

# KIC 011547505

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011547505-01	OBS	1655.01	0.938463	131.847268	175.9	1.327	41.3	43.3	1.09	5499	1.73	2935.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011547505-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

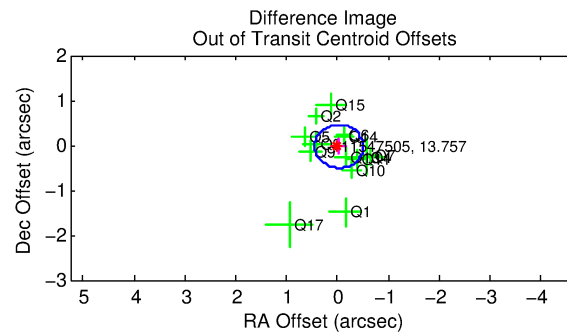
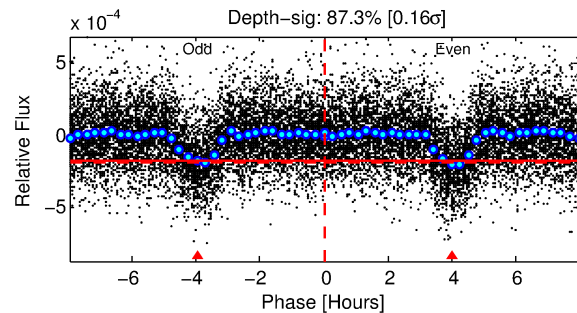
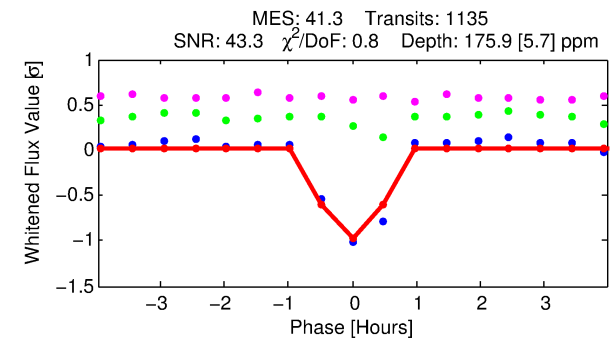
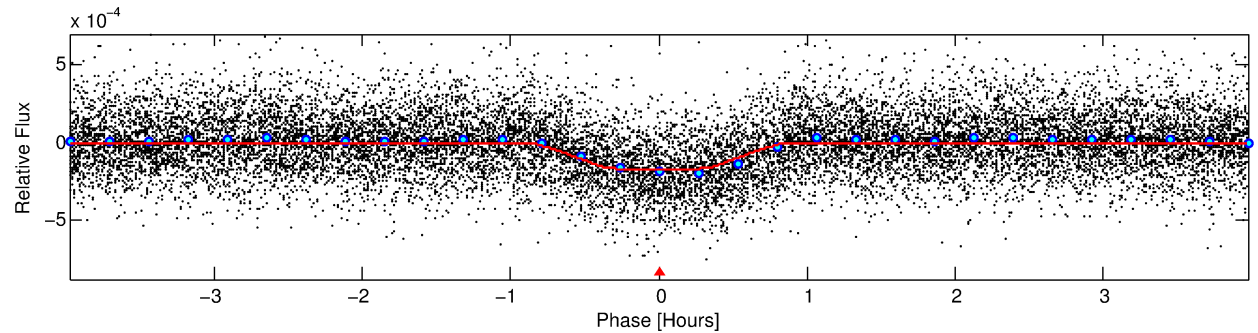
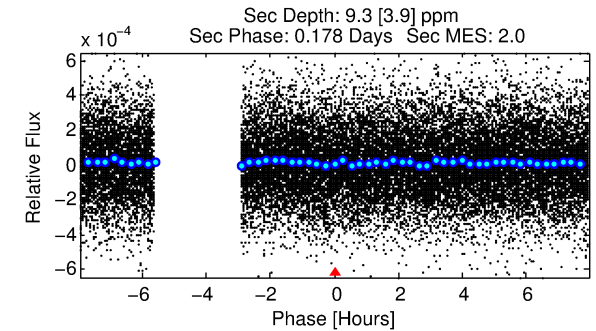
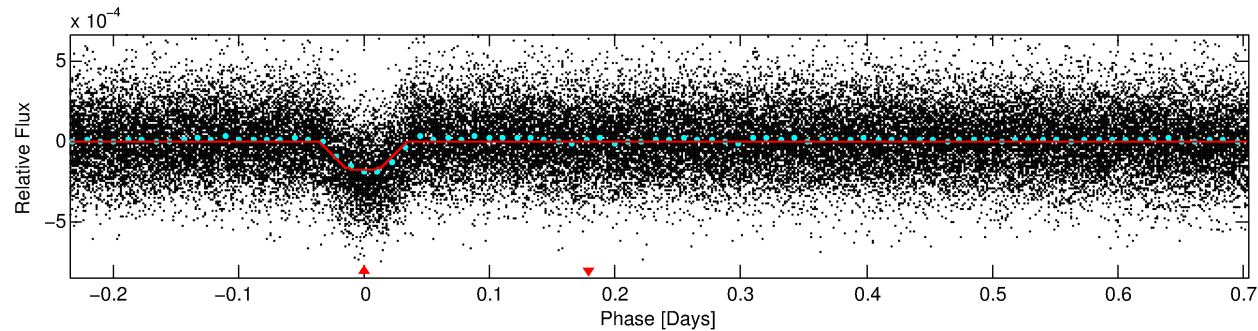
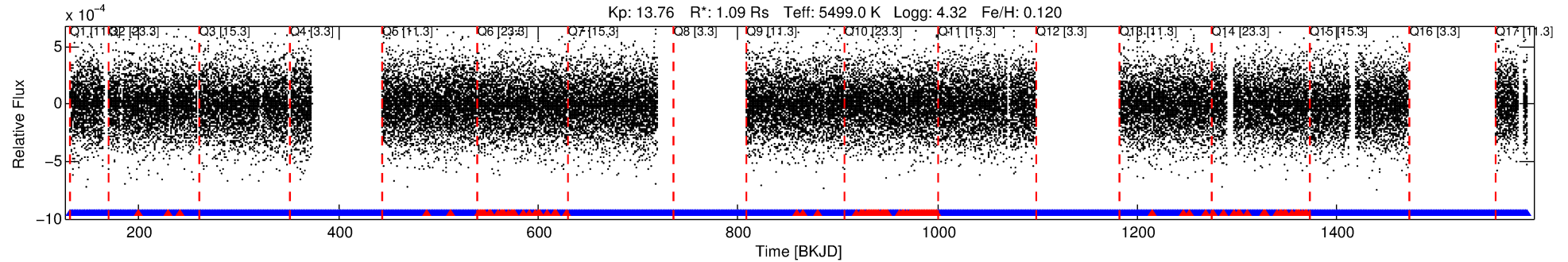
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011547505-01

No Significant Match Found

# DV One-Page Summary

KIC: 11547505 Candidate: 1 of 1 Period: 0.938 d  
KOI: K01655.01 Corr: 0.947



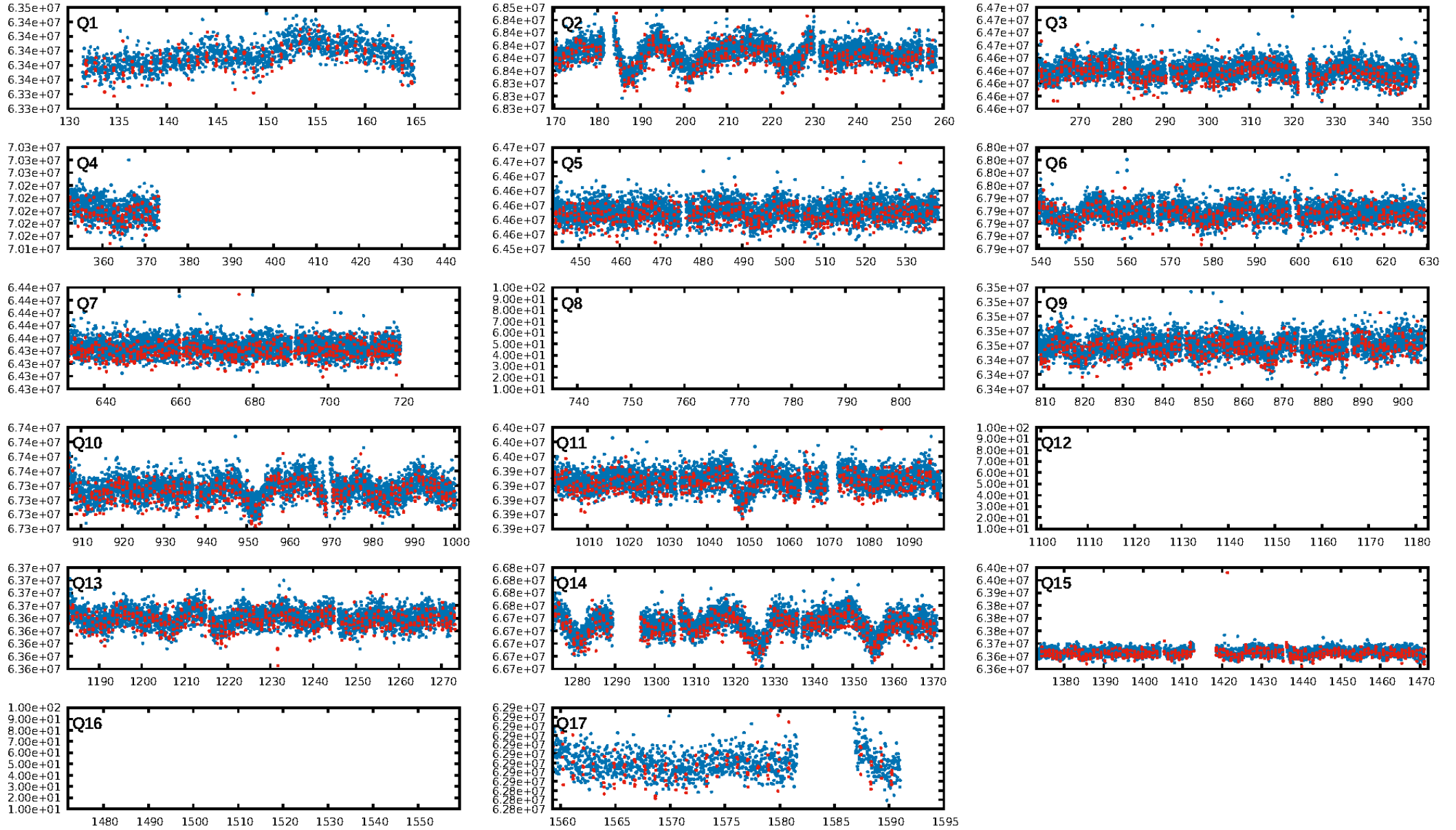
## DV Fit Results:

Period = 0.93846 [0.00000] d  
Epoch = 131.8473 [0.0005] BKJD  
Rp/R\* = 0.0146 [0.0028]  
a/R\* = 2.74 [2.00]  
b = 0.90 [0.19]  
Seff = 2935.12 [758.70]  
Teq = 1877 [121] K  
Rp = 1.73 [0.42] Re  
a = 0.0182 [0.0028] AU  
Ag = 0.56 [0.35] [-1.25σ]  
Teffp = 2512 [362] K [1.66σ]

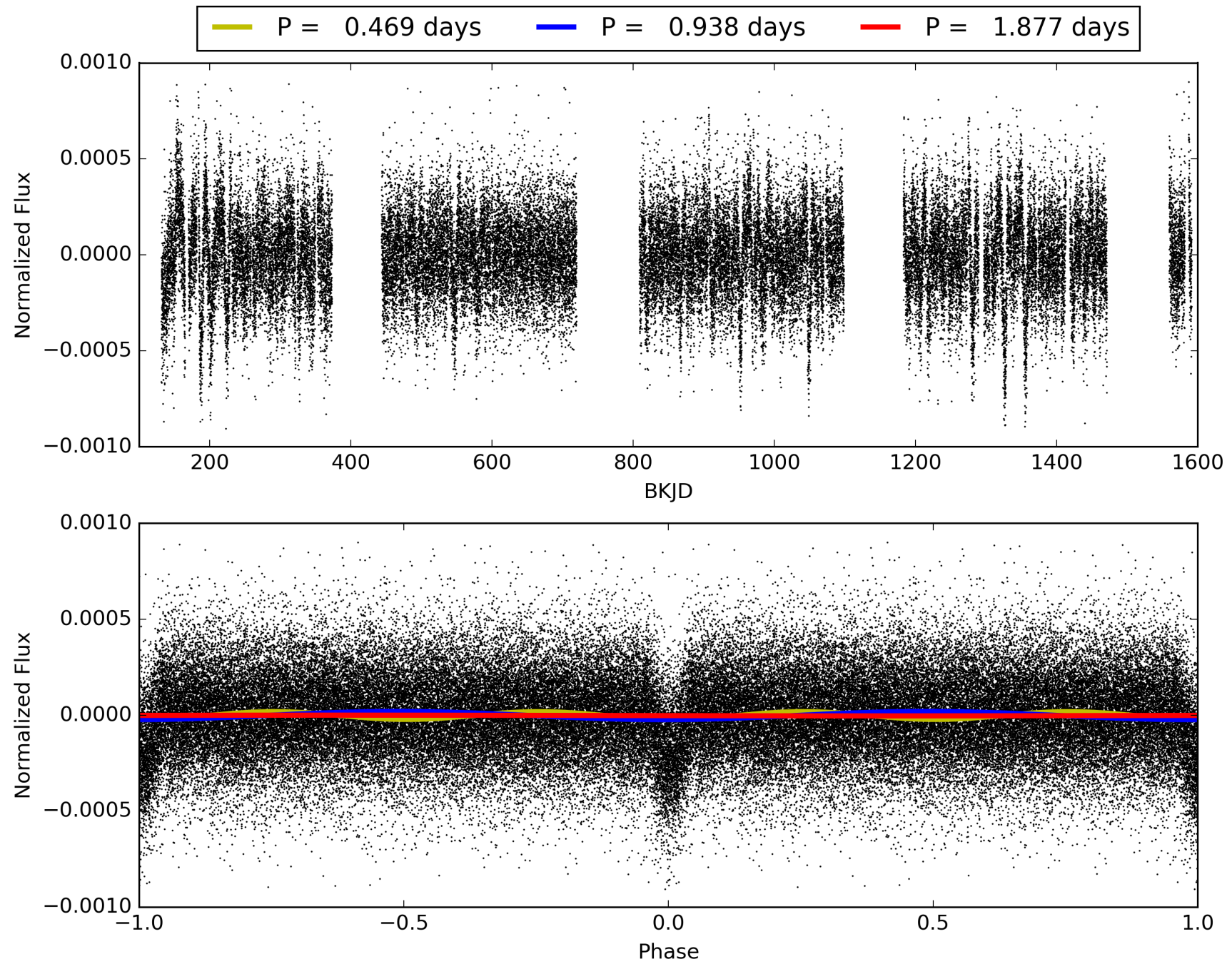
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.89 [932/1048]  
GhostDiagnostic-chr: 6.252  
Centroid-sig: 8.0%  
Centroid-so: 0.219 arcsec [0.63σ]  
OotOffset-rm: 0.038 arcsec [0.24σ]  
KicOffset-rm: 0.322 arcsec [2.00σ]  
OotOffset-st: 4/4/1/5 [14]  
KicOffset-st: 4/4/1/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 011547505-01, PDC Light Curves

