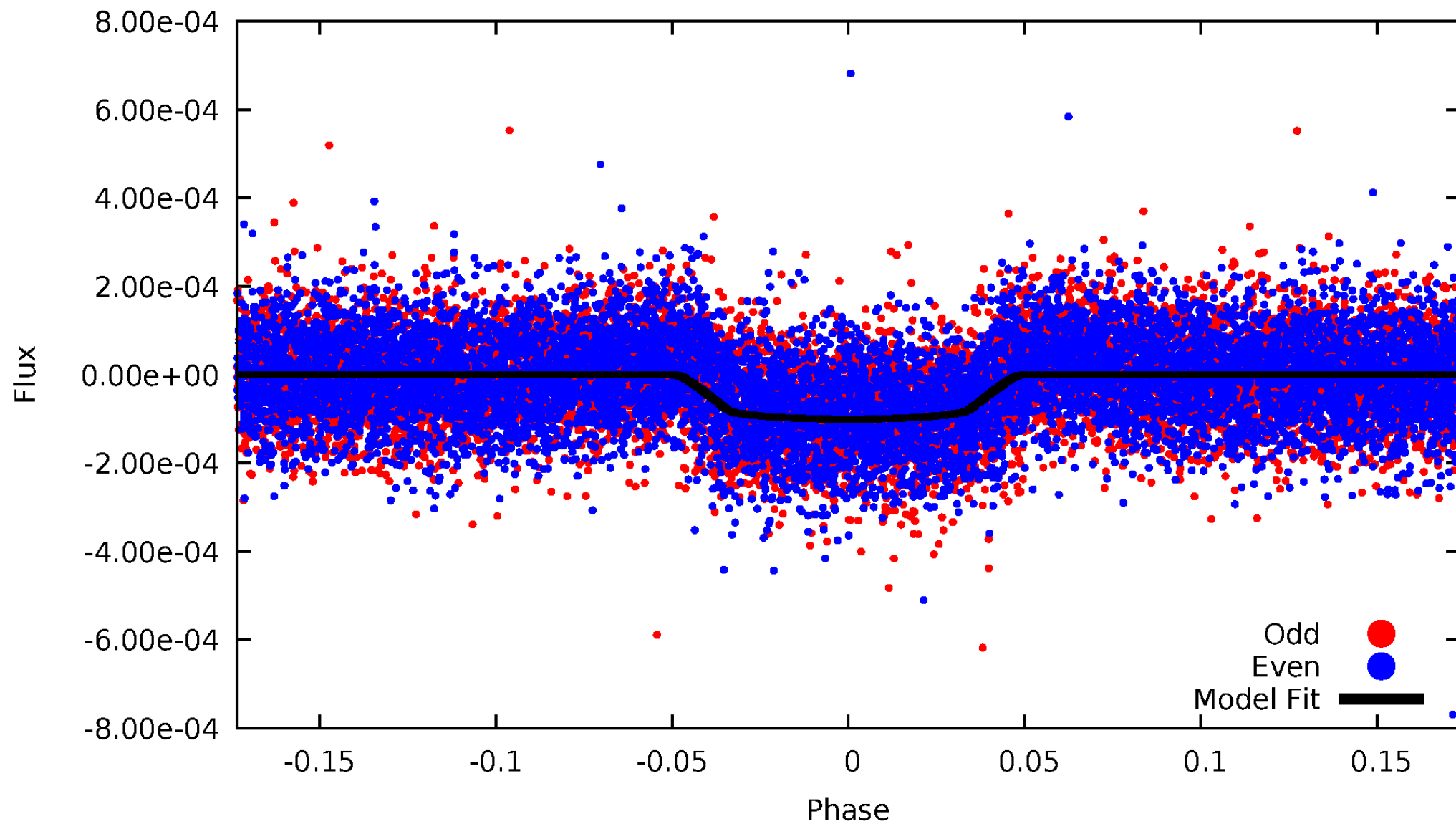


TCE 003458028-01



# DV Odd/Even

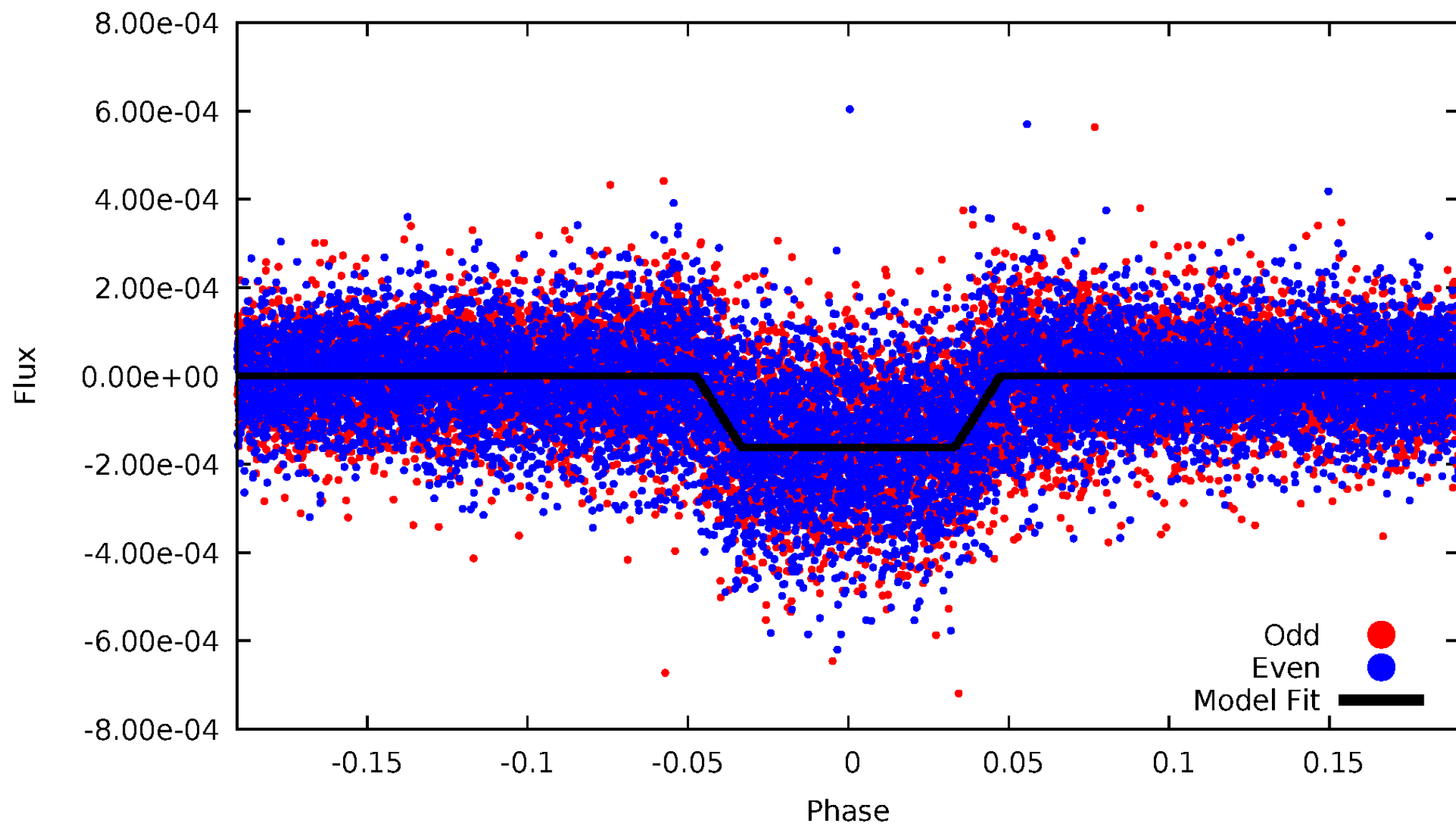
TCE 003458028-01





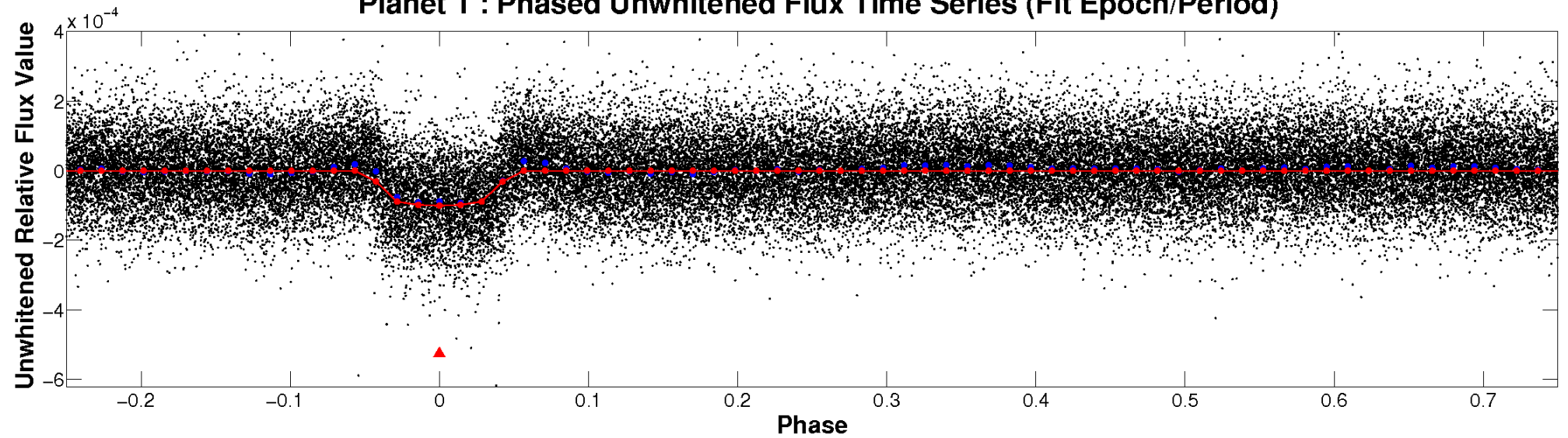
# ALT Odd/Even

TCE 003458028-01

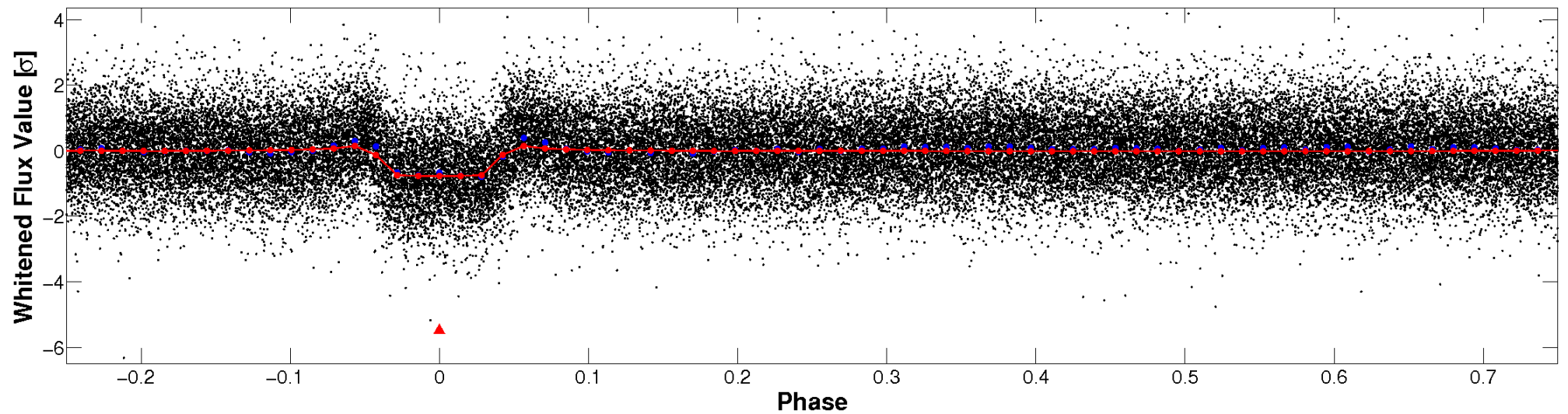


