

# KIC 011764462

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011764462-01	OBS	1531.01	5.699207	136.585491	157.9	2.524	29.8	31.3	0.93	5646	1.41	204.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011764462-01	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.

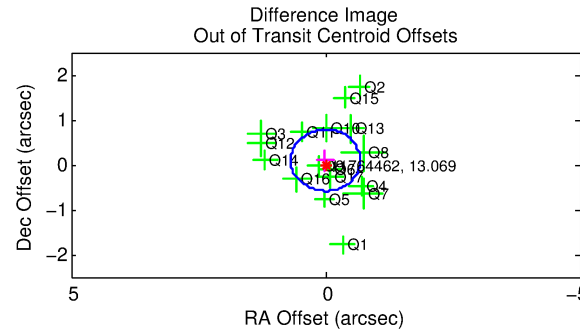
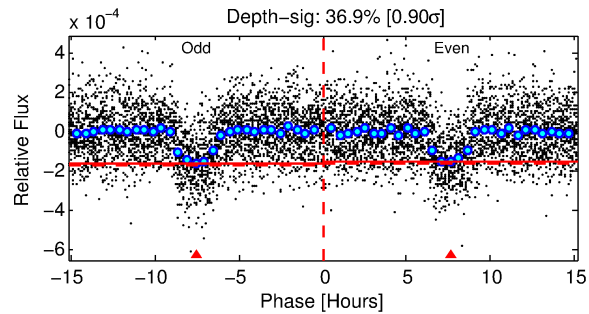
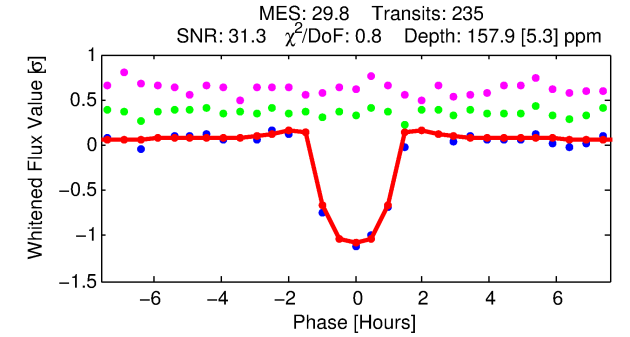
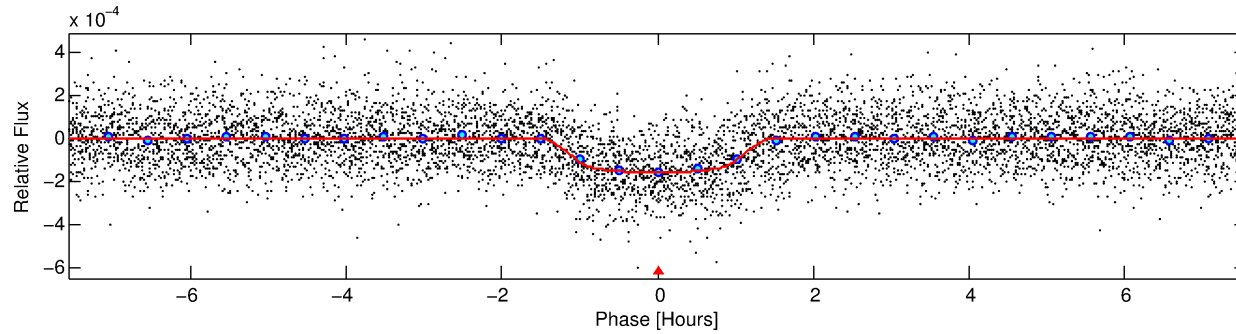
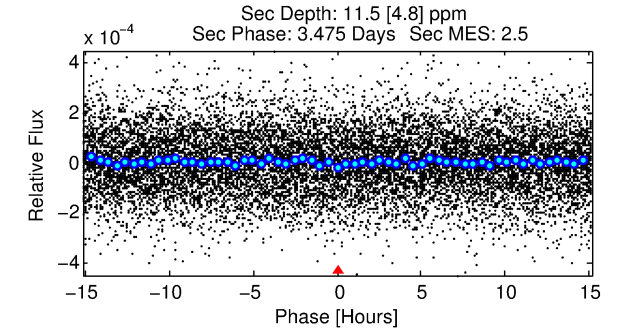
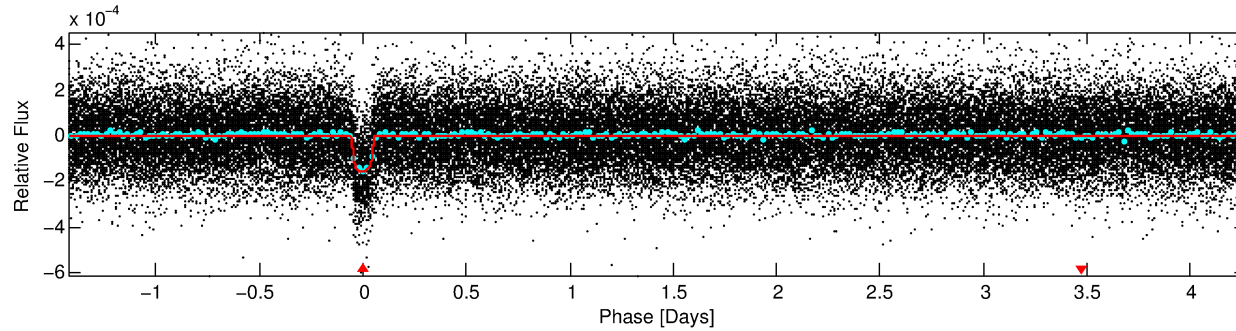
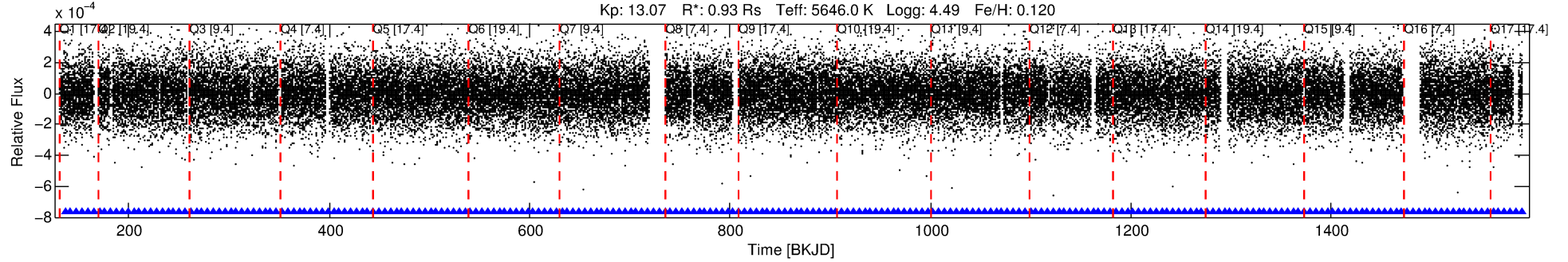
## Ephemeris Match Information For 011764462-01

No Significant Match Found

# DV One-Page Summary

KIC: 11764462 Candidate: 1 of 1 Period: 5.699 d

KOI: K01531.01 Corr: 0.972



## DV Fit Results:

Period = 5.69921 [0.00001] d  
Epoch = 136.5855 [0.0013] BKJD  
Rp/R\* = 0.0138 [0.0026]  
a/R\* = 8.01 [6.67]  
b = 0.90 [0.18]  
Seff = 204.67 [43.04]  
Teq = 964 [51] K  
Rp = 1.41 [0.32] Re  
a = 0.0622 [0.0078] AU  
Ag = 12.39 [7.34] [1.55σ]  
Teff = 2798 [395] K [4.60σ]

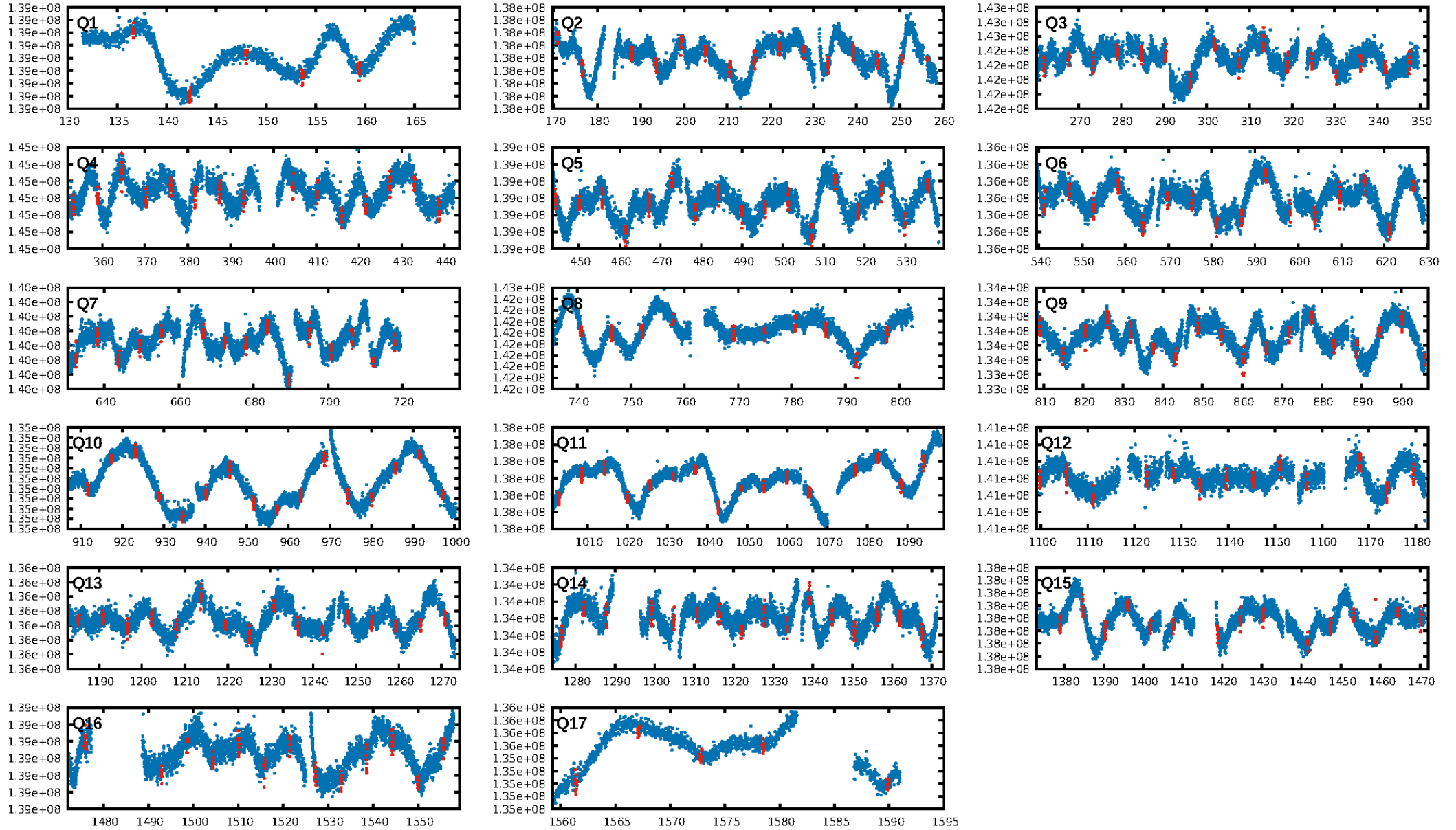
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.69e-186  
RollingBand-fgt: 1.00 [225/225]  
GhostDiagnostic-chr: 4.749  
Centroid-sig: 26.4%  
Centroid-so: 0.360 arcsec [1.13σ]  
OotOffset-rm: 0.098 arcsec [0.43σ]  
KicOffset-rm: 0.381 arcsec [1.68σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

