

# KIC 011922290

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011922290-01	OBS	8070.01	114.661574	237.231841	292.6	2.743	7.2	7.4	0.71	5412	1.39	2.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011922290-01	OBS	FP	0.04	1	0	0	0	INDIV_TRANS_SKYE—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.

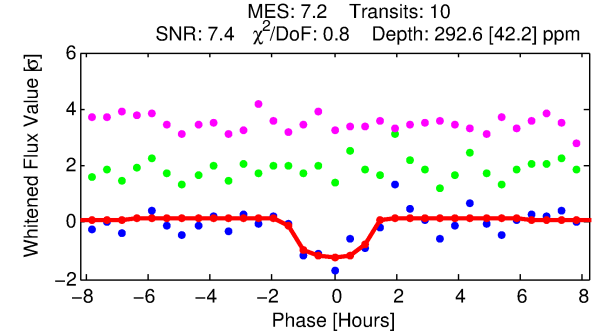
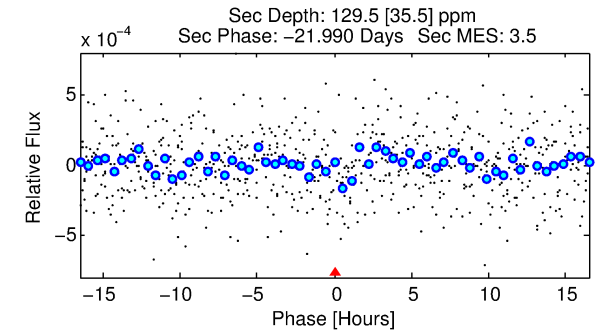
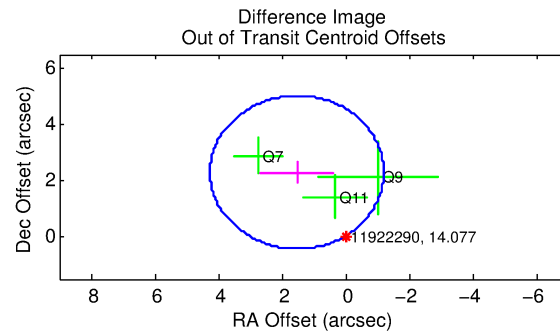
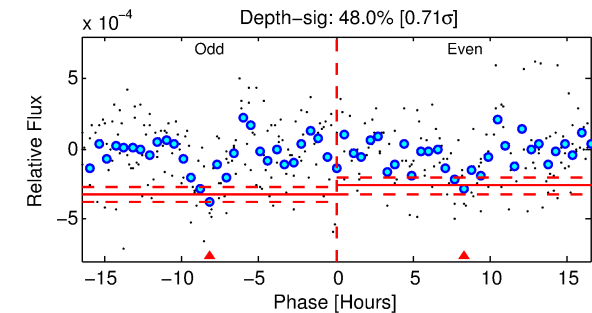
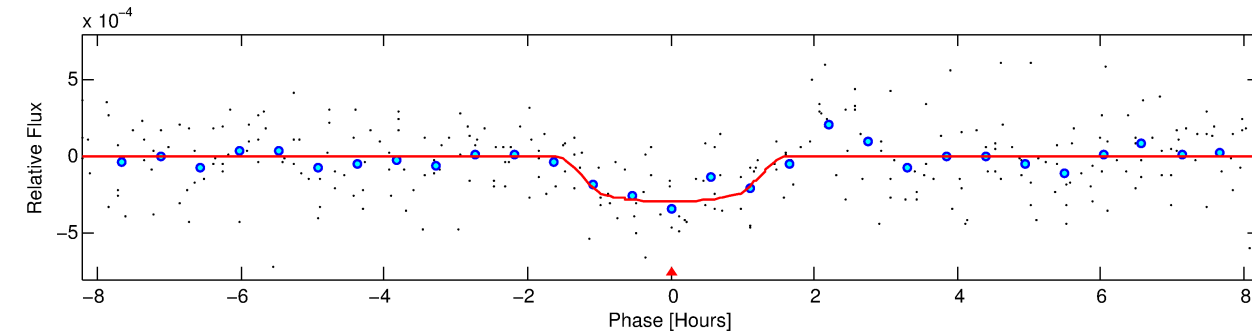
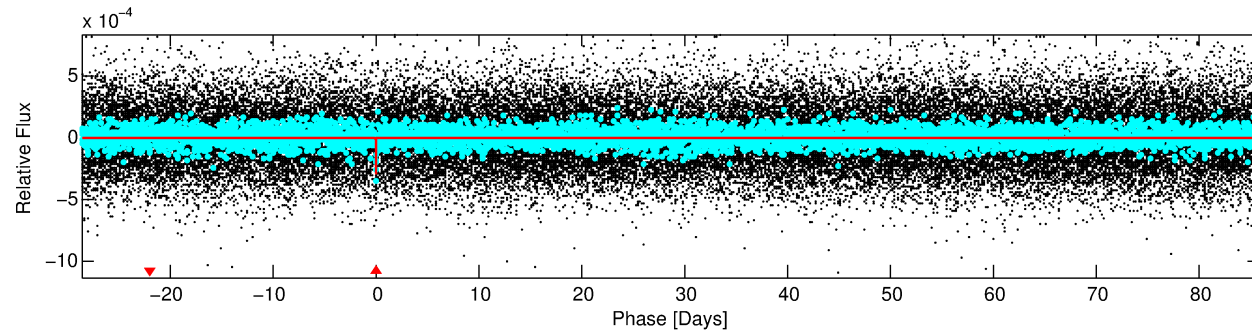
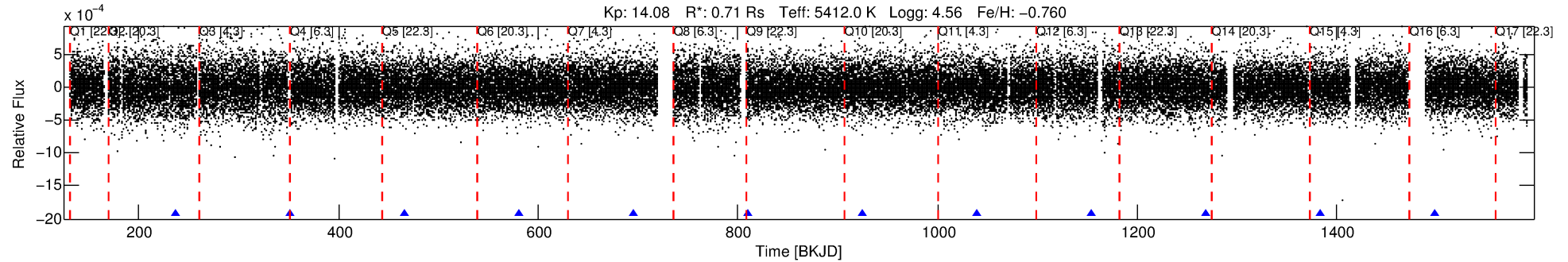
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011922290-01

No Significant Match Found

# DV One-Page Summary

KIC: 11922290 Candidate: 1 of 1 Period: 114.662 d



## DV Fit Results:

Period = 114.66157 [0.00133] d  
Epoch = 237.2318 [0.0095] BKJD  
Rp/R\* = 0.0179 [0.0294]  
a/R\* = 179.84 [1365.61]  
b = 0.85 [2.56]  
Seff = 2.37 [0.47]  
Teq = 317 [16] K  
Rp = 1.39 [2.29] Re  
a = 0.4052 [0.0418] AU  
Ag = 6068.60 [20052.58] [0.30 $\sigma$ ]  
Teffp = 4319 [3566] K [1.12 $\sigma$ ]

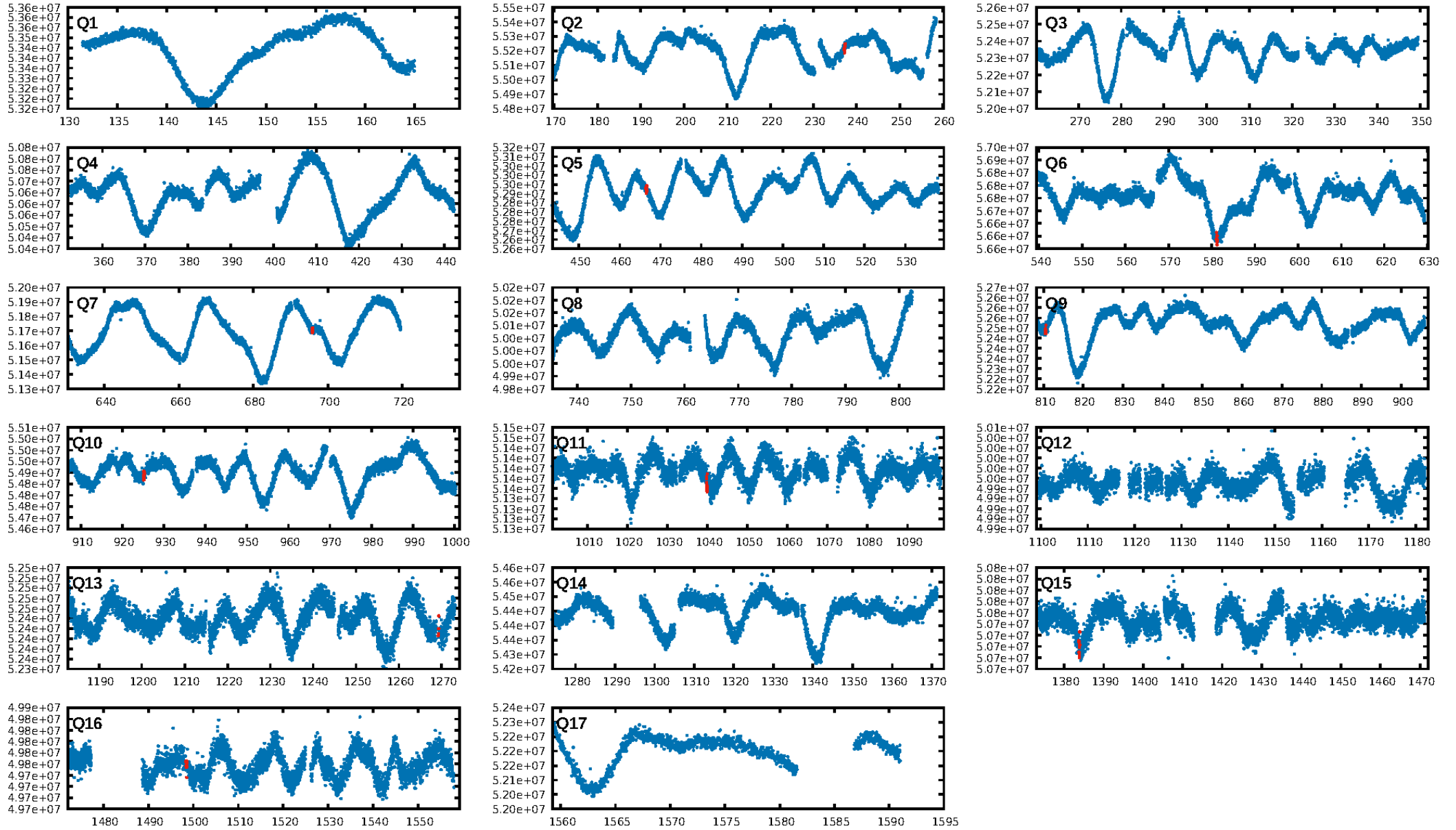
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 89.3%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 8.45e-12**  
RollingBand-fgt: 1.00 [10/10]  
**GhostDiagnostic-chr: 0.9972**  
Centroid-sig: 53.6%  
Centroid-so: 1.486 arcsec [0.75 $\sigma$ ]  
**OotOffset-rm: 2.760 arcsec [3.03 $\sigma$ ]**  
**KicOffset-rm: 2.753 arcsec [3.48 $\sigma$ ]**  
OotOffset-st: 0/2/0/1 [3]  
KicOffset-st: 0/2/0/1 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [8/8]

