

# KIC 010147634

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010147634-01	OBS	No	415.573054	456.100291	823.8	12.773	9.8	9.3	1.00	5887	3.04	0.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010147634-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—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.

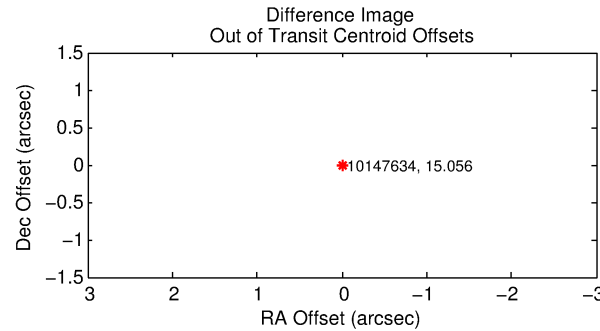
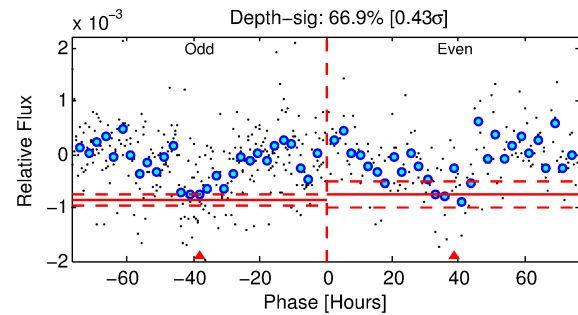
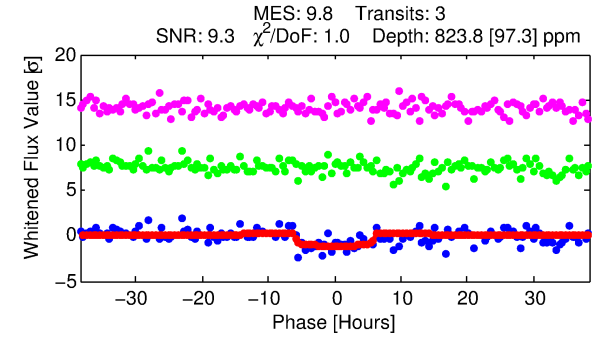
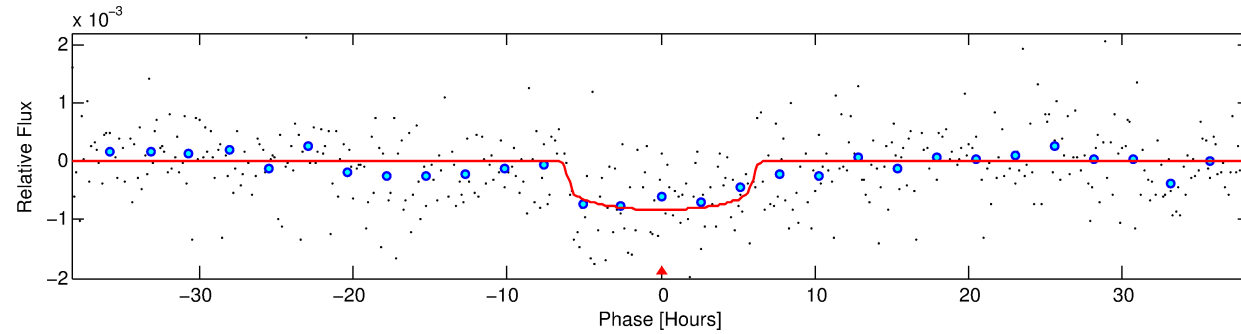
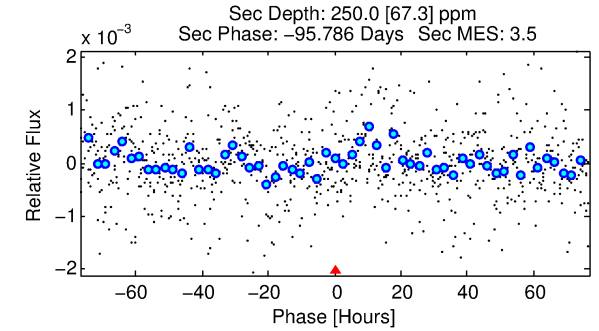
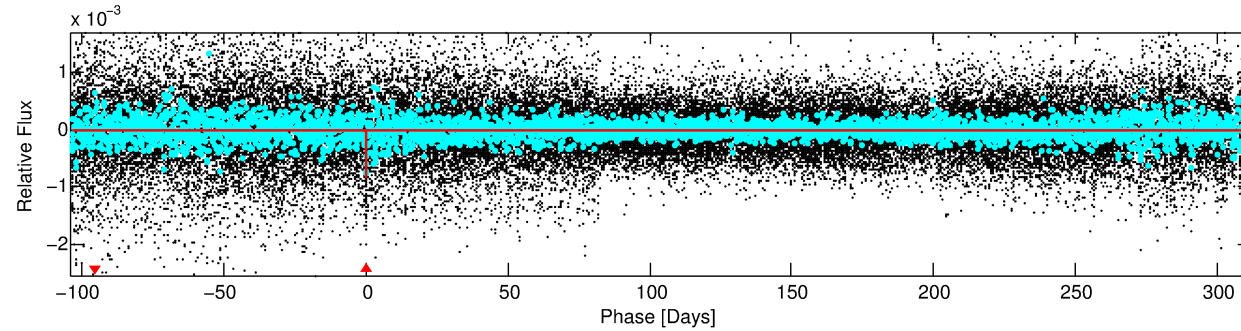
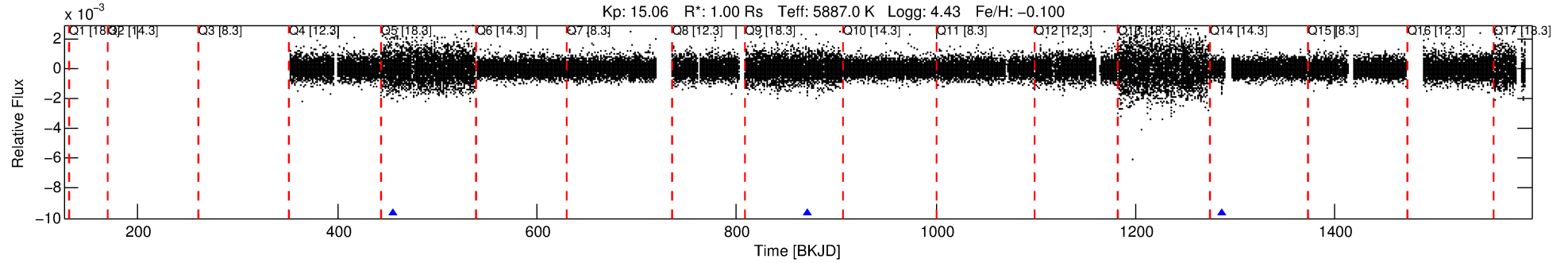
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010147634-01

No Significant Match Found

# DV One-Page Summary

KIC: 10147634 Candidate: 1 of 1 Period: 415.573 d



## DV Fit Results:

Period = 415.57305 [0.01386] d  
Epoch = 456.1003 [0.0231] BKJD  
Rp/R\* = 0.0279 [0.0090]  
a/R\* = 191.16 [276.22]  
b = 0.68 [1.15]  
Seff = 0.91 [0.36]  
Teq = 249 [24] K  
Rp = 3.04 [1.32] Re  
a = 1.0805 [0.2695] AU  
Ag = 17402.12 [13754.39] [1.27σ]  
Teffp = 4428 [790] K [5.29σ]

