

# KIC 005774349

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005774349-01	OBS	0557.01	15.655657	139.471075	946.8	4.207	40.1	45.6	0.84	5185	3.00	35.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005774349-01	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.

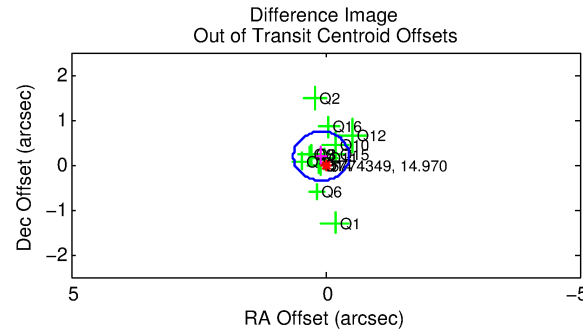
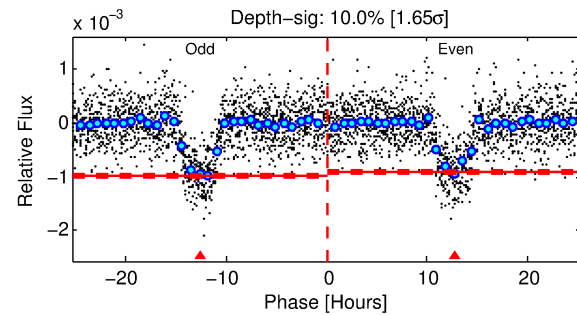
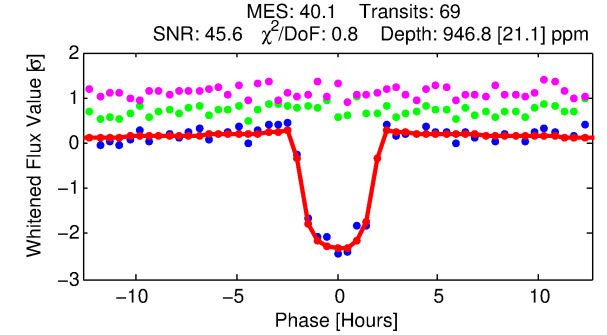
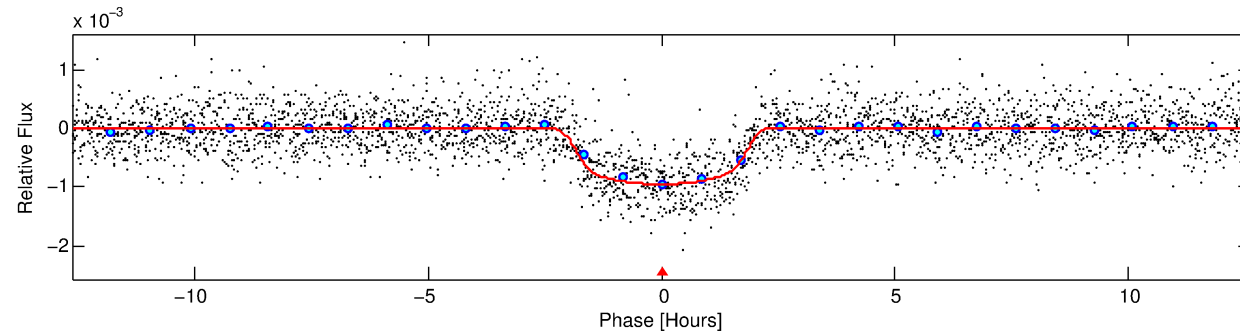
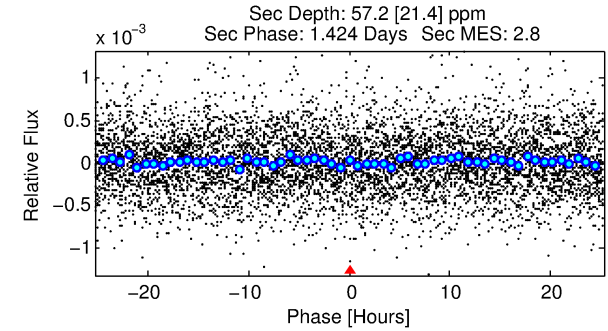
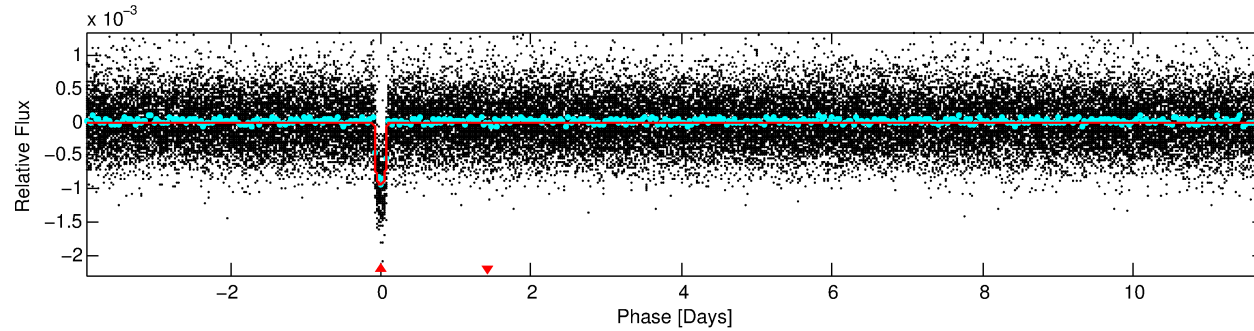
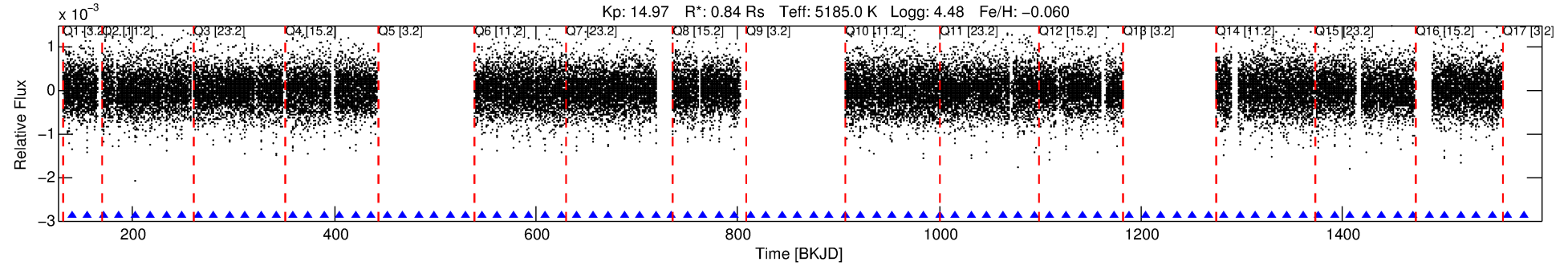
## Ephemeris Match Information For 005774349-01

No Significant Match Found

# DV One-Page Summary

KIC: 5774349 Candidate: 1 of 1 Period: 15.656 d

KOI: K00557.01 Corr: 0.988



## DV Fit Results:

Period = 15.65566 [0.00004] d  
Epoch = 139.4711 [0.0018] BKJD  
Rp/R\* = 0.0328 [0.0022]  
a/R\* = 16.34 [4.06]  
b = 0.86 [0.08]  
Seff = 35.71 [7.54]  
Teff = 623 [33] K  
Rp = 3.00 [0.42] Re  
a = 0.1127 [0.0127] AU  
Ag = 44.47 [19.30] [2.25 $\sigma$ ]  
Teffp = 2489 [258] K [7.17 $\sigma$ ]

