

# KIC 011911561

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011911561-01	OBS	3875.01	8.870413	137.481438	854.7	1.280	39.6	48.8	1.51	6022	6.51	414.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011911561-01	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.

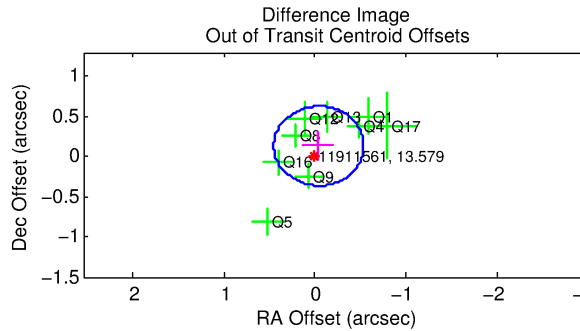
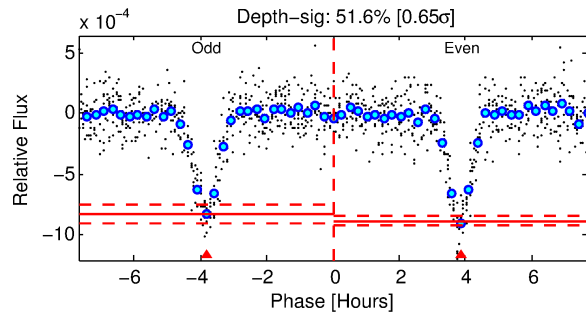
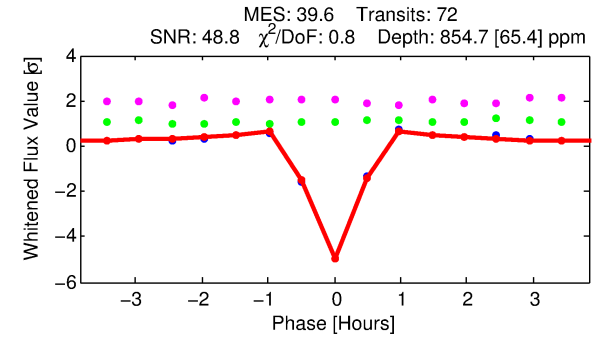
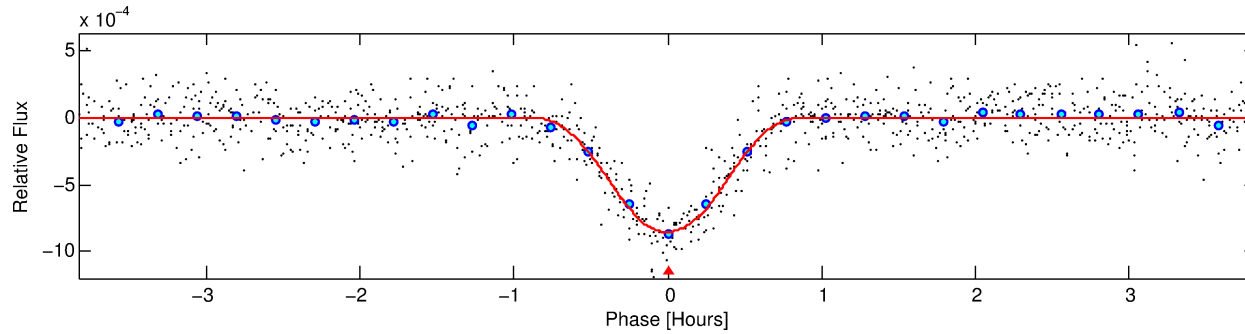
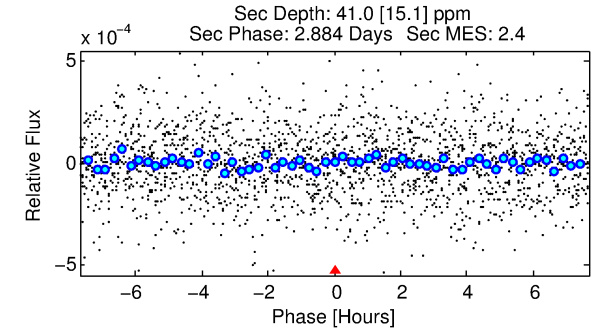
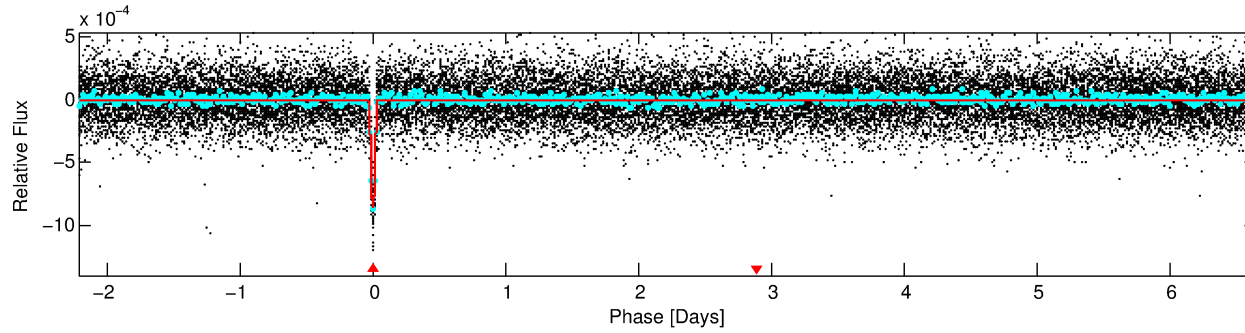
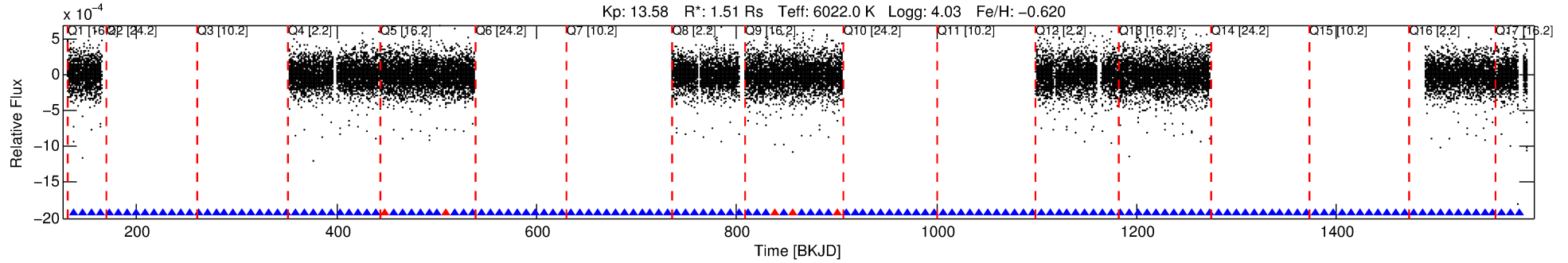
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011911561-01

No Significant Match Found

# DV One-Page Summary

KIC: 11911561 Candidate: 1 of 1 Period: 8.870 d  
KOI: K03875.01 Corr: 0.978



## DV Fit Results:

Period = 8.87041 [0.00001] d  
Epoch = 137.4814 [0.0006] BKJD  
Rp/R\* = 0.0394 [0.0228]  
a/R\* = 18.85 [5.38]  
b = 0.98 [0.05]  
Seff = 414.97 [305.20]  
Teq = 1151 [212] K  
Rp = 6.51 [4.66] Re  
a = 0.0807 [0.0352] AU  
Ag = 3.46 [4.89] [0.50σ]  
Teffp = 2427 [741] K [1.66σ]

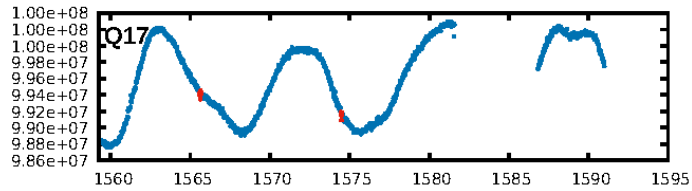
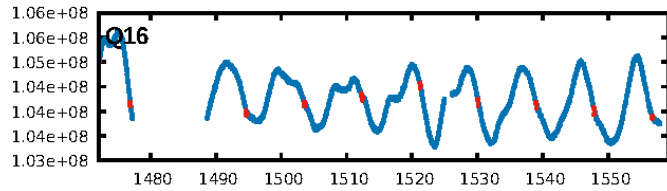
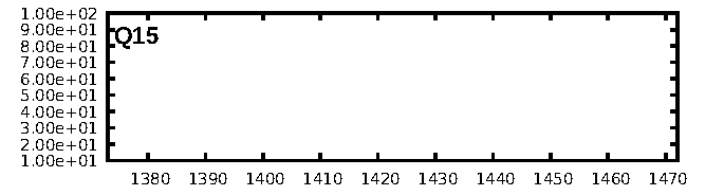
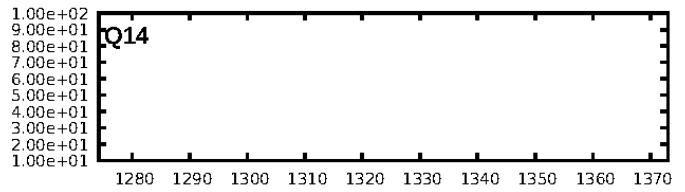
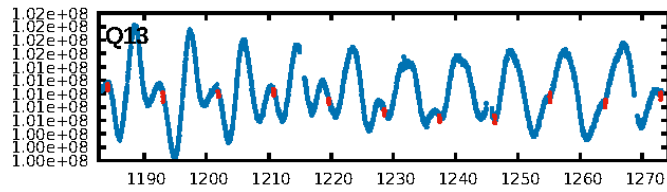
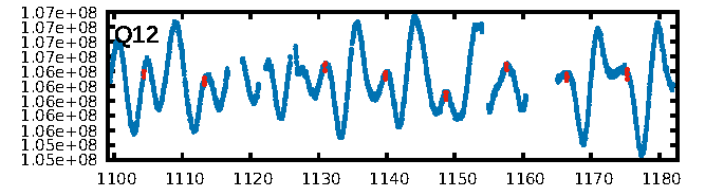
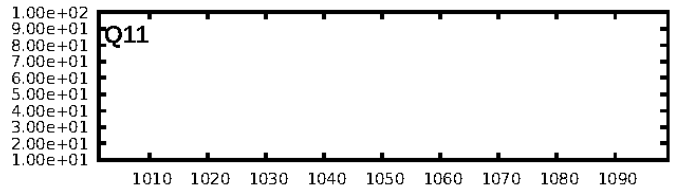
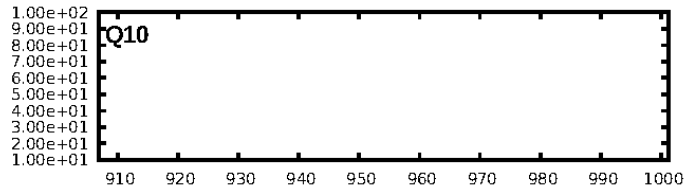
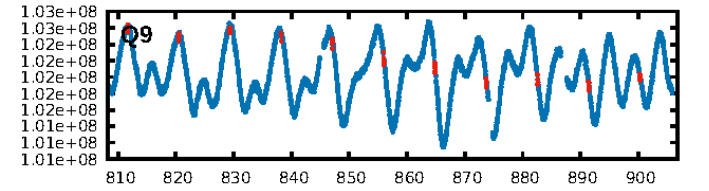
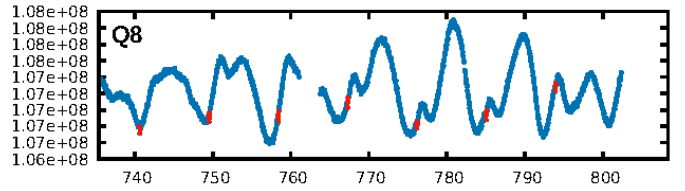
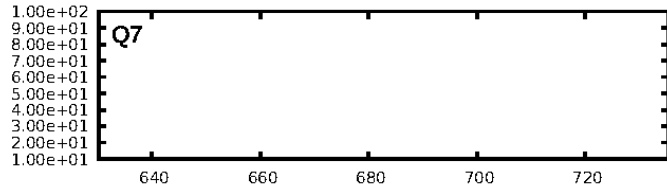
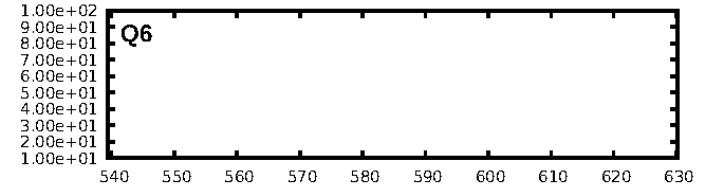
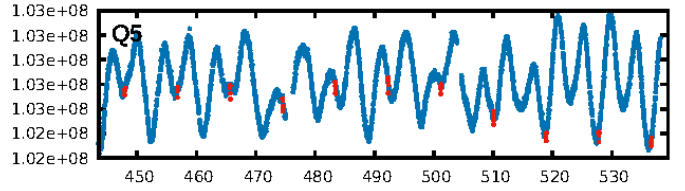
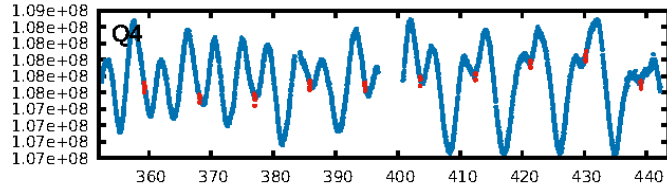
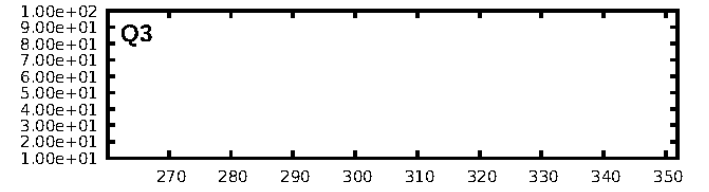
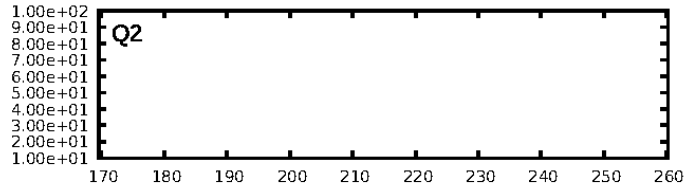
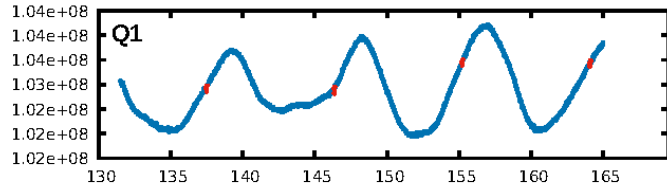
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.92 [61/66]  
GhostDiagnostic-chr: 2.945  
Centroid-sig: N/A  
Centroid-so: 0.994 arcsec [2.95σ]  
OotOffset-rm: 0.140 arcsec [0.85σ]  
KicOffset-rm: 0.169 arcsec [1.06σ]  
OotOffset-st: 0/0/4/5 [9]  
KicOffset-st: 0/0/4/5 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [9/9]

