

# KIC 004352050

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004352050-01	OBS	No	460.294483	173.207060	136.2	15.174	7.4	6.9	1.62	6124	2.06	2.59

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004352050-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

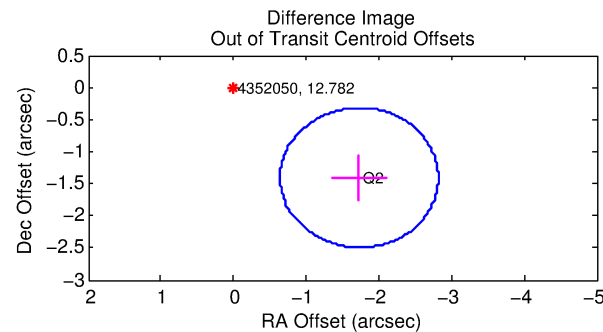
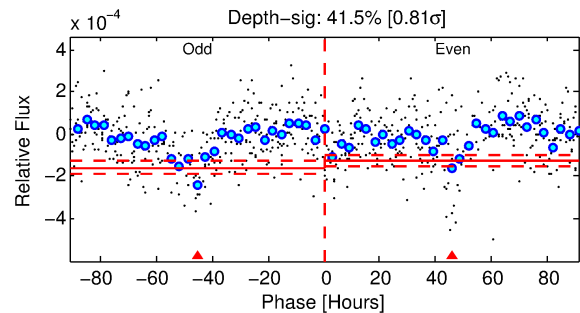
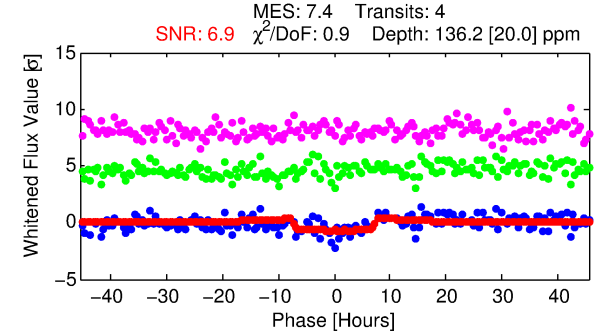
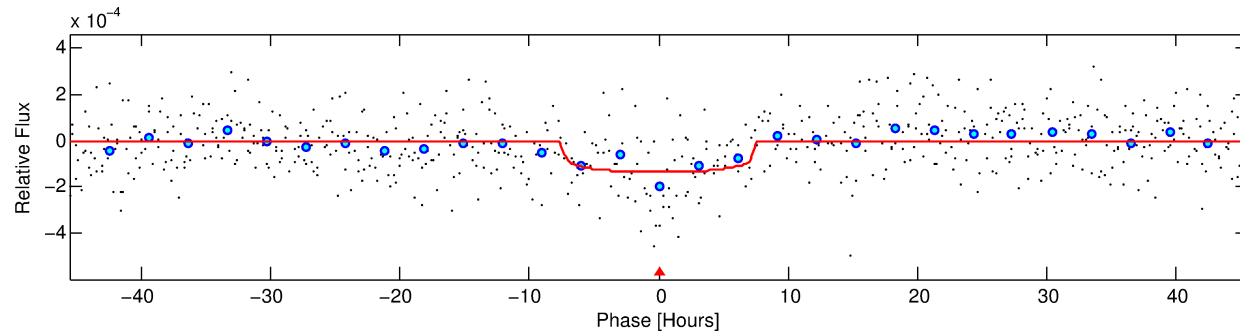
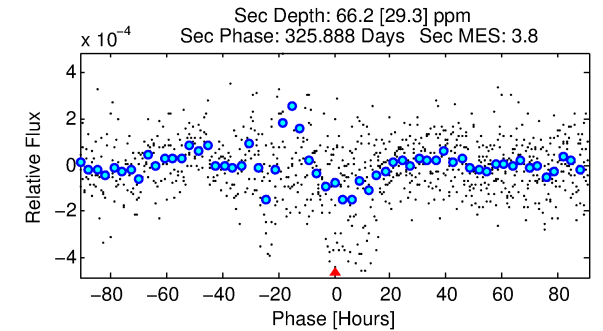
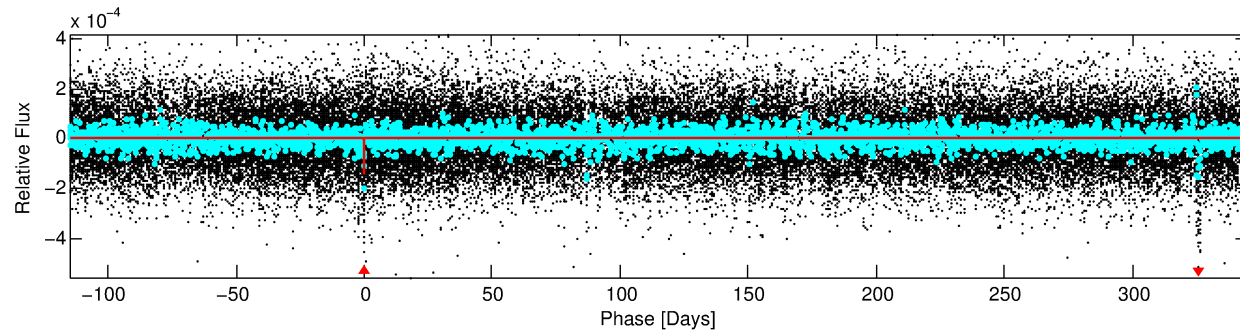
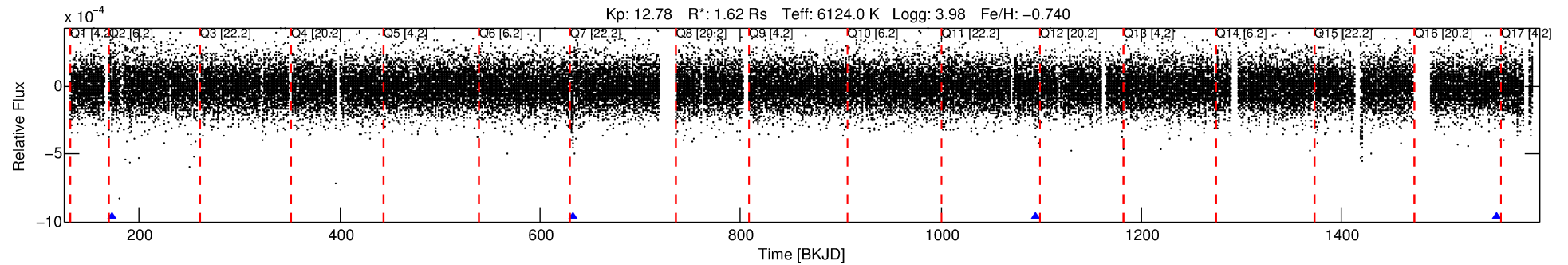
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004352050-01

No Significant Match Found

# DV One-Page Summary

KIC: 4352050 Candidate: 1 of 1 Period: 460.294 d



## DV Fit Results:

Period = 460.29448 [0.01041] d  
Epoch = 173.2071 [0.0213] BKJD  
Rp/R\* = 0.0117 [0.0036]  
a/R\* = 151.84 [238.48]  
b = 0.77 [0.83]  
Seff = 2.59 [1.46]  
Teq = 323 [46] K  
Rp = 2.06 [0.91] Re  
a = 1.1286 [0.3730] AU  
Ag = 10898.17 [10156.29] [1.07σ]  
Teffp = 5109 [976] K [4.90σ]