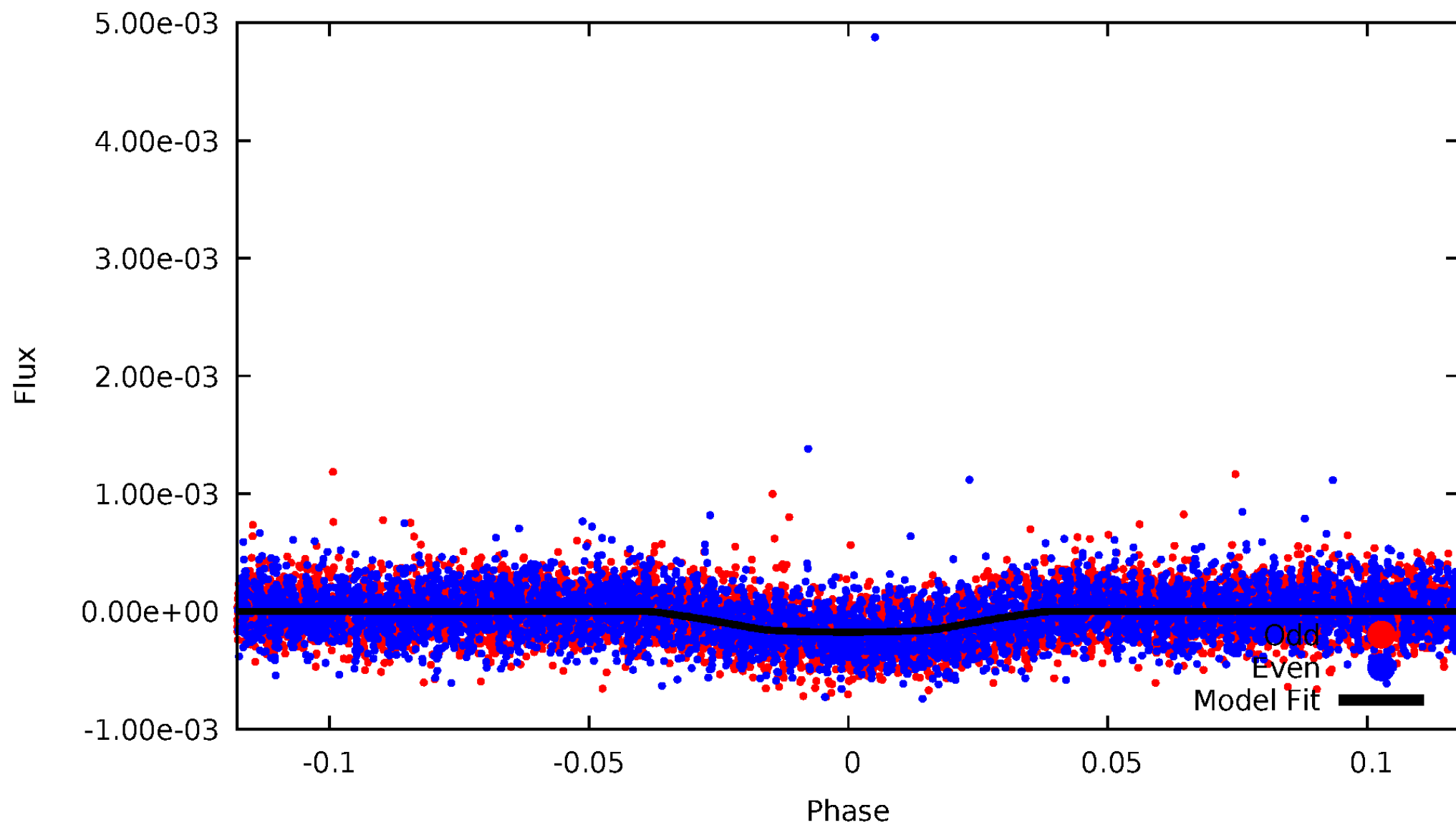


TCE 011547505-01



# DV Odd/Even

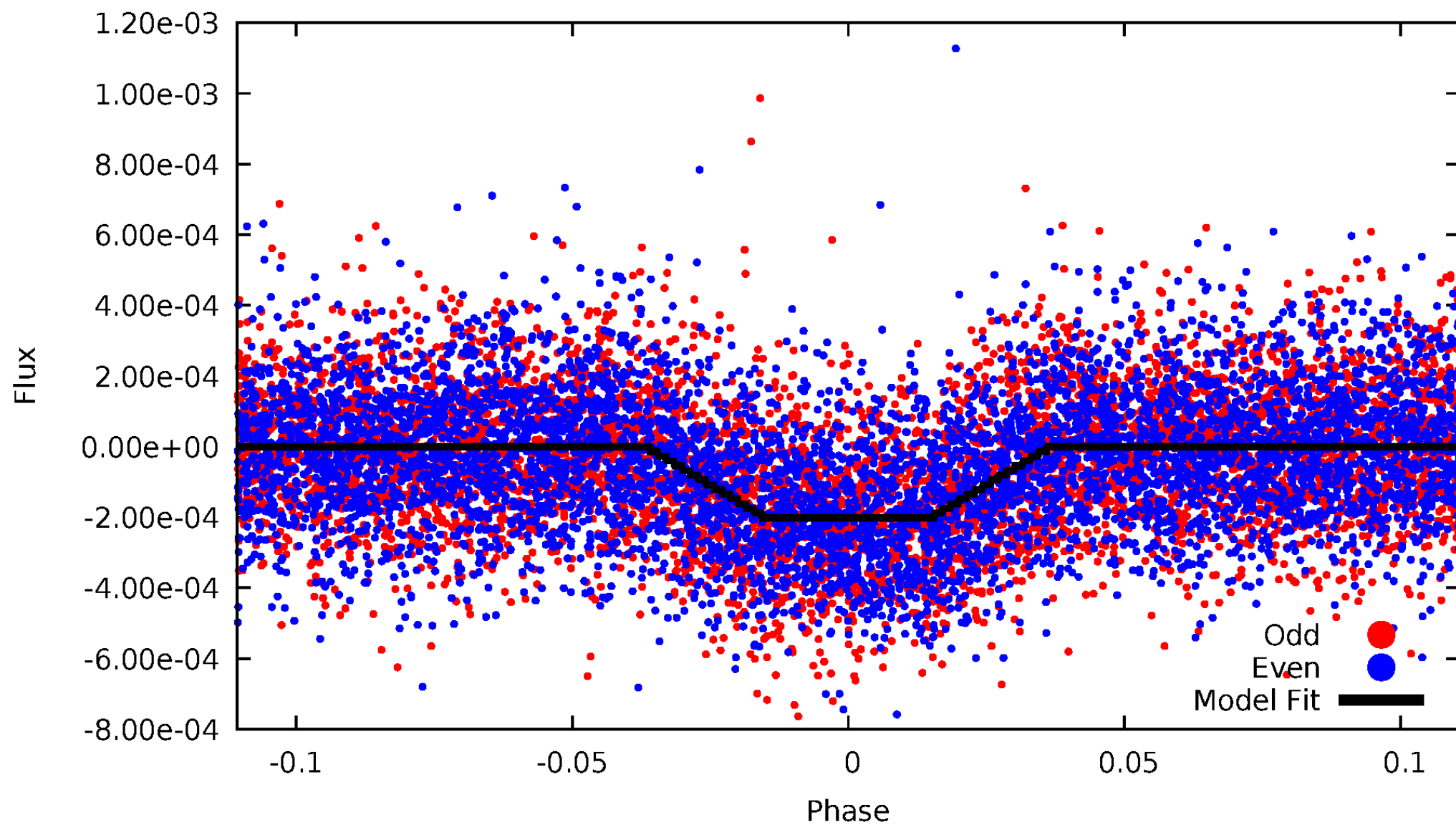
TCE 011547505-01



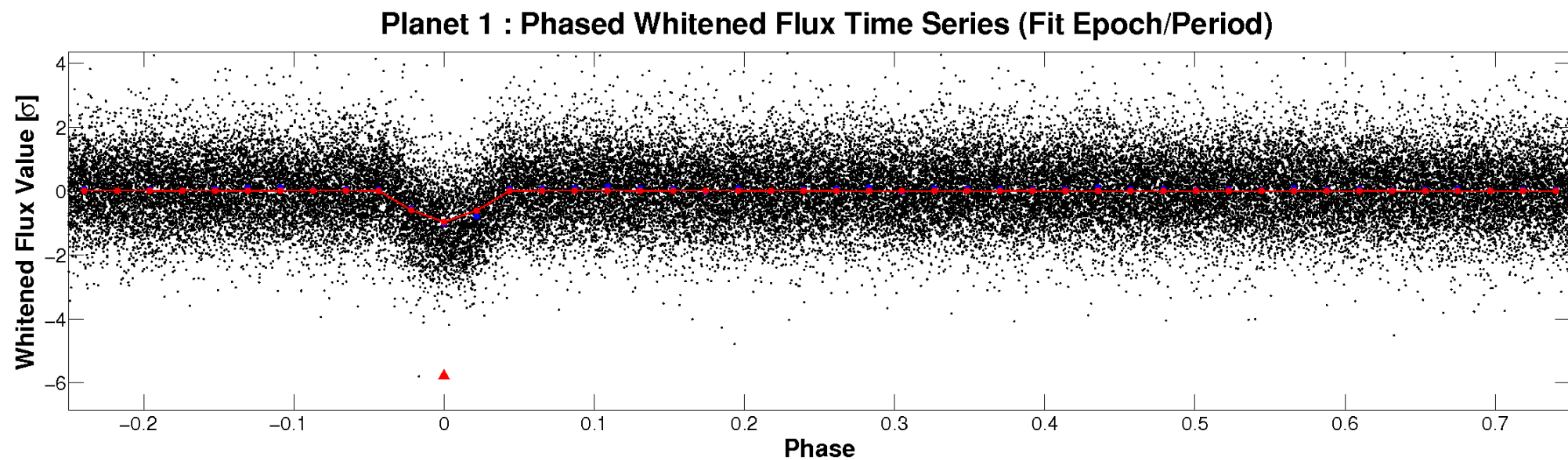
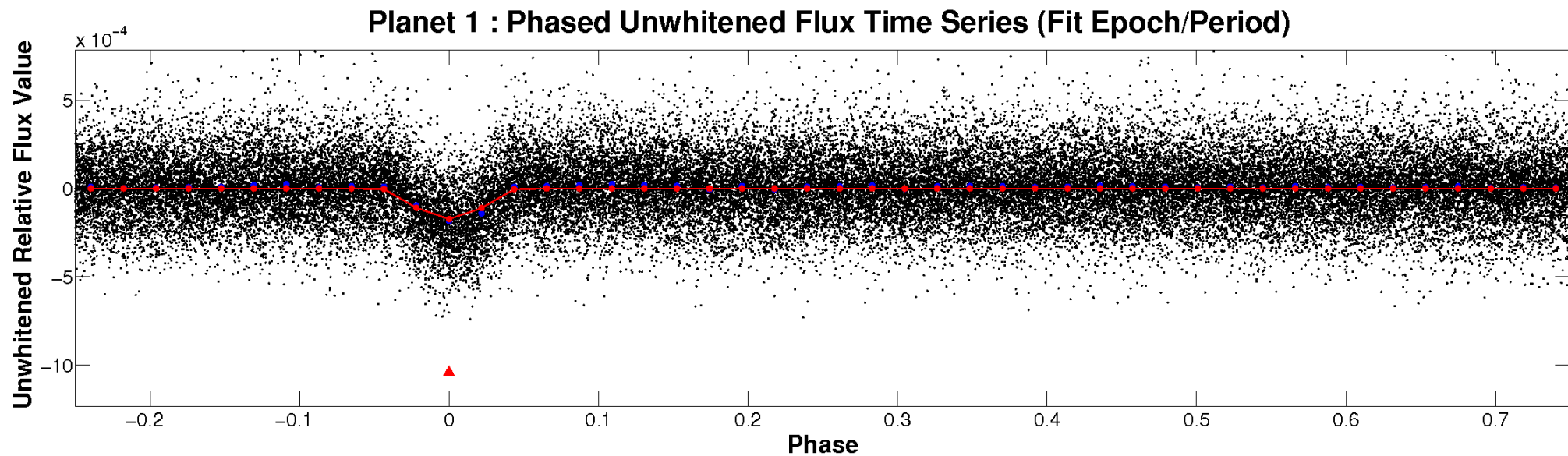