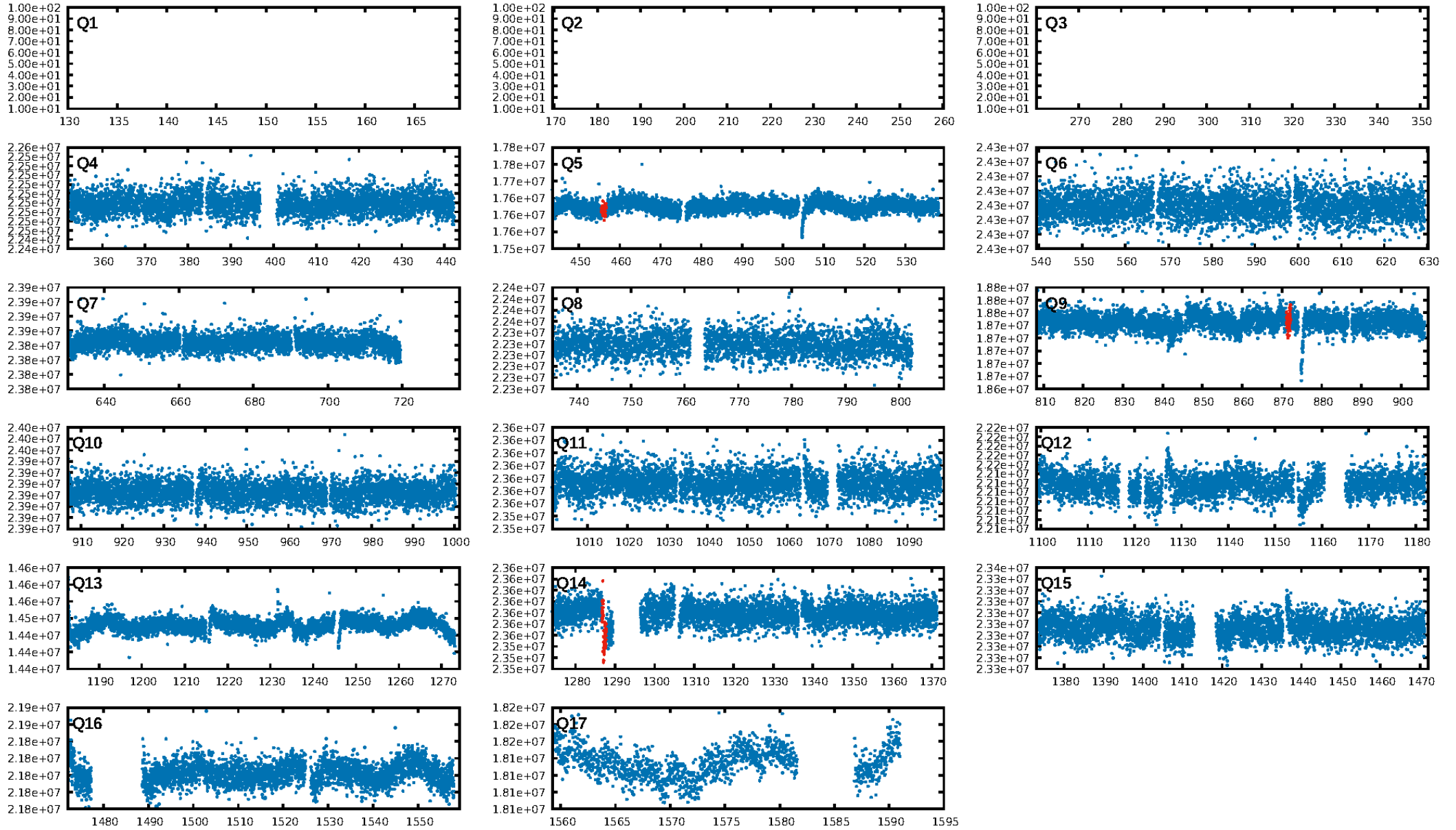
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 24.5%  
ModelChiSquareGof-sig: 93.2%  
**Bootstrap-pfa: 2.75e-12**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: 0.4653**  
Centroid-sig: 0.0%  
**Centroid-so: 4.969 arcsec [33.59σ]**  
OotOffset-rm: N/A  
**KicOffset-rm: 3.334 arcsec [14.86σ]**  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

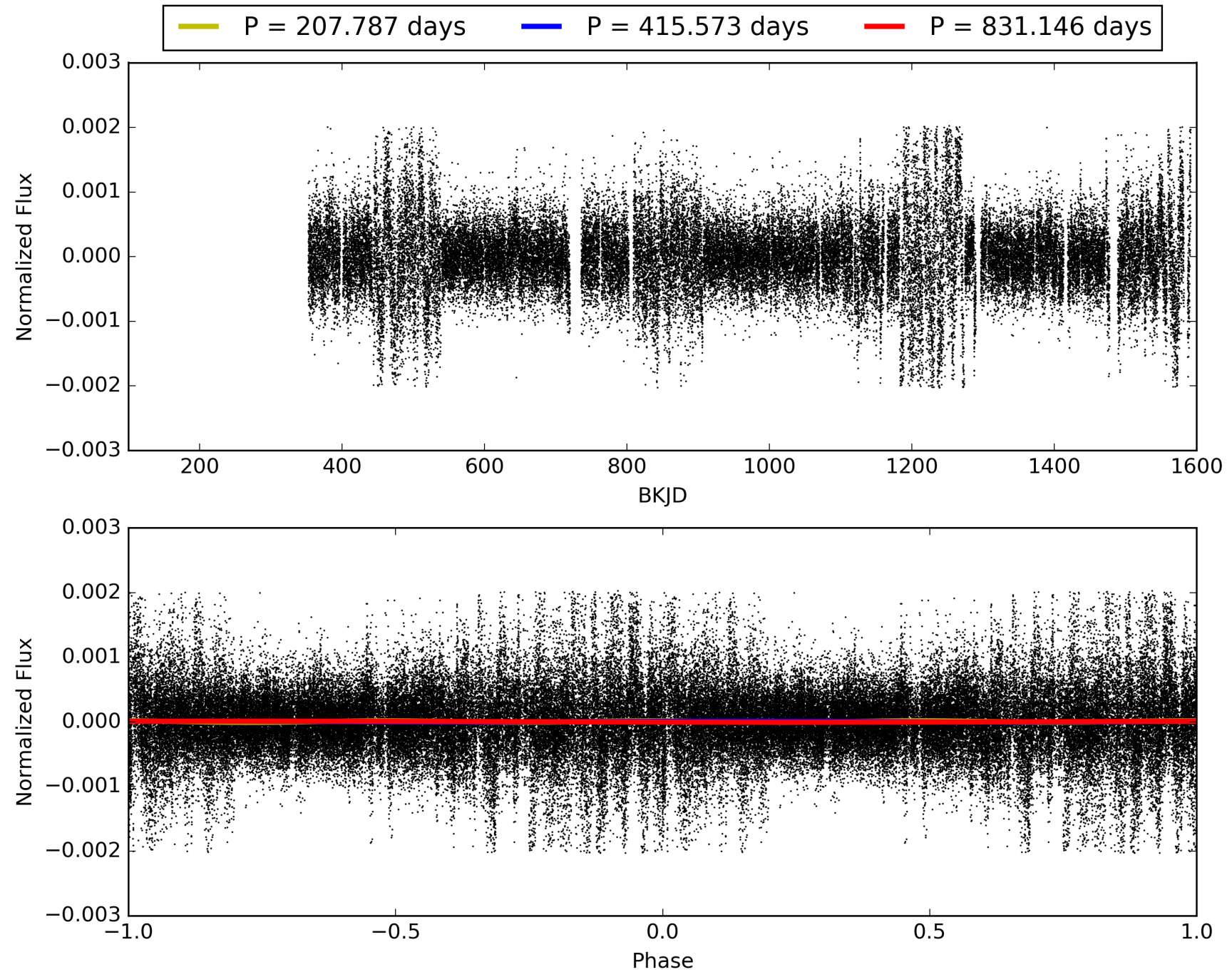
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:47:27 Z

