

# KIC 006129524

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006129524-01	OBS	2886.01	0.881833	131.695425	239.6	1.137	16.2	18.9	0.78	5268	1.27	1415.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006129524-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

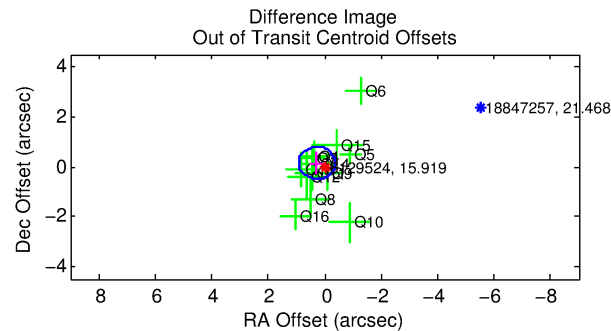
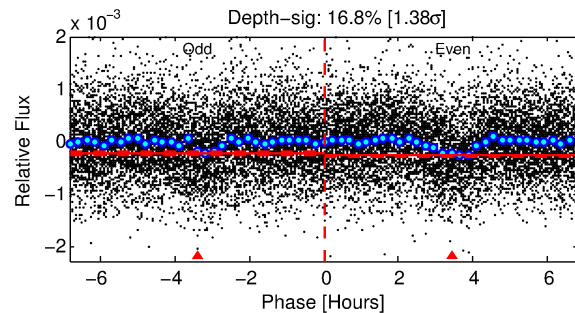
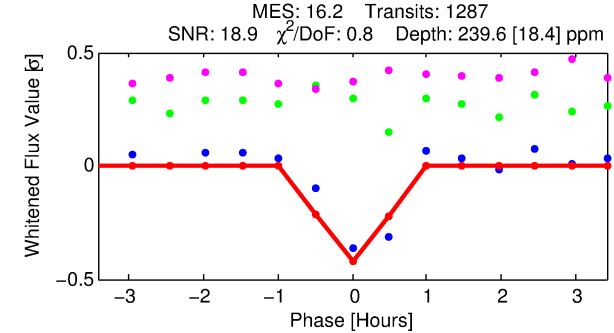
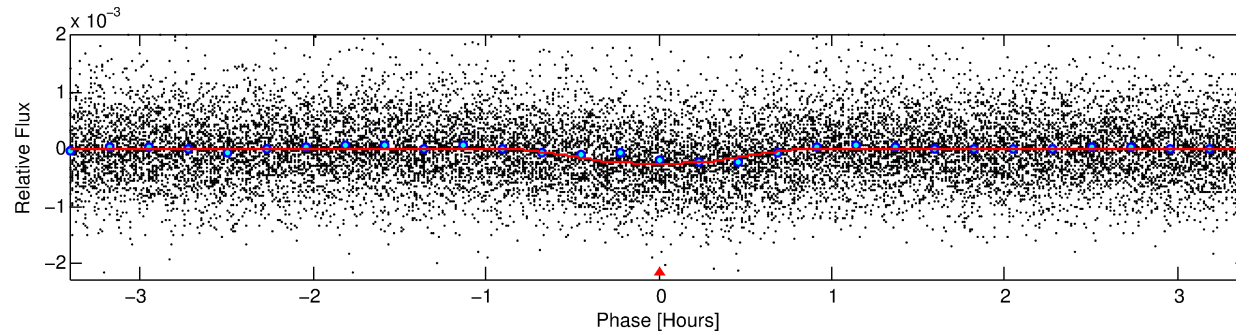
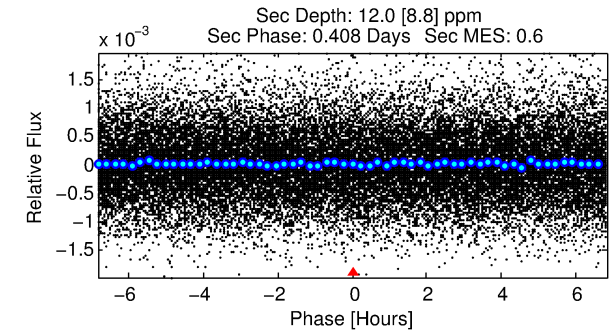
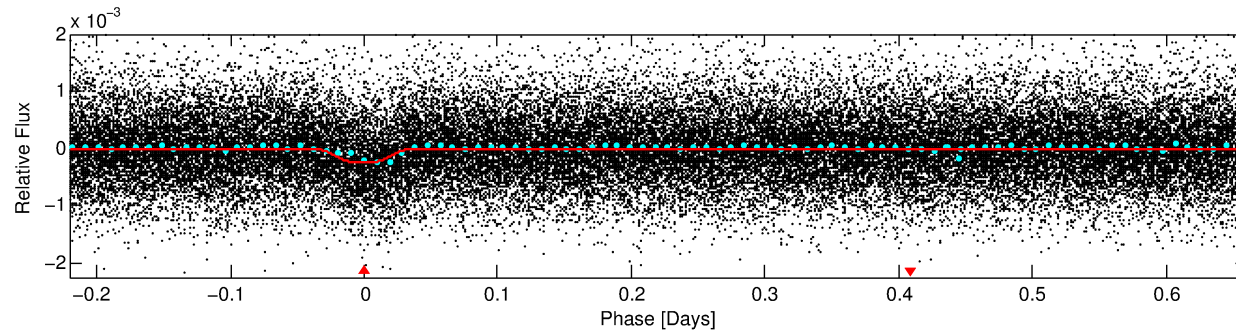
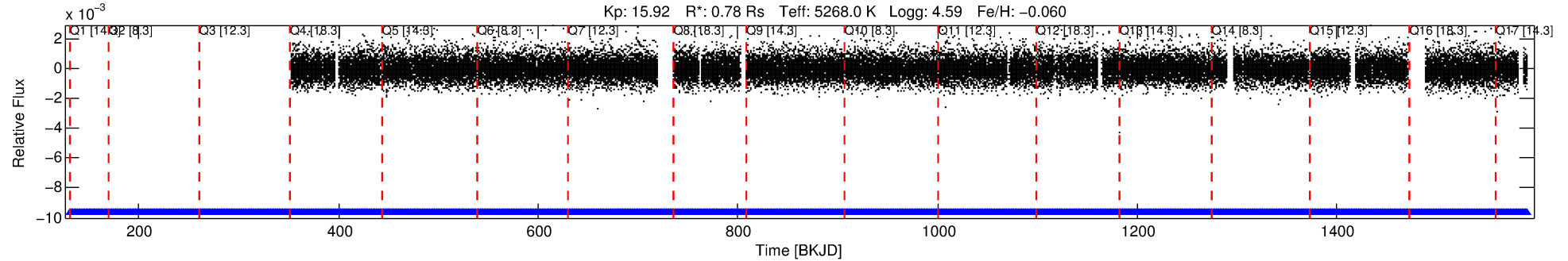
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006129524-01

No Significant Match Found

# DV One-Page Summary

KIC: 6129524 Candidate: 1 of 1 Period: 0.882 d  
KOI: K02886.01 Corr: 0.910



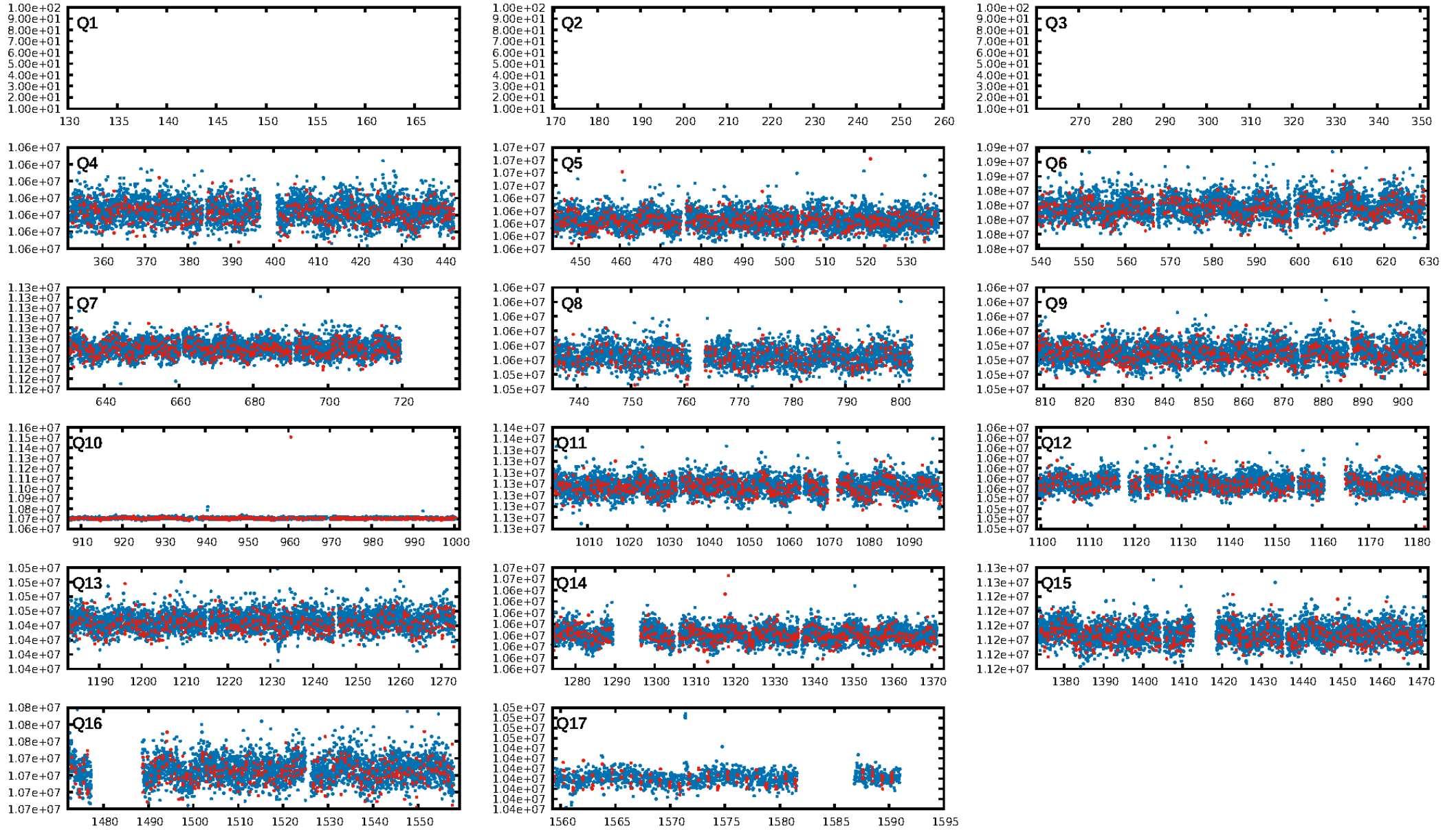
## DV Fit Results:

Period = 0.88183 [0.00001] d  
Epoch = 131.6954 [0.0010] BKJD  
Rp/R\* = 0.0150 [0.0065]  
a/R\* = 4.68 [7.22]  
b = 0.65 [1.46]  
Seff = 1415.37 [341.35]  
Teq = 1564 [94] K  
Rp = 1.27 [0.59] Re  
a = 0.0171 [0.0024] AU  
Ag = 1.19 [1.37] [0.14σ]  
Teffp = 2528 [721] K [1.33σ]

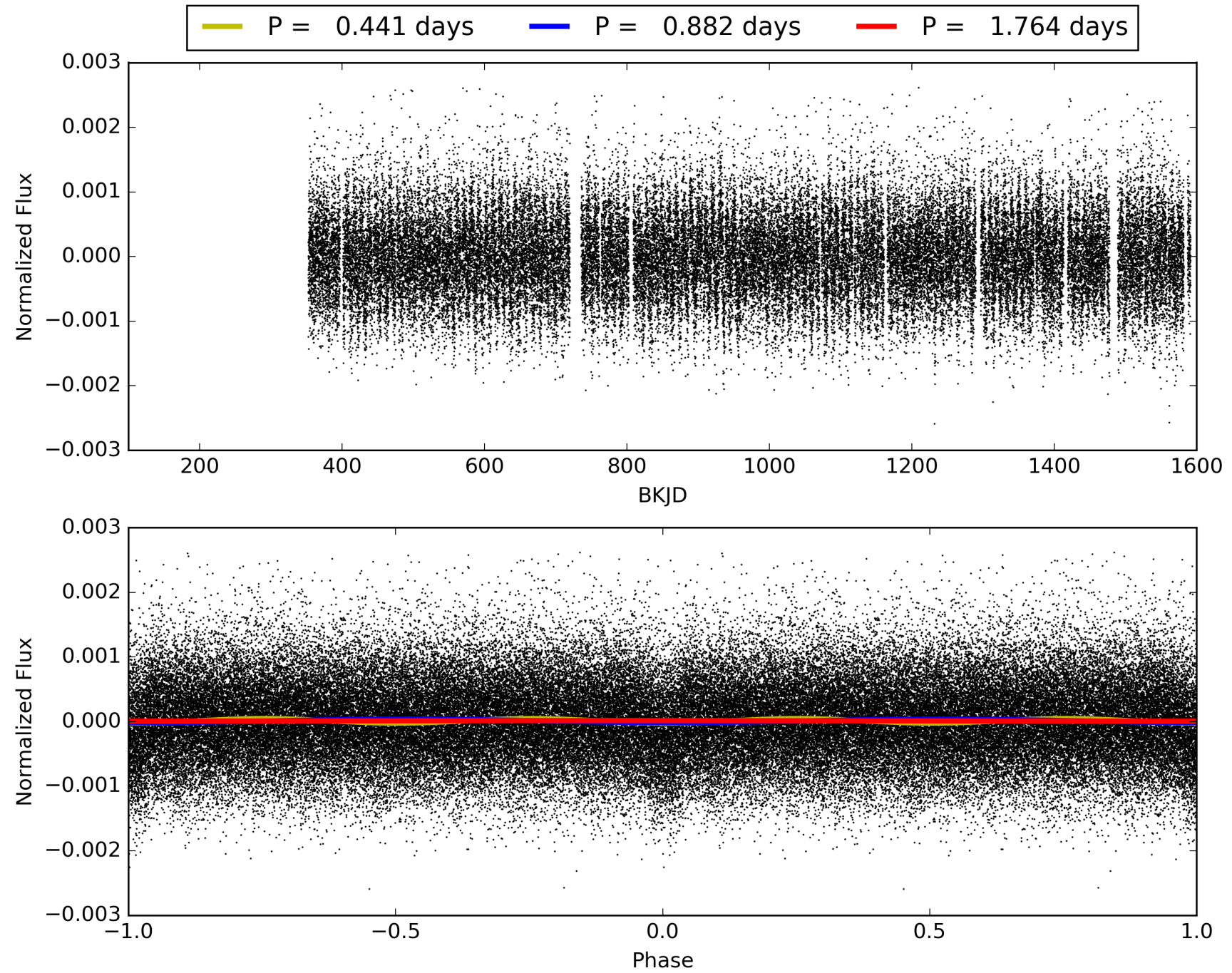
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 7.15e-58  
RollingBand-fgt: 1.00 [1257/1257]  
GhostDiagnostic-chr: 4.826  
Centroid-sig: 0.0%  
Centroid-so: 0.928 arcsec [1.55σ]  
OotOffset-rm: 0.310 arcsec [1.44σ]  
KicOffset-rm: 0.219 arcsec [0.55σ]  
OotOffset-st: 3/3/4/3 [13]  
KicOffset-st: 3/3/4/3 [13]  
DiffImageQuality-fgm: 0.69 [9/13]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 006129524-01, PDC Light Curves