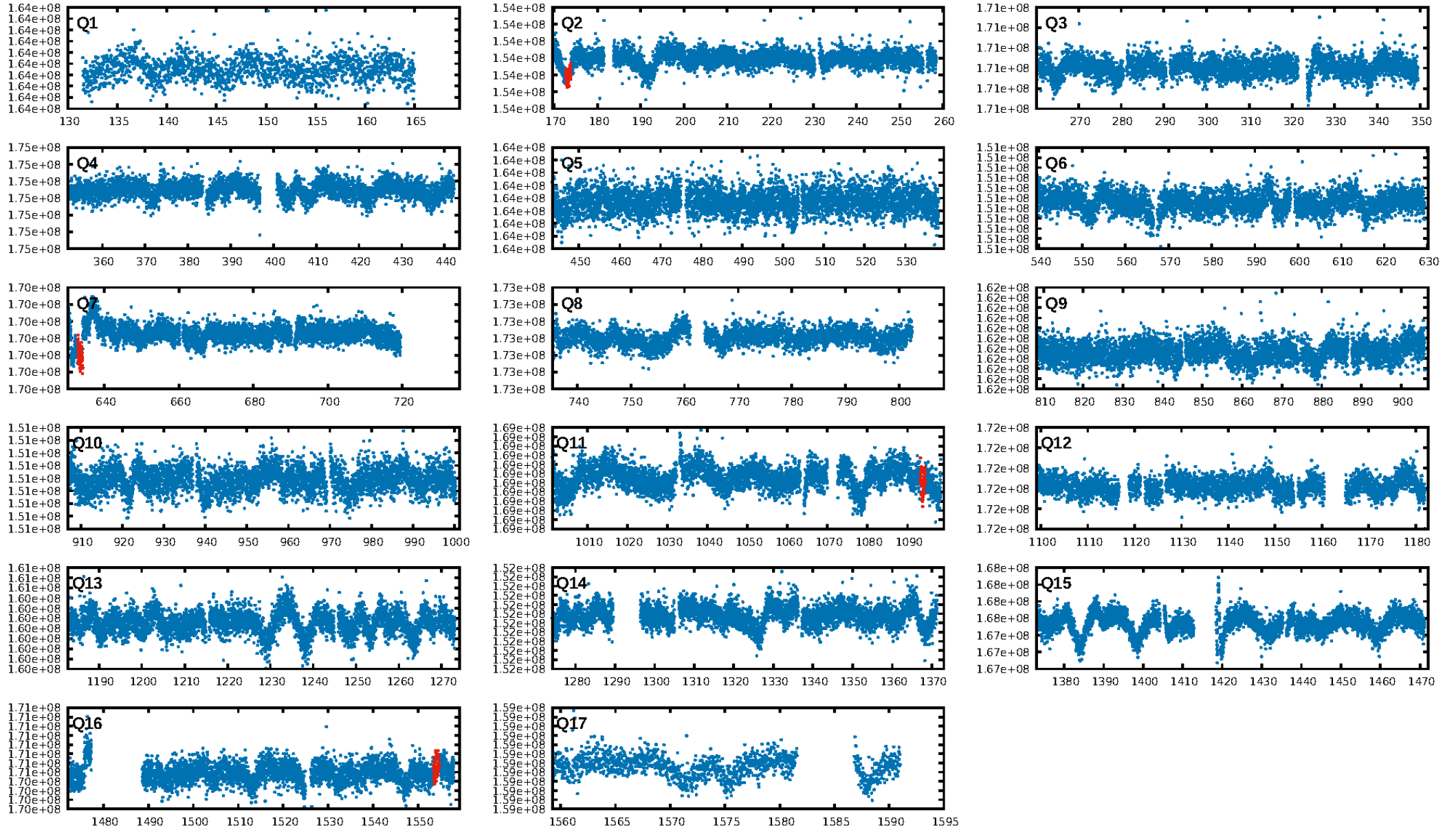
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.03e-09  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 71.47  
Centroid-sig: 85.5%  
Centroid-so: 0.524 arcsec [0.28σ]  
OotOffset-rm: 2.229 arcsec [6.14σ]  
KicOffset-rm: 2.196 arcsec [6.05σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

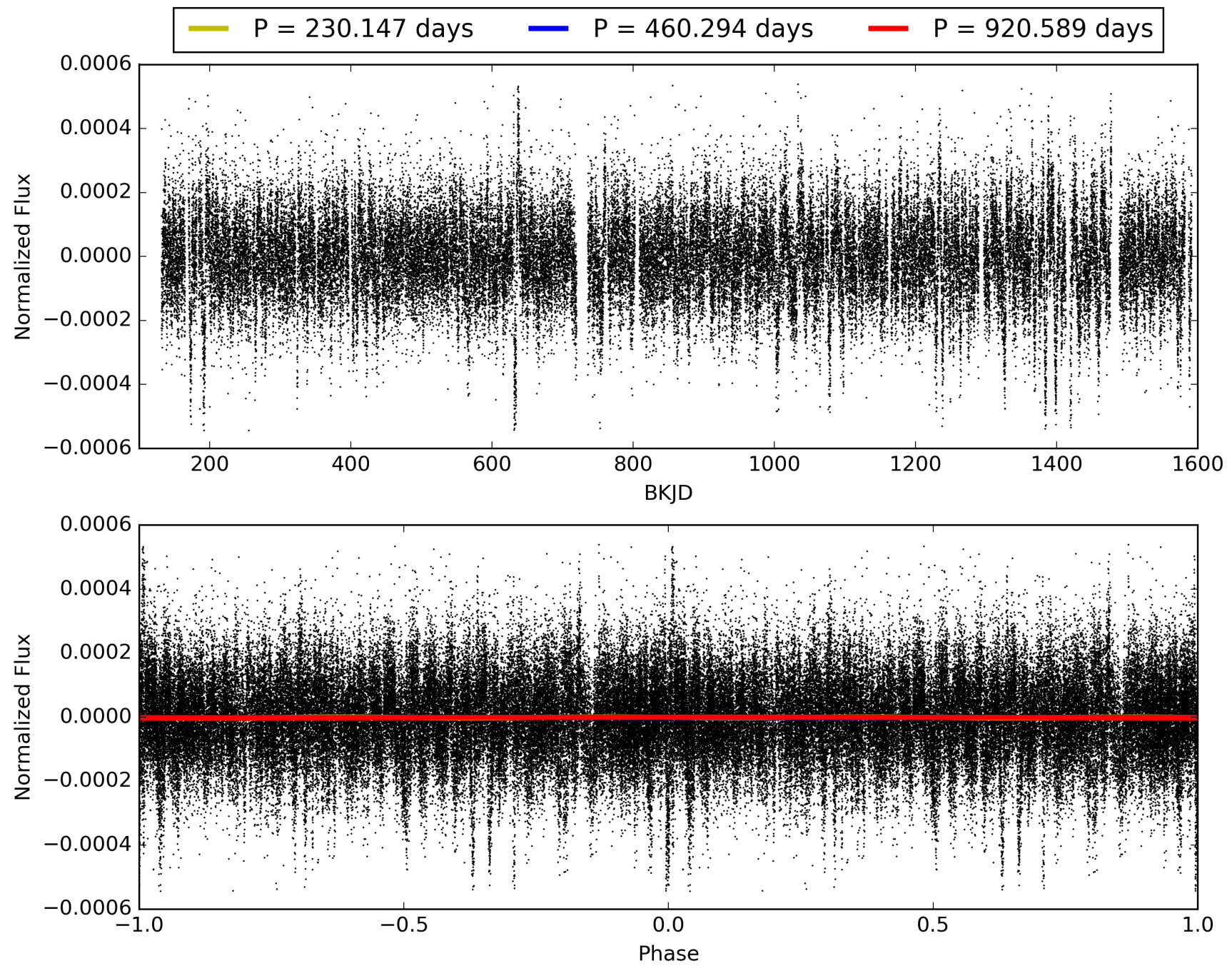
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:04:19 Z