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

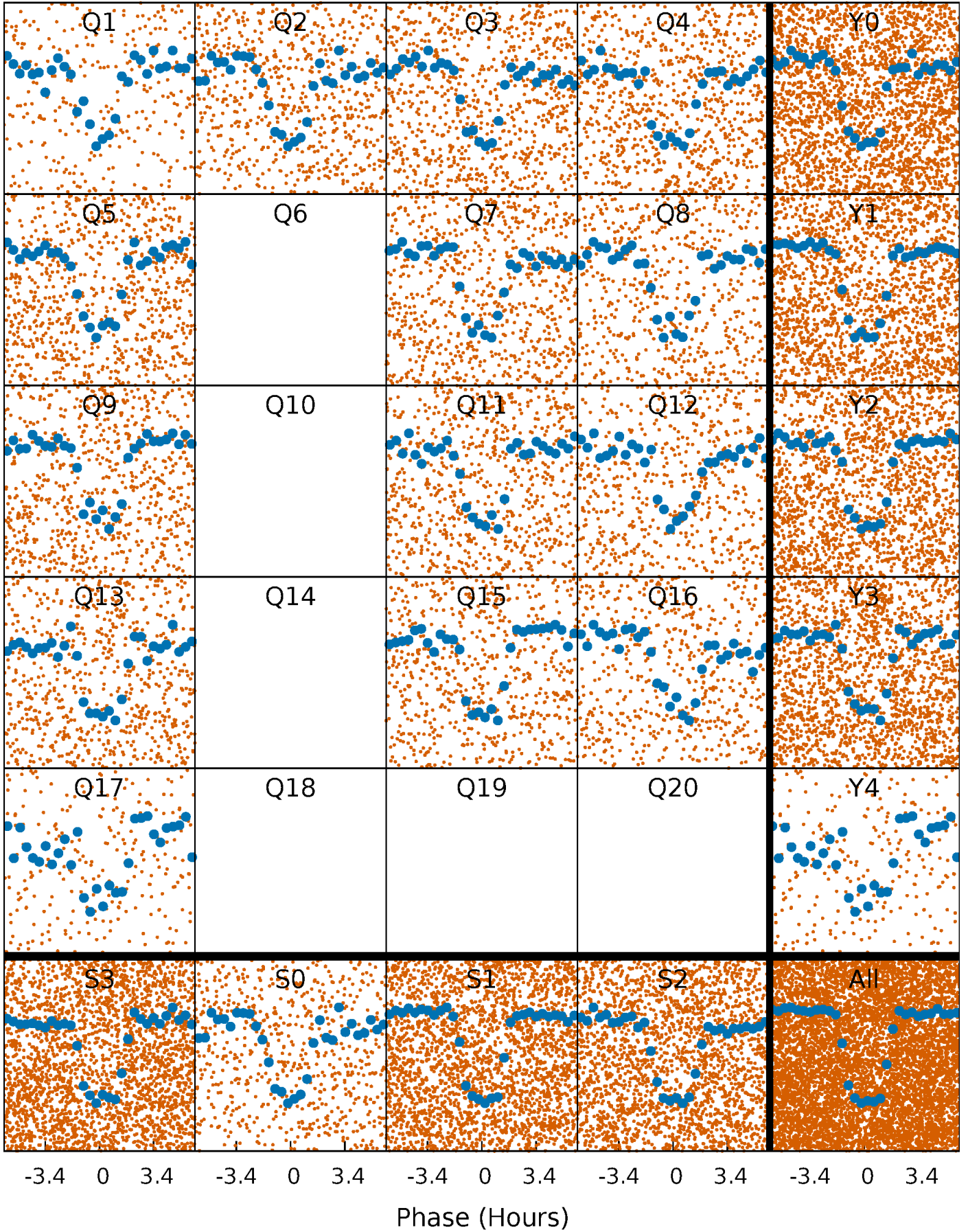


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

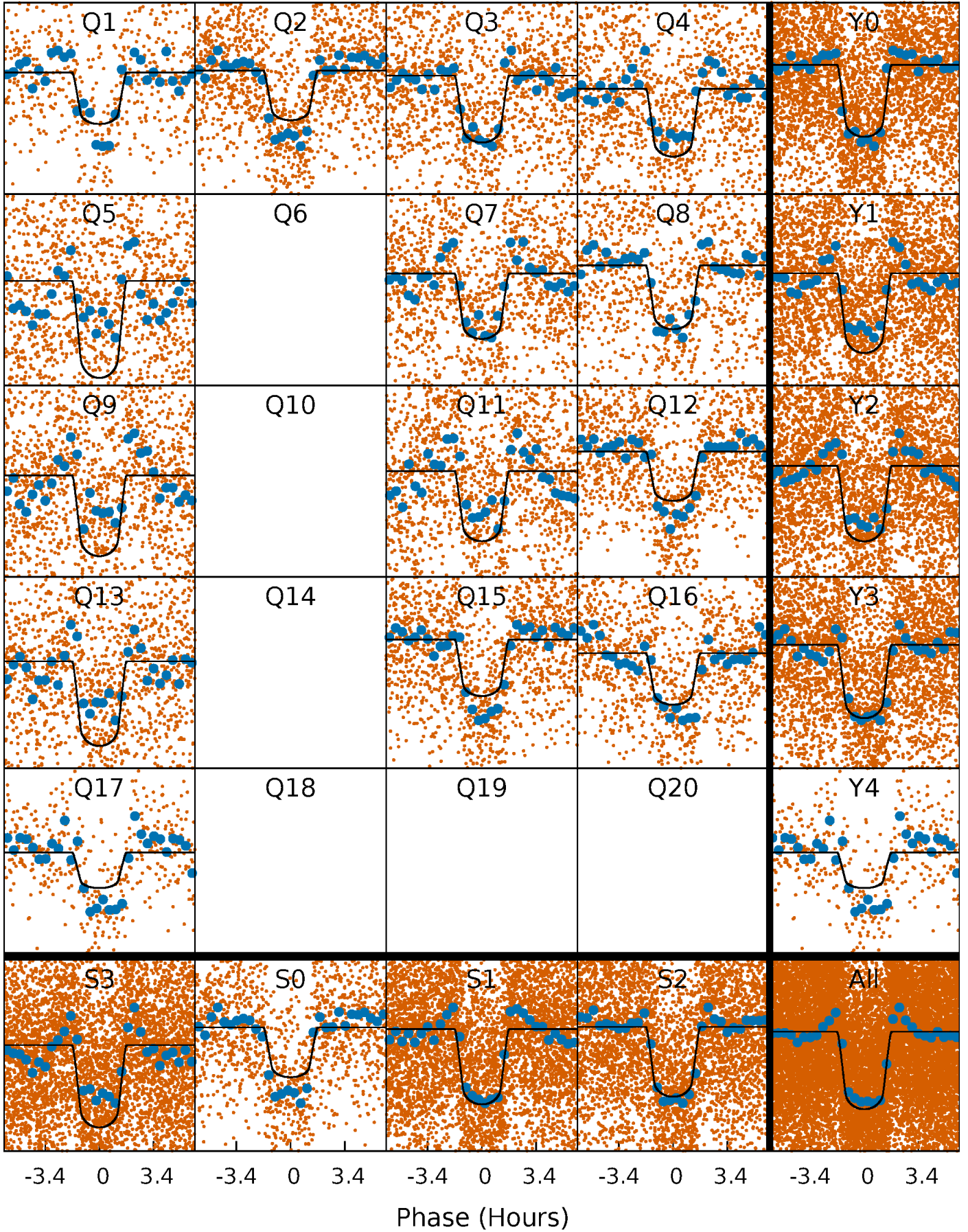
TCE 003458028-01 P= 1.442574 Days  $T_0=132.634398$  (BKJD)