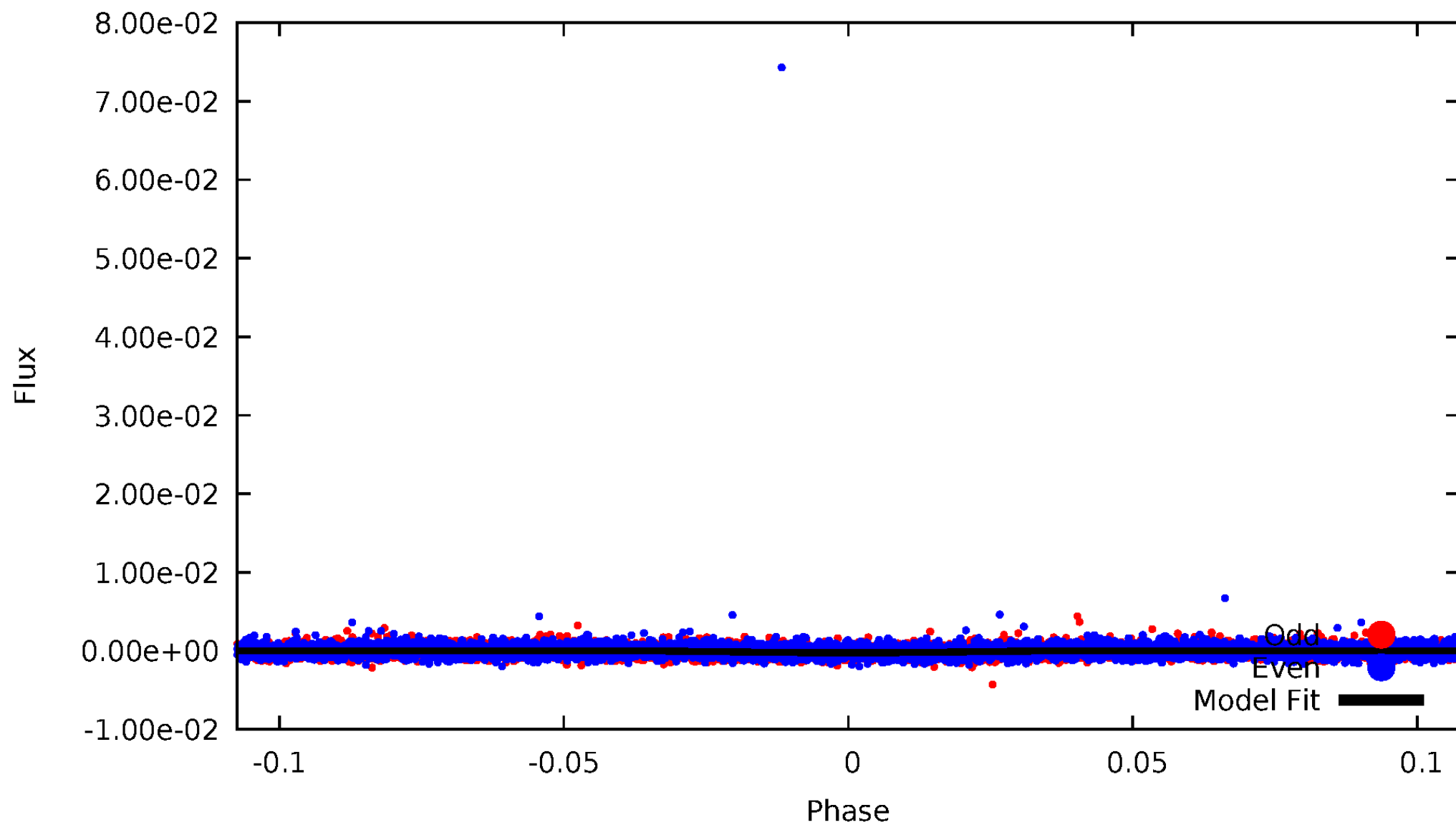


TCE 006129524-01



# DV Odd/Even

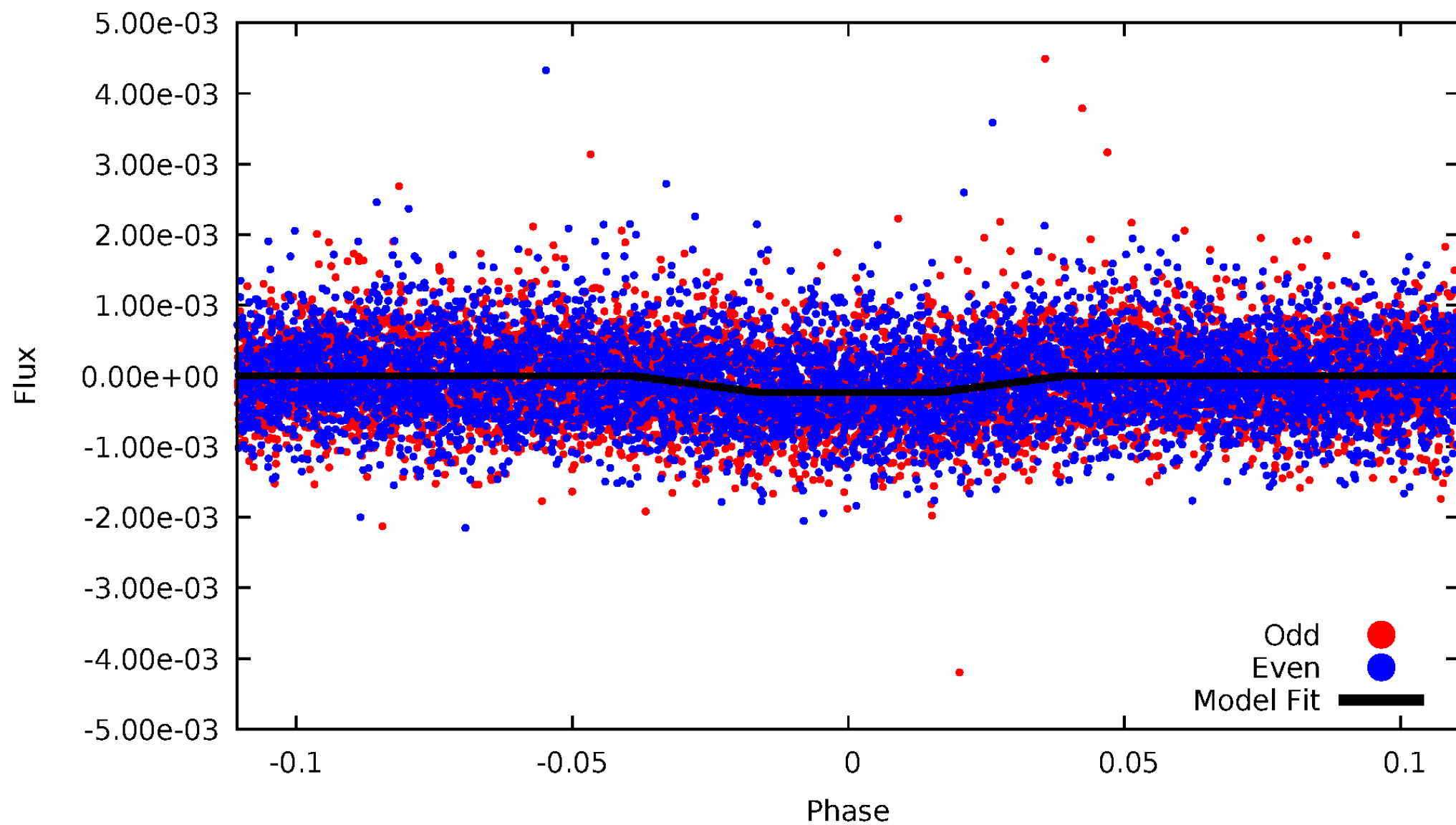
TCE 006129524-01



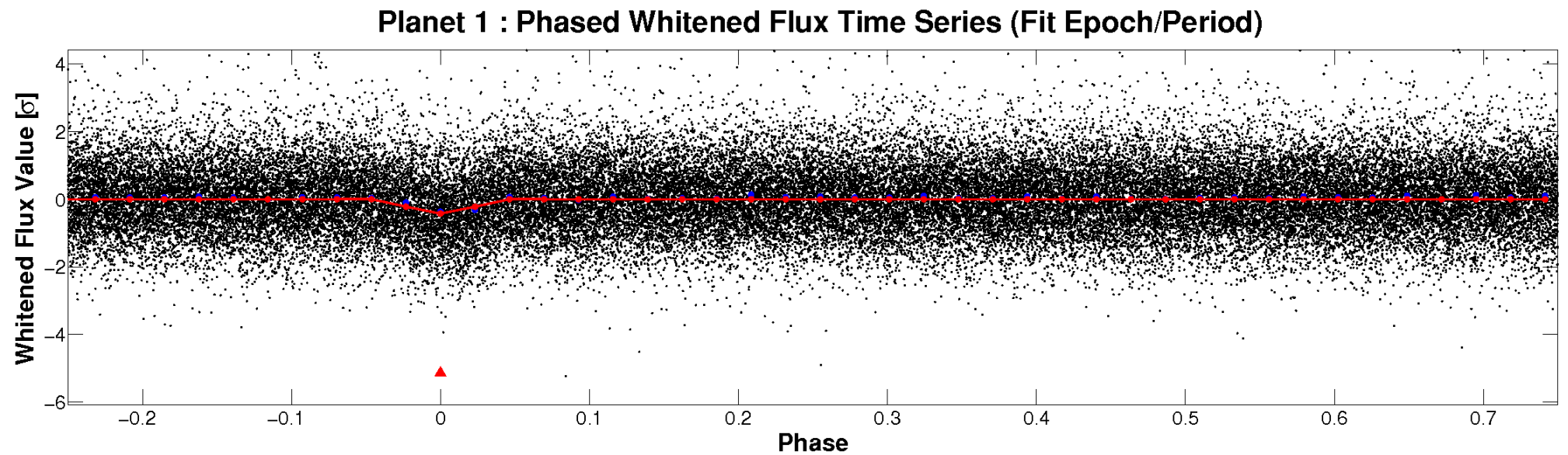
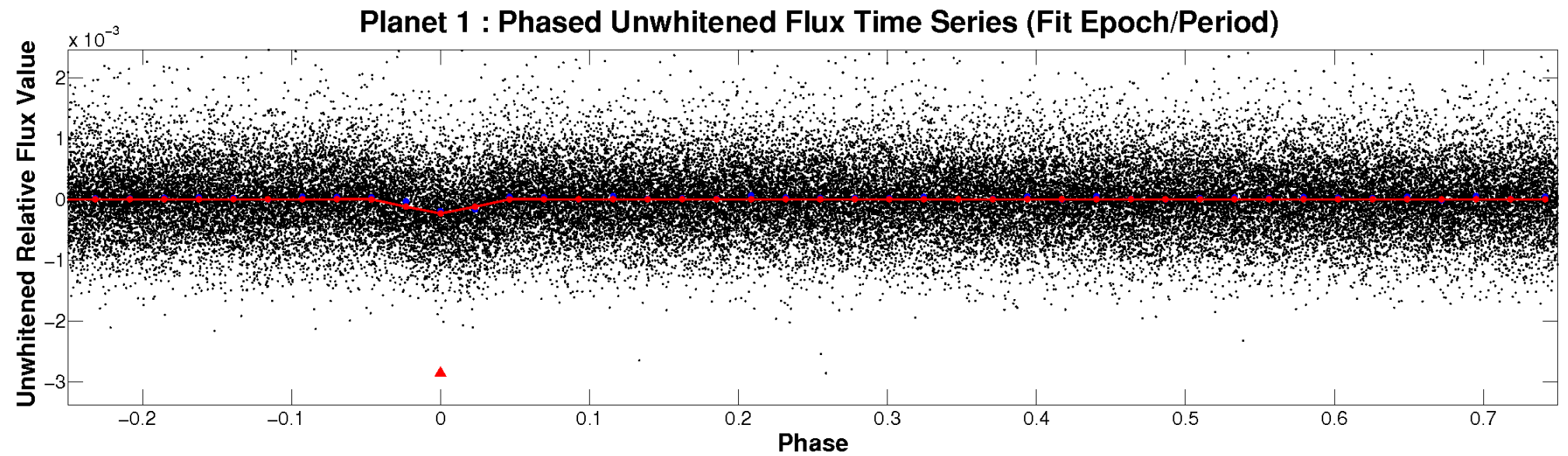