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

# TCE 004352050-01, PDC Light Curves

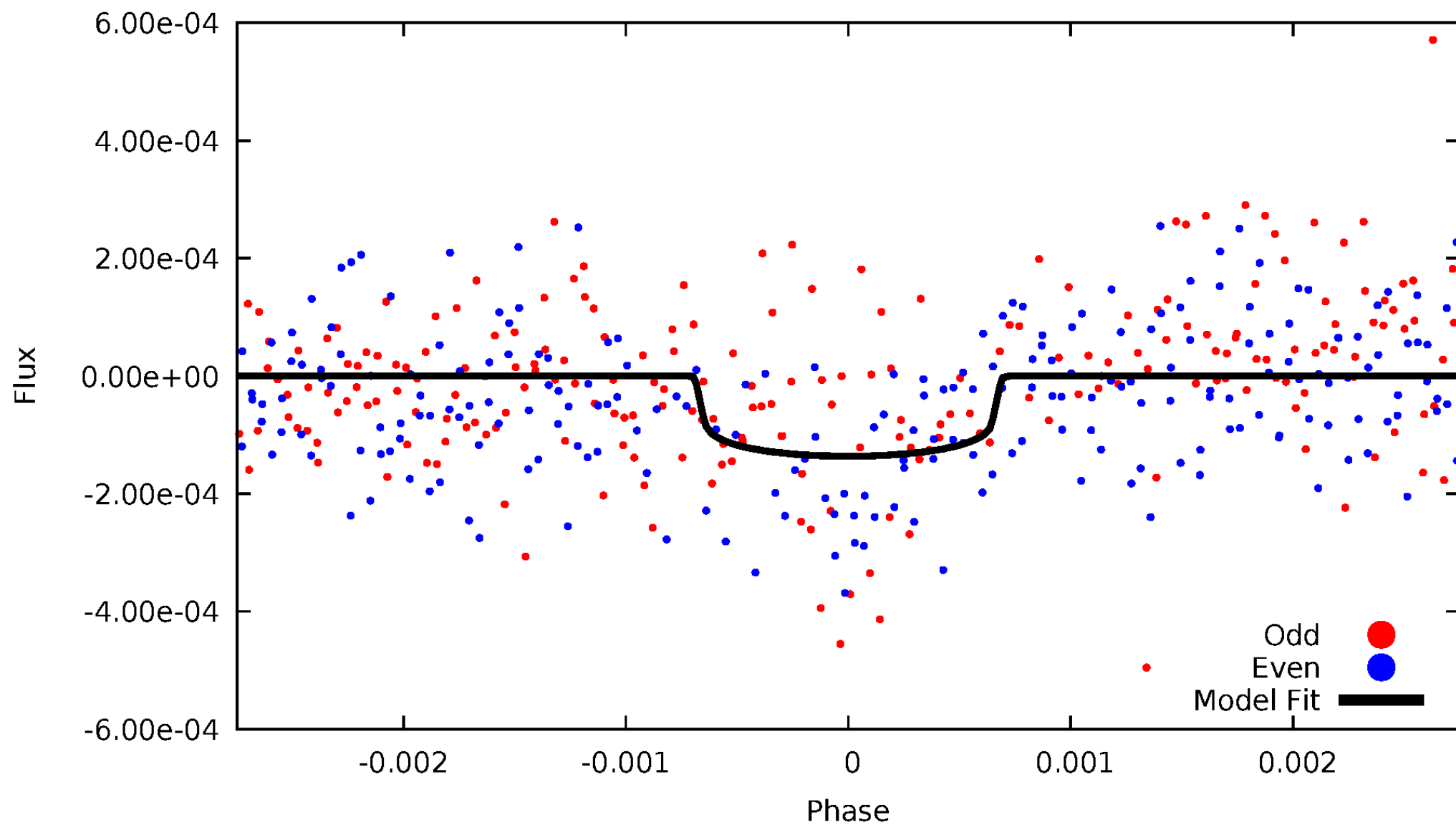


TCE 004352050-01



