

# KIC 006854449

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006854449-01	OBS	No	371.583727	497.700291	1092.5	25.514	7.4	9.7	0.92	5319	3.14	0.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006854449-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

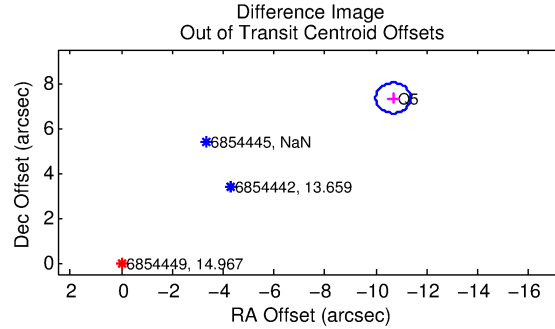
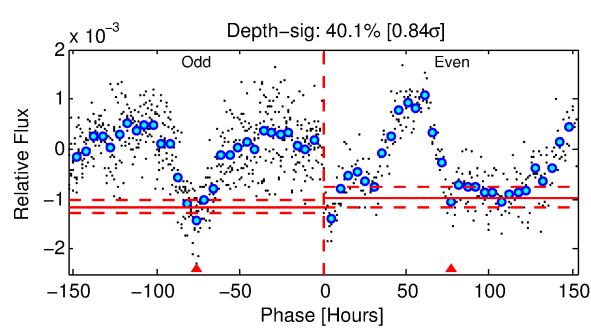
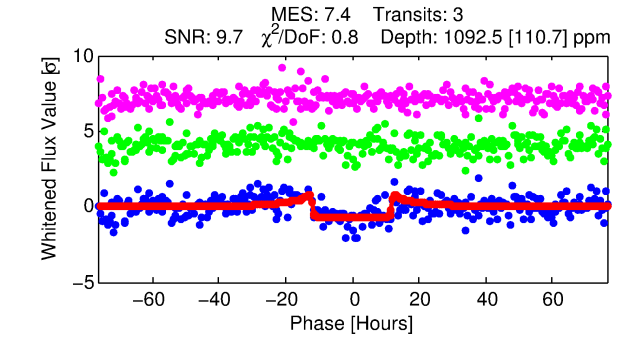
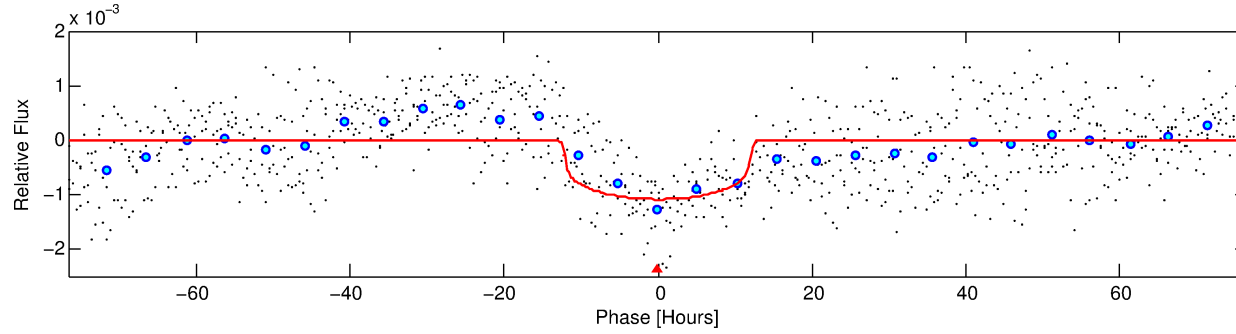
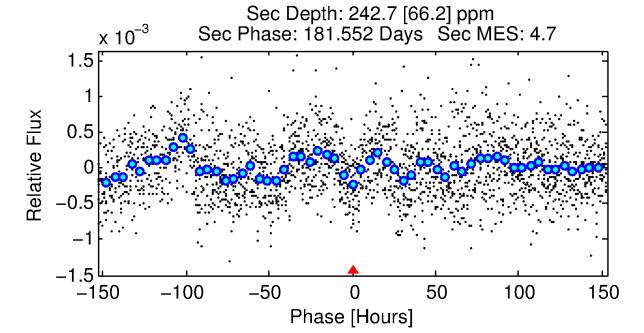
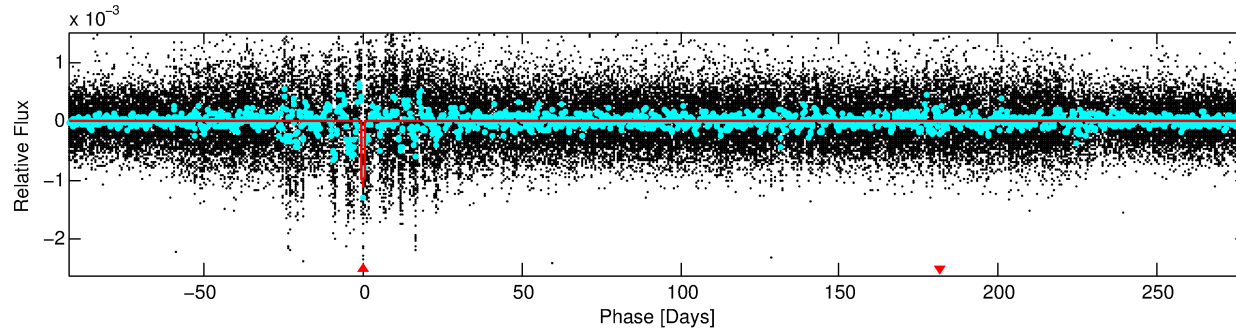
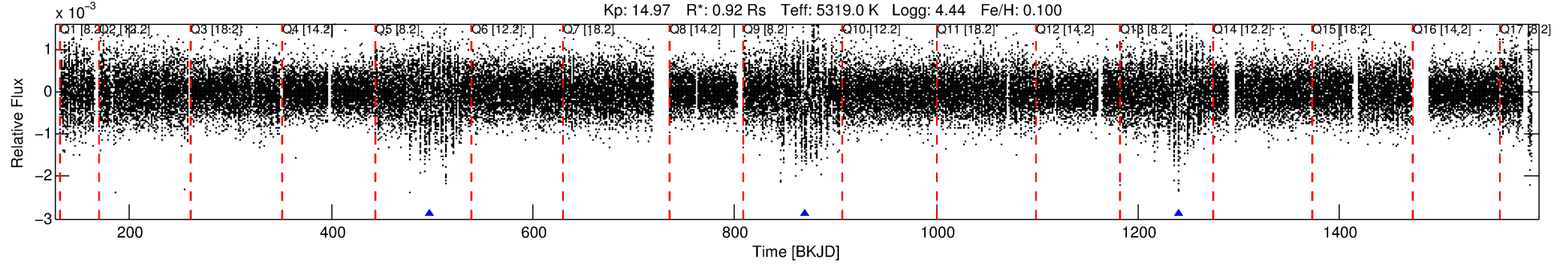
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006854449-01

No Significant Match Found

# DV One-Page Summary

KIC: 6854449 Candidate: 1 of 1 Period: 371.584 d



## DV Fit Results:

Period = 371.58373 [0.01135] d  
Epoch = 497.7003 [0.0145] BKJD  
Rp/R\* = 0.0312 [0.0042]  
a/R\* = 94.39 [42.34]  
b = 0.59 [0.51]  
Seff = 0.66 [0.24]  
Teff = 230 [21] K  
Rp = 3.14 [0.88] Re  
a = 0.9599 [0.2000] AU  
Ag = 12484.74 [6109.48] [2.04σ]  
Teff = 3756 [405] K [8.70σ]

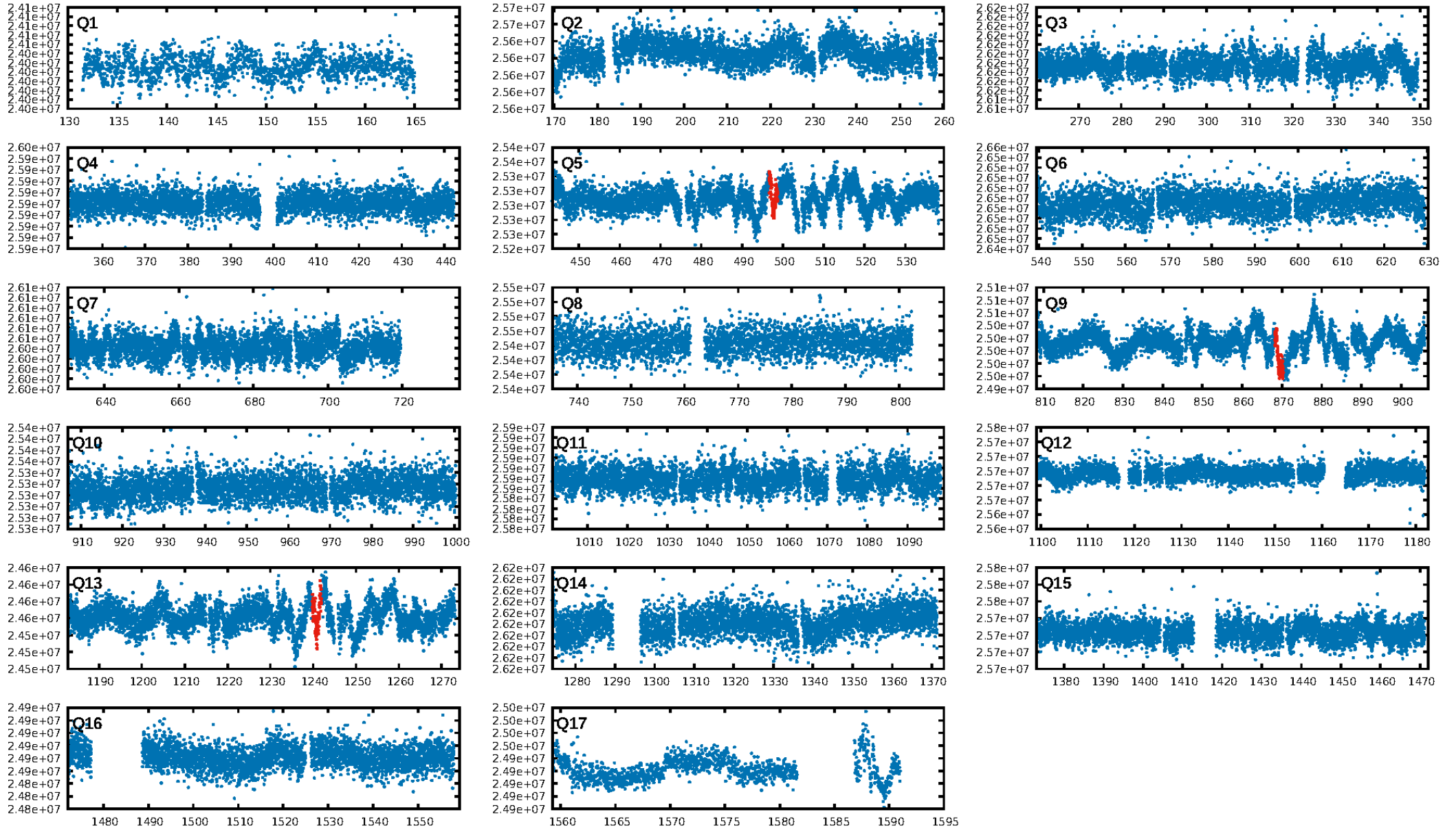
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 80.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 3.20e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.9583  
Centroid-sig: 0.6%  
**Centroid-so: 2.066 arcsec [3.21σ]**  
**OotOffset-rm: 12.946 arcsec [57.12σ]**  
**KicOffset-rm: 2.895 arcsec [13.02σ]**  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