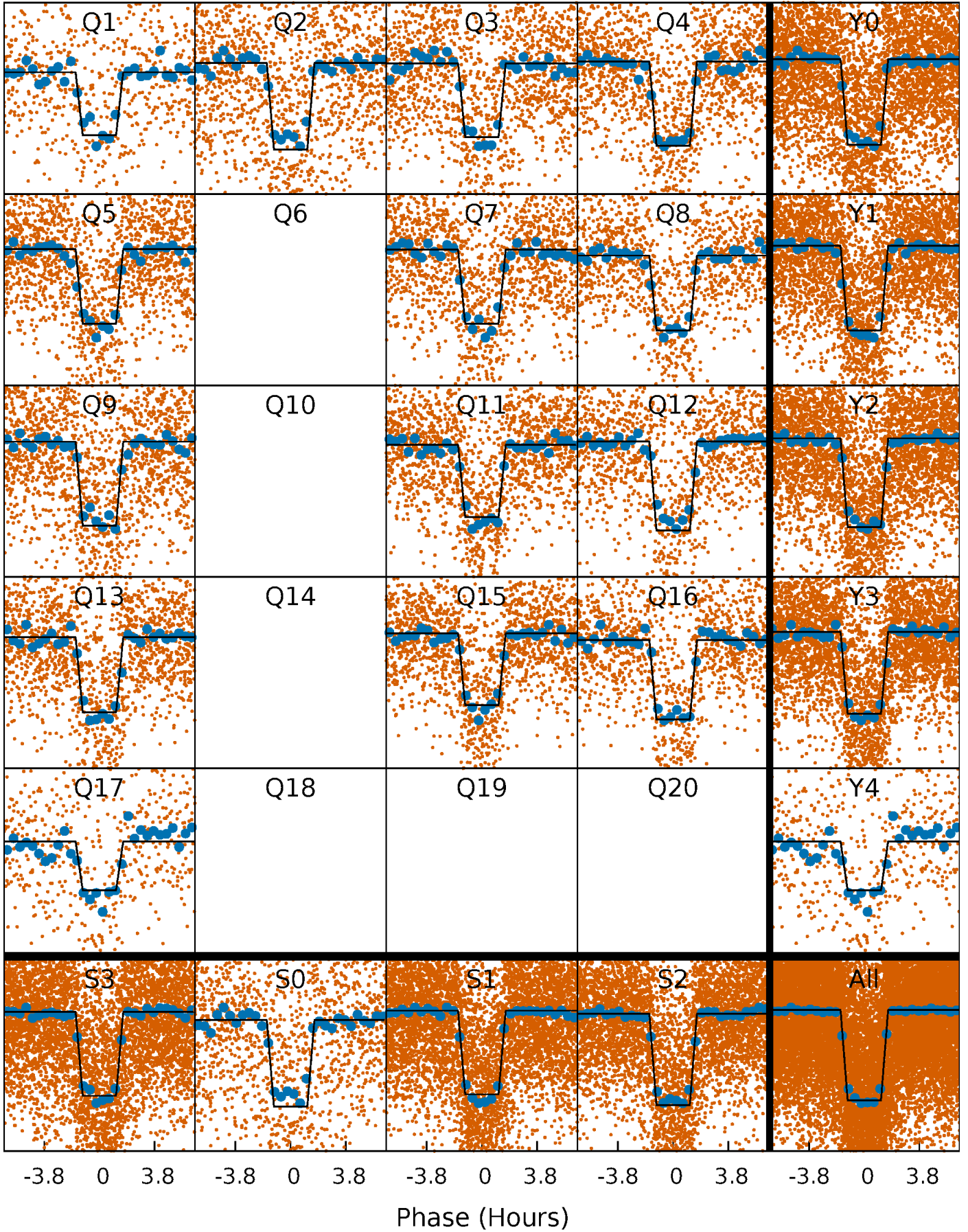
# DV Quarter-Phased Transit Curves

TCE 003458028-01   P= 1.442574 Days    $T_0=132.634398$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

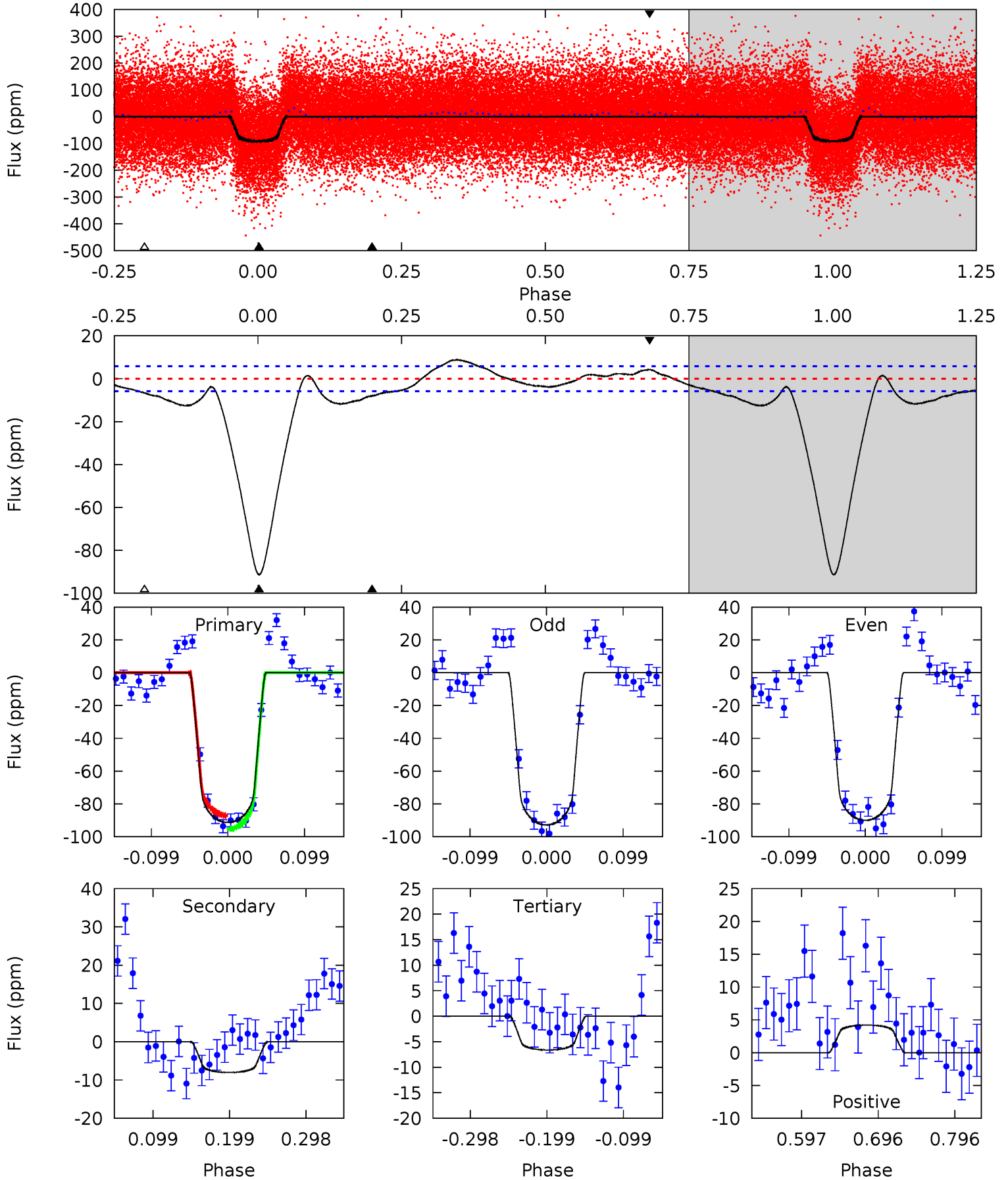
TCE 003458028-01   P= 1.442585 Days    $T_0=132.632583$  (BKJD)