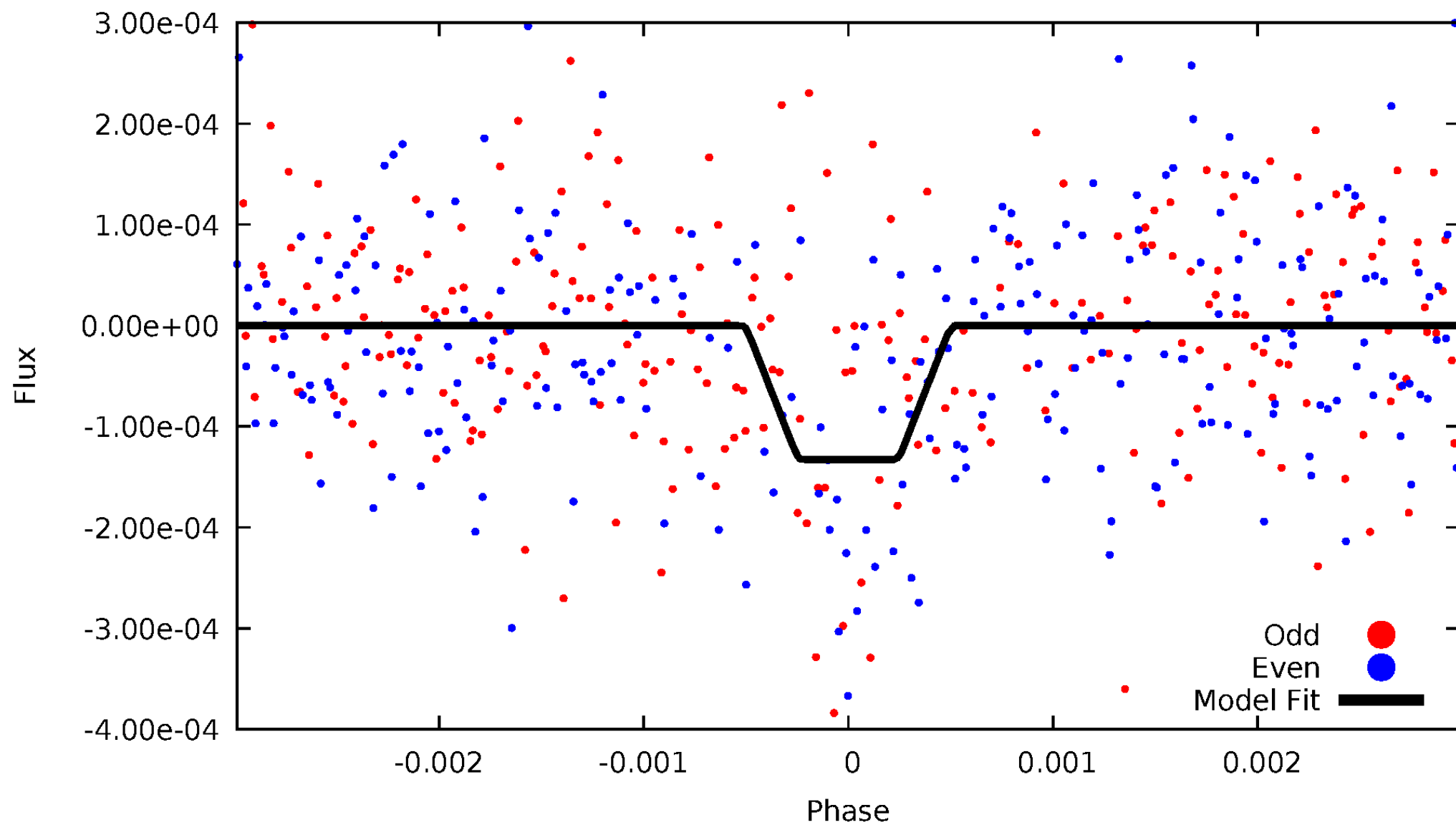
# DV Odd/Even

TCE 004352050-01



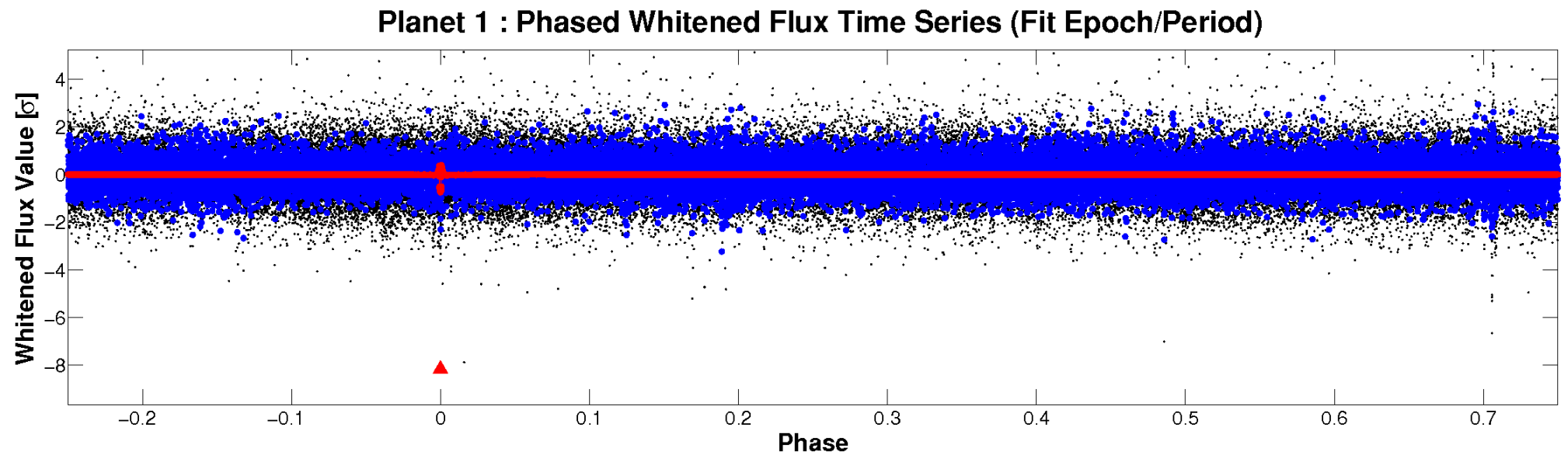
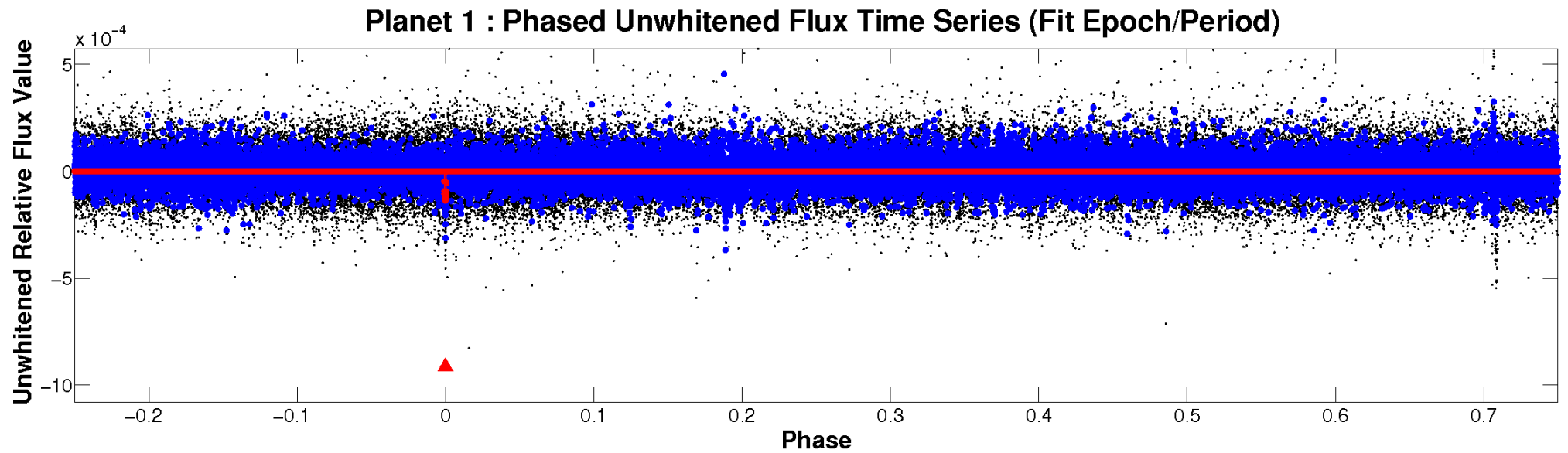
# ALT Odd/Even