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

# TCE 010147634-01, PDC Light Curves

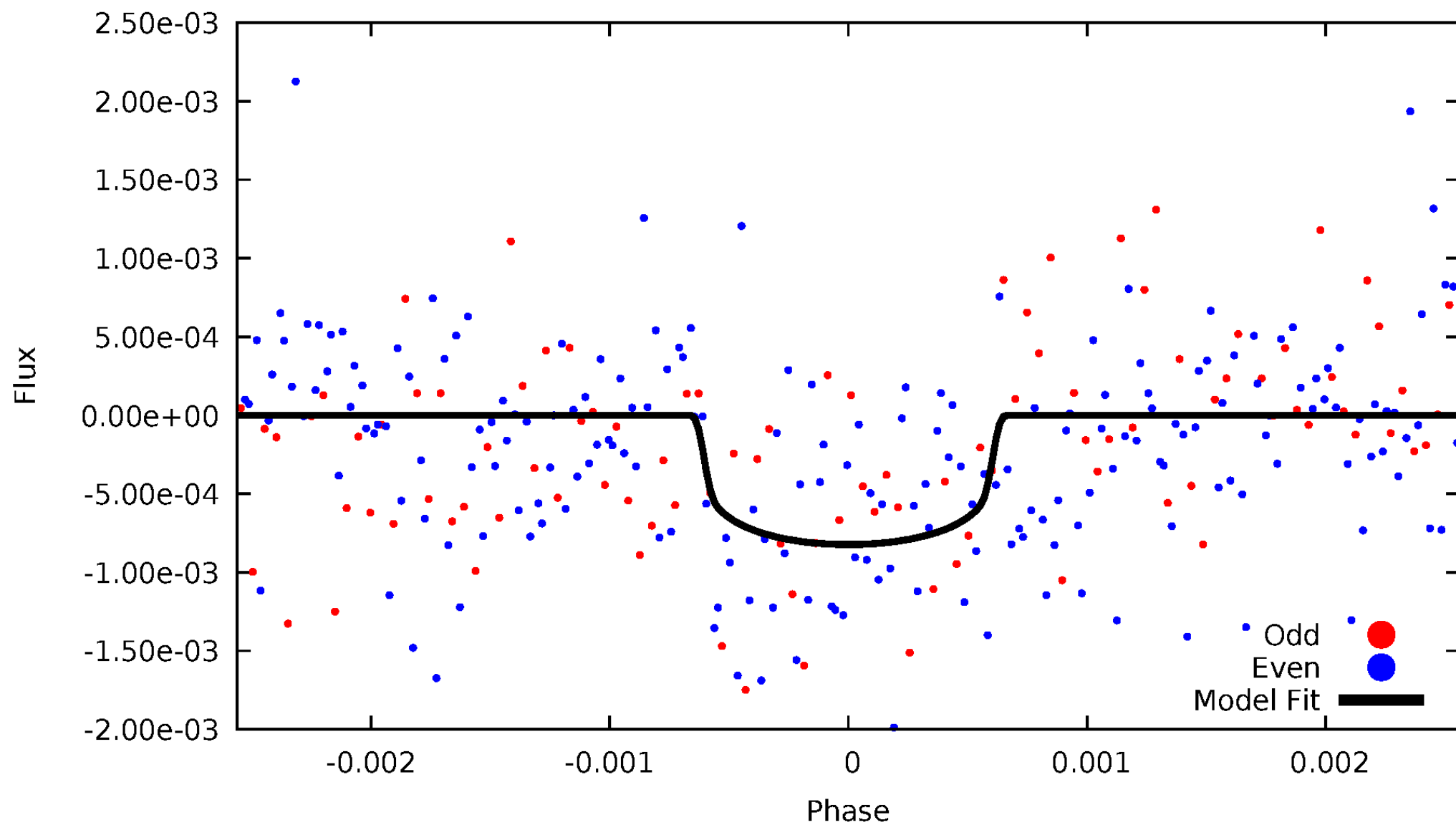