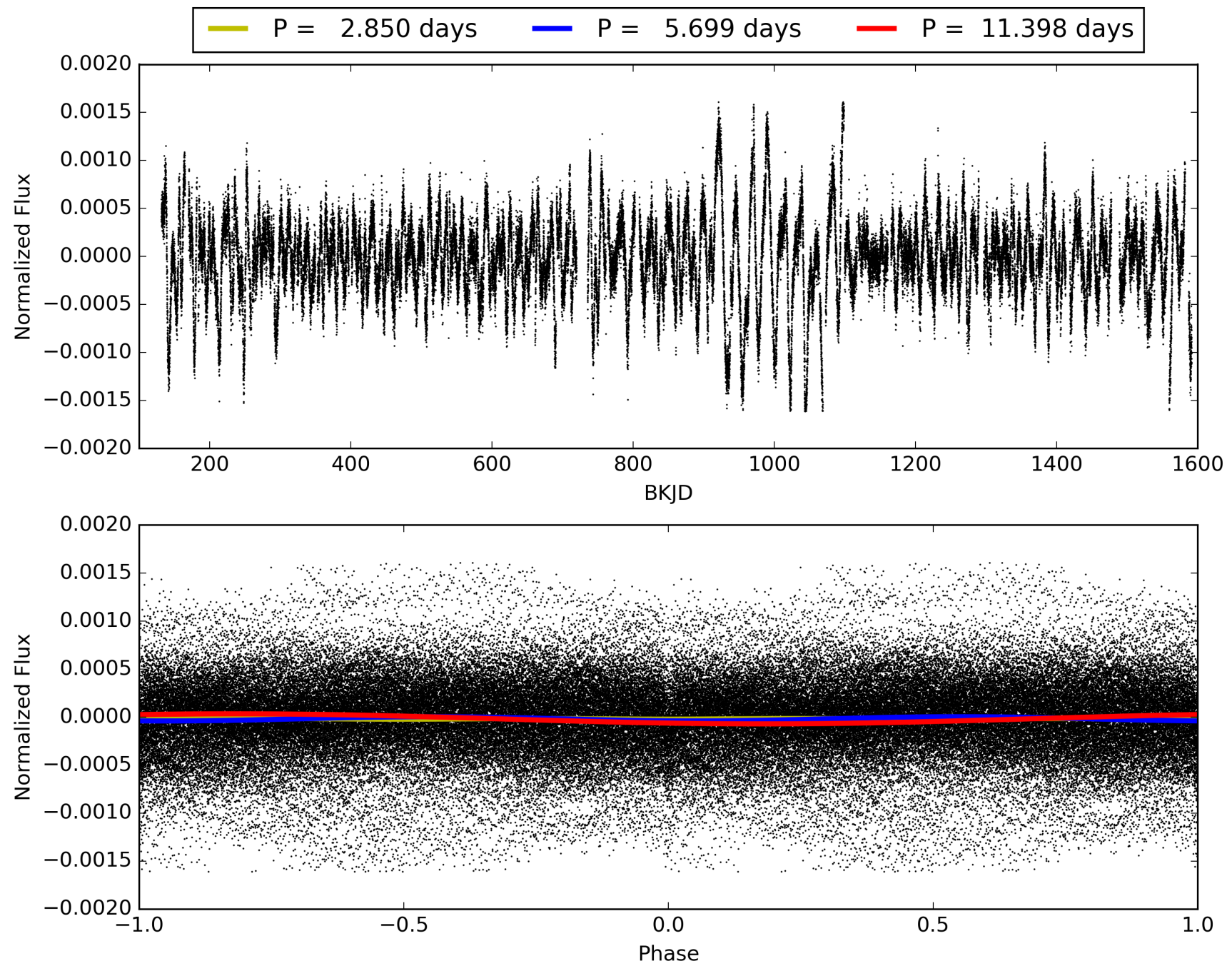
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:51:50 Z