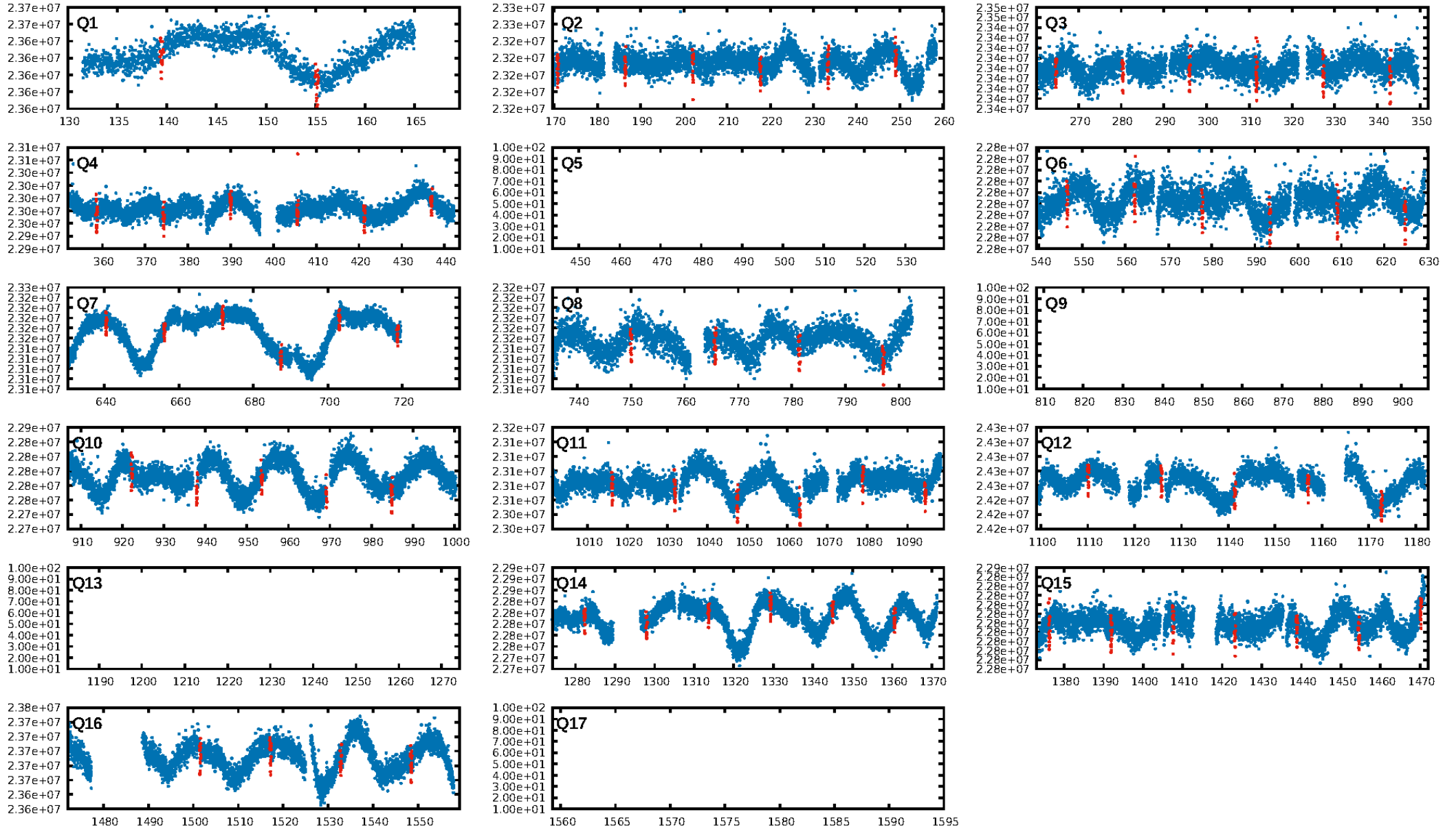
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [67/67]  
GhostDiagnostic-chr: 3.506  
Centroid-sig: 15.7%  
Centroid-so: 0.069 arcsec [0.25 $\sigma$ ]  
OotOffset-rm: 0.208 arcsec [1.14 $\sigma$ ]  
KicOffset-rm: 0.468 arcsec [2.56 $\sigma$ ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

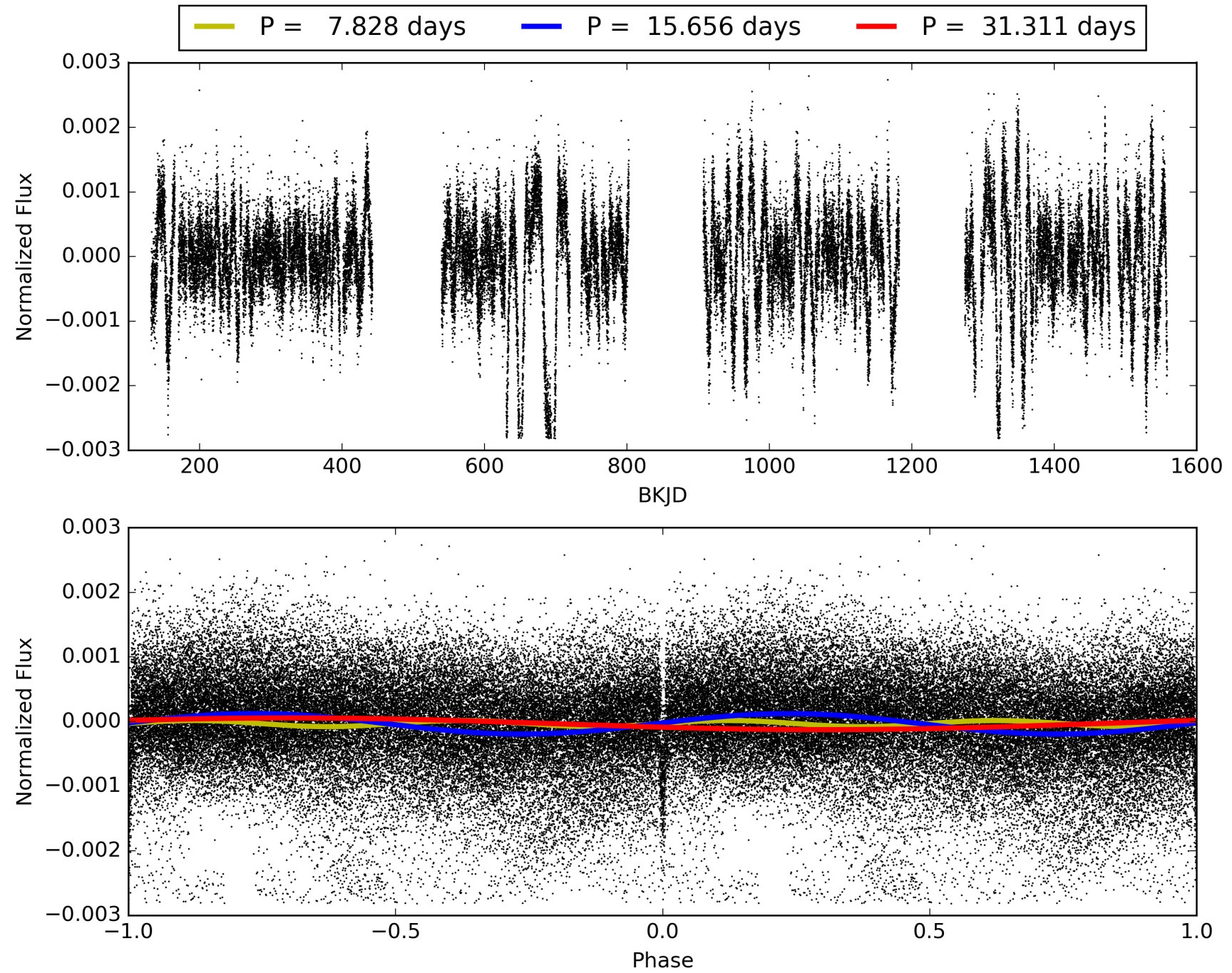
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:45:19 Z