# TCE 010147634-01



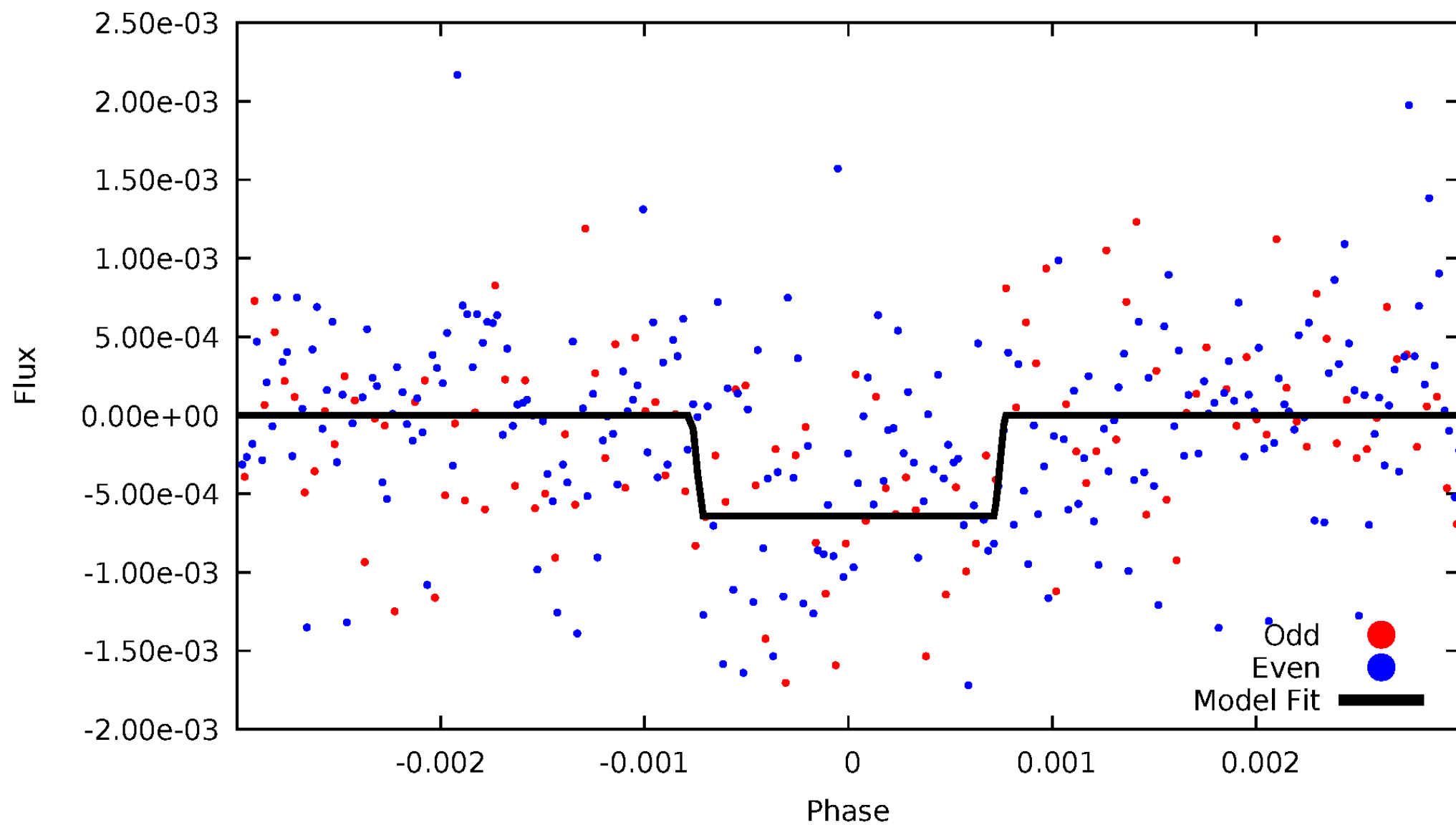
# DV Odd/Even

TCE 010147634-01

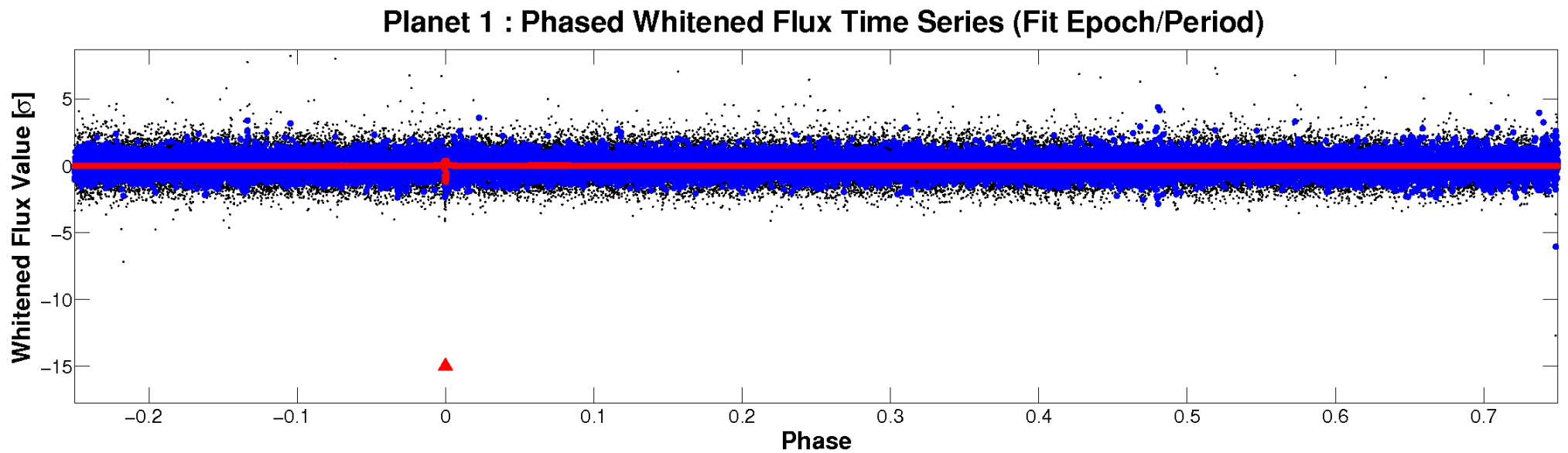
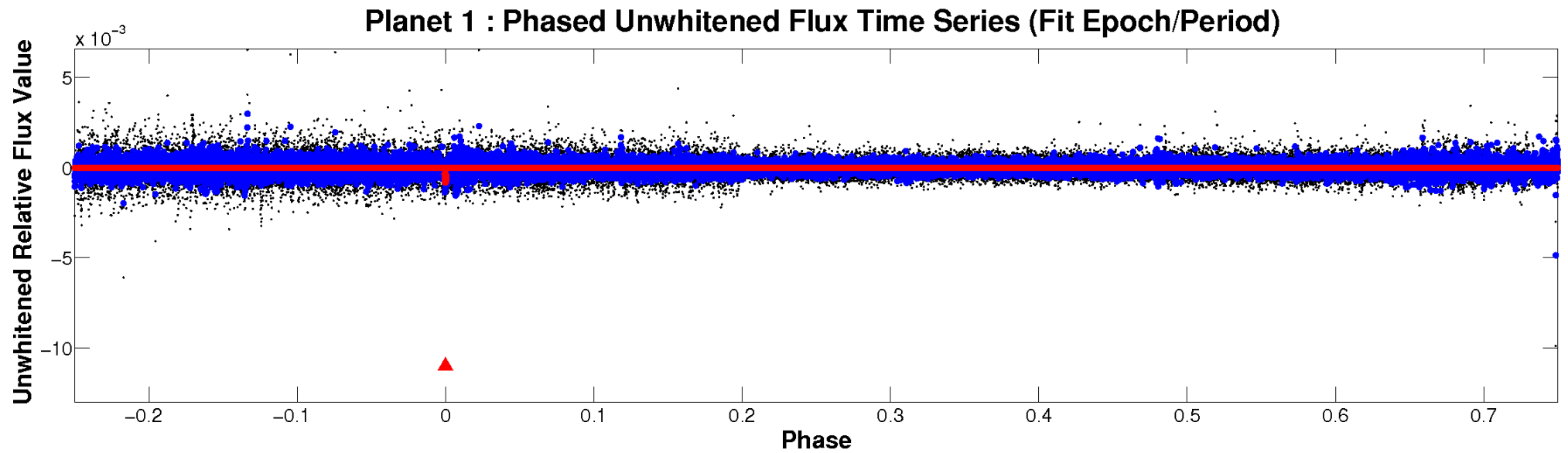