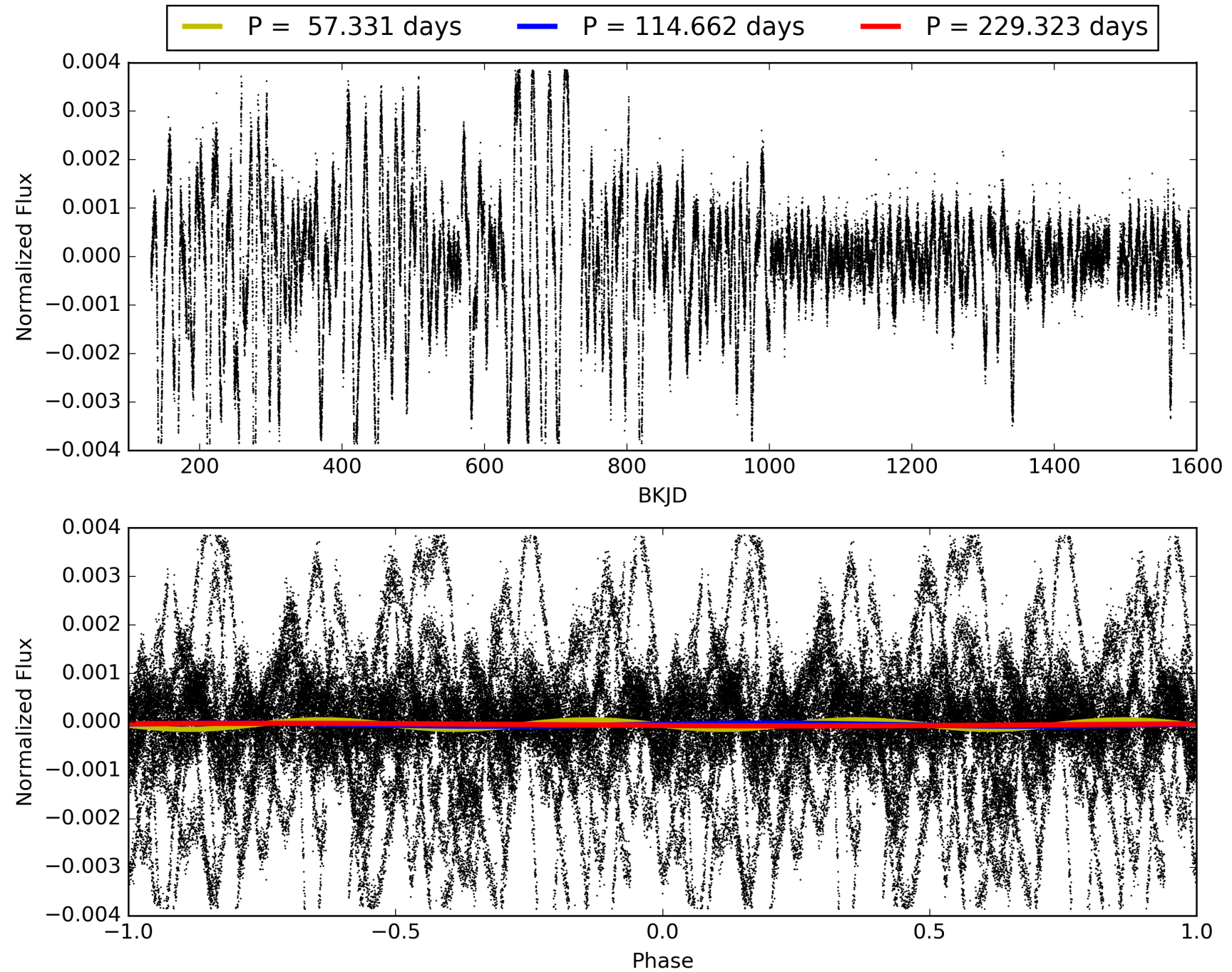
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 18:51:23 Z