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

# TCE 011764462-01, PDC Light Curves

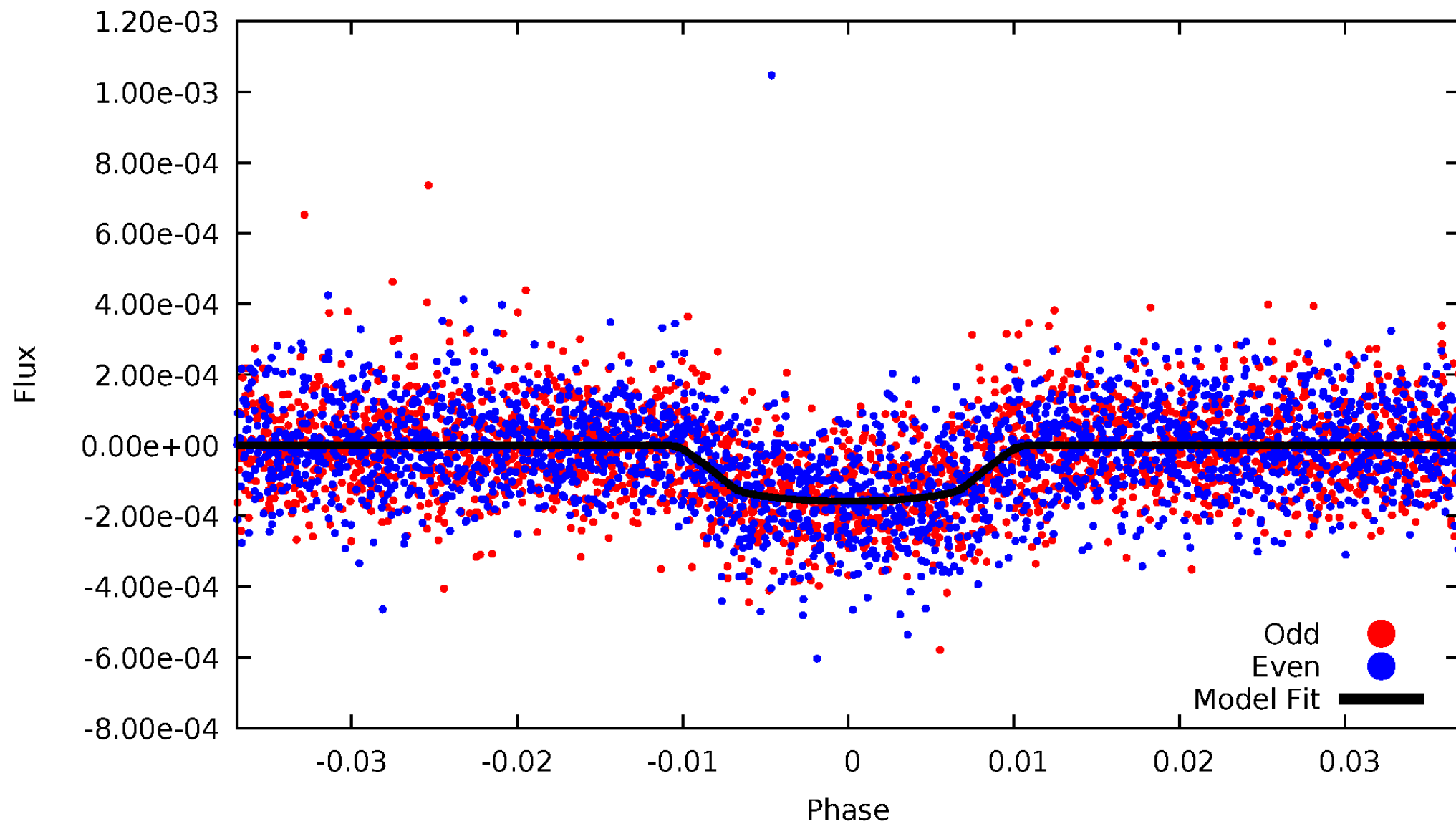


# TCE 011764462-01



# DV Odd/Even

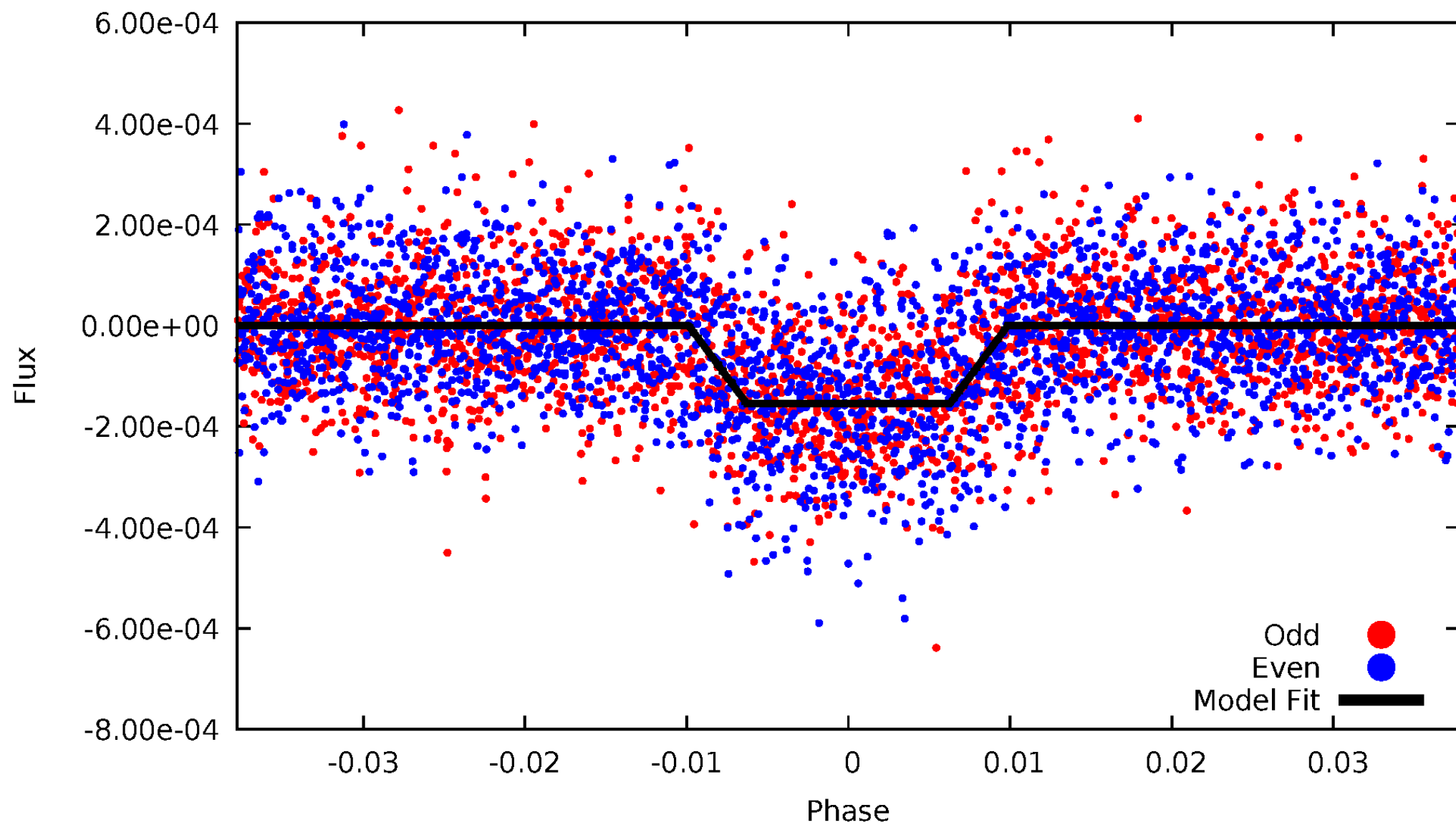
TCE 011764462-01



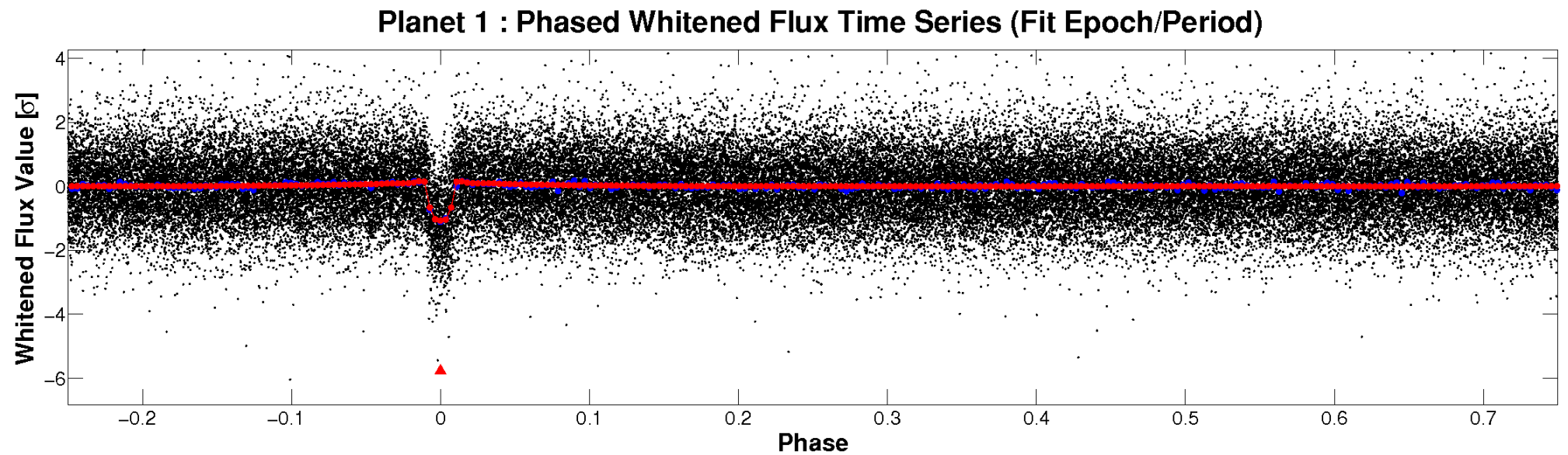
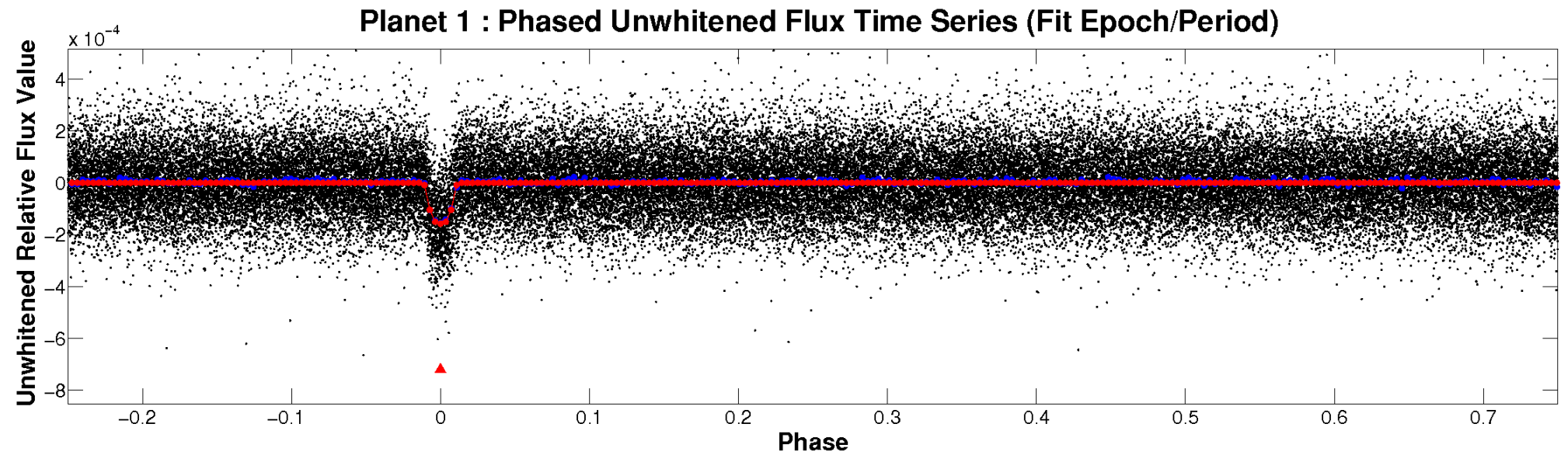