# ALT Odd/Even

TCE 010147634-01

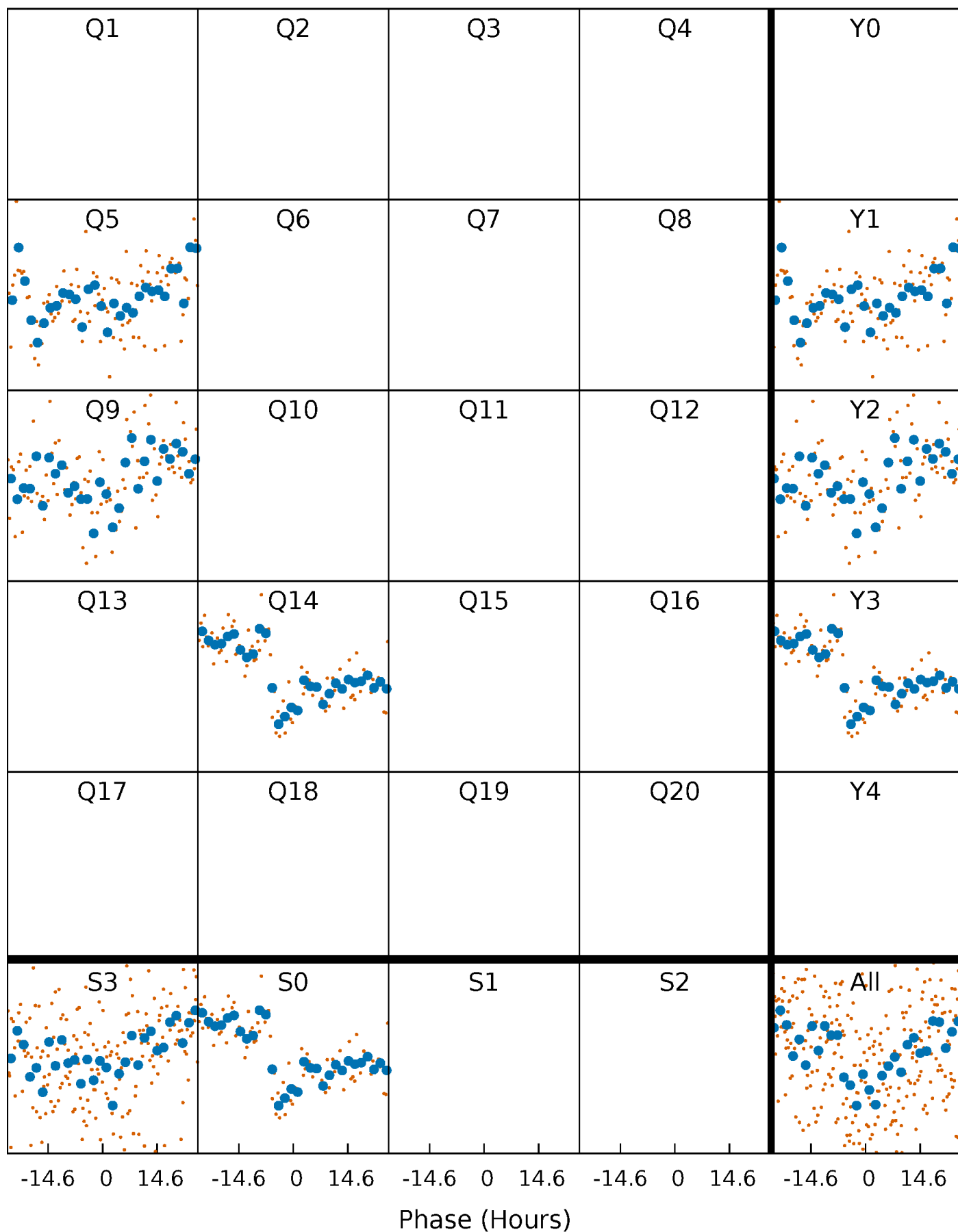


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

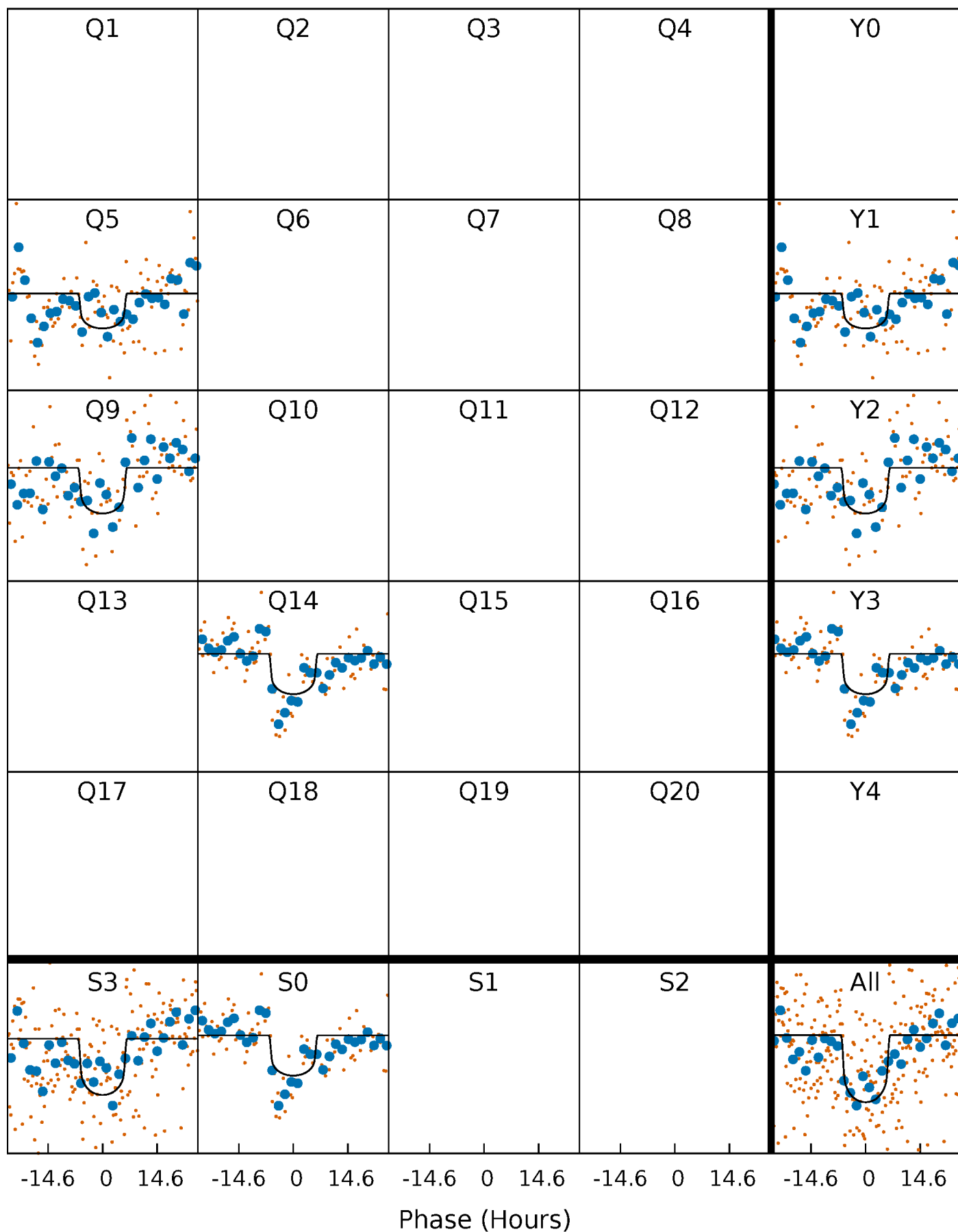
TCE 010147634-01 P=415.573054 Days  $T_0=456.100291$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 010147634-01     $P=415.573054$  Days     $T_0=456.100291$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

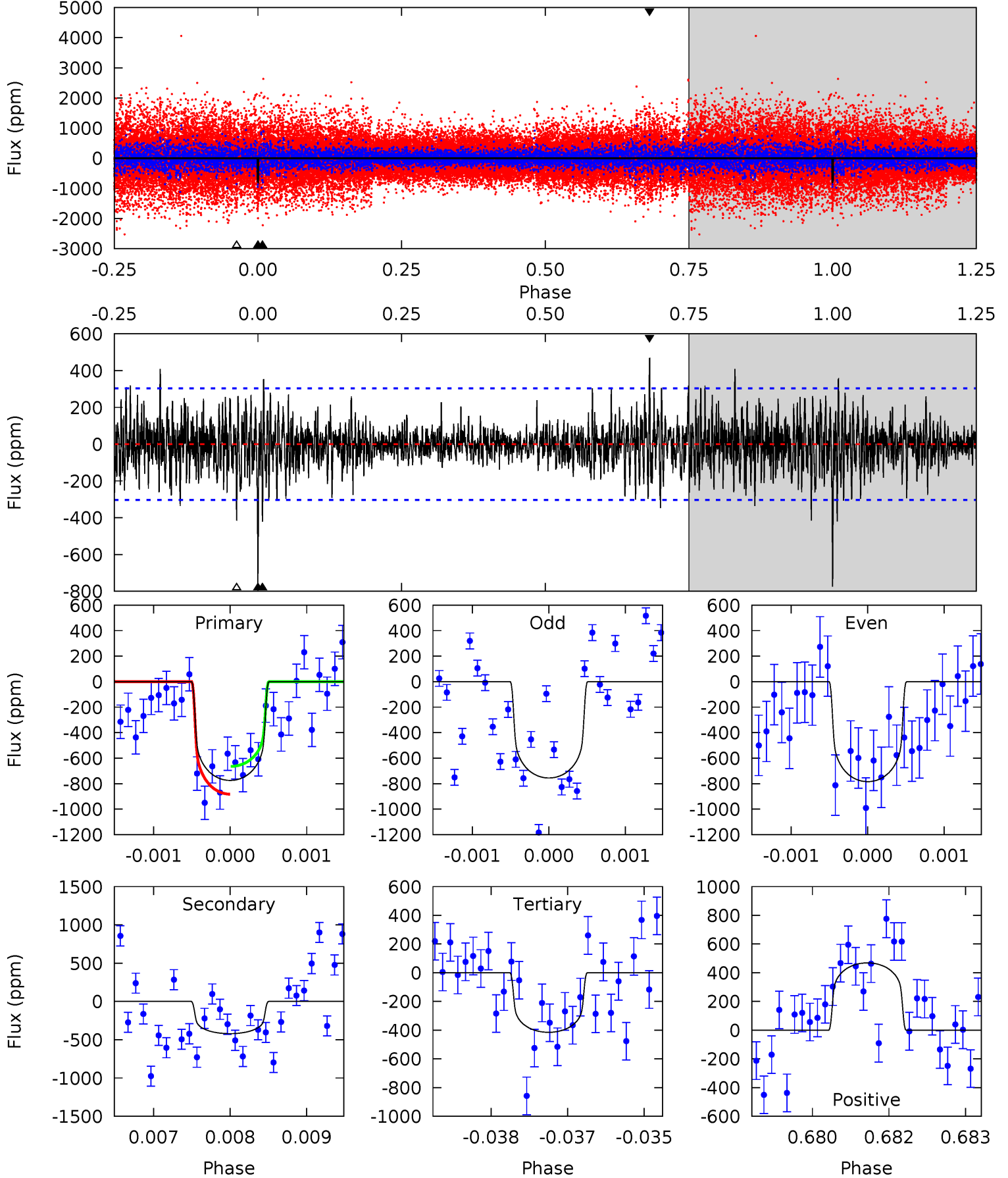
TCE 010147634-01 P=415.686722 Days  $T_0=455.935412$  (BKJD)