# ALT Odd/Even

TCE 011547505-01

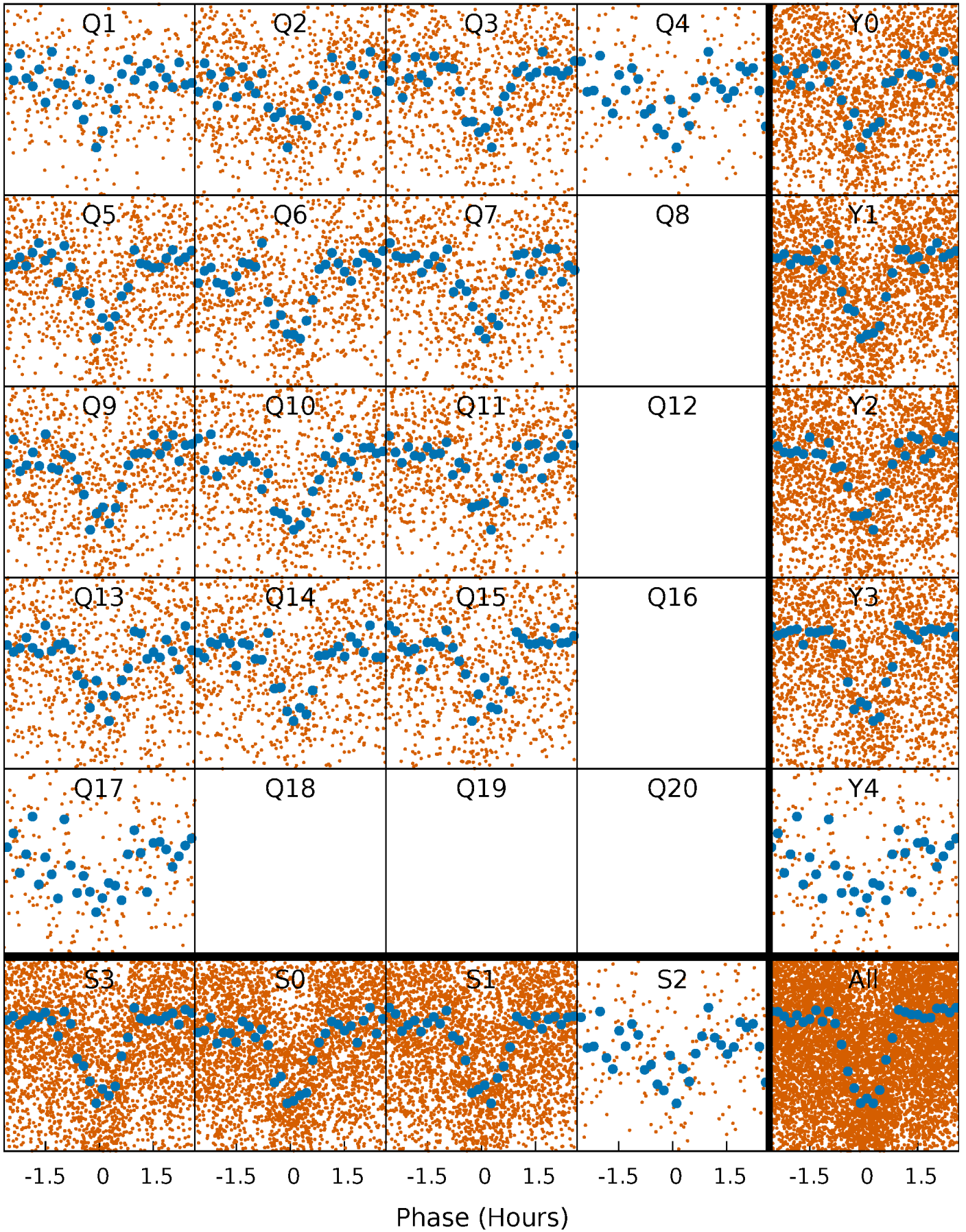


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

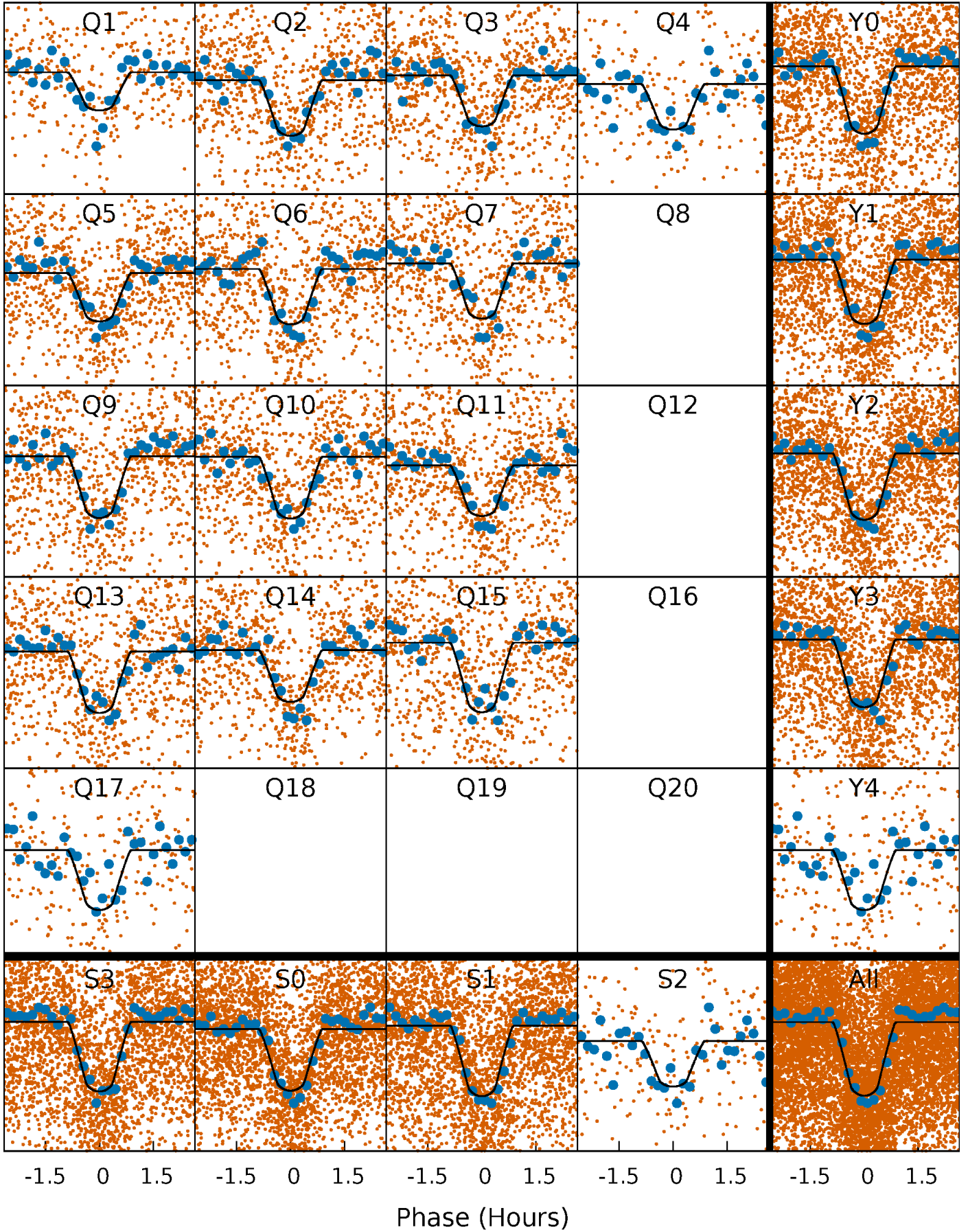
TCE 011547505-01 P= 0.938463 Days  $T_0=131.847268$  (BKJD)





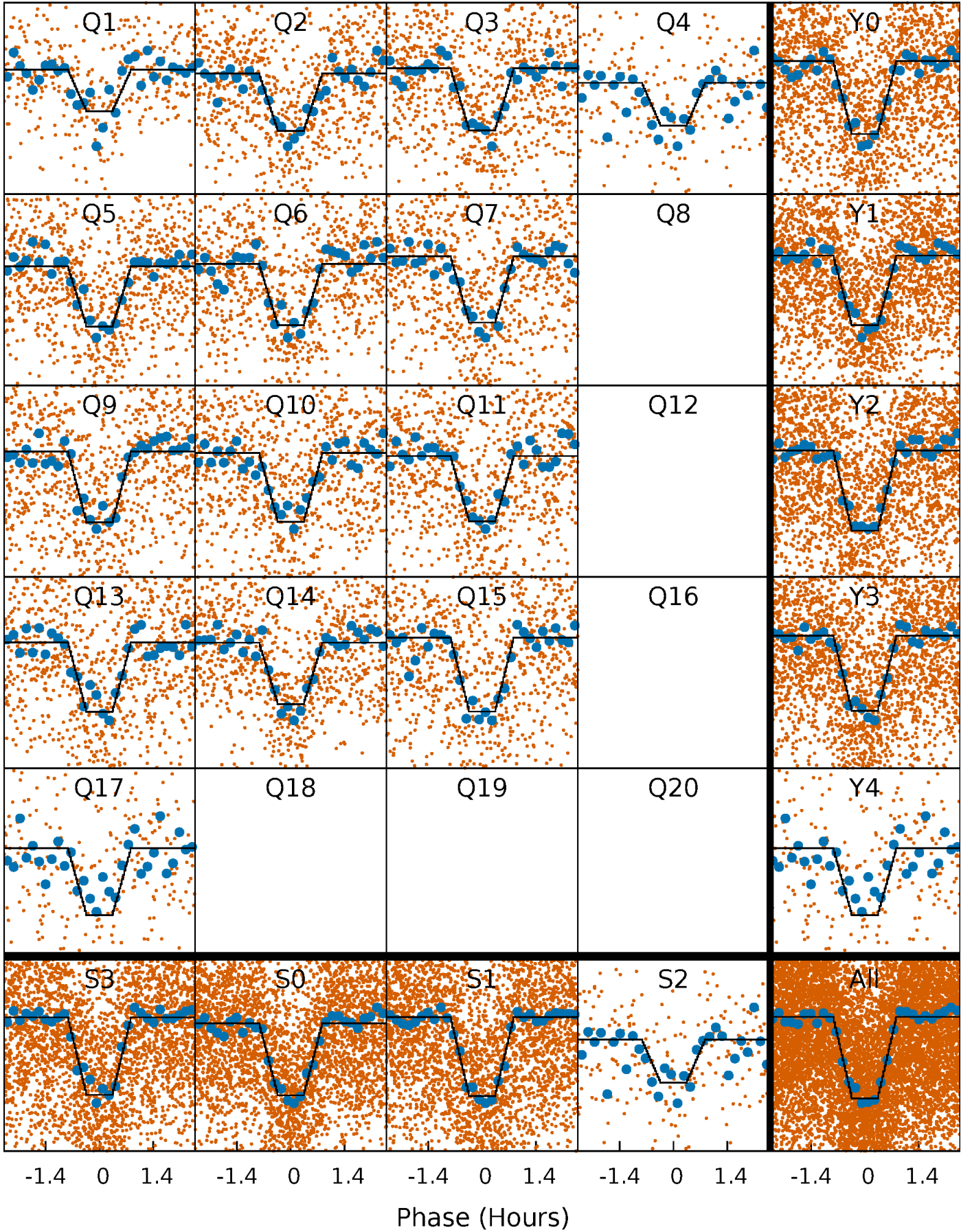
# DV Quarter-Phased Transit Curves

TCE 011547505-01   P= 0.938463 Days    $T_0=131.847268$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

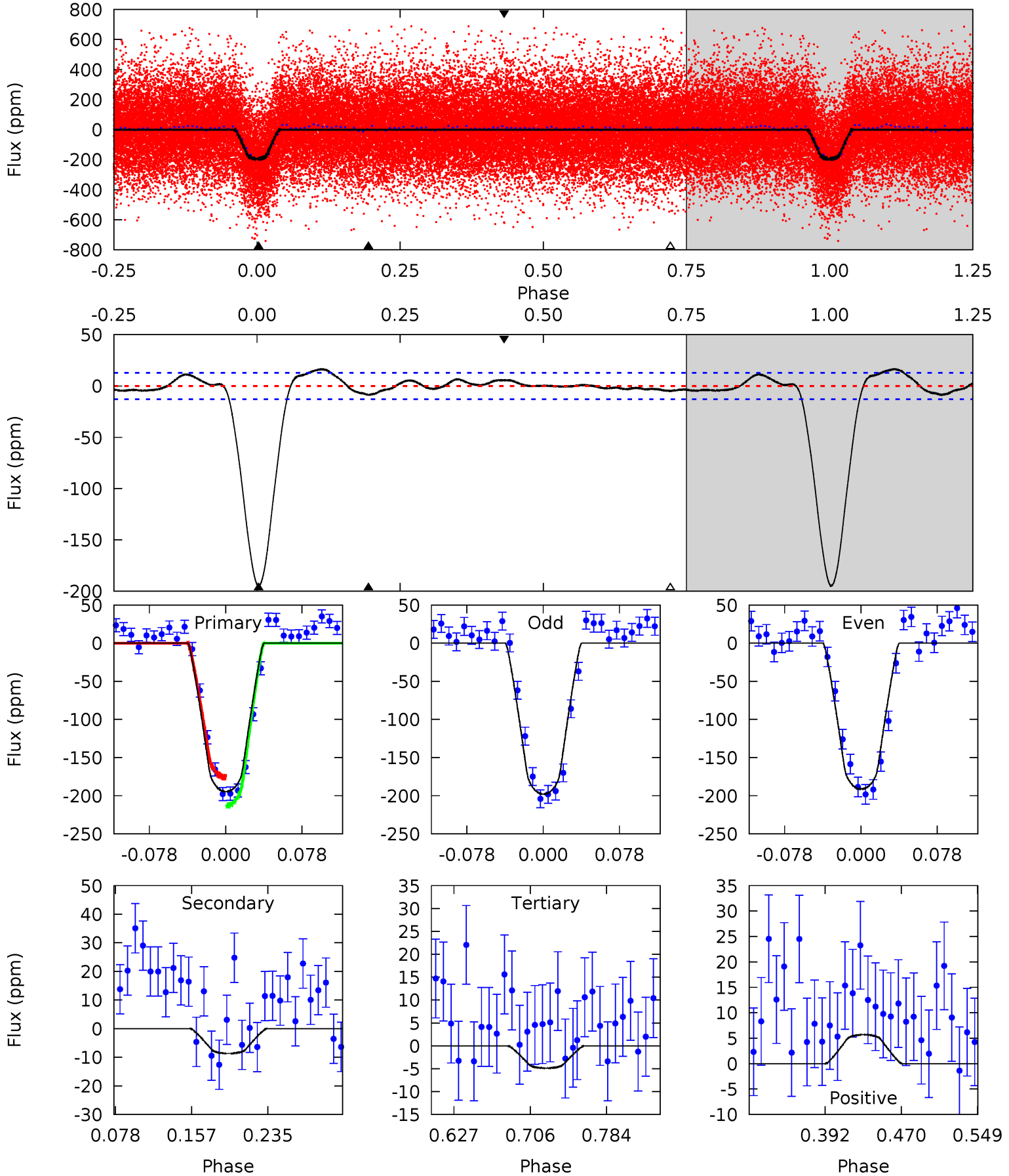
TCE 011547505-01 P= 0.938467 Days  $T_0=131.846814$  (BKJD)