# ALT Odd/Even

TCE 006129524-01

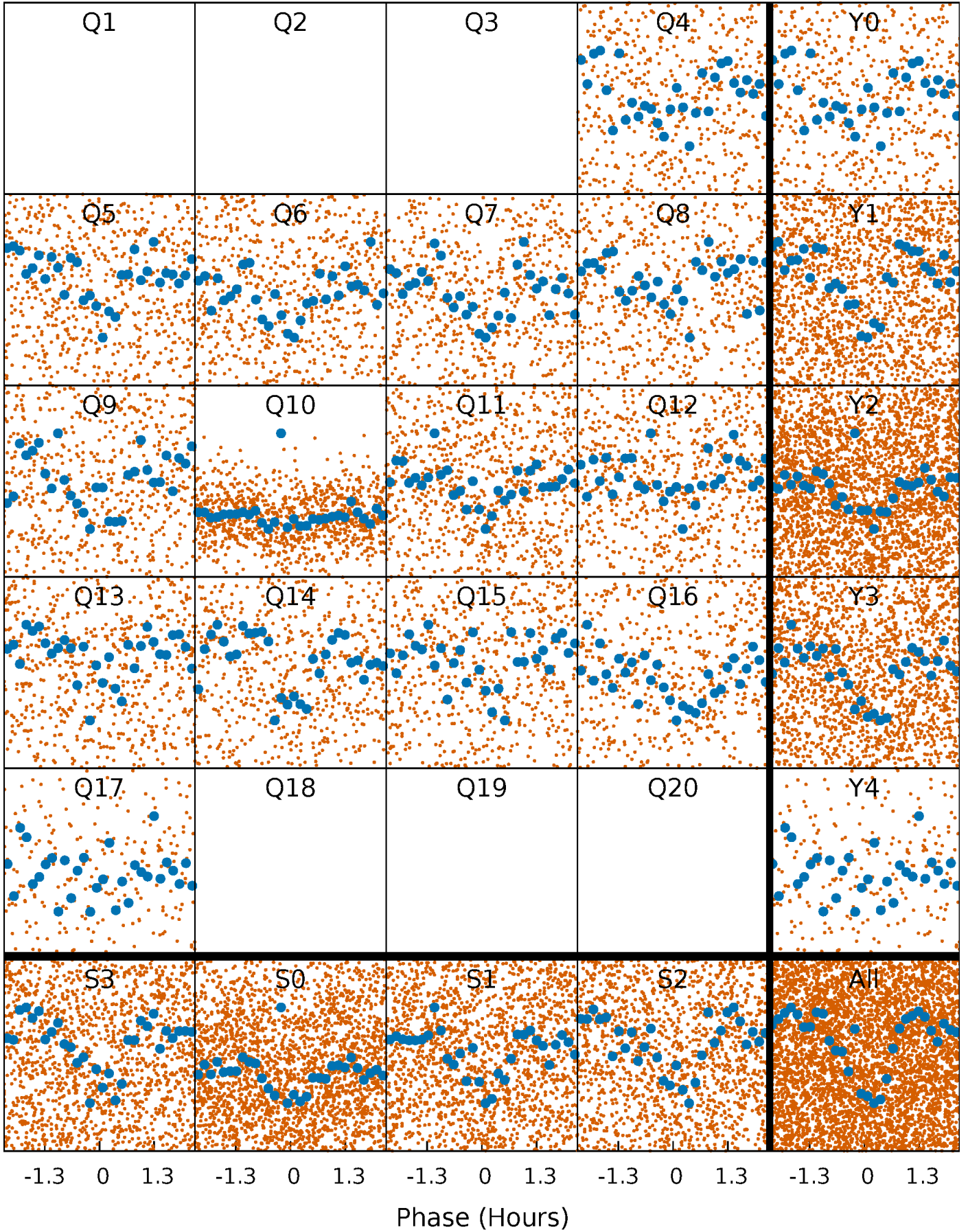


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

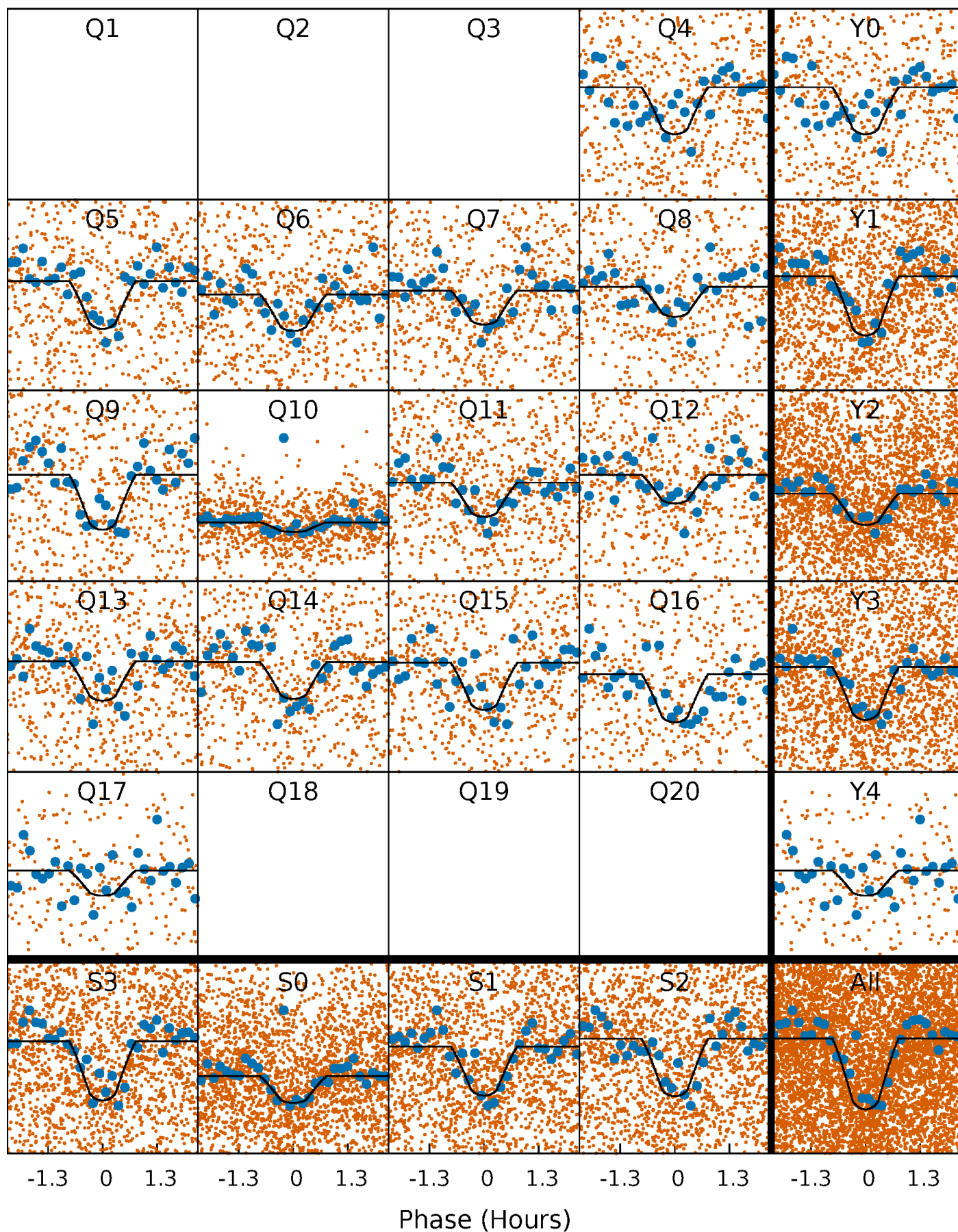
TCE 006129524-01 P= 0.881833 Days  $T_0=131.695425$  (BKJD)





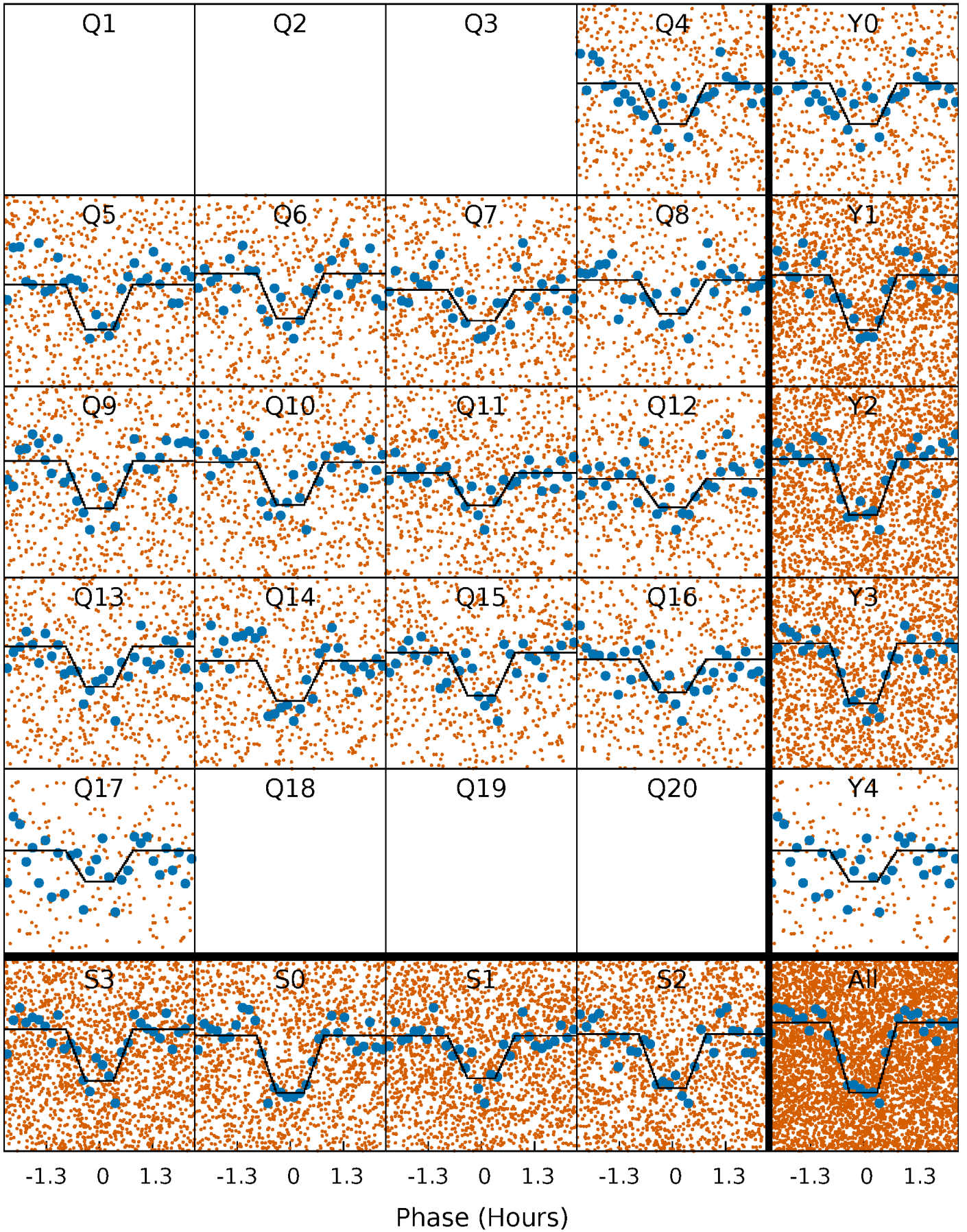
# DV Quarter-Phased Transit Curves

TCE 006129524-01 P= 0.881833 Days  $T_0=131.695425$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

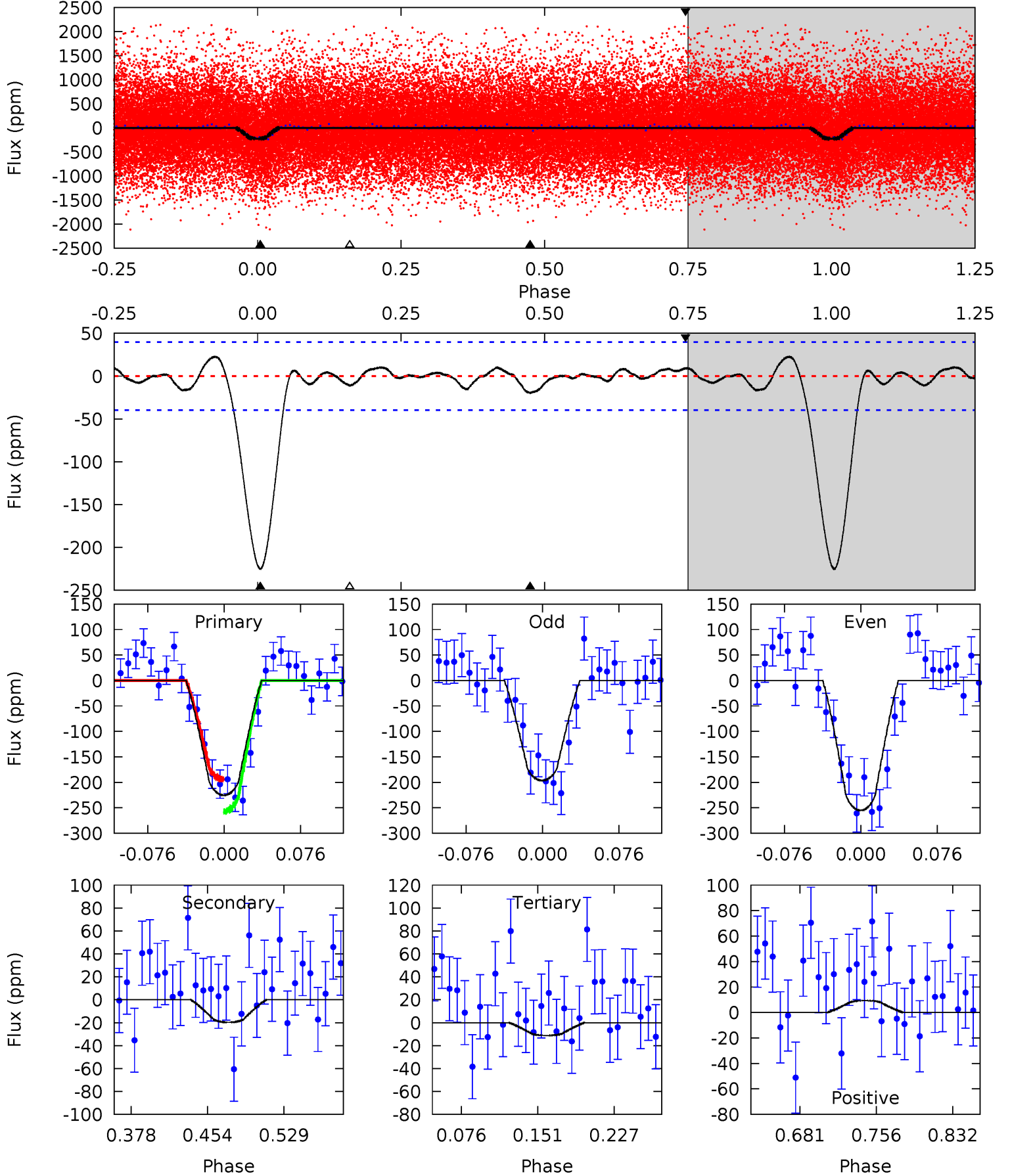
TCE 006129524-01 P= 0.881840 Days  $T_0=131.691160$  (BKJD)