# DV Model-Shift Uniqueness Test

010147634-01,  $P = 415.573054$  Days,  $E = 40.527237$  Days

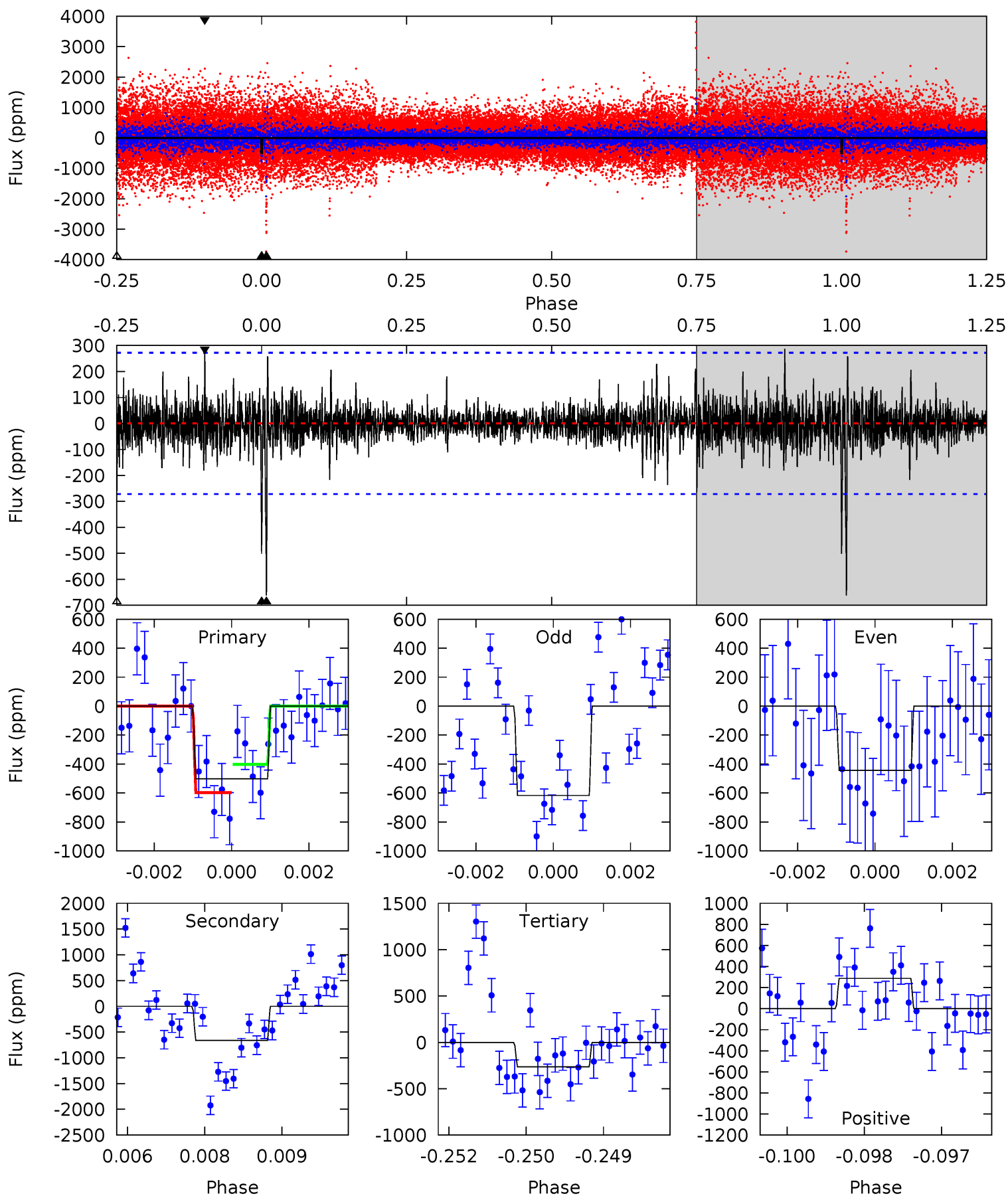
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	7.48	7.38	8.34	5.40	3.21	1.65	6.40	5.44	0.10	-0.86	0.25	0.99	0.38	1.93



# Alt Model-Shift Uniqueness Test

010147634-01, P = 415.686722 Days, E = 40.248690 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
9.91	13.1	5.22	5.68	5.37	3.17	0.99	4.70	4.23	7.88	7.41	1.67	0.78	0.30	1.92



### Stellar Parameters For KIC 010147634

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5887^{+184}_{-205}$	$4.430^{+0.087}_{-0.203}$	$-0.100^{+0.300}_{-0.300}$	$0.996^{+0.291}_{-0.125}$	$0.974^{+0.140}_{-0.105}$	$1.391^{+0.523}_{-0.732}$
	+3%/-3%	+2%/-5%	+300%/-300%	+29%/-13%	+14%/-11%	+38%/-53%
Source	KIC0	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 010147634-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-421 \pm 56$	$3.24^{+1.08}_{-1.10}$	$354^{+24}_{-19}$	$5043^{+1010}_{-534}$	$25244^{+32876}_{-10963}$
Alt.	$-662 \pm 51$	$2.80^{+1.12}_{-0.94}$	$354^{+24}_{-20}$	$5965^{+1435}_{-819}$	$52732^{+64390}_{-24944}$