TCE 004352050-01



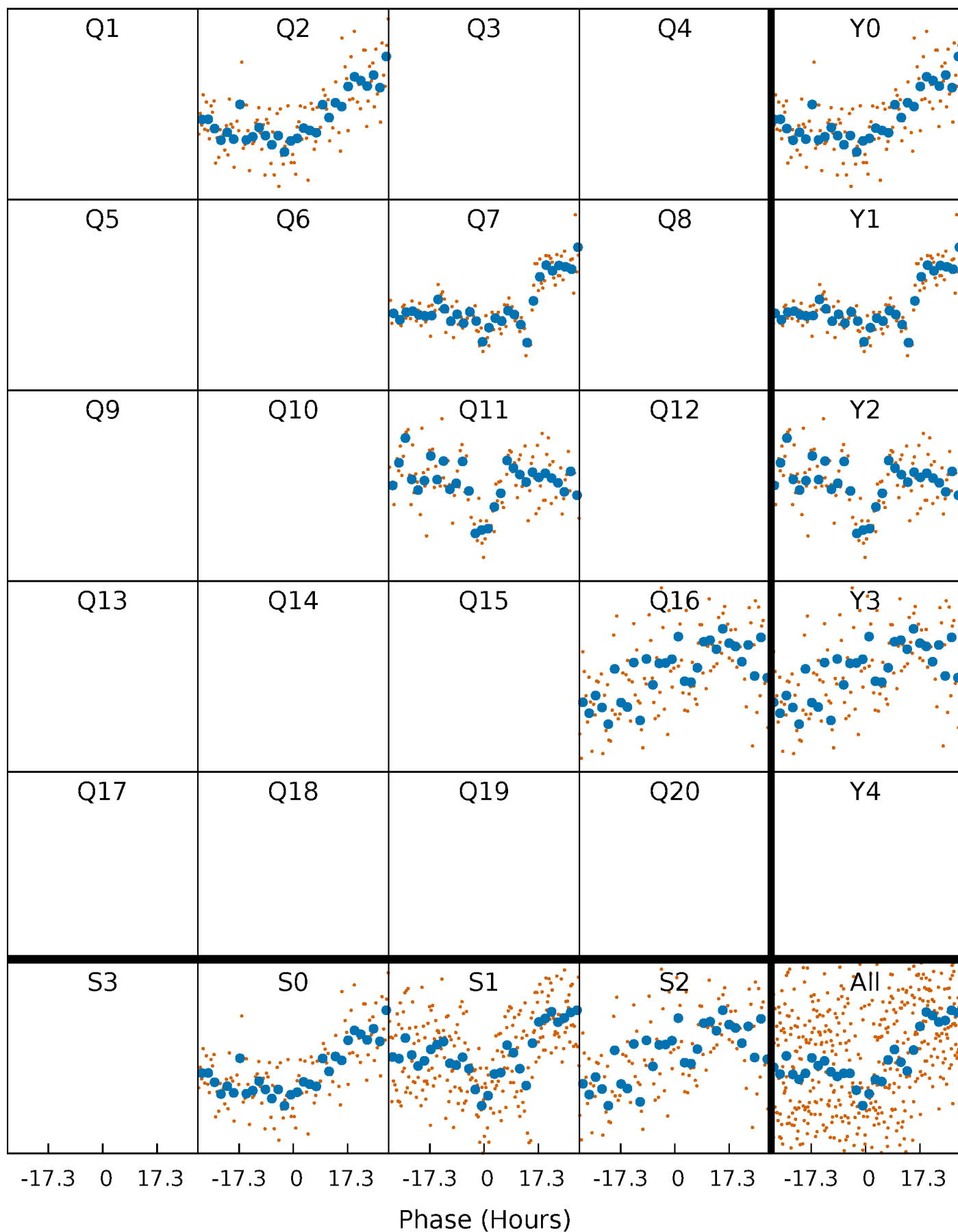


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

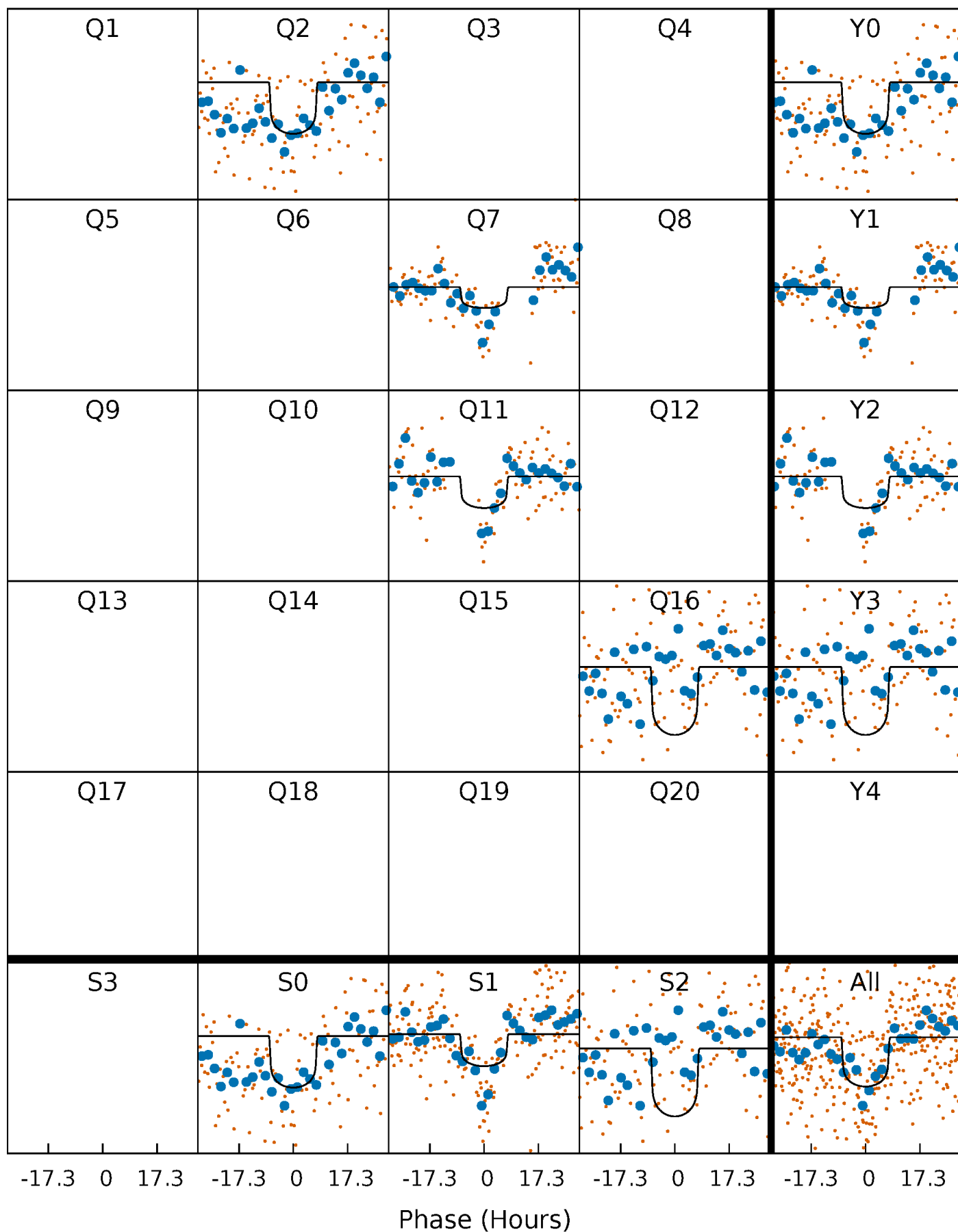
TCE 004352050-01 P=460.294483 Days  $T_0=173.207060$  (BKJD)





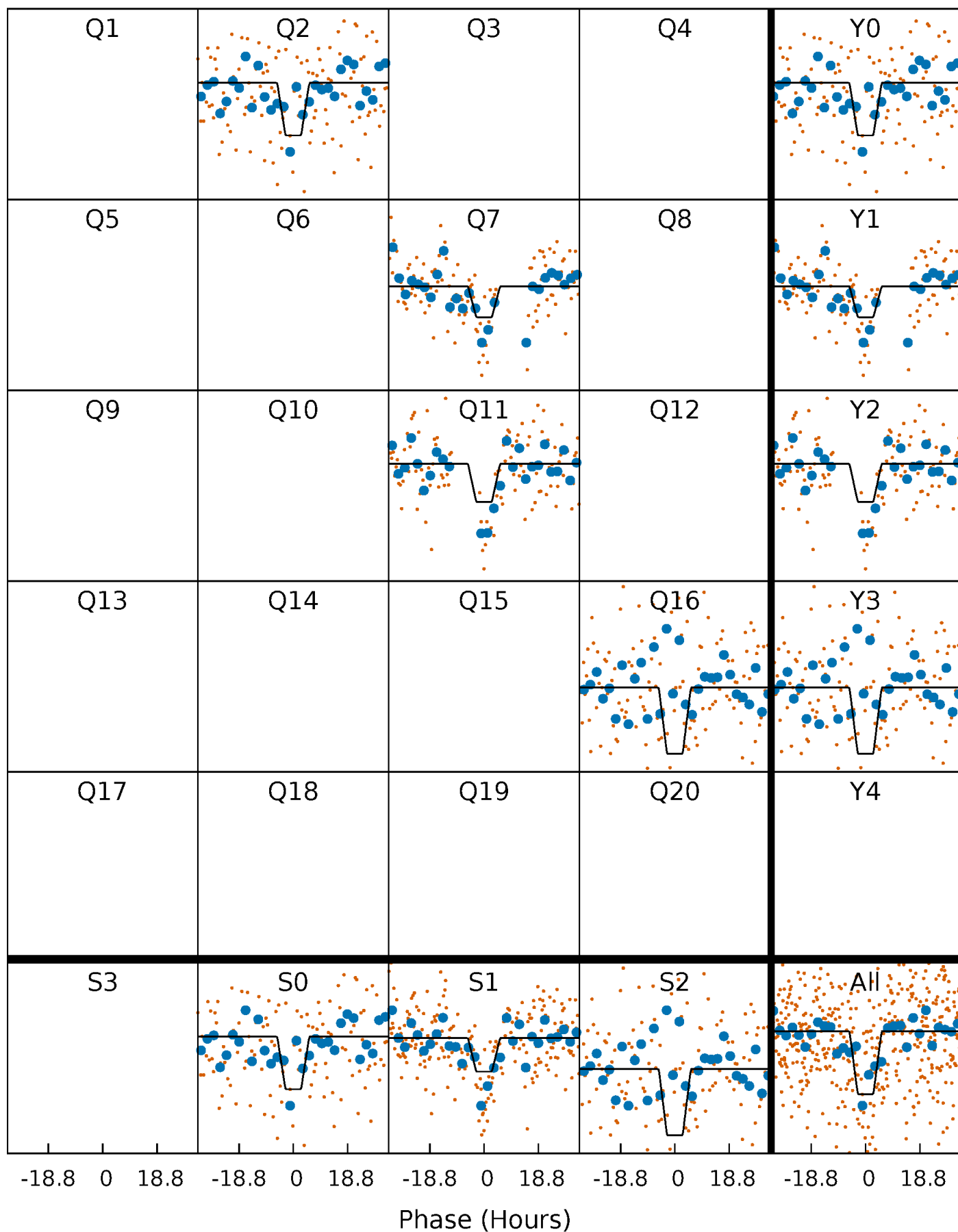
# DV Quarter-Phased Transit Curves

TCE 004352050-01 P=460.294483 Days  $T_0=173.207060$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