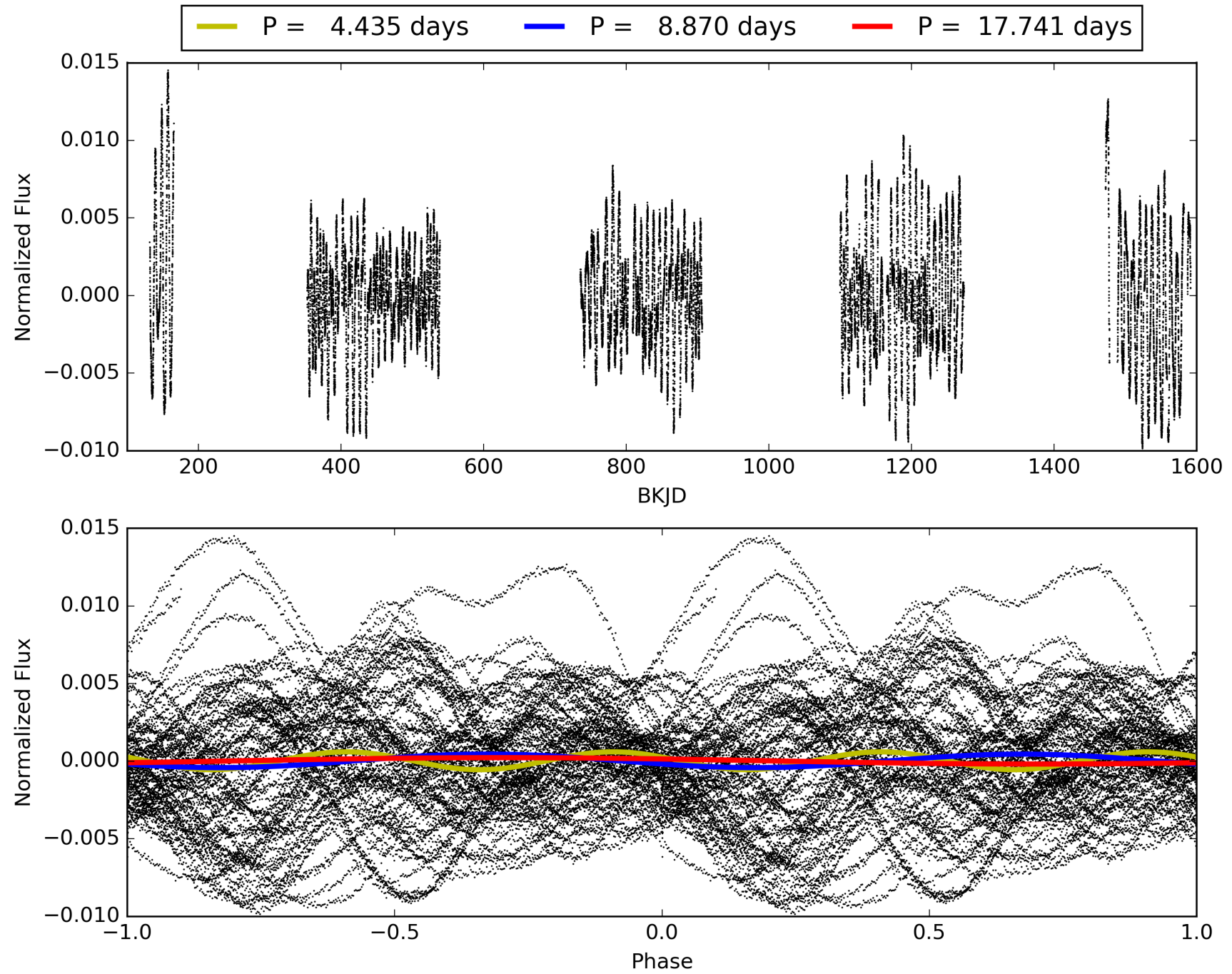
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:08:41 Z