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

# TCE 011922290-01, PDC Light Curves

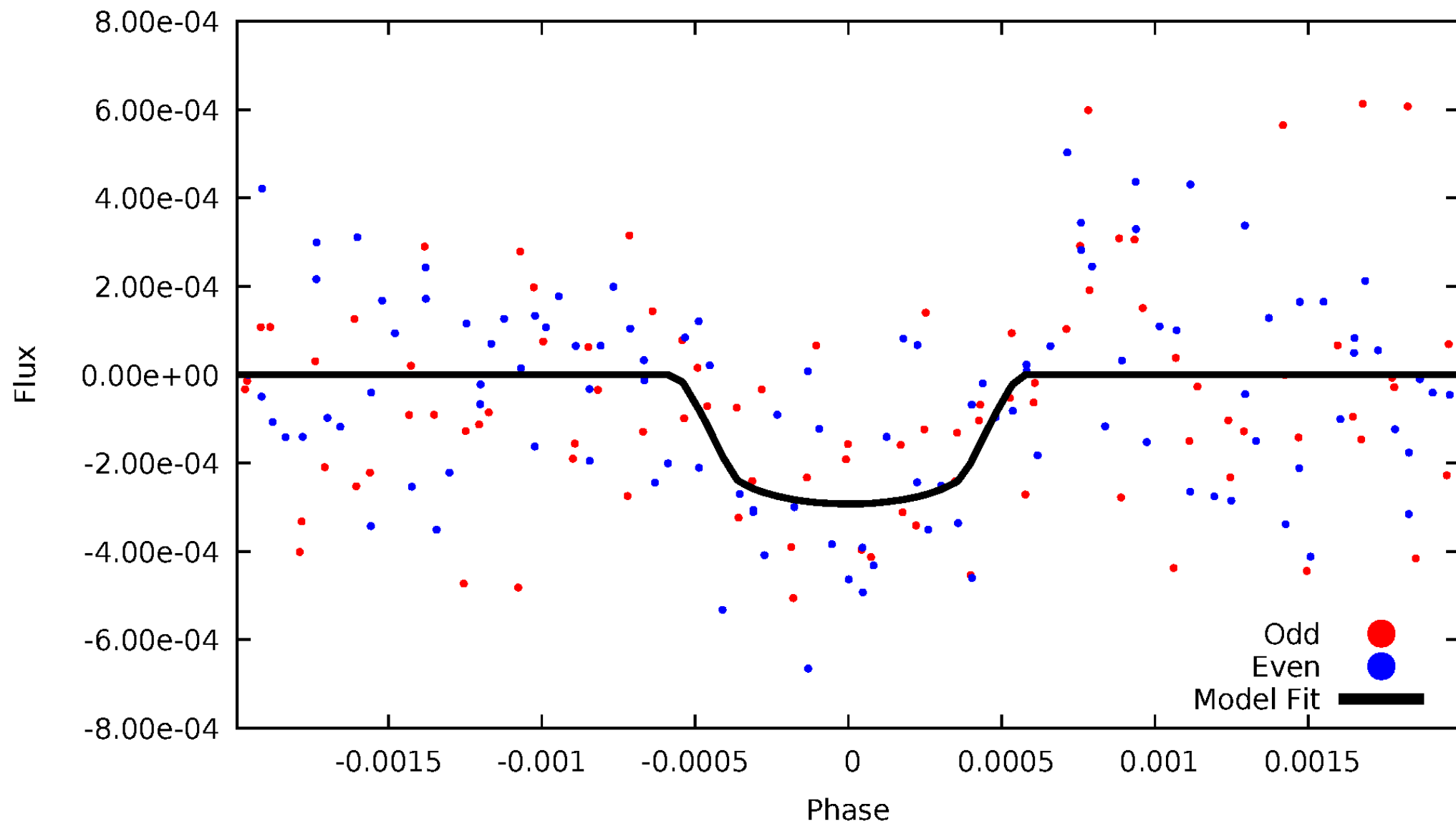


# TCE 011922290-01



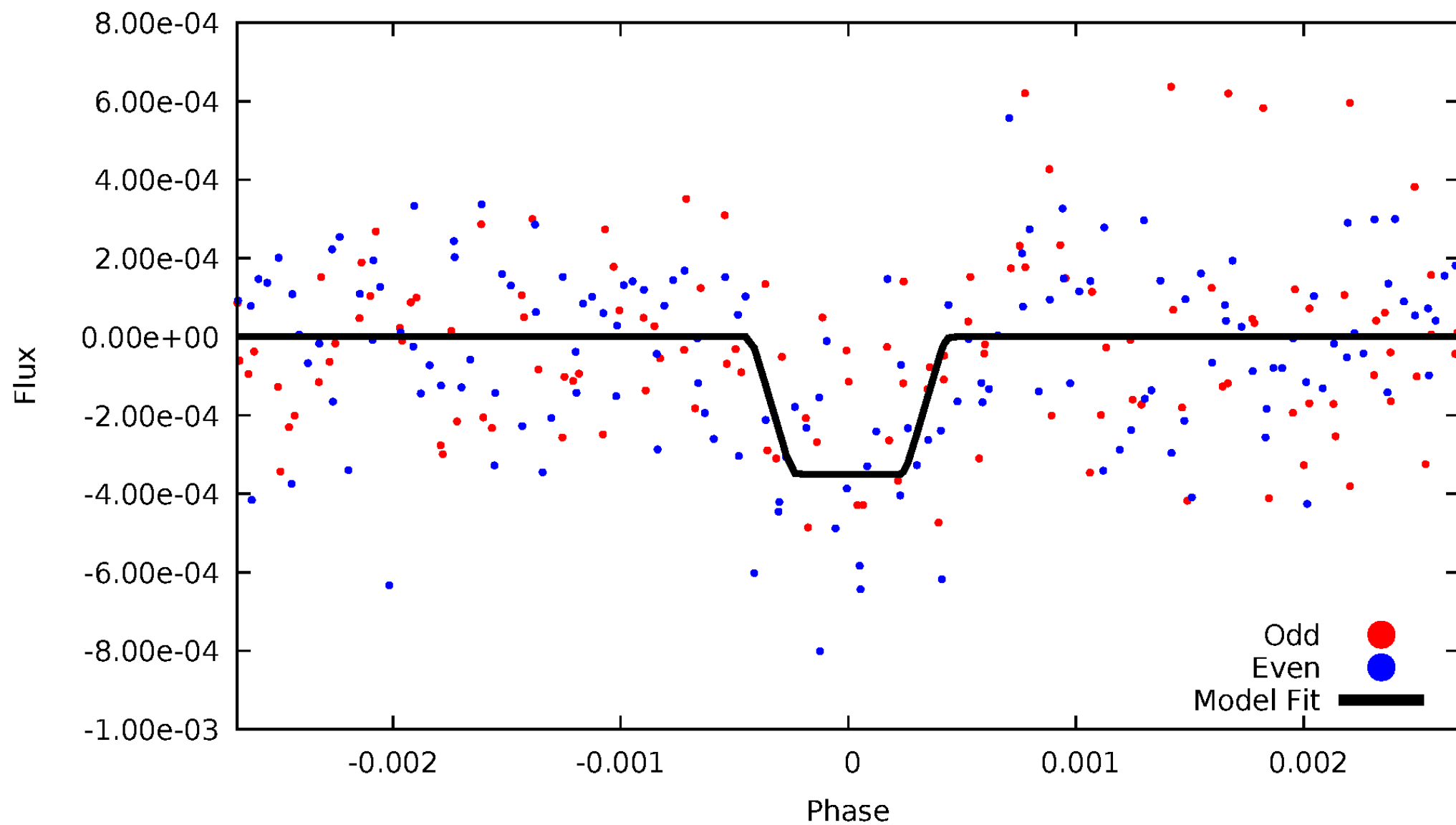
# DV Odd/Even

TCE 011922290-01



# ALT Odd/Even

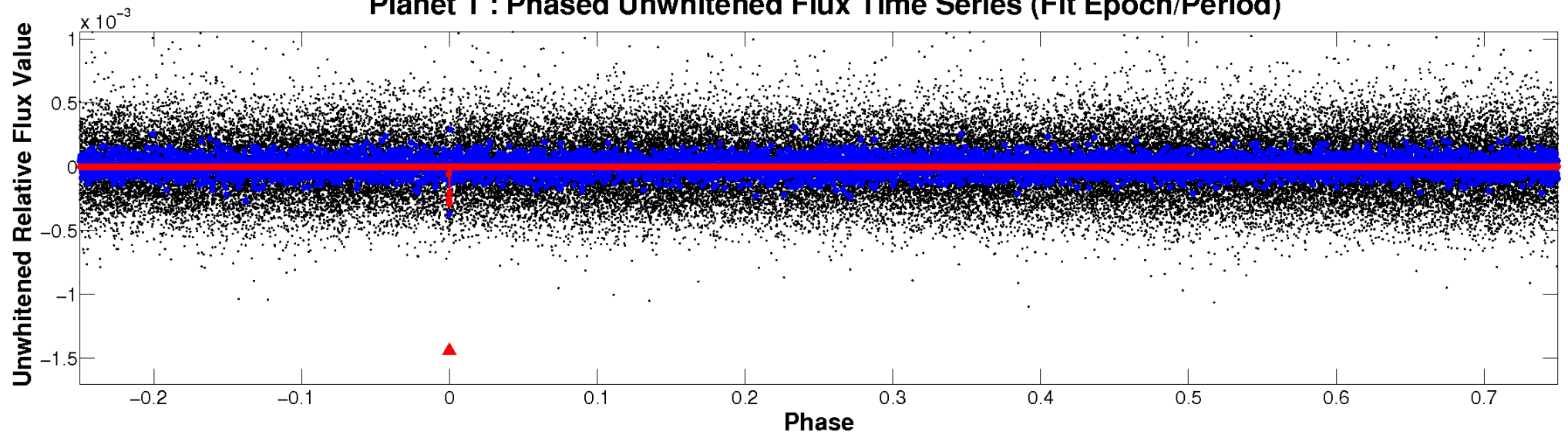
TCE 011922290-01



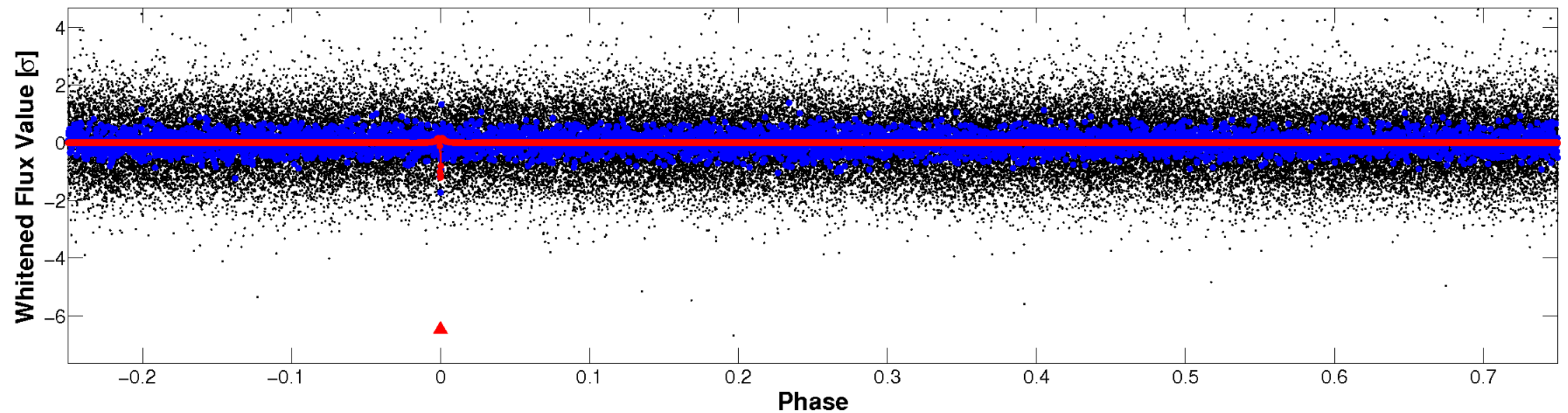


# Non-Whitened Vs. Whitened Light Curve

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