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

# TCE 005774349-01, PDC Light Curves

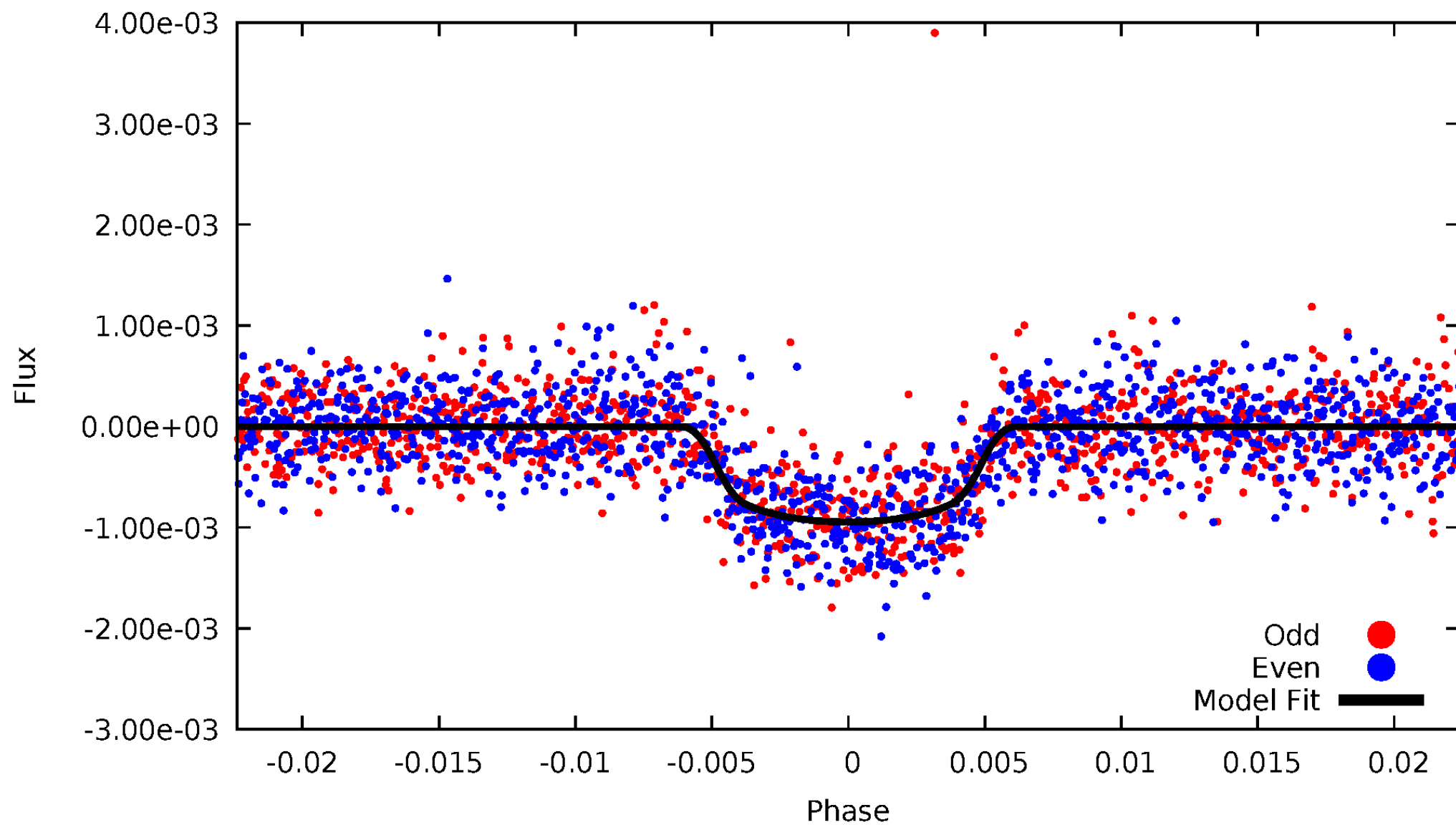


TCE 005774349-01



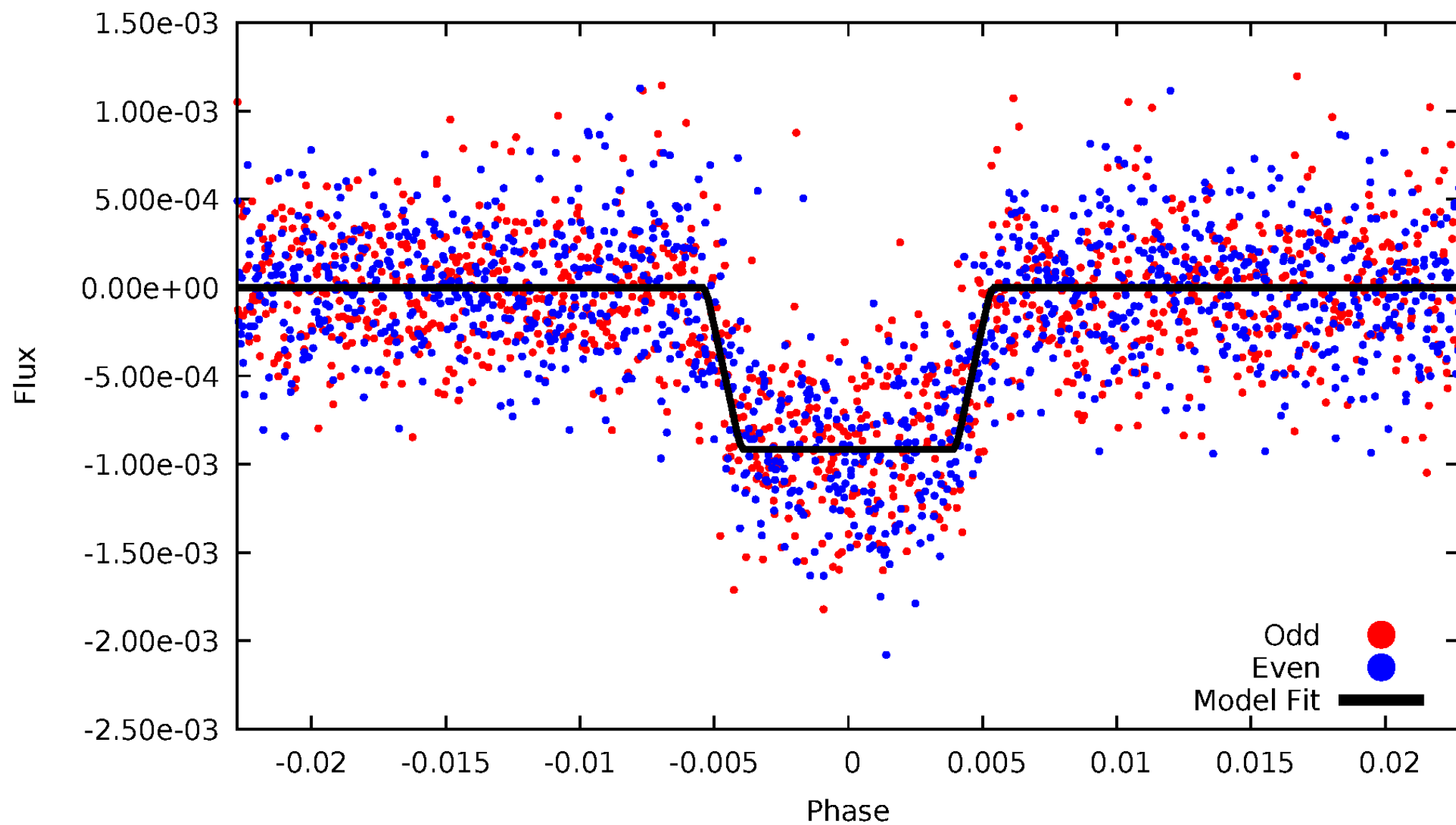
# DV Odd/Even

TCE 005774349-01



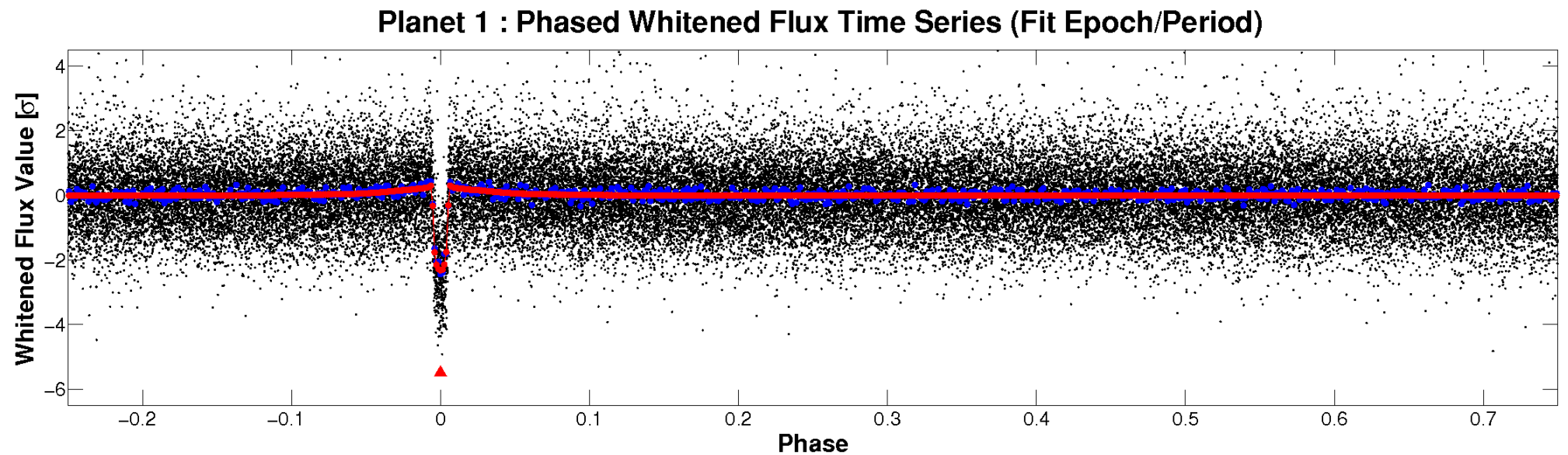
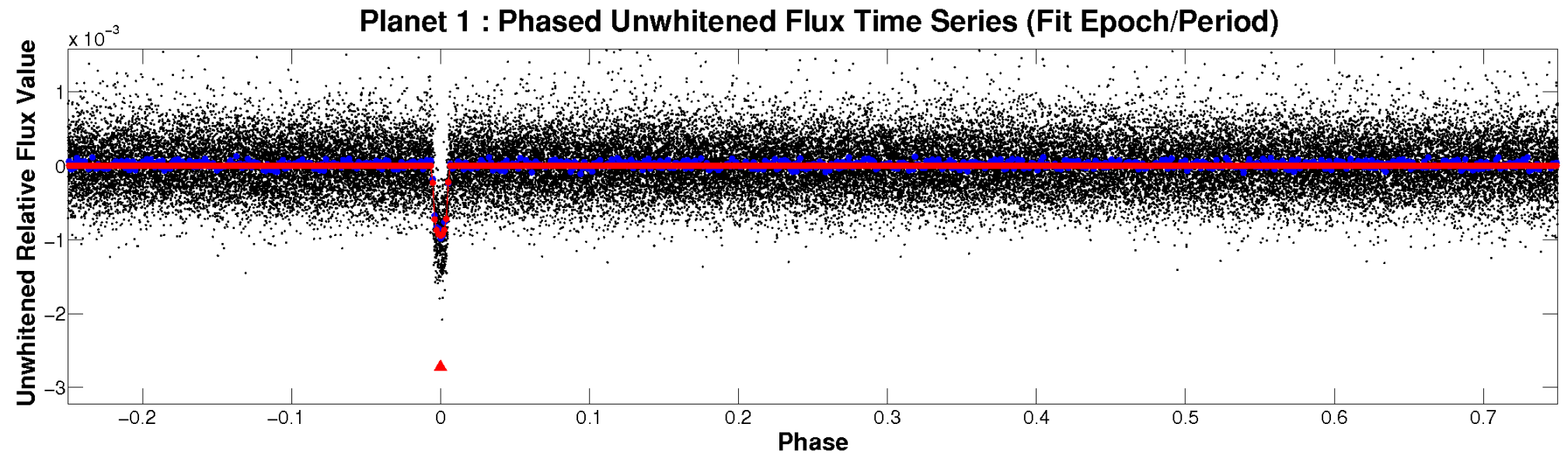
# ALT Odd/Even