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

# TCE 011911561-01, PDC Light Curves

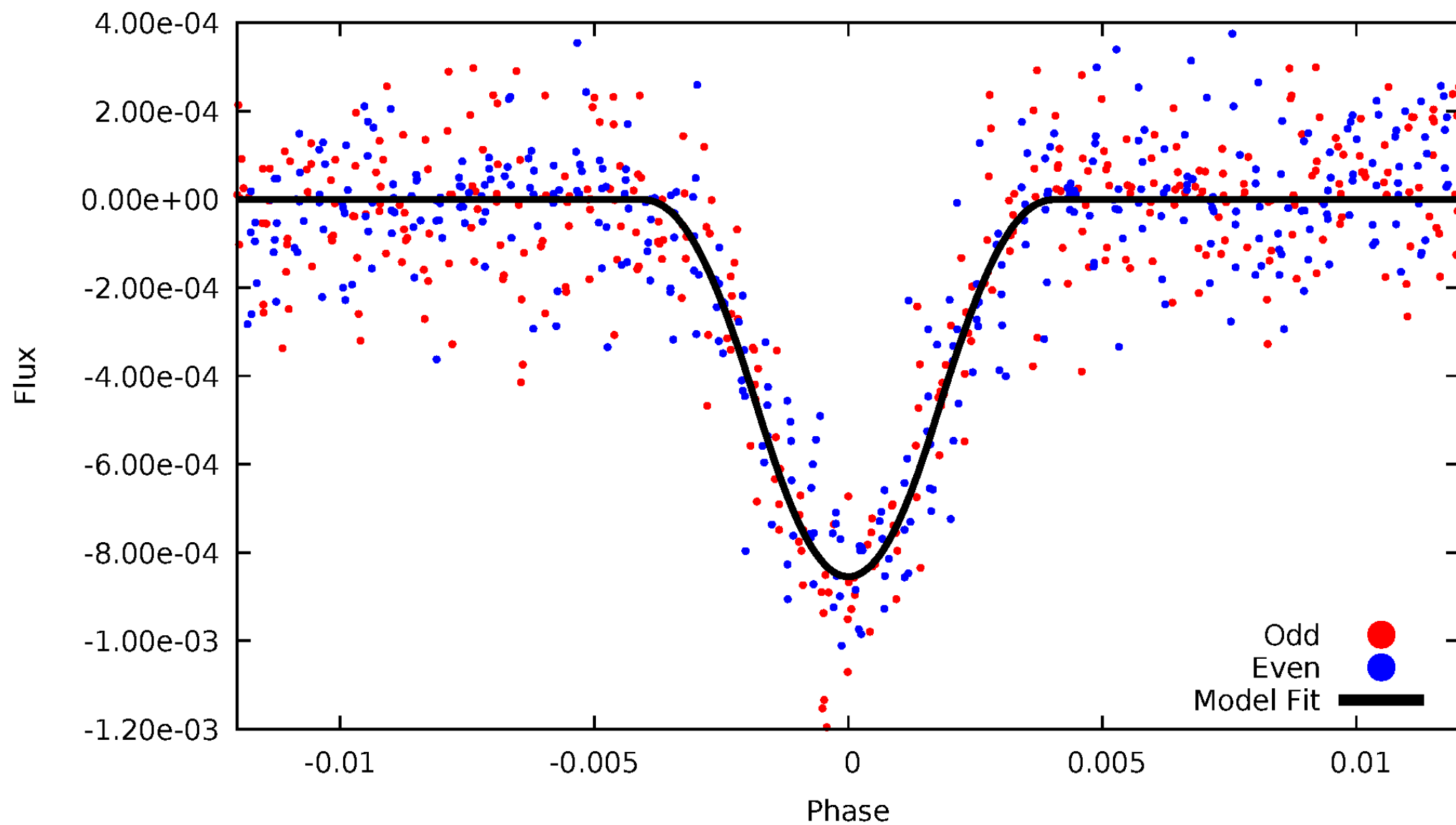


# TCE 011911561-01



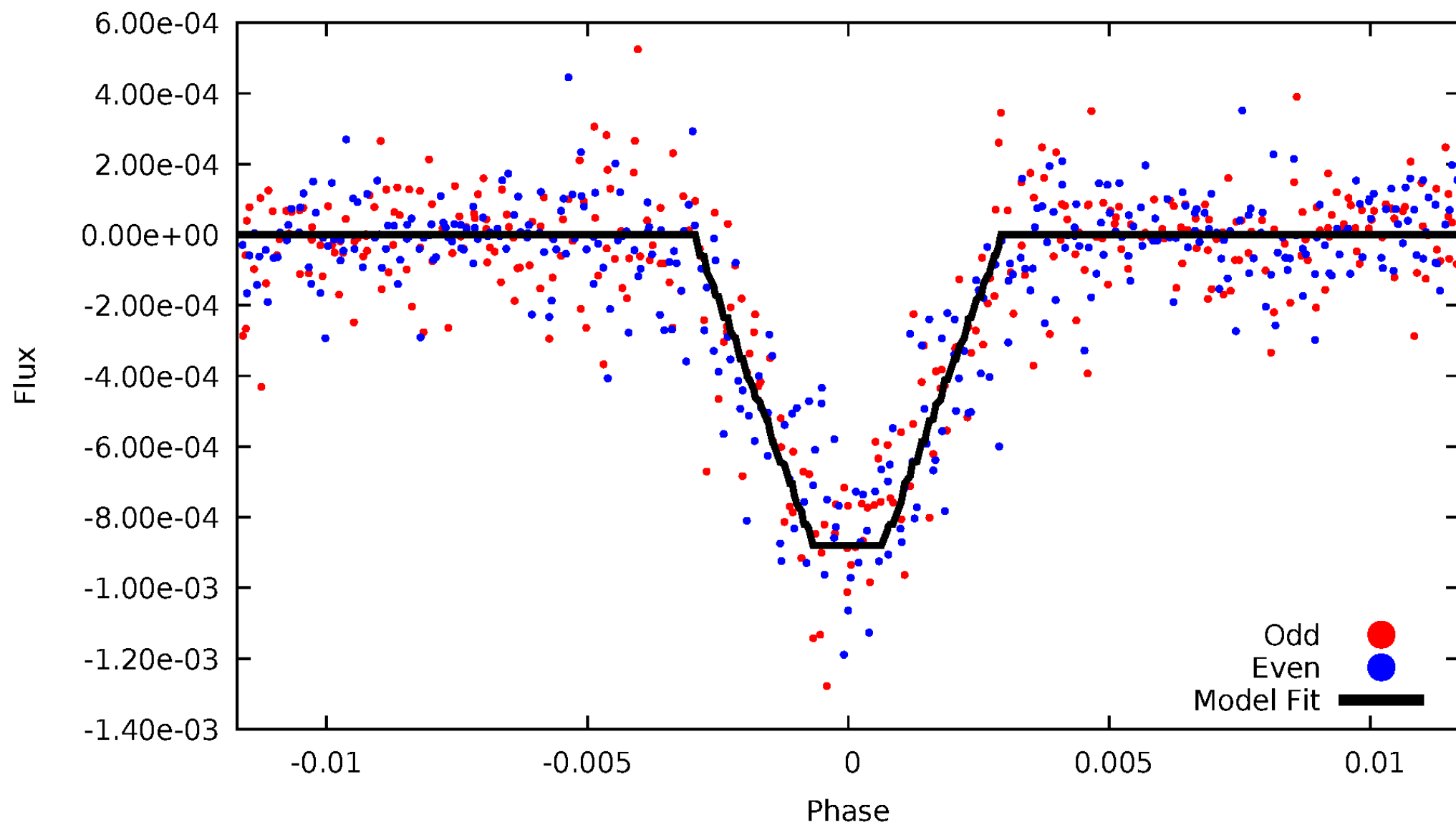
# DV Odd/Even

TCE 011911561-01



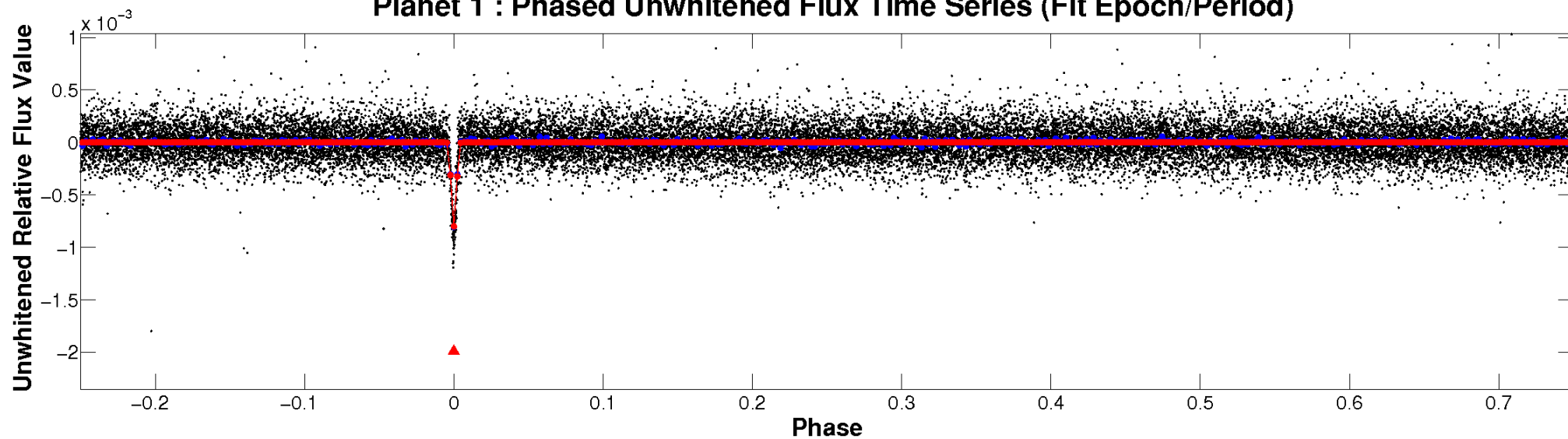
# ALT Odd/Even

TCE 011911561-01

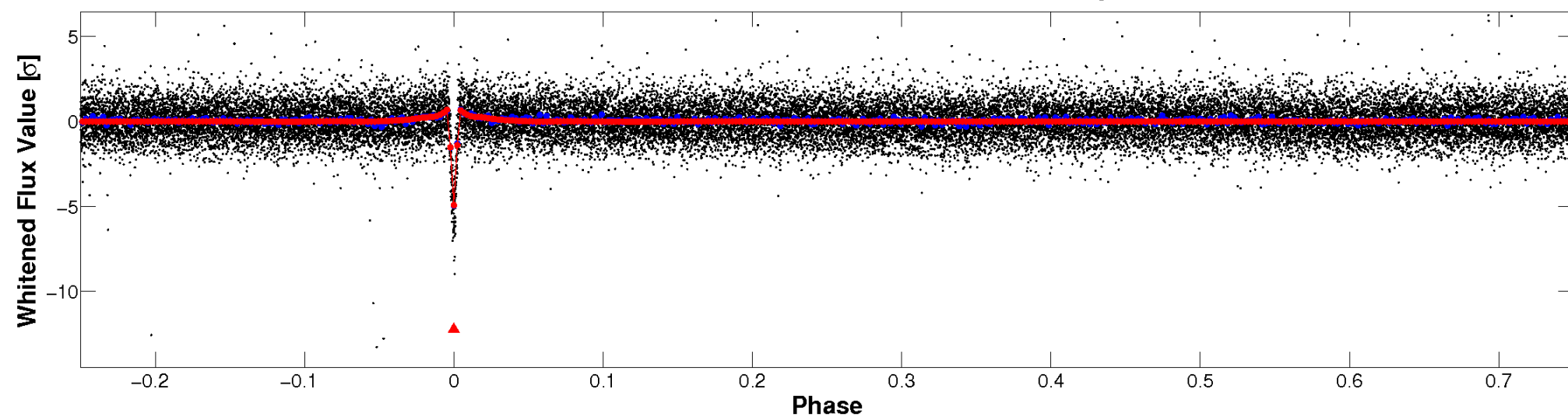


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**



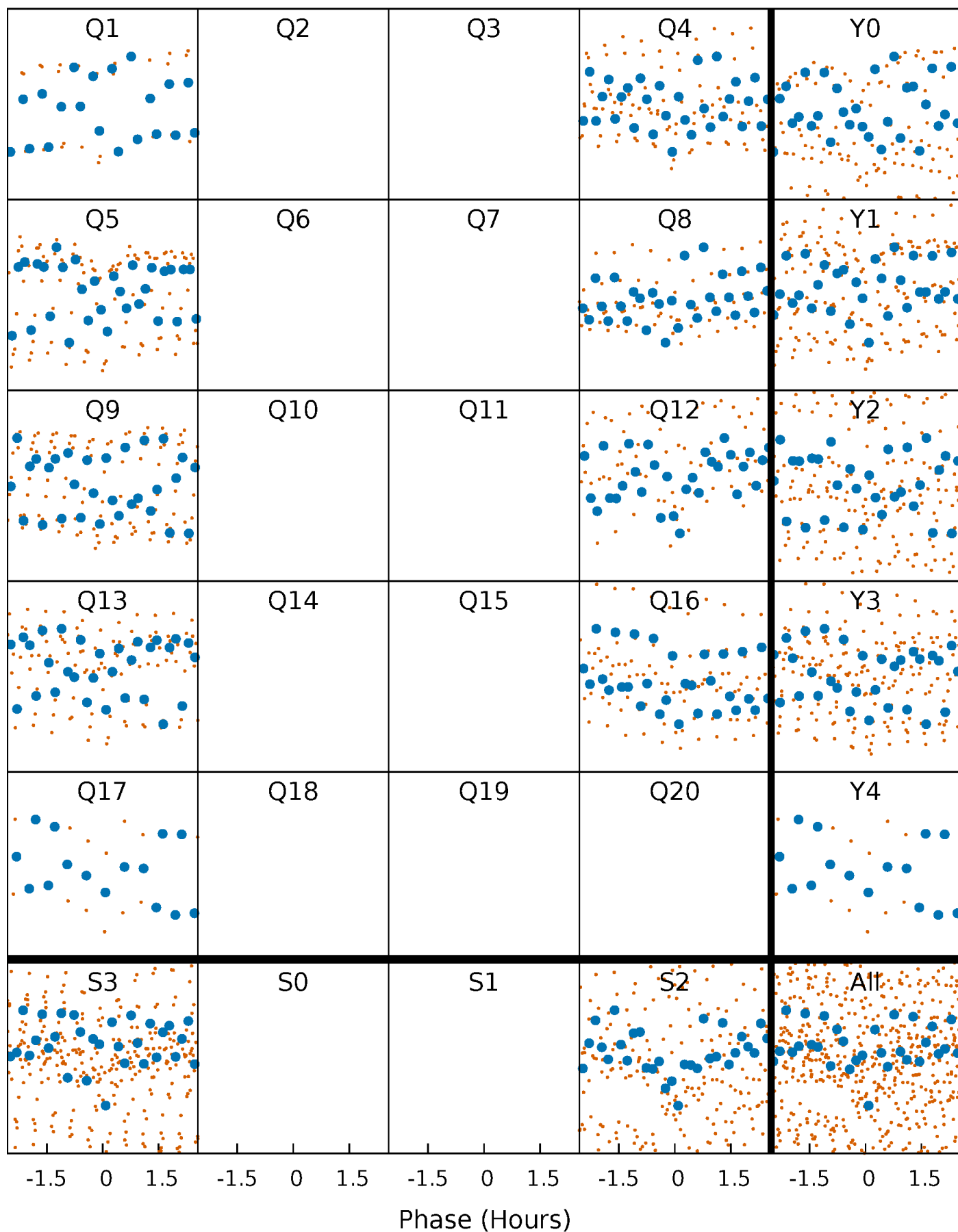
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

