

# KIC 010534447

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010534447-01	OBS	No	521.145932	378.836195	970.8	29.198	9.3	10.7	0.84	5392	2.70	0.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010534447-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

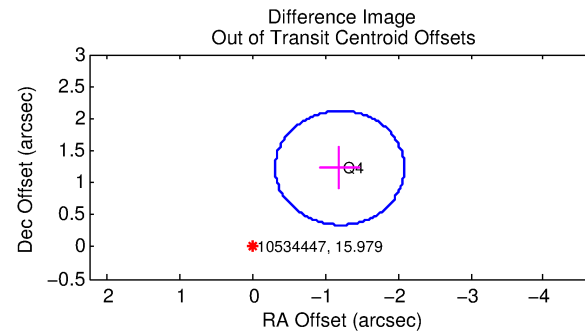
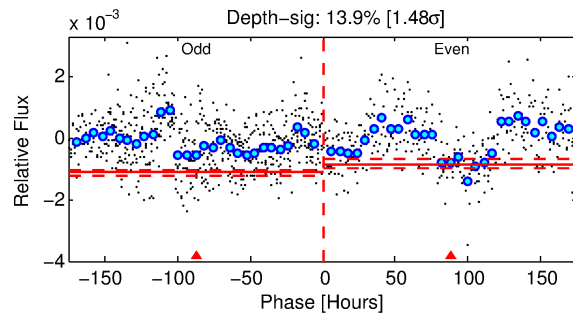
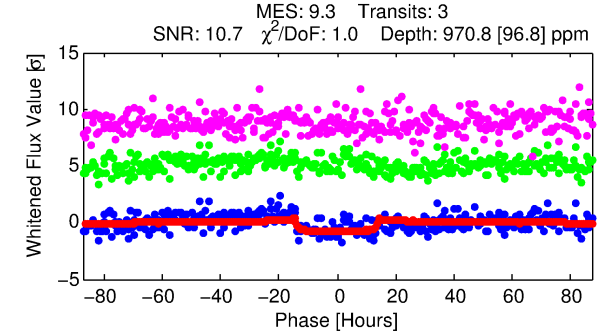
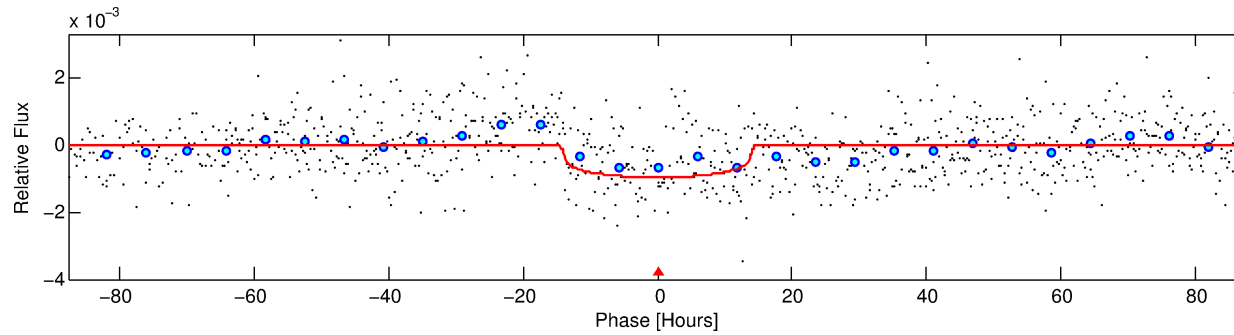
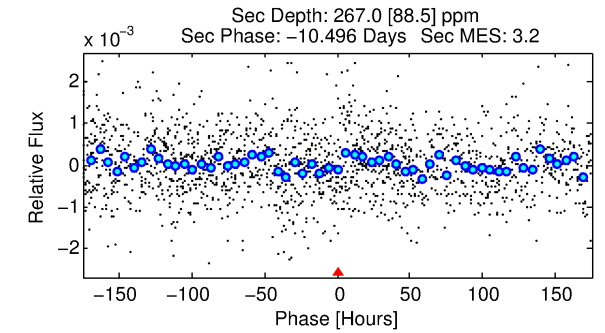
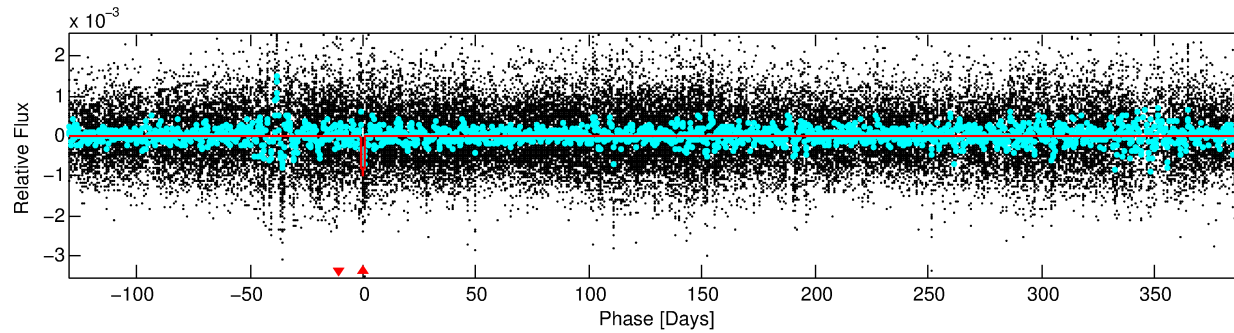
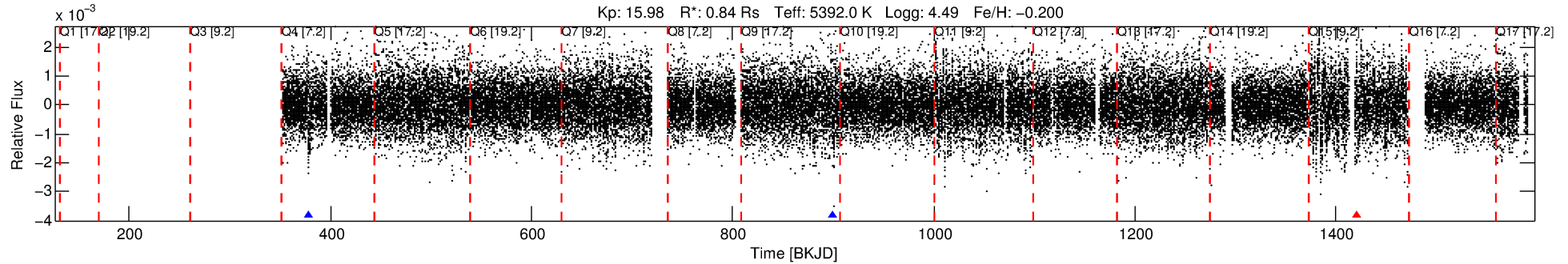
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010534447-01