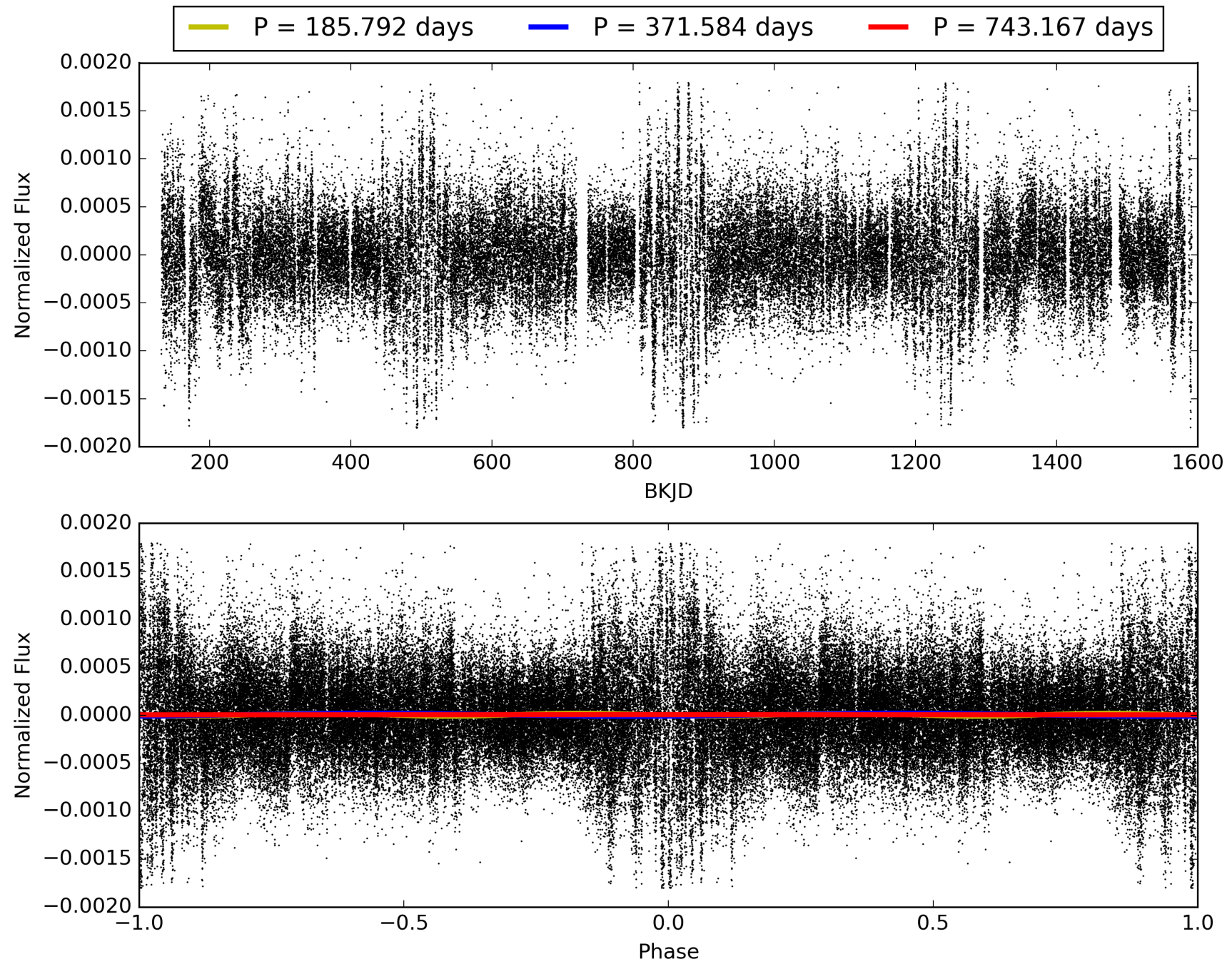
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:45:23 Z