# DV Model-Shift Uniqueness Test

003458028-01, P = 1.442574 Days, E = 131.191824 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
71.1	6.26	5.16	3.28	4.57	1.65	4.27	65.9	67.8	1.10	2.98	1.10	1.00	0.09	3.18

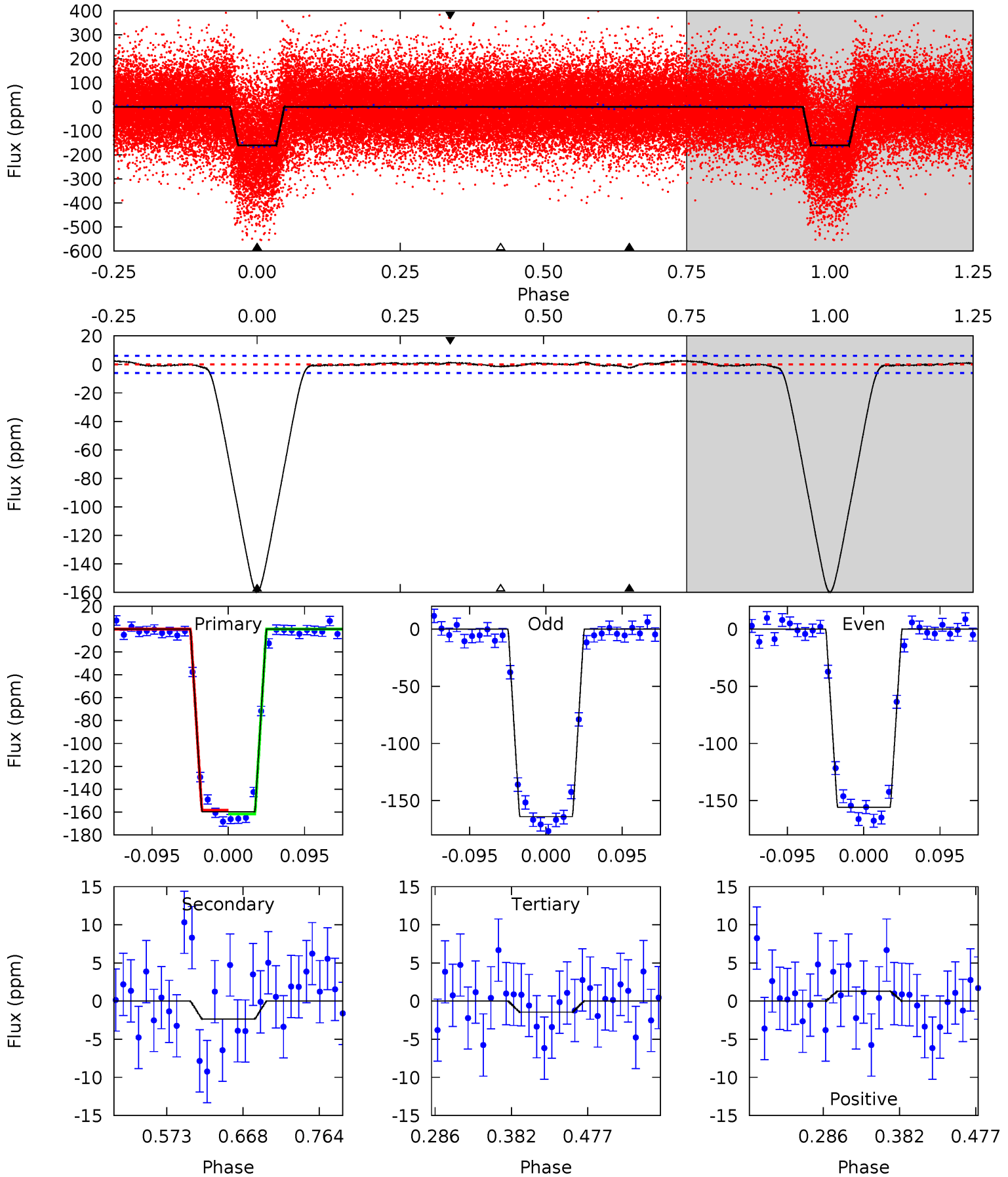




# Alt Model-Shift Uniqueness Test

003458028-01, P = 1.442585 Days, E = 131.189998 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
121.2	1.77	1.10	0.98	4.57	1.67	0.63	120.1	120.2	0.68	0.80	3.10	1.01	0.01	1.21





### Stellar Parameters For KIC 003458028

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7216^{+203}_{-279}$	$3.983^{+0.280}_{-0.151}$	$-0.360^{+0.300}_{-0.300}$	$2.043^{+0.507}_{-0.697}$	$1.462^{+0.216}_{-0.265}$	$0.241^{+0.439}_{-0.101}$
	+3%/-4%	+7%/-4%	+83%/-83%	+25%/-34%	+15%/-18%	+182%/-42%
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 003458028-01 / KOI 2276.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-8 \pm 1$	$2.33^{+0.37}_{-0.43}$	$3703^{+299}_{-310}$	$3612^{+267}_{-346}$	$0.667^{+0.311}_{-0.196}$
Alt.	$-2 \pm 1$	$2.79^{+0.45}_{-0.50}$	$3724^{+291}_{-321}$	$-3205^{+472}_{-280}$	$0.134^{+0.096}_{-0.077}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

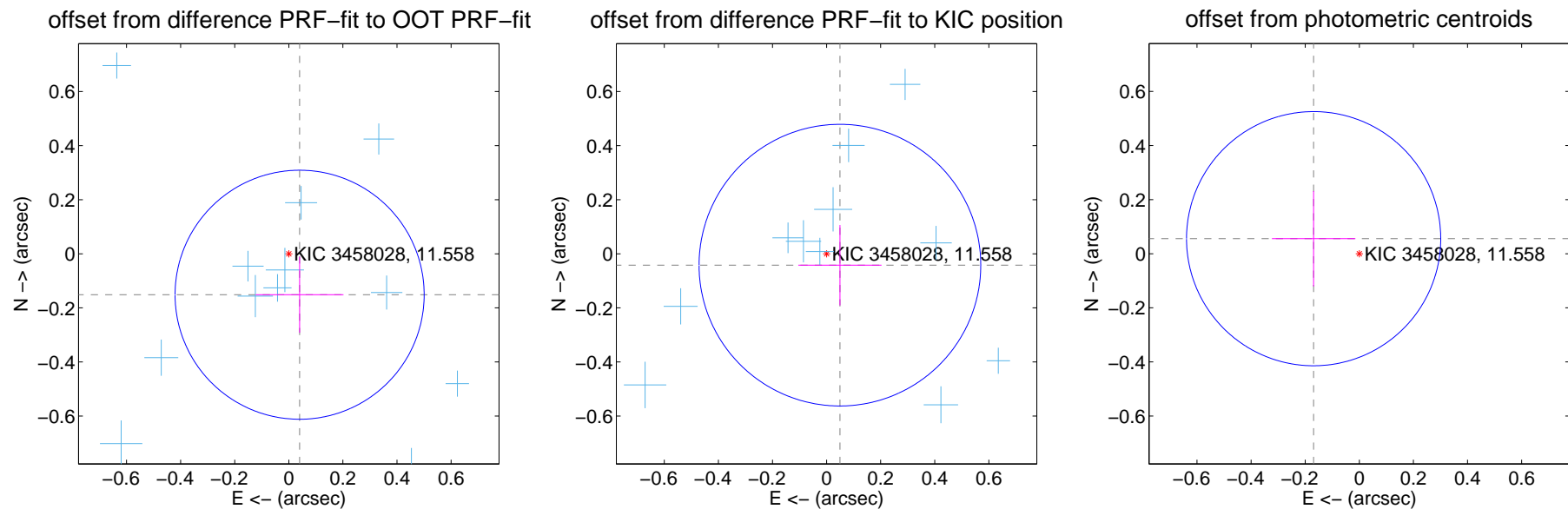
## DV Centroid Data

Supplemental centroid analysis for 003458028-01. **Kepler magnitude: 11.56.** Transit SNR 45.96