# ALT Odd/Even

TCE 011764462-01

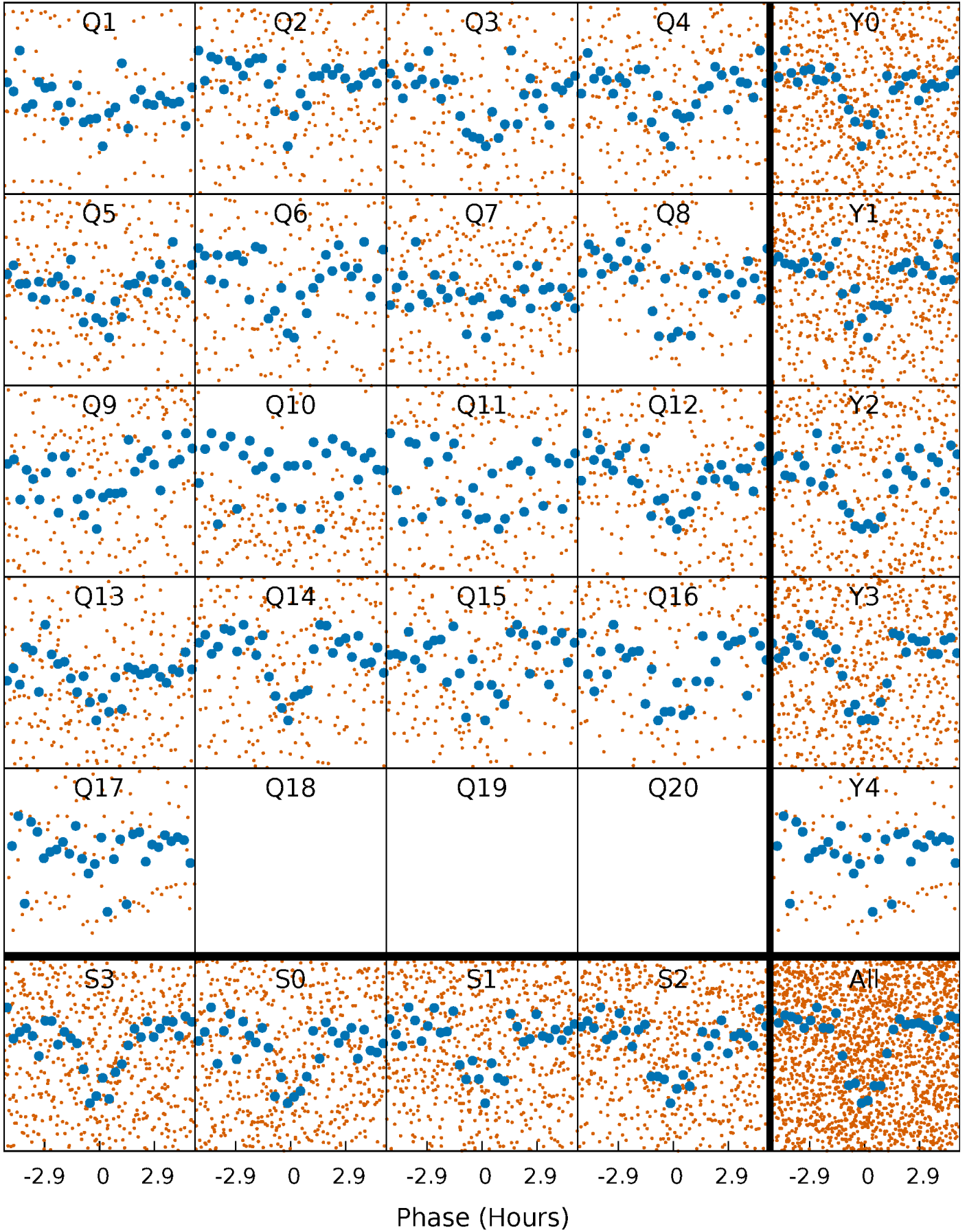


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

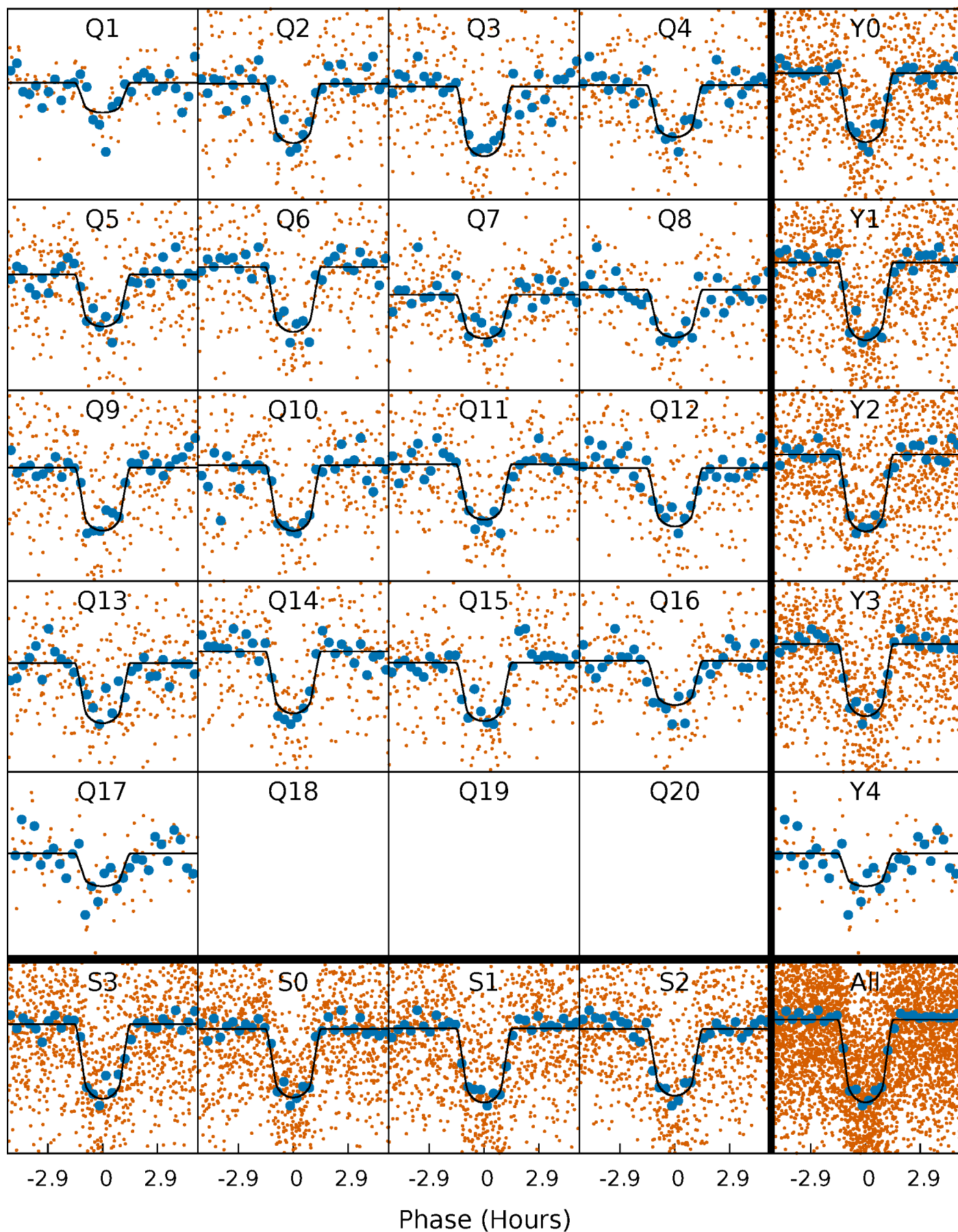
TCE 011764462-01 P= 5.699207 Days  $T_0=136.585491$  (BKJD)





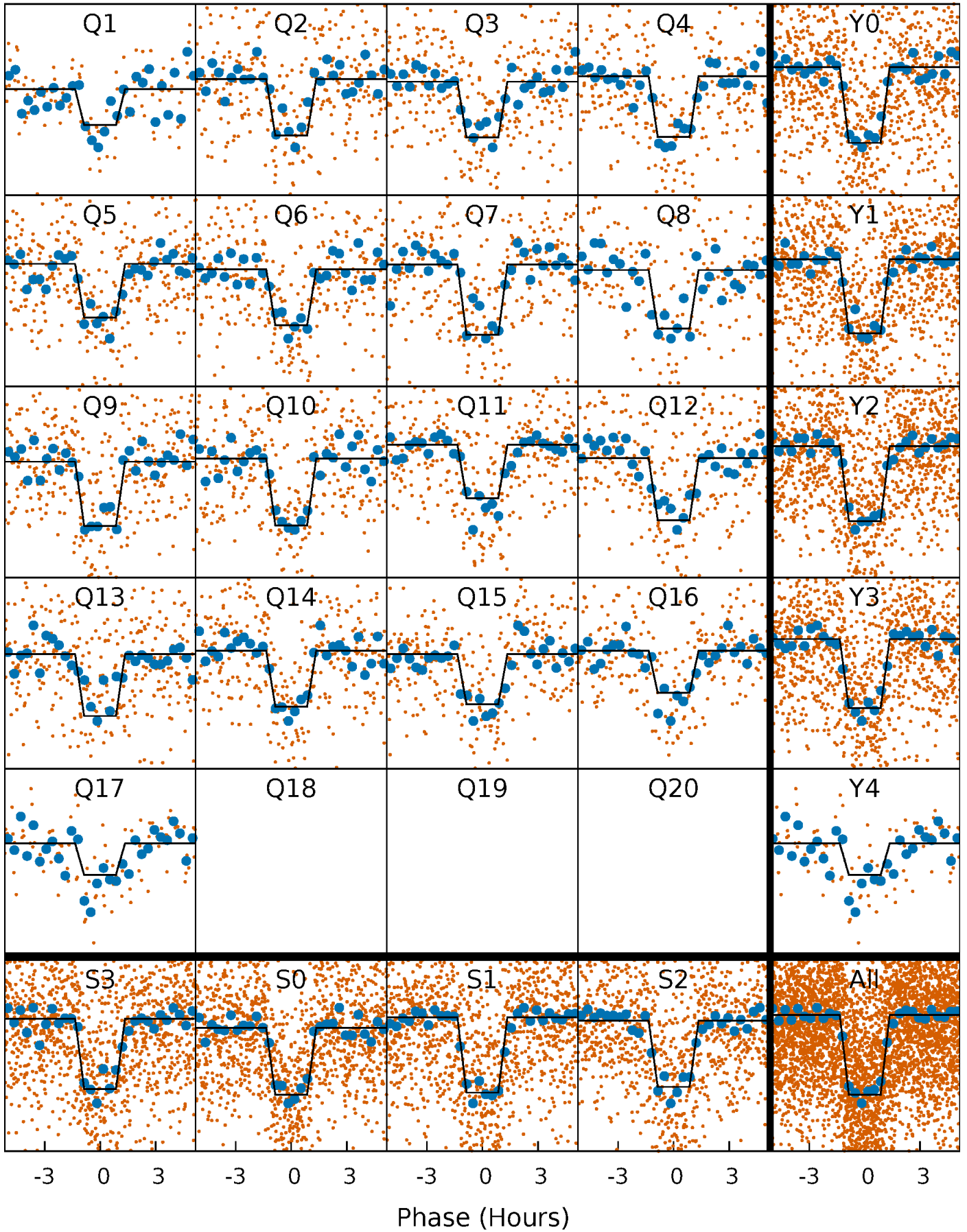
# DV Quarter-Phased Transit Curves

TCE 011764462-01 P= 5.699207 Days  $T_0=136.585491$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

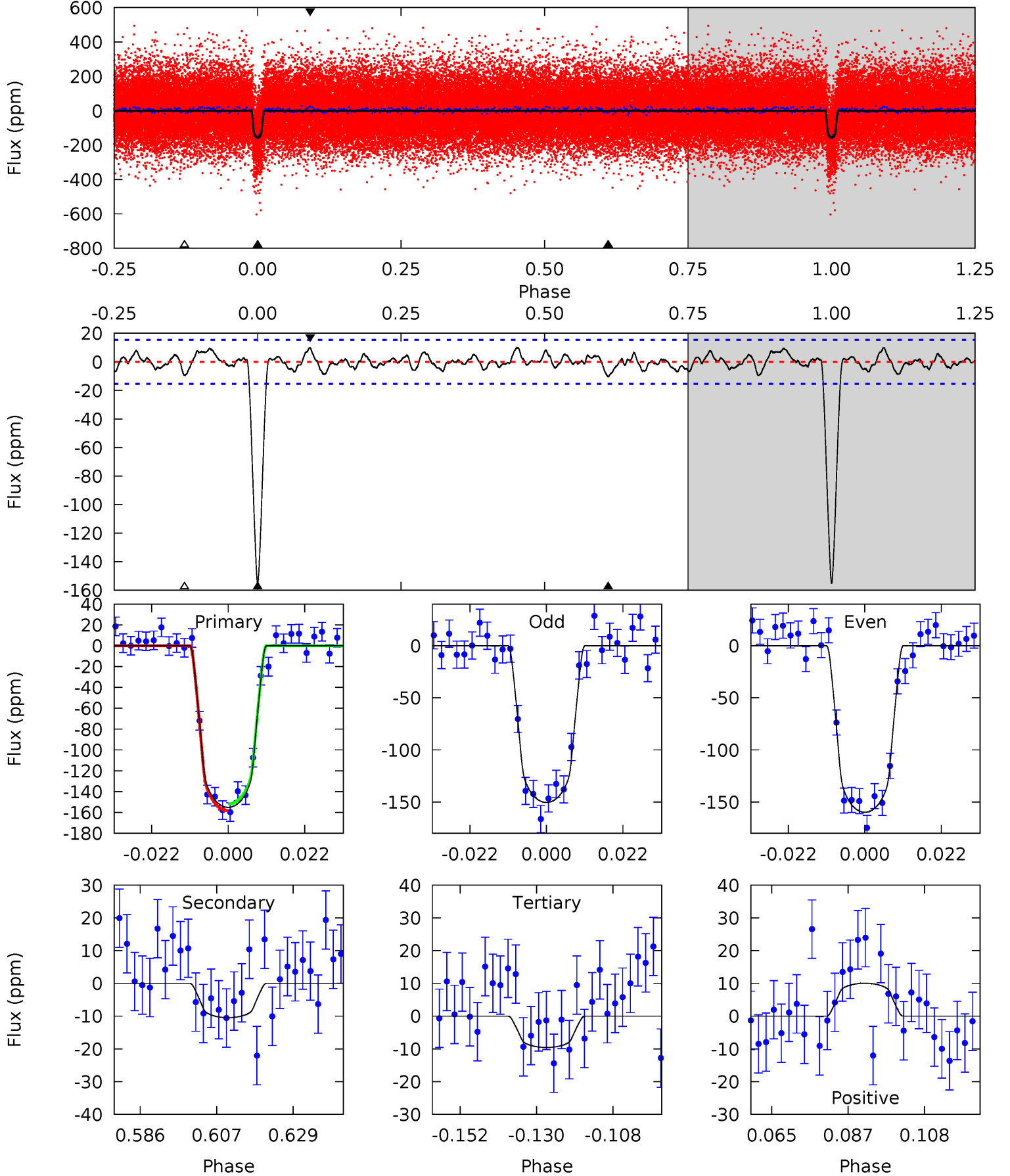
TCE 011764462-01 P= 5.699193 Days  $T_0=136.587651$  (BKJD)