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

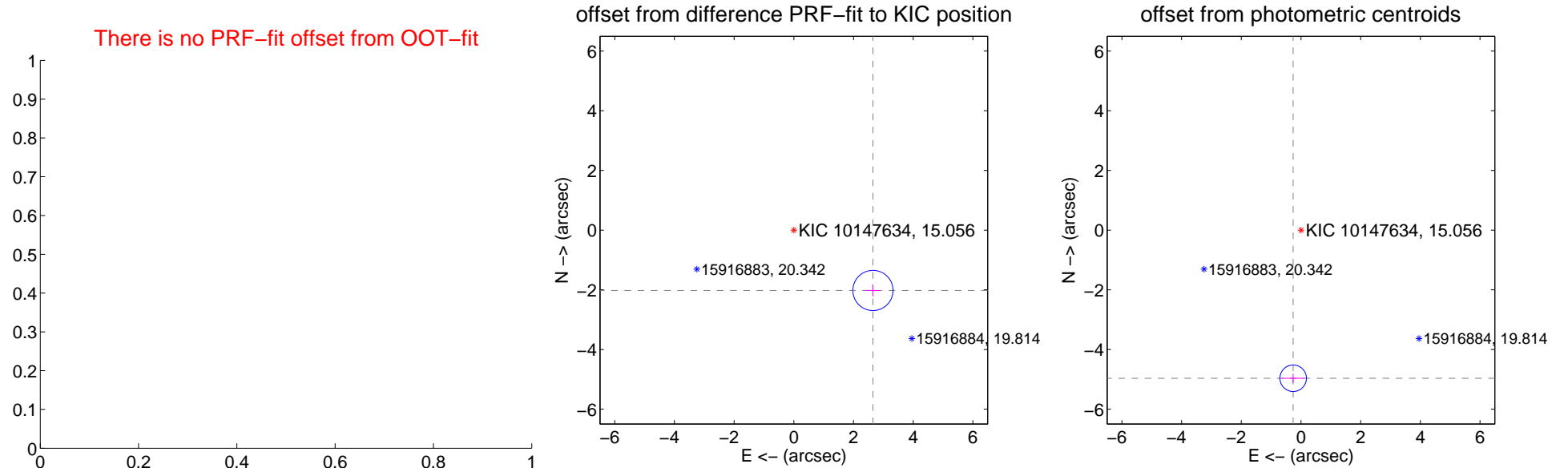
## DV Centroid Data

Supplemental centroid analysis for 010147634-01. Kepler magnitude: 15.06. Transit SNR 9.33

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	$3.334 \pm 0.224$	14.86	$-2.651 \pm 0.238$	$-2.021 \pm 0.199$
photometric centroid source offset	$4.97 \pm 0.15$	33.59	$0.26 \pm 0.39$	$-4.96 \pm 0.15$

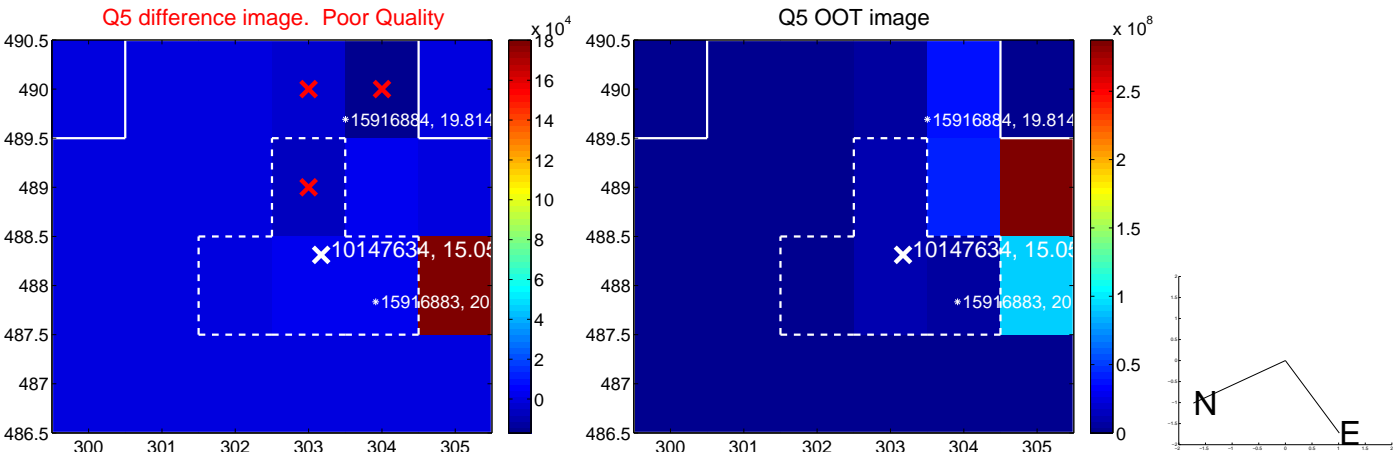


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

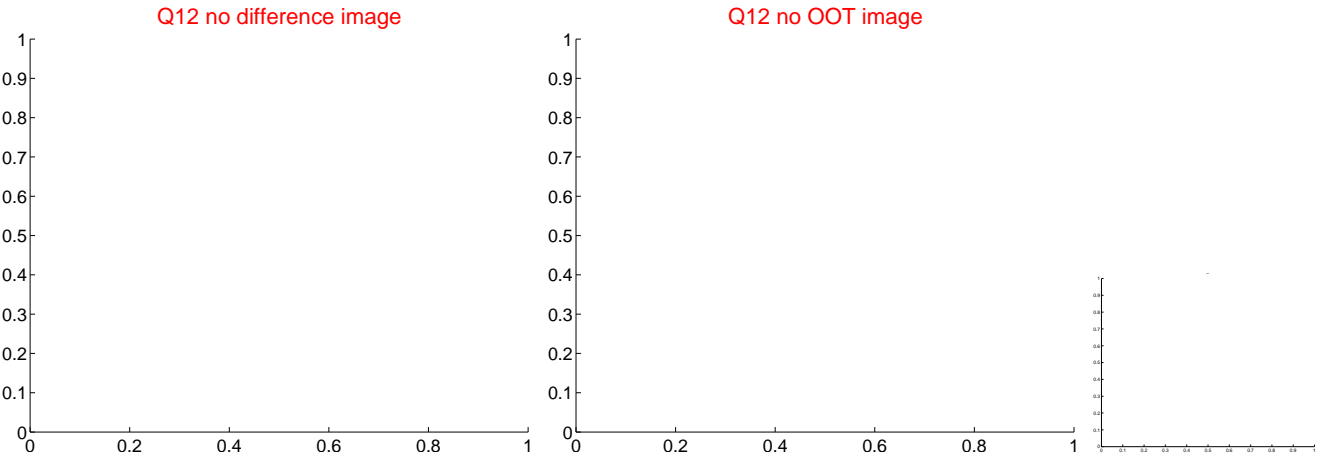
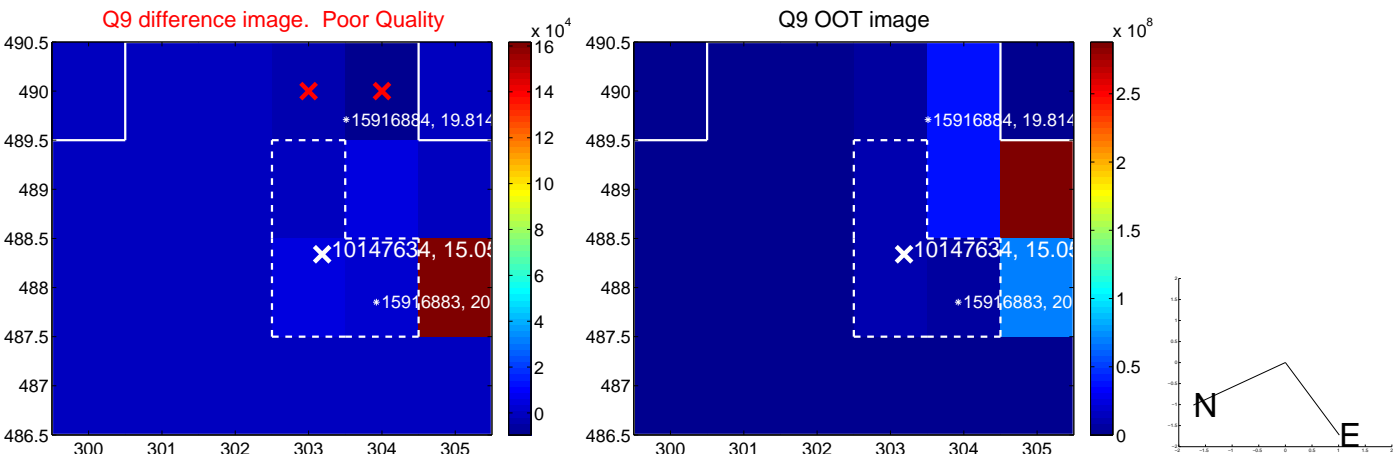