There are 14 quarters with good PRF difference image offsets

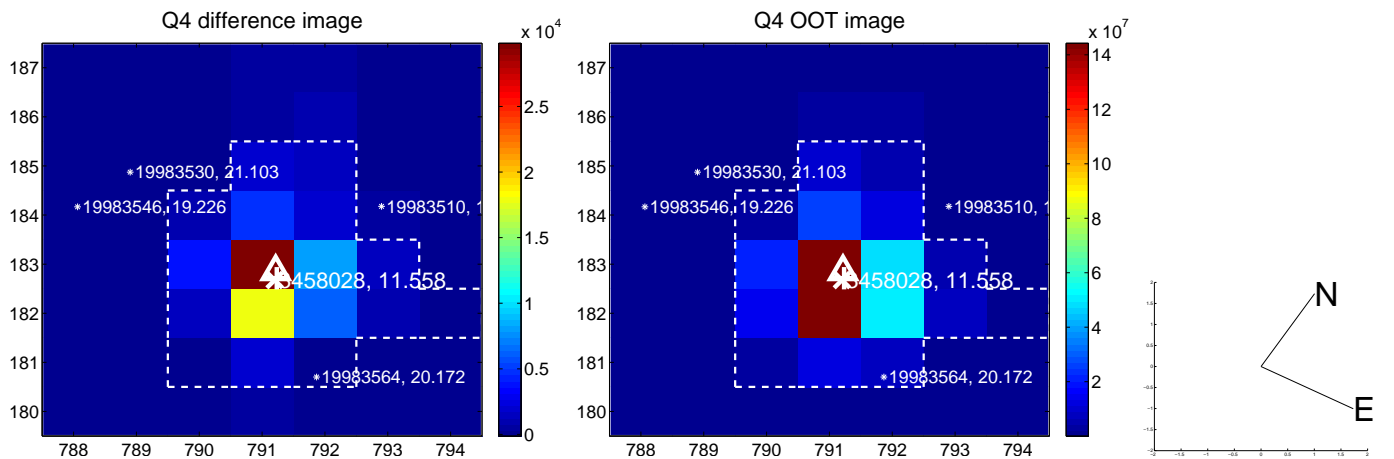
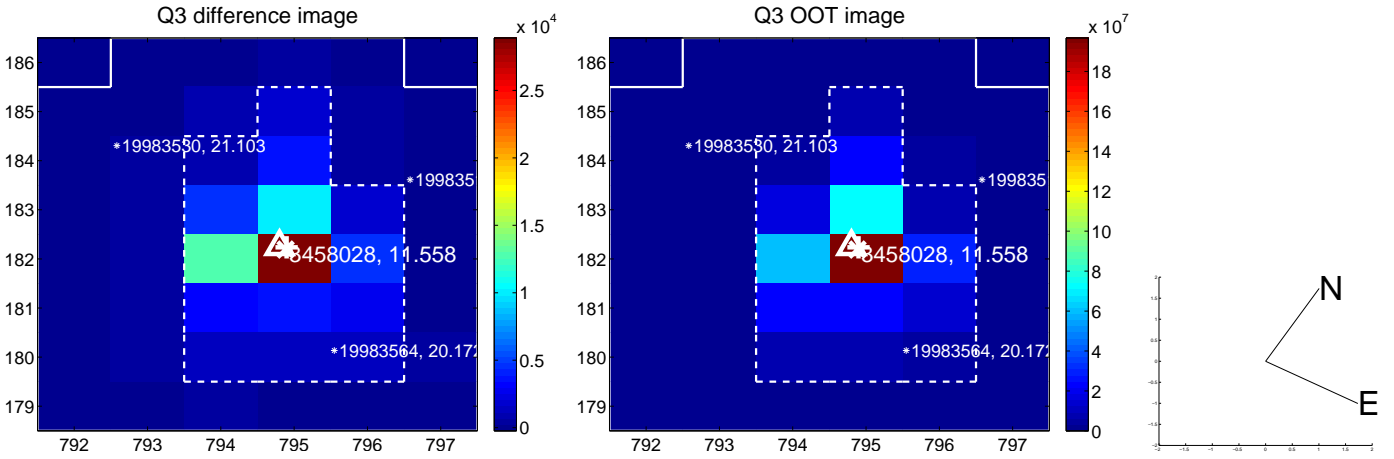
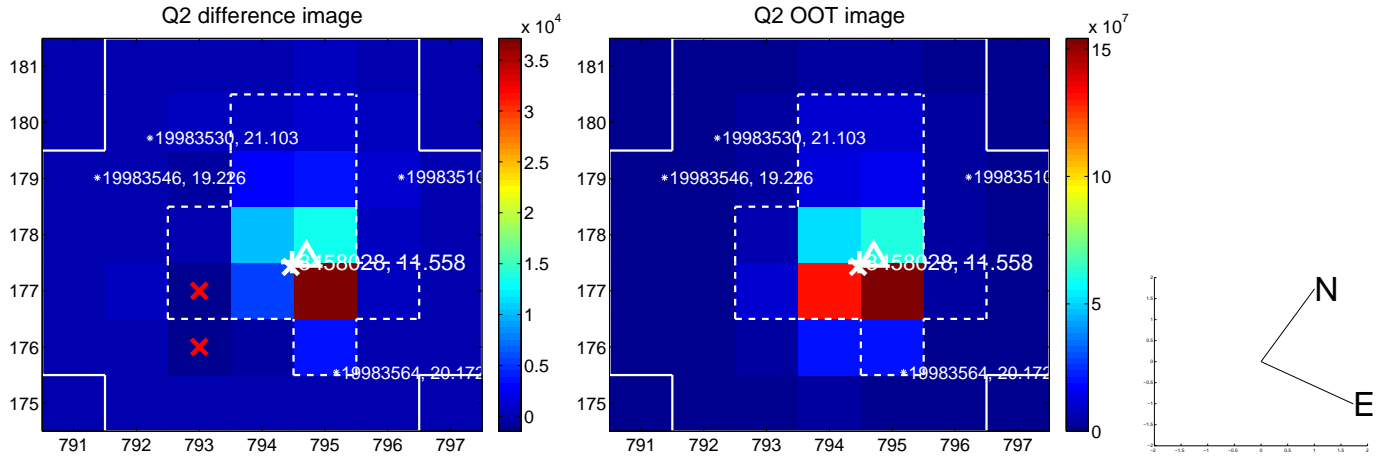
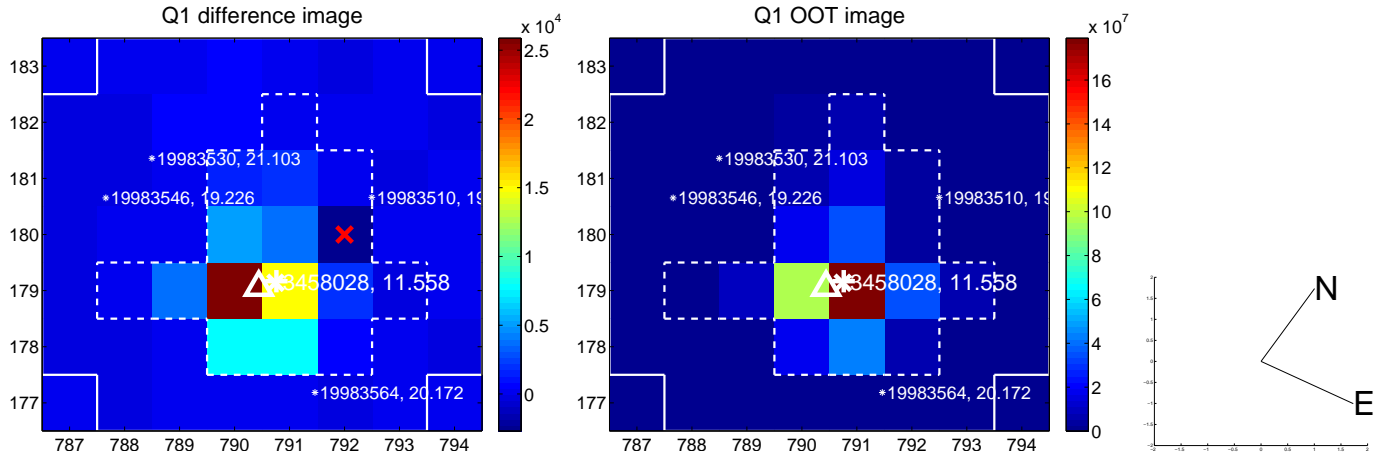
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.157 \pm 0.154$	1.02	$-0.040 \pm 0.162$	$-0.151 \pm 0.140$
PRF-fit source offset from KIC position	$0.065 \pm 0.174$	0.37	$-0.049 \pm 0.154$	$-0.042 \pm 0.148$
photometric centroid source offset	$0.18 \pm 0.16$	1.14	$0.17 \pm 0.15$	$0.06 \pm 0.18$