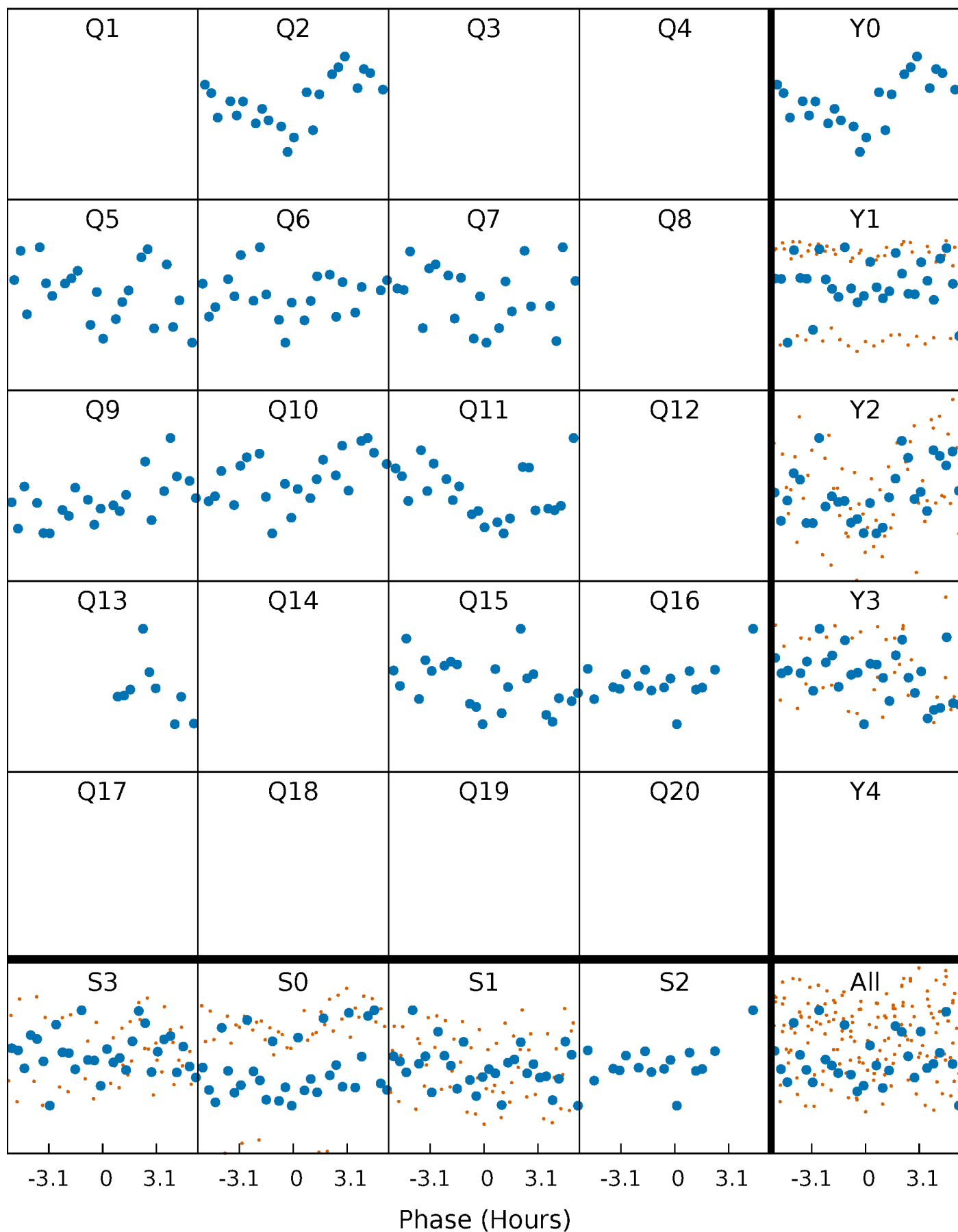


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

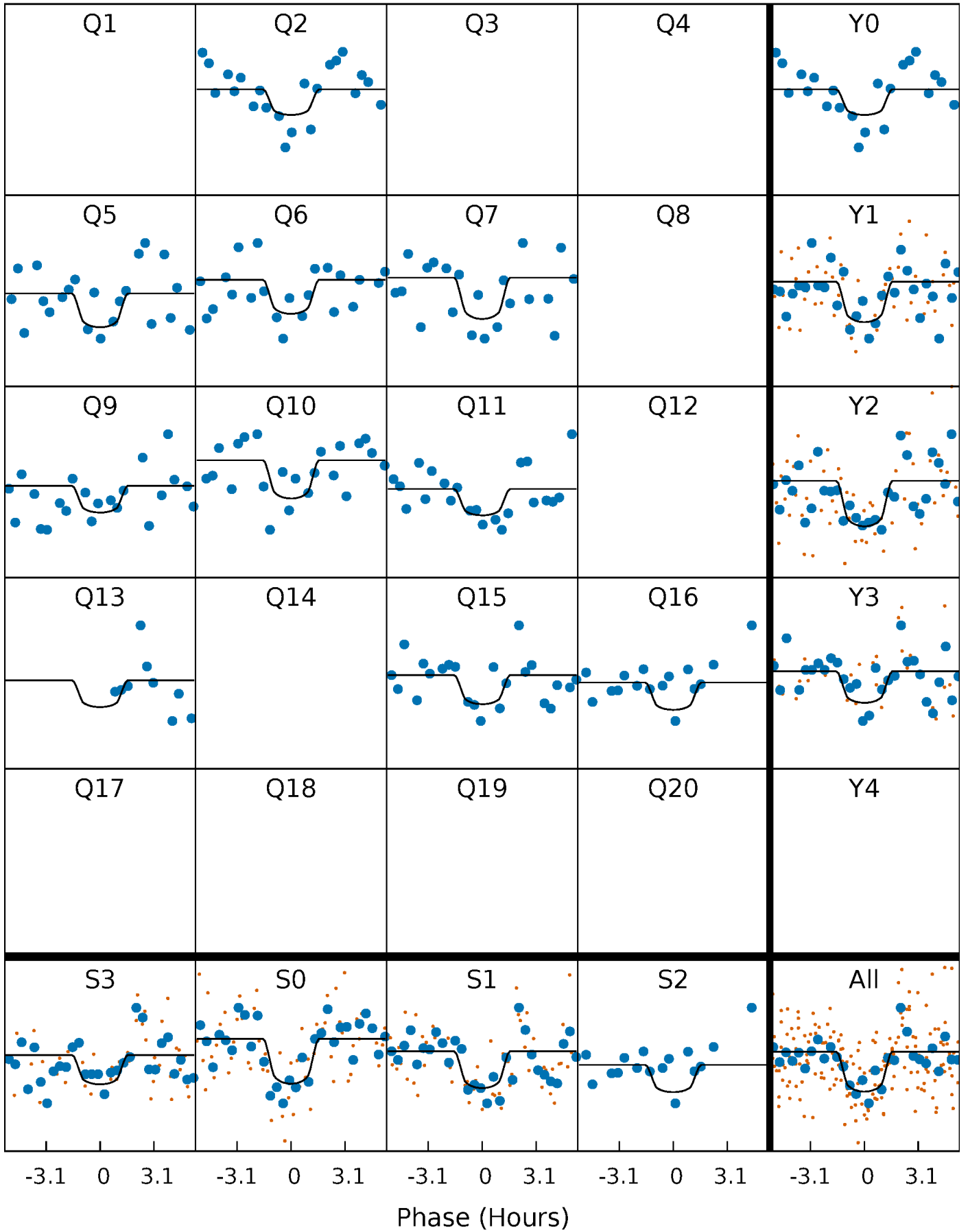
TCE 011922290-01 P=114.661574 Days  $T_0=237.231841$  (BKJD)





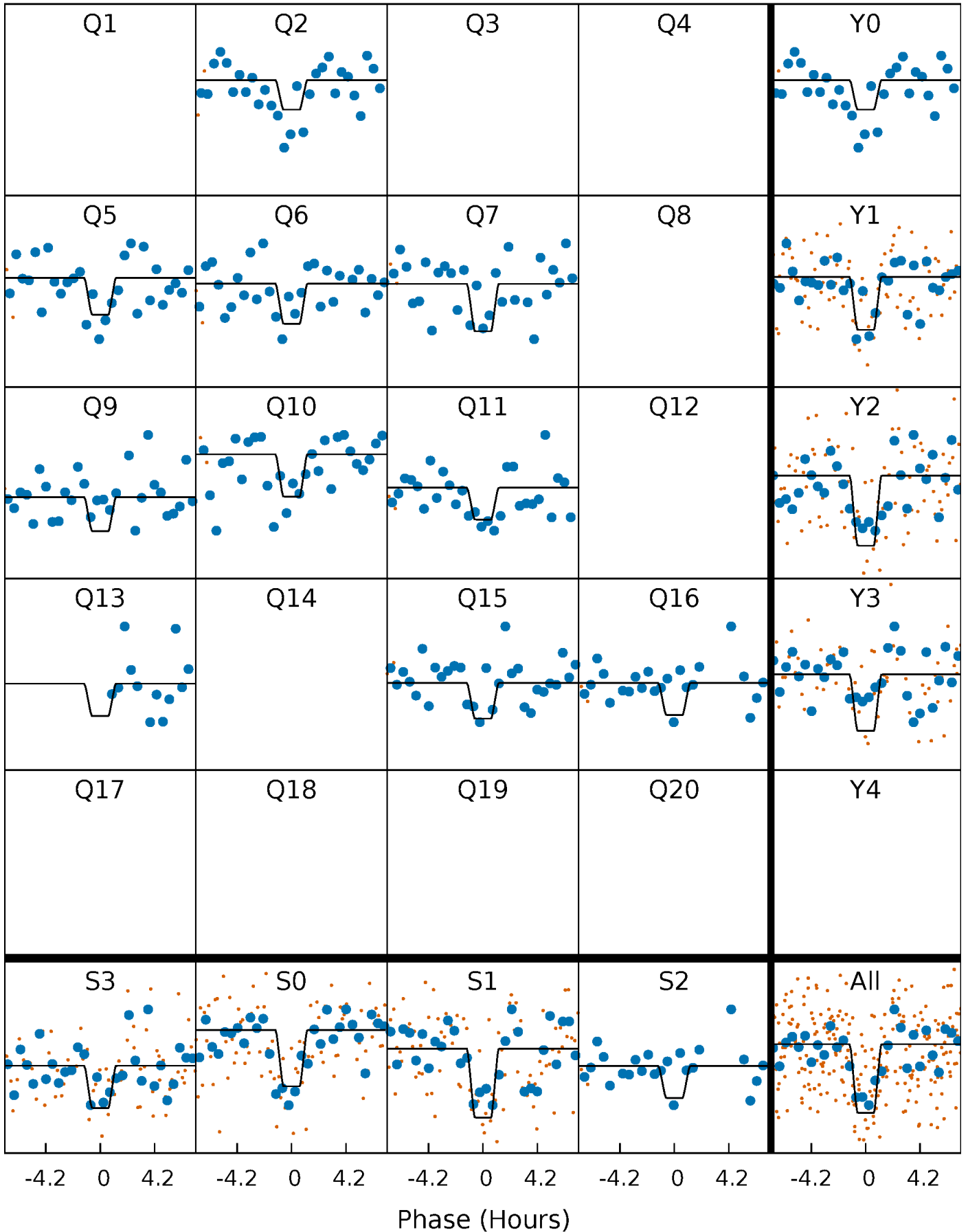
# DV Quarter-Phased Transit Curves

TCE 011922290-01 P=114.661574 Days  $T_0=237.231841$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