TCE 005774349-01



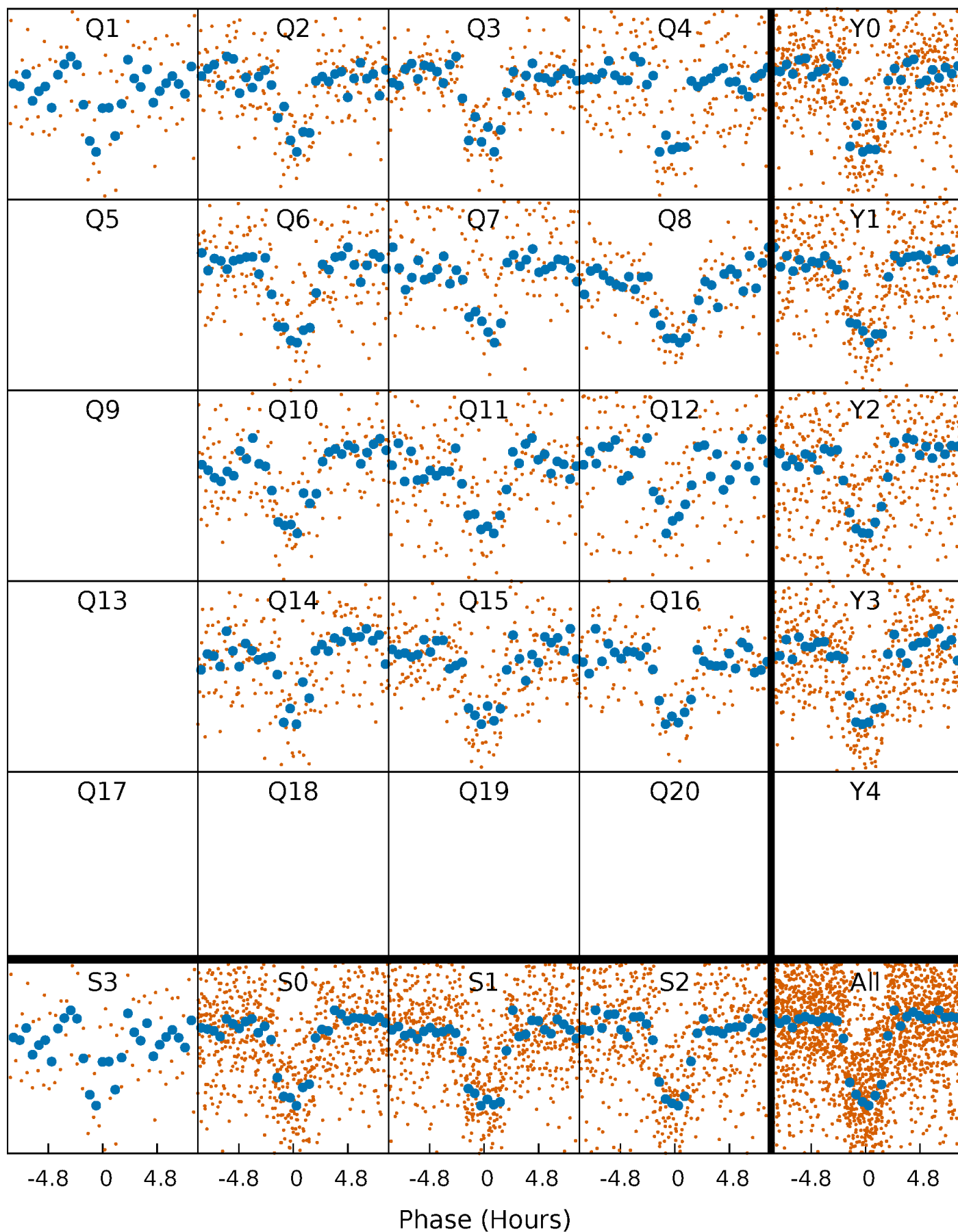


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

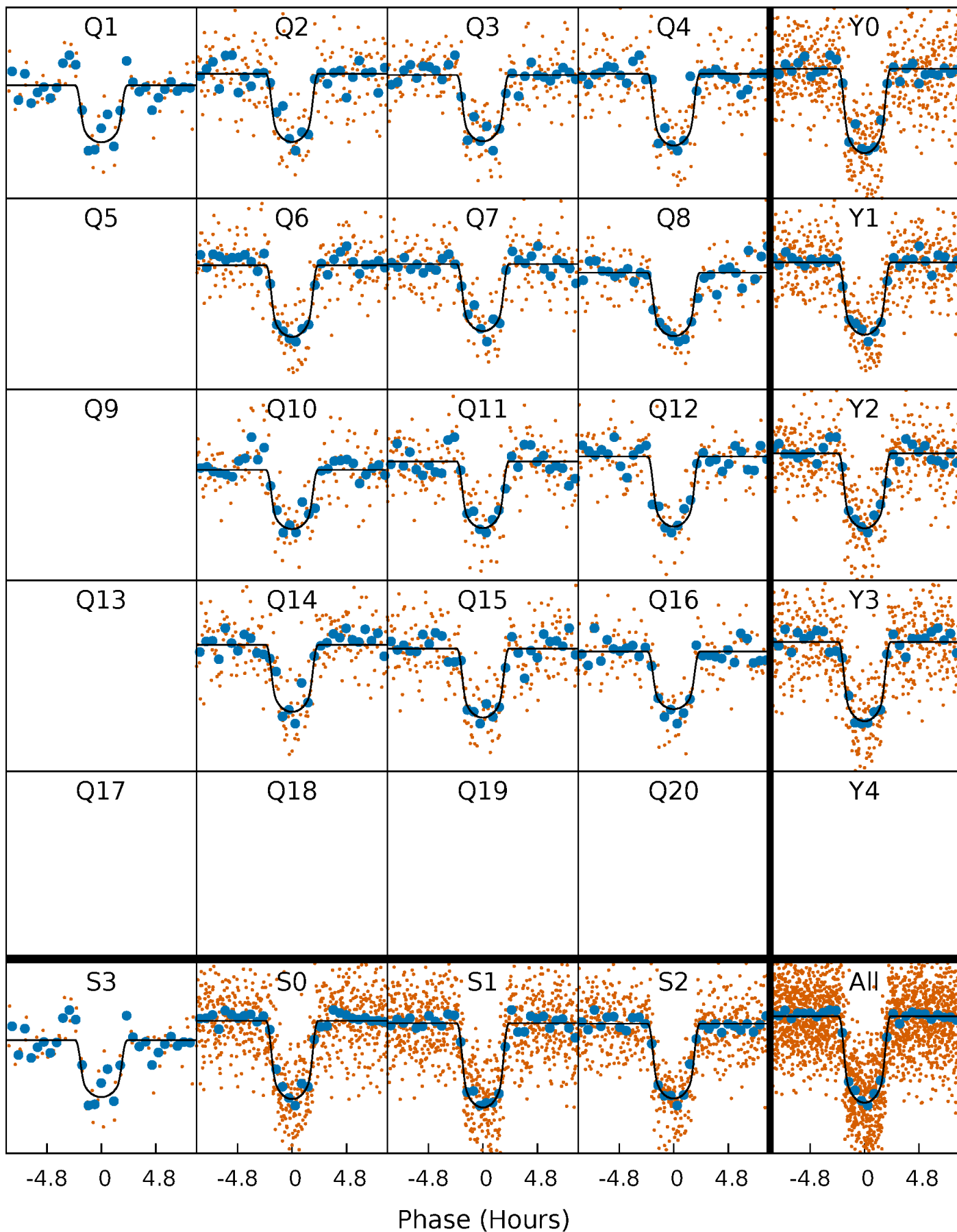
TCE 005774349-01 P= 15.655657 Days  $T_0=139.471074$  (BKJD)