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

# TCE 006854449-01, PDC Light Curves

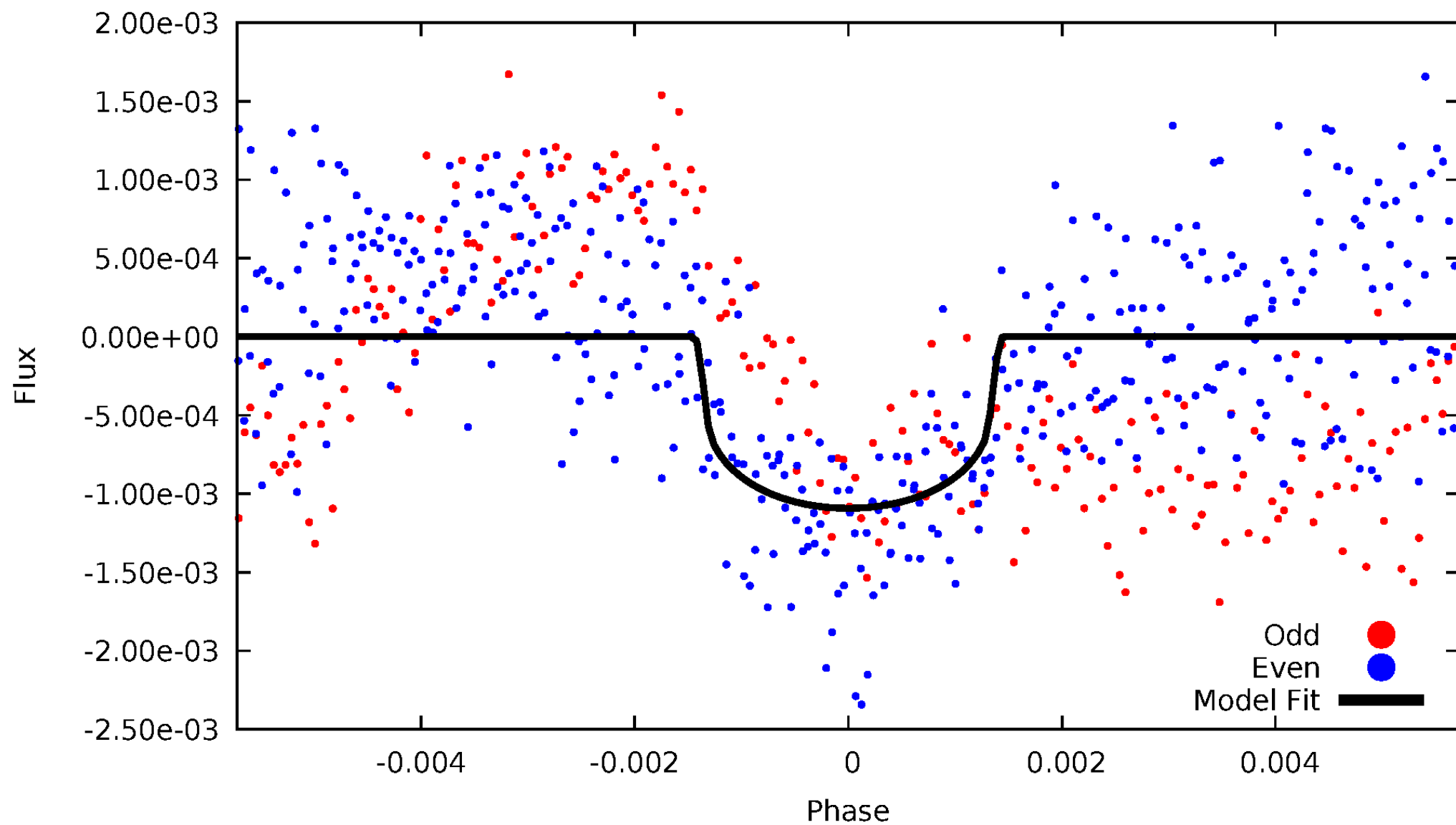


TCE 006854449-01



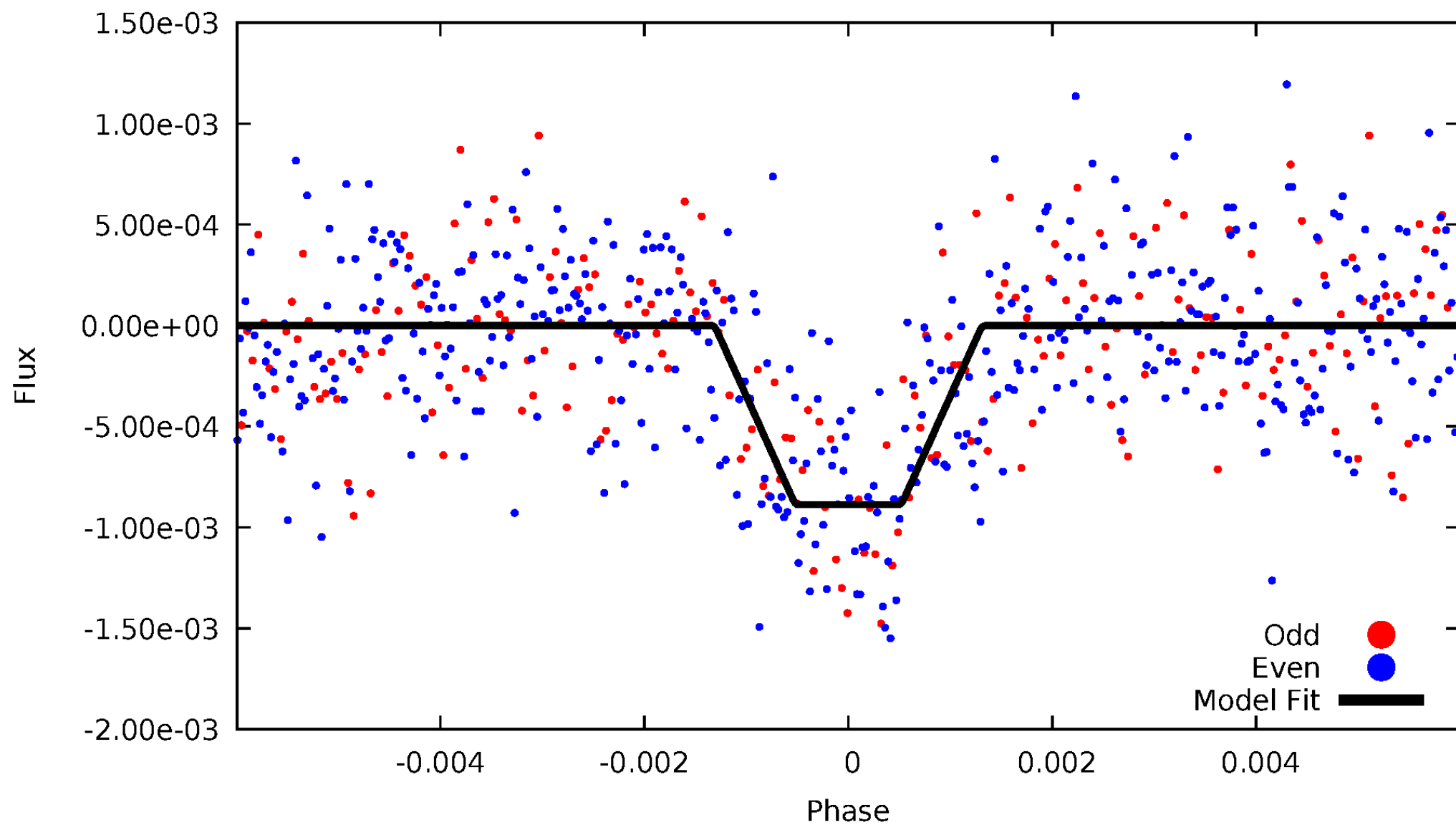
# DV Odd/Even

TCE 006854449-01



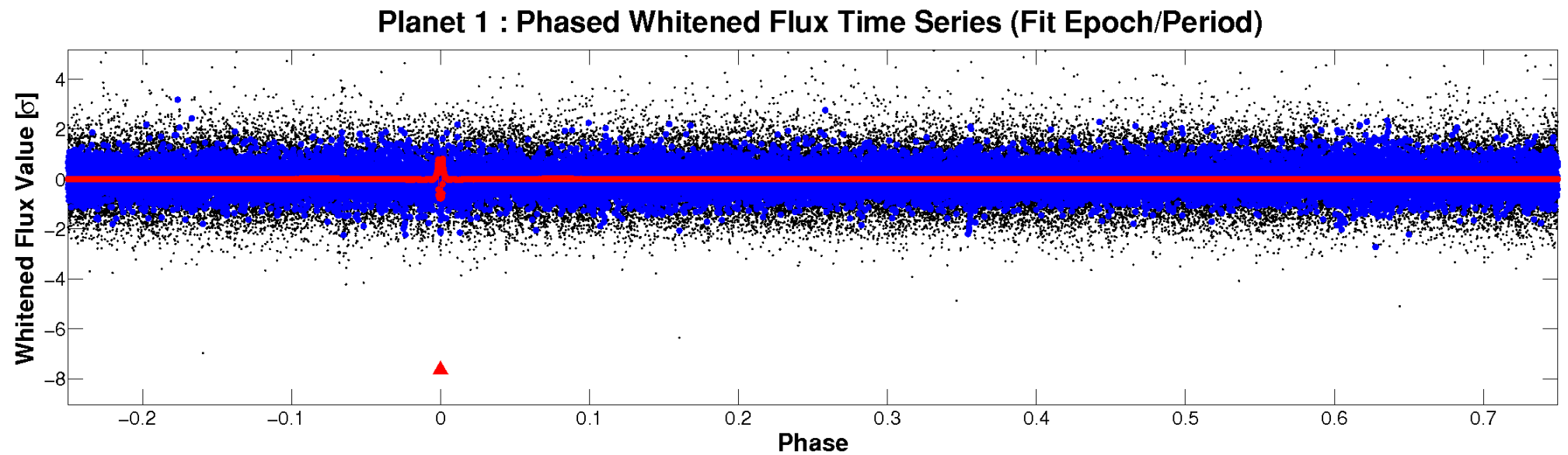
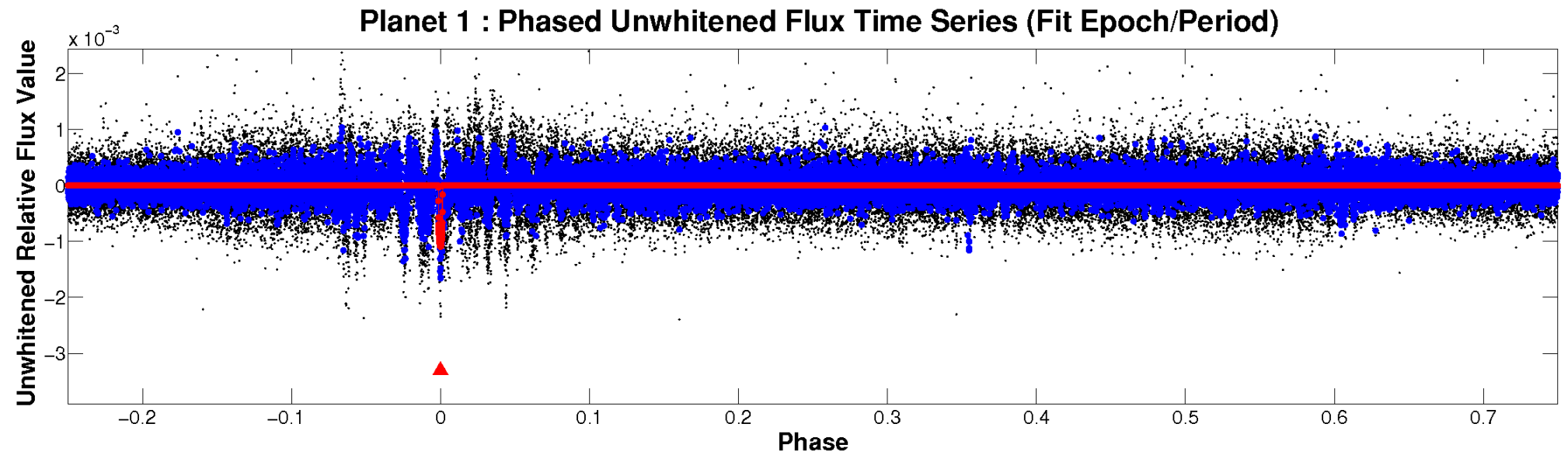
# ALT Odd/Even