# DV Model-Shift Uniqueness Test

006129524-01, P = 0.881833 Days, E = 131.695425 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
26.2	2.30	1.30	1.09	4.62	1.78	0.82	24.9	25.2	0.99	1.21	3.43	0.77	0.09	3.69

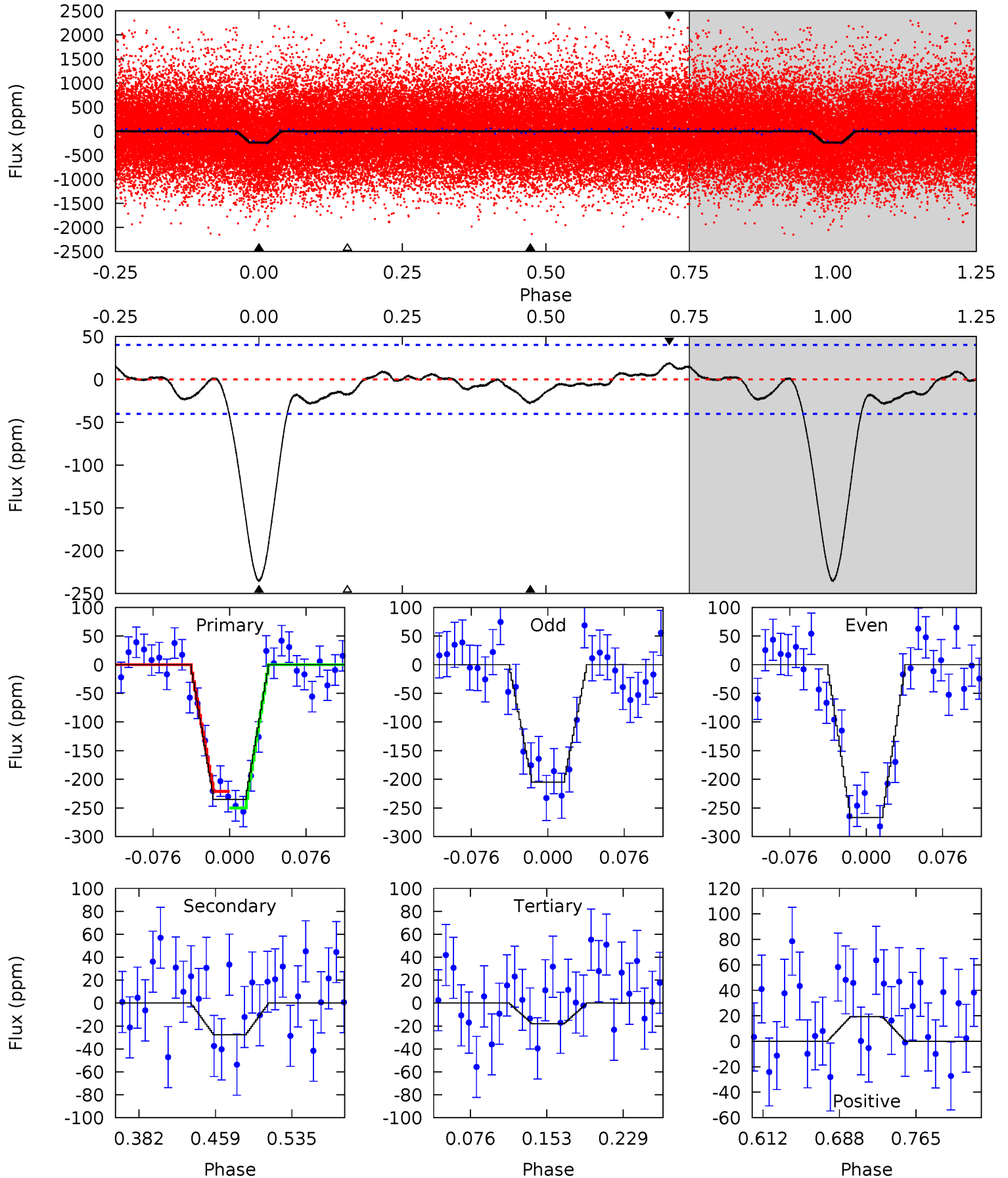




# Alt Model-Shift Uniqueness Test

006129524-01, P = 0.881840 Days, E = 131.691160 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
27.0	3.18	2.08	2.22	4.62	1.77	1.22	24.9	24.8	1.10	0.96	3.54	0.94	0.08	1.67





### Stellar Parameters For KIC 006129524

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5268^{+184}_{-184}$	$4.594^{+0.035}_{-0.105}$	$-0.060^{+0.300}_{-0.300}$	$0.776^{+0.131}_{-0.066}$	$0.871^{+0.069}_{-0.103}$	$2.621^{+0.467}_{-0.831}$
	+3%/-3%	+1%/-2%	+500%/-500%	+17%/-9%	+8%/-12%	+18%/-32%
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 006129524-01 / KOI 2886.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-20 \pm 9$	$1.30^{+0.60}_{-0.56}$	$2213^{+94}_{-100}$	$3258^{+759}_{-579}$	$1.859^{+3.823}_{-1.171}$
Alt.	$-28 \pm 9$	$1.38^{+0.50}_{-0.53}$	$2216^{+110}_{-98}$	$3409^{+677}_{-436}$	$2.250^{+4.053}_{-1.167}$

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

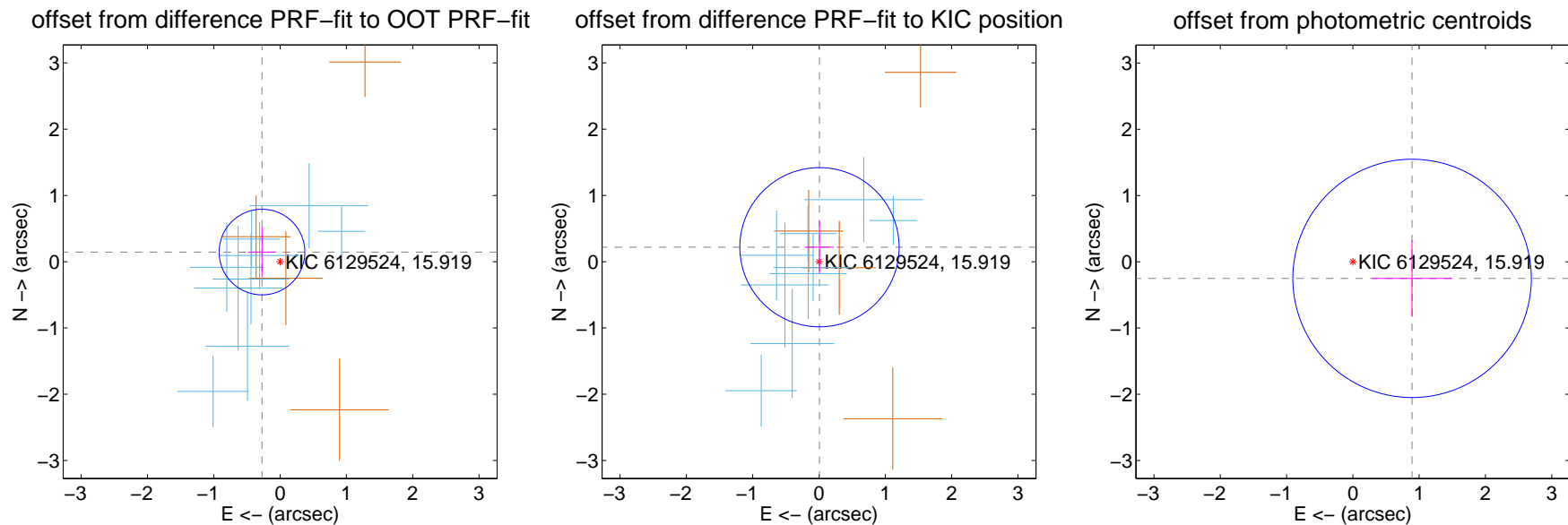
## DV Centroid Data

Supplemental centroid analysis for 006129524-01. Kepler magnitude: 15.92. Transit SNR 18.92

There are 9 quarters with good PRF difference image offsets

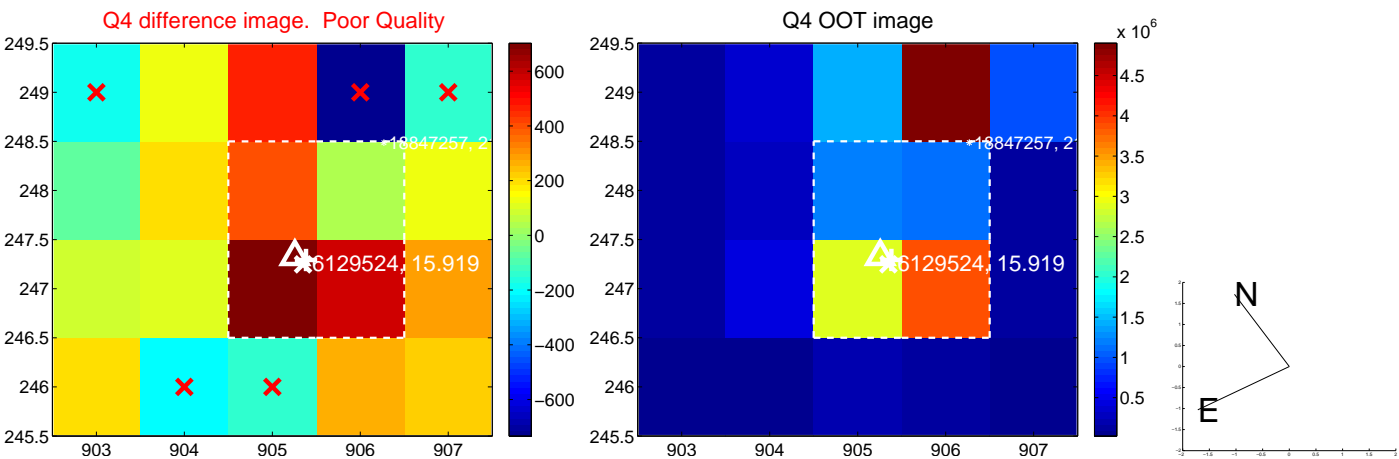
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.310 \pm 0.215$	1.44	$0.273 \pm 0.210$	$0.145 \pm 0.381$
PRF-fit source offset from KIC position	$0.219 \pm 0.400$	0.55	$-0.008 \pm 0.220$	$0.218 \pm 0.397$
photometric centroid source offset	$0.93 \pm 0.60$	1.55	$-0.89 \pm 0.60$	$-0.25 \pm 0.58$