No Significant Match Found

# DV One-Page Summary

KIC: 10534447 Candidate: 1 of 1 Period: 521.146 d



## DV Fit Results:

Period = 521.14593 [0.02170] d  
Epoch = 378.8362 [0.0249] BKJD  
Rp/R\* = 0.0294 [0.0070]  
a/R\* = 116.81 [106.88]  
b = 0.57 [1.09]  
Seff = 0.39 [0.11]  
Teq = 201 [14] K  
Rp = 2.70 [0.82] Re  
a = 1.1745 [0.1907] AU  
Ag = 27814.37 [17393.30] [1.60 $\sigma$ ]  
Teffp = 4019 [600] K [6.36 $\sigma$ ]

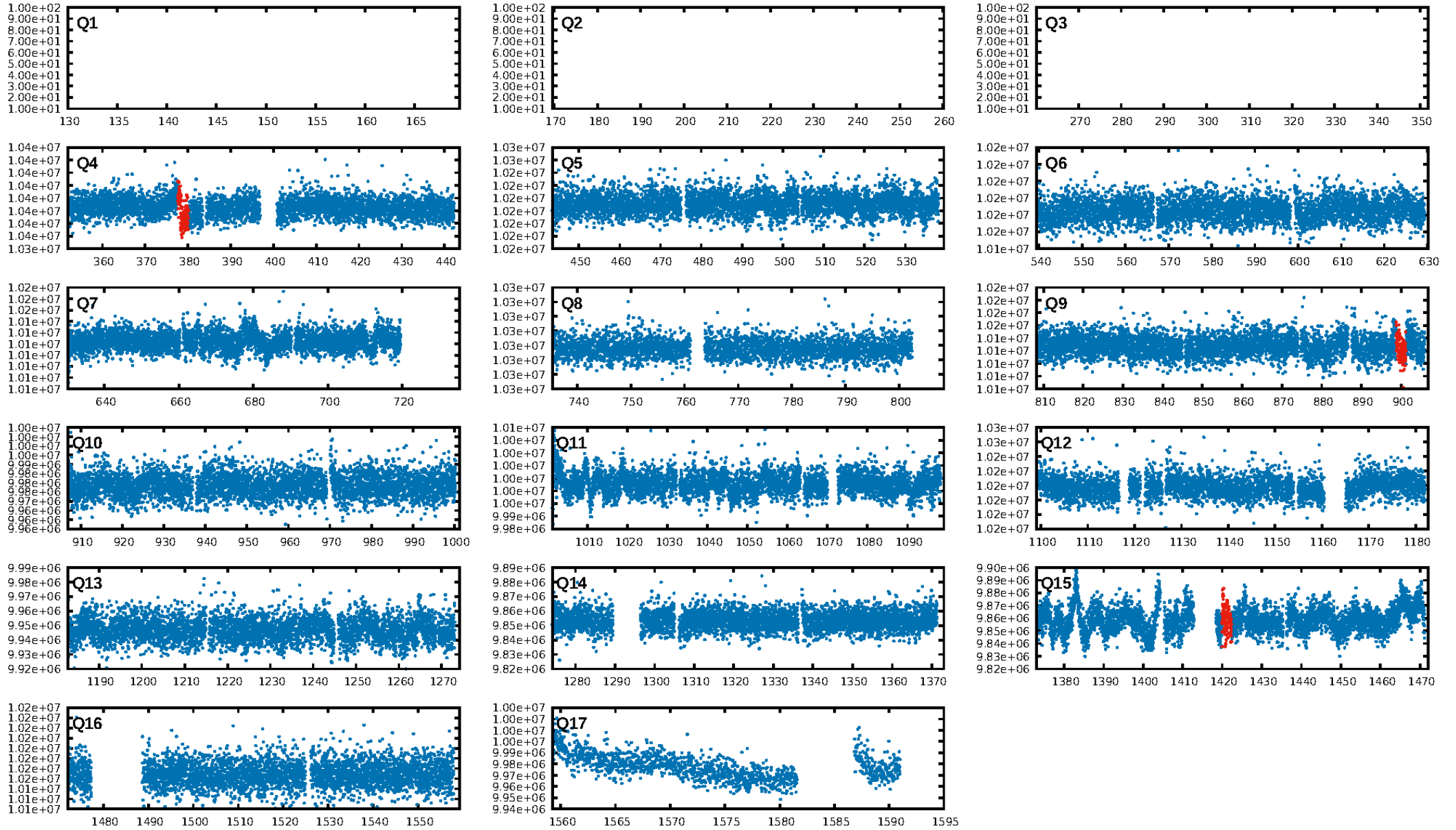
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.85e-15  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: -30.83  
Centroid-sig: 2.3%  
Centroid-so: 2.606 arcsec [1.86 $\sigma$ ]  
OotOffset-rm: 1.717 arcsec [5.80 $\sigma$ ]  
KicOffset-rm: 1.797 arcsec [6.11 $\sigma$ ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

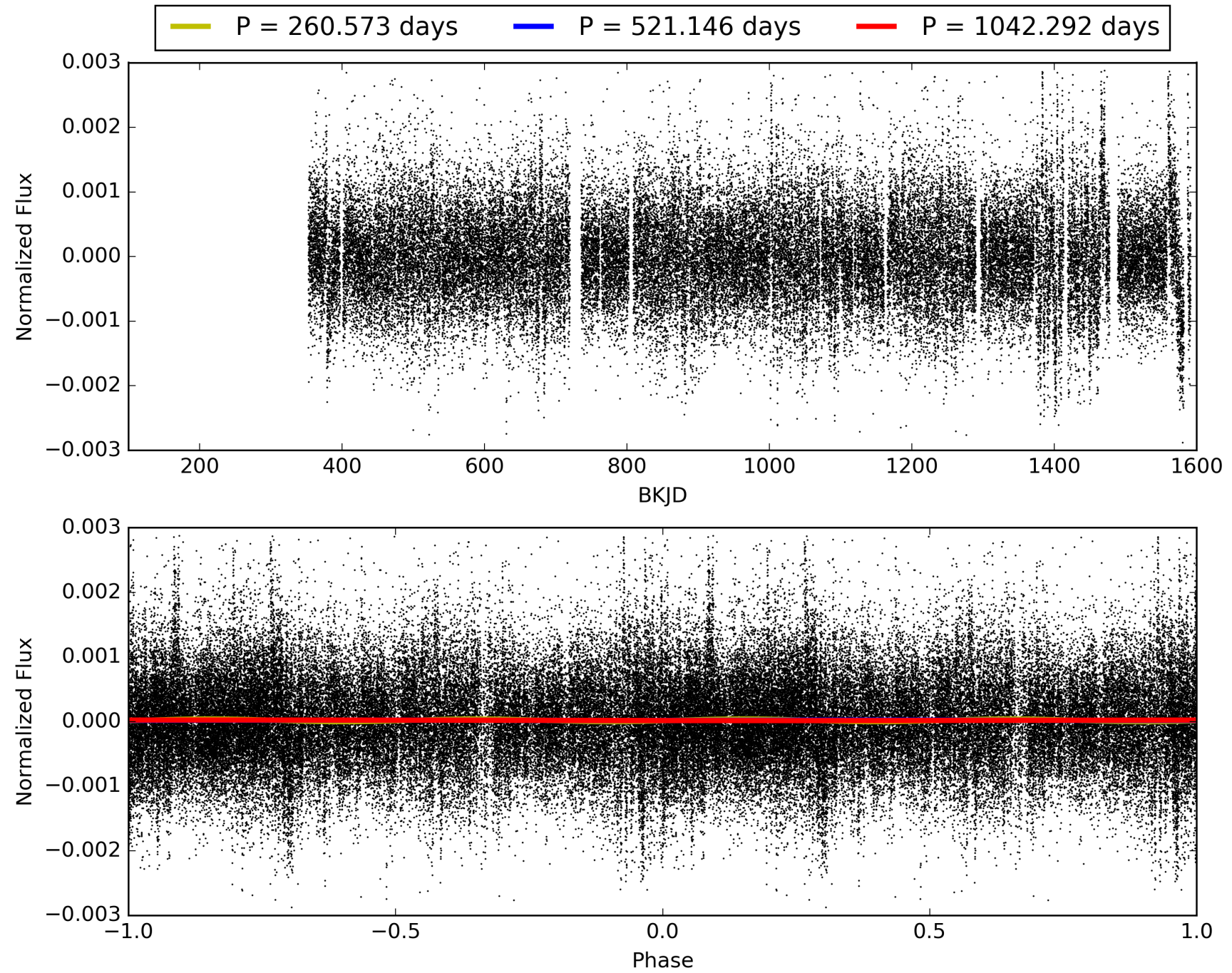
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:15:39 Z