TCE 006854449-01



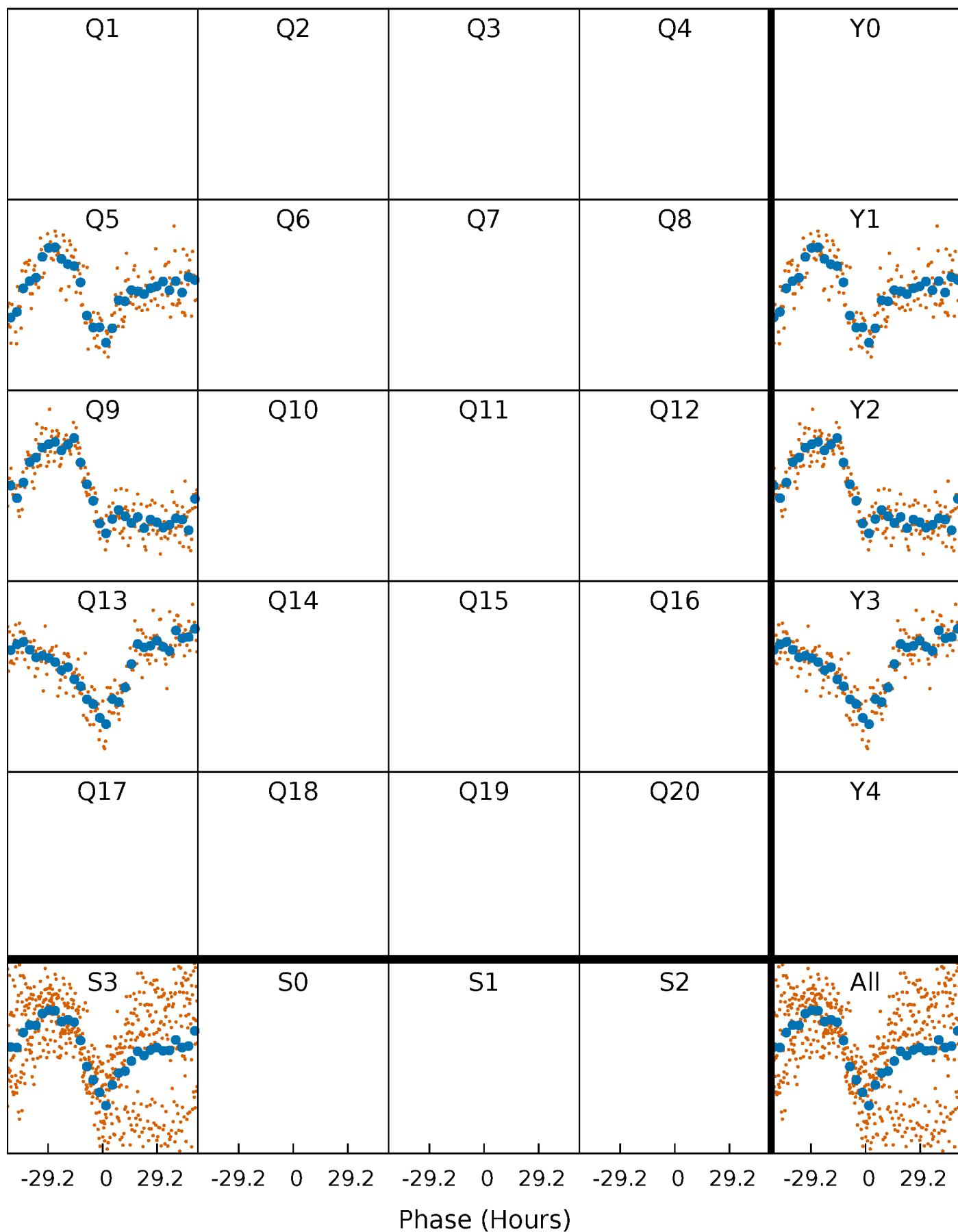


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

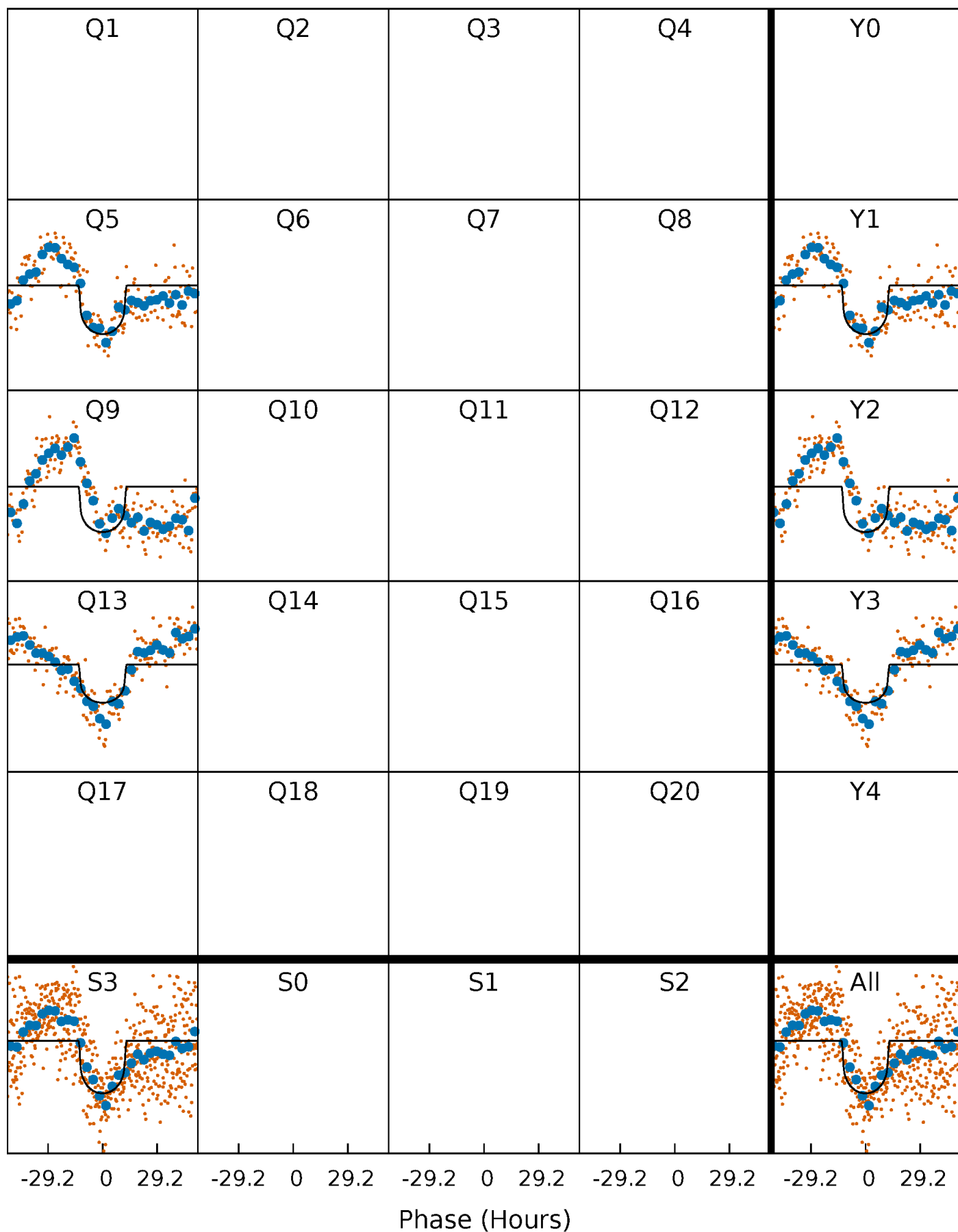
TCE 006854449-01     $P=371.583727$  Days     $T_0=497.700291$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 006854449-01 P=371.583727 Days  $T_0=497.700291$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

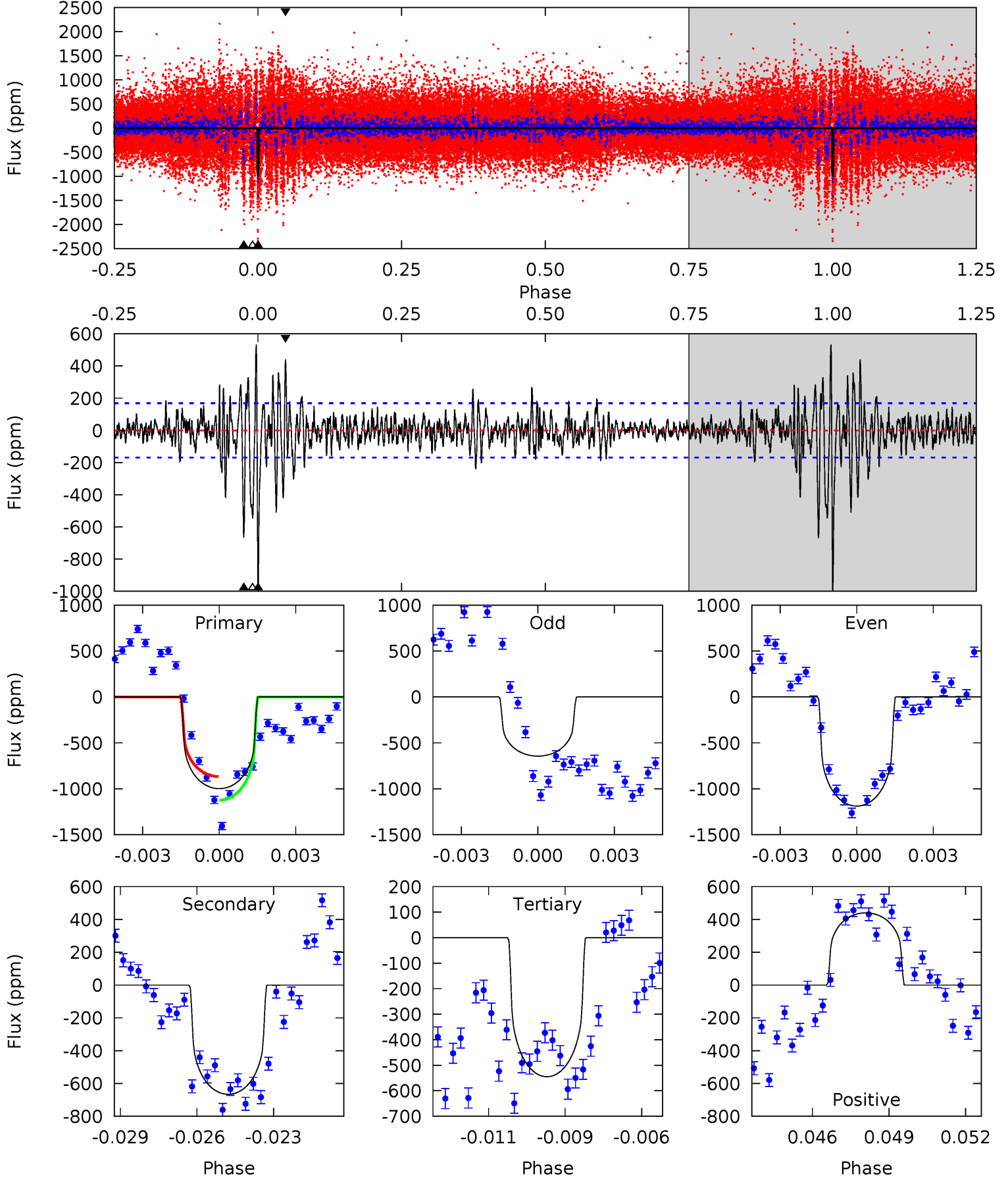
TCE 006854449-01 P=371.529799 Days  $T_0=497.700206$  (BKJD)



# DV Model-Shift Uniqueness Test

006854449-01, P = 371.583727 Days, E = 126.116564 Days

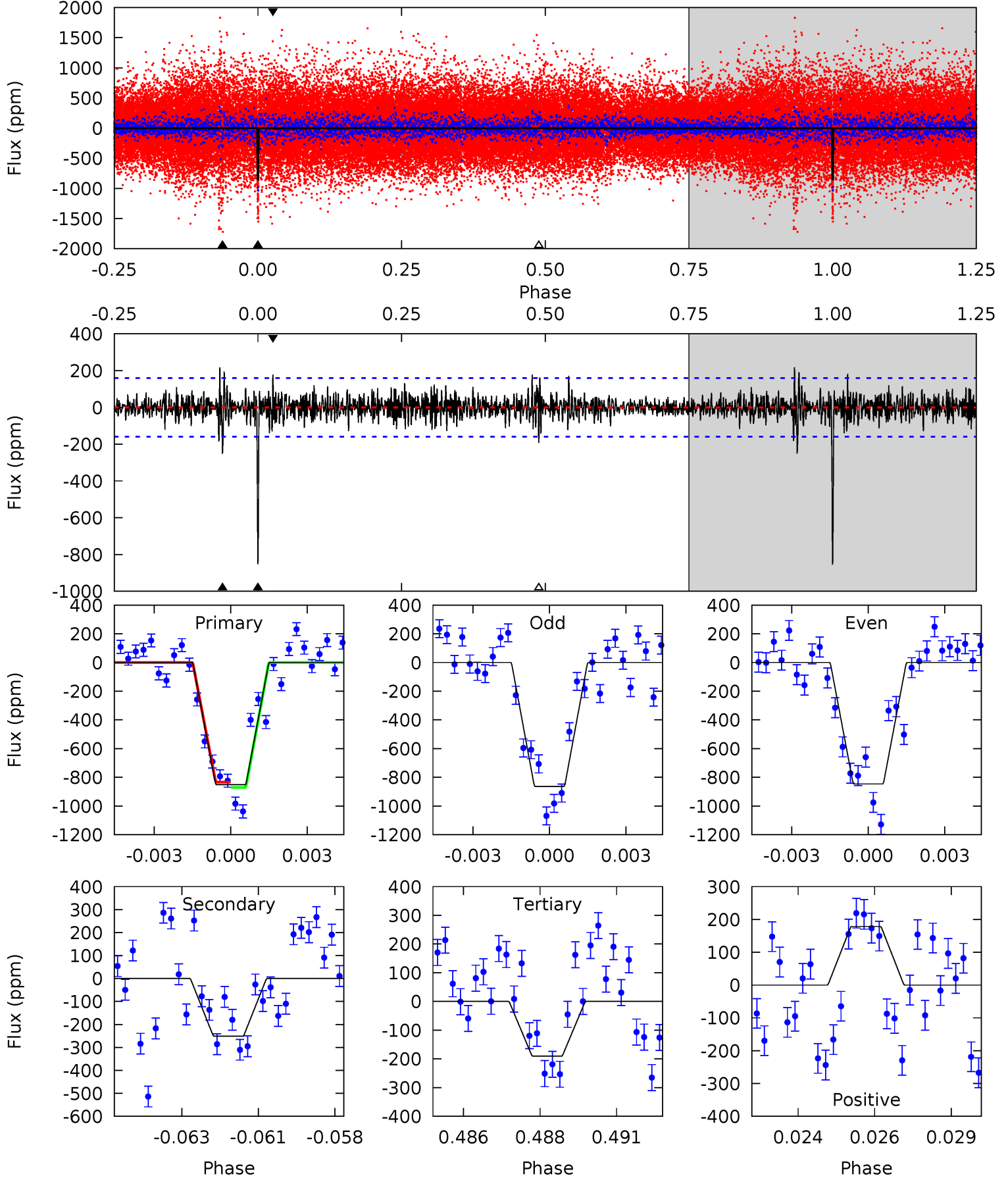
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.1	20.7	17.0	13.7	5.26	2.98	2.98	14.1	17.4	3.76	7.02	7.90	1.04	0.35	3.99



