

# KIC 008322973

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008322973-01	OBS	No	11.447114	138.084435	81.0	39.733	12.5	17.2	0.84	4889	1.33	42.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008322973-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

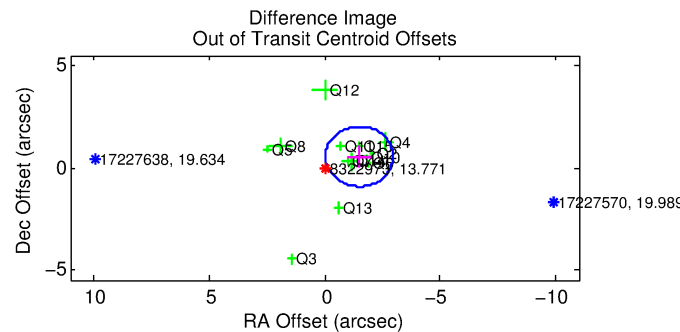
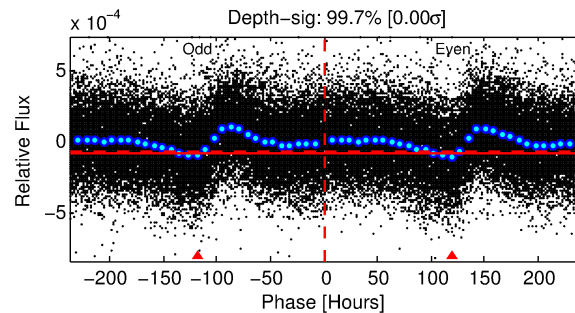
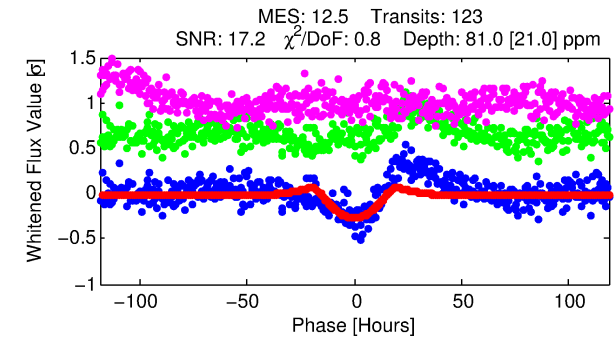
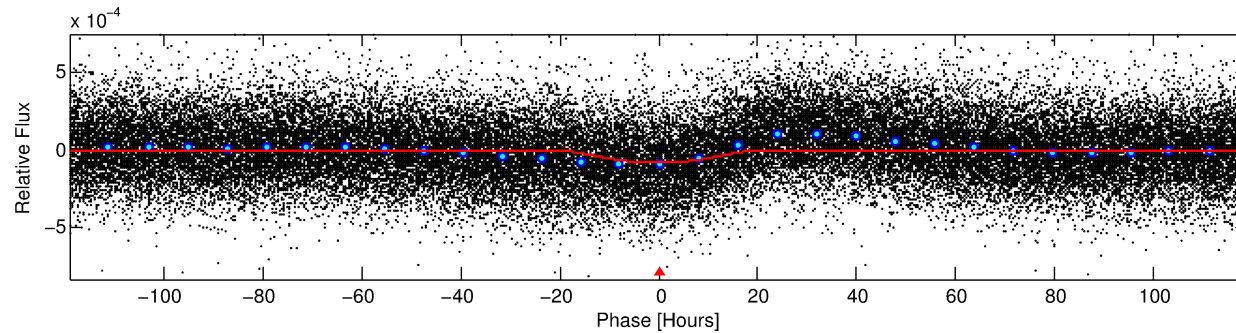
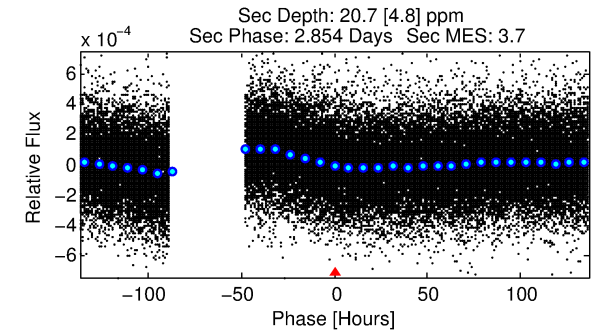
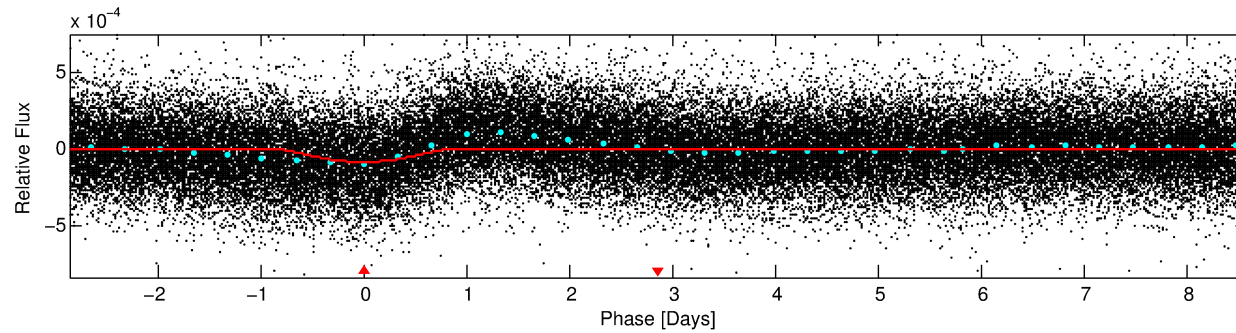
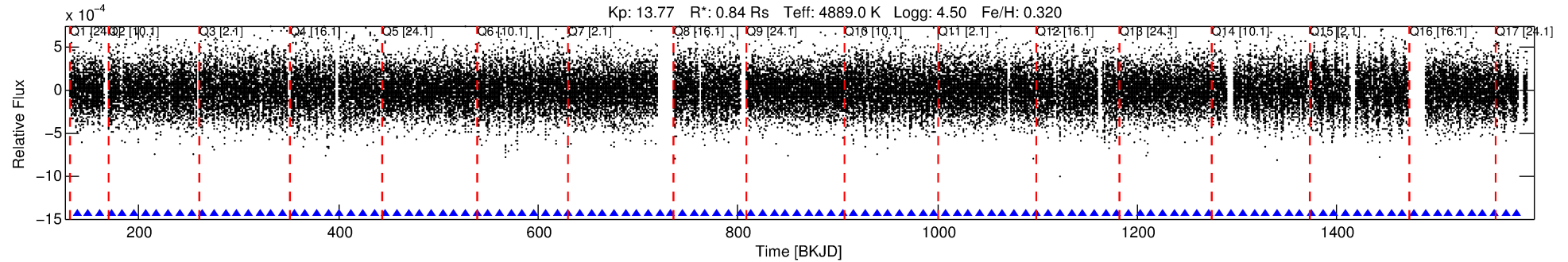
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008322973-01