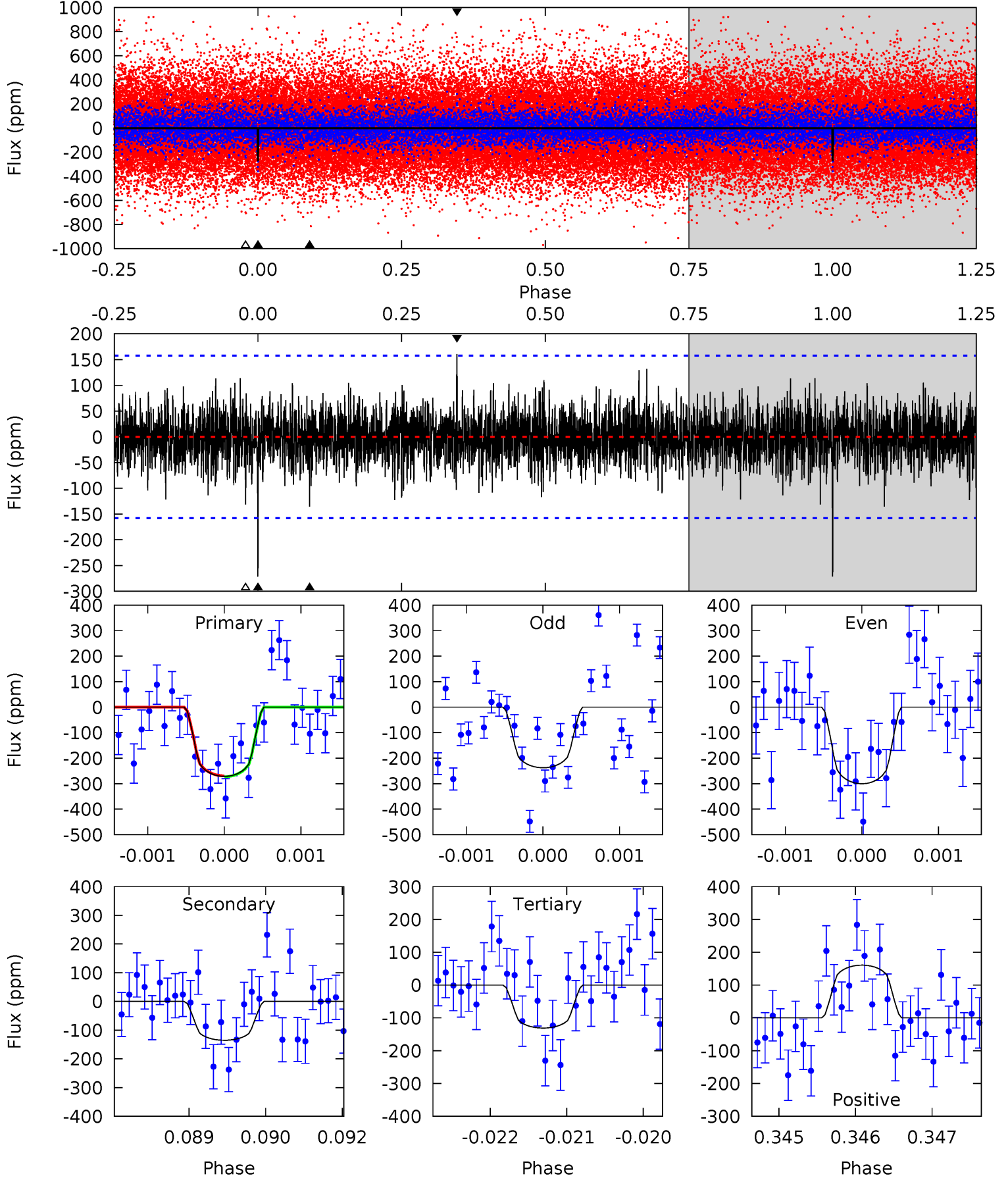
TCE 011922290-01 P=114.661745 Days  $T_0=237.231069$  (BKJD)



# DV Model-Shift Uniqueness Test

011922290-01, P = 114.661574 Days, E = 122.570267 Days

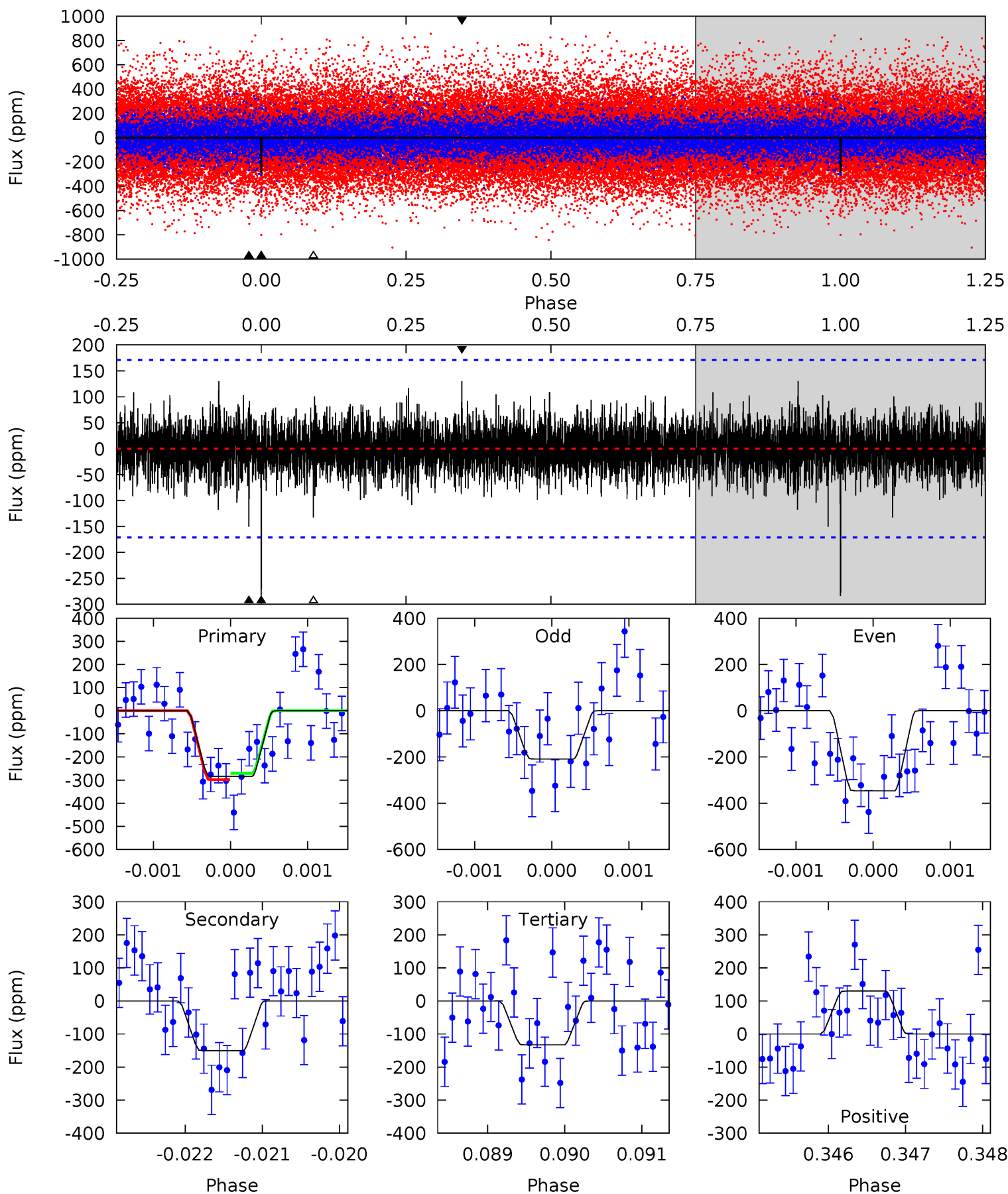
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.34	4.65	4.52	5.53	5.43	3.26	1.26	4.83	3.81	0.14	-0.88	1.09	0.93	0.37	0.06



# Alt Model-Shift Uniqueness Test

011922290-01, P = 114.661745 Days, E = 122.569324 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
9.11	4.83	4.26	4.17	5.49	3.35	1.05	4.85	4.94	0.57	0.66	2.21	1.02	0.31	0.44



### Stellar Parameters For KIC 011922290

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5412^{+161}_{-161}$	$4.562^{+0.090}_{-0.060}$	$-0.760^{+0.300}_{-0.300}$	$0.712^{+0.082}_{-0.074}$	$0.674^{+0.080}_{-0.030}$	$2.631^{+0.974}_{-0.538}$
	+3%/-3%	+2%/-1%	+39%/-39%	+12%/-10%	+12%/-4%	+37%/-20%
Source	PHO1	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 011922290-01 / KOI 8070.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-135 \pm 29$	$2.11^{+1.98}_{-1.37}$	$439^{+19}_{-19}$	$3825^{+2104}_{-725}$	$2629^{+21972}_{-1923}$
Alt.	$-150 \pm 31$	$2.10^{+2.11}_{-1.34}$	$438^{+19}_{-18}$	$3933^{+2169}_{-776}$	$3073^{+23394}_{-2306}$

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

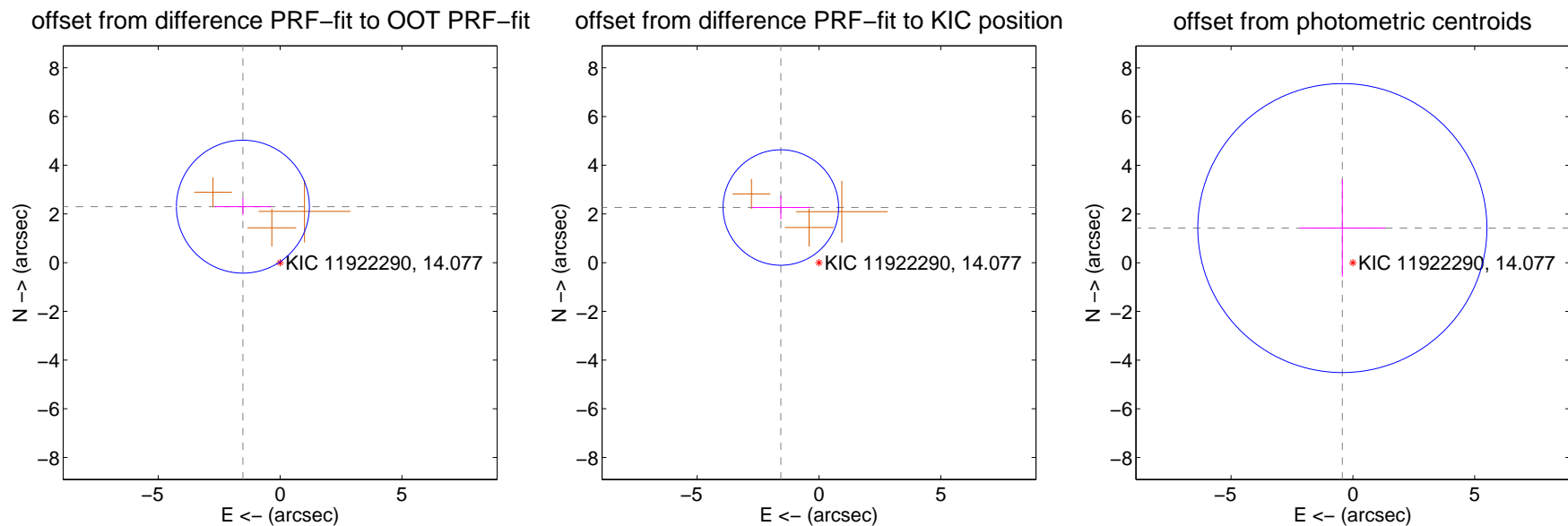
## DV Centroid Data

Supplemental centroid analysis for 011922290-01. Kepler magnitude: 14.08. Transit SNR 7.42