# DV Model-Shift Uniqueness Test

011547505-01, P = 0.938463 Days, E = 130.908805 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
69.9	3.11	1.75	2.04	4.62	1.76	1.74	68.1	67.8	1.36	1.07	1.18	1.00	0.08	6.73

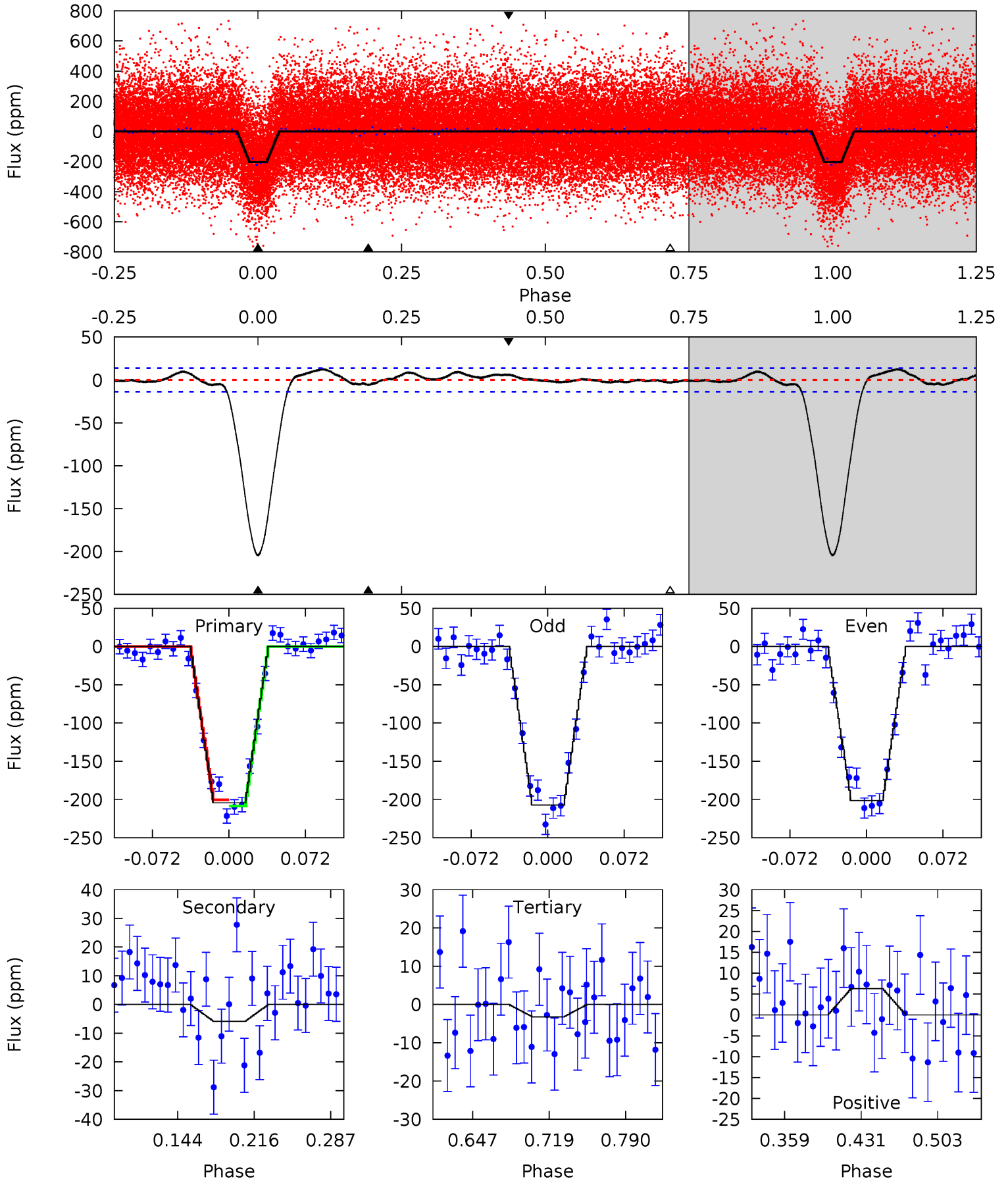




# Alt Model-Shift Uniqueness Test

011547505-01, P = 0.938467 Days, E = 130.908347 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
69.3	1.99	1.09	2.13	4.63	1.80	1.38	68.2	67.1	0.90	-0.14	0.99	0.98	0.06	1.42





### Stellar Parameters For KIC 011547505

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5499^{+82}_{-74}$	$4.323^{+0.150}_{-0.100}$	$0.120^{+0.150}_{-0.150}$	$1.087^{+0.165}_{-0.165}$	$0.906^{+0.066}_{-0.038}$	$0.995^{+0.674}_{-0.318}$
	+1%/-1%	+3%/-2%	+125%/-125%	+15%/-15%	+7%/-4%	+68%/-32%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 011547505-01 / KOI 1655.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-9 \pm 3$	$1.71^{+0.32}_{-0.34}$	$2612^{+115}_{-119}$	$2751^{+375}_{-819}$	$0.530^{+0.371}_{-0.219}$
Alt.	$-6 \pm 3$	$1.65^{+0.39}_{-0.35}$	$2618^{+105}_{-135}$	$2410^{+531}_{-4986}$	$0.380^{+0.316}_{-0.214}$

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

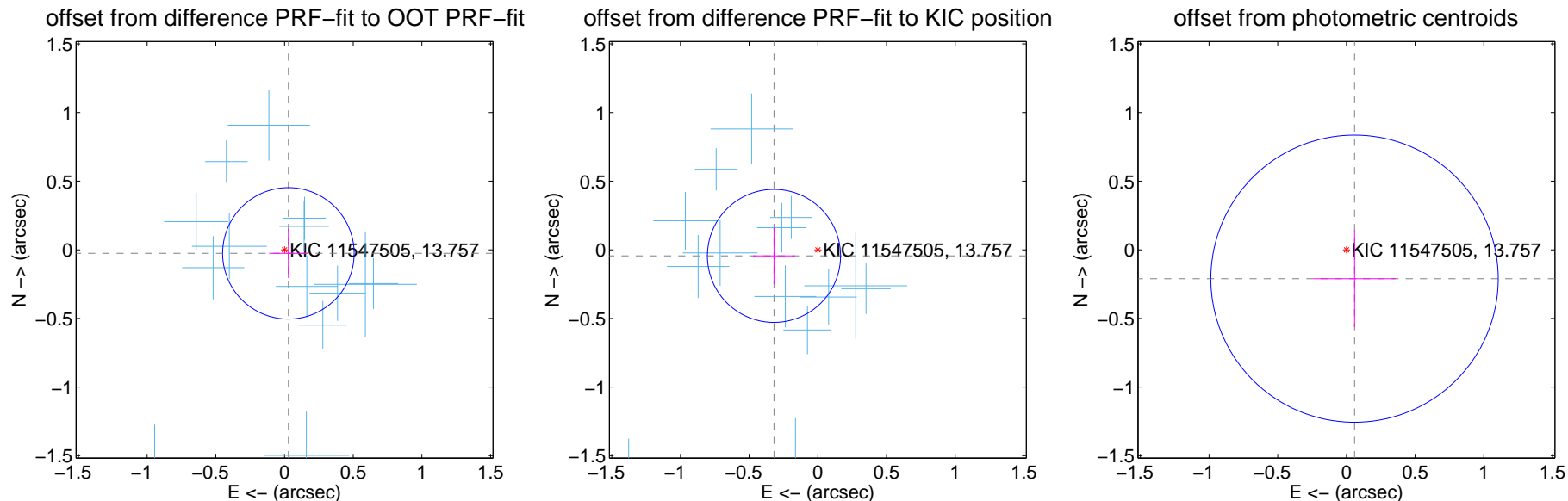
## DV Centroid Data

Supplemental centroid analysis for 011547505-01. Kepler magnitude: 13.76. Transit SNR 43.26

There are 14 quarters with good PRF difference image offsets

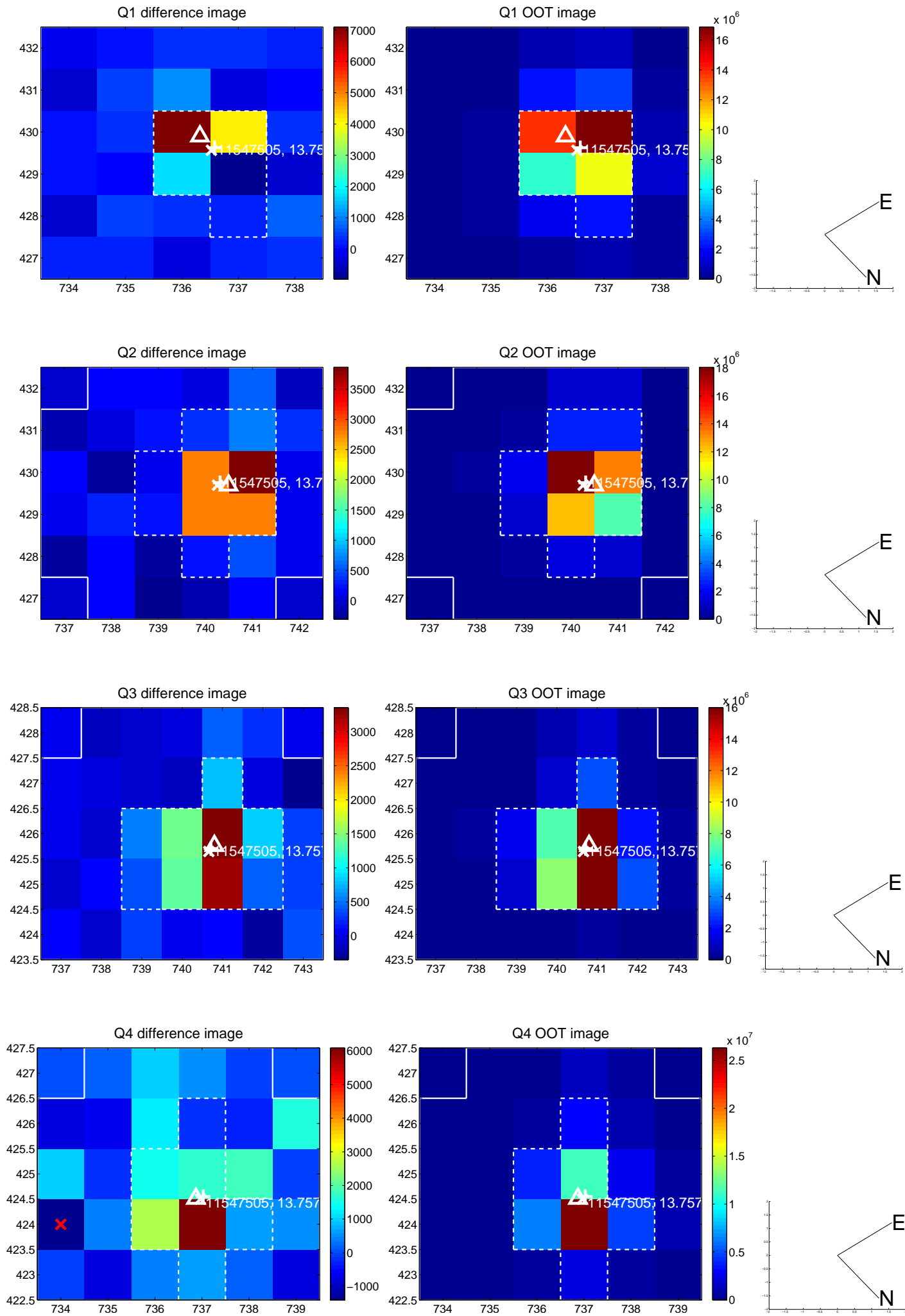
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.038 \pm 0.160$	0.24	$-0.028 \pm 0.140$	$-0.026 \pm 0.180$
PRF-fit source offset from KIC position	$0.322 \pm 0.162$	2.00	$0.319 \pm 0.153$	$-0.044 \pm 0.206$
photometric centroid source offset	$0.22 \pm 0.35$	0.63	$-0.06 \pm 0.30$	$-0.21 \pm 0.35$