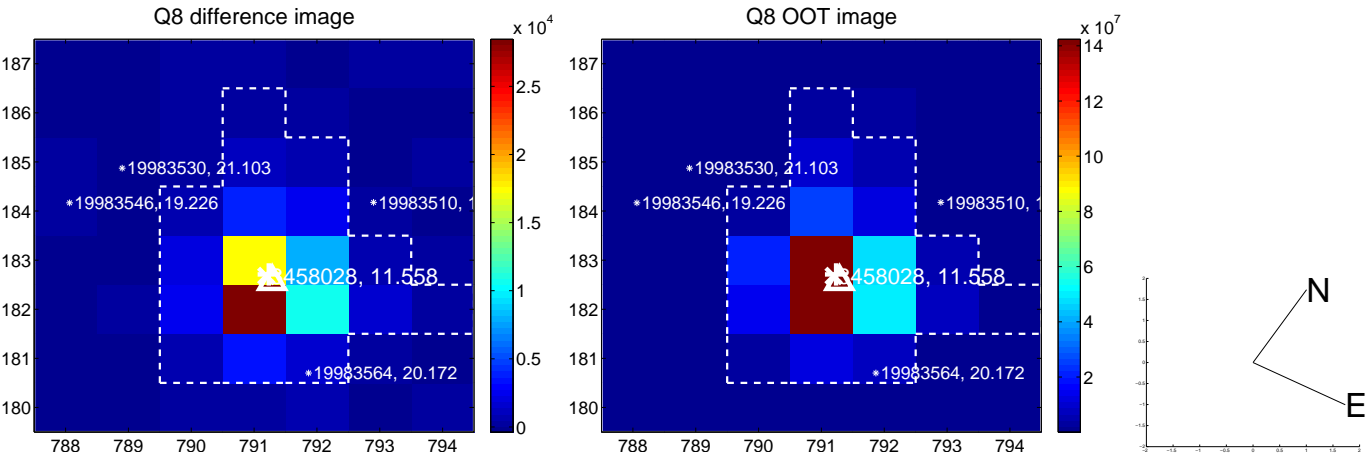
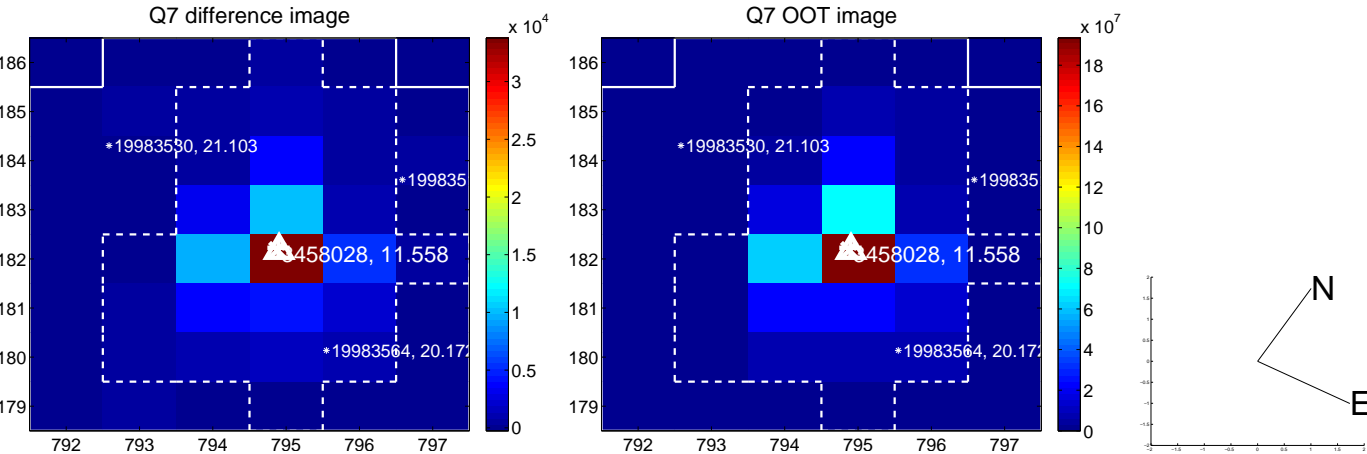
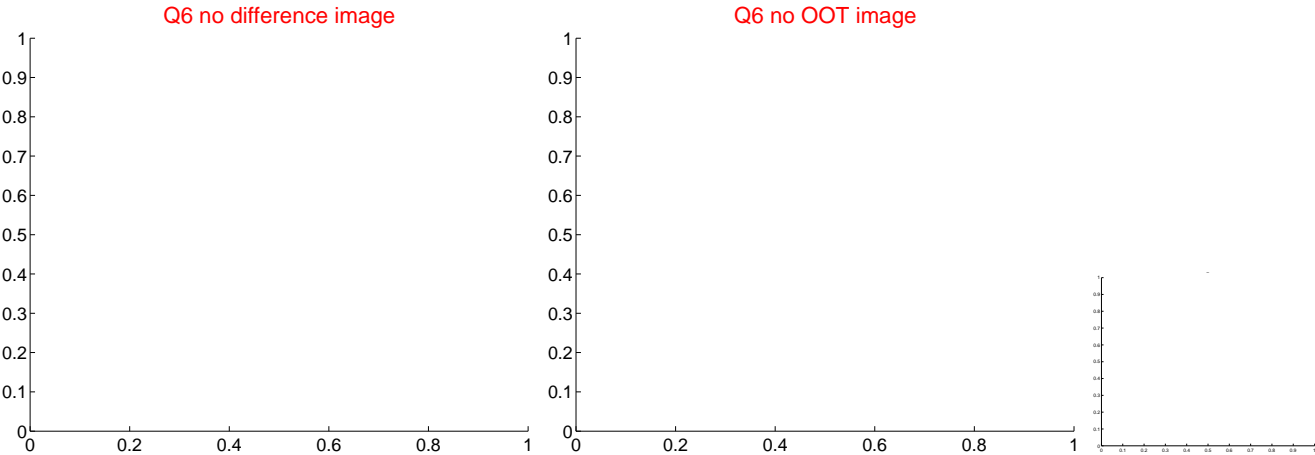
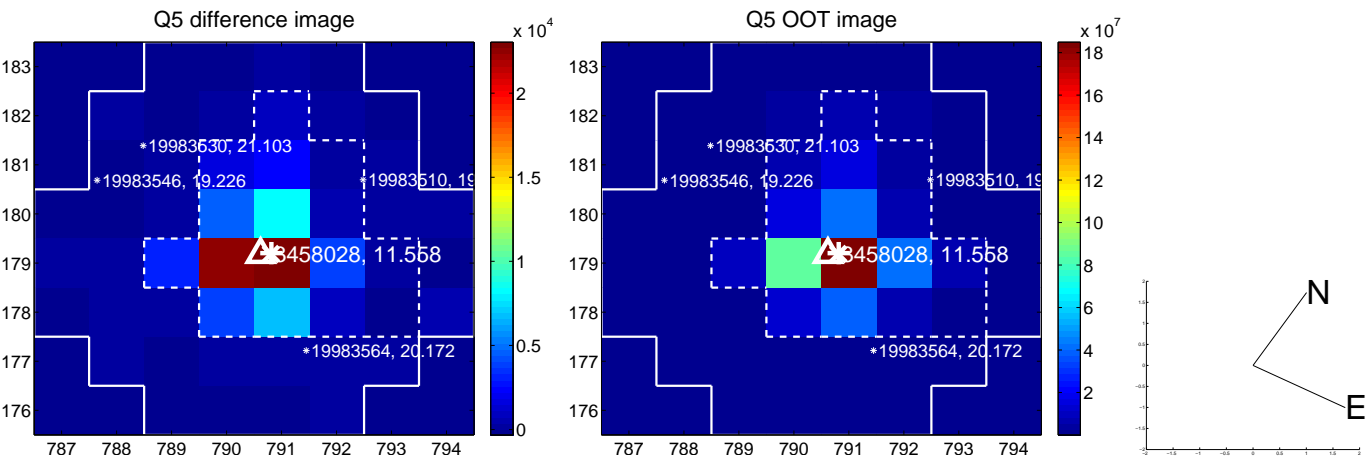


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.