No Significant Match Found

# DV One-Page Summary

KIC: 8322973 Candidate: 1 of 1 Period: 11.447 d



## DV Fit Results:

Period = 11.44711 [0.00062] d  
Epoch = 138.0844 [0.0441] BKJD  
Rp/R\* = 0.0144 [0.0064]  
a/R\* = 1.10 [0.03]  
b = 0.99 [0.01]  
Seff = 42.27 [44.49]  
Teff = 650 [171] K  
Rp = 1.33 [0.60] Re  
a = 0.0925 [0.0486] AU  
Ag = 55.58 [77.41] [0.71σ]  
Teffp = 2745 [637] K [3.18σ]

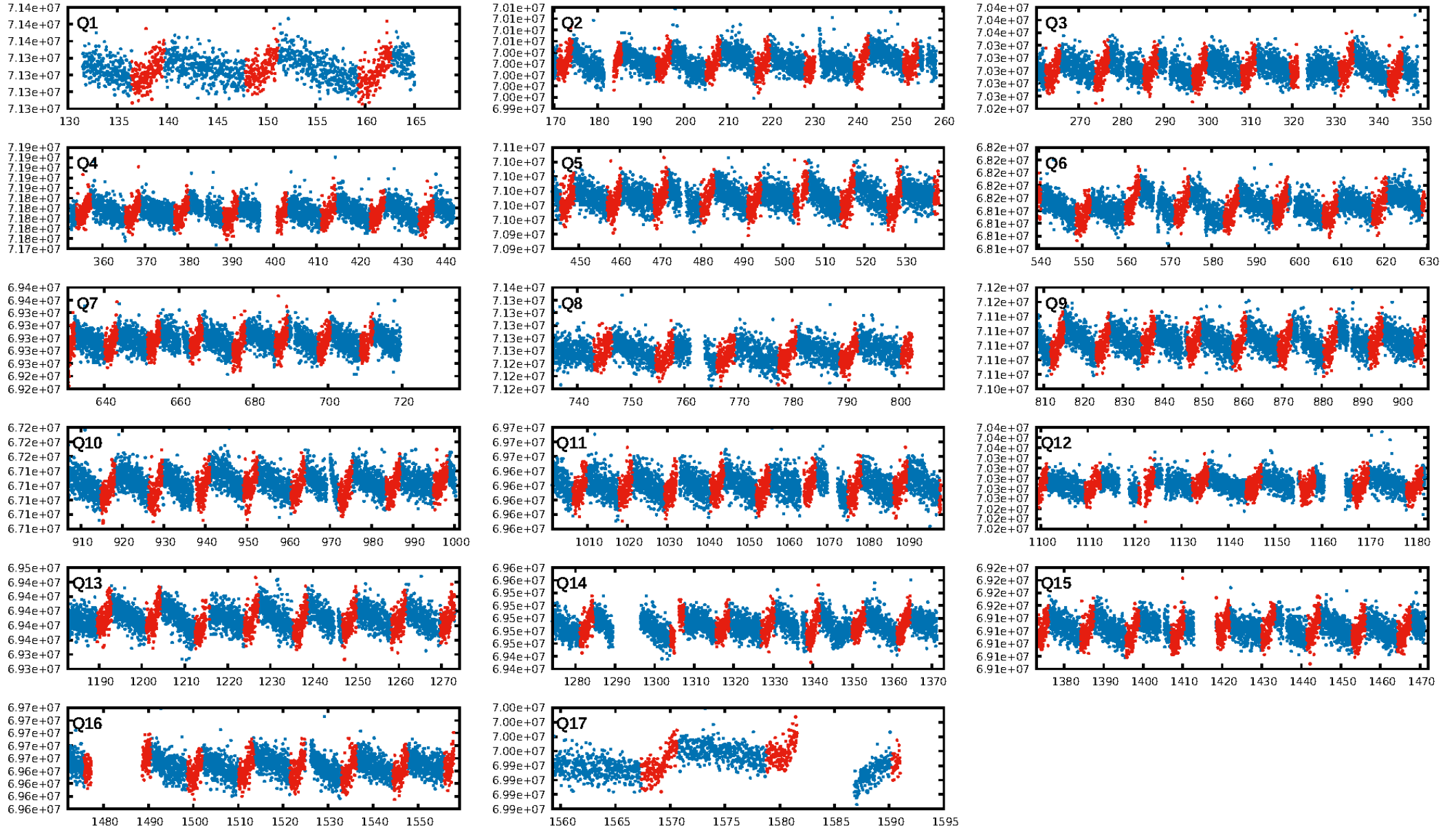
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.86e-35  
RollingBand-fgt: 1.00 [118/118]  
GhostDiagnostic-chr: 1.592  
Centroid-sig: 3.7%  
Centroid-so: 0.598 arcsec [0.95σ]  
OotOffset-rm: 1.587 arcsec [3.24σ]  
KicOffset-rm: 1.148 arcsec [2.38σ]  
OotOffset-st: 4/4/3/2 [13]  
KicOffset-st: 4/4/3/2 [13]  
DiffImageQuality-fgm: 0.69 [9/13]  
DiffImageOverlap-fno: 1.00 [16/16]