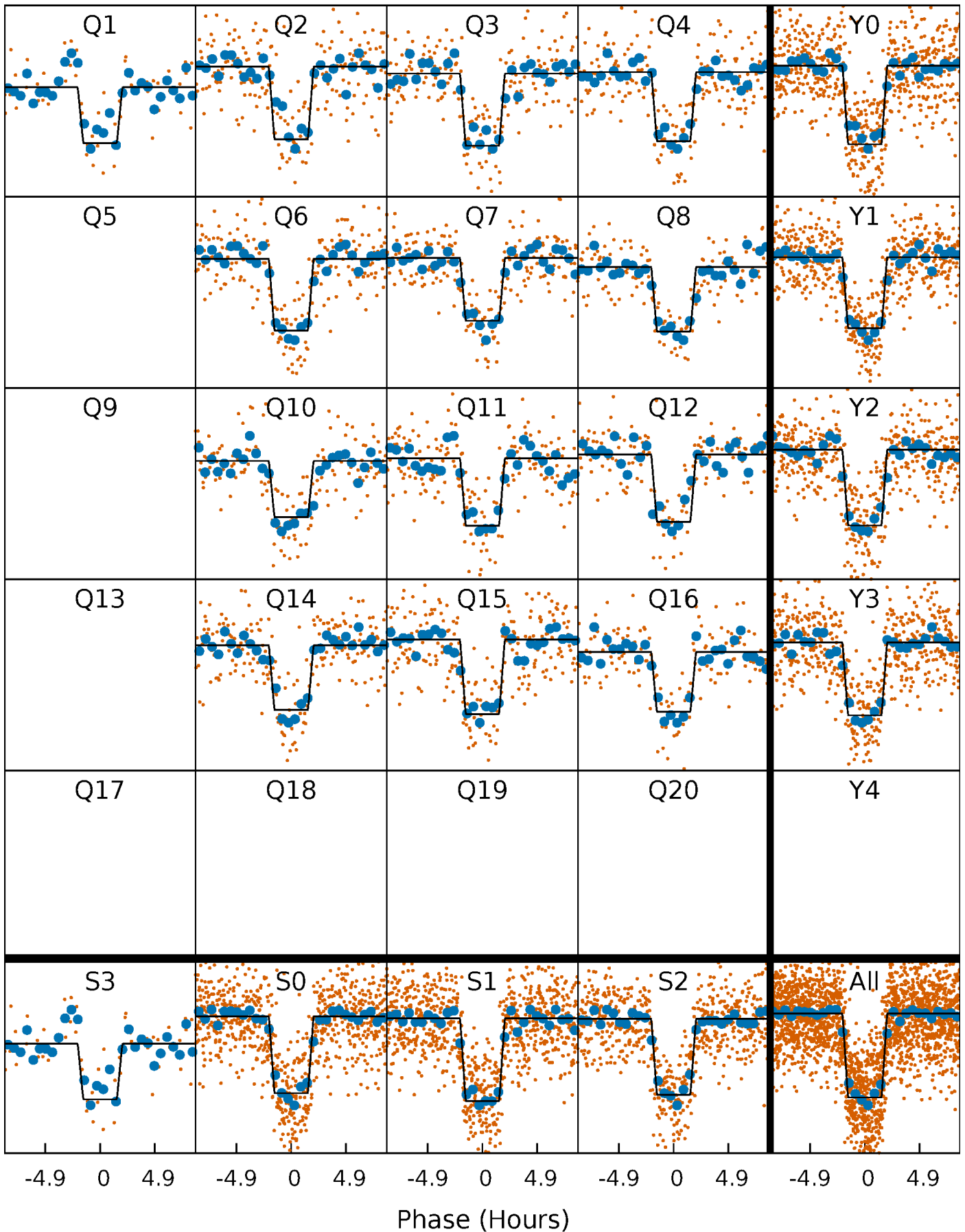
# DV Quarter-Phased Transit Curves

TCE 005774349-01 P= 15.655657 Days  $T_0=139.471074$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

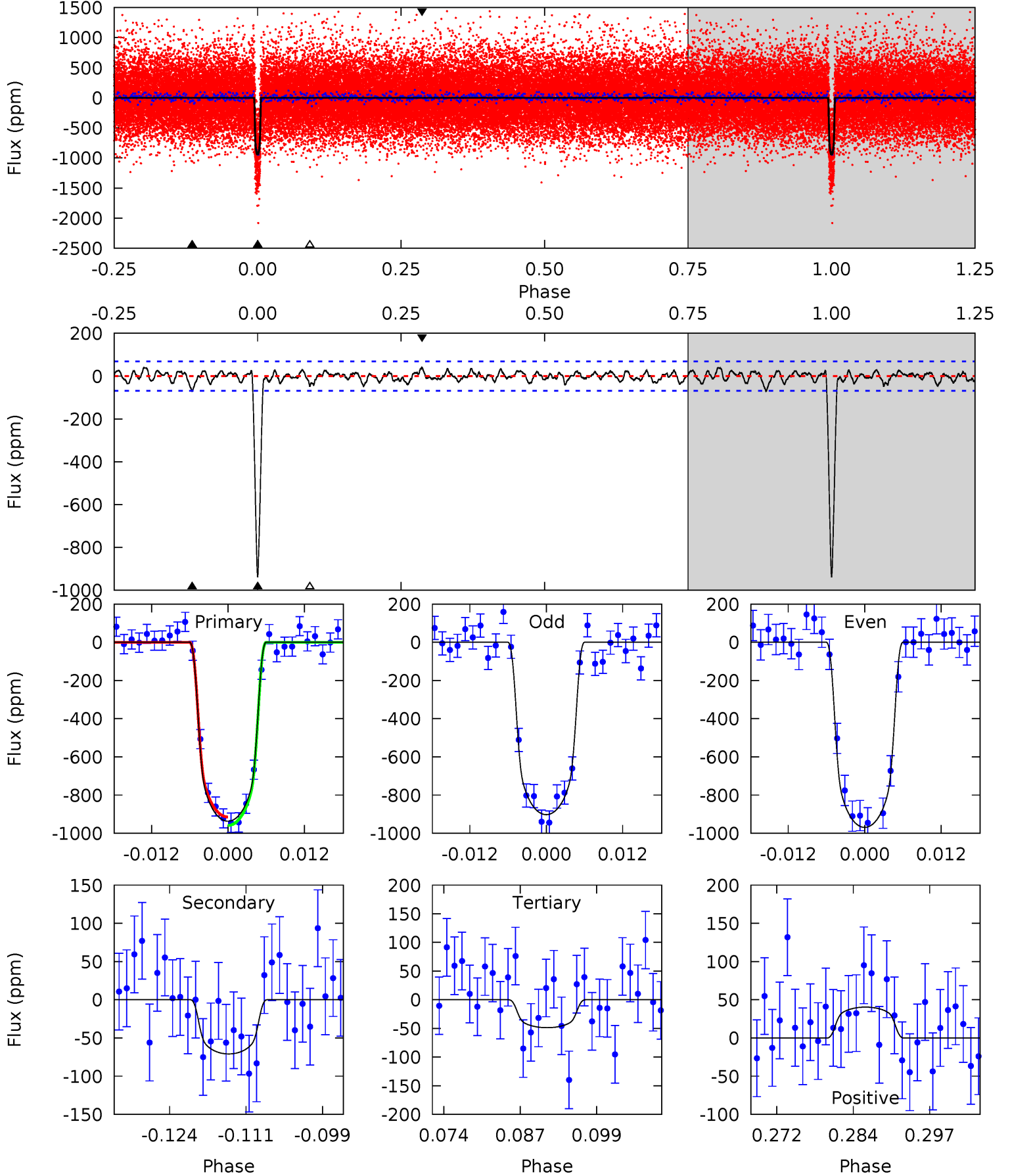
TCE 005774349-01 P= 15.655763 Days  $T_0=139.467465$  (BKJD)



# DV Model-Shift Uniqueness Test

005774349-01,  $P = 15.655657$  Days,  $E = 123.815417$  Days

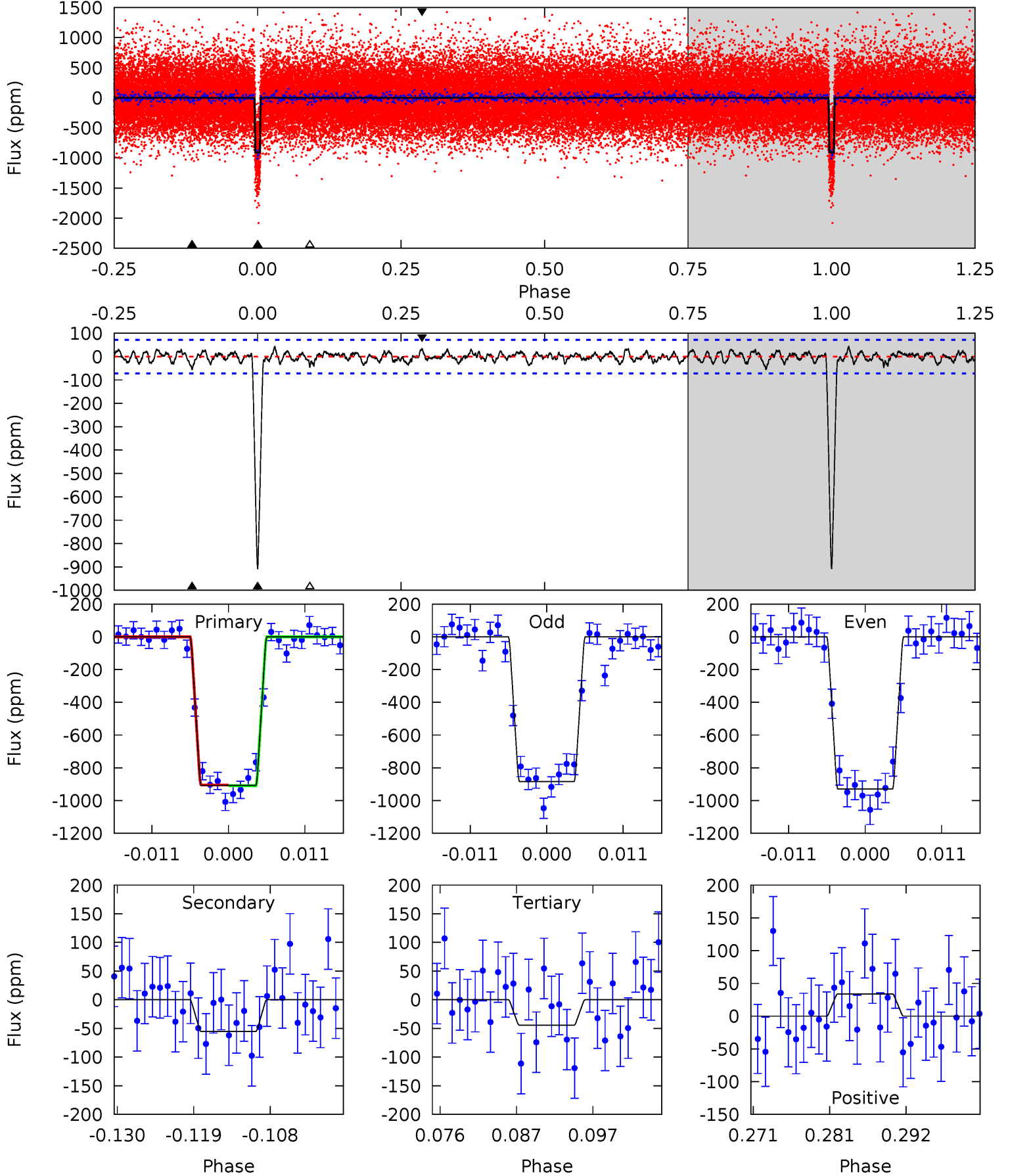
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
68.1	5.16	3.54	2.94	4.99	2.50	1.23	64.6	65.2	1.61	2.22	2.43	0.98	0.04	1.61