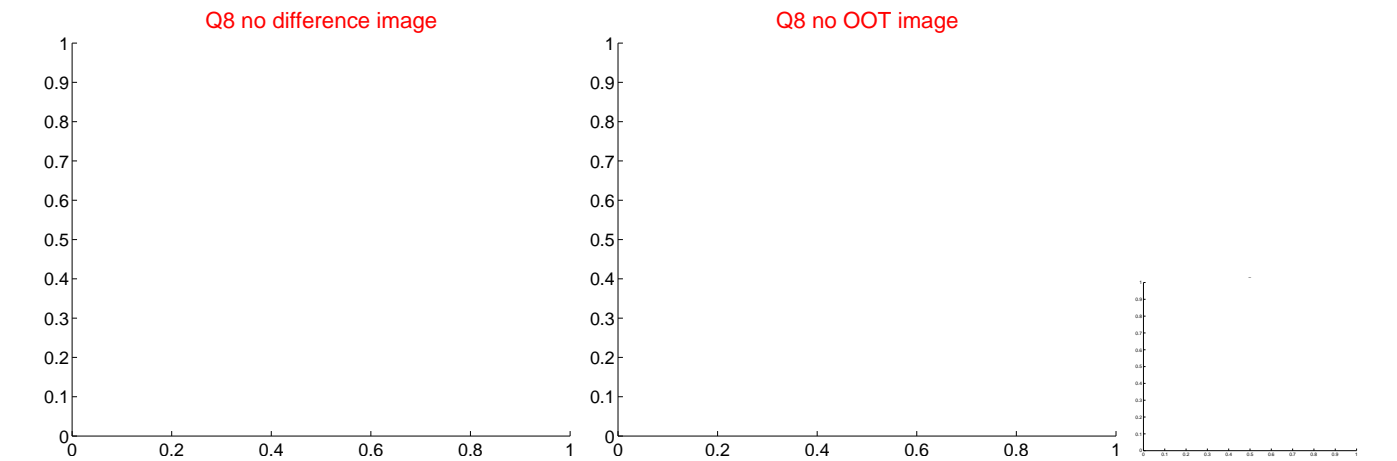
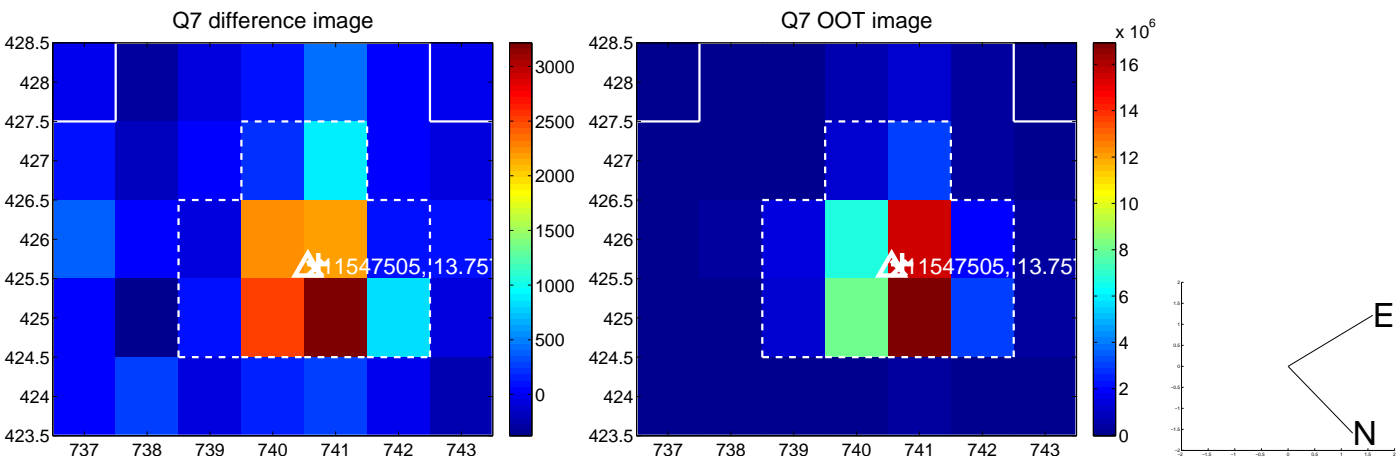
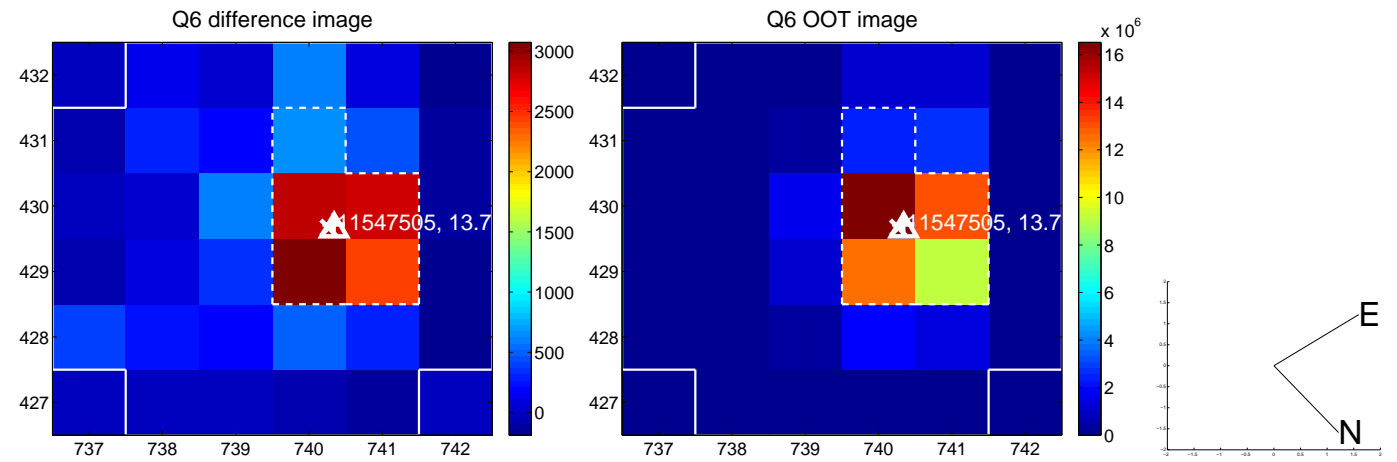
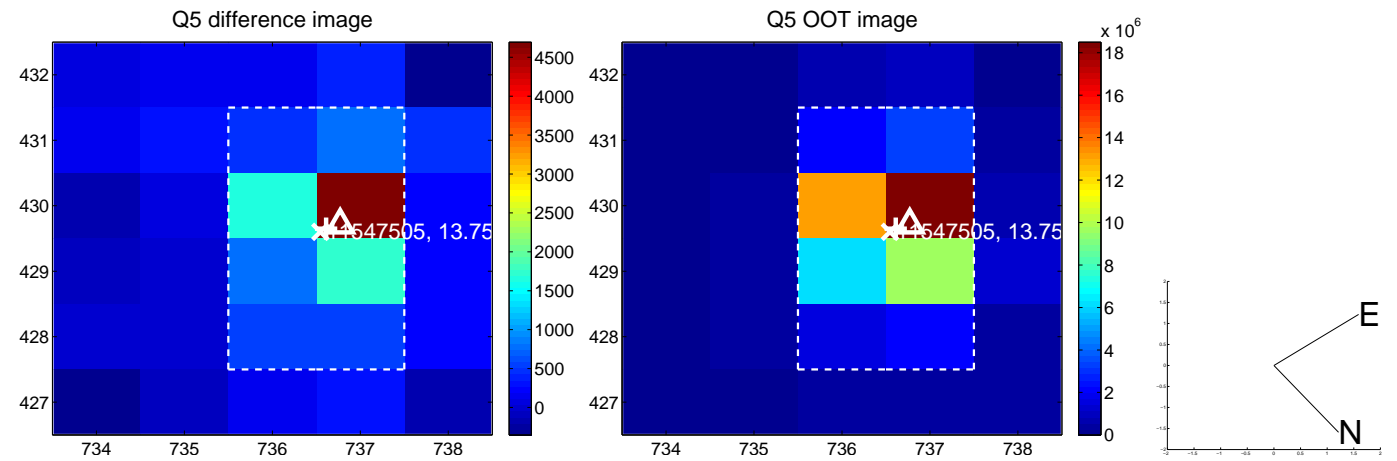