# Alt Model-Shift Uniqueness Test

006854449-01, P = 371.529799 Days, E = 126.170407 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
28.2	8.31	6.30	5.90	5.28	3.01	1.40	21.9	22.3	2.01	2.41	0.27	0.97	0.20	0.60



### Stellar Parameters For KIC 006854449

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5319^{+265}_{-239}$	$4.441^{+0.112}_{-0.168}$	$0.100^{+0.250}_{-0.300}$	$0.921^{+0.226}_{-0.132}$	$0.855^{+0.110}_{-0.073}$	$1.541^{+0.894}_{-0.697}$
	+5%/-4%	+3%/-4%	+250%/-300%	+25%/-14%	+13%/-9%	+58%/-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 006854449-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-666 \pm 32$	$3.20^{+0.57}_{-0.53}$	$325^{+26}_{-21}$	$4925^{+390}_{-304}$	$33118^{+14657}_{-9183}$
Alt.	$-251 \pm 30$	$3.01^{+0.57}_{-0.49}$	$323^{+25}_{-21}$	$4162^{+292}_{-270}$	$13932^{+6633}_{-3924}$

$T_{max}$  = 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

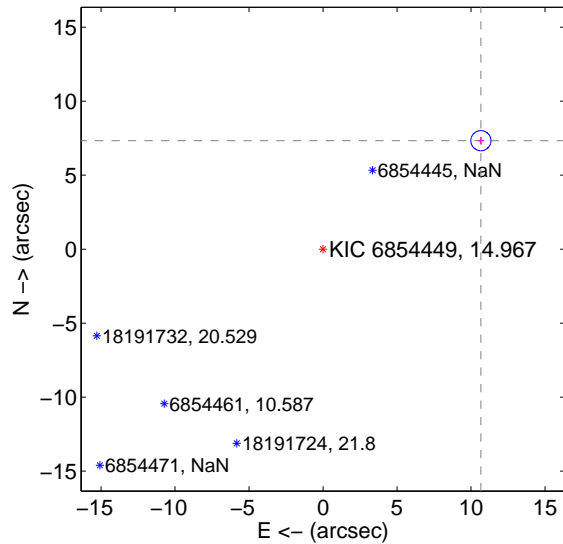
Supplemental centroid analysis for 006854449-01. Kepler magnitude: 14.97. Transit SNR 9.71

There are 0 quarters with good PRF difference image offsets

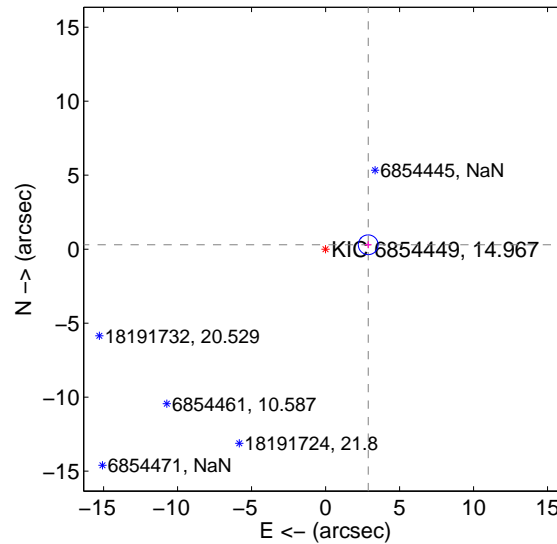
The OOT PRF centroid is offset from the target star catalog position by about 10.50 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$12.946 \pm 0.227$	57.12	$-10.669 \pm 0.222$	$7.333 \pm 0.236$
PRF-fit source offset from KIC position	$2.895 \pm 0.222$	13.02	$-2.879 \pm 0.222$	$0.298 \pm 0.236$
photometric centroid source offset	$2.07 \pm 0.64$	3.21	$1.81 \pm 0.63$	$-0.99 \pm 0.70$

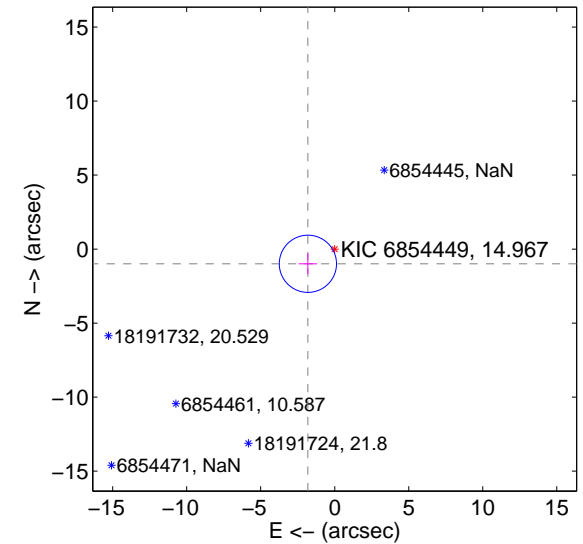
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



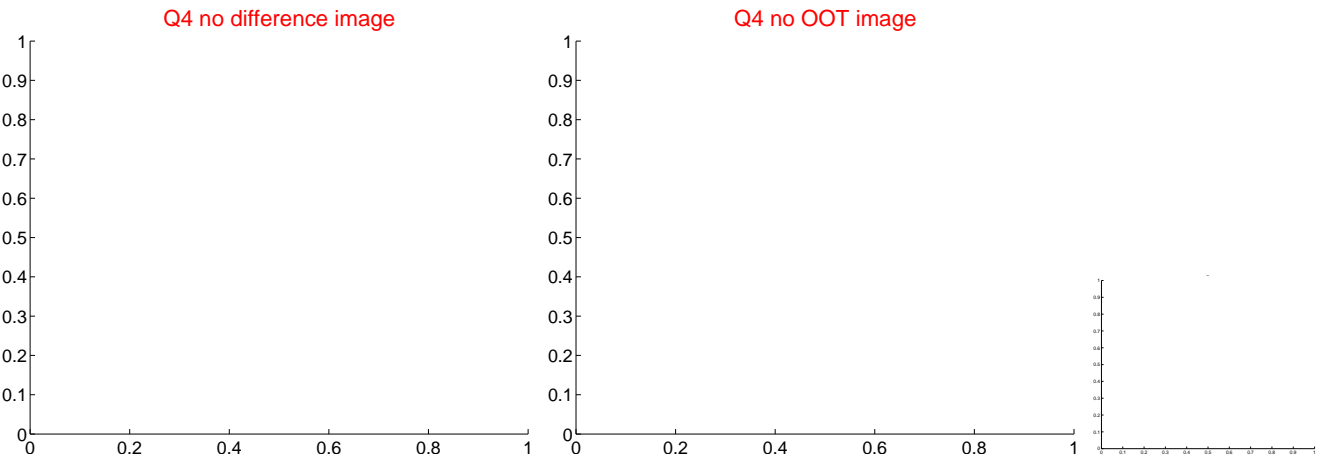
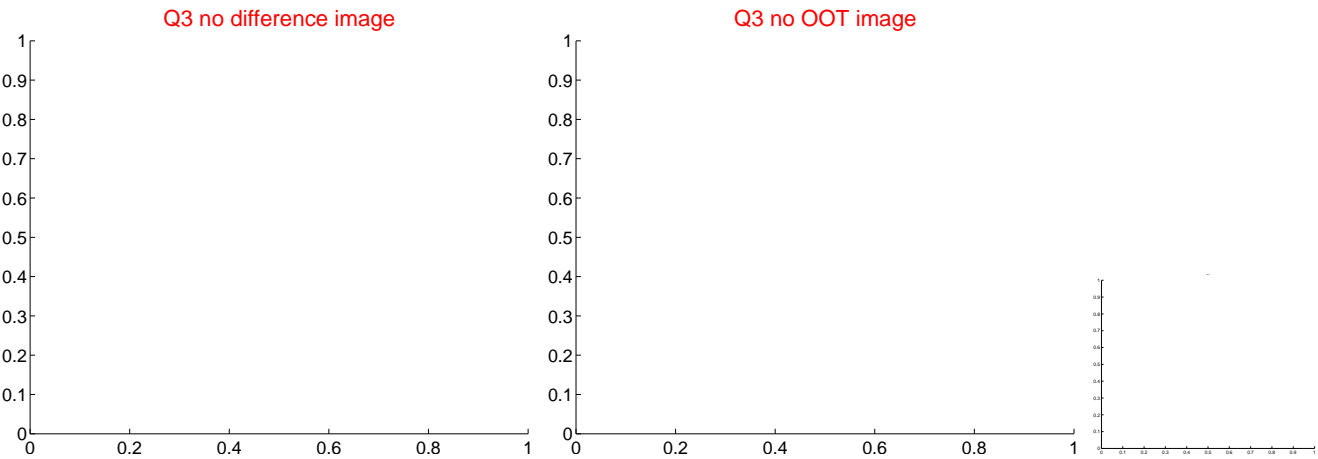
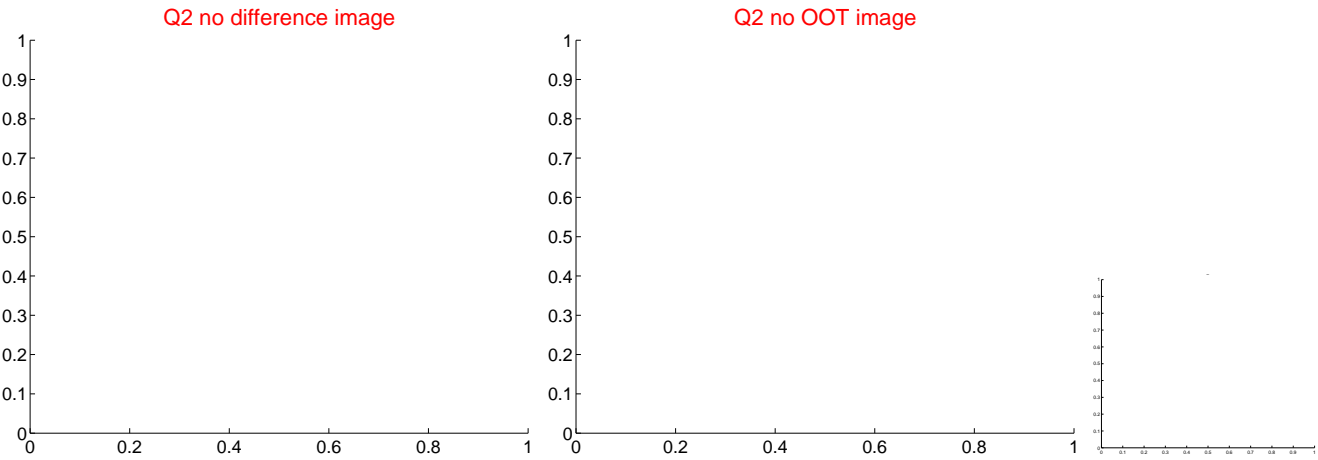
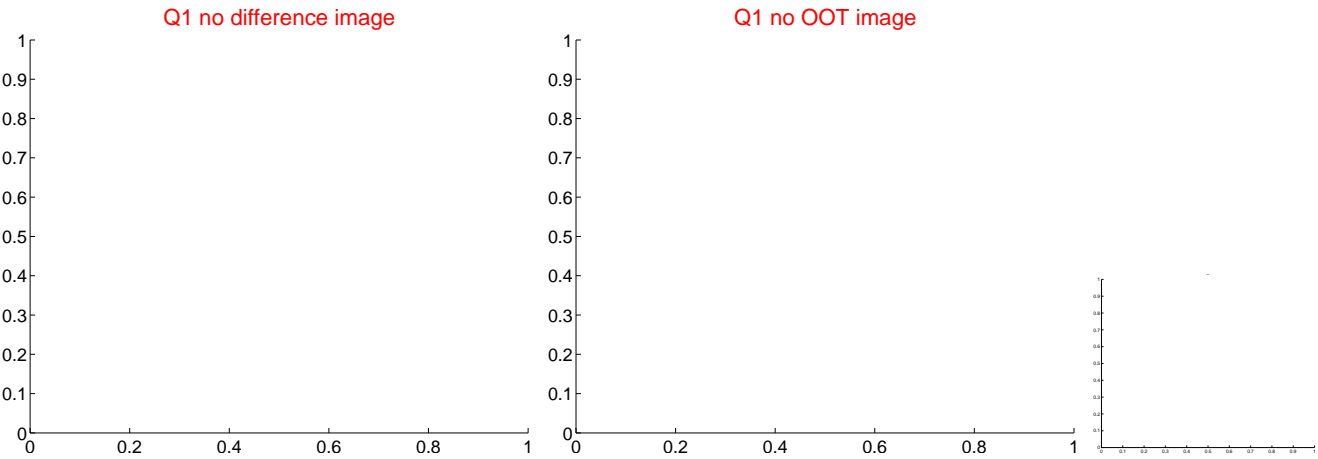
offset from photometric centroids