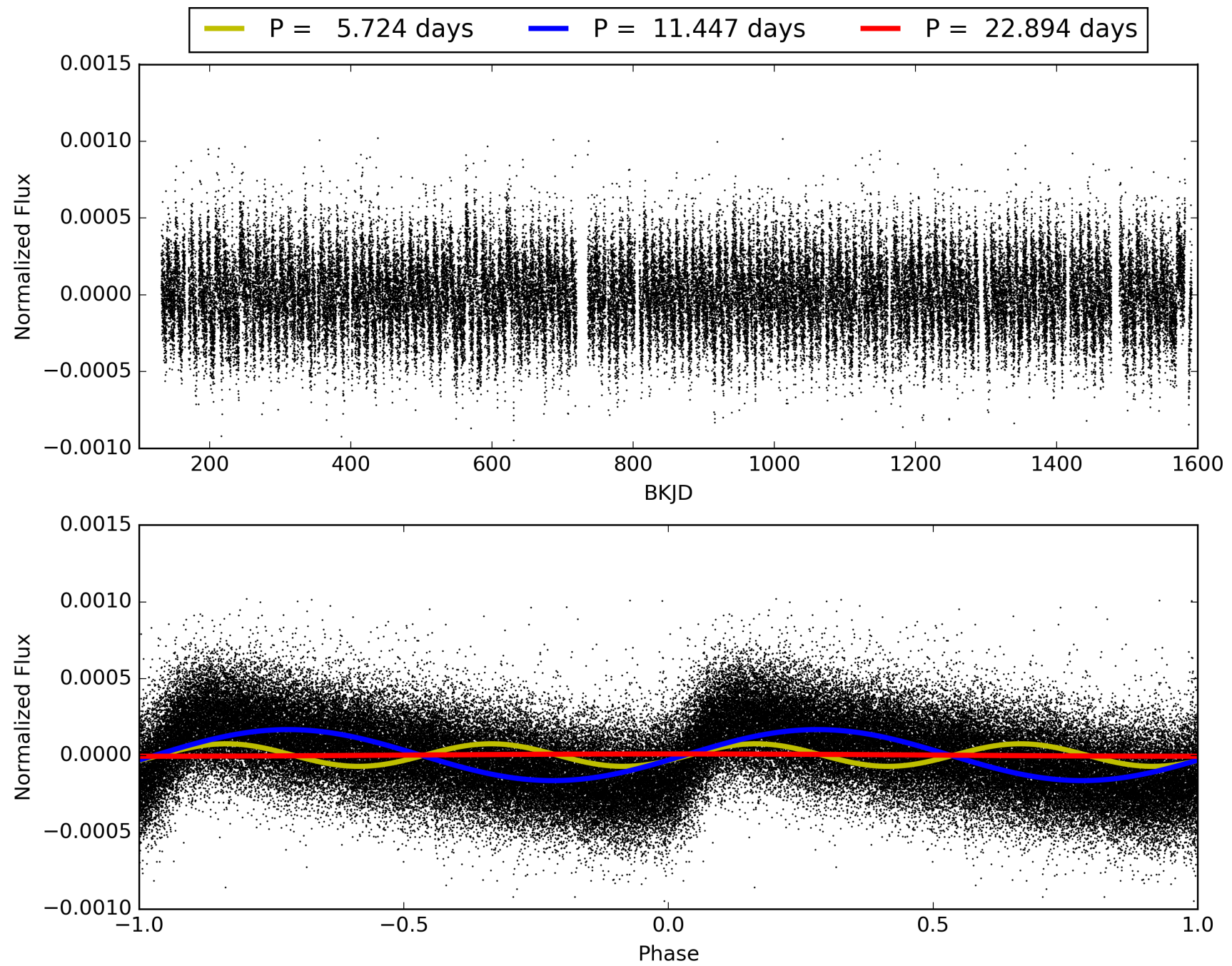
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:08:56 Z