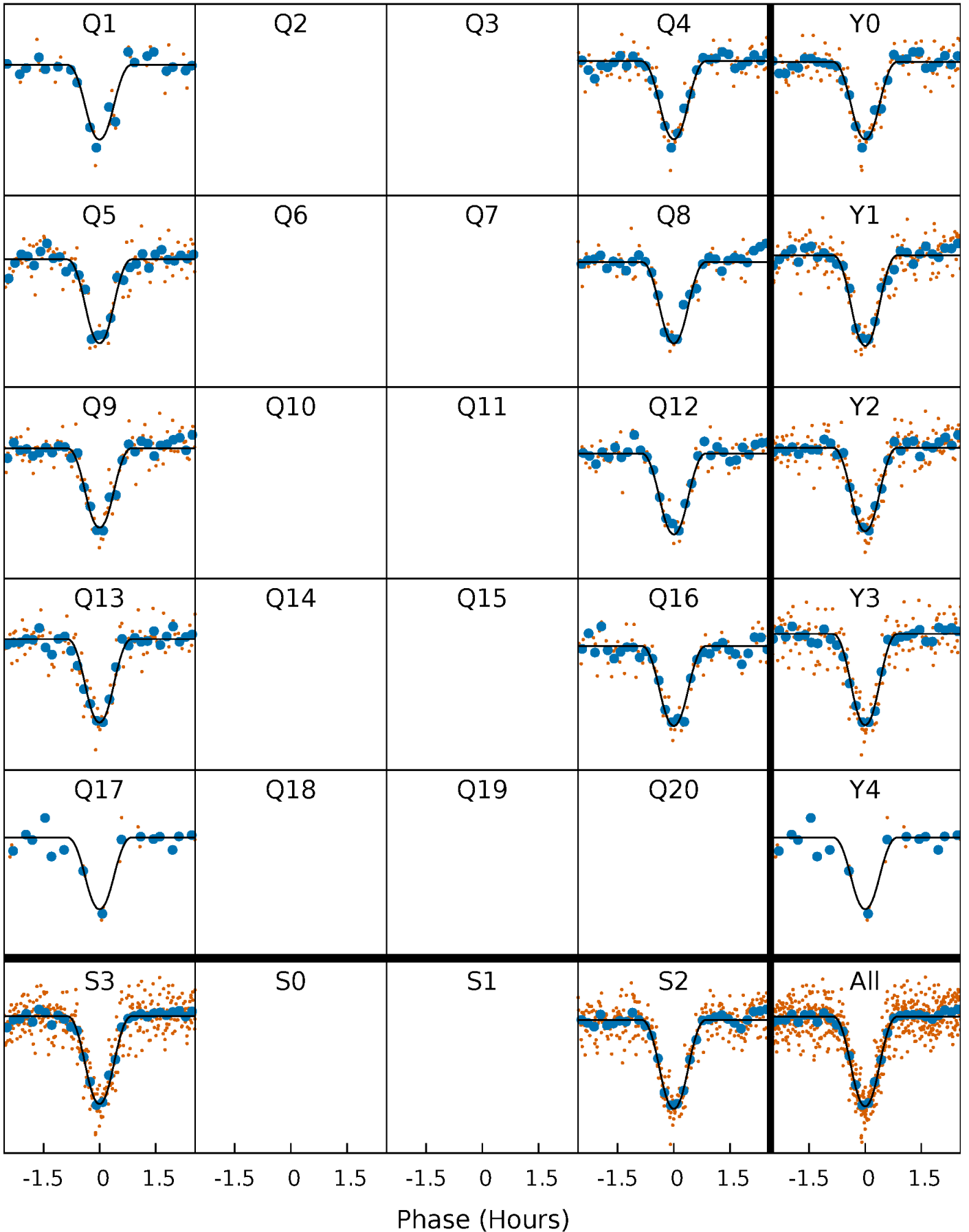
TCE 011911561-01 P= 8.870413 Days  $T_0=137.481438$  (BKJD)





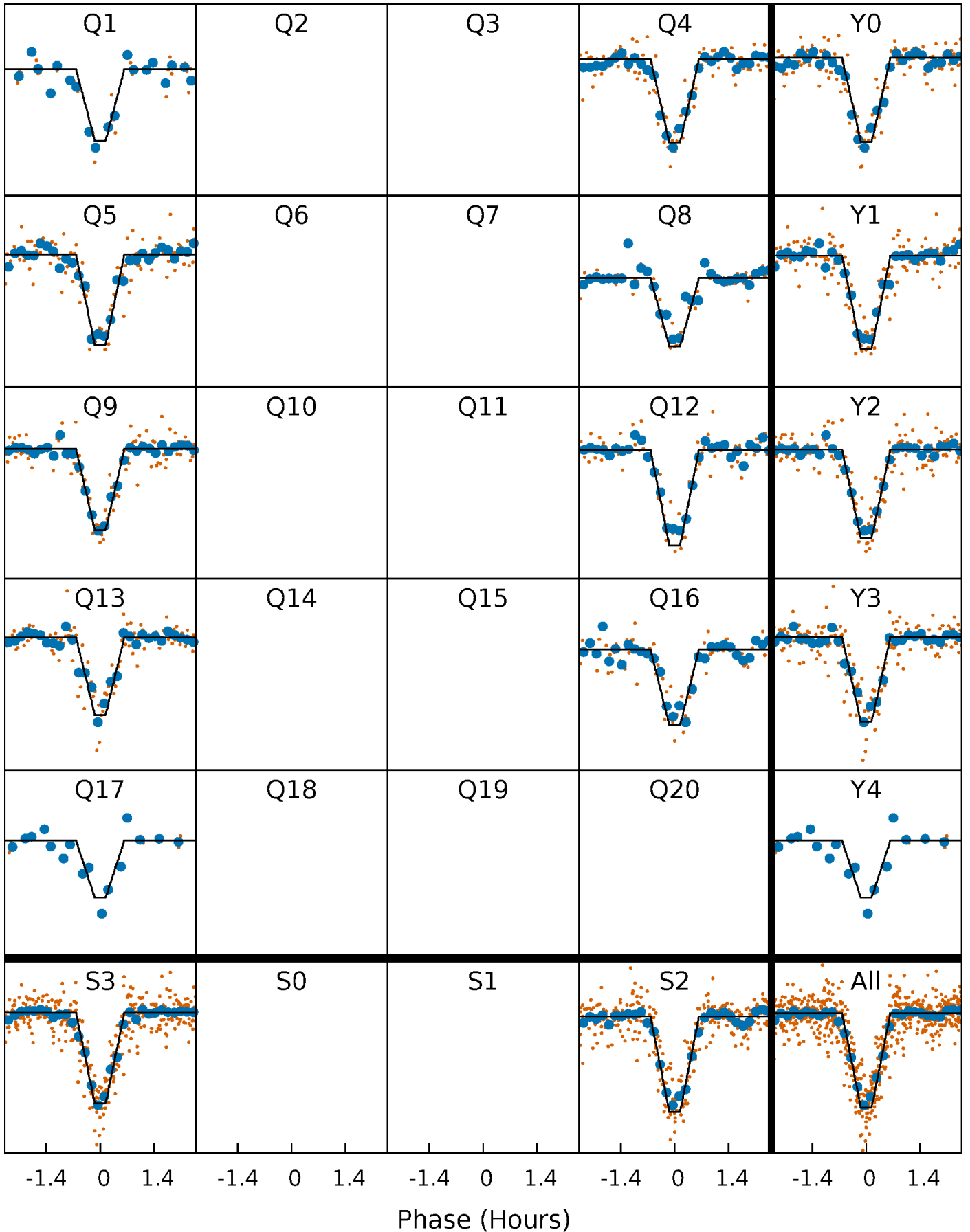
# DV Quarter-Phased Transit Curves

TCE 011911561-01 P= 8.870413 Days  $T_0=137.481438$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

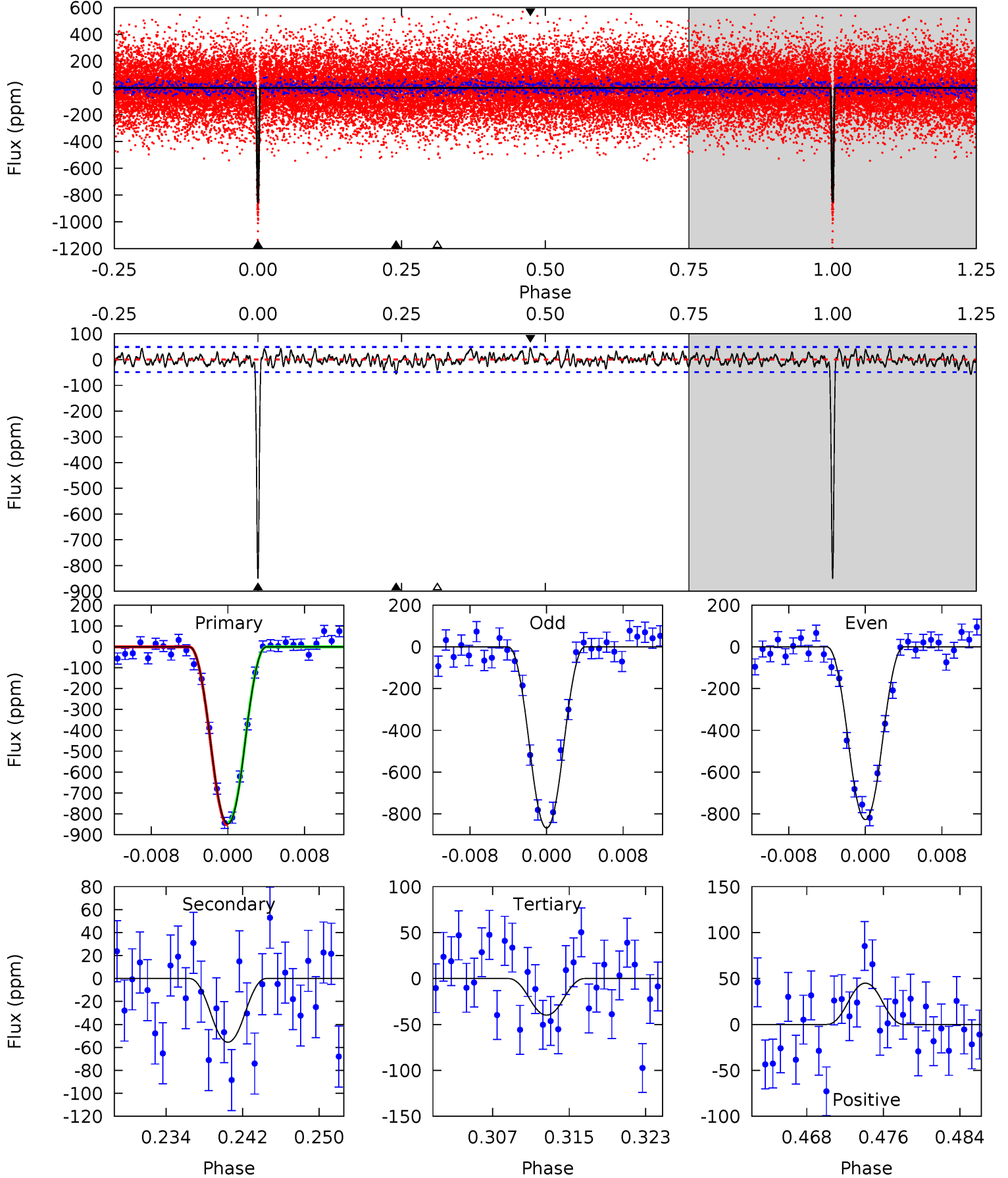
TCE 011911561-01 P= 8.870396 Days  $T_0=137.482910$  (BKJD)