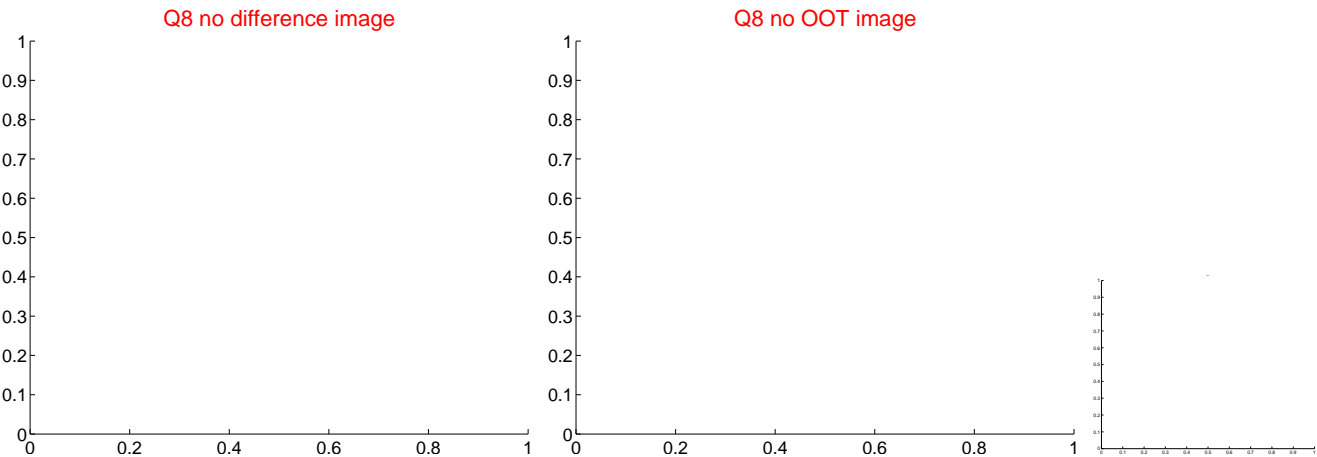
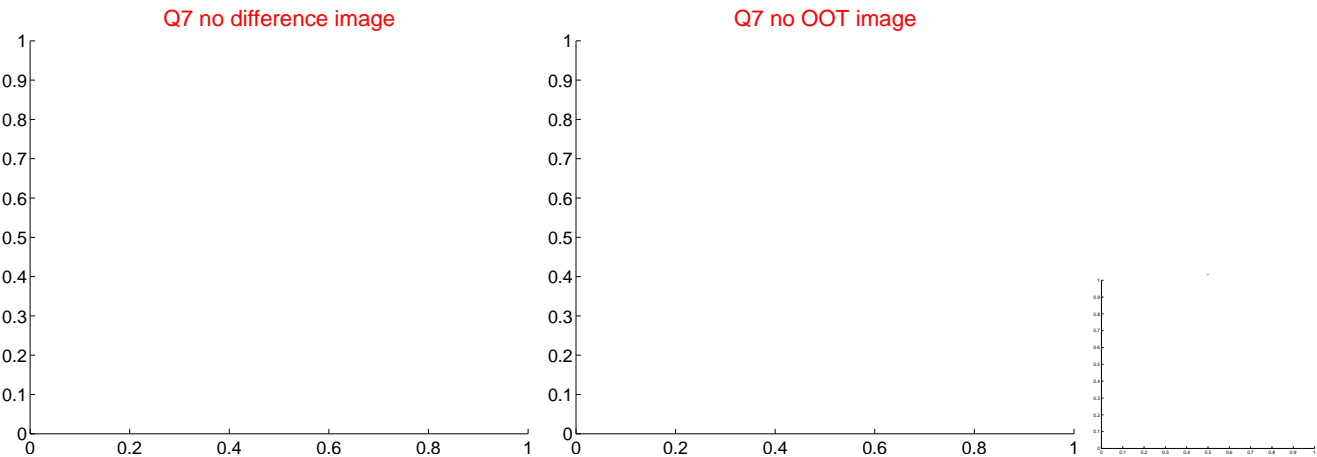
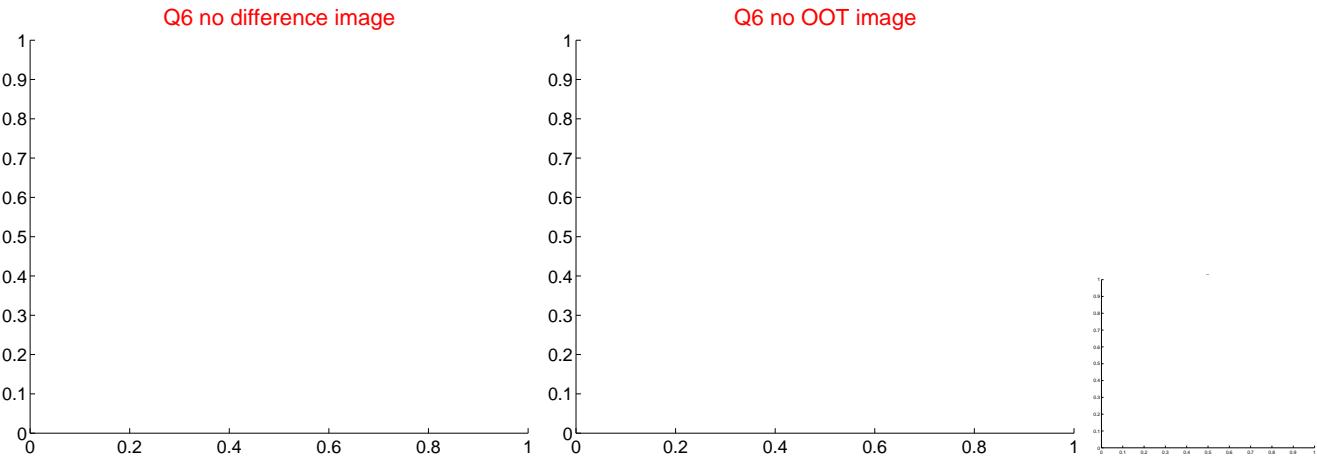
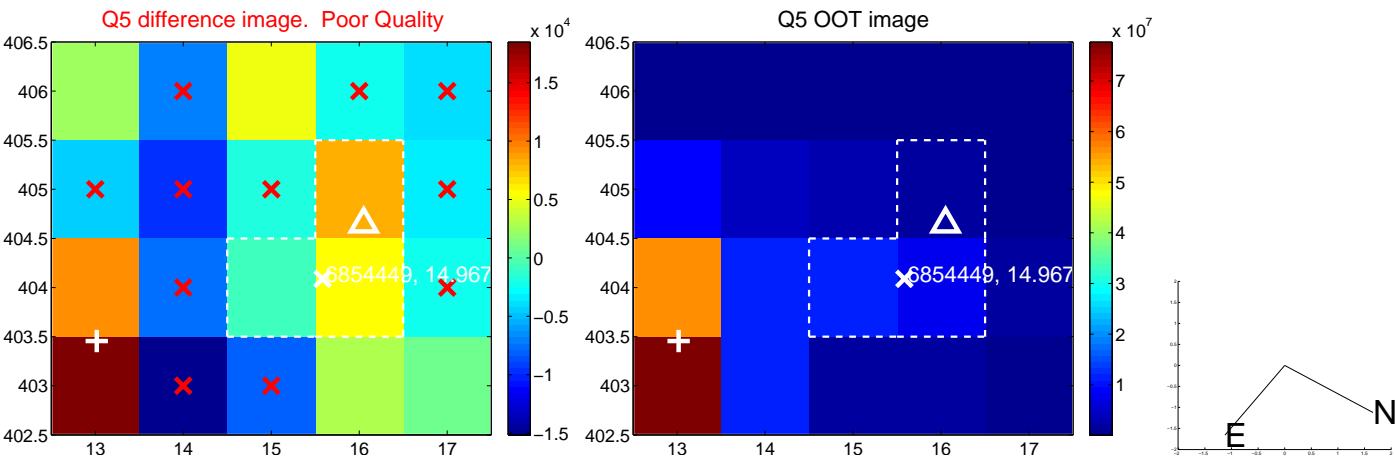
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