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

# TCE 010534447-01, PDC Light Curves

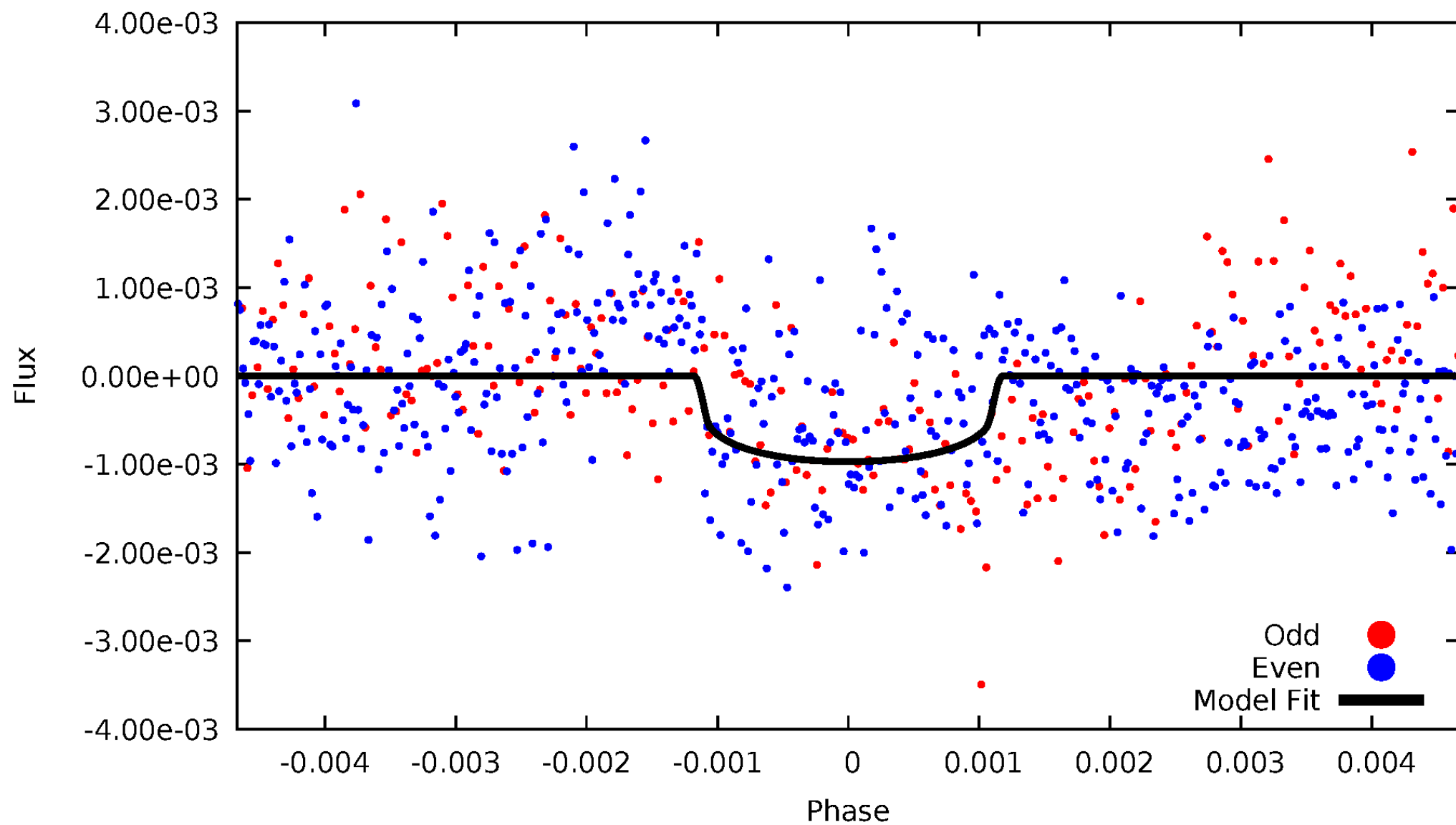


TCE 010534447-01