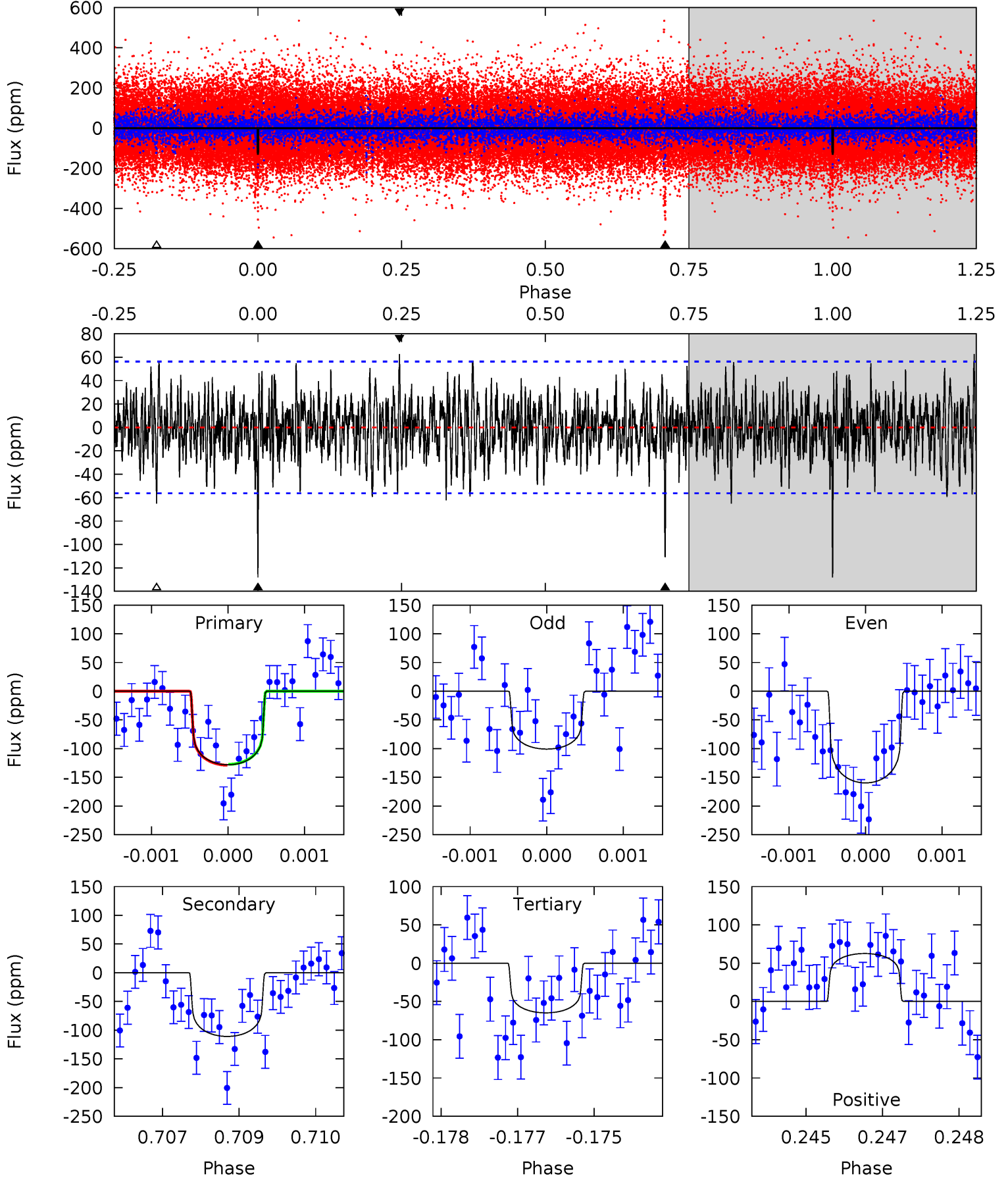
TCE 004352050-01 P=460.272750 Days  $T_0=173.244629$  (BKJD)



# DV Model-Shift Uniqueness Test

004352050-01, P = 460.294483 Days, E = 173.207060 Days

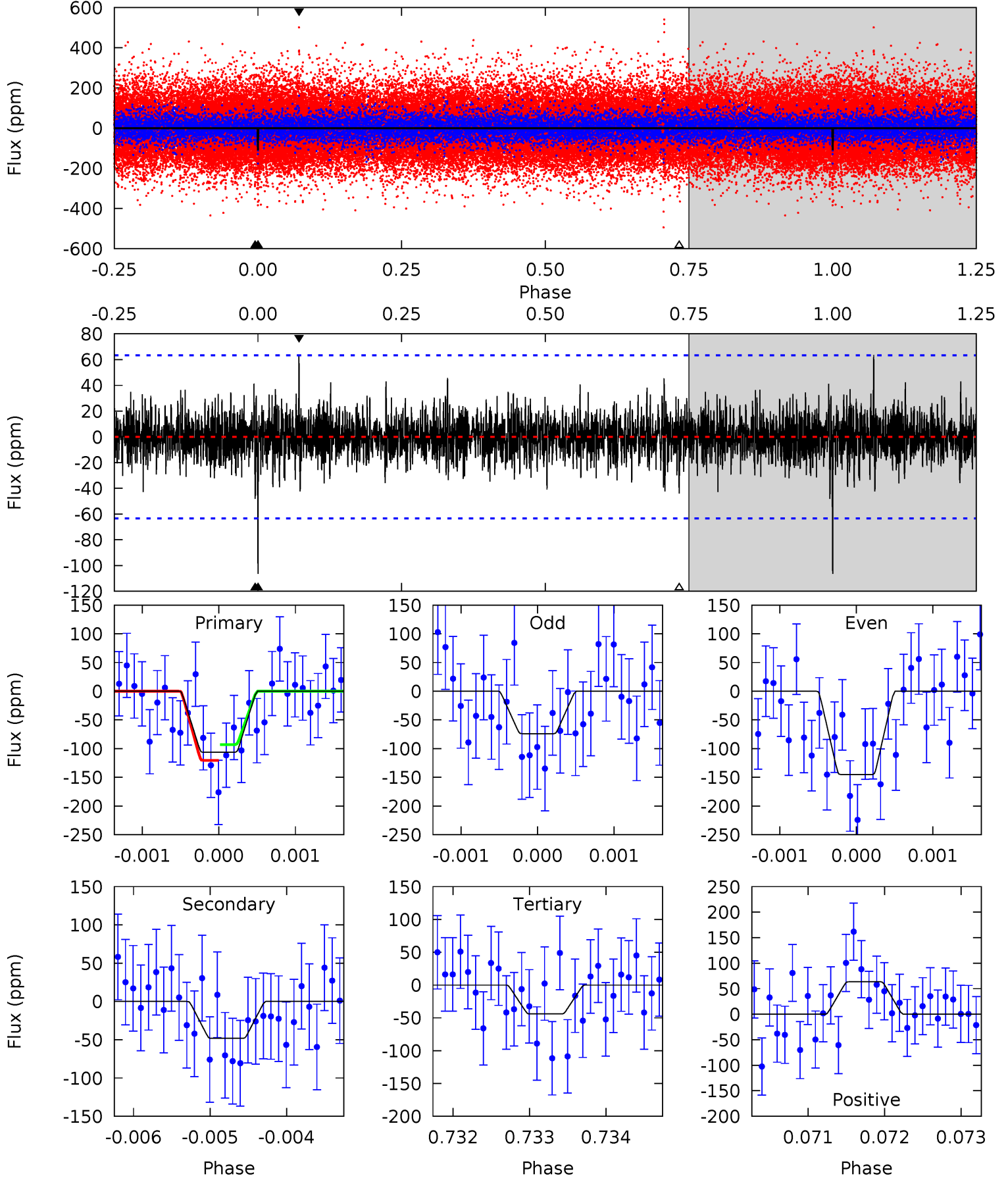
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	10.6	6.21	6.00	5.39	3.19	1.82	6.06	6.28	4.41	4.63	2.81	0.83	0.33	0.07