# Alt Model-Shift Uniqueness Test

005774349-01, P = 15.655763 Days, E = 123.811702 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
63.3	3.85	3.10	2.37	5.01	2.55	1.05	60.2	60.9	0.75	1.48	1.62	0.99	0.05	0.15



### Stellar Parameters For KIC 005774349

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5185^{+154}_{-154}$	$4.484^{+0.100}_{-0.100}$	$-0.060^{+0.300}_{-0.300}$	$0.837^{+0.104}_{-0.104}$	$0.779^{+0.099}_{-0.058}$	$1.870^{+0.799}_{-0.559}$
	+3%/-3%	+2%/-2%	+500%/-500%	+12%/-12%	+13%/-7%	+43%/-30%
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 005774349-01 / KOI 0557.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-71 \pm 14$	$3.03^{+0.30}_{-0.30}$	$871^{+39}_{-41}$	$3183^{+136}_{-129}$	$55^{+15}_{-14}$
Alt.	$-55 \pm 14$	$2.81^{+0.31}_{-0.28}$	$873^{+43}_{-41}$	$3142^{+151}_{-157}$	$49^{+18}_{-14}$

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



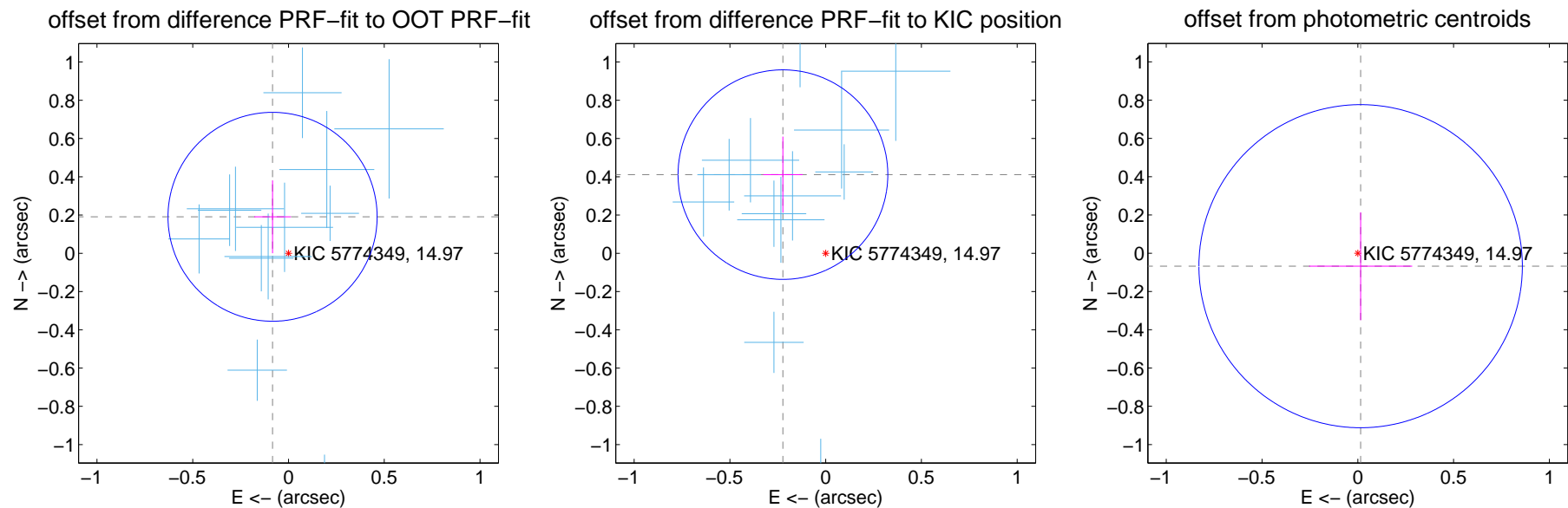
## DV Centroid Data

Supplemental centroid analysis for 005774349-01. Kepler magnitude: 14.97. Transit SNR 45.62

There are 13 quarters with good PRF difference image offsets

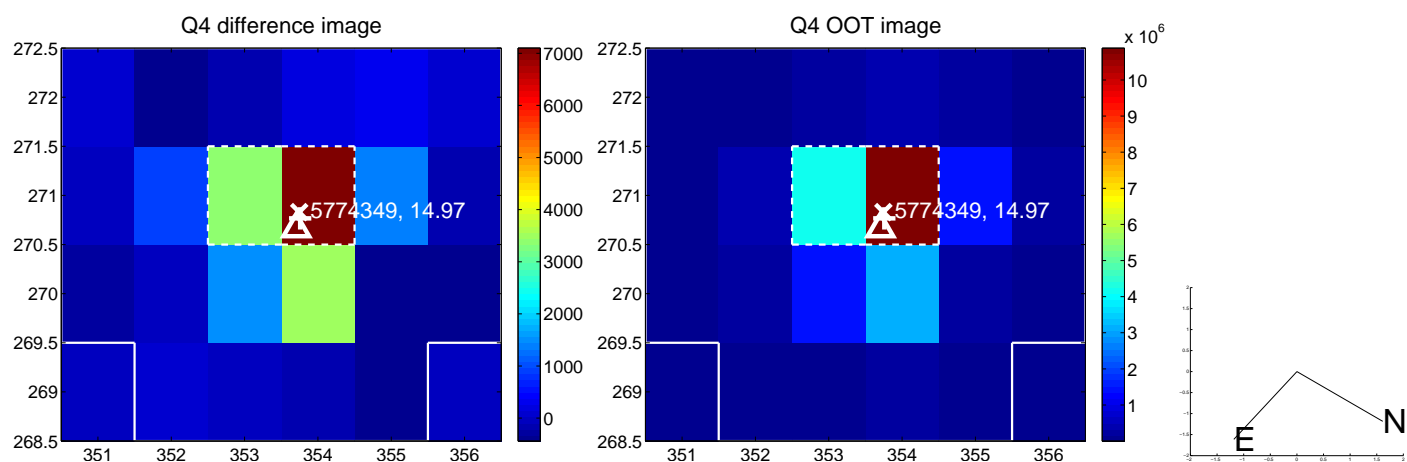
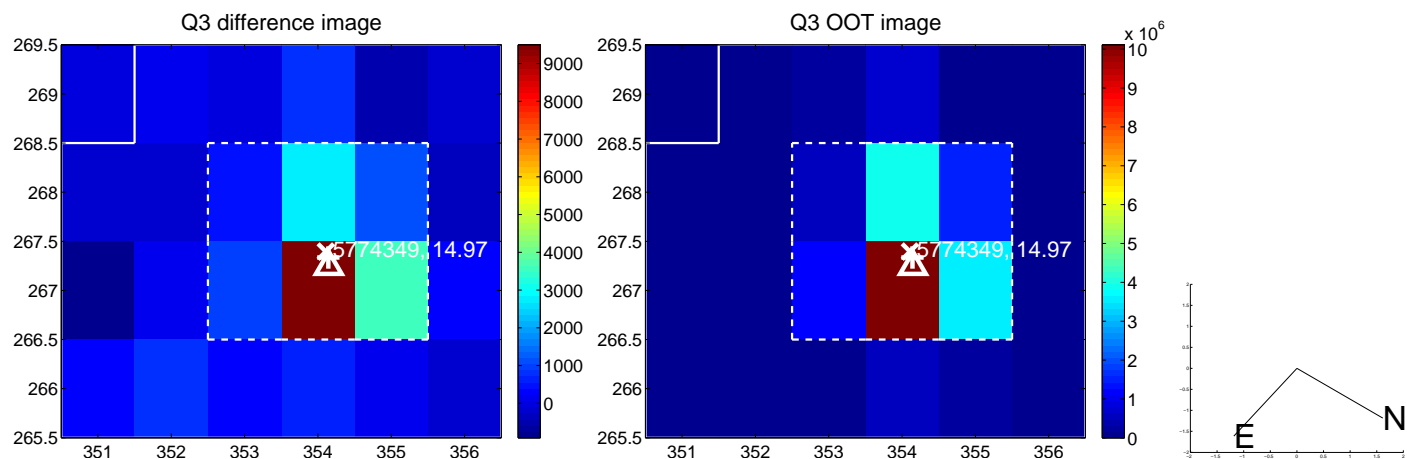
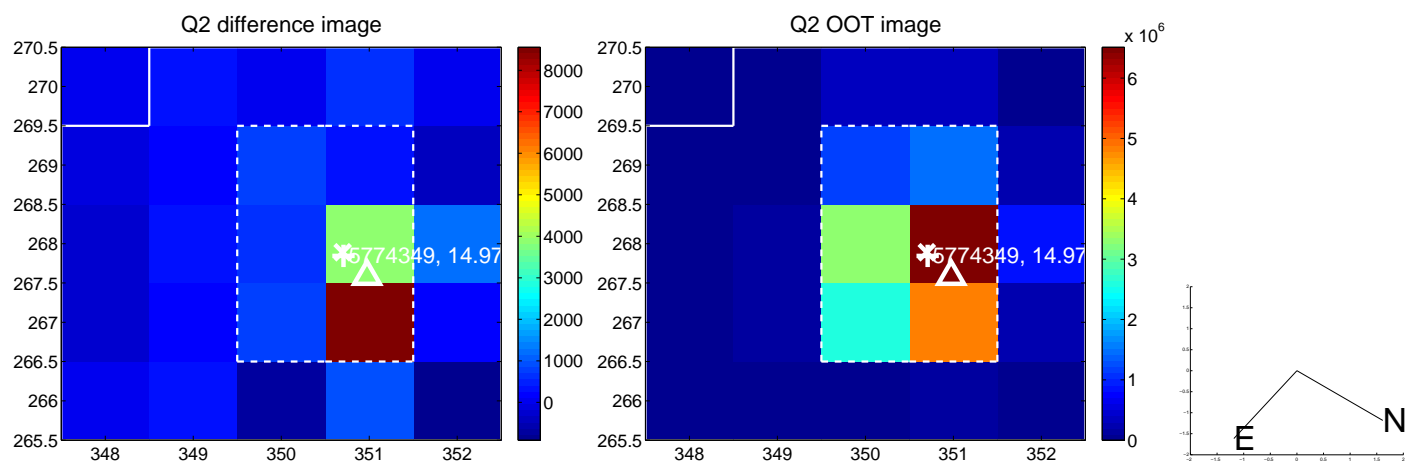
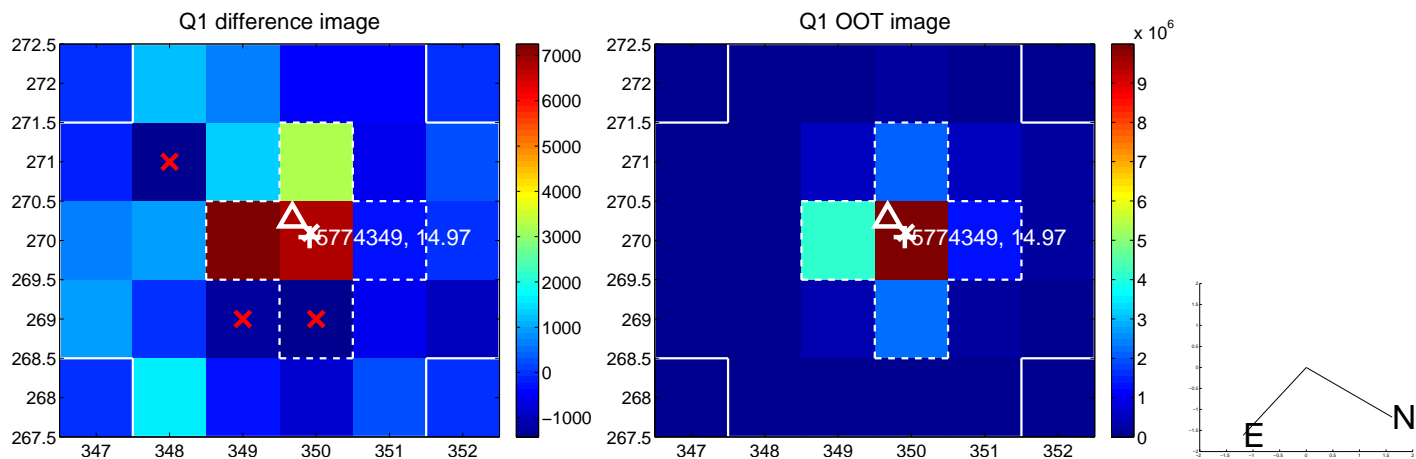
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.208 \pm 0.182$	1.14	$0.083 \pm 0.096$	$0.191 \pm 0.191$
PRF-fit source offset from KIC position	$0.468 \pm 0.183$	2.56	$0.223 \pm 0.103$	$0.411 \pm 0.198$
photometric centroid source offset	$0.07 \pm 0.28$	0.25	$-0.01 \pm 0.27$	$-0.07 \pm 0.28$