# DV Model-Shift Uniqueness Test

011911561-01, P = 8.870413 Days, E = 128.611025 Days

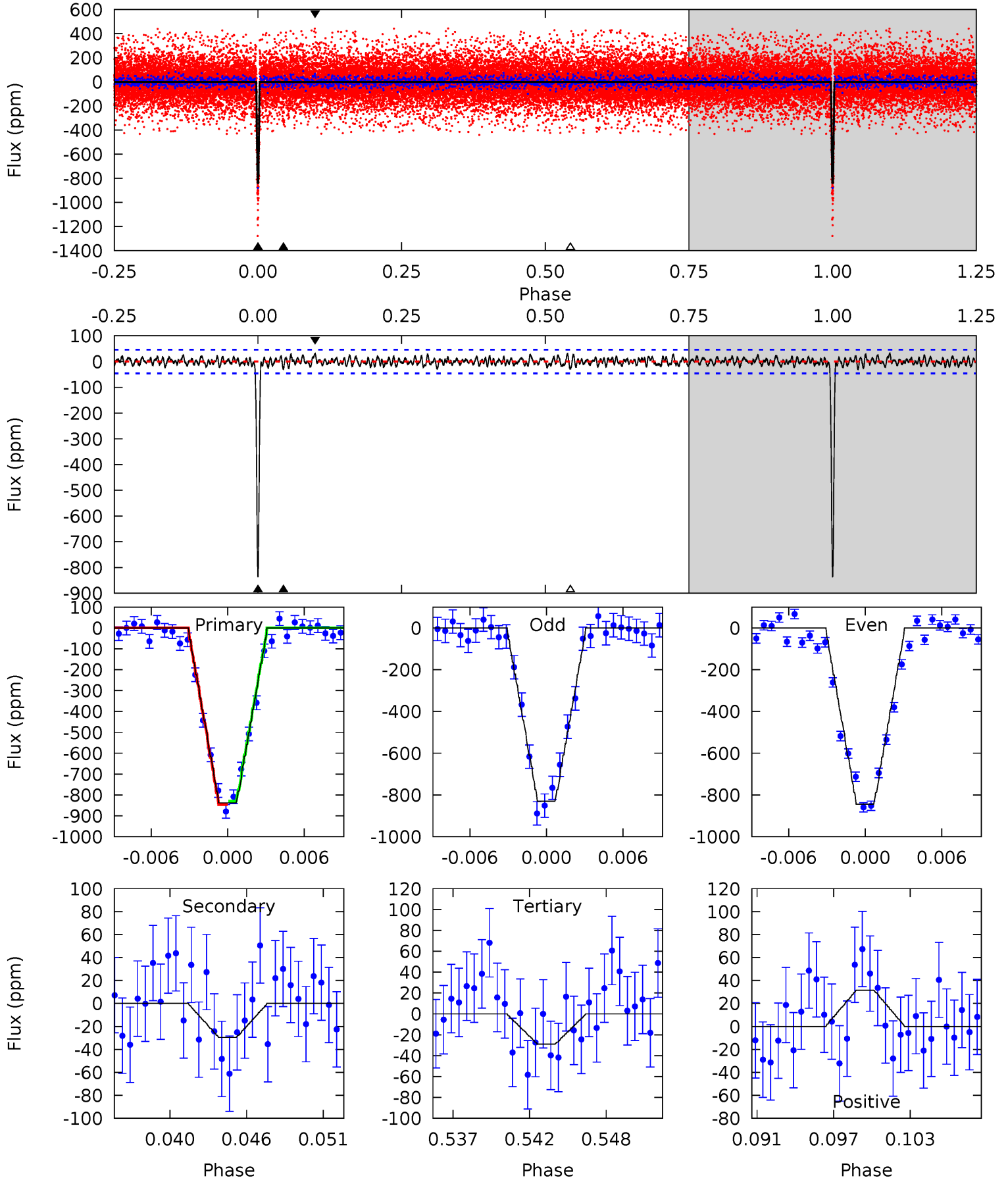
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
88.6	5.80	4.17	4.69	5.07	2.65	1.60	84.4	83.9	1.63	1.11	2.11	1.00	0.05	0.62



# Alt Model-Shift Uniqueness Test

011911561-01, P = 8.870396 Days, E = 128.612514 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
93.2	3.29	3.23	3.51	5.13	2.76	1.19	90.0	89.7	0.07	-0.22	0.76	1.02	0.04	0.93



### Stellar Parameters For KIC 011911561

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6022^{+200}_{-181}$	$4.027^{+0.434}_{-0.186}$	$-0.620^{+0.300}_{-0.250}$	$1.514^{+0.426}_{-0.640}$	$0.888^{+0.119}_{-0.089}$	$0.361^{+1.406}_{-0.184}$
	+3%/-3%	+11%/-5%	+48%/-40%	+28%/-42%	+13%/-10%	+390%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 011911561-01 / KOI 3875.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-56 \pm 10$	$6.14^{+4.39}_{-3.00}$	$1595^{+147}_{-179}$	$3169^{+774}_{-424}$	$5.346^{+14.435}_{-3.514}$
Alt.	$-30 \pm 9$	$5.00^{+3.81}_{-3.16}$	$1582^{+155}_{-189}$	$3070^{+1125}_{-459}$	$4.328^{+27.194}_{-3.015}$

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

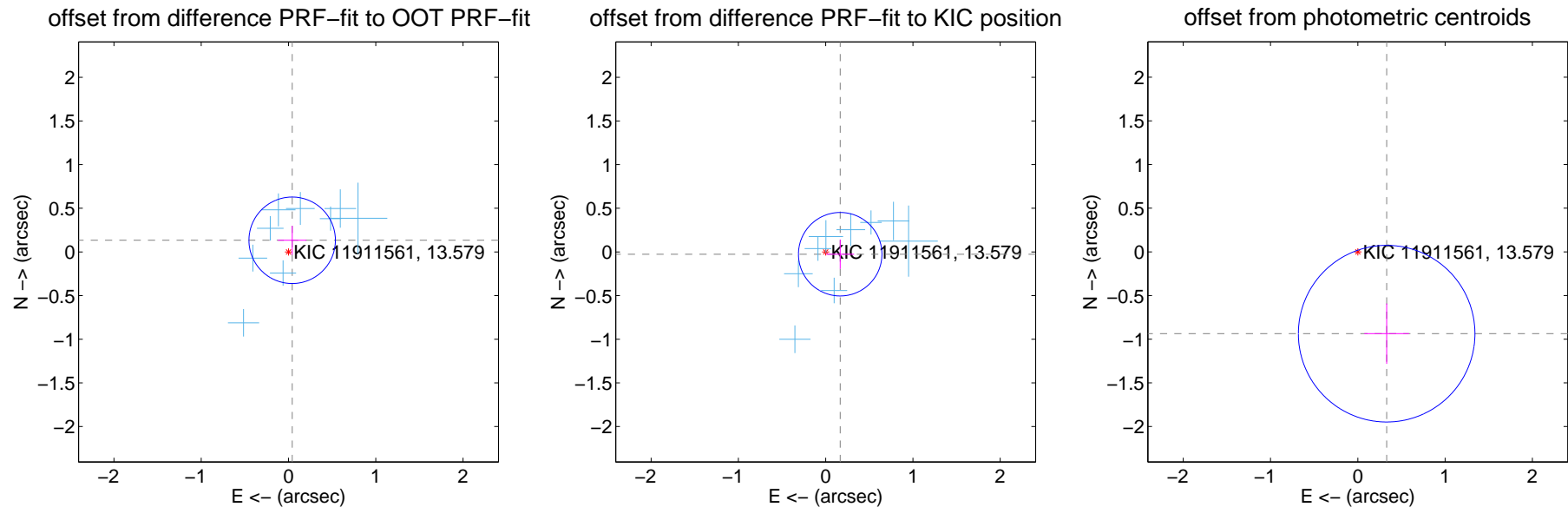
## DV Centroid Data

Supplemental centroid analysis for 011911561-01. Kepler magnitude: 13.58. Transit SNR 48.76