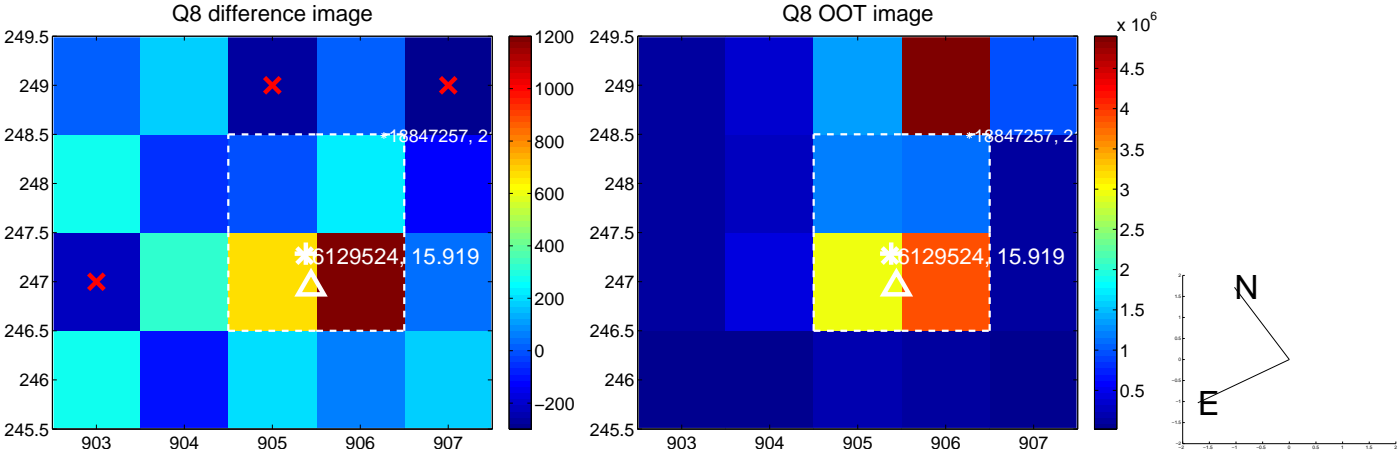
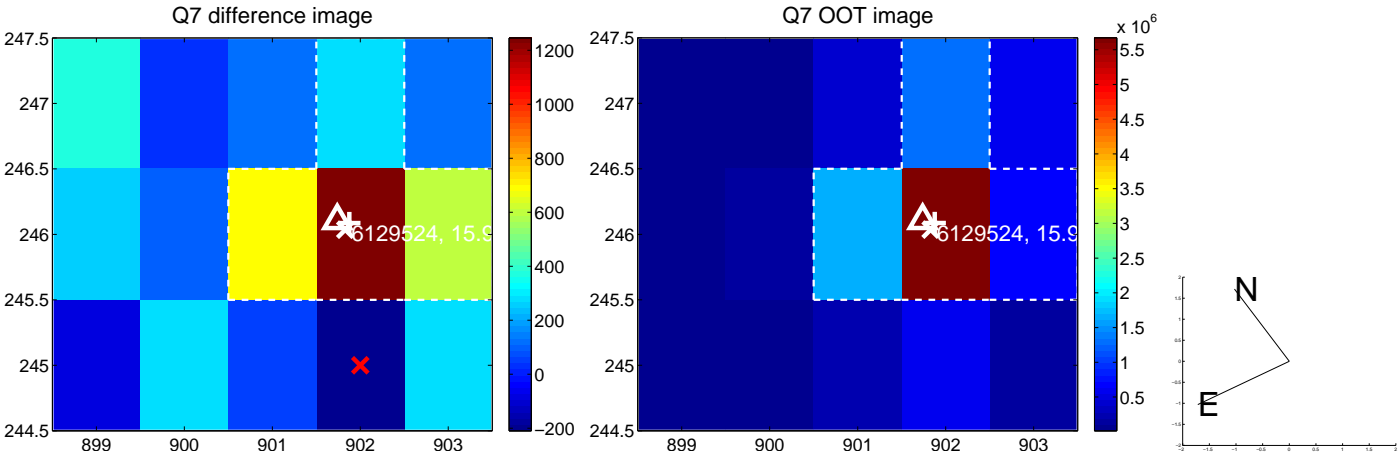
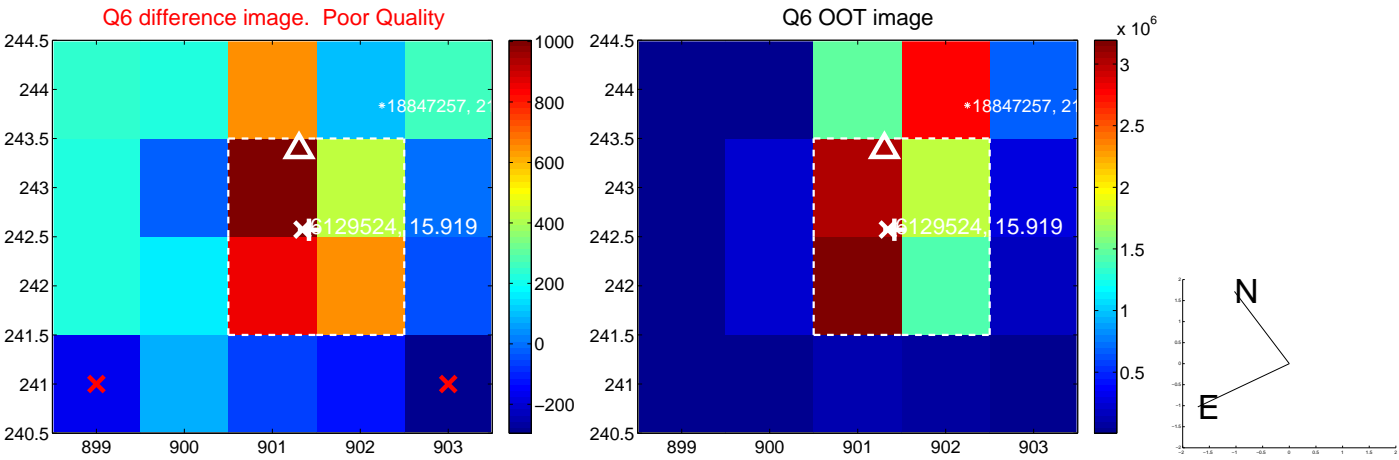
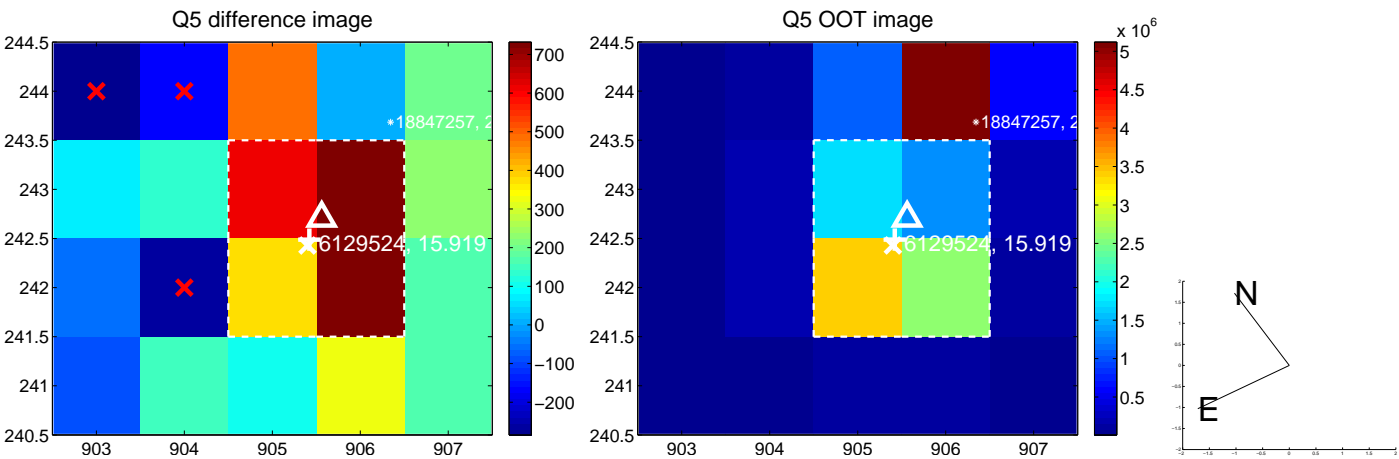