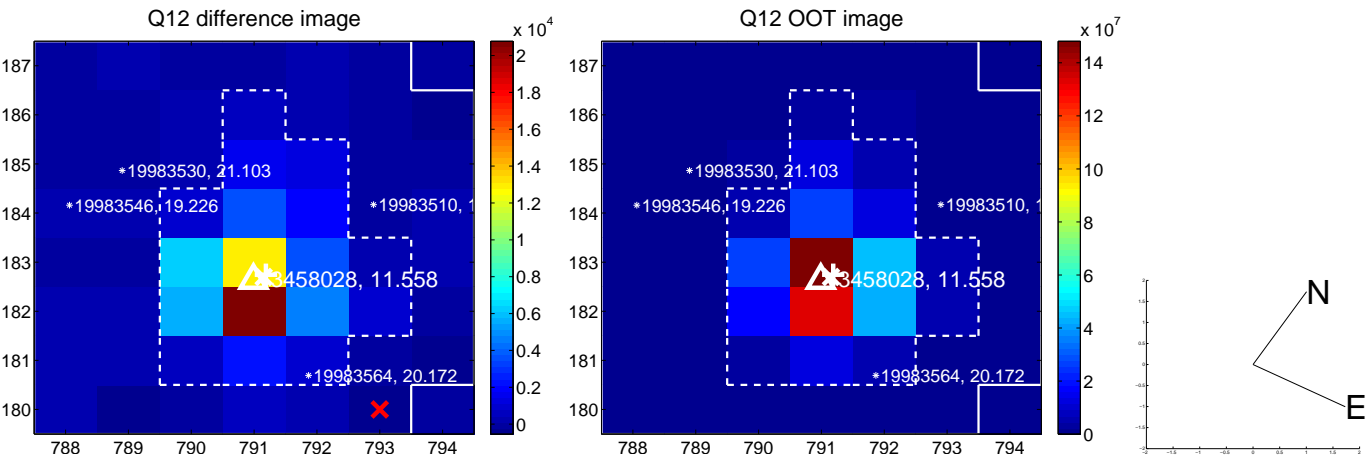
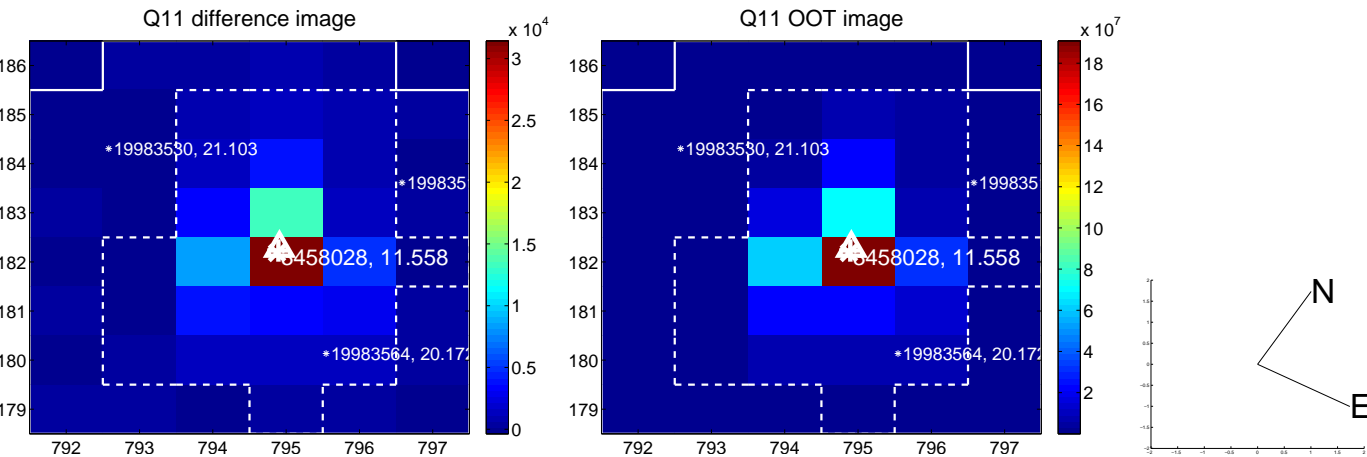
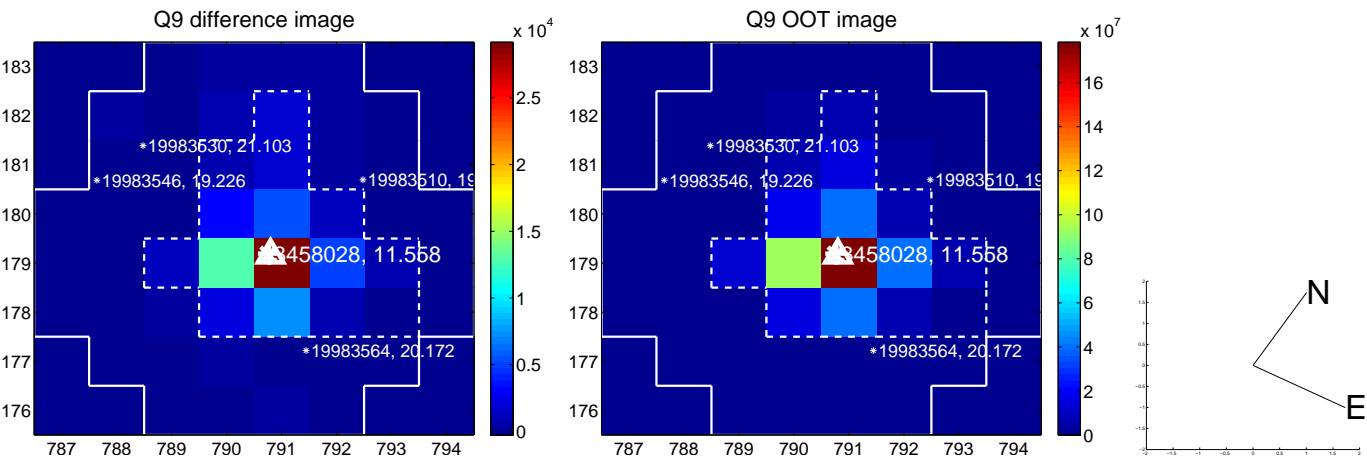


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

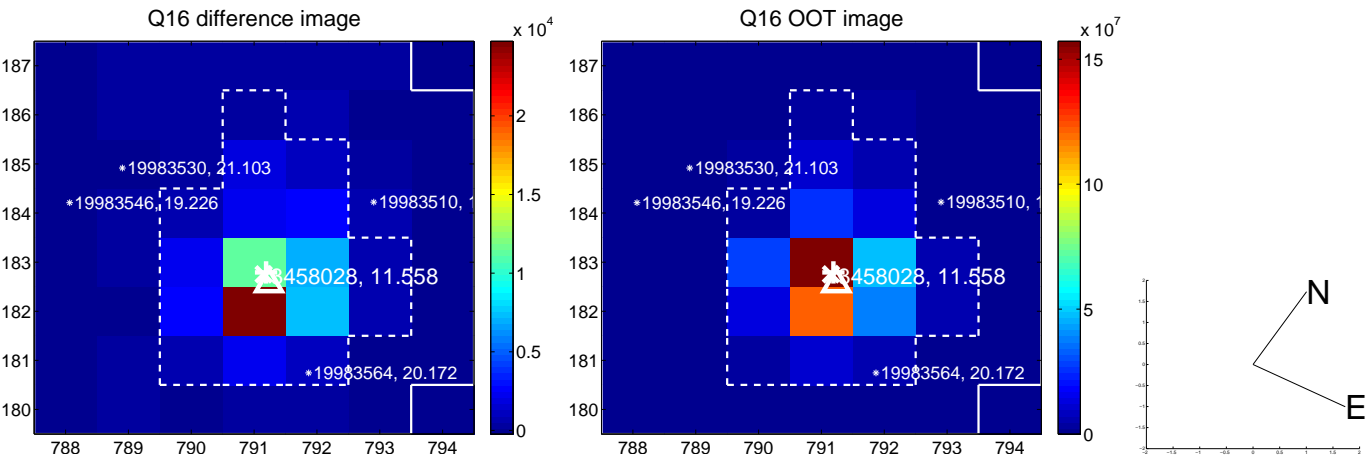
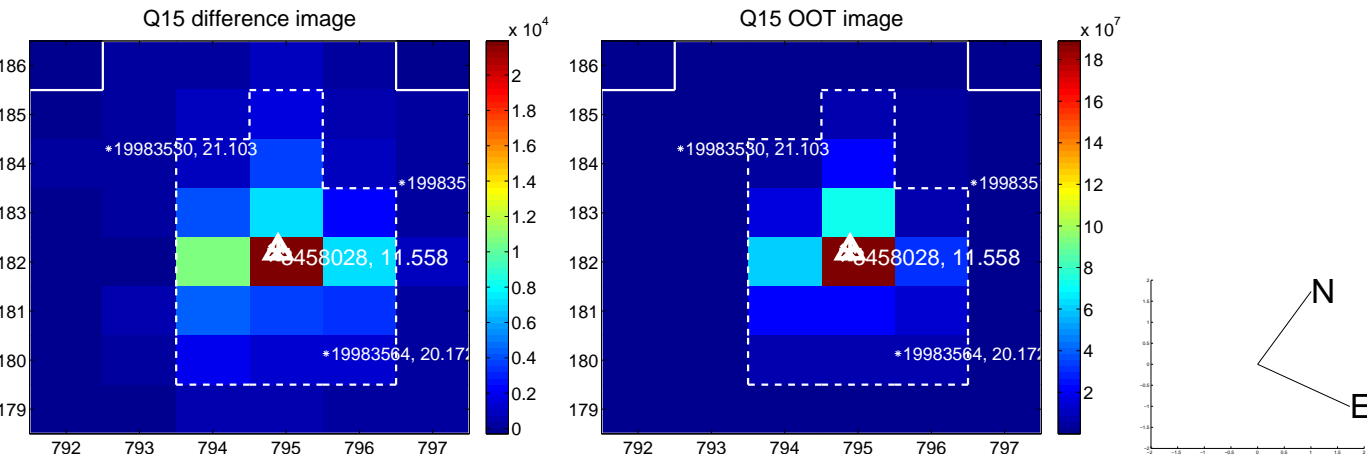
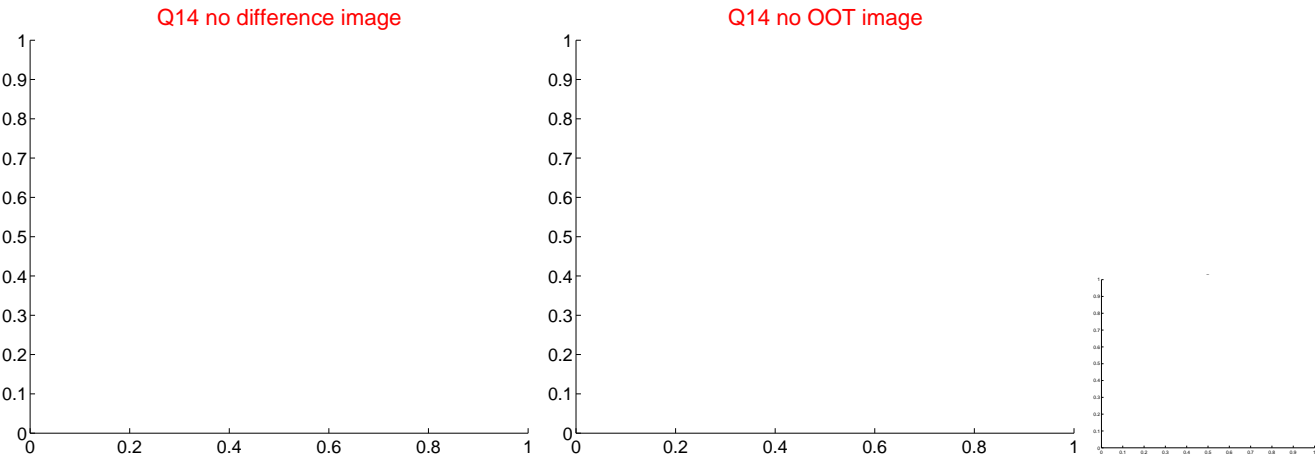
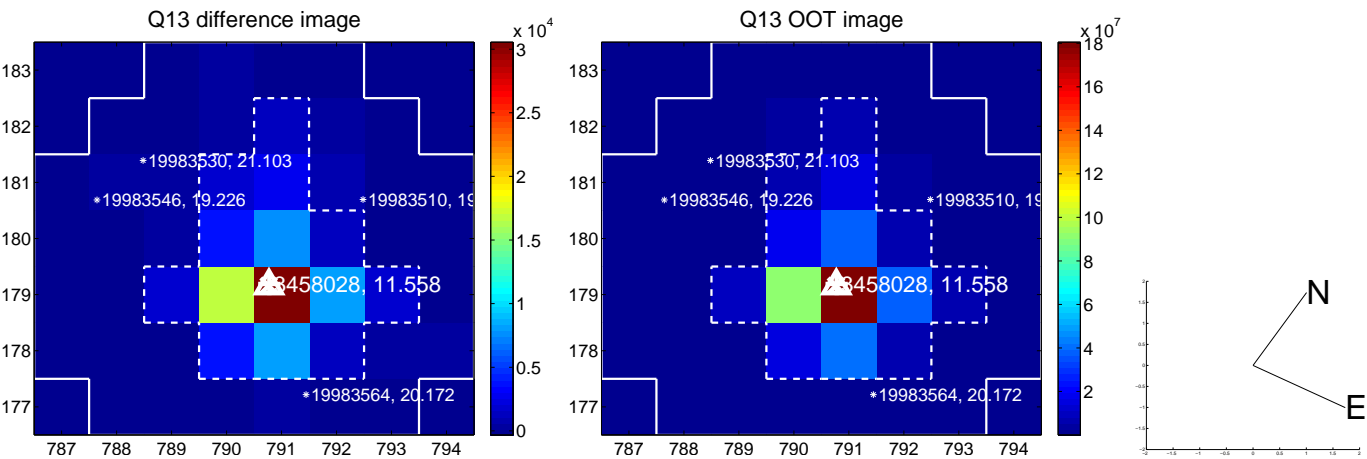