There are 9 quarters with good PRF difference image offsets

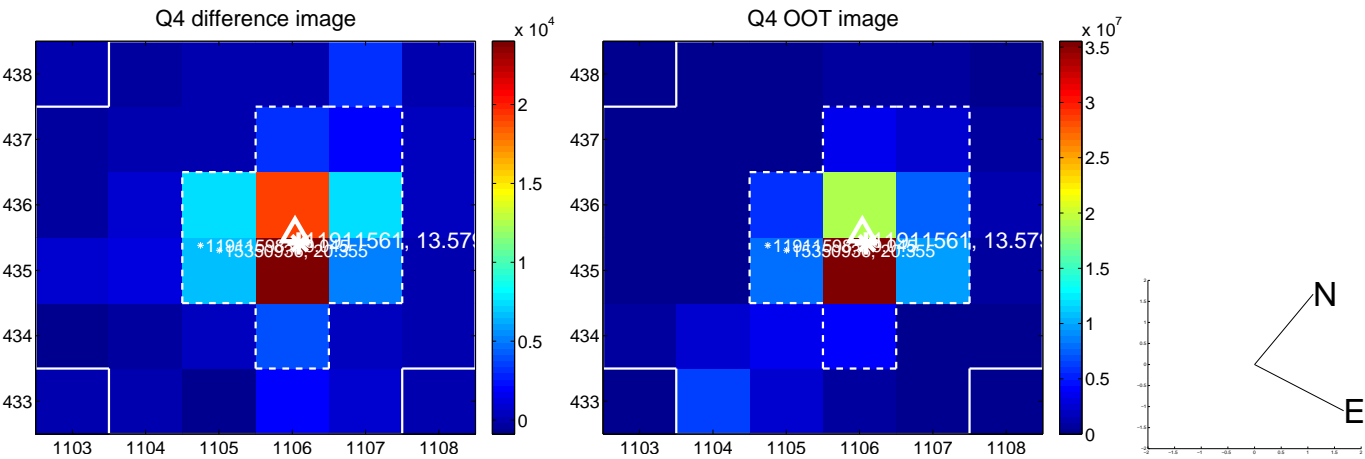
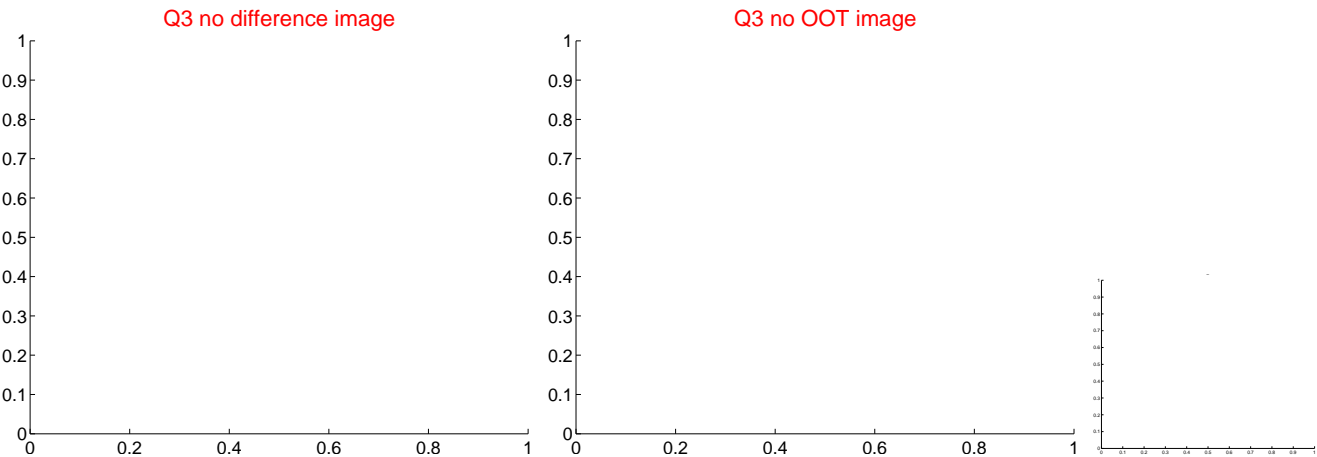
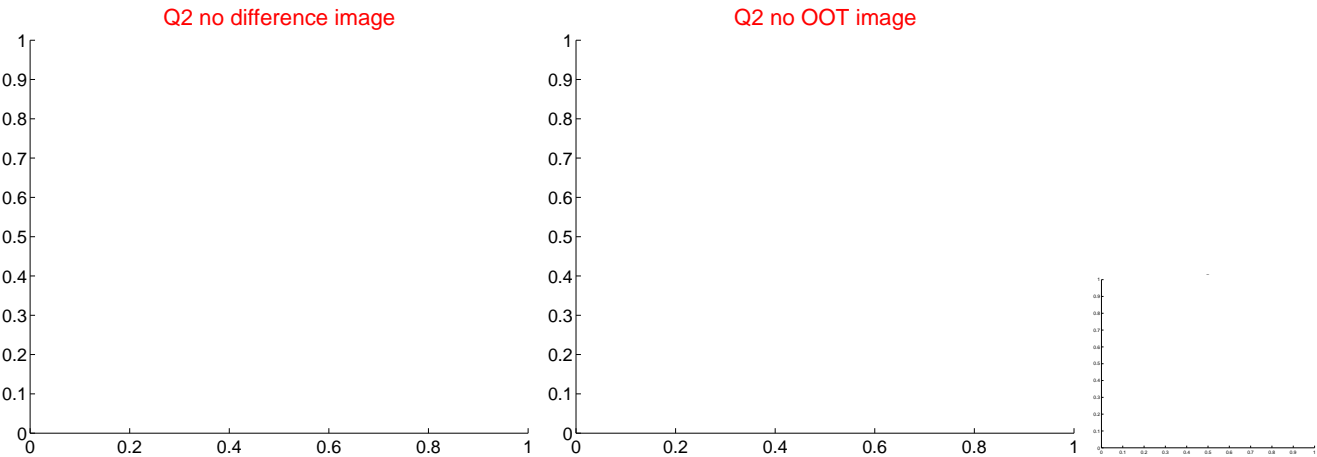
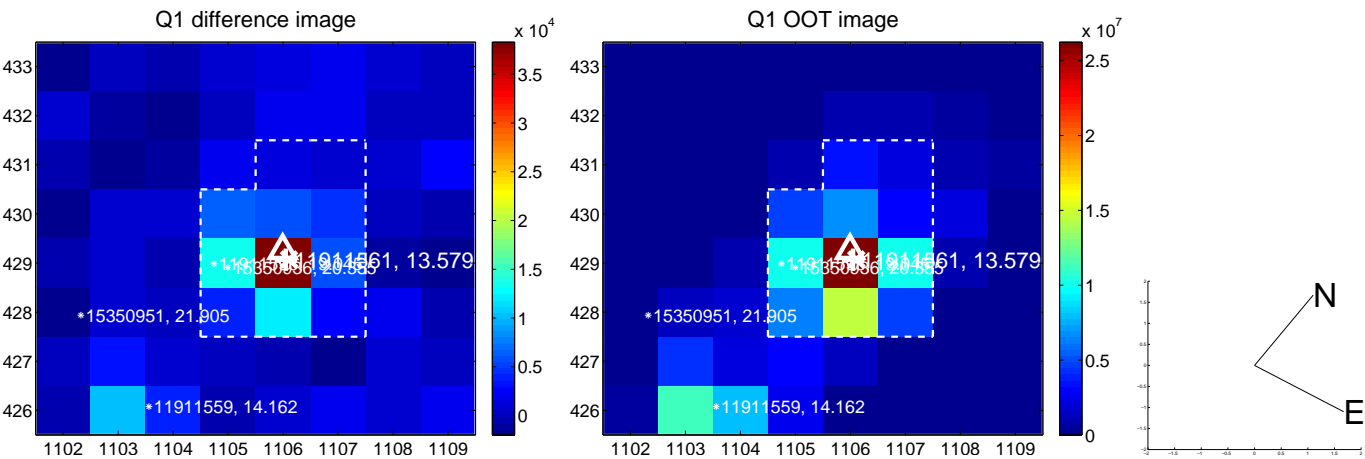
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.140 \pm 0.165$	0.85	$-0.042 \pm 0.164$	$0.133 \pm 0.165$
PRF-fit source offset from KIC position	$0.169 \pm 0.159$	1.06	$-0.167 \pm 0.159$	$-0.026 \pm 0.168$
photometric centroid source offset	$0.99 \pm 0.34$	2.95	$-0.33 \pm 0.26$	$-0.94 \pm 0.35$



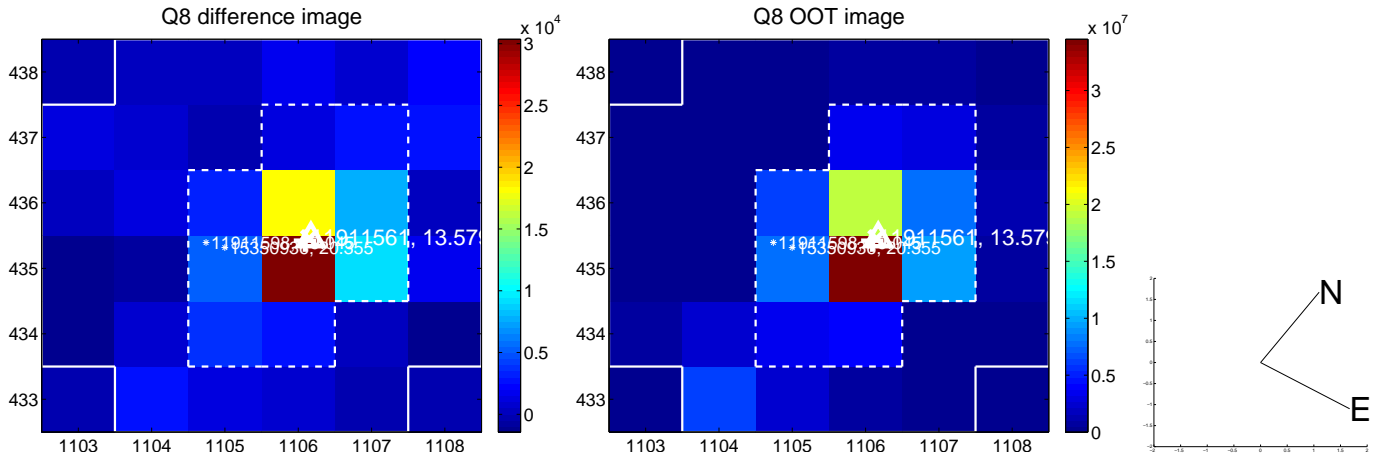
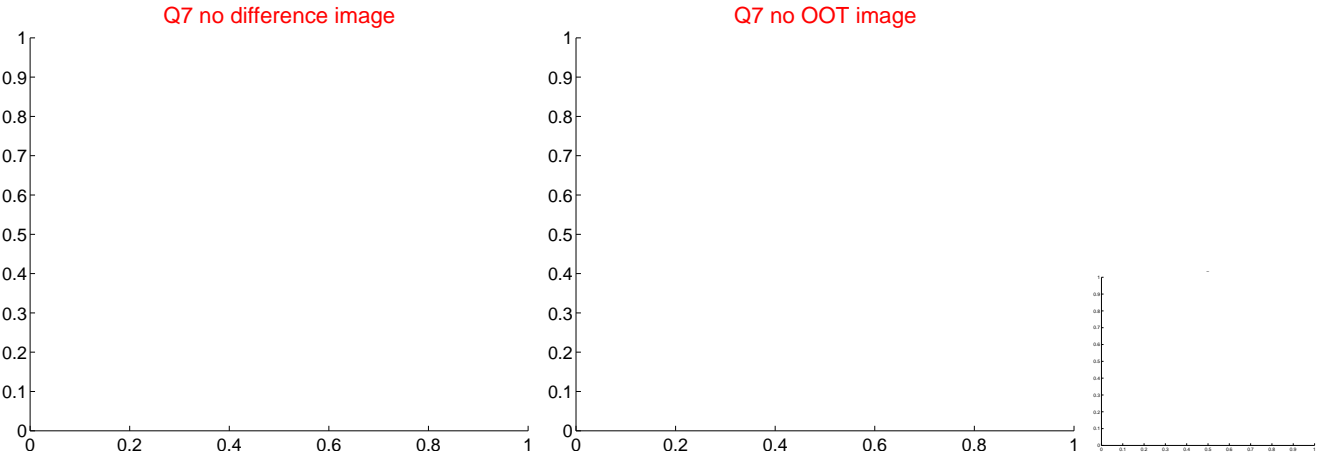
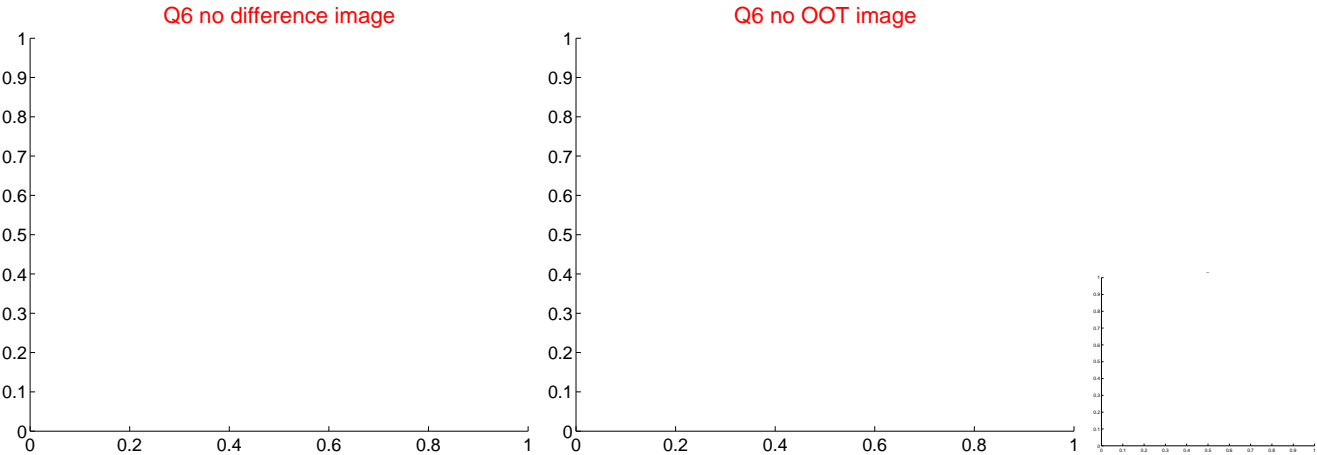
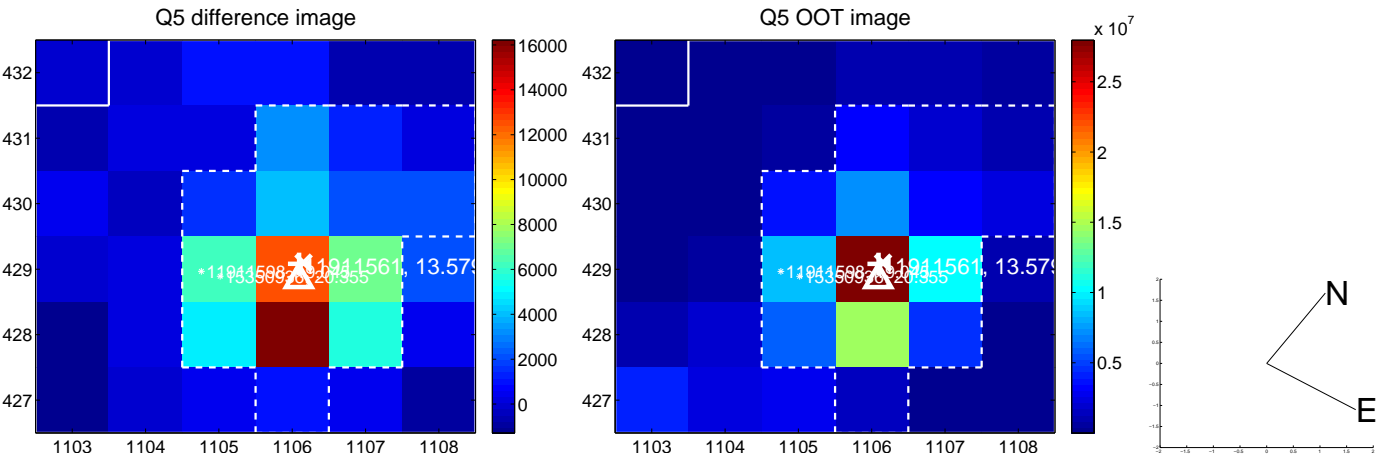
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