# DV Model-Shift Uniqueness Test

011764462-01, P = 5.699207 Days, E = 130.886284 Days

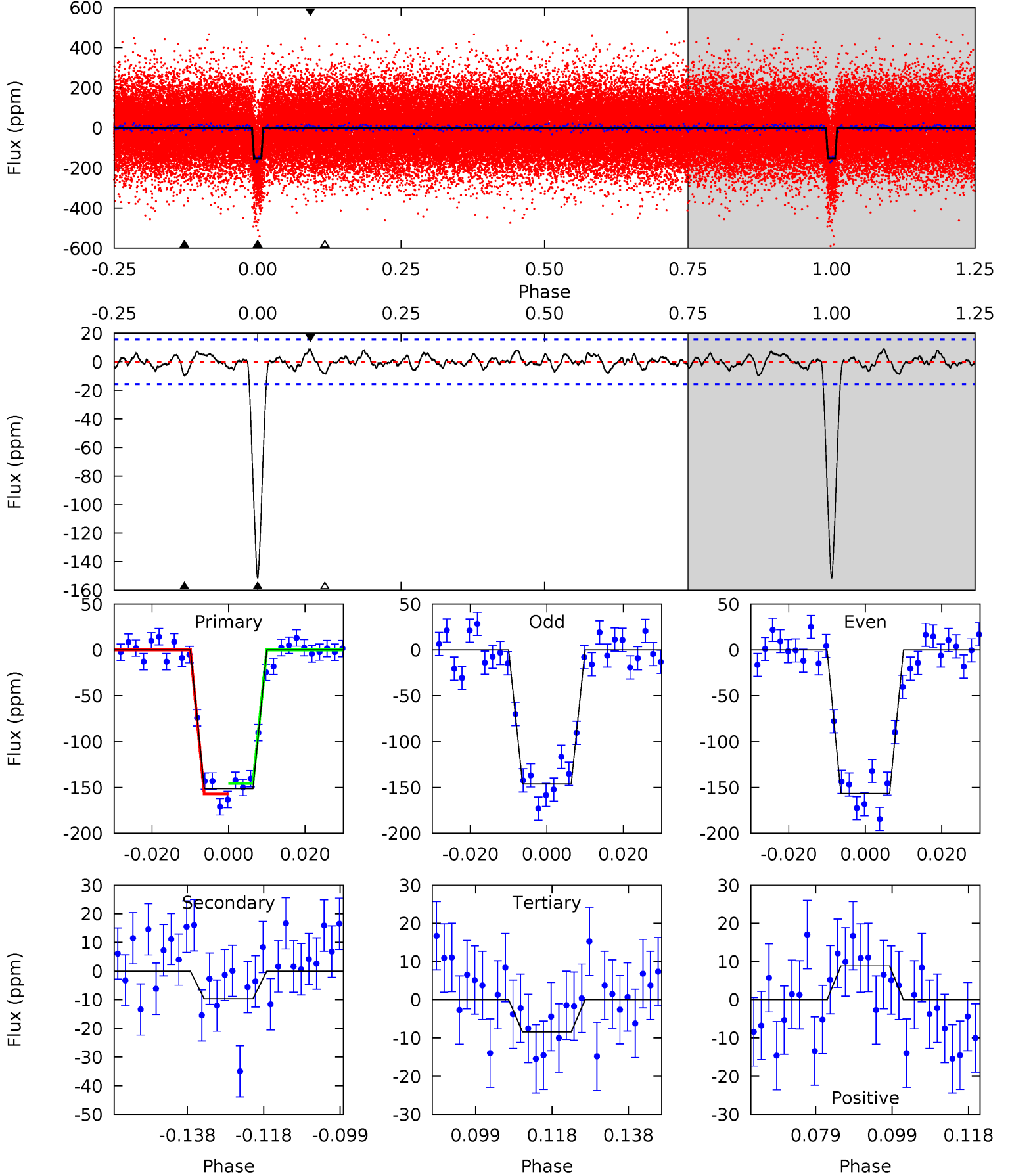
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	3.32	3.03	3.18	4.88	2.30	1.21	46.1	46.0	0.29	0.14	1.50	1.01	0.06	1.01



# Alt Model-Shift Uniqueness Test

011764462-01, P = 5.699193 Days, E = 130.888458 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
47.5	3.04	2.65	2.78	4.89	2.33	1.02	44.8	44.7	0.39	0.26	1.63	1.01	0.06	1.78



### Stellar Parameters For KIC 011764462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5646^{+101}_{-113}$	$4.493^{+0.040}_{-0.112}$	$0.120^{+0.150}_{-0.150}$	$0.932^{+0.127}_{-0.054}$	$0.986^{+0.049}_{-0.070}$	$1.716^{+0.245}_{-0.567}$
	+2%/-2%	+1%/-2%	+125%/-125%	+14%/-6%	+5%/-7%	+14%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 011764462-01 / KOI 1531.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-10 \pm 3$	$1.44^{+0.27}_{-0.26}$	$1358^{+53}_{-41}$	$3259^{+275}_{-230}$	$10^{+7}_{-4}$
Alt.	$-10 \pm 3$	$1.30^{+0.27}_{-0.25}$	$1358^{+55}_{-38}$	$3314^{+308}_{-258}$	$12^{+9}_{-5}$

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



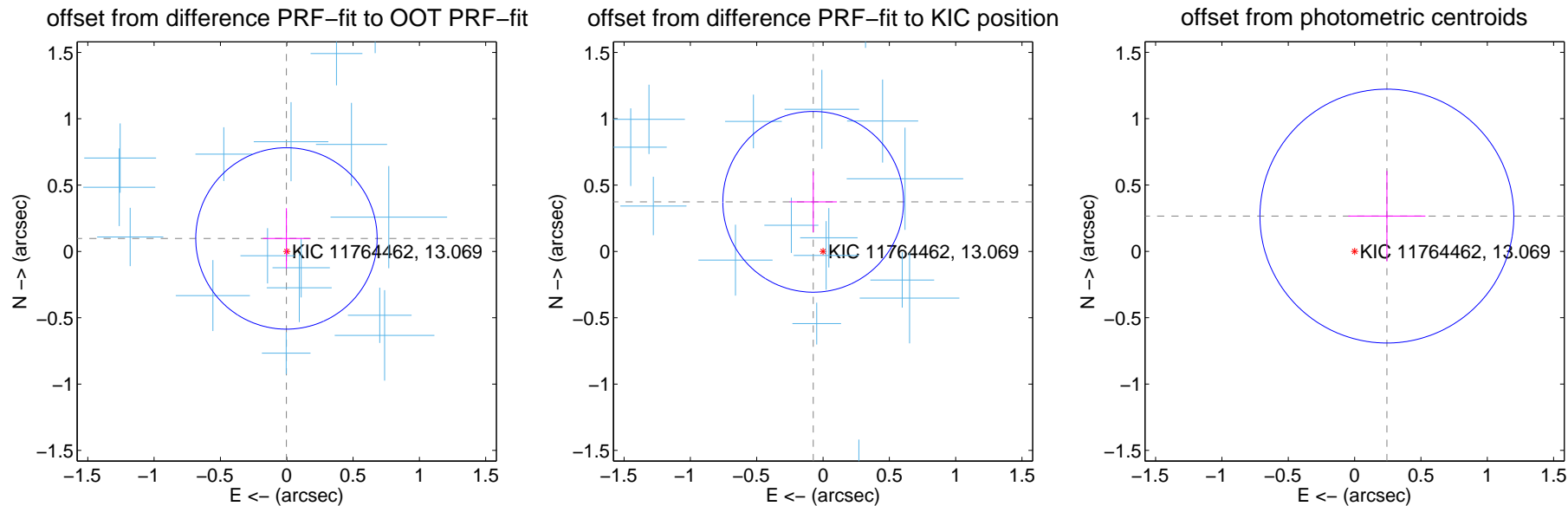
## DV Centroid Data

Supplemental centroid analysis for 011764462-01. Kepler magnitude: 13.07. Transit SNR 31.29