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

# TCE 008322973-01, PDC Light Curves

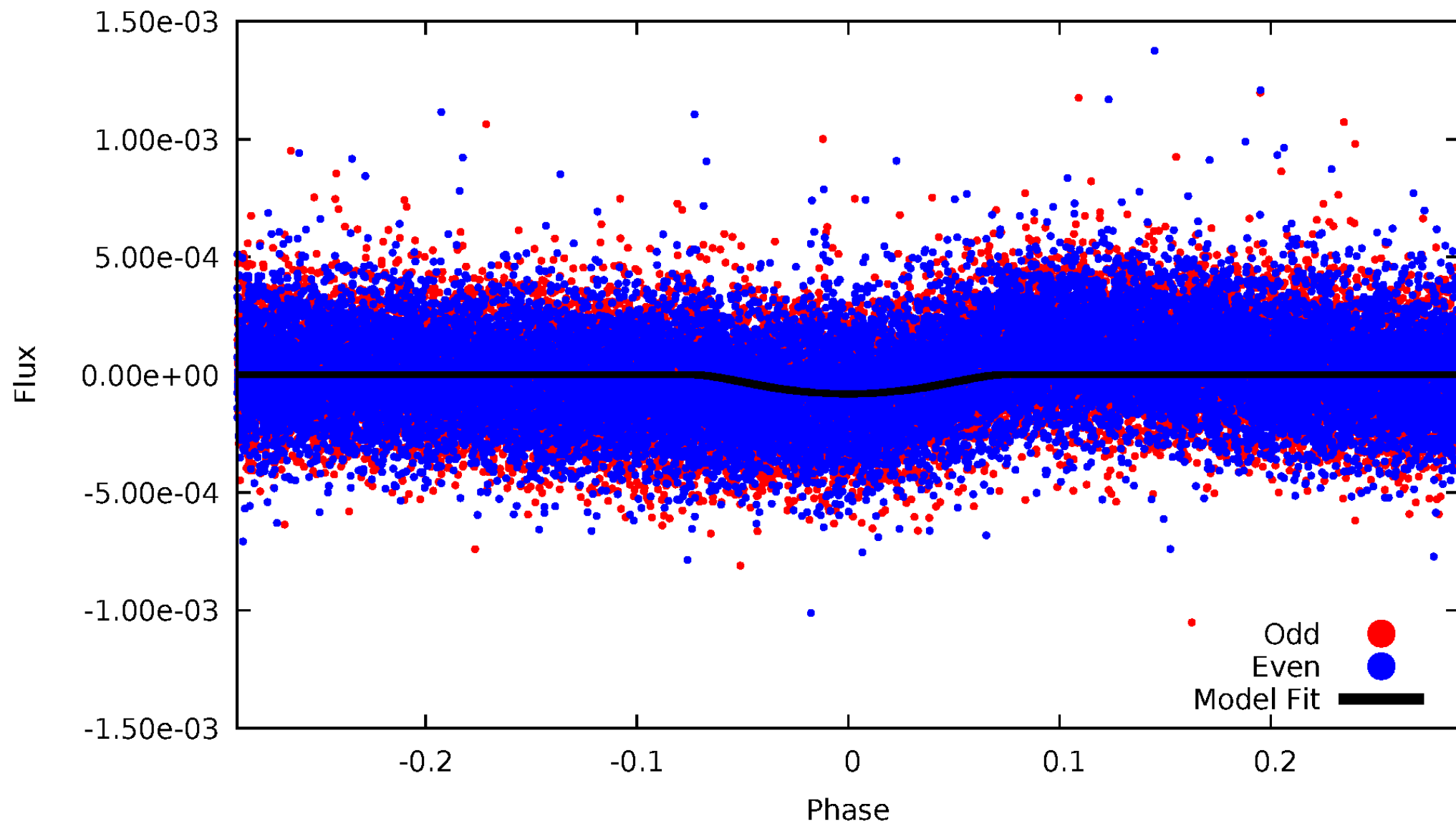


TCE 008322973-01