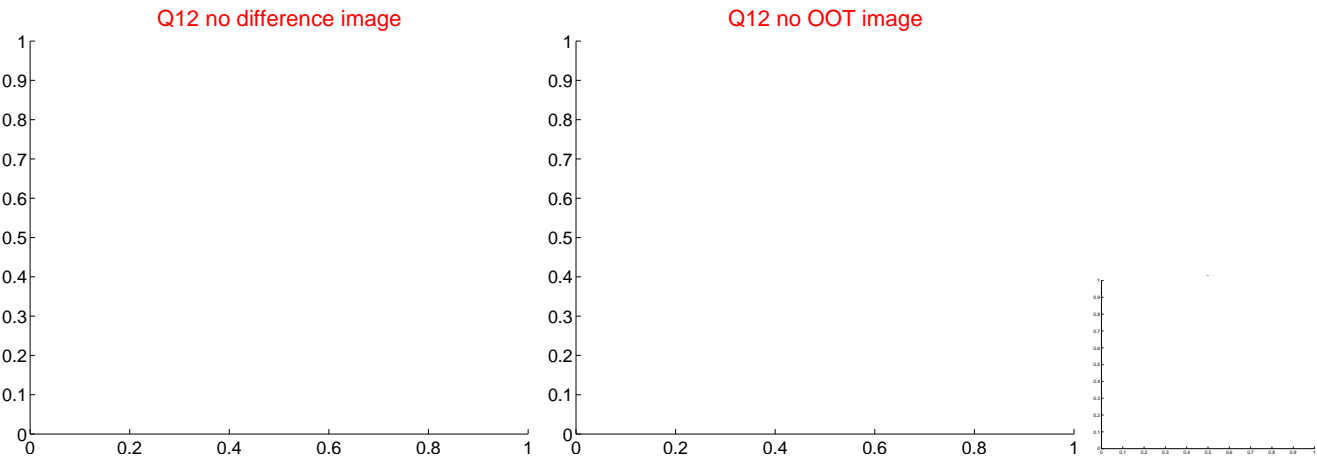
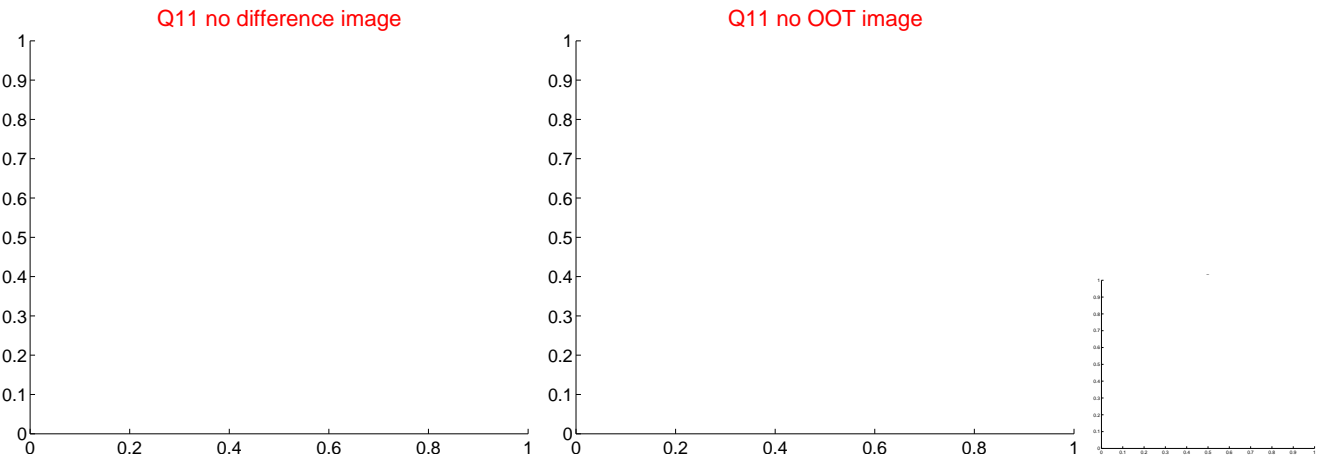
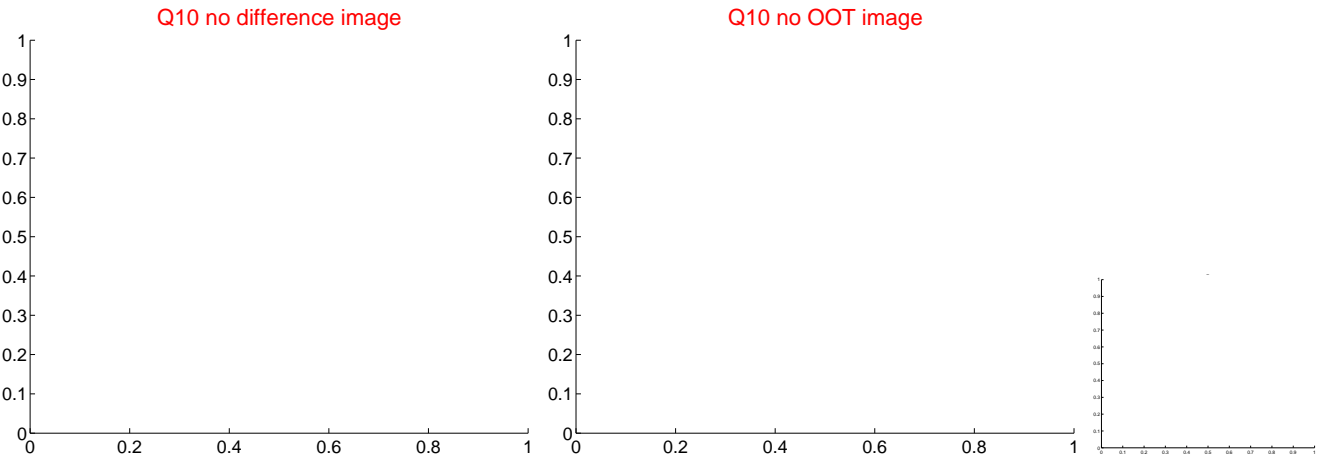
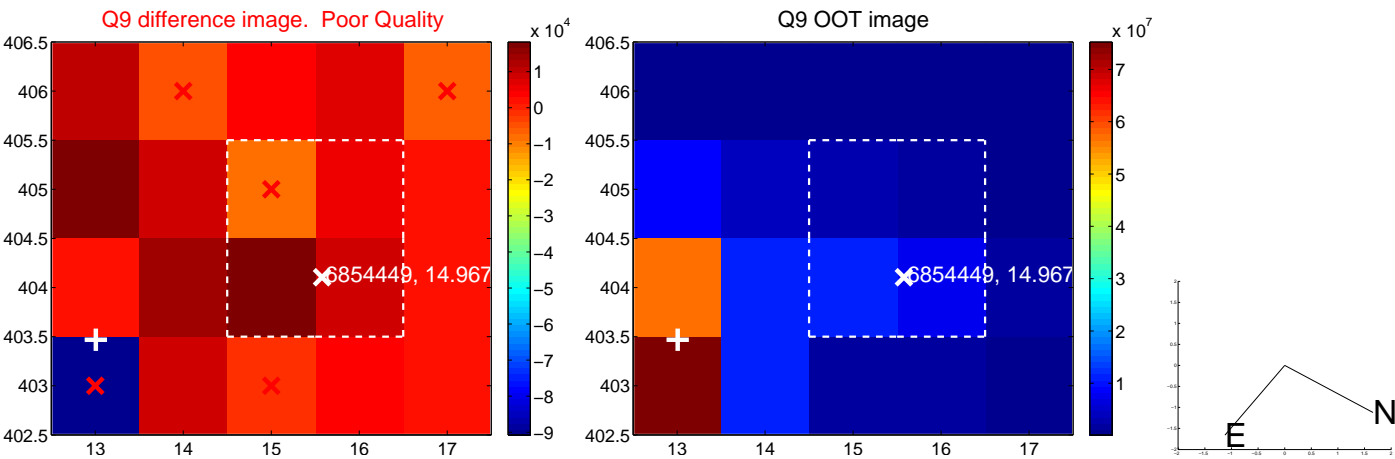
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