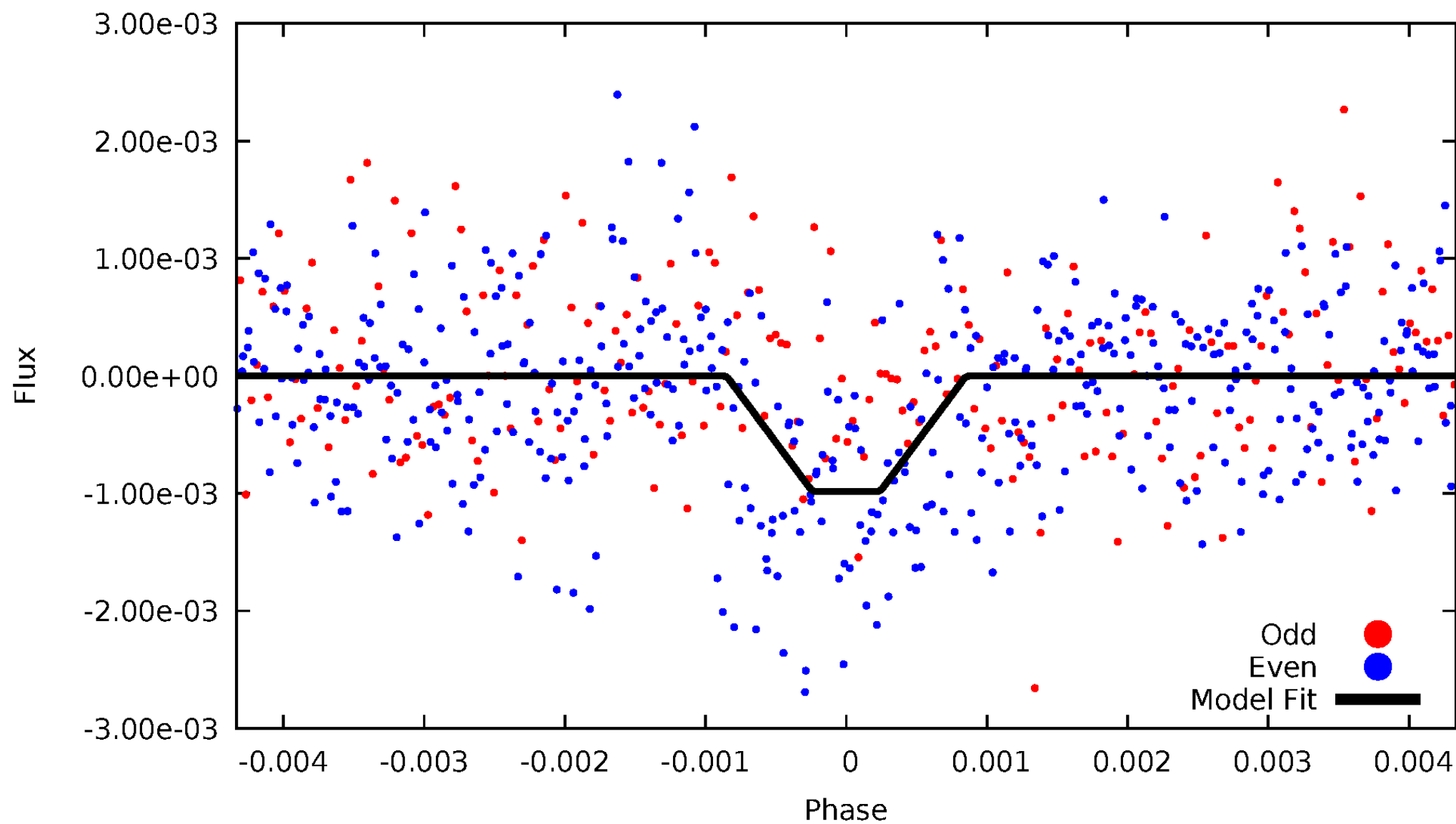
# DV Odd/Even

TCE 010534447-01



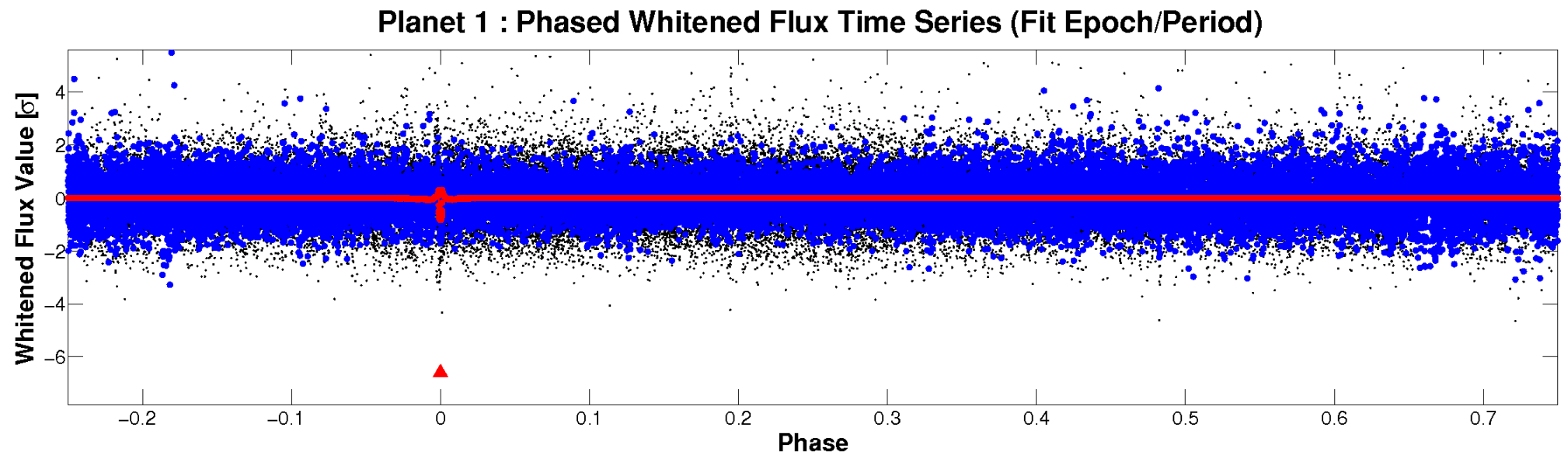
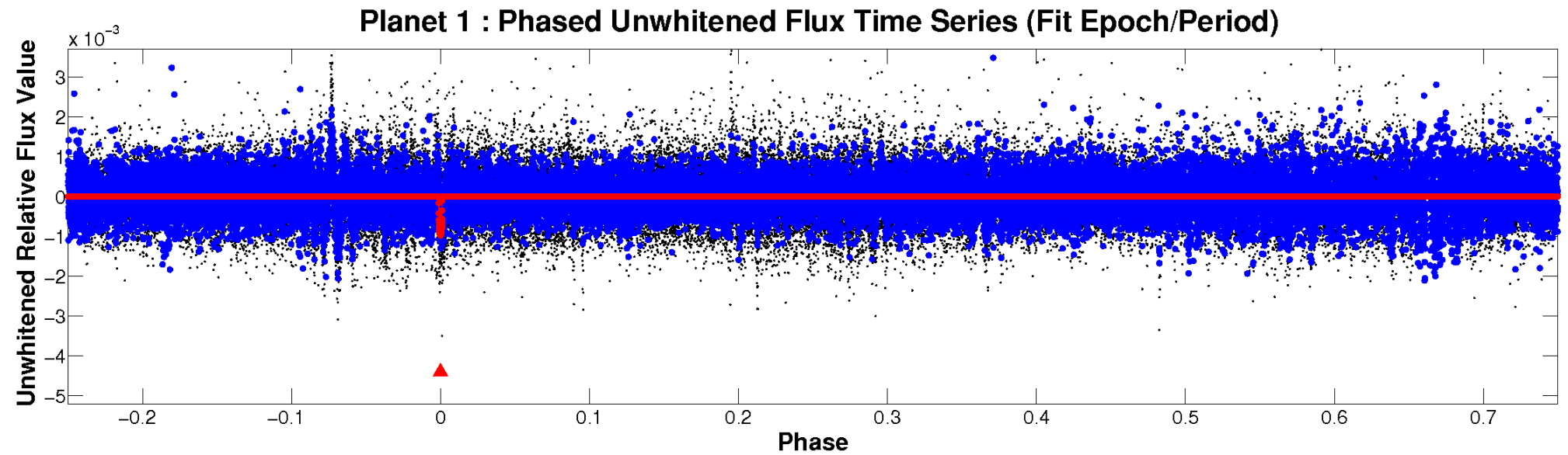
# ALT Odd/Even