There are 0 quarters with good PRF difference image offsets

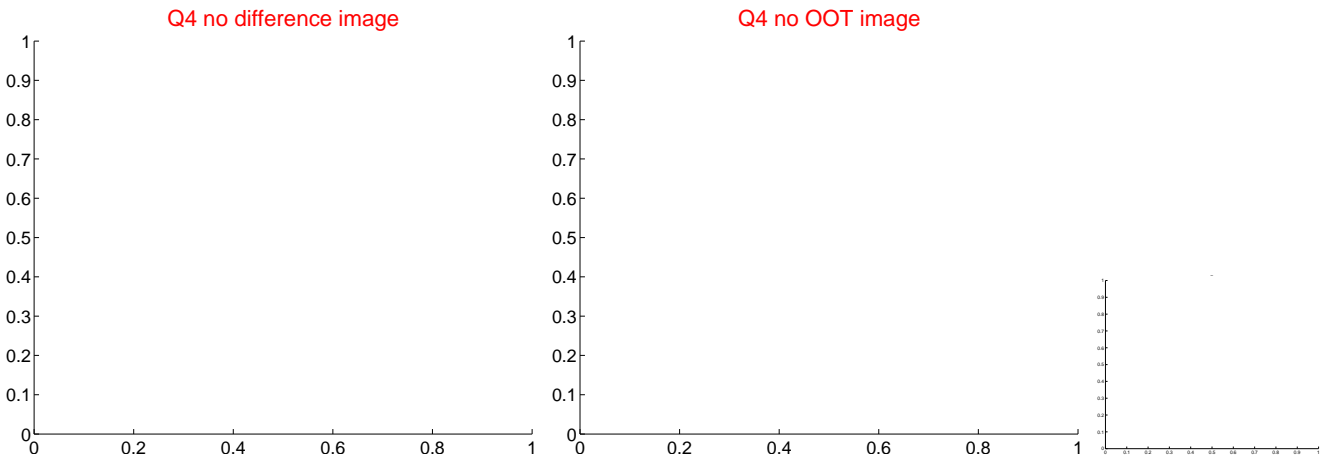
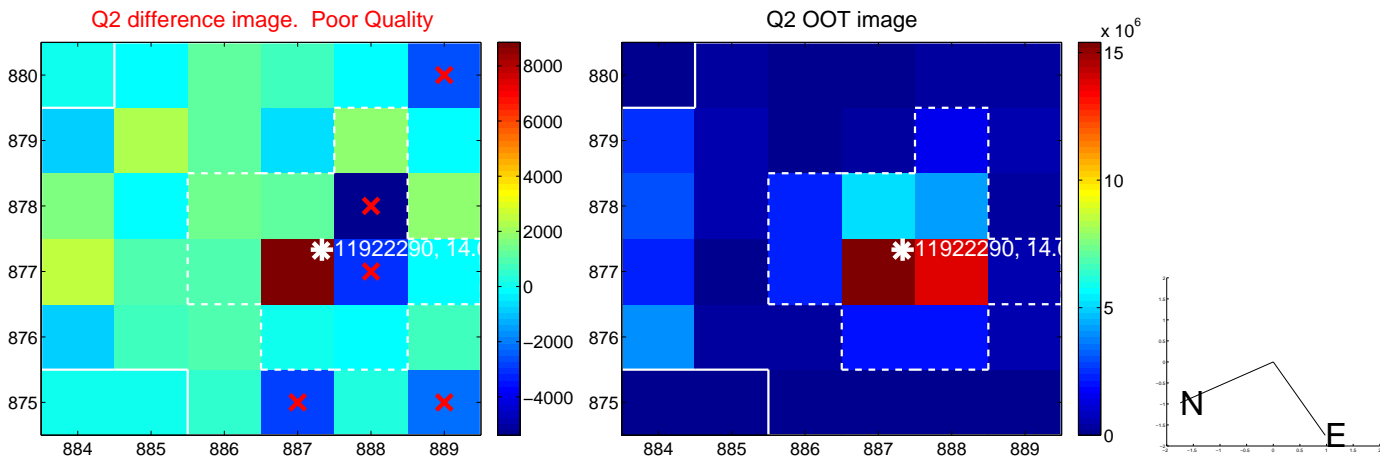
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.760 <math>\pm</math> 0.910</b>	<b>3.03</b>	1.528 $\pm$ 1.165	2.298 $\pm$ 0.340
PRF-fit source offset from KIC position	<b>2.753 <math>\pm</math> 0.790</b>	<b>3.48</b>	1.566 $\pm$ 1.198	2.264 $\pm$ 0.487
photometric centroid source offset	1.49 $\pm$ 1.98	0.75	0.43 $\pm$ 1.76	1.42 $\pm$ 2.00



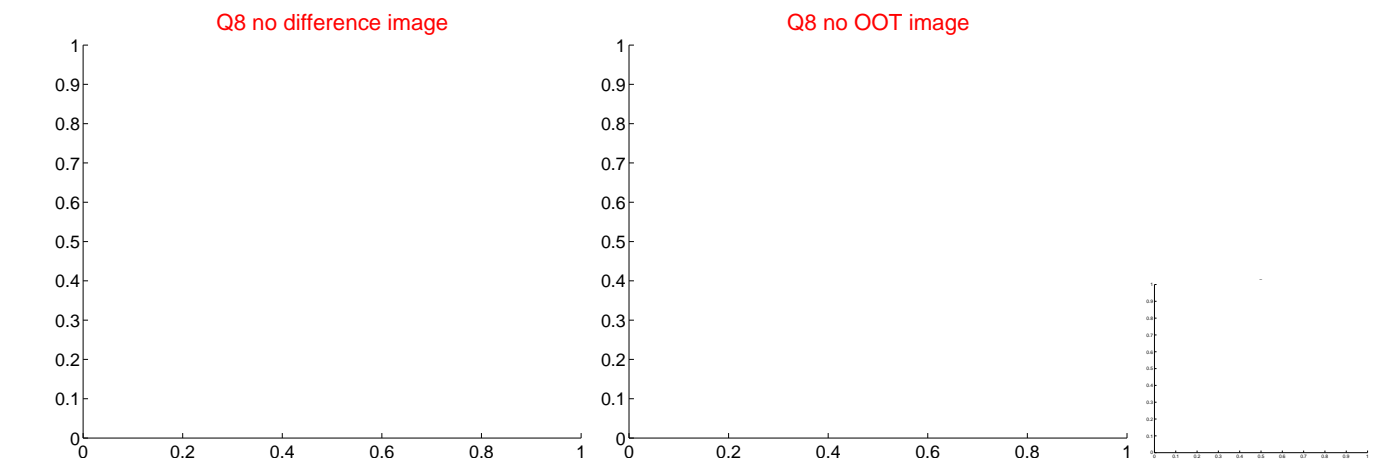
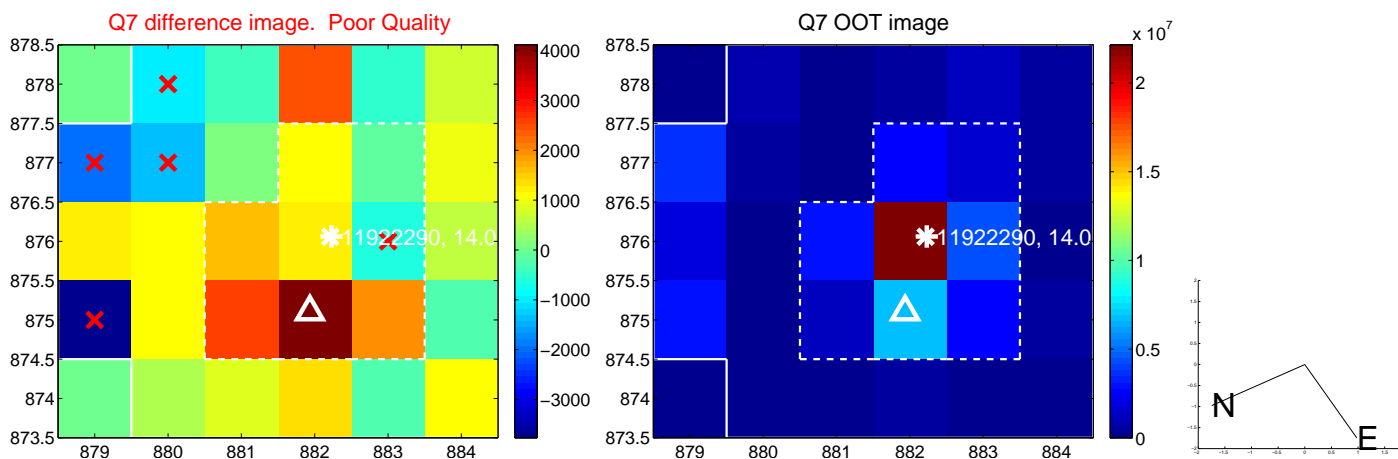
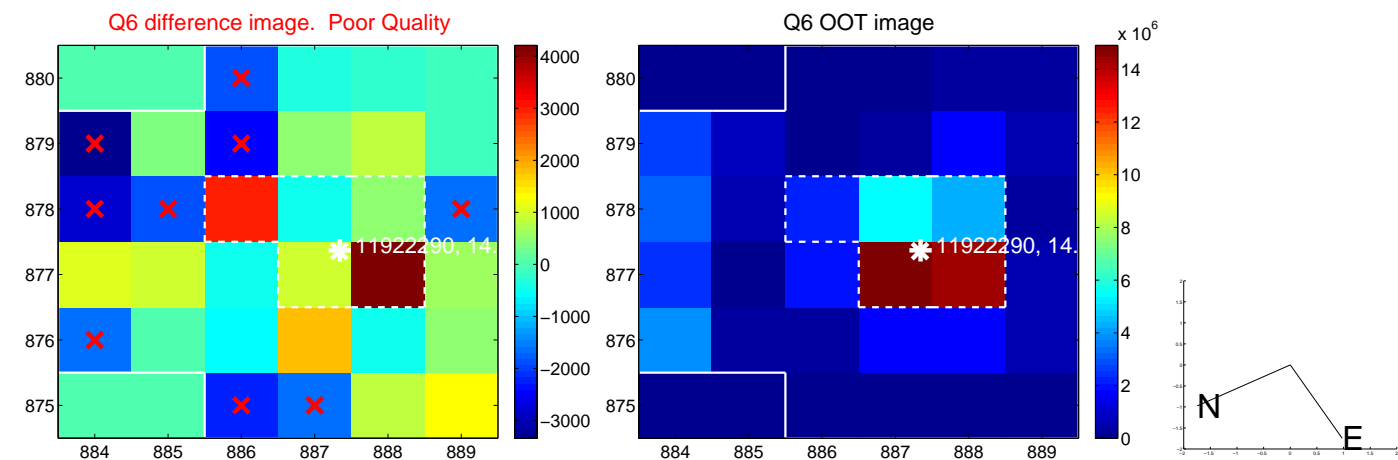
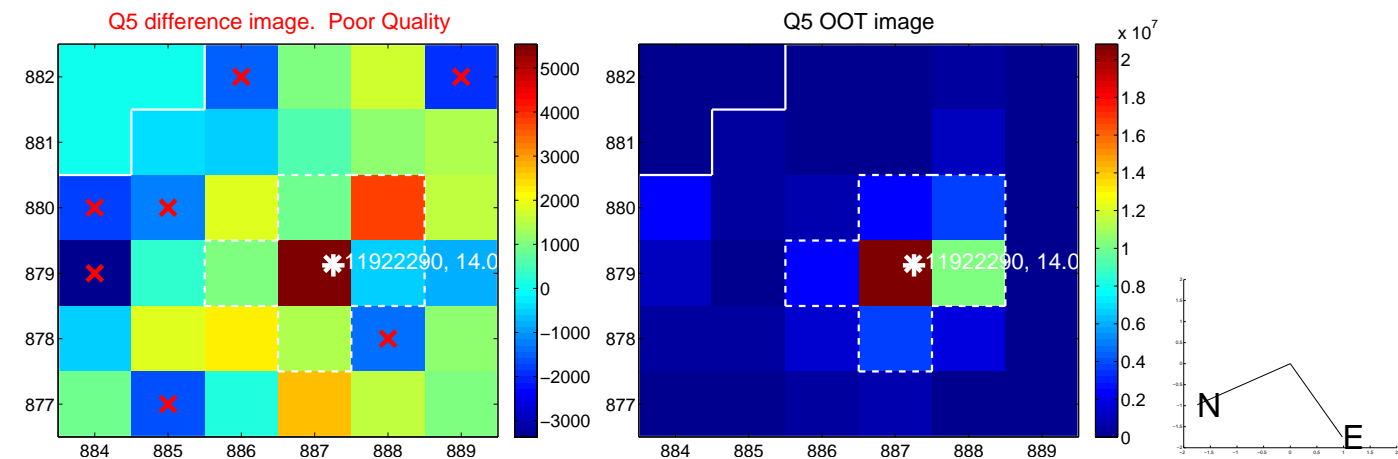
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