# DV Odd/Even

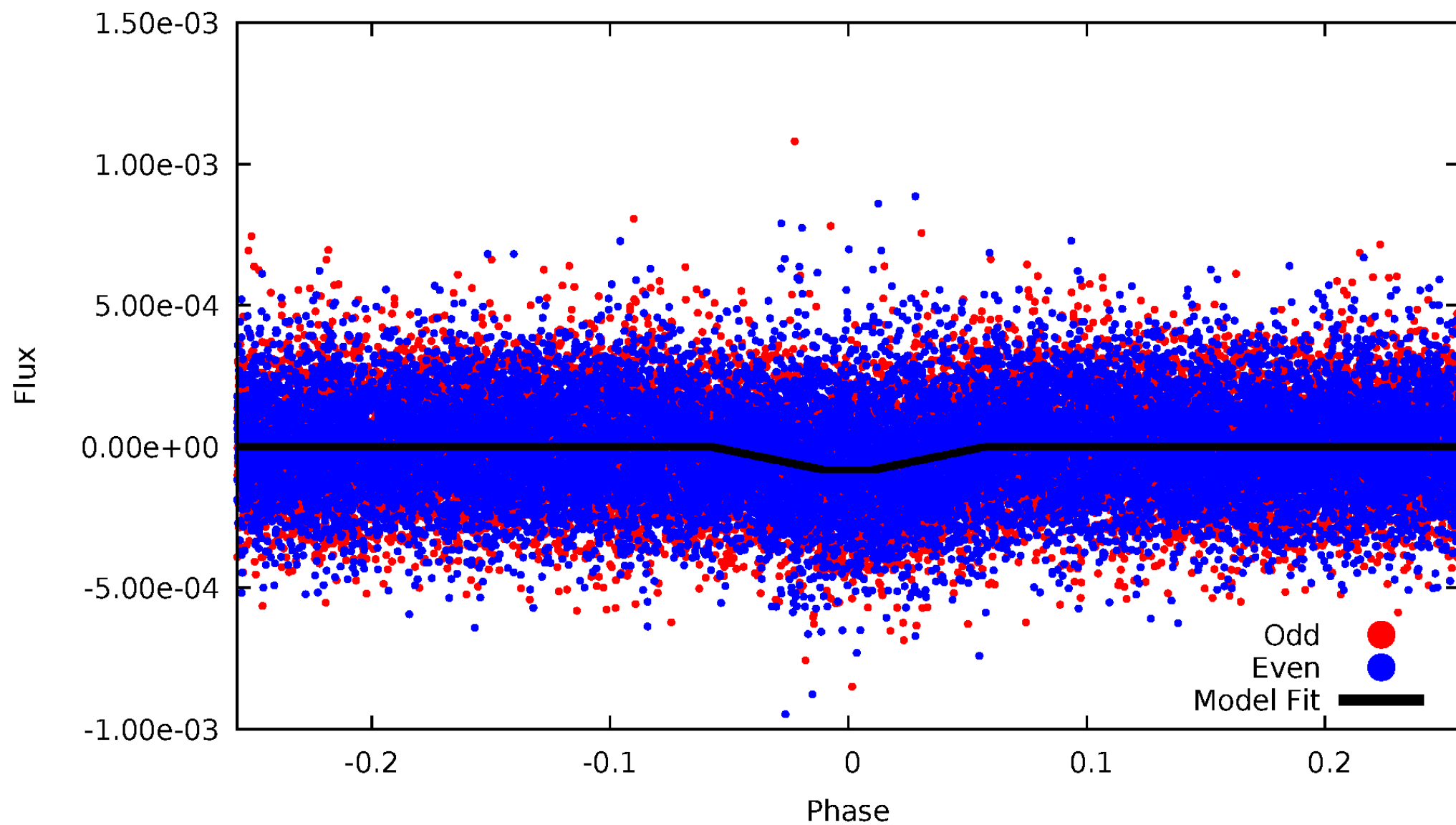
TCE 008322973-01



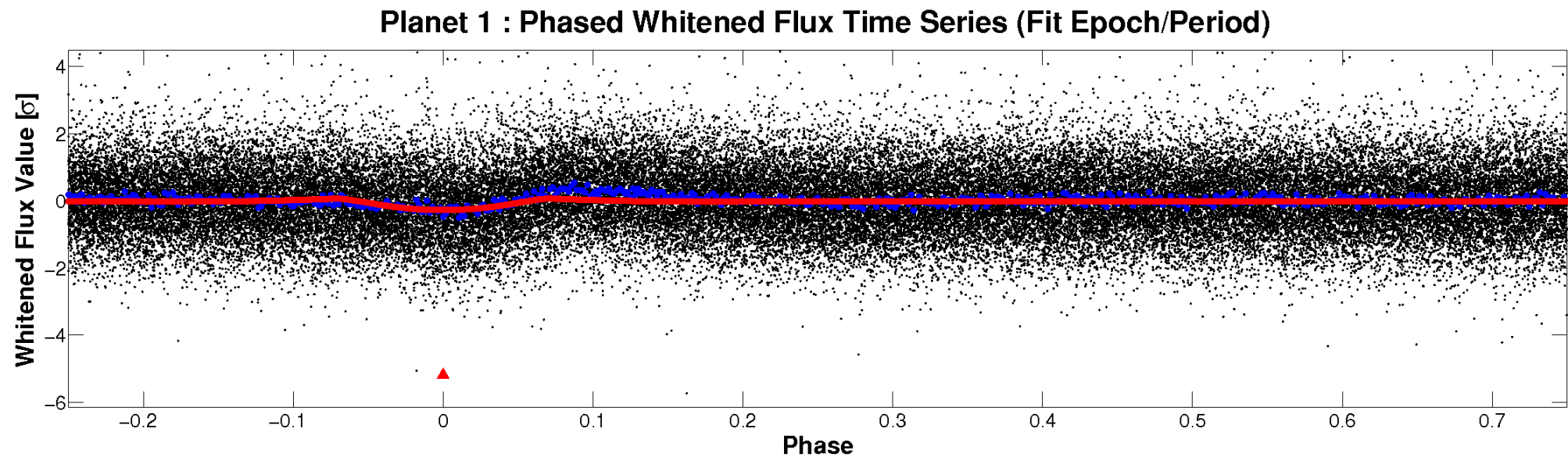
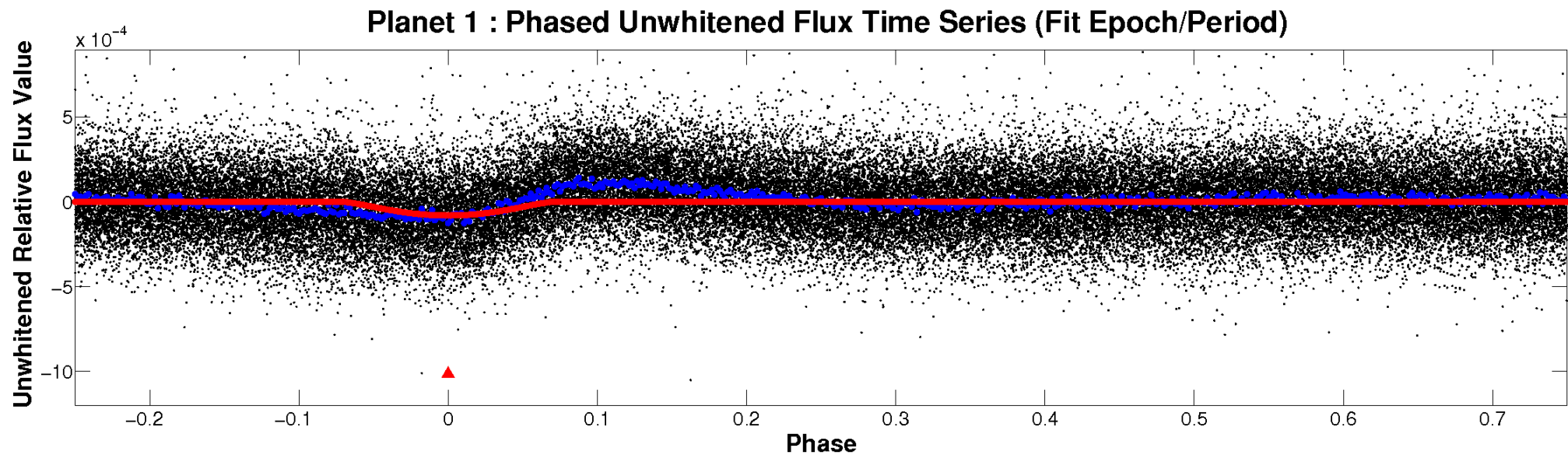