TCE 010534447-01





# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

TCE 010534447-01 P=521.145932 Days  $T_0=378.836195$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 010534447-01 P=521.145932 Days  $T_0=378.836195$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

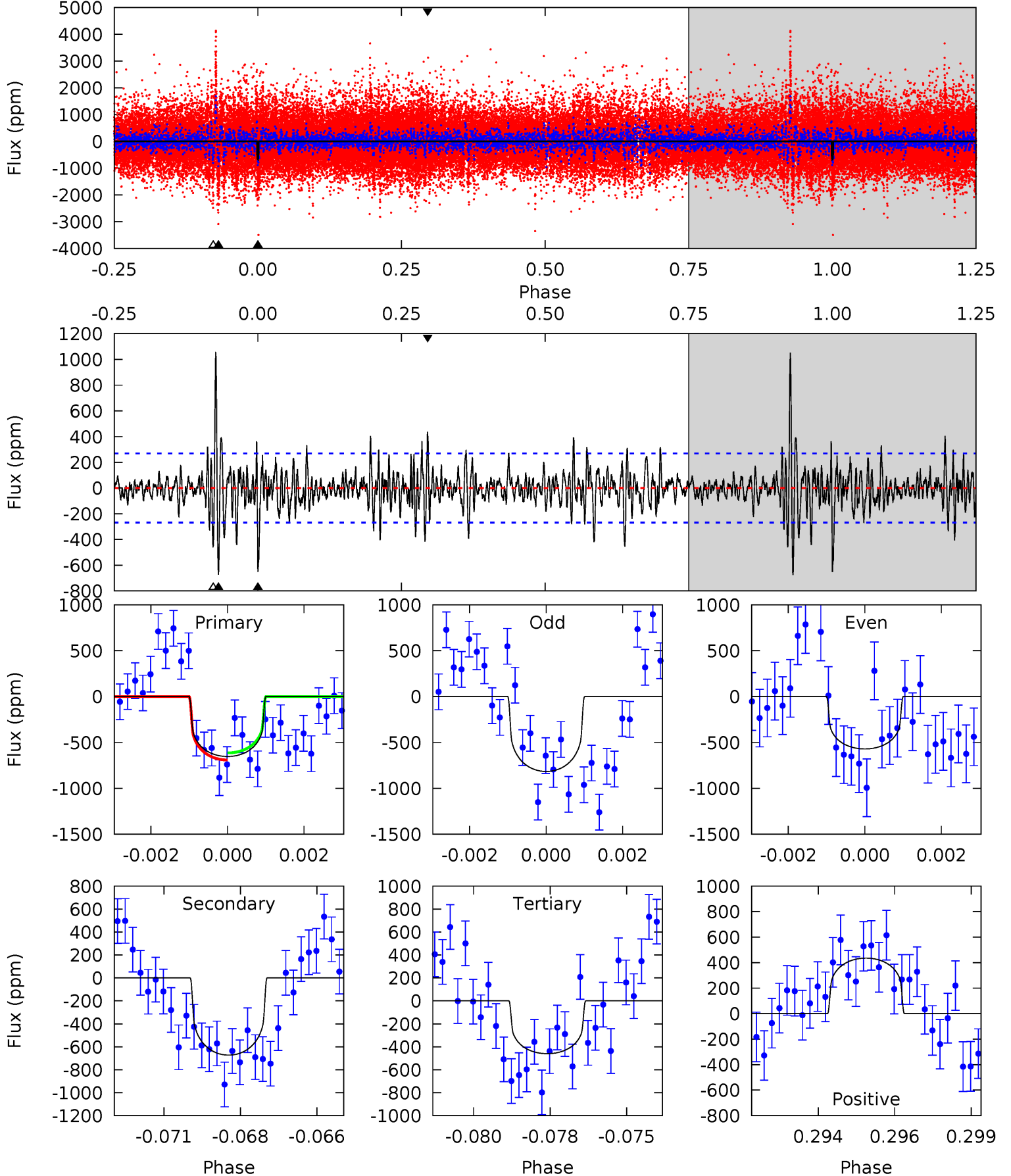
TCE 010534447-01 P=521.069402 Days  $T_0=378.742983$  (BKJD)