# Alt Model-Shift Uniqueness Test

004352050-01, P = 460.272750 Days, E = 173.244629 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
9.15	4.14	3.78	5.46	5.45	3.28	1.10	5.37	3.69	0.36	-1.32	3.04	0.89	0.37	1.18



### Stellar Parameters For KIC 004352050

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6124^{+204}_{-167}$	$3.977^{+0.330}_{-0.132}$	$-0.740^{+0.300}_{-0.250}$	$1.617^{+0.343}_{-0.515}$	$0.903^{+0.130}_{-0.097}$	$0.301^{+0.625}_{-0.116}$
	+3%/-3%	+8%/-3%	+41%/-34%	+21%/-32%	+14%/-11%	+208%/-39%
Source	PHO1	FLK73	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 004352050-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-111 \pm 10$	$1.94^{+0.76}_{-0.70}$	$446^{+34}_{-41}$	$5822^{+1328}_{-698}$	$20483^{+29180}_{-9898}$
Alt.	$-48 \pm 12$	$1.90^{+0.74}_{-0.65}$	$446^{+31}_{-40}$	$4885^{+976}_{-568}$	$9140^{+13312}_{-4602}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

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

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

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

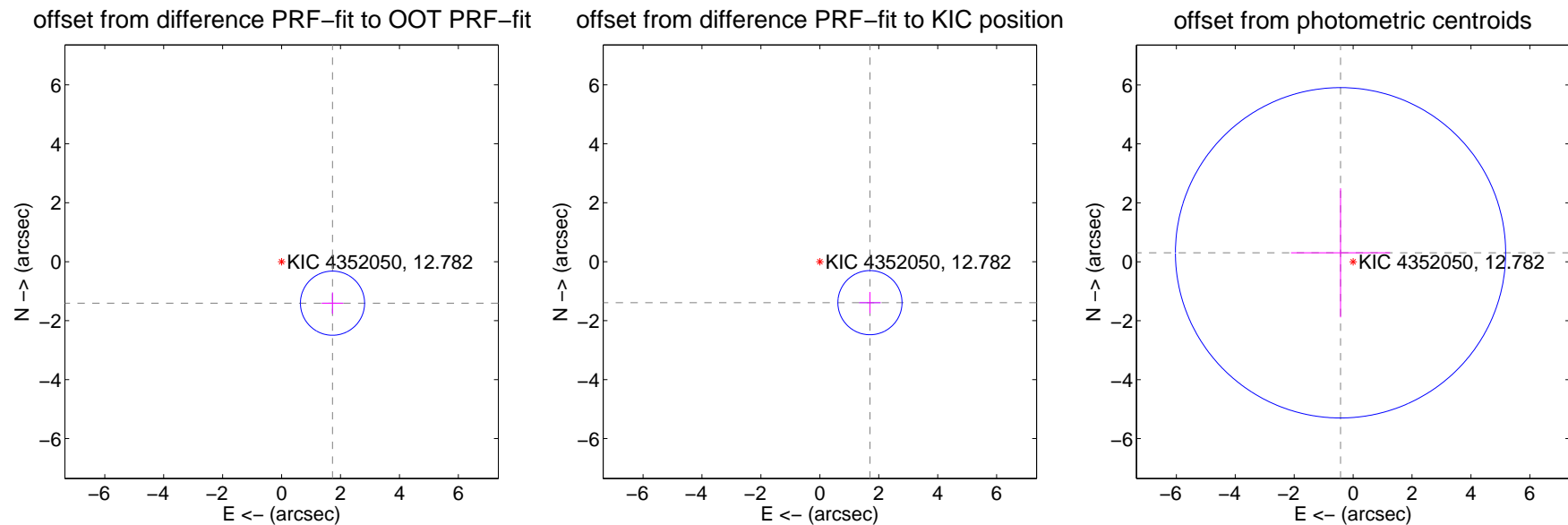
## DV Centroid Data

Supplemental centroid analysis for 004352050-01. Kepler magnitude: 12.78. Transit SNR 6.94

There are 1 quarters with good PRF difference image offsets

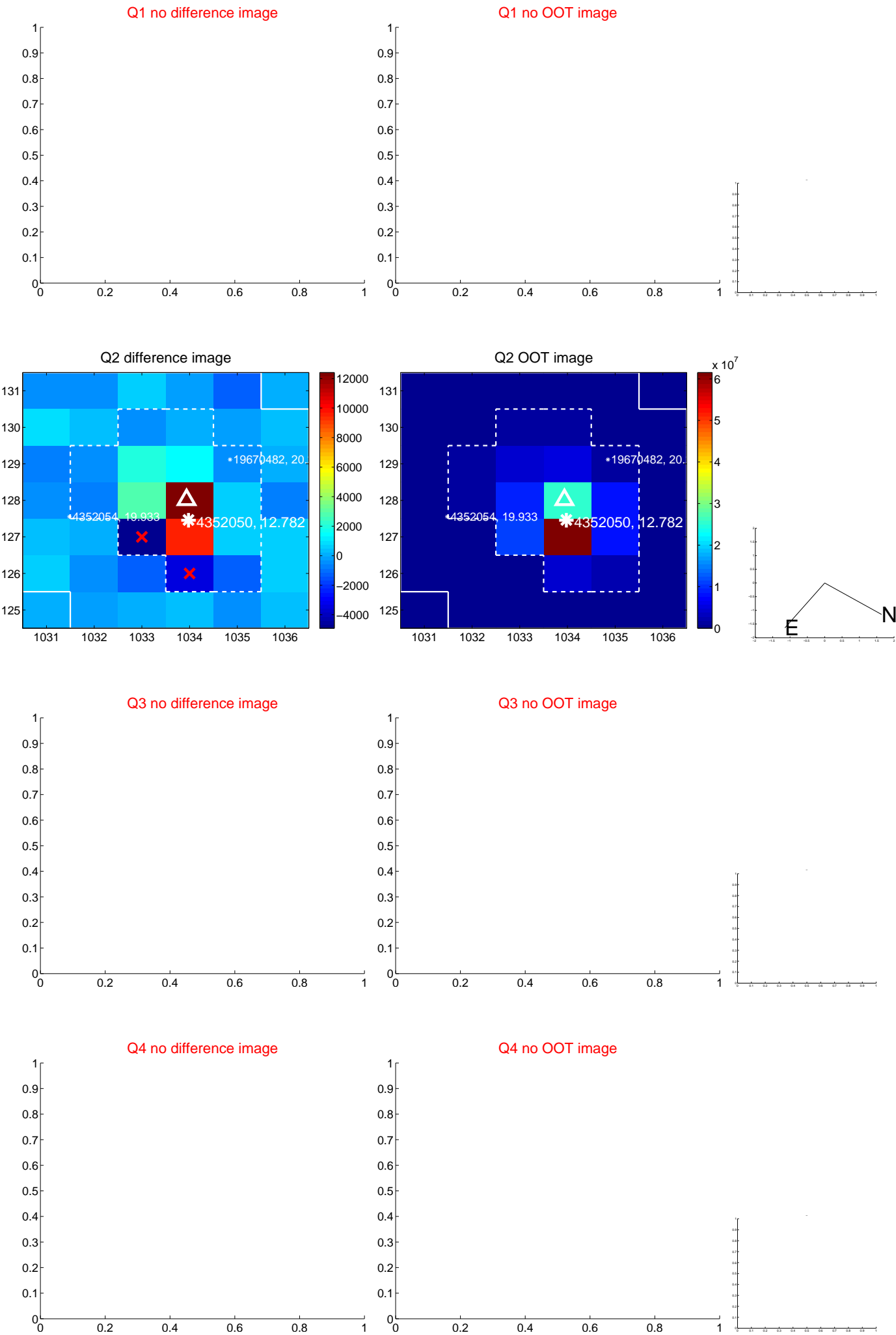
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.229 \pm 0.363$	6.14	$-1.729 \pm 0.365$	$-1.407 \pm 0.360$
PRF-fit source offset from KIC position	$2.196 \pm 0.363$	6.05	$-1.701 \pm 0.365$	$-1.389 \pm 0.360$
photometric centroid source offset	$0.52 \pm 1.87$	0.28	$0.43 \pm 1.68$	$0.30 \pm 2.19$