# ALT Odd/Even

TCE 008322973-01

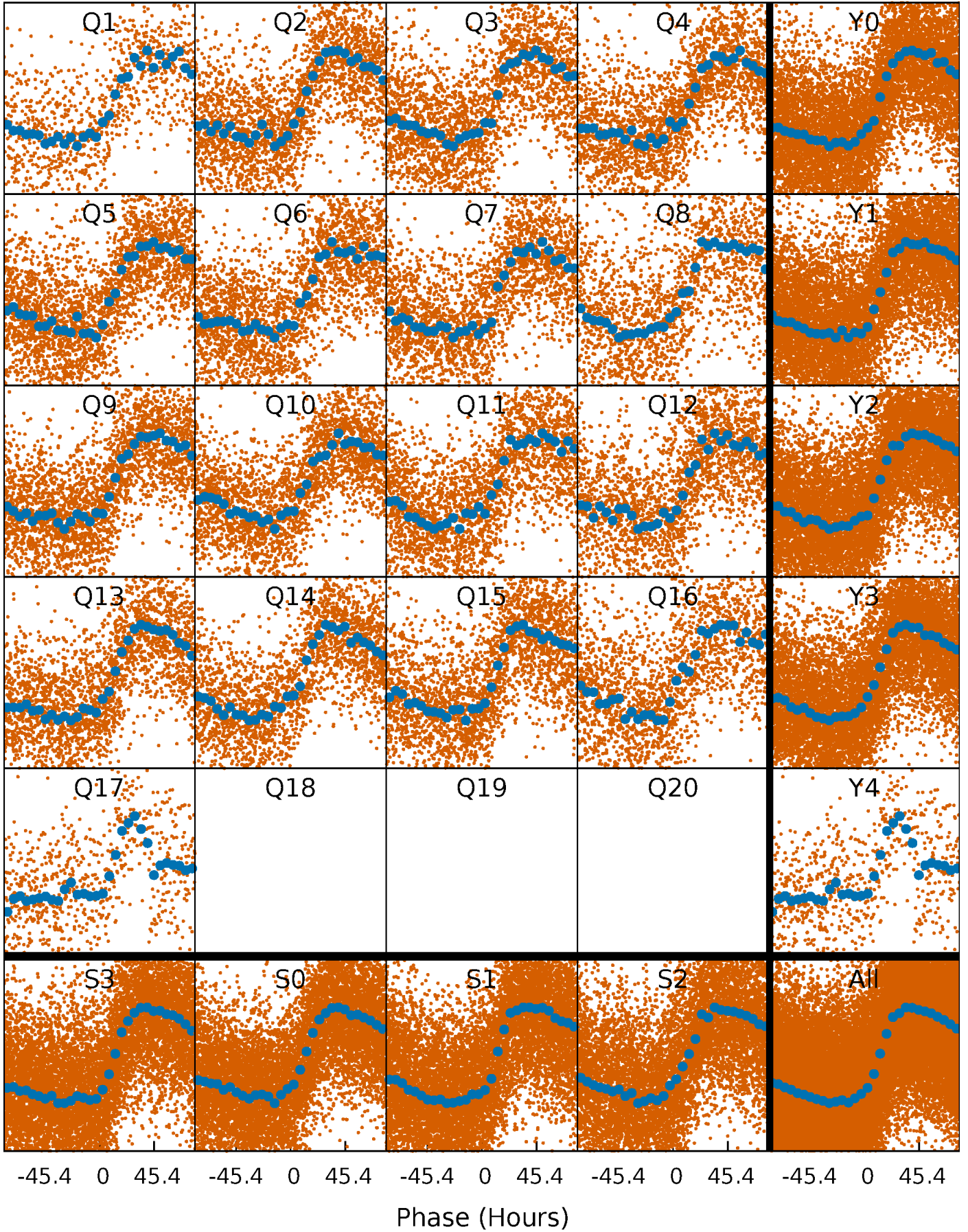


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

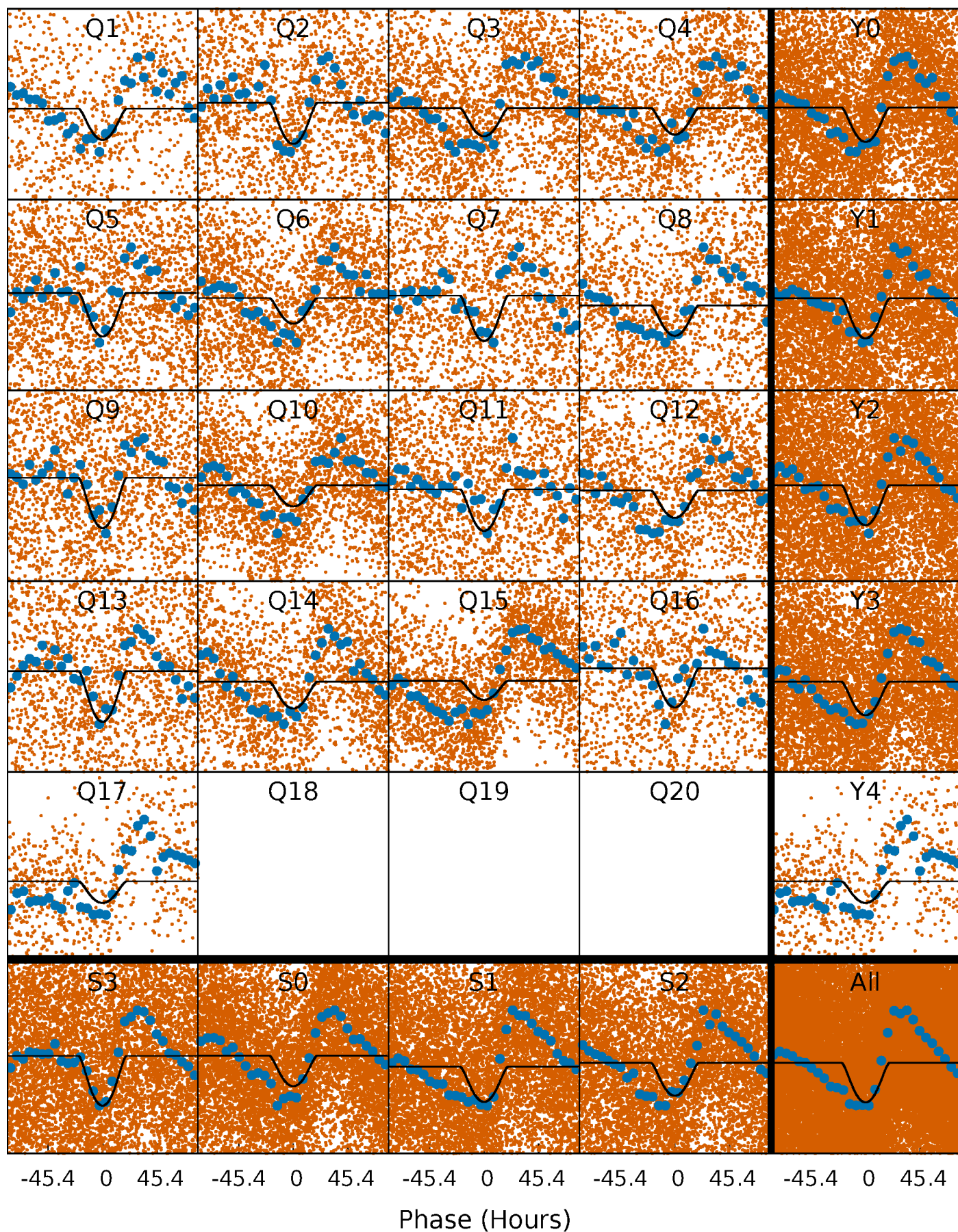
TCE 008322973-01 P= 11.447114 Days  $T_0=138.084435$  (BKJD)





# DV Quarter-Phased Transit Curves

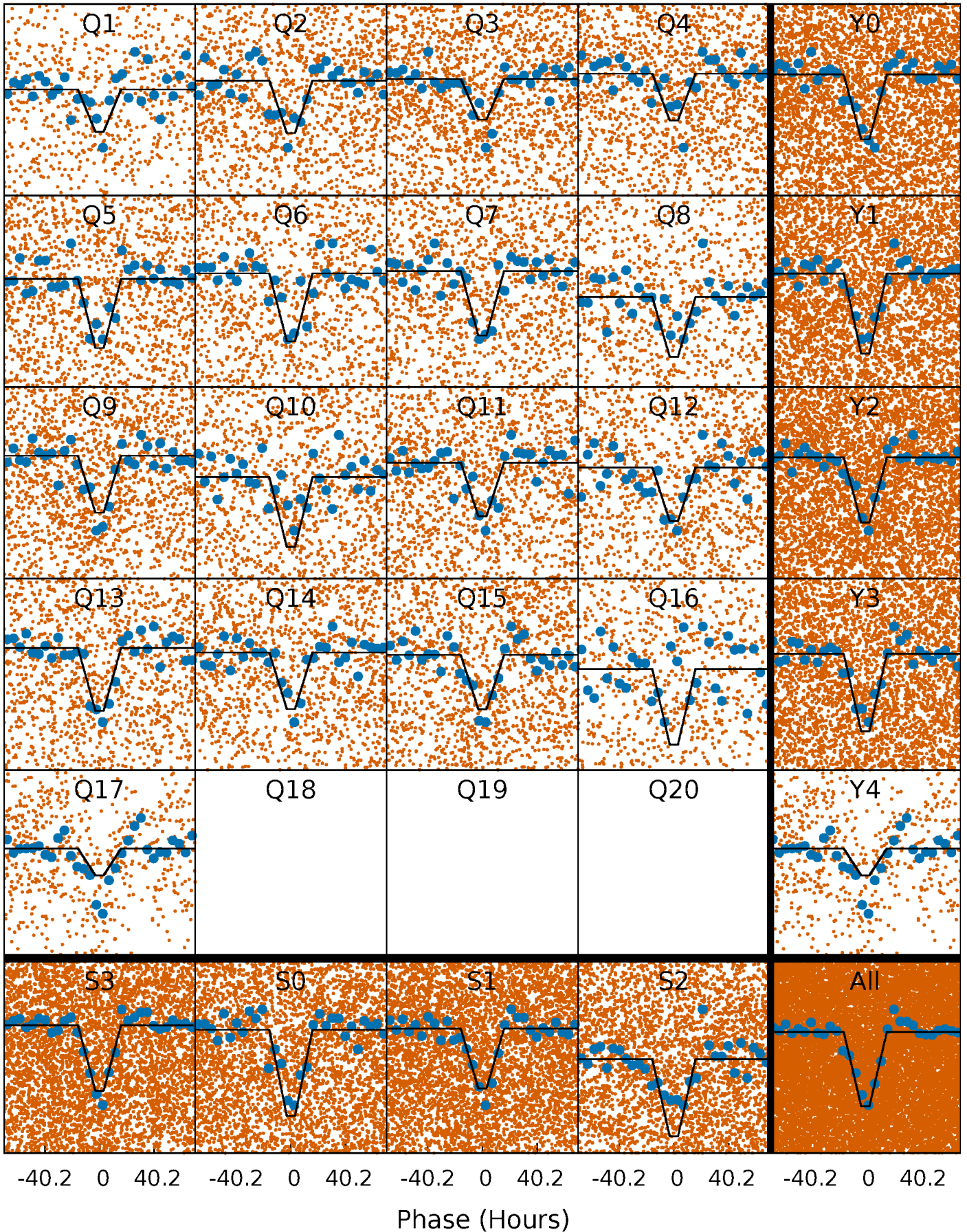
TCE 008322973-01 P= 11.447114 Days  $T_0=138.084435$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