There are 17 quarters with good PRF difference image offsets

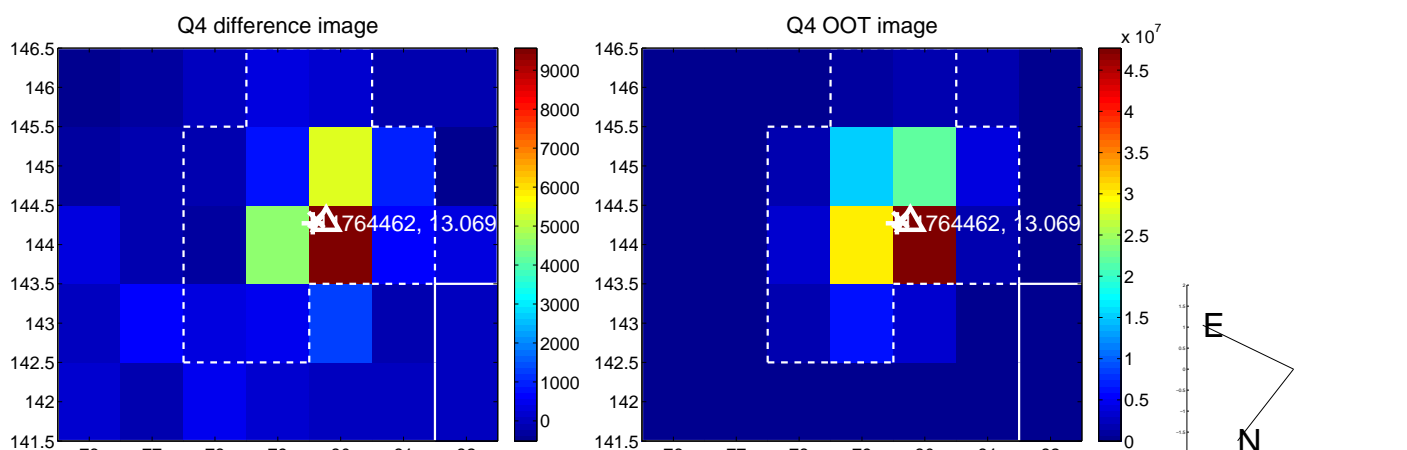
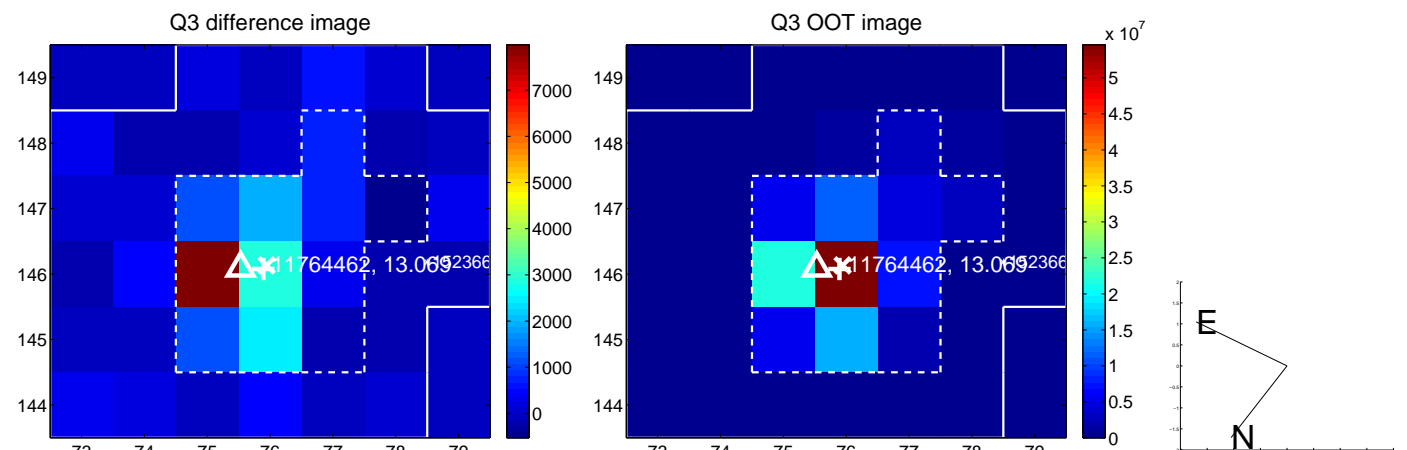
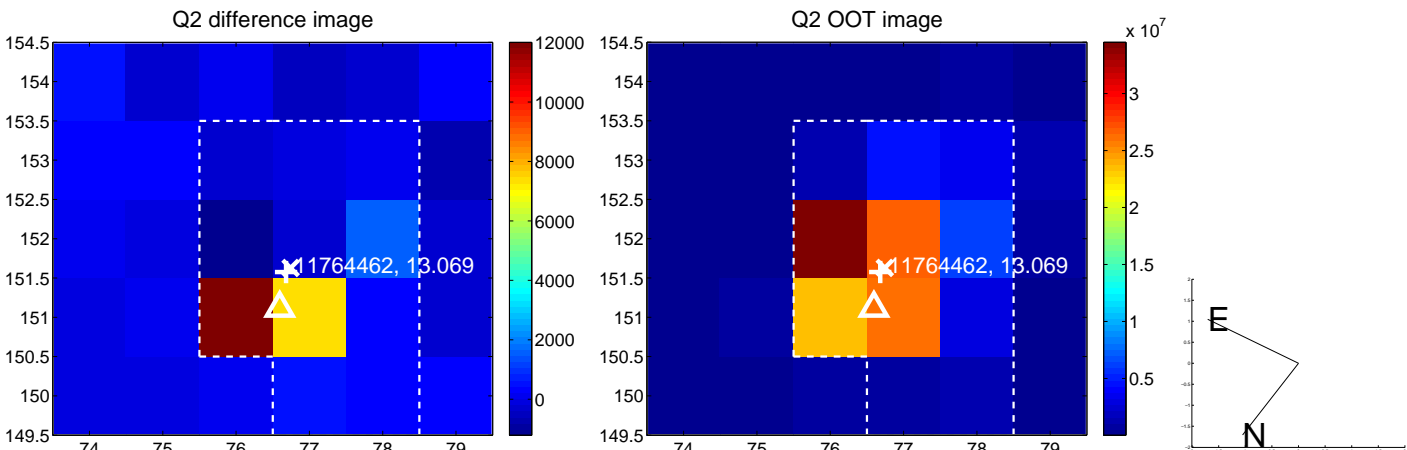
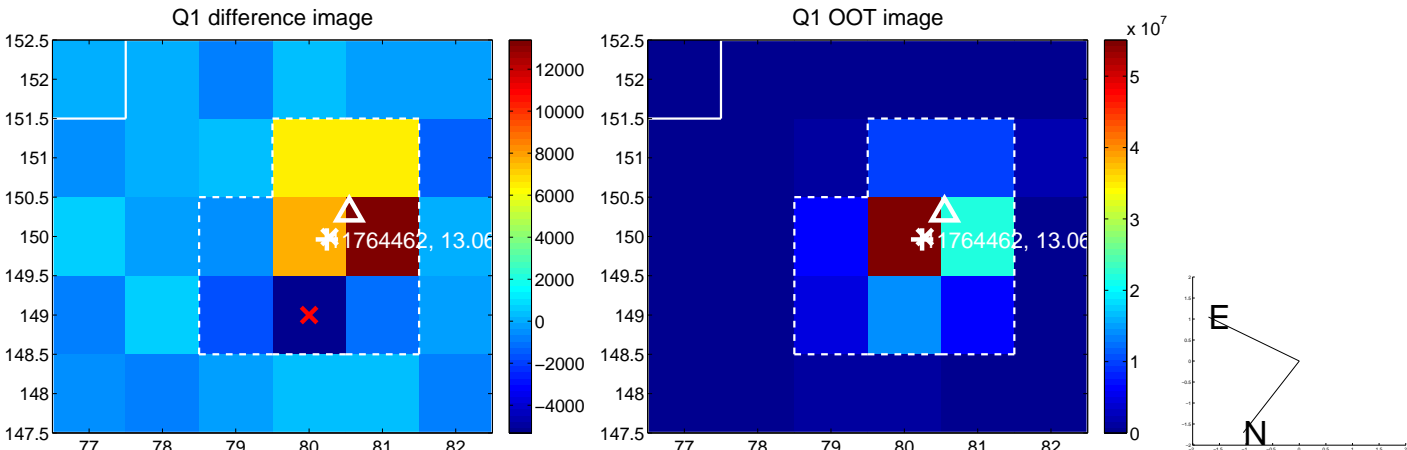
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.098 \pm 0.228$	0.43	$0.002 \pm 0.177$	$0.098 \pm 0.228$
PRF-fit source offset from KIC position	$0.381 \pm 0.227$	1.68	$0.074 \pm 0.178$	$0.374 \pm 0.229$
photometric centroid source offset	$0.36 \pm 0.32$	1.13	$-0.24 \pm 0.29$	$0.27 \pm 0.34$

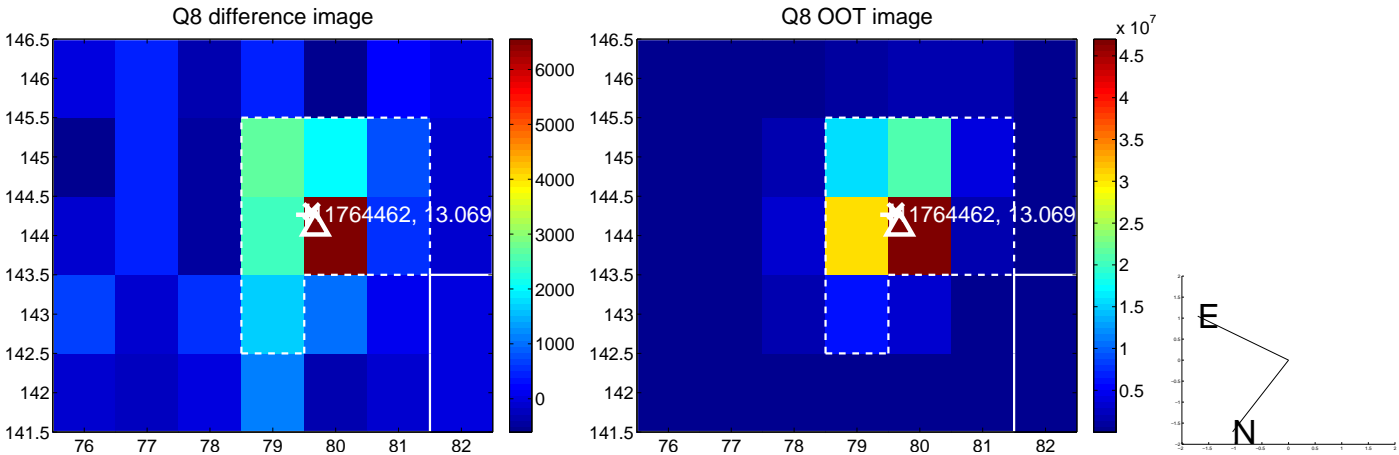
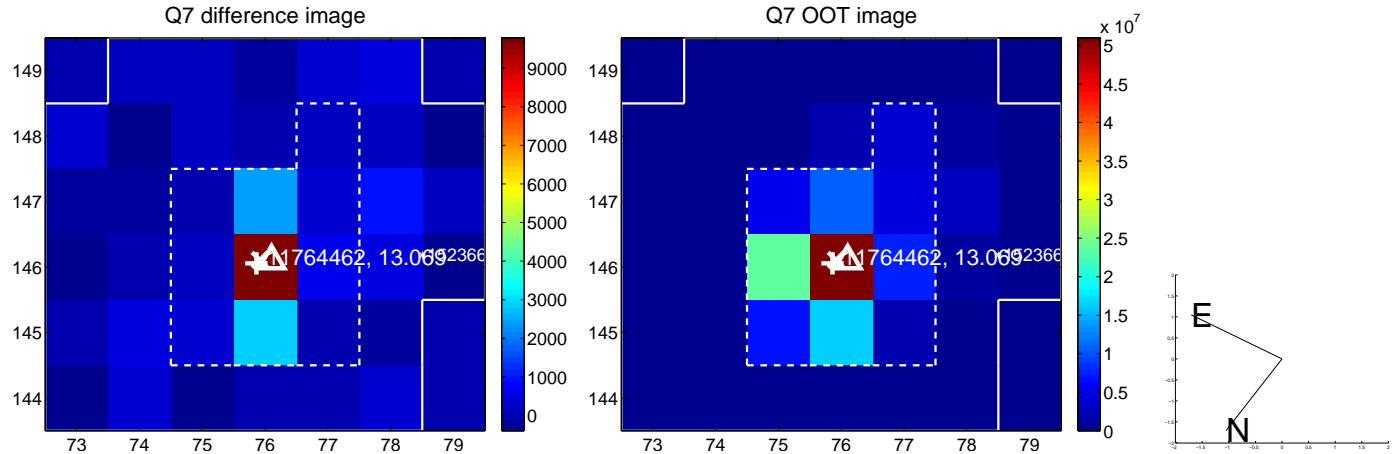
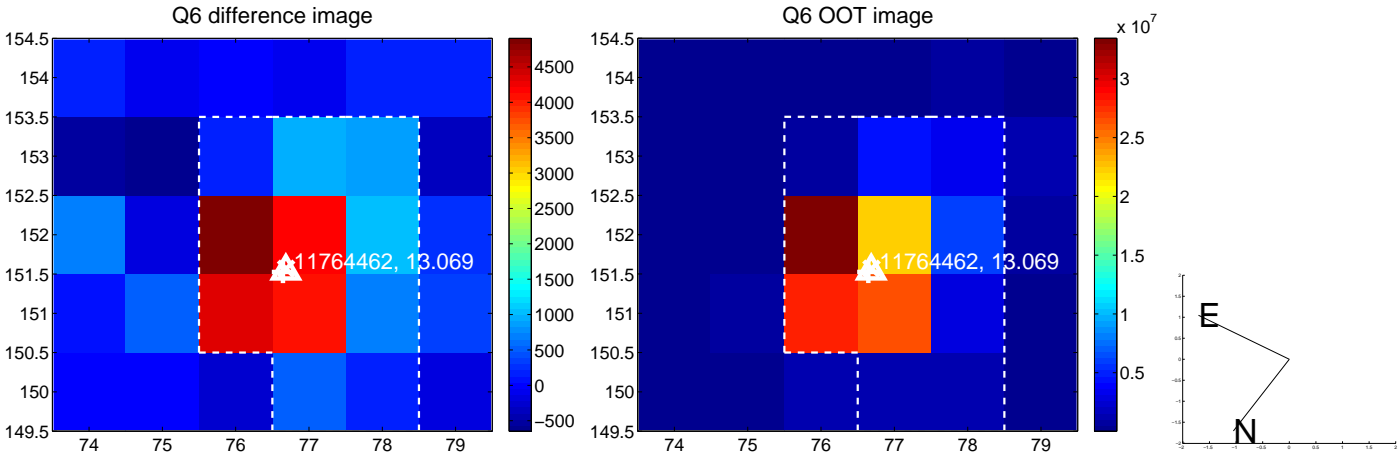
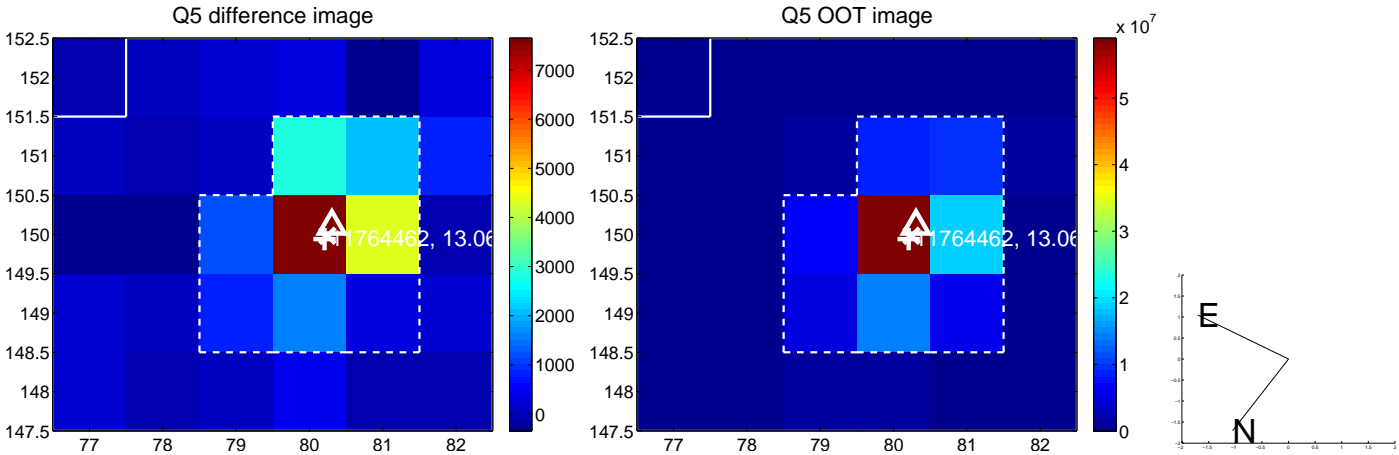