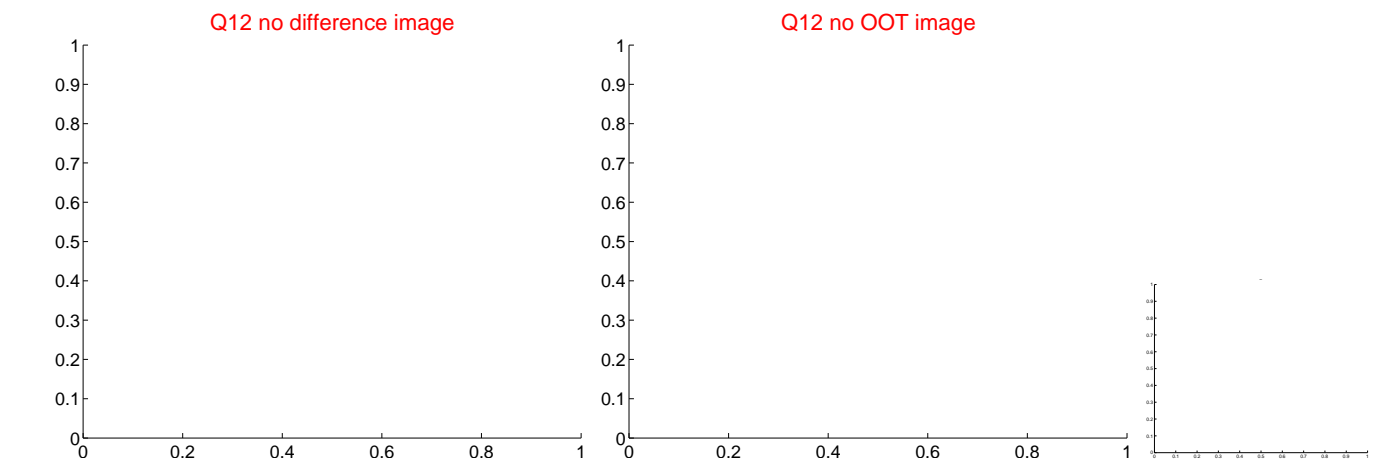
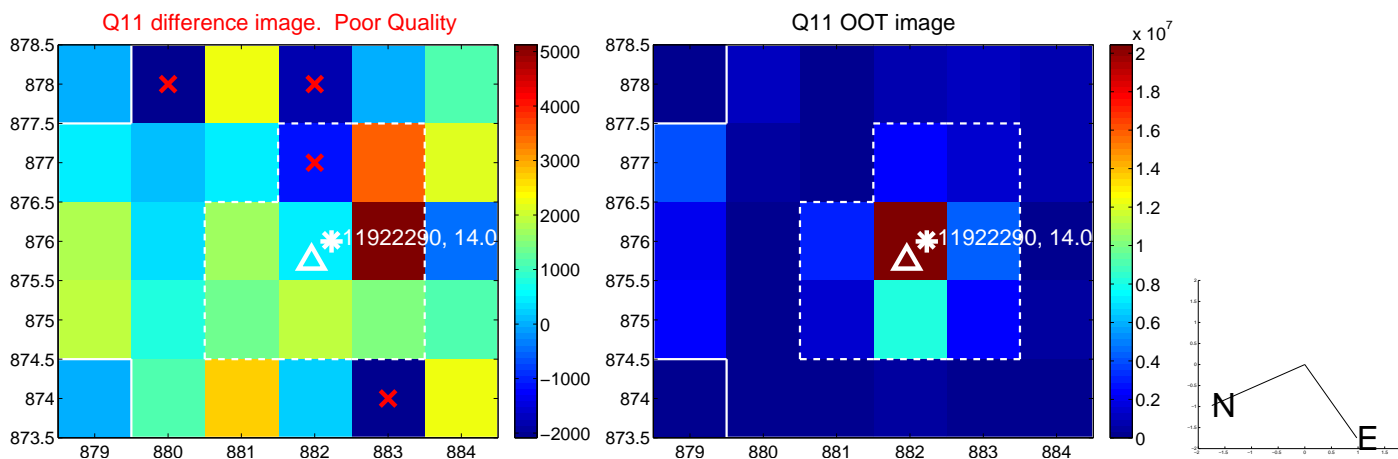
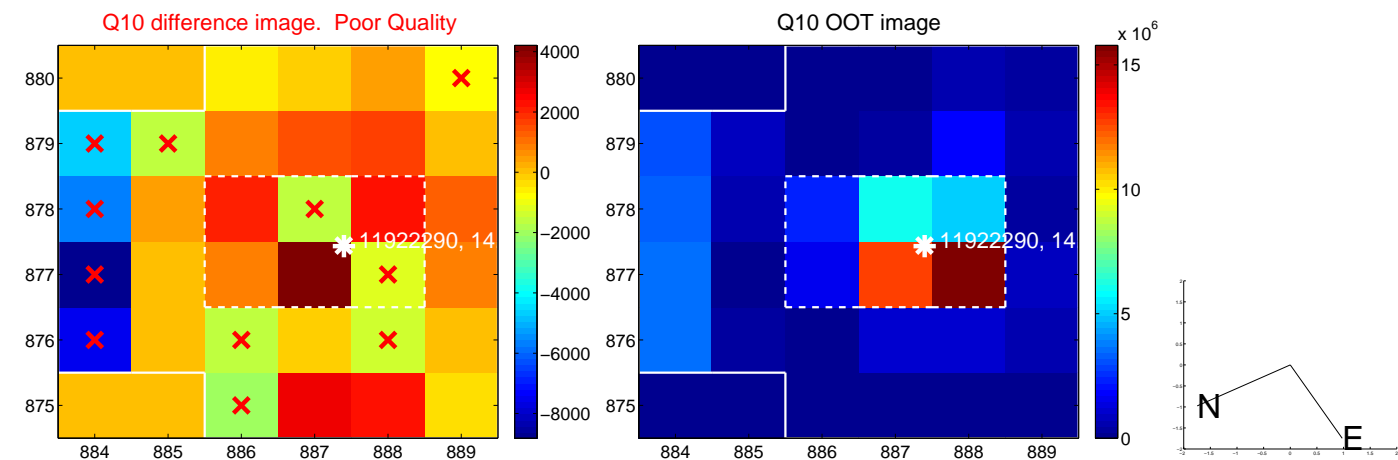
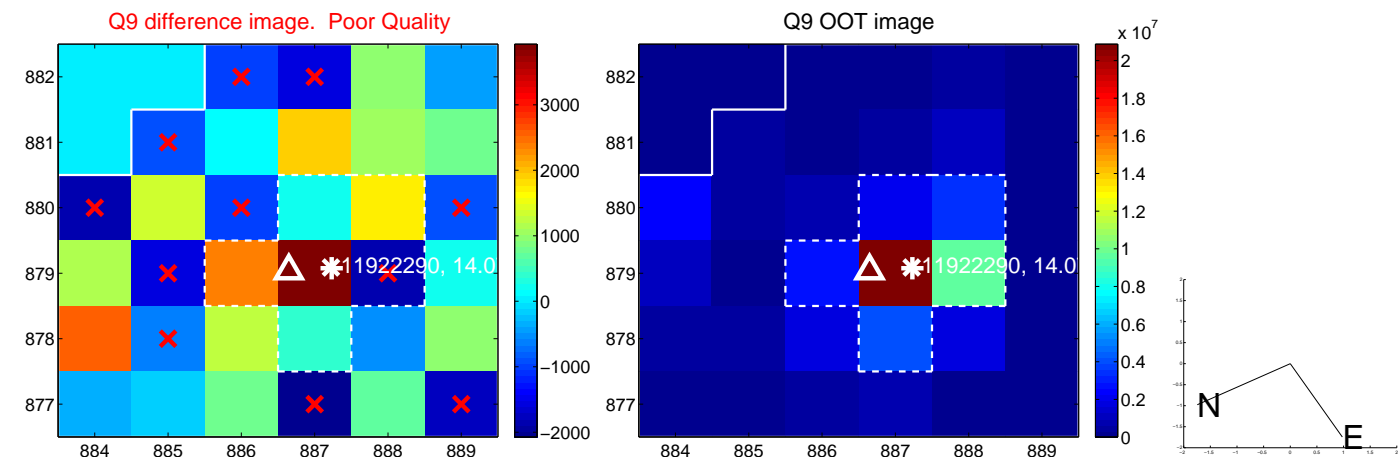