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

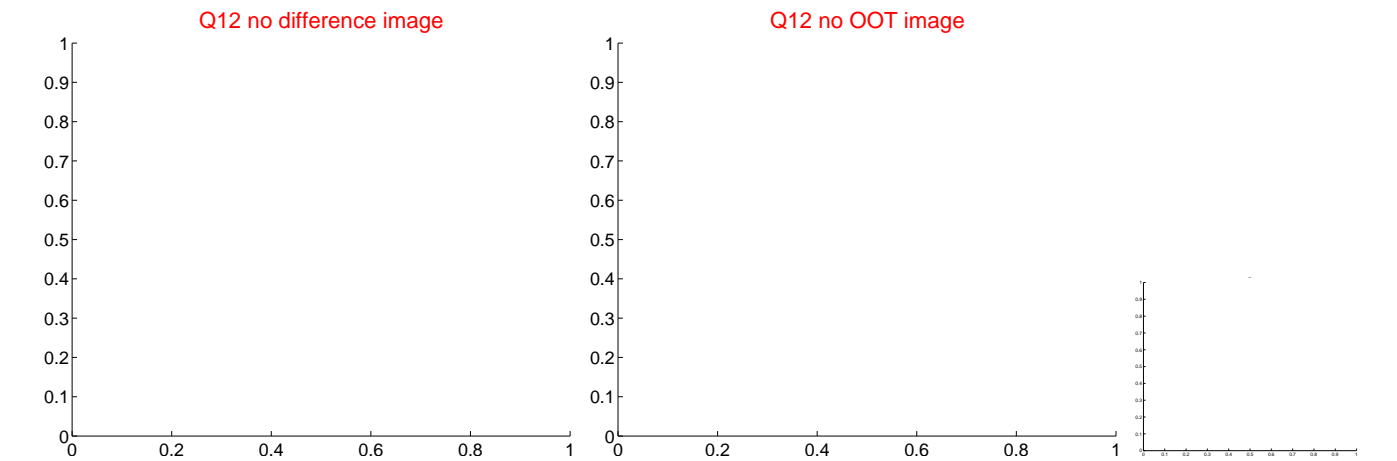
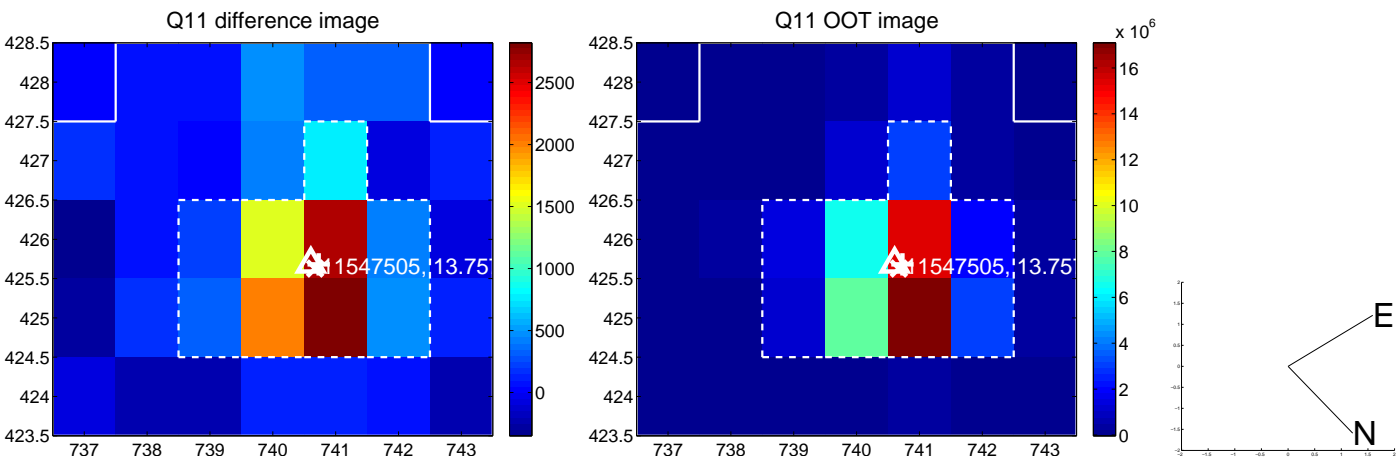
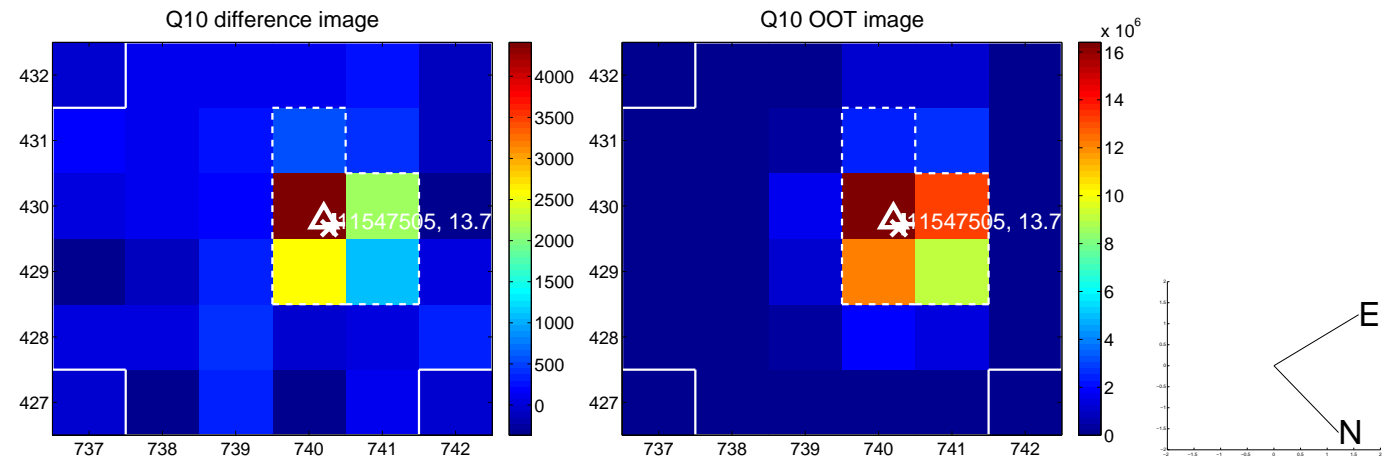
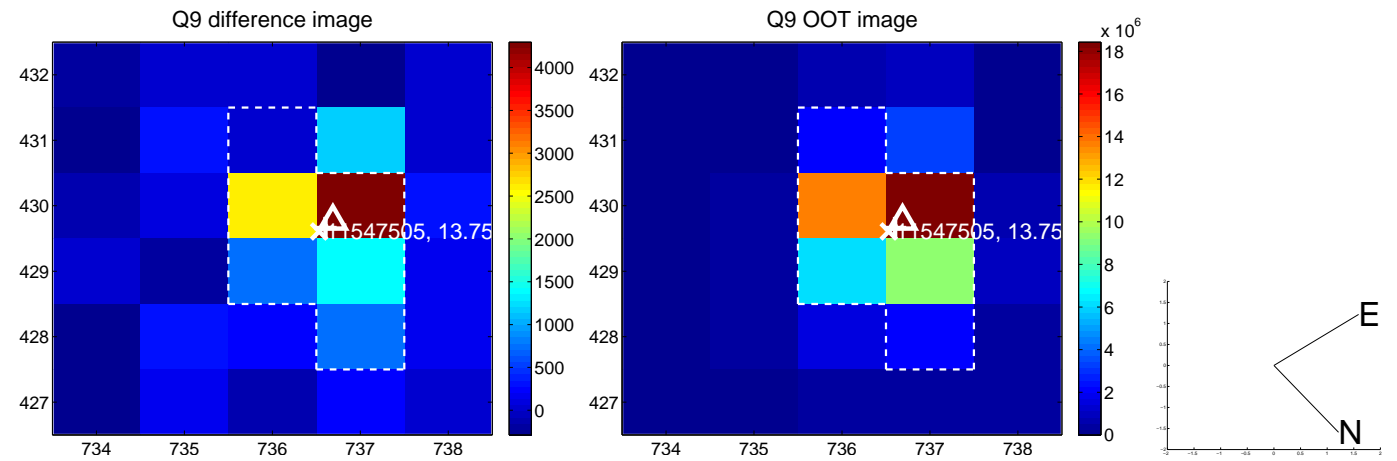