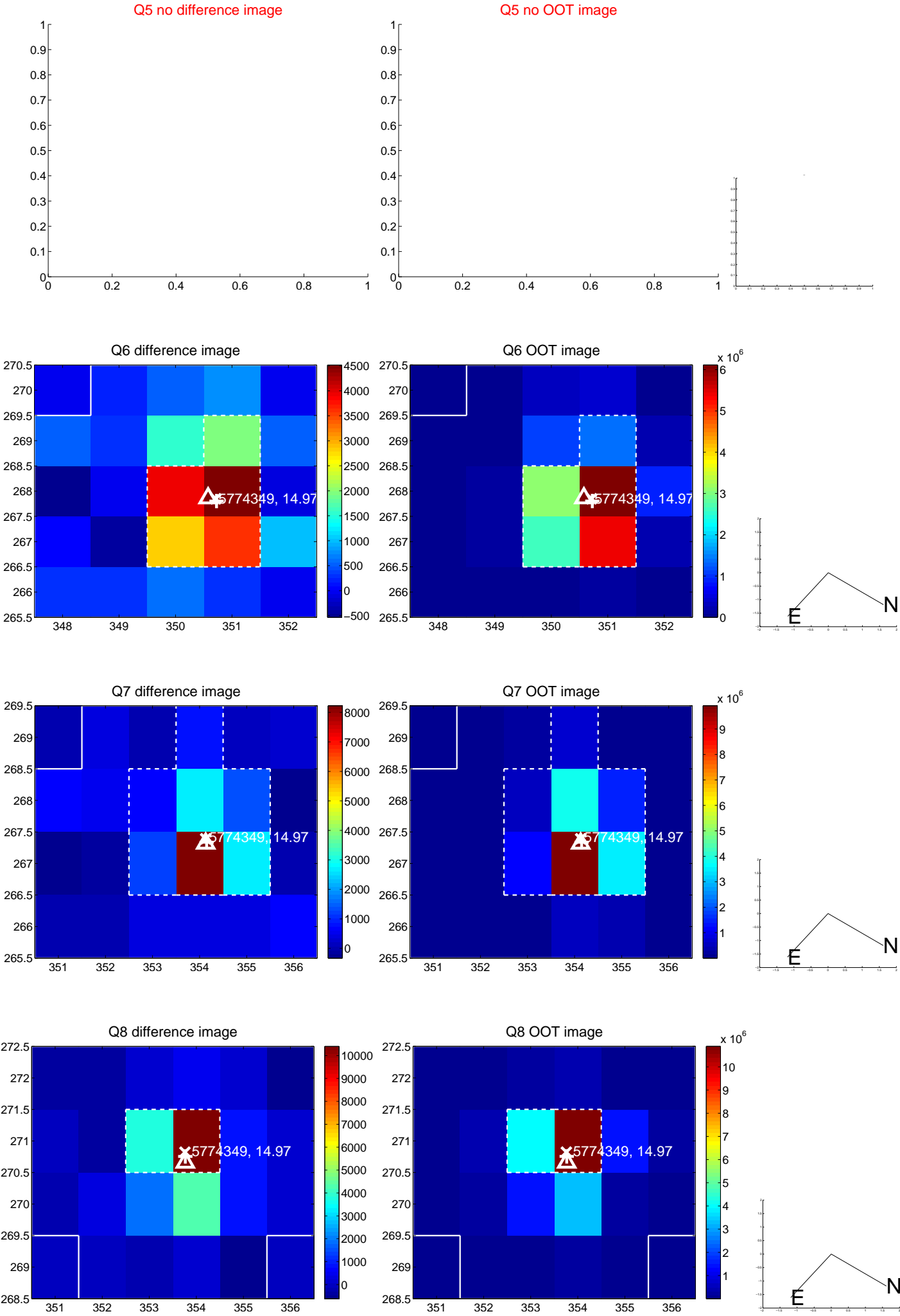


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

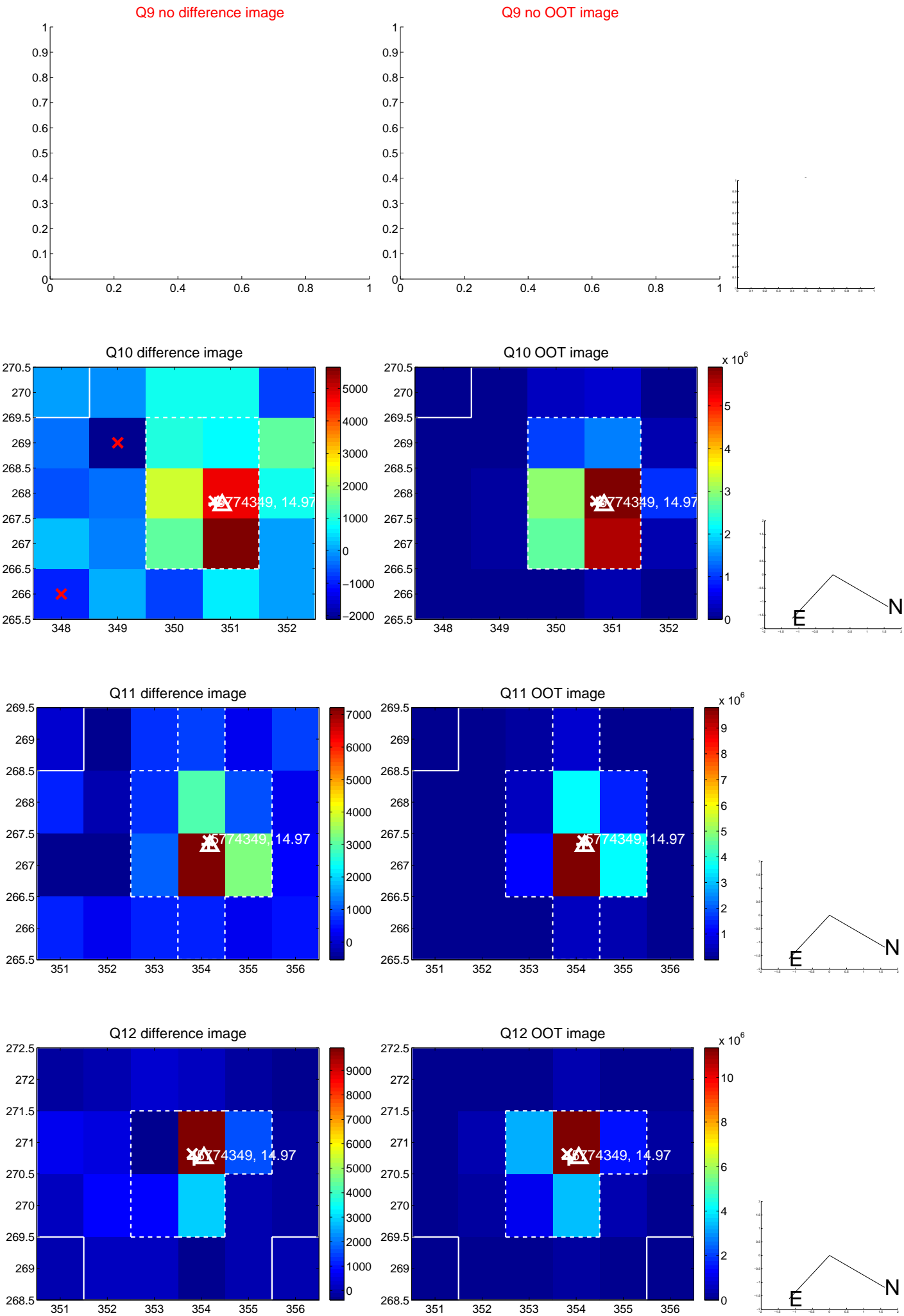
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