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

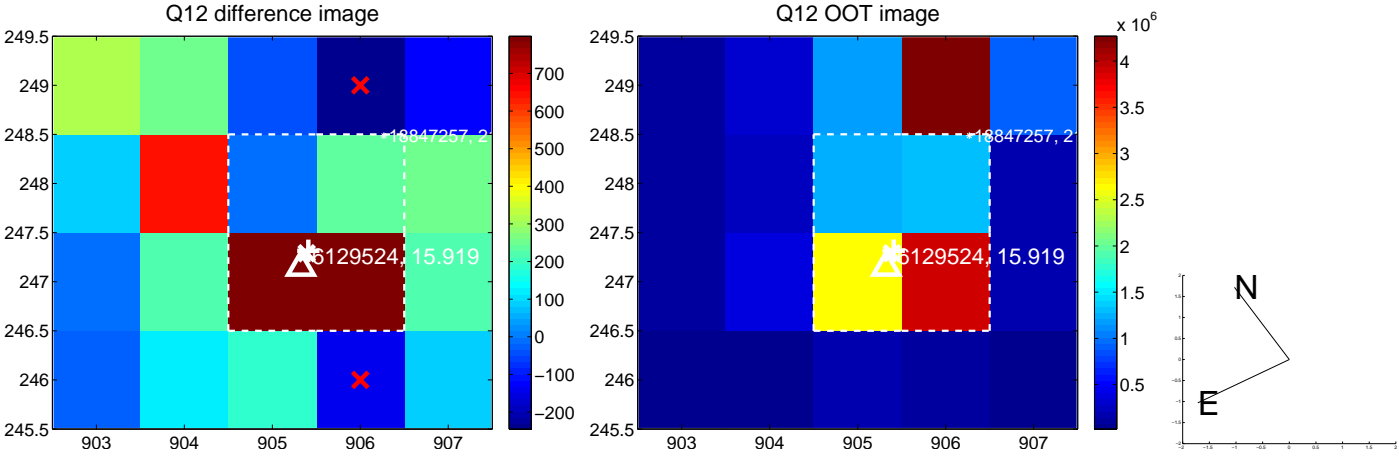
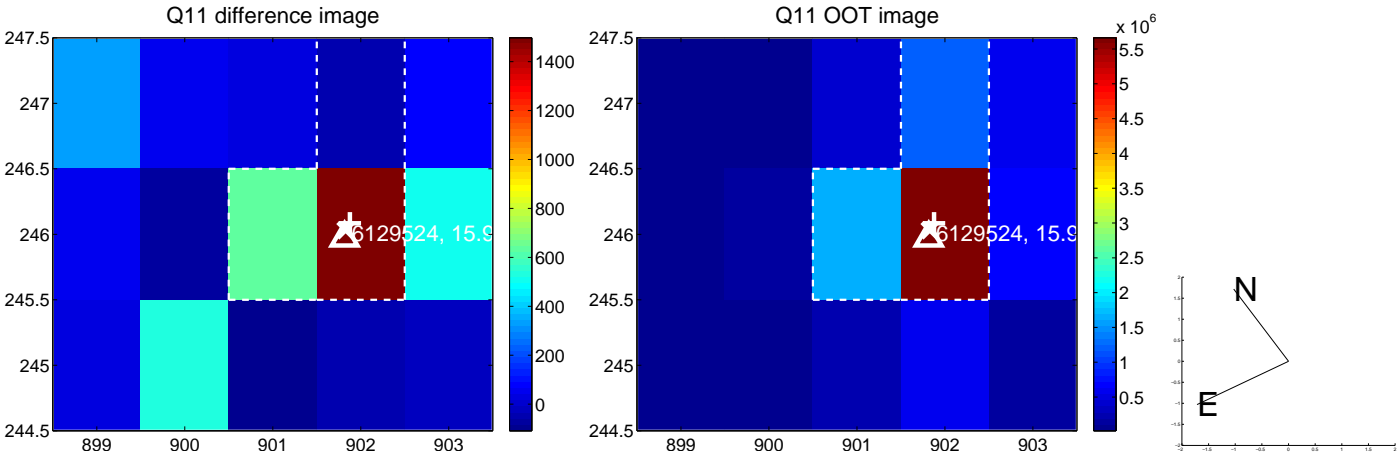
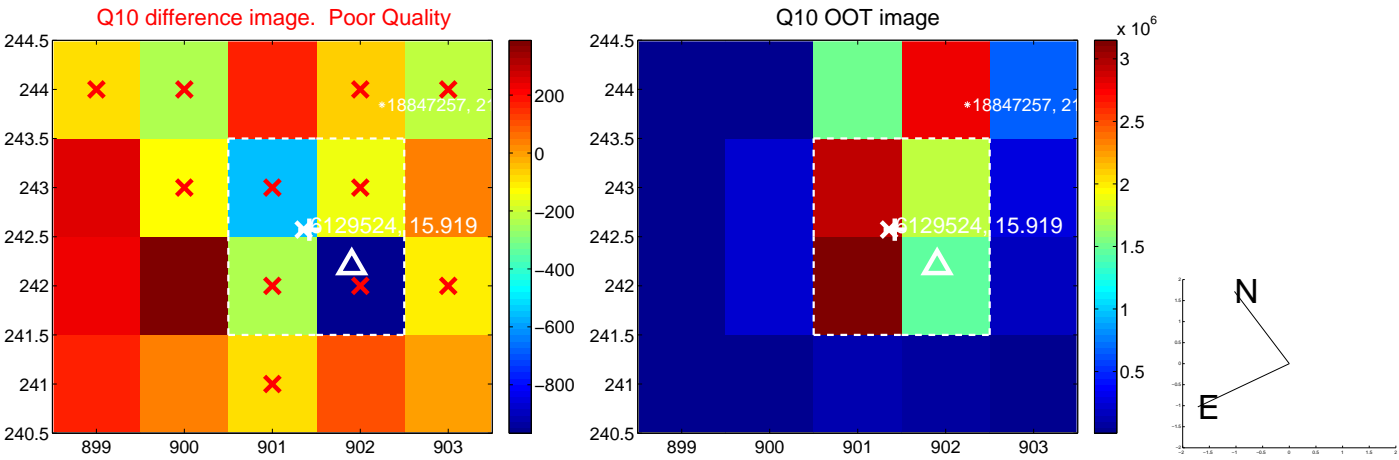
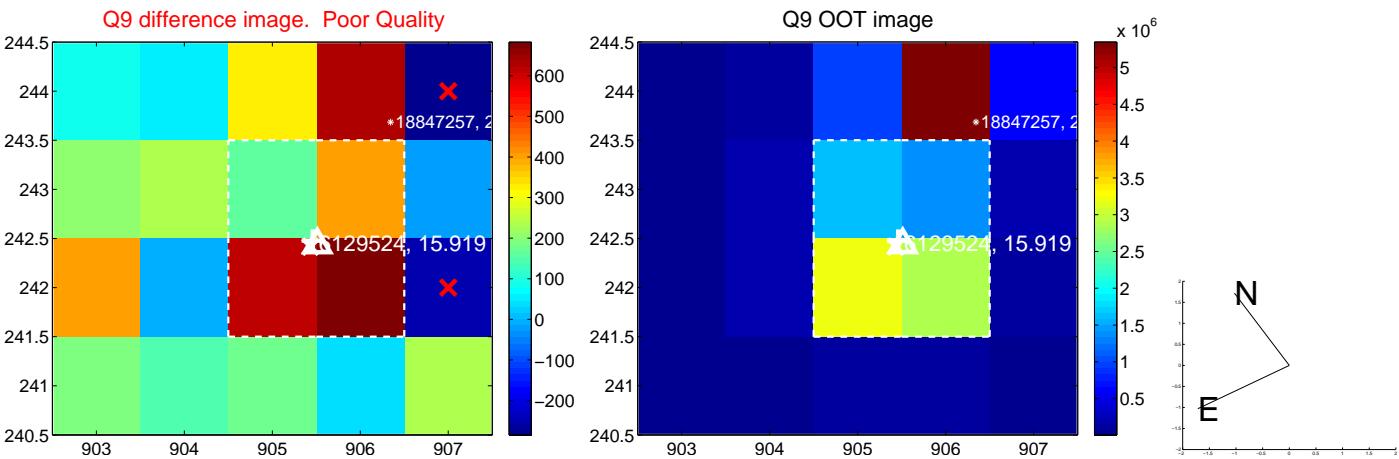