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

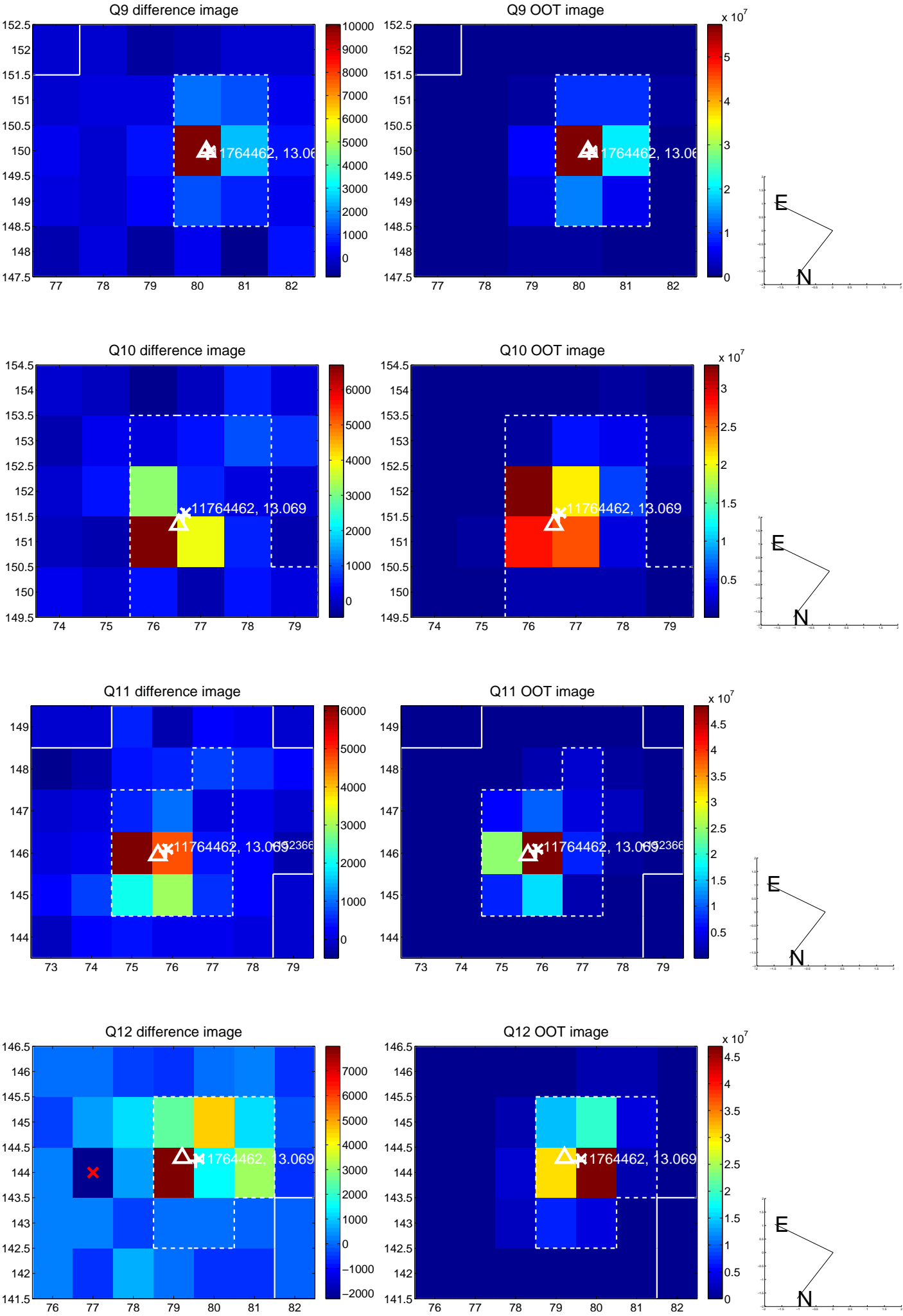
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