# DV Model-Shift Uniqueness Test

010534447-01, P = 521.145932 Days, E = 378.836195 Days

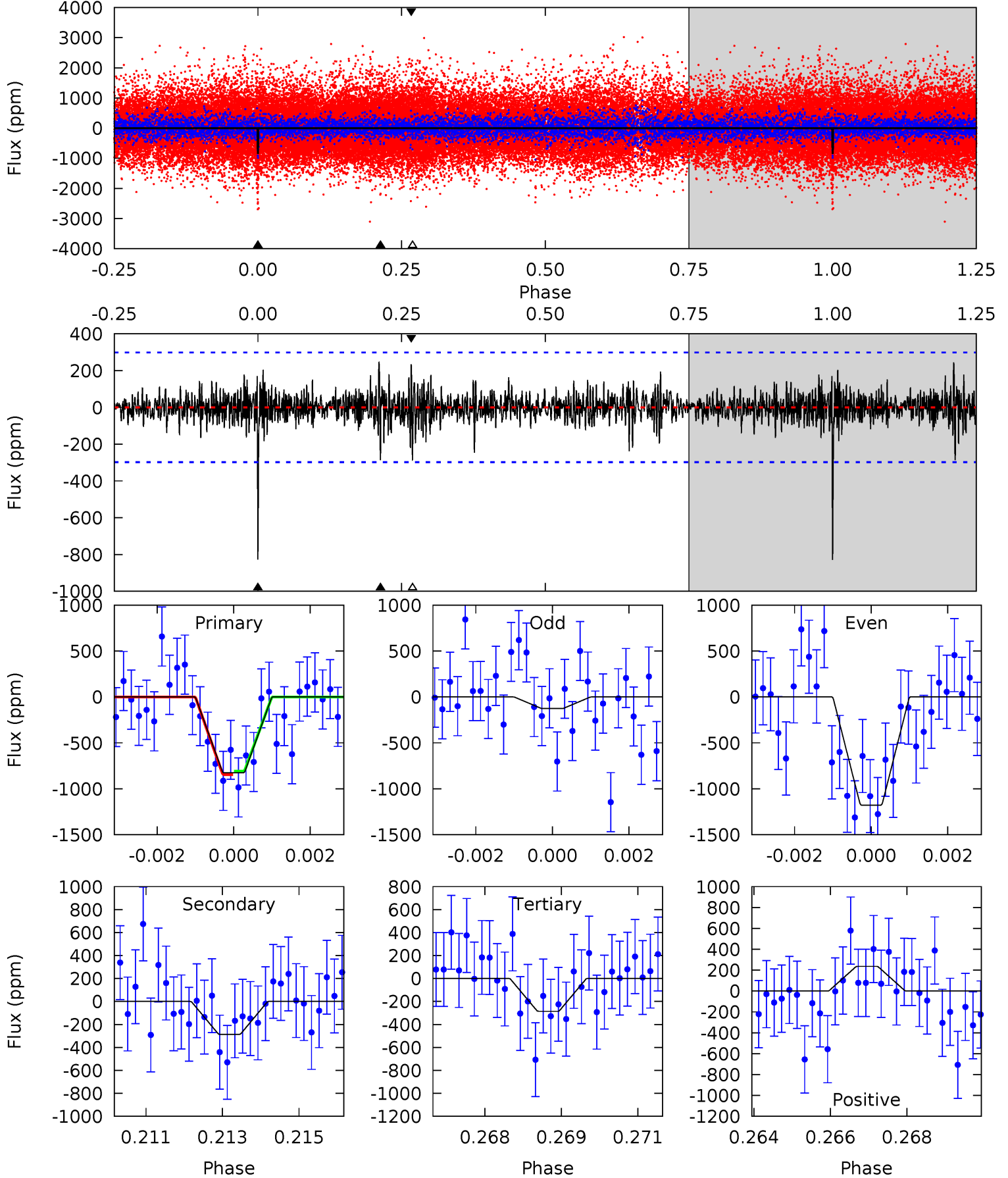
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	13.3	9.06	8.58	5.30	3.04	2.54	3.80	4.29	4.19	4.67	2.30	0.80	0.61	0.76



# Alt Model-Shift Uniqueness Test

010534447-01, P = 521.069402 Days, E = 378.742983 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
14.8	5.15	5.12	4.23	5.36	3.14	1.07	9.72	10.6	0.02	0.92	8.88	0.78	0.23	0.32



### Stellar Parameters For KIC 010534447

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5392^{+204}_{-185}$	$4.489^{+0.099}_{-0.132}$	$-0.200^{+0.300}_{-0.300}$	$0.841^{+0.160}_{-0.107}$	$0.795^{+0.115}_{-0.067}$	$1.882^{+0.807}_{-0.707}$
	+4%/-3%	+2%/-3%	+150%/-150%	+19%/-13%	+14%/-8%	+43%/-38%
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 010534447-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-673 \pm 51$	$2.73^{+0.72}_{-0.70}$	$282^{+18}_{-15}$	$5126^{+678}_{-477}$	$69017^{+56212}_{-25982}$
Alt.	$-287 \pm 56$	$2.97^{+0.73}_{-0.69}$	$284^{+17}_{-15}$	$4204^{+435}_{-362}$	$25166^{+17346}_{-10048}$

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

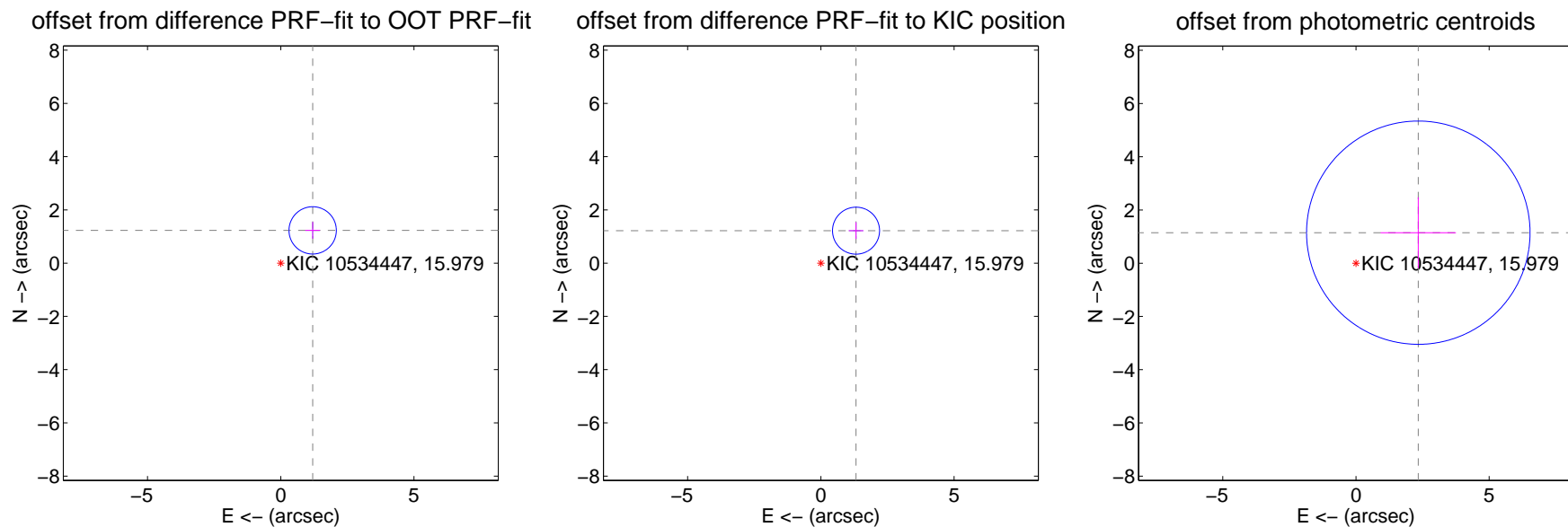
## DV Centroid Data

Supplemental centroid analysis for 010534447-01. Kepler magnitude: 15.98. Transit SNR 10.70