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

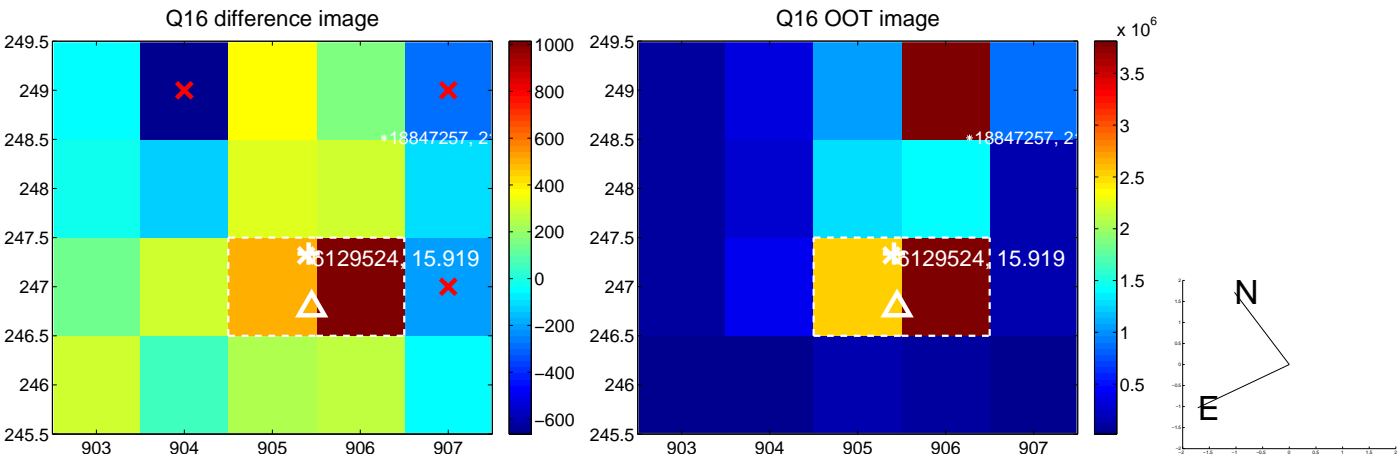
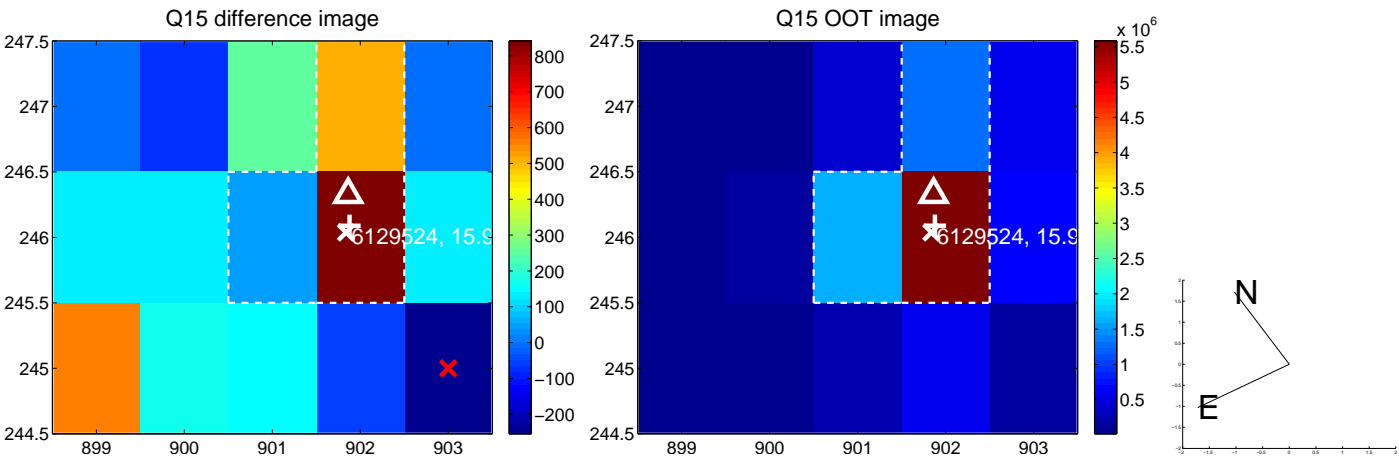
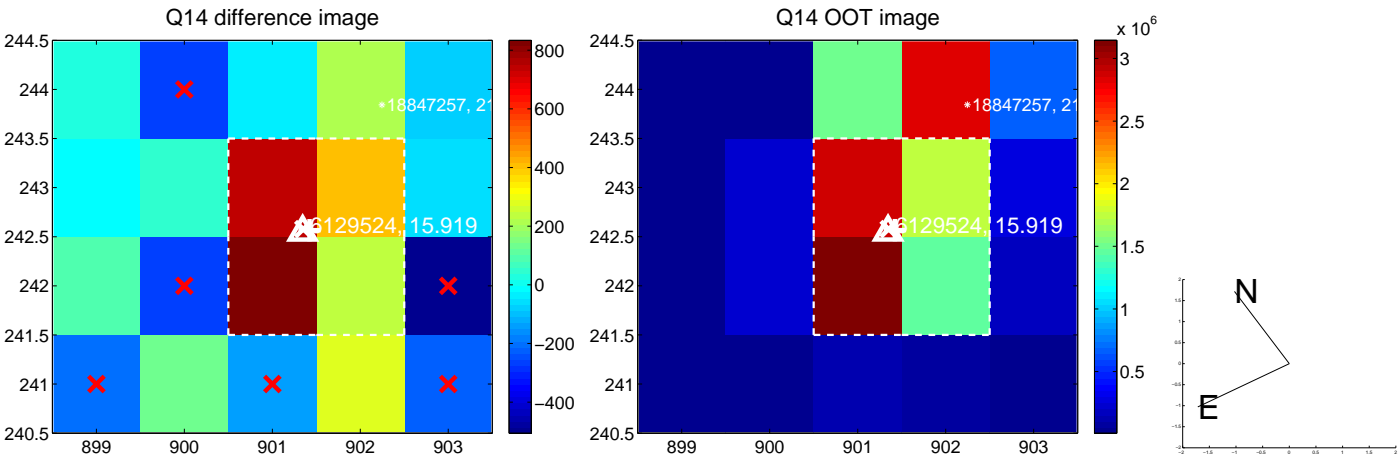
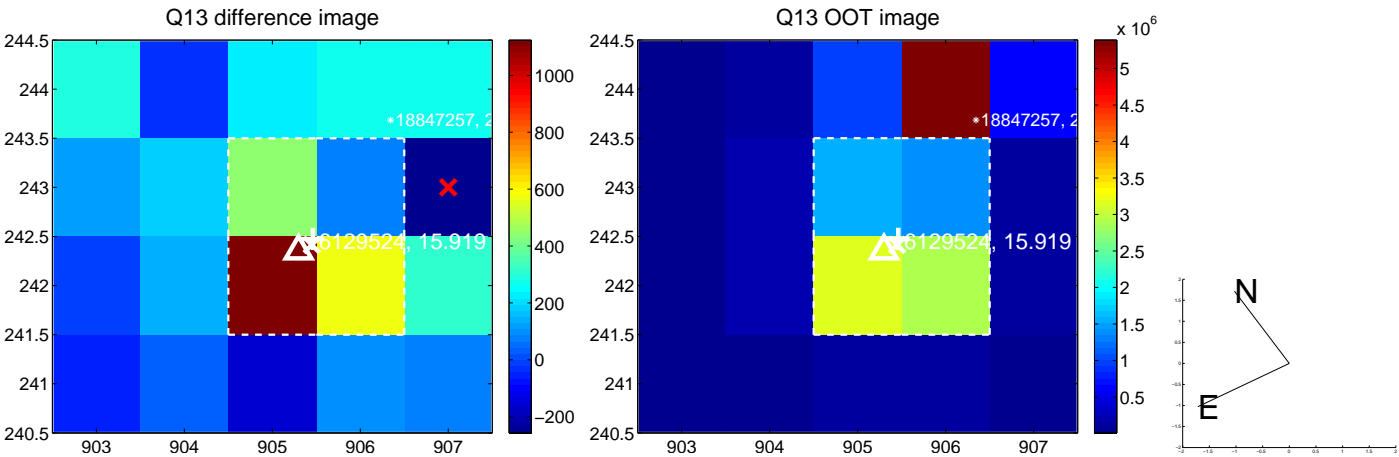




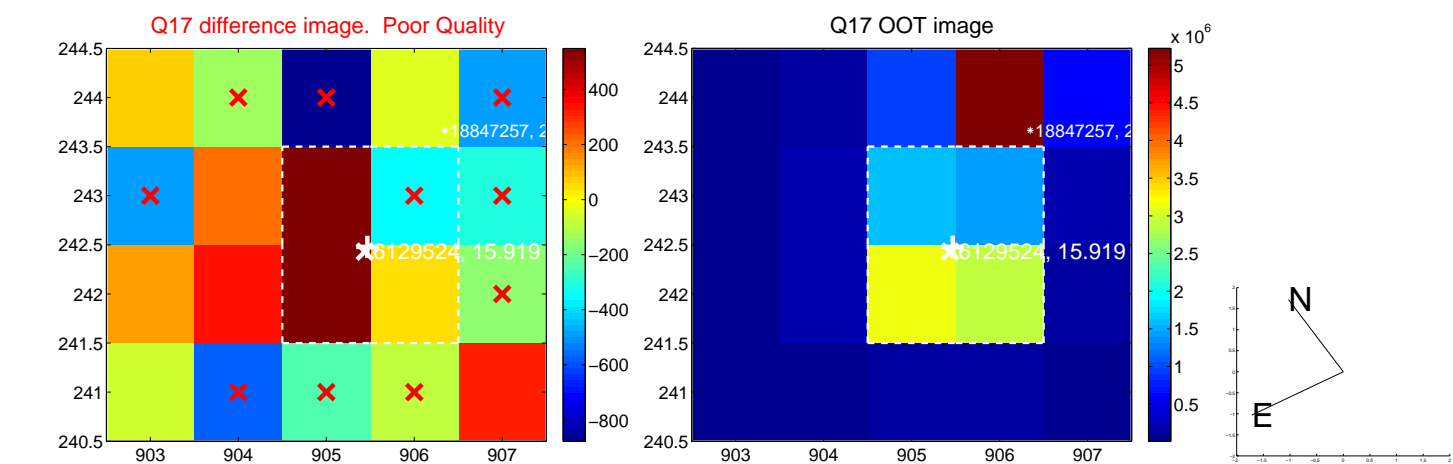
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



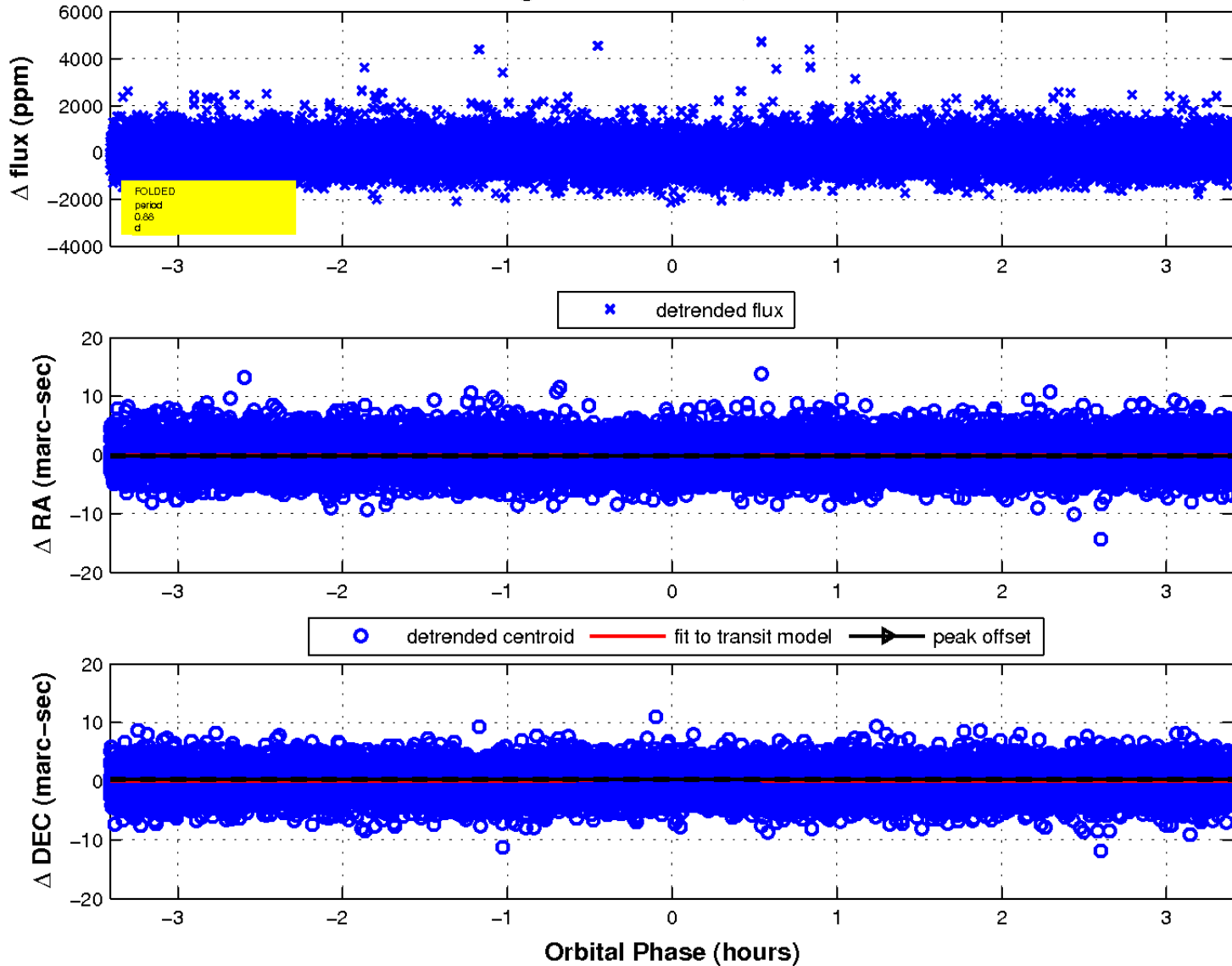
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