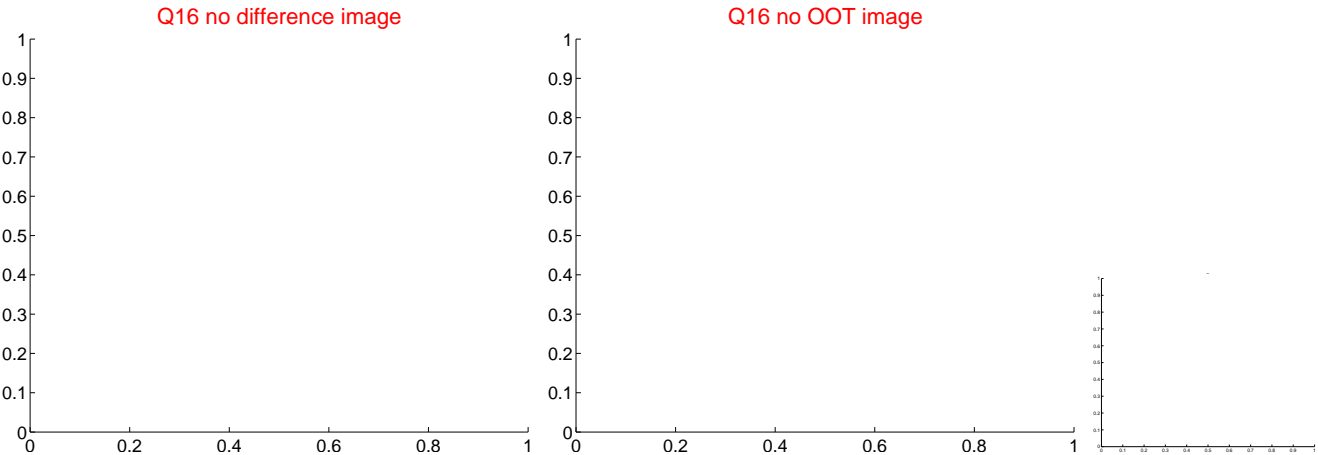
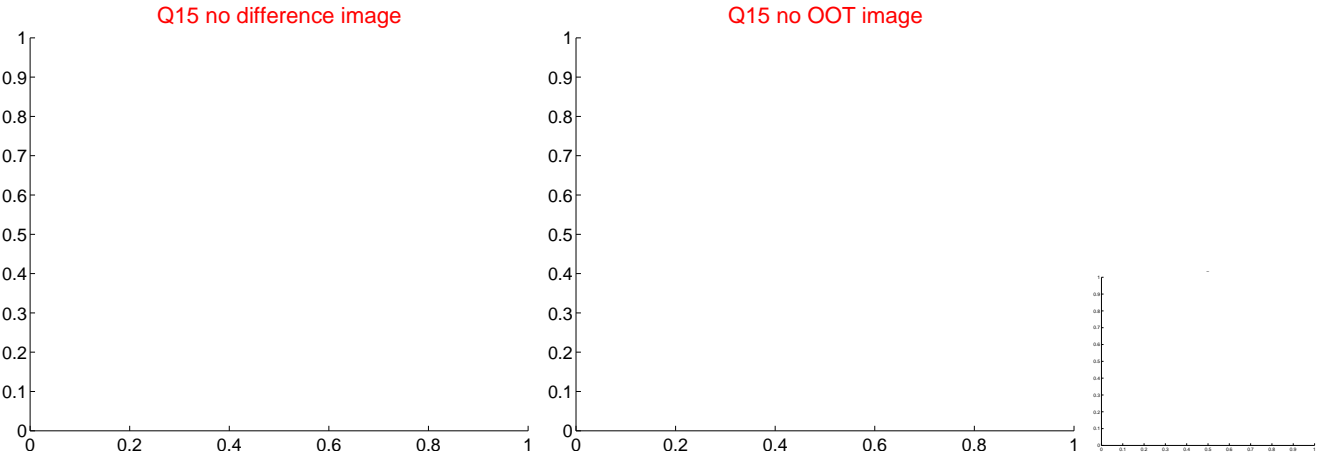
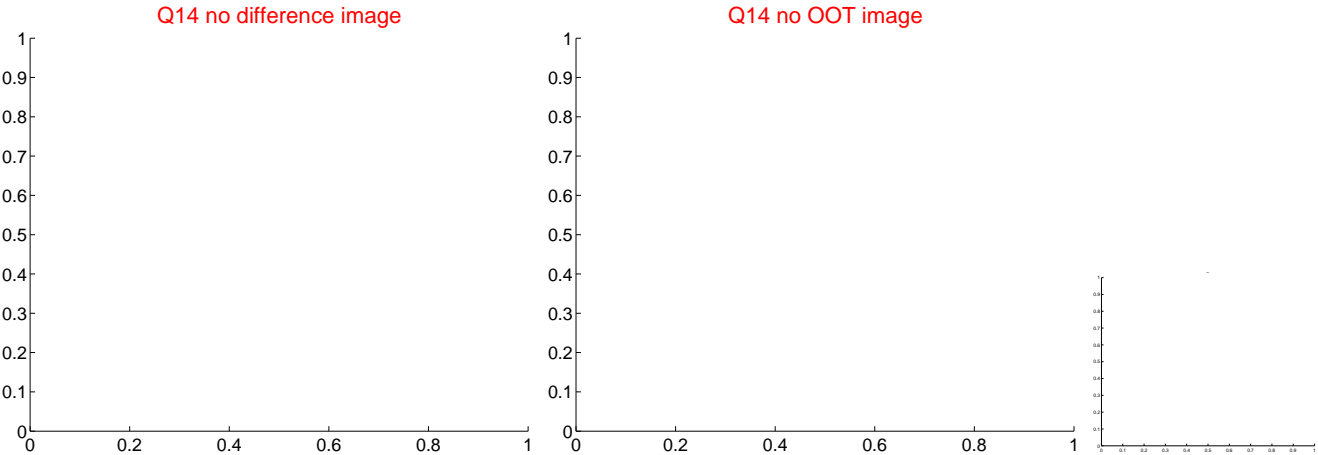
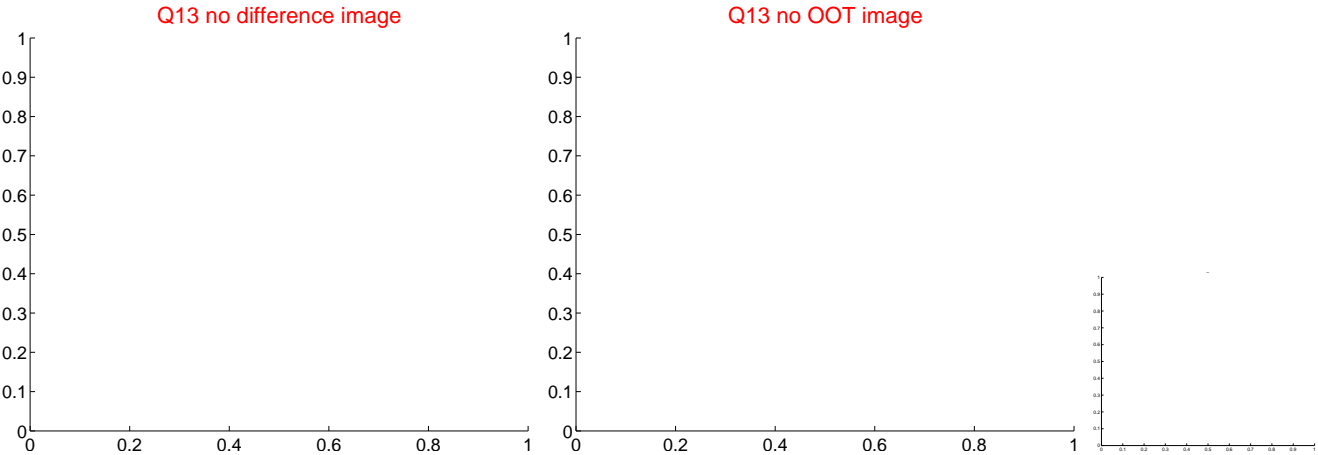
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



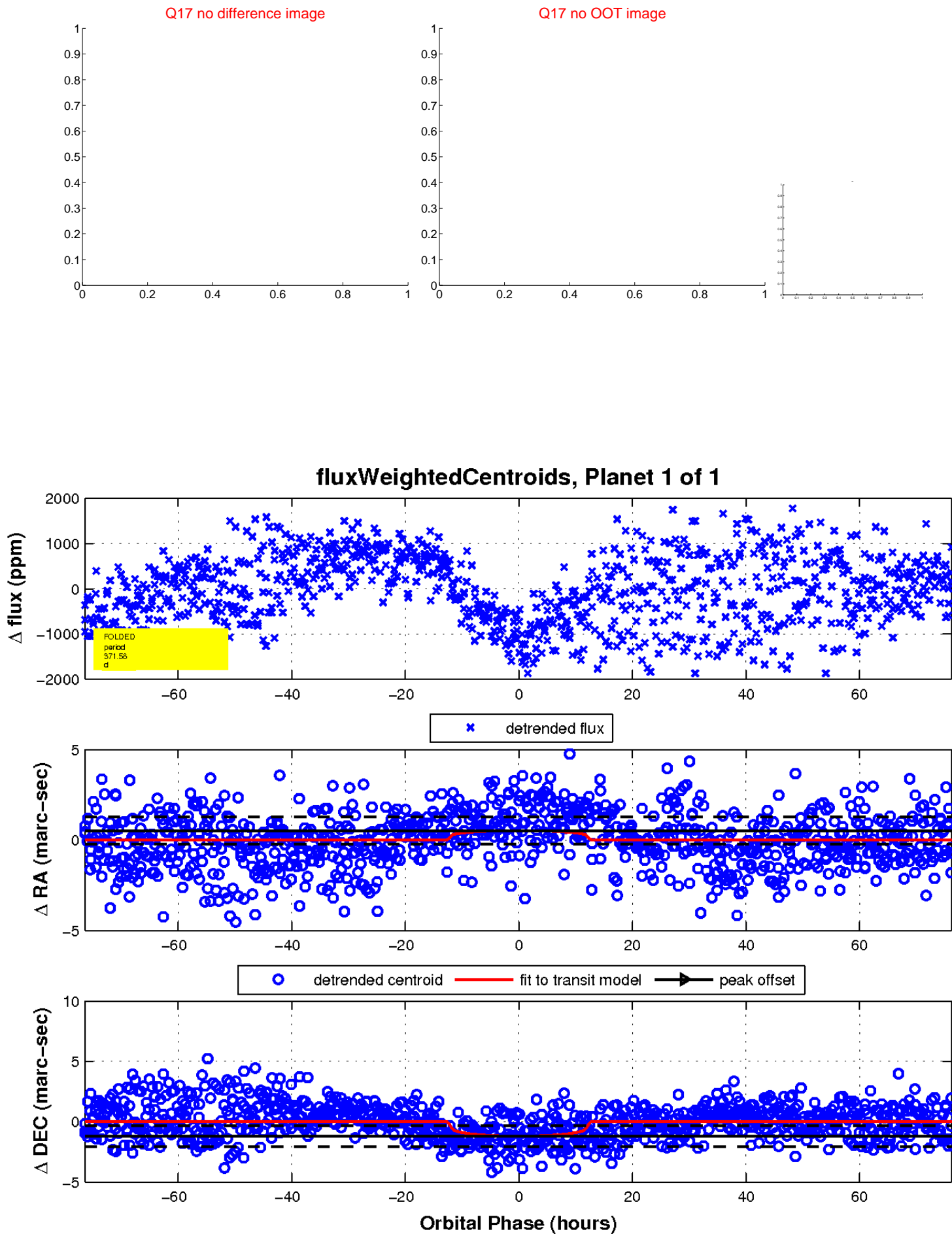
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