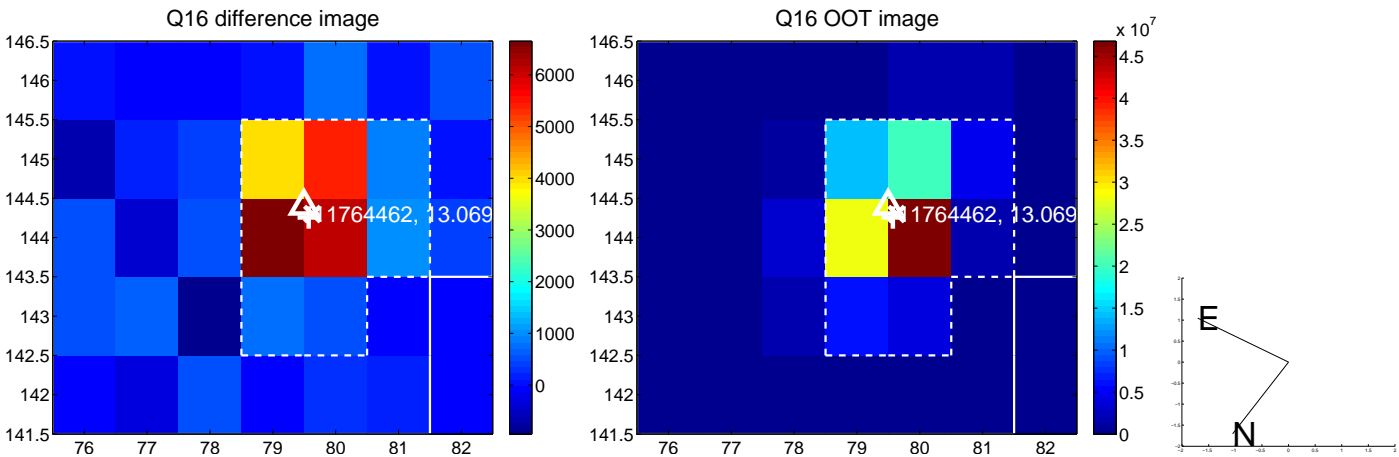
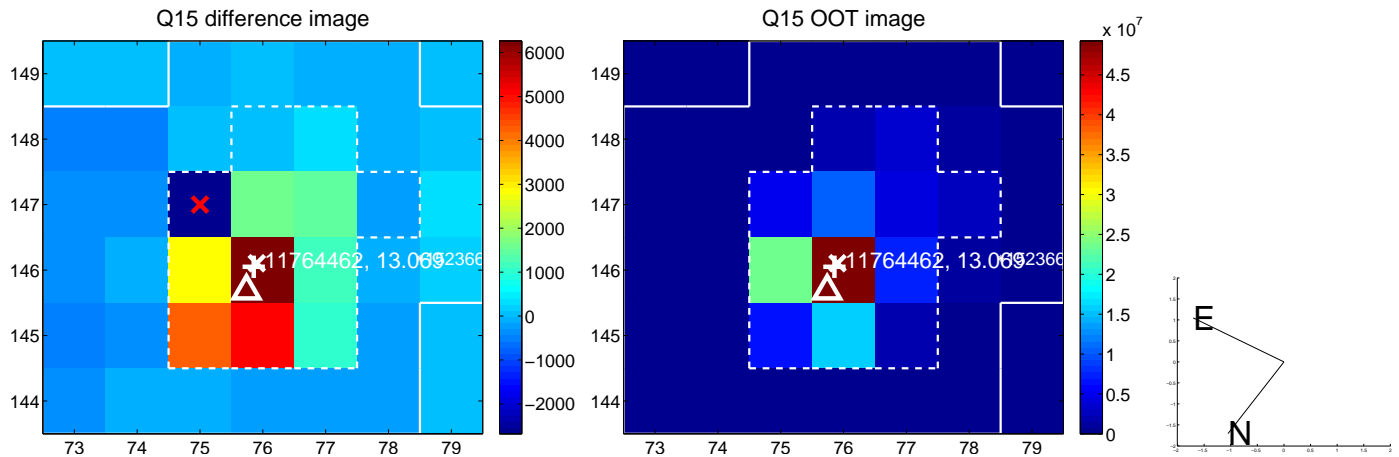
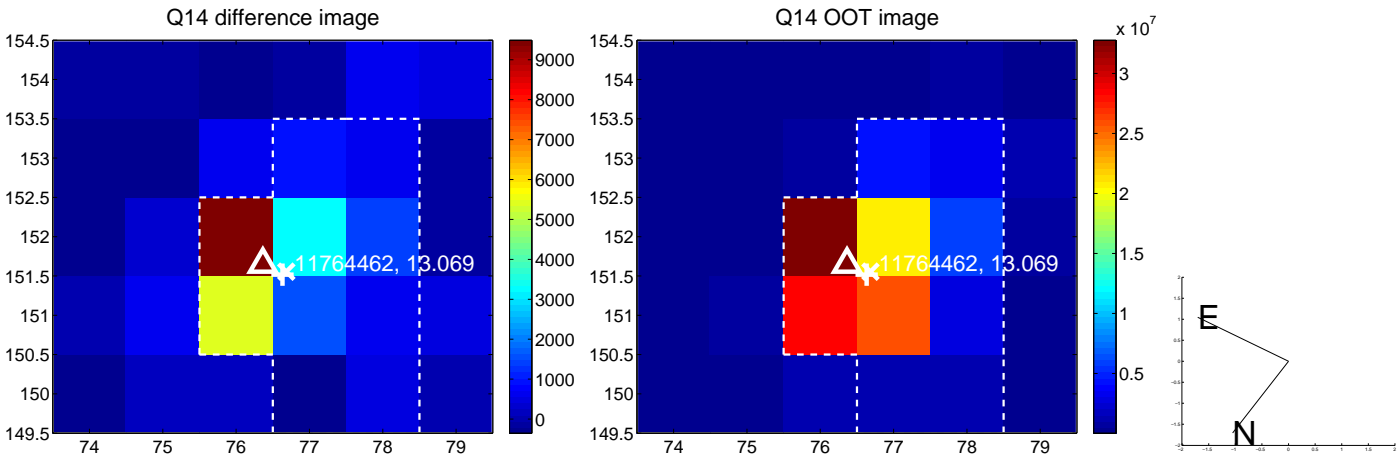
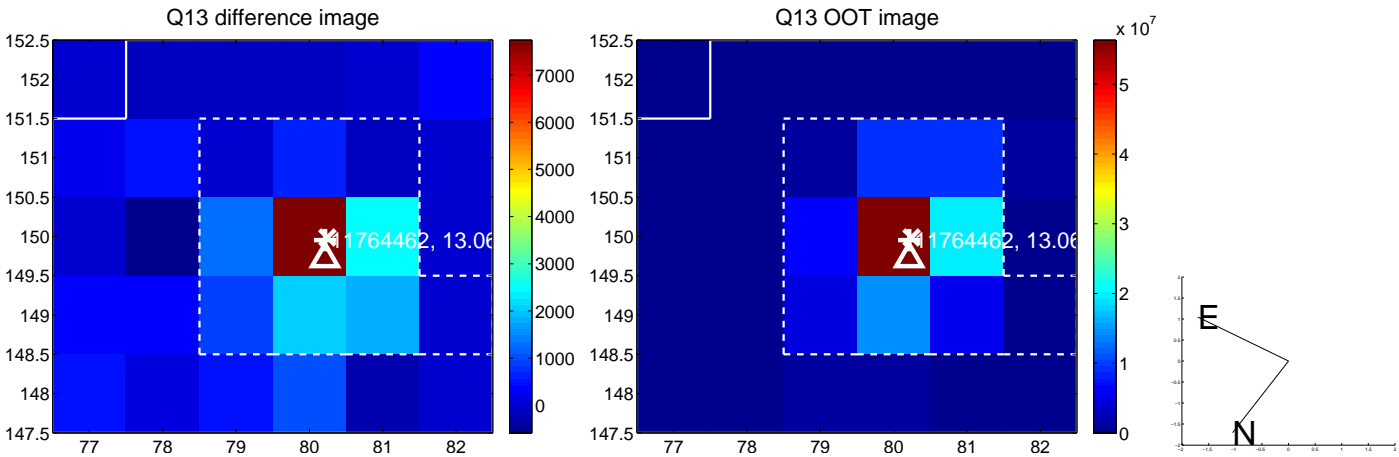
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

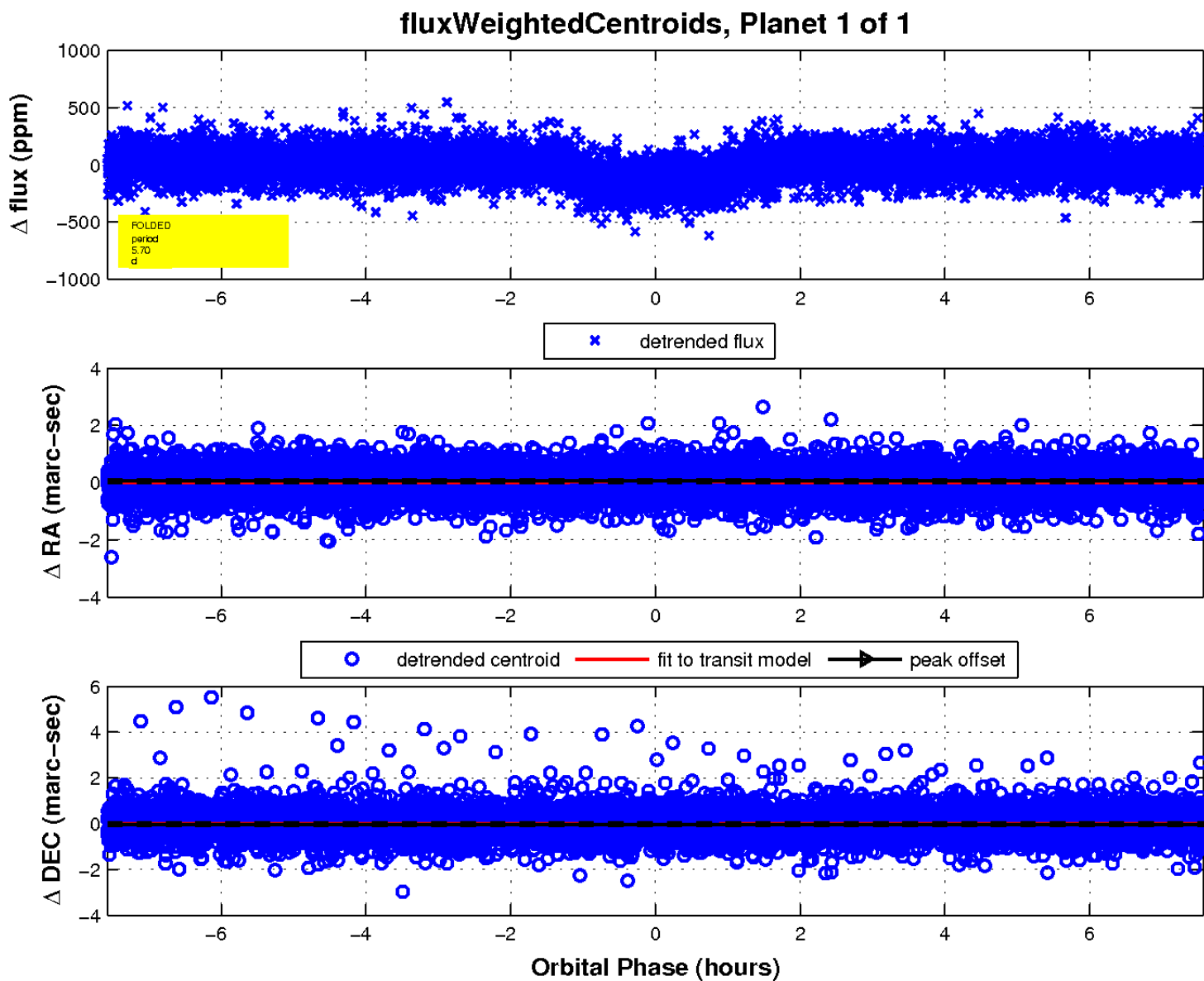
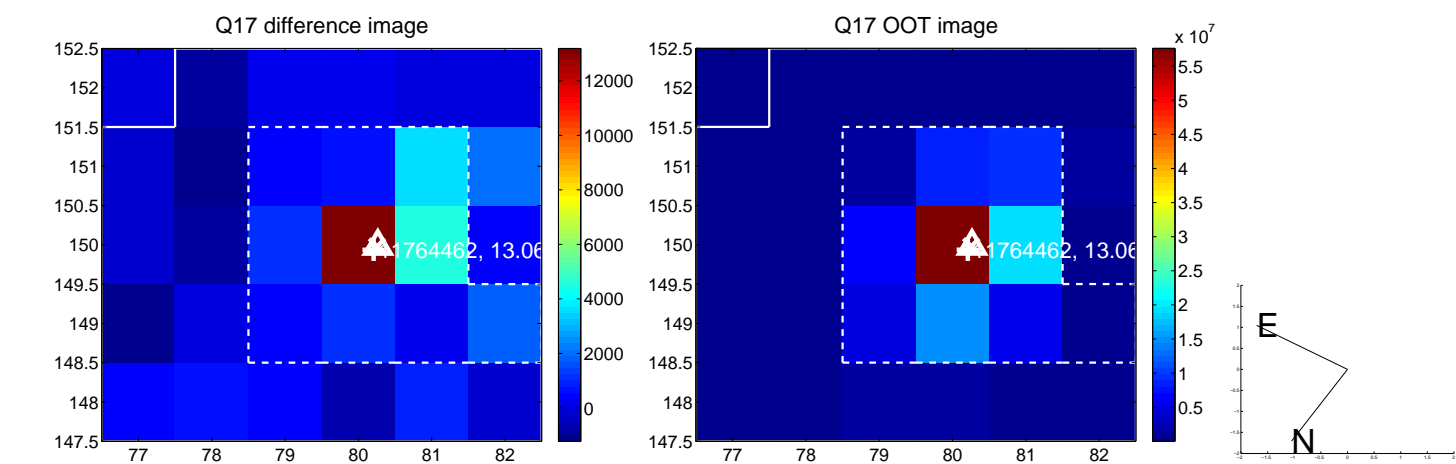


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