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

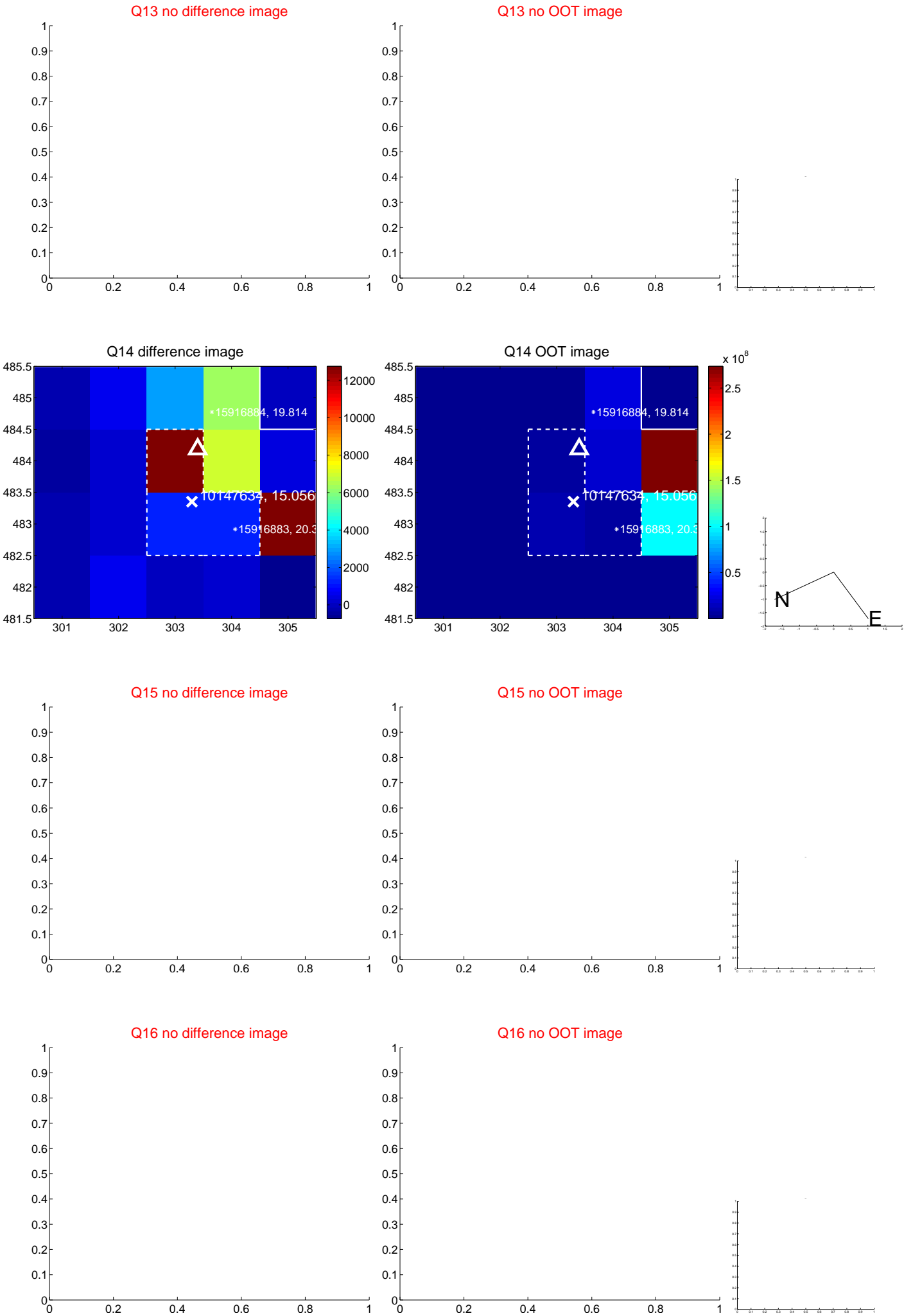




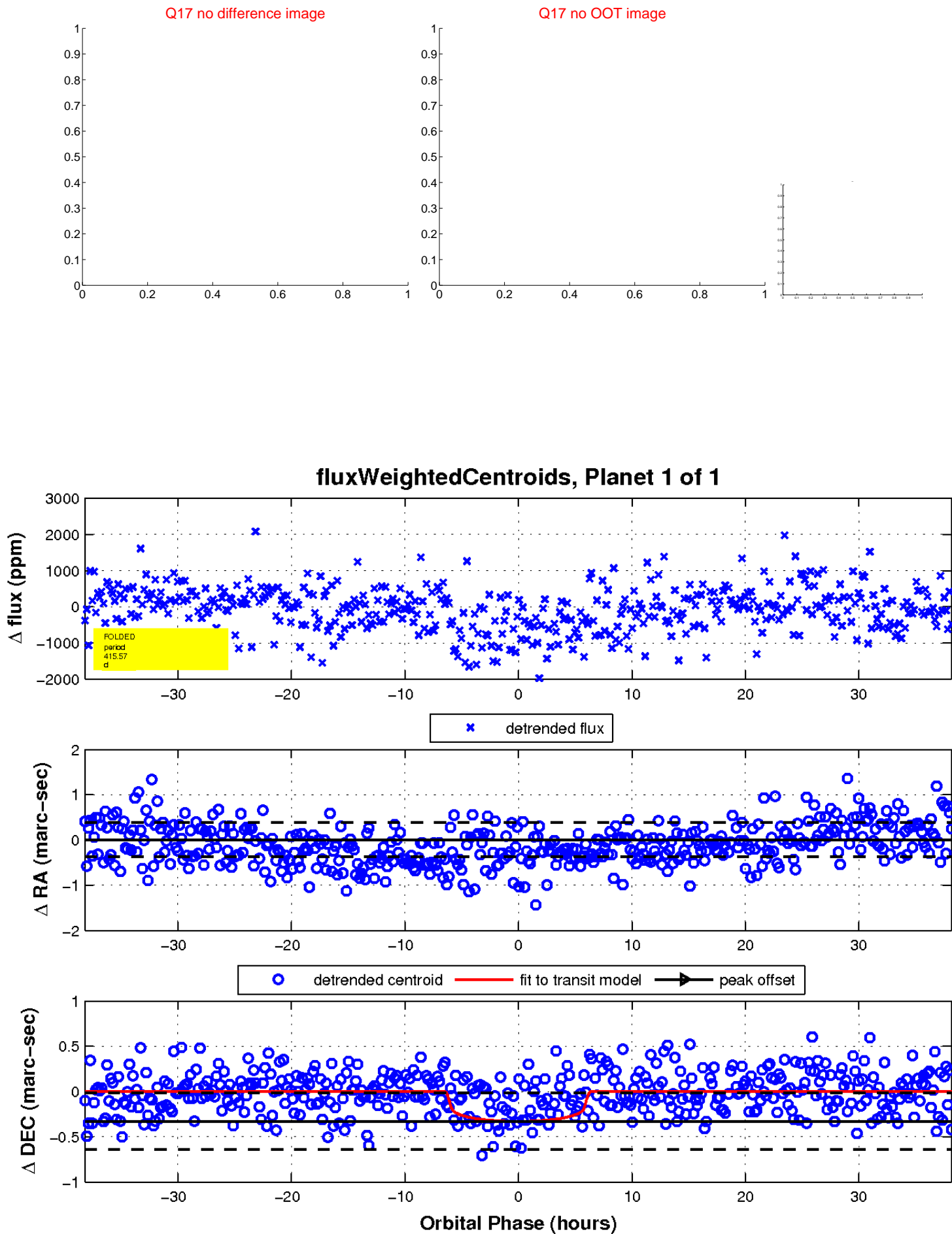
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