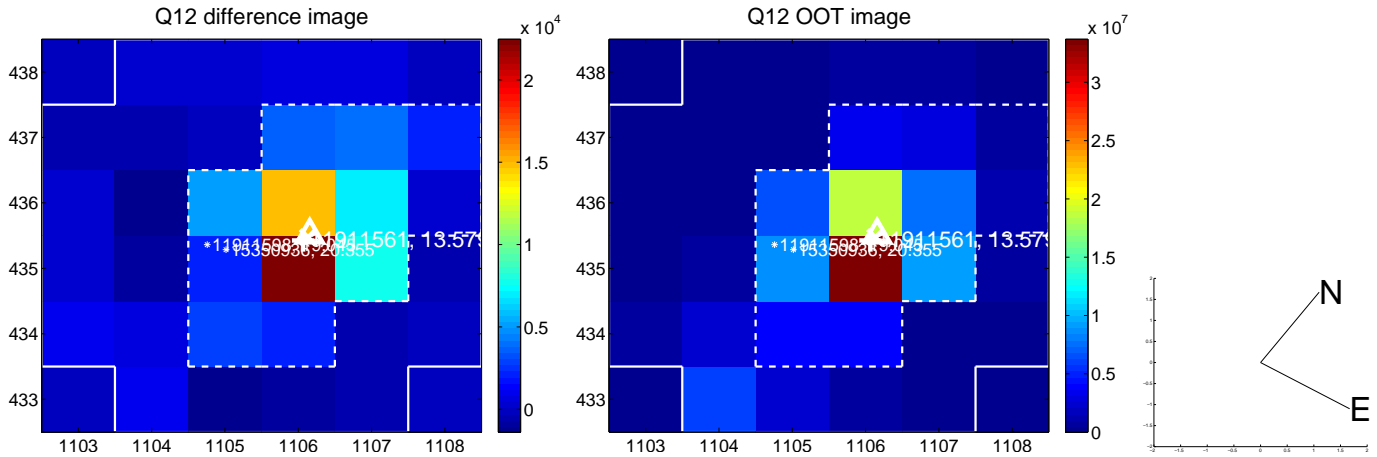
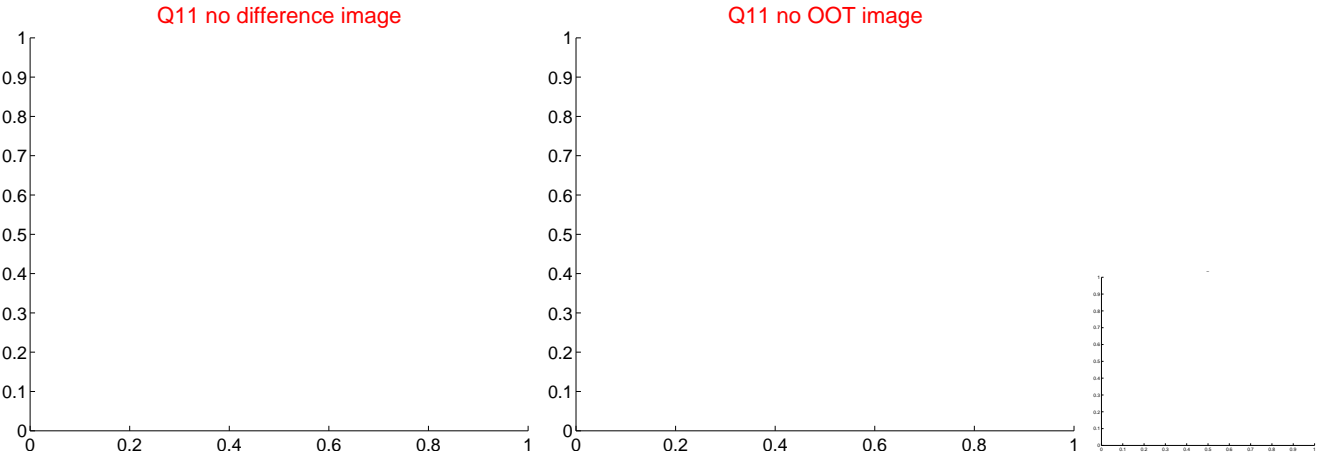
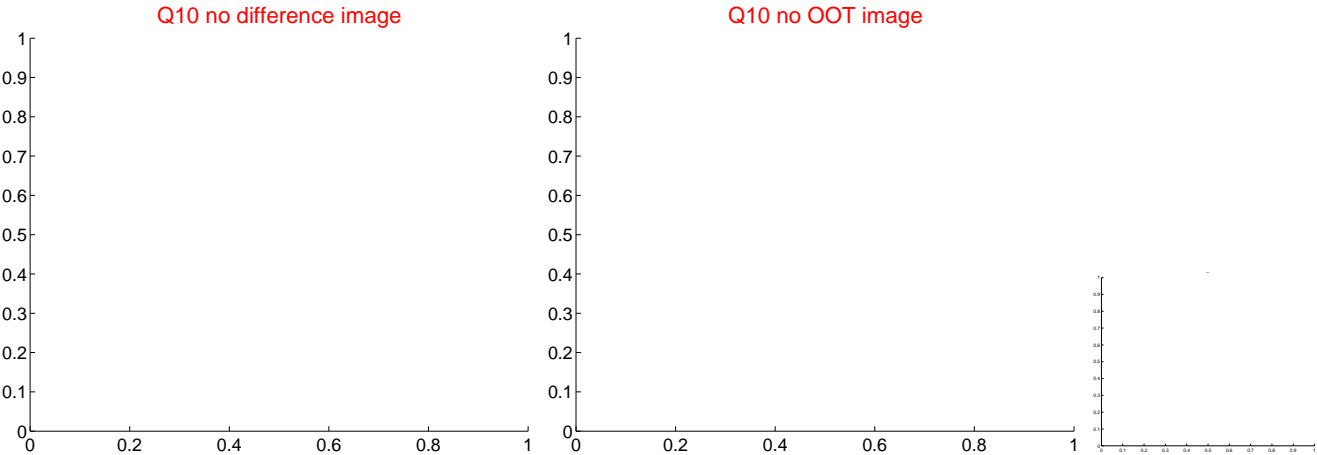
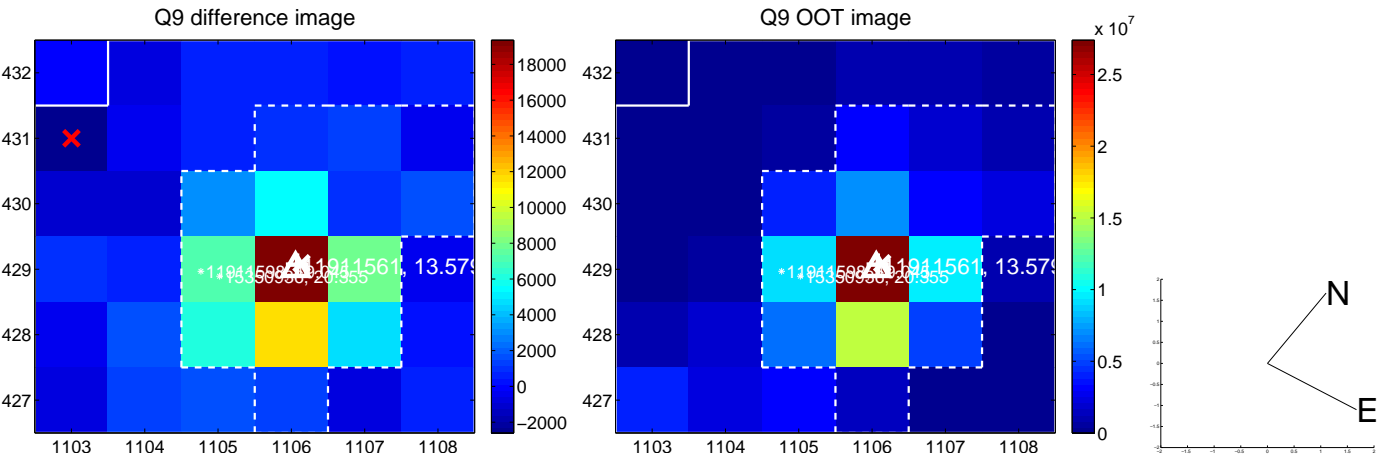