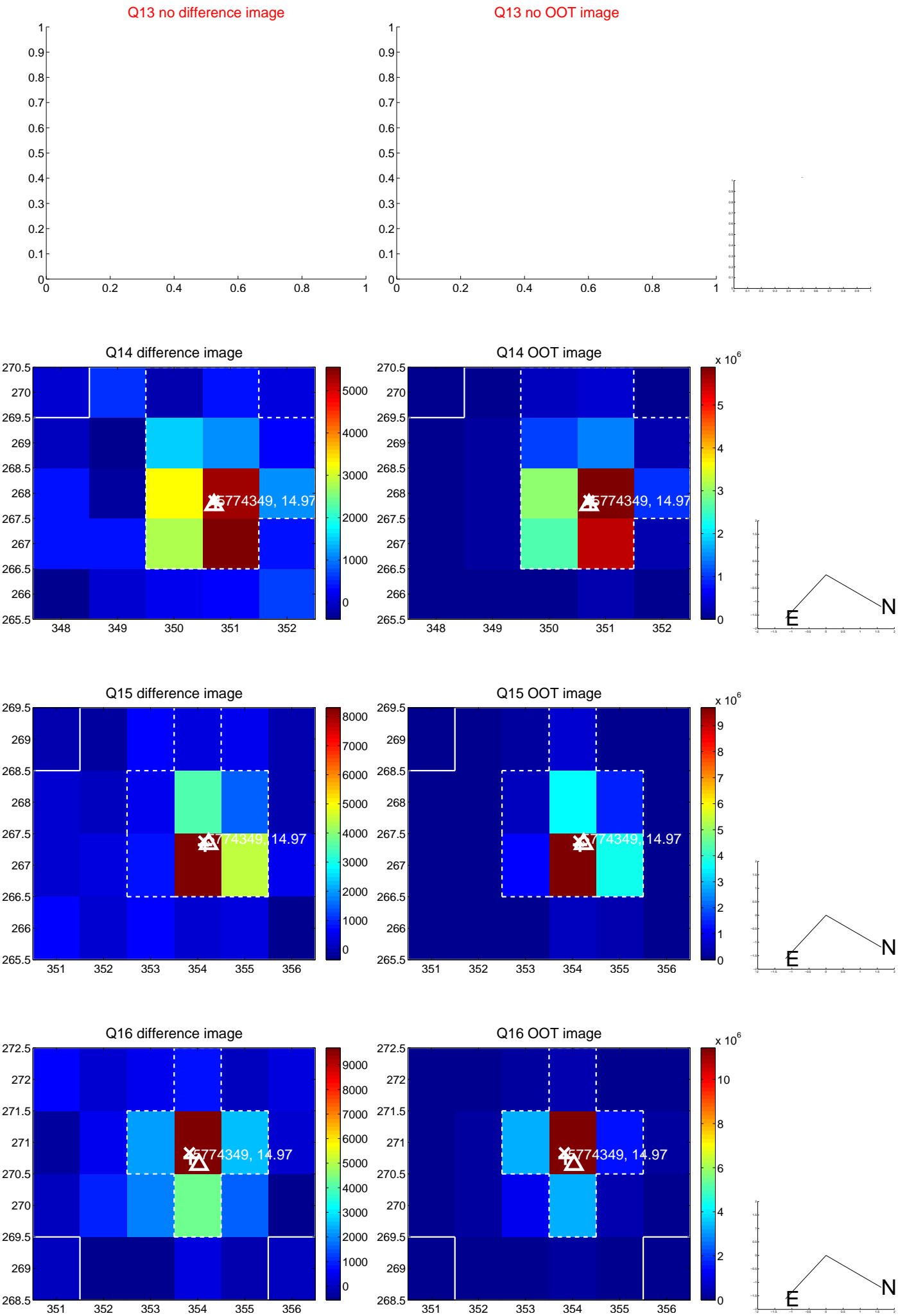
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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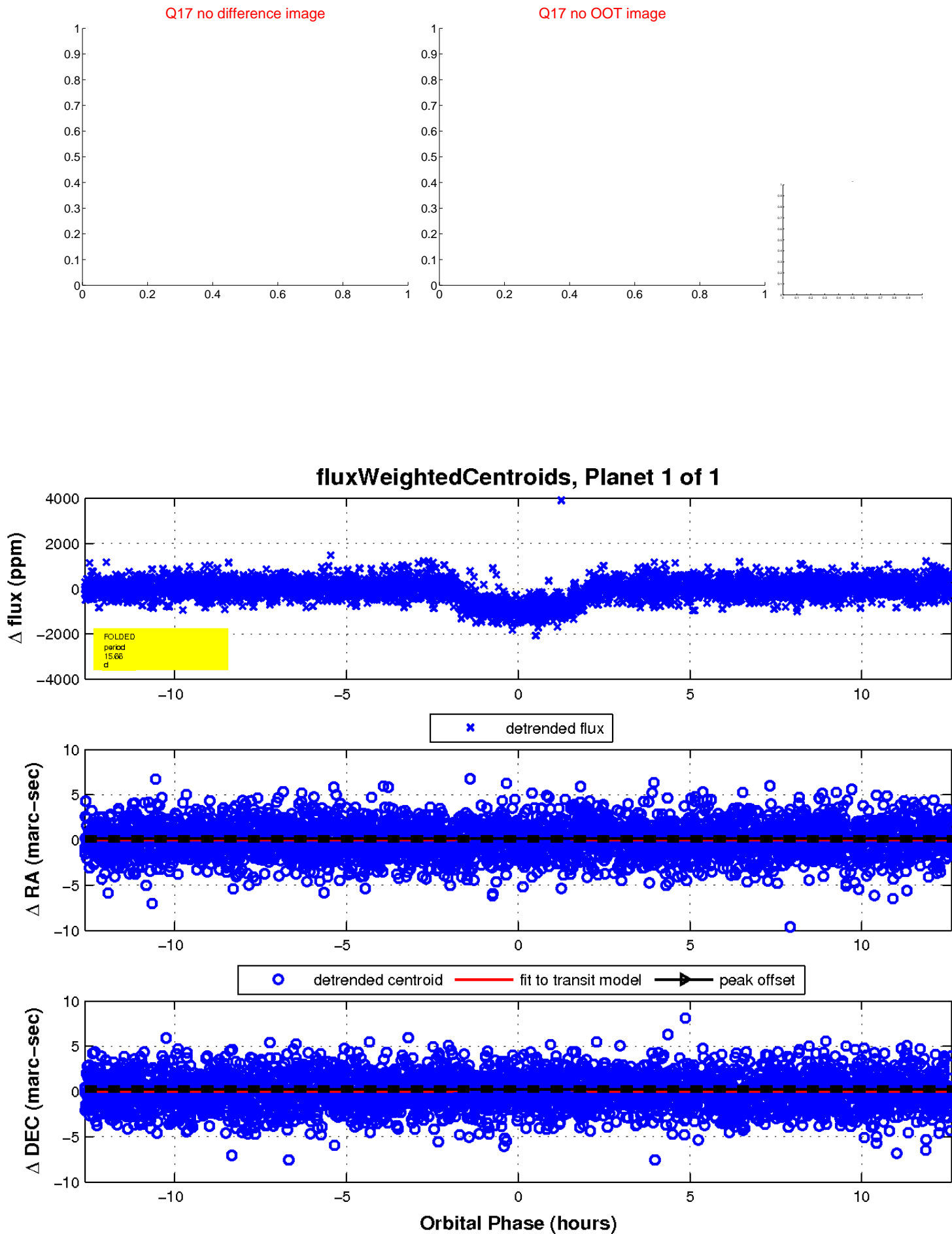


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