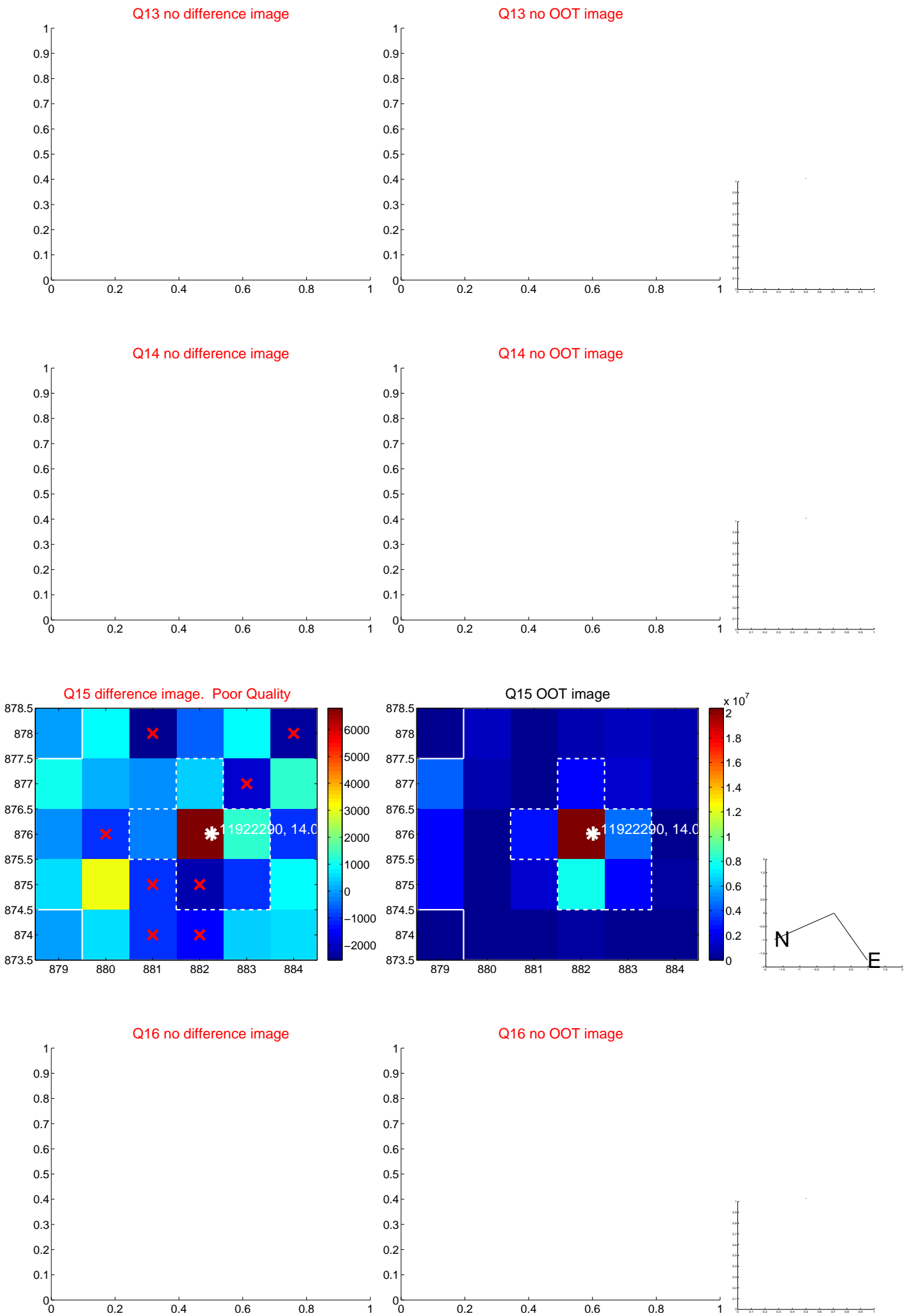
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



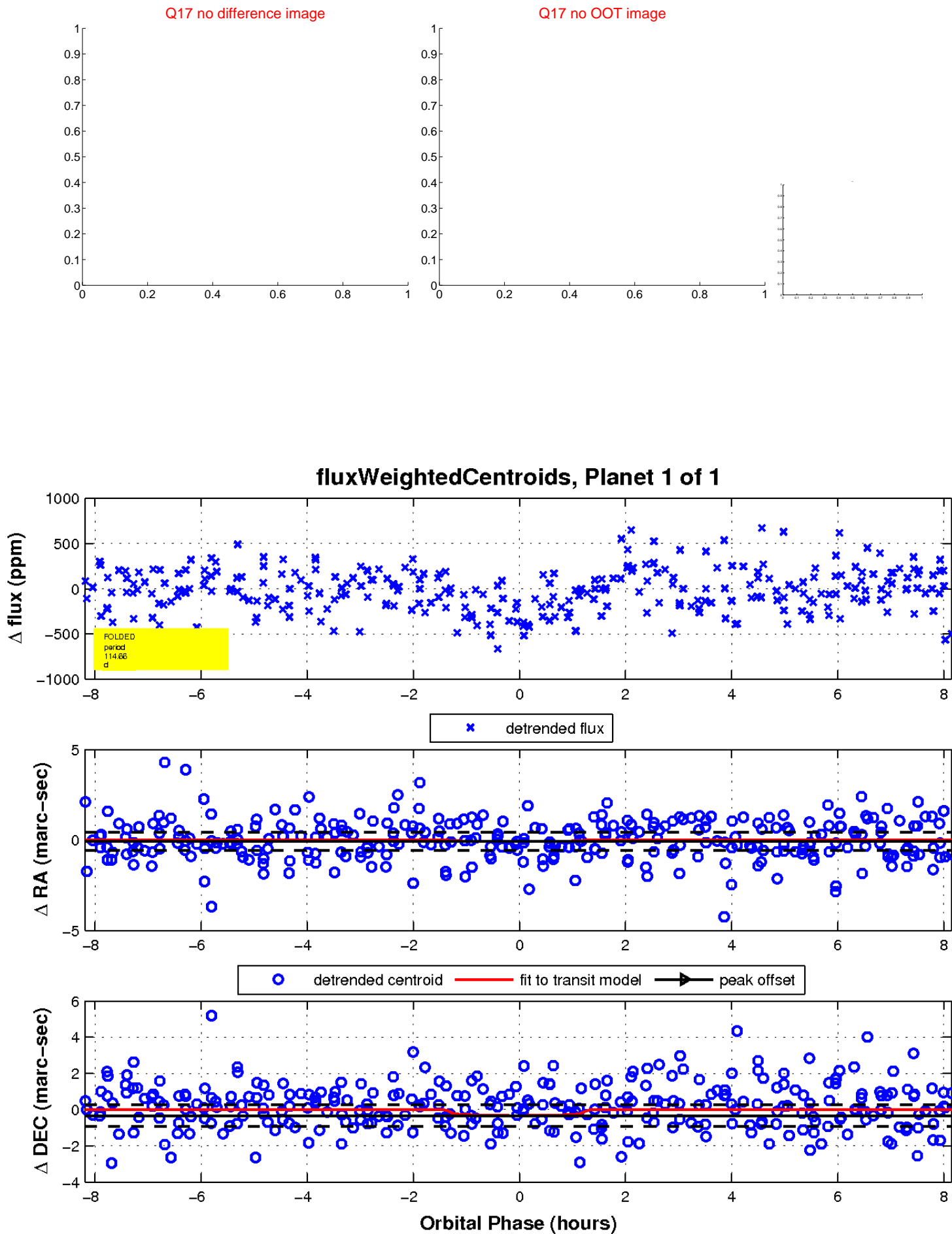
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