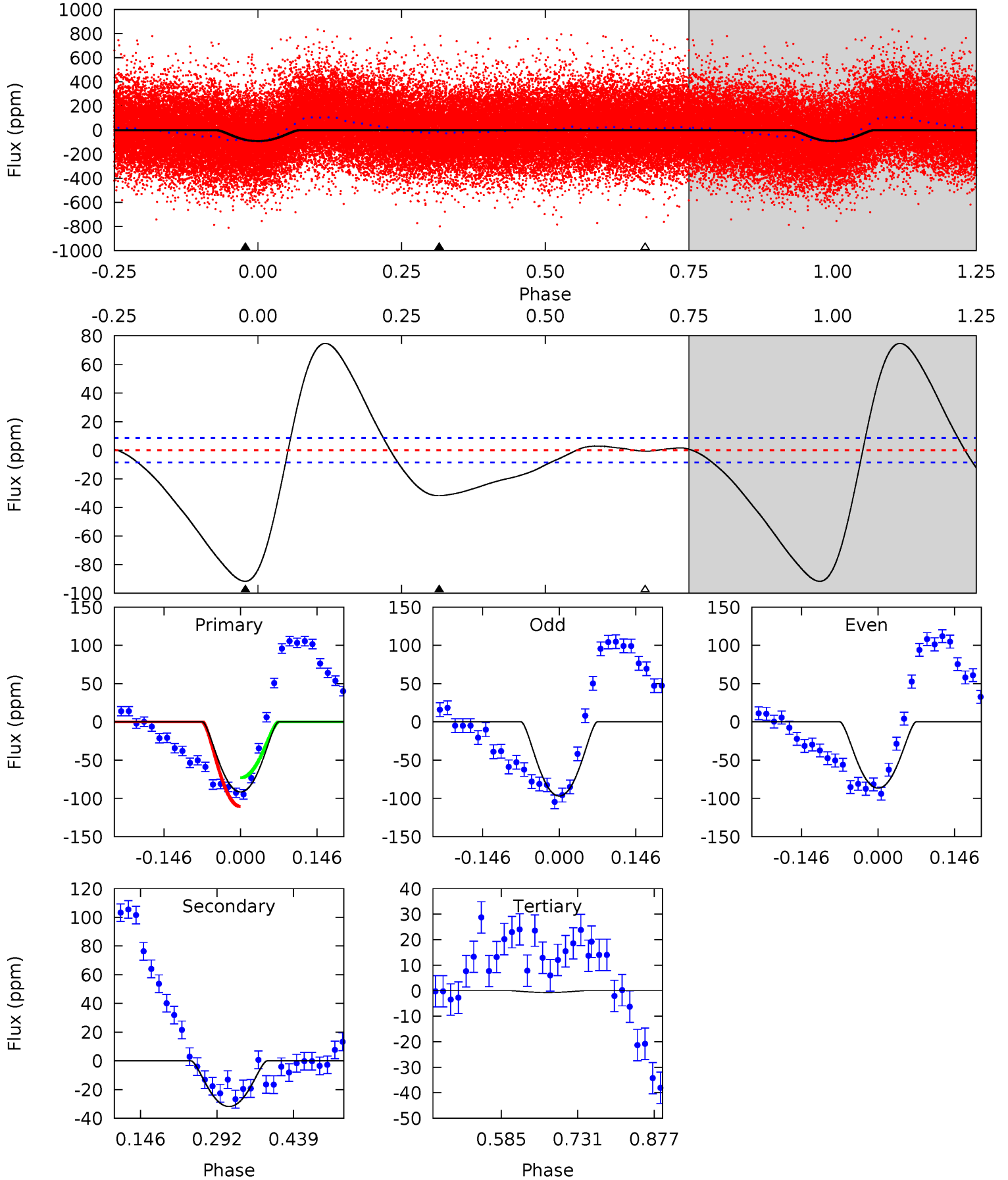
TCE 008322973-01 P= 11.446830 Days  $T_0=138.209271$  (BKJD)



# DV Model-Shift Uniqueness Test

008322973-01, P = 11.447114 Days, E = 126.637321 Days

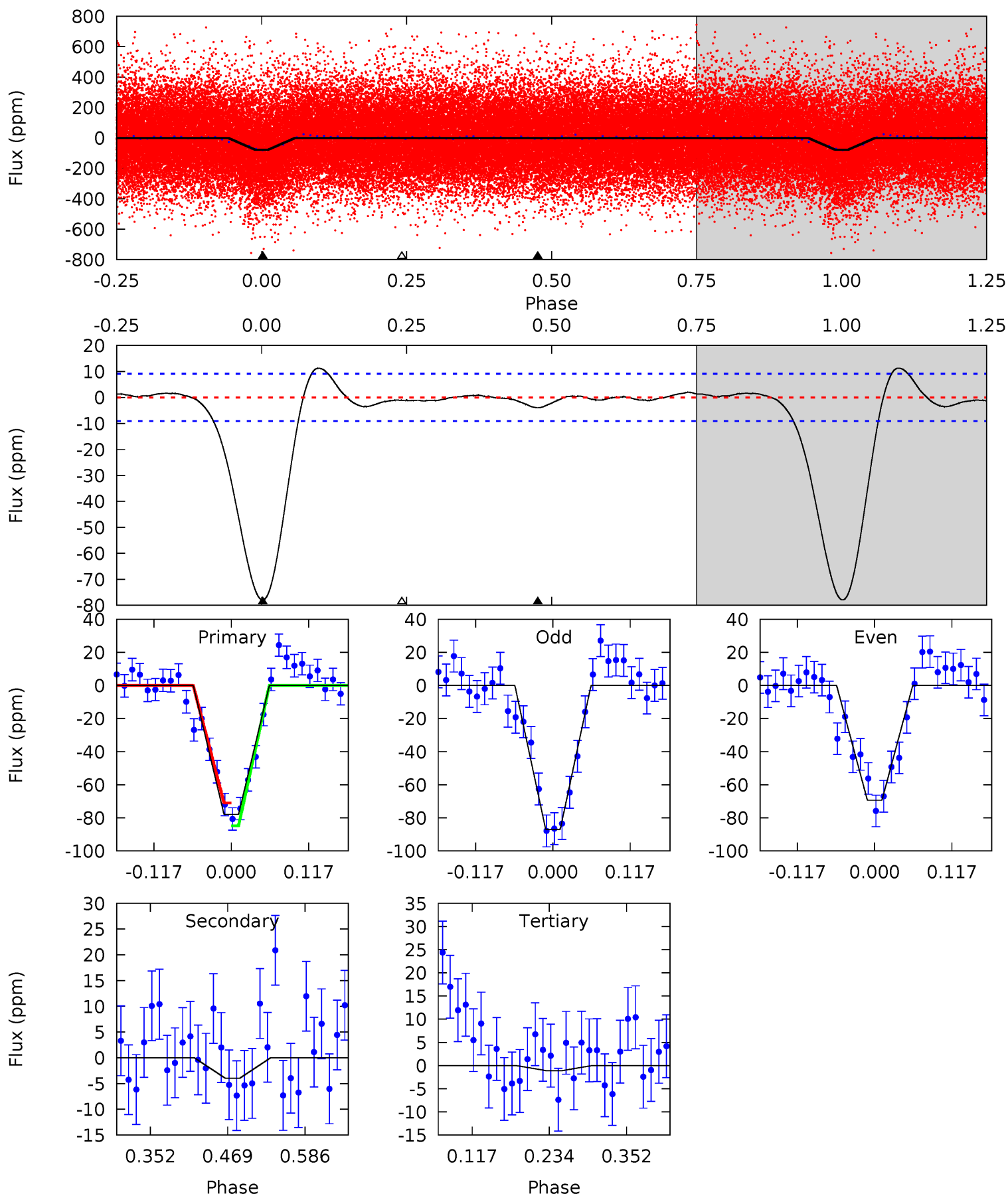
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.8	16.6	0.37	0	4.48	1.45	11.4	47.4	47.8	16.2	16.6	2.70	0.92	0.45	9.87