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

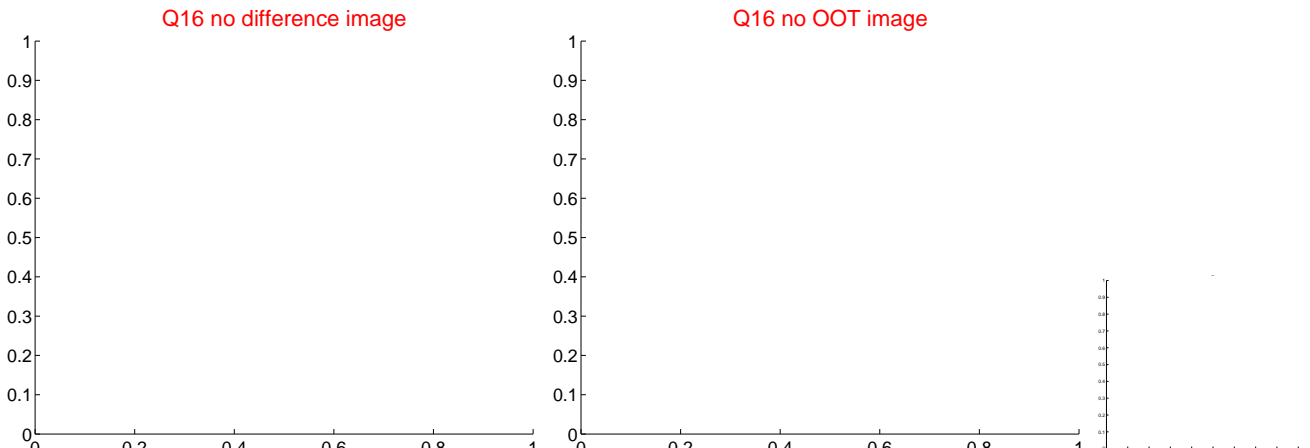
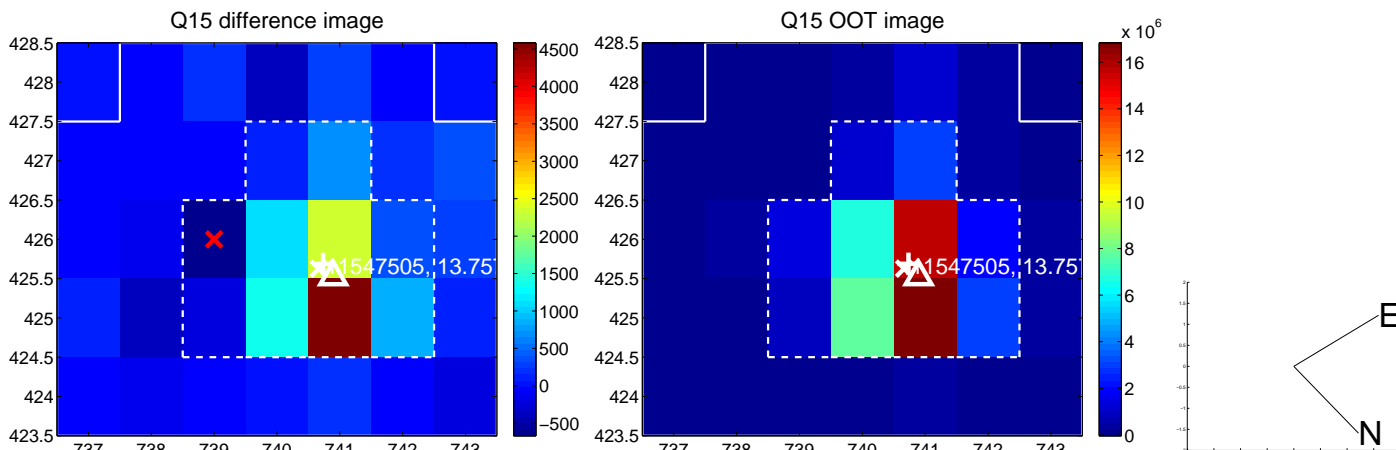
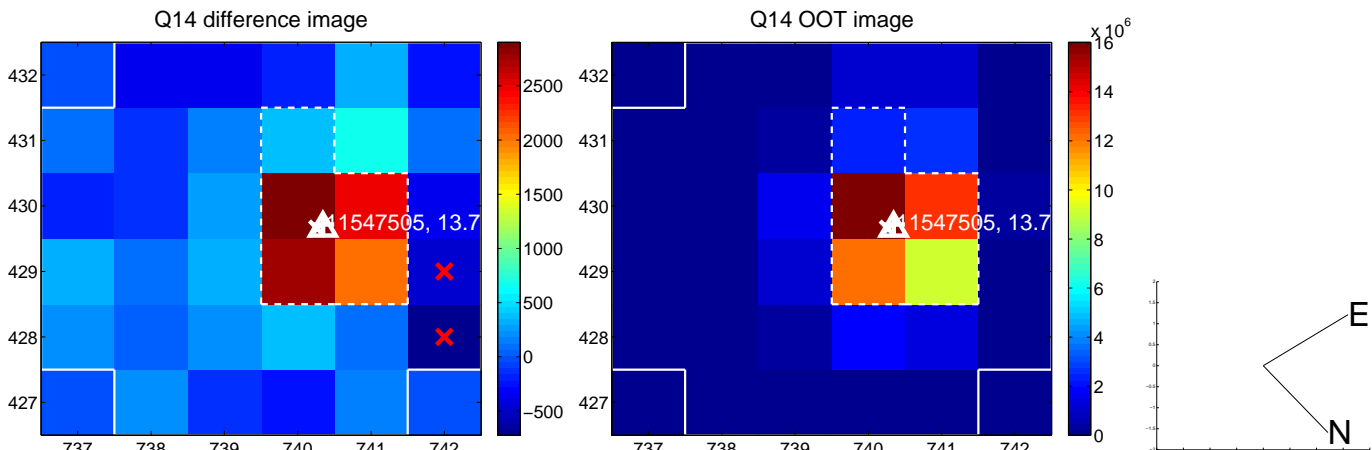
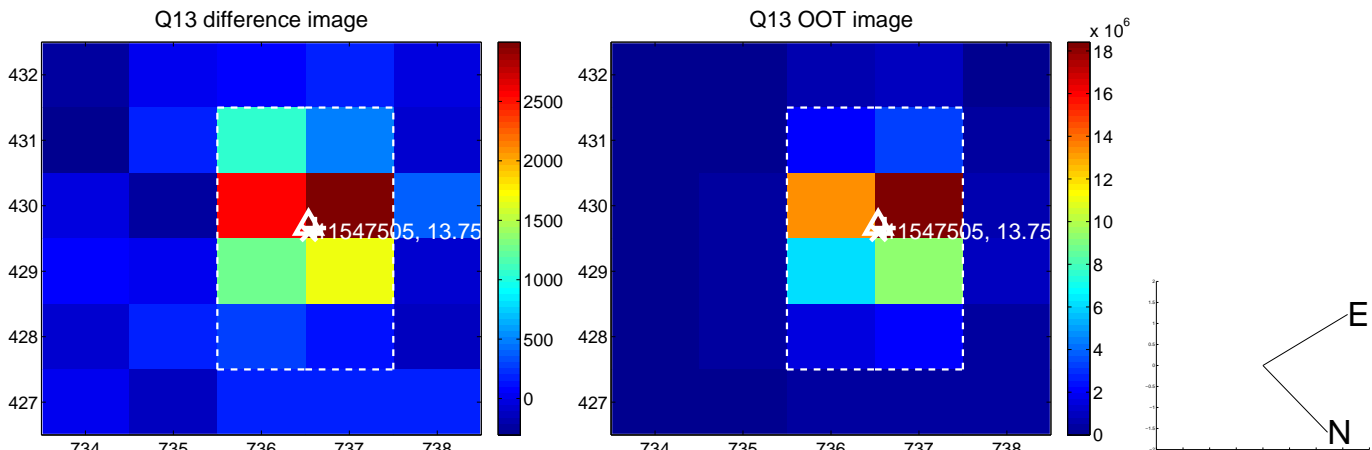




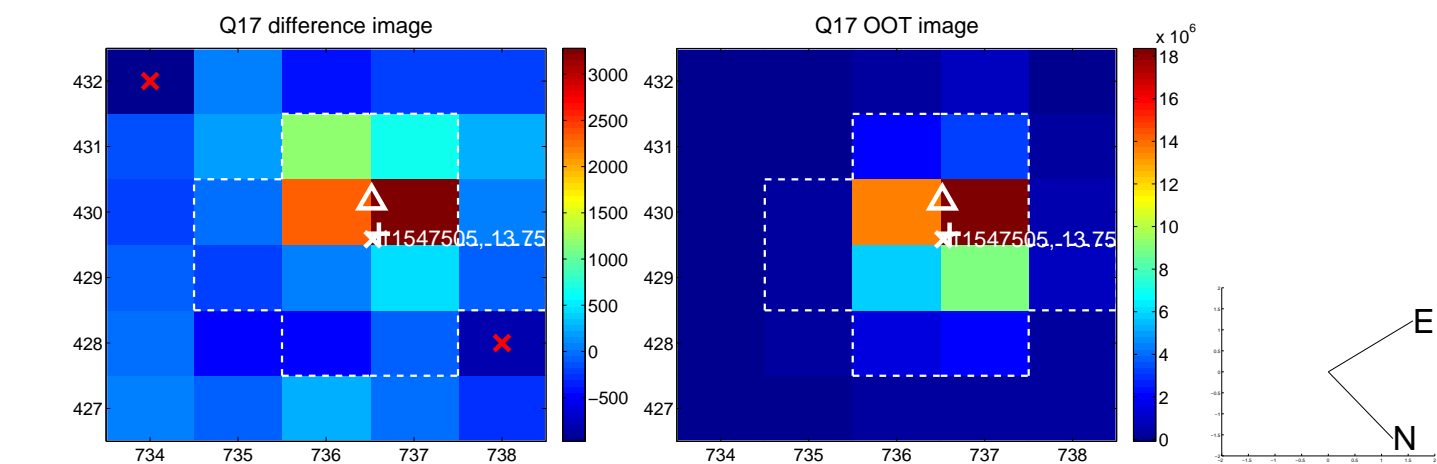
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



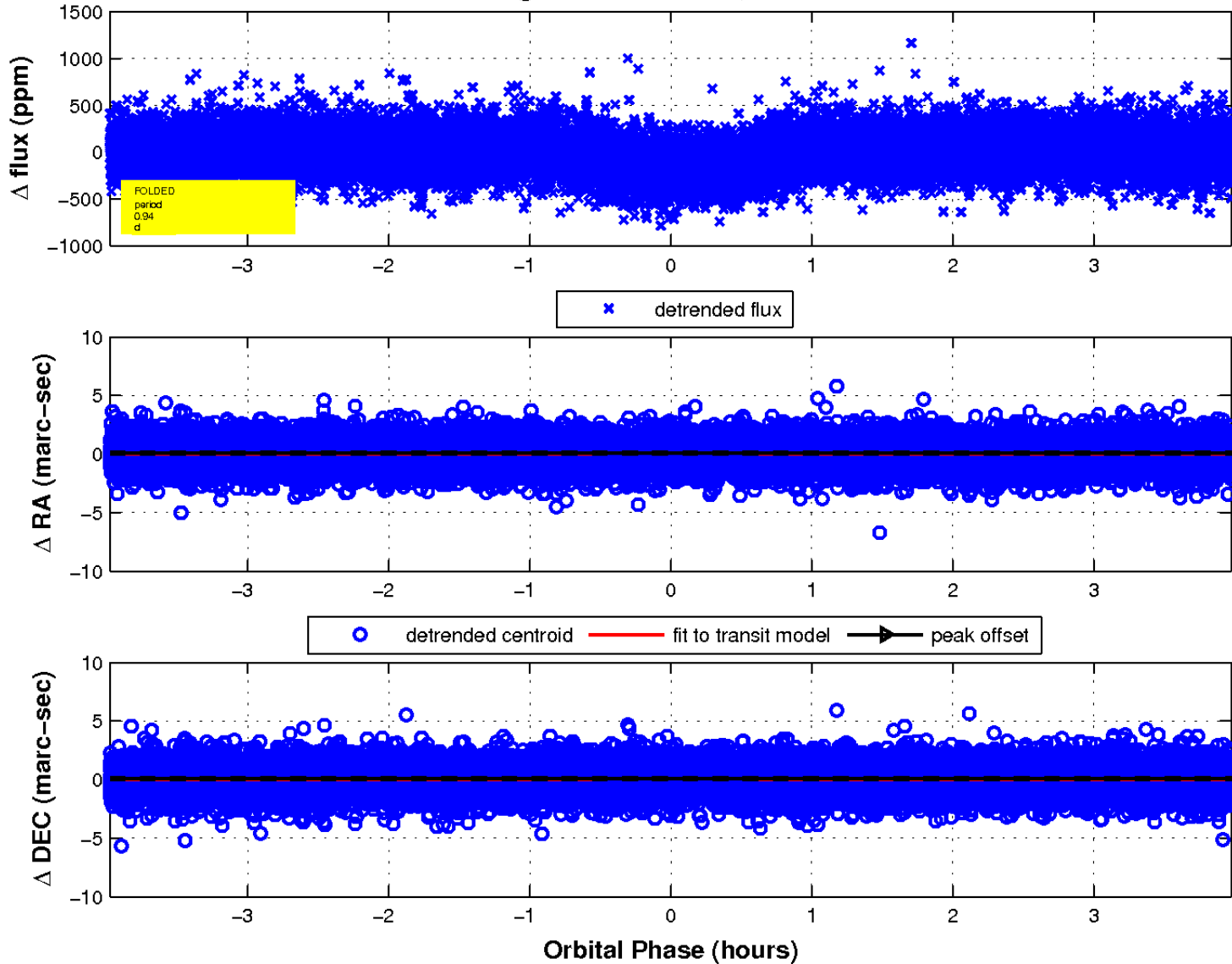
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