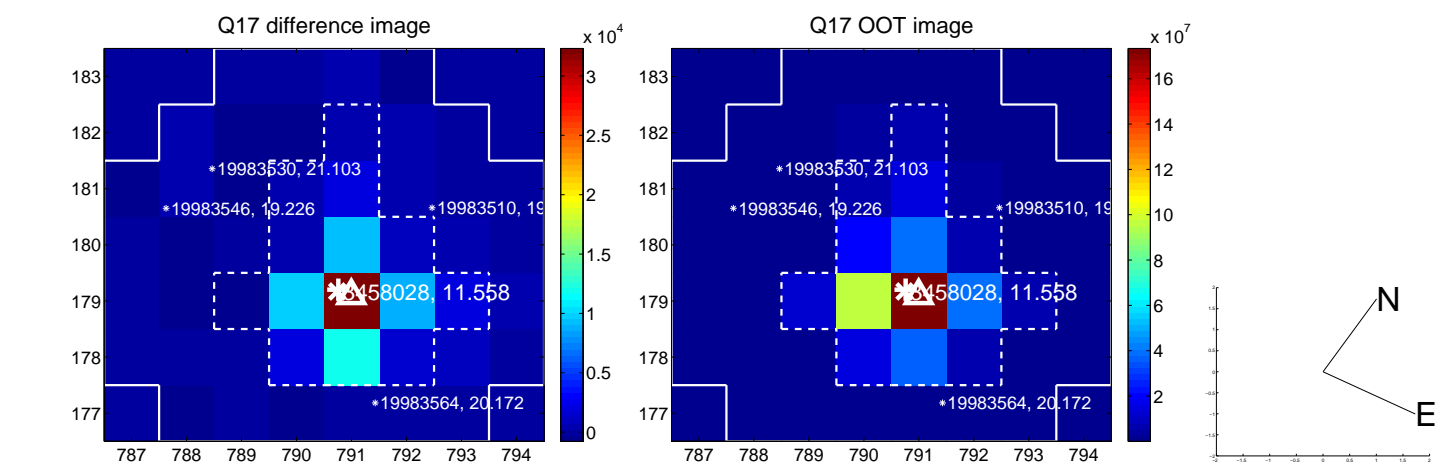
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



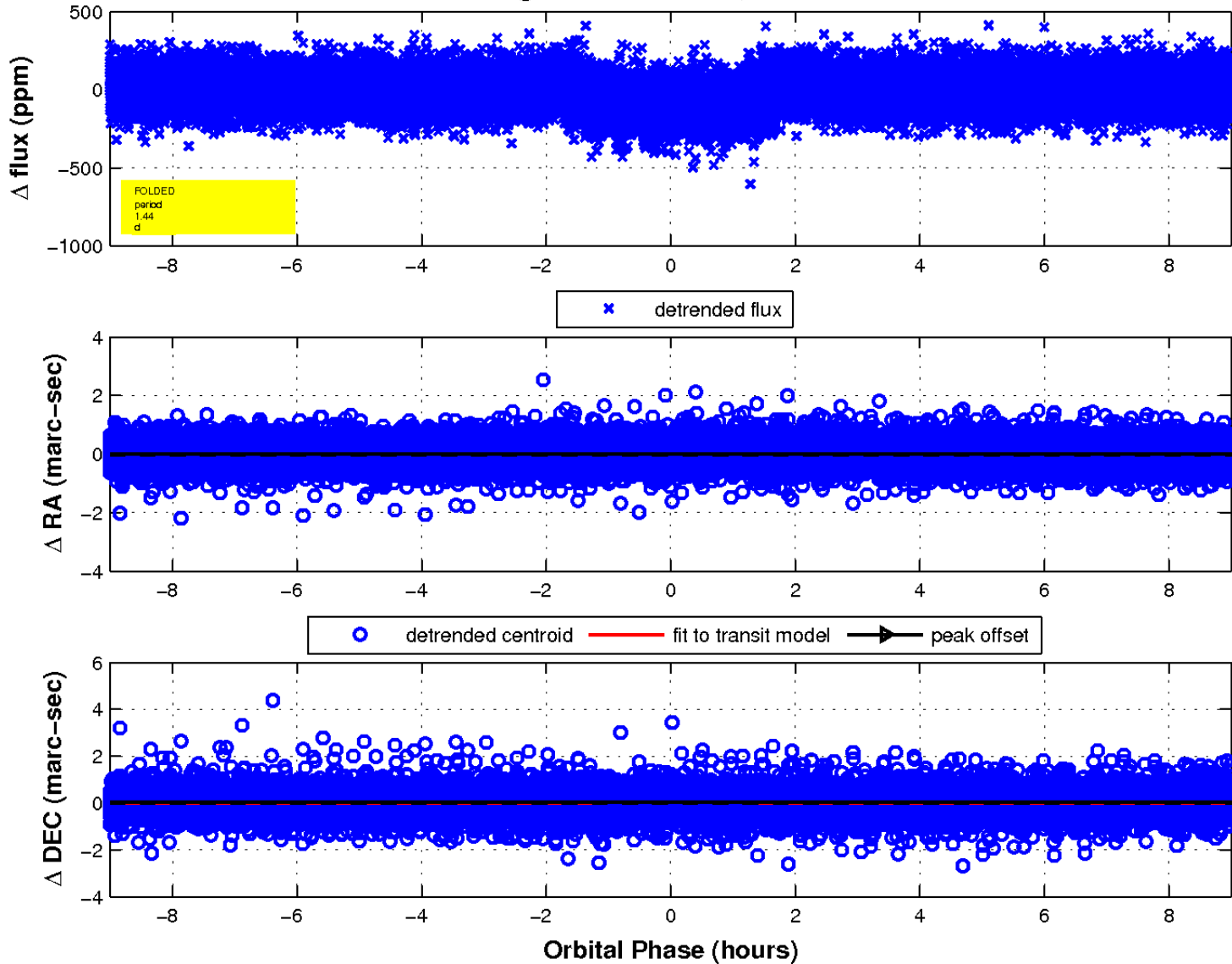
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