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

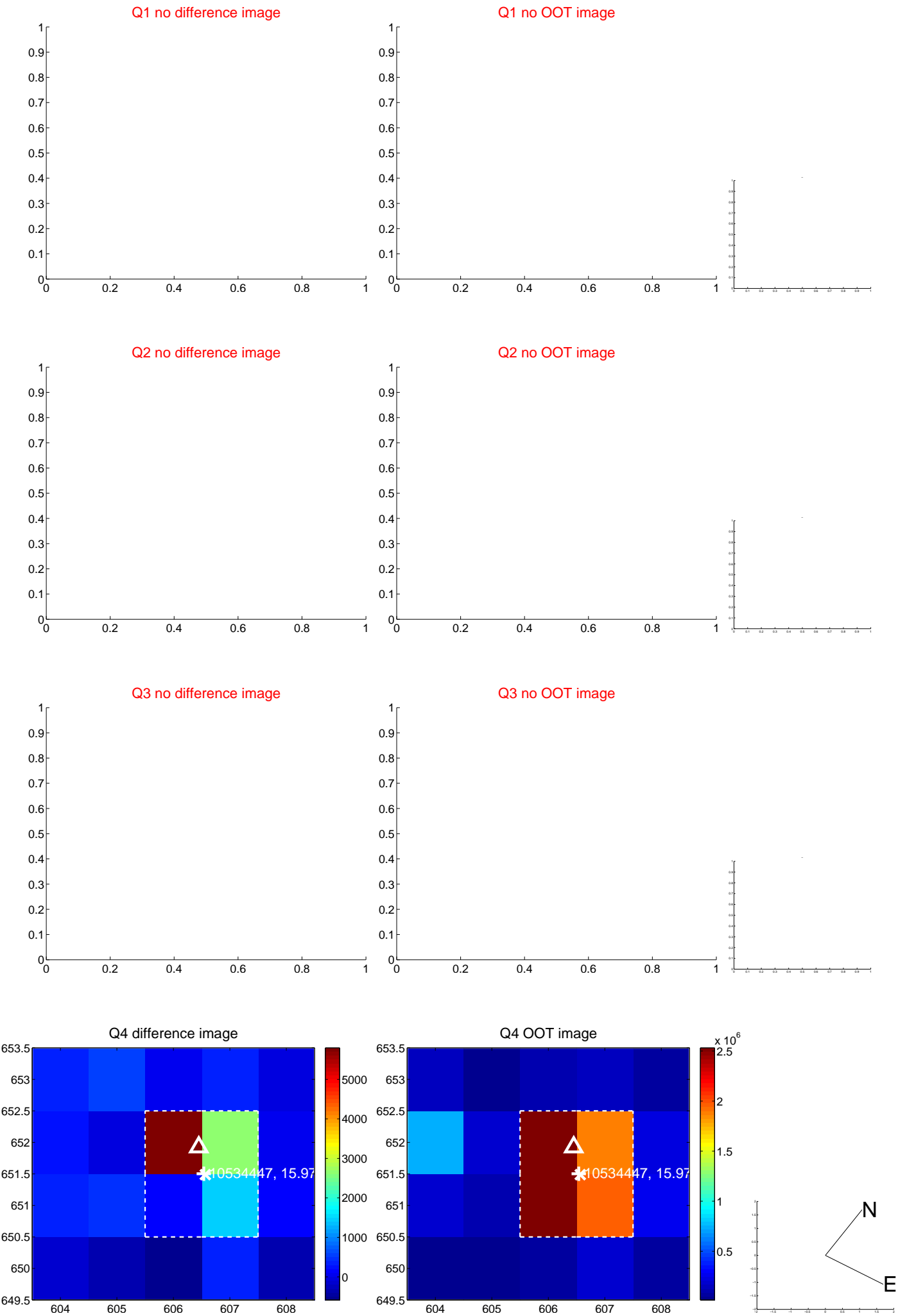
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	1.717 $\pm$ 0.296	5.80	-1.198 $\pm$ 0.275	1.231 $\pm$ 0.314
PRF-fit source offset from KIC position	1.797 $\pm$ 0.294	6.11	-1.320 $\pm$ 0.275	1.220 $\pm$ 0.314
photometric centroid source offset	2.61 $\pm$ 1.40	1.86	-2.34 $\pm$ 1.41	1.15 $\pm$ 1.33



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.



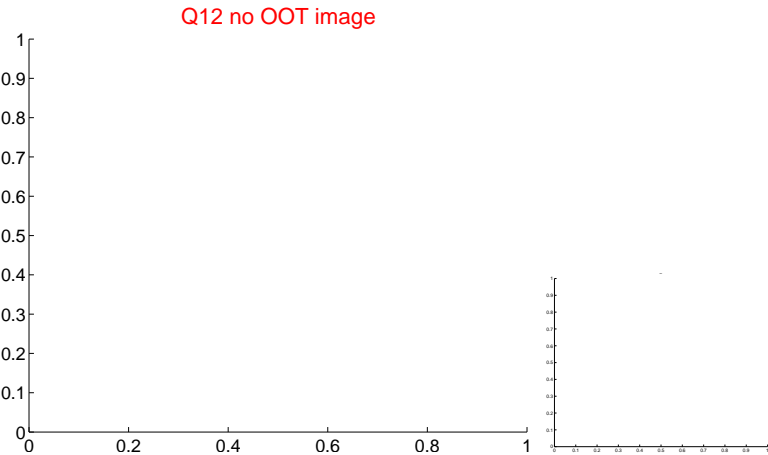
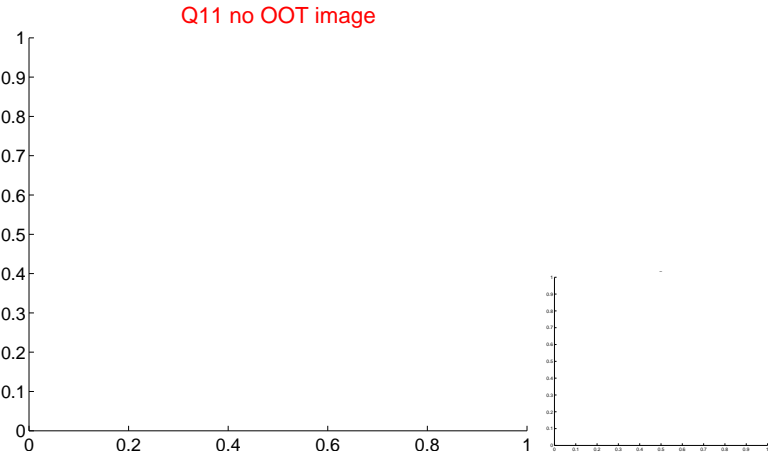
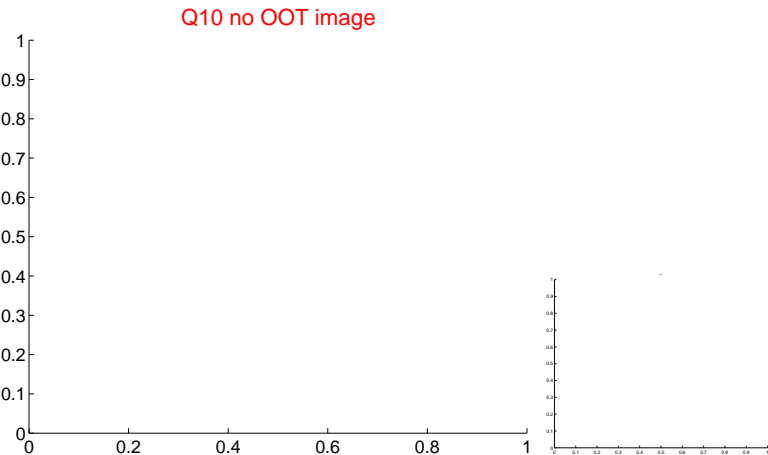
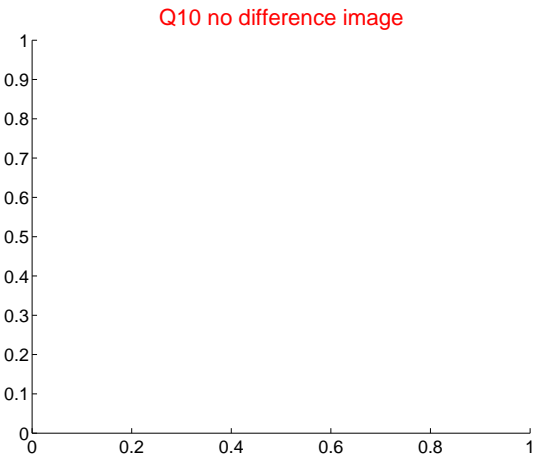
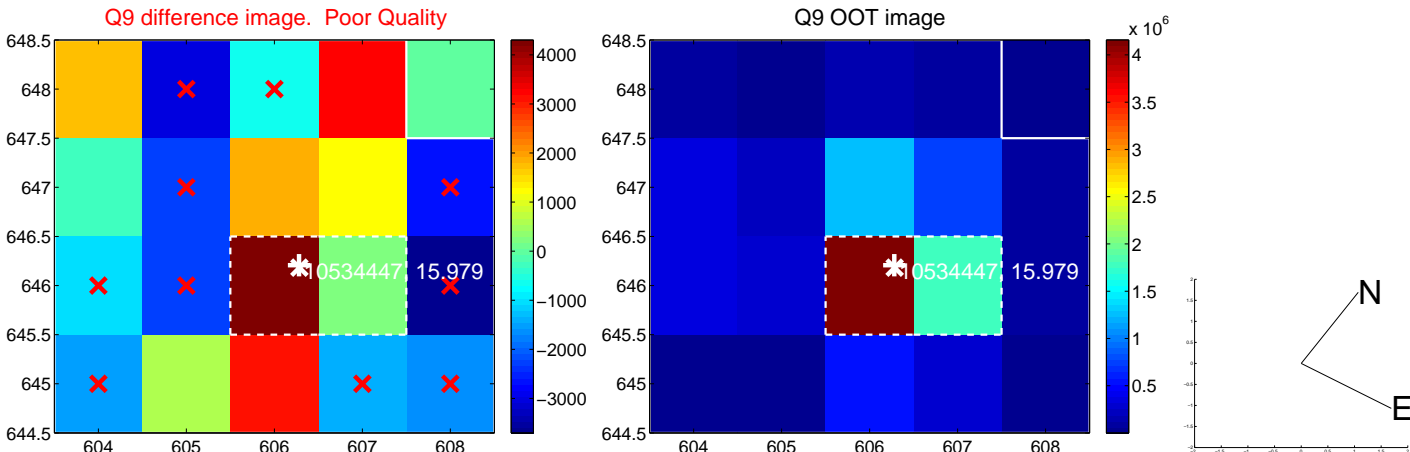
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