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.





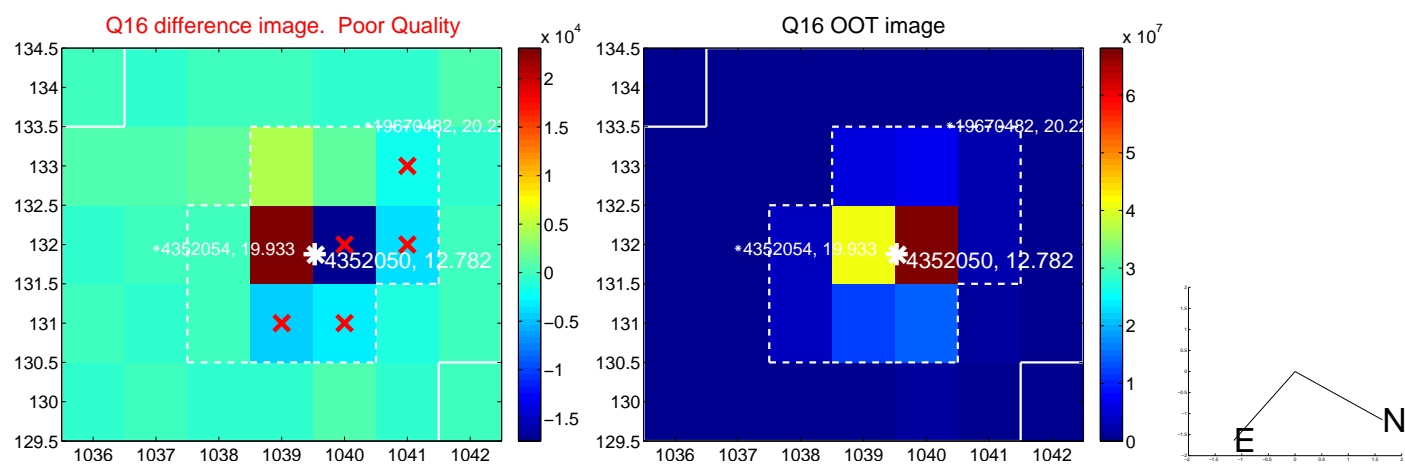
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



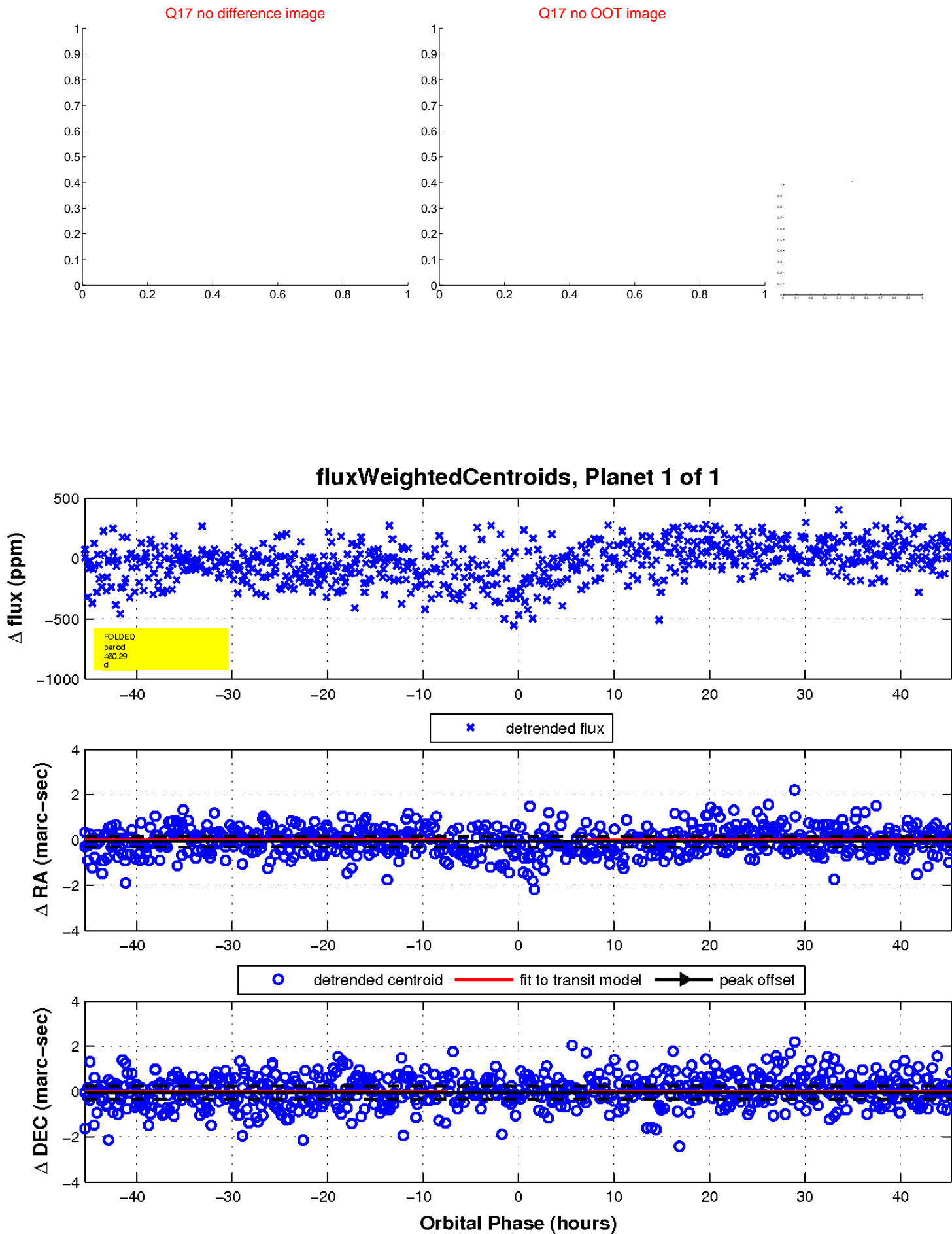
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