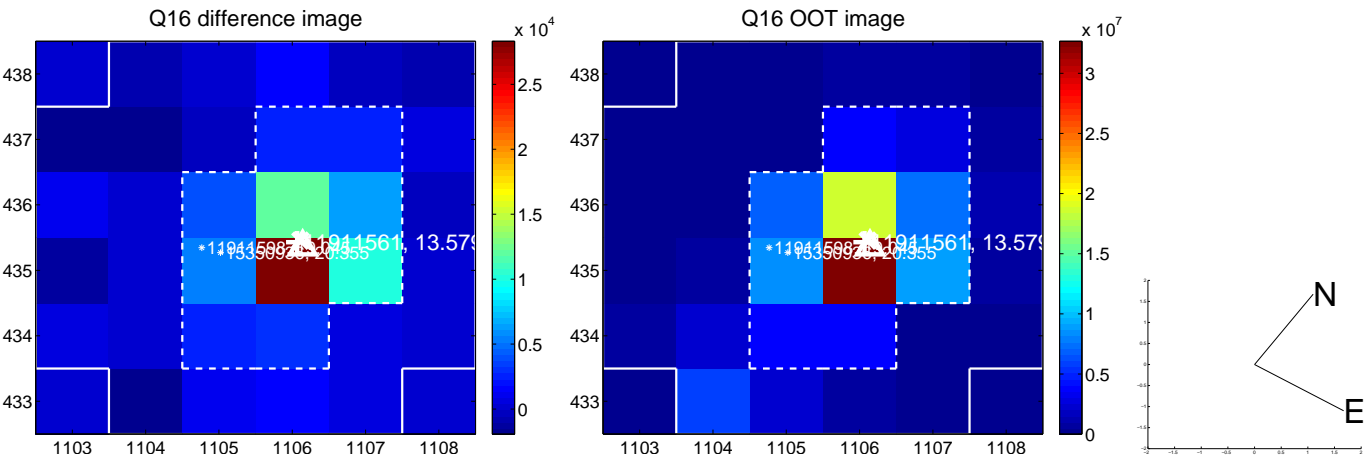
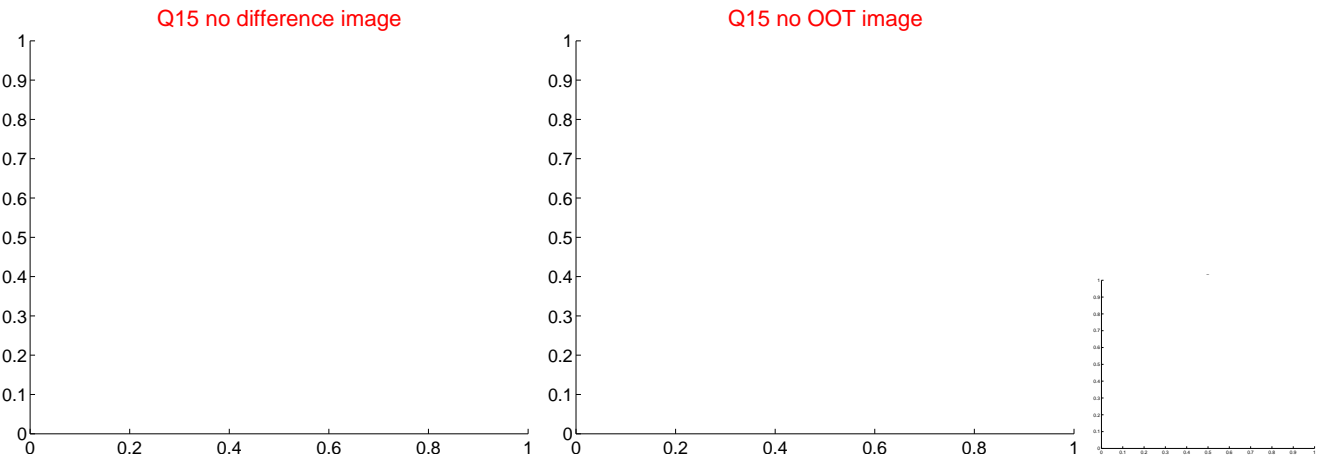
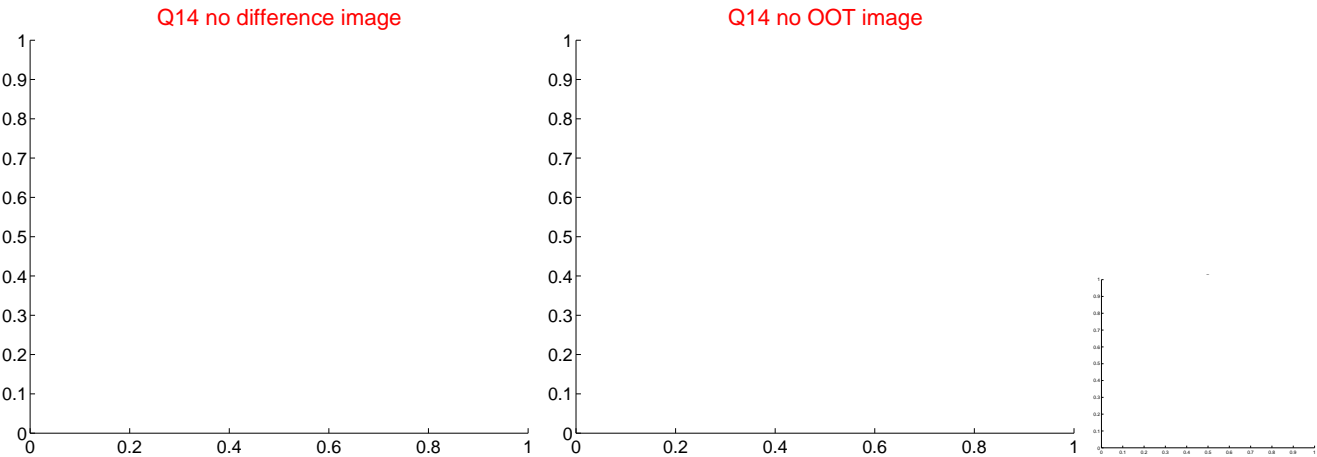
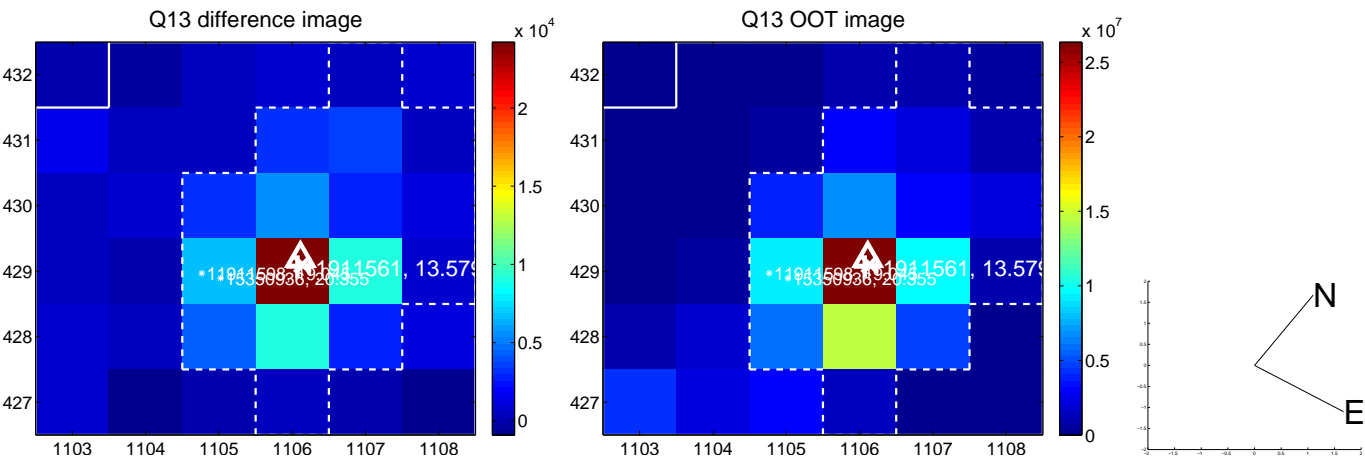
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



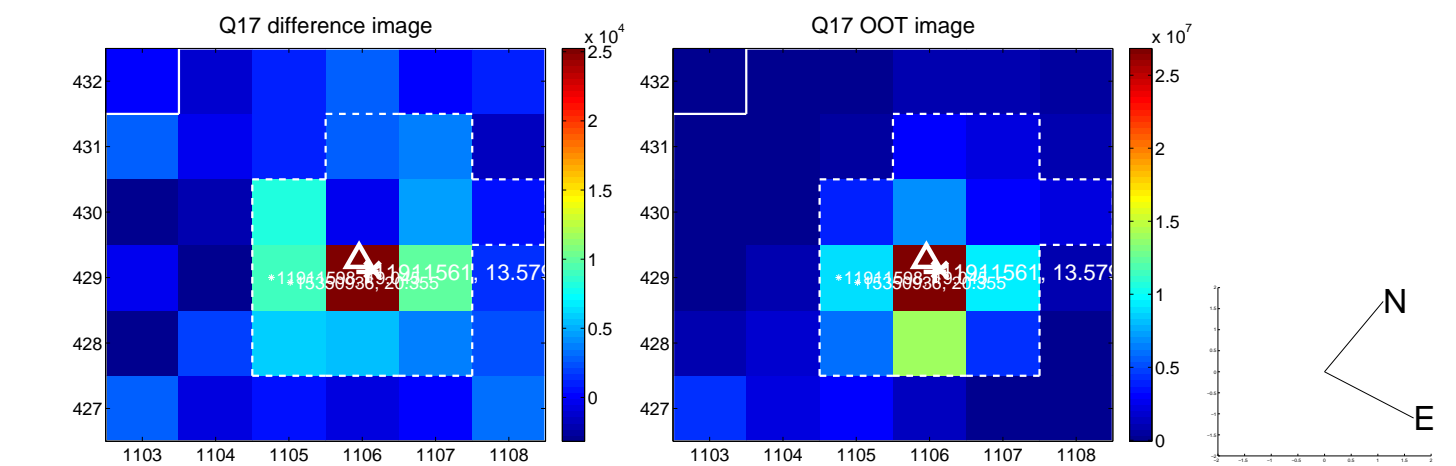
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



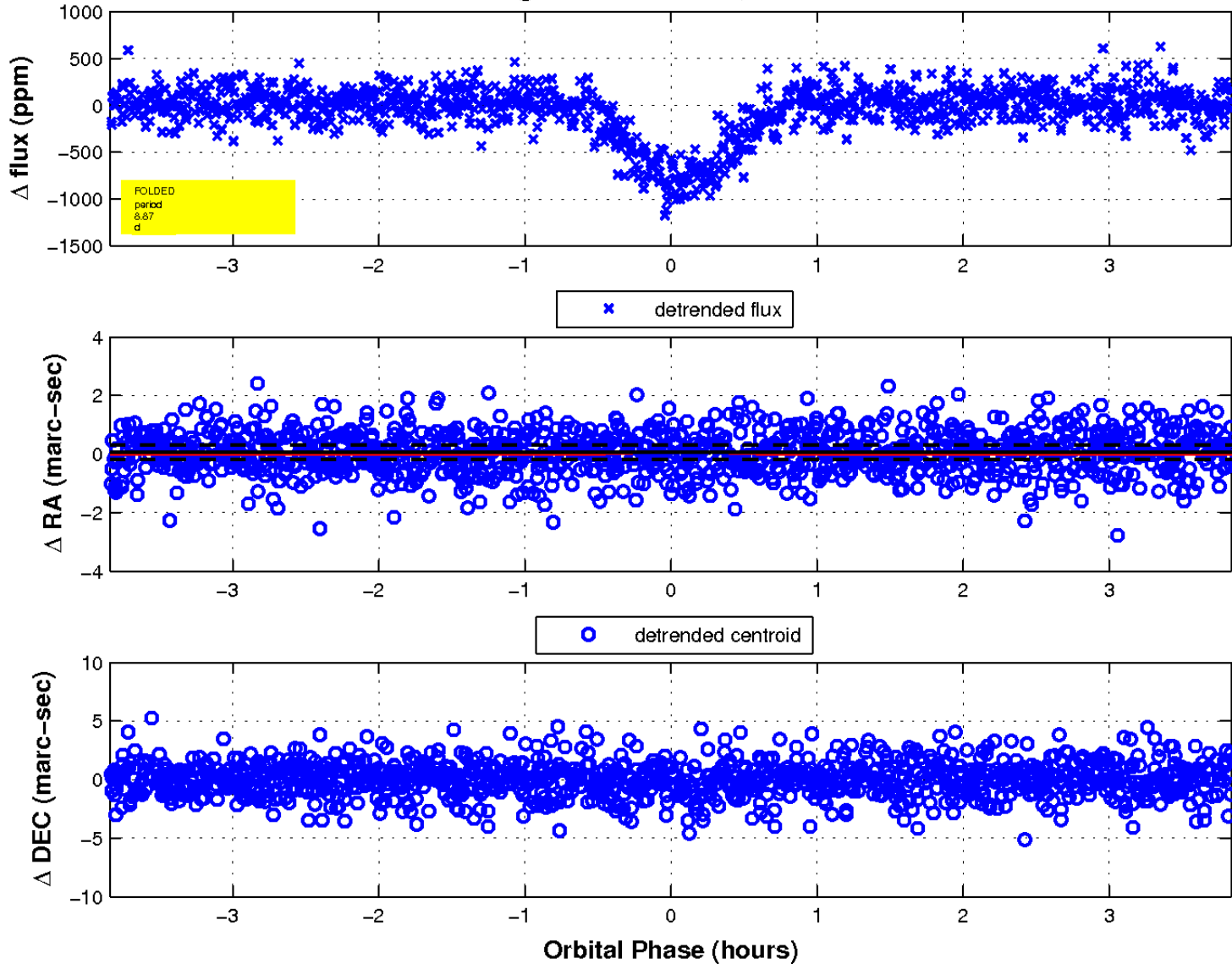
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