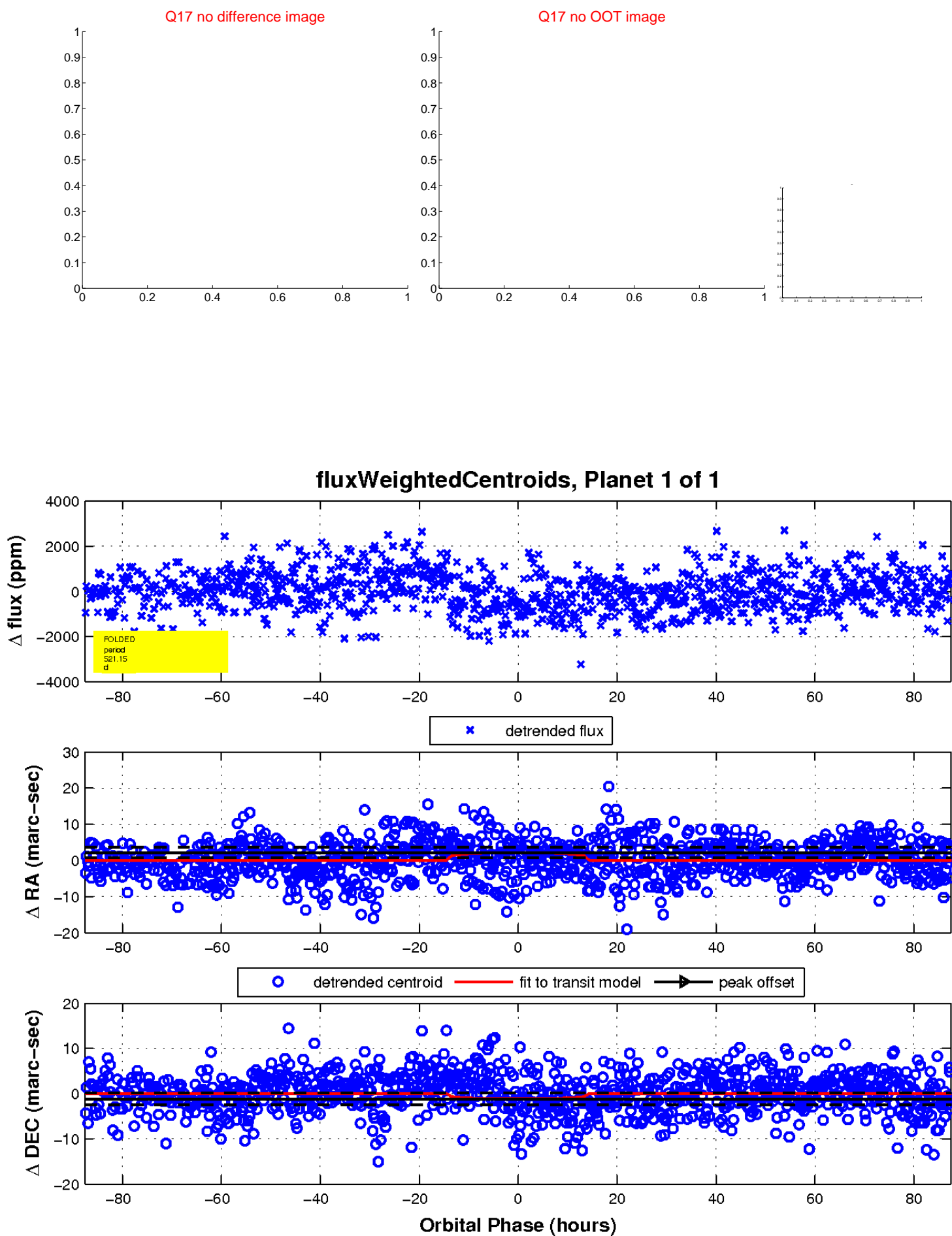
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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