# Alt Model-Shift Uniqueness Test

008322973-01, P = 11.446830 Days, E = 126.762441 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
38.9	1.98	0.56	0	4.53	1.57	0.82	38.3	38.9	1.42	1.98	4.40	1.37	0.13	3.45





### Stellar Parameters For KIC 008322973

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4889^{+145}_{-130}$	$4.495^{+0.102}_{-0.680}$	$0.320^{+0.150}_{-0.300}$	$0.841^{+0.079}_{-0.079}$	$0.807^{+0.057}_{-0.057}$	$1.909^{+0.727}_{-1.652}$
	+3%/-3%	+2%/-15%	+47%/-94%	+9%/-9%	+7%/-7%	+38%/-87%
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 008322973-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-32 \pm 2$	$1.33^{+0.64}_{-0.61}$	$921^{+44}_{-44}$	$3524^{+771}_{-421}$	$85^{+202}_{-46}$
Alt.	$-4 \pm 2$	$0.89^{+0.61}_{-0.50}$	$921^{+46}_{-46}$	$2862^{+877}_{-431}$	$22^{+100}_{-16}$

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

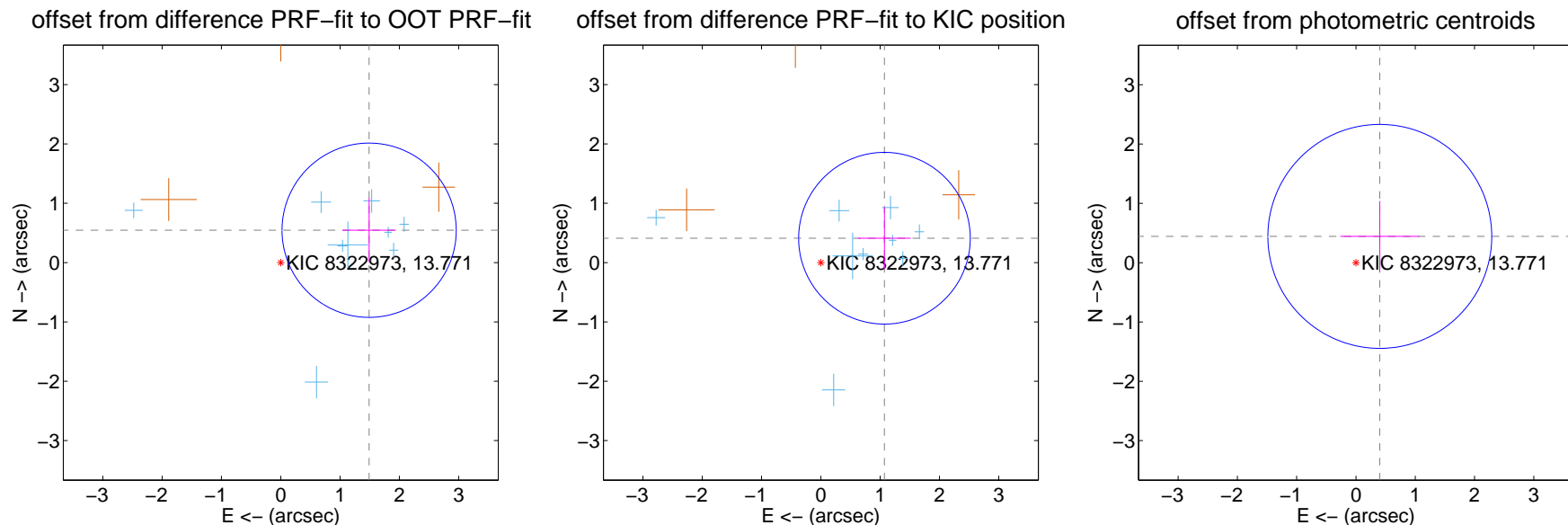
## DV Centroid Data

Supplemental centroid analysis for 008322973-01. Kepler magnitude: 13.77. Transit SNR 17.20

There are 9 quarters with good PRF difference image offsets

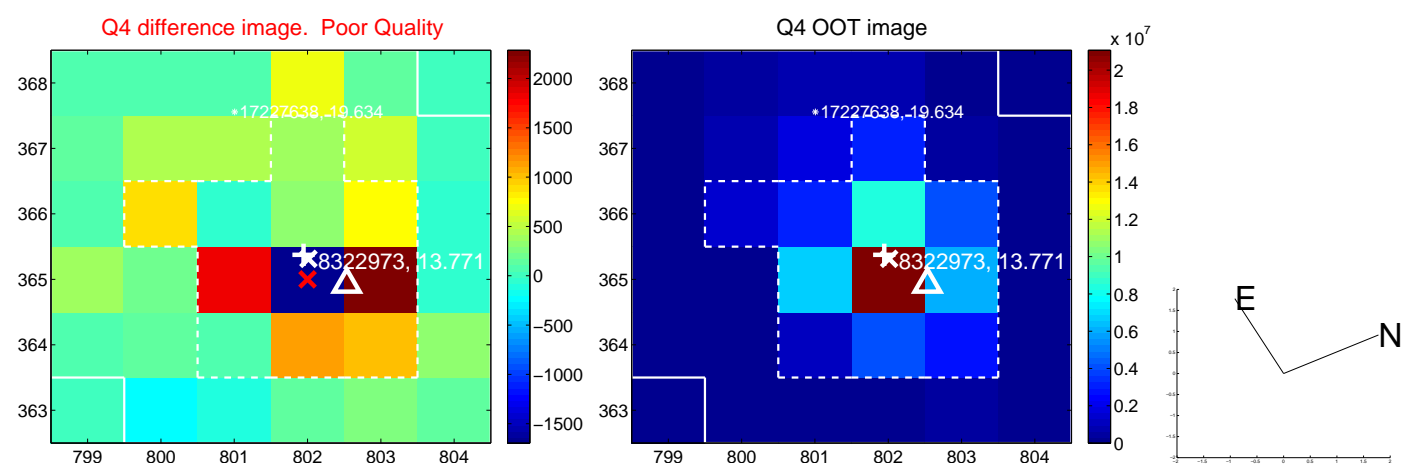
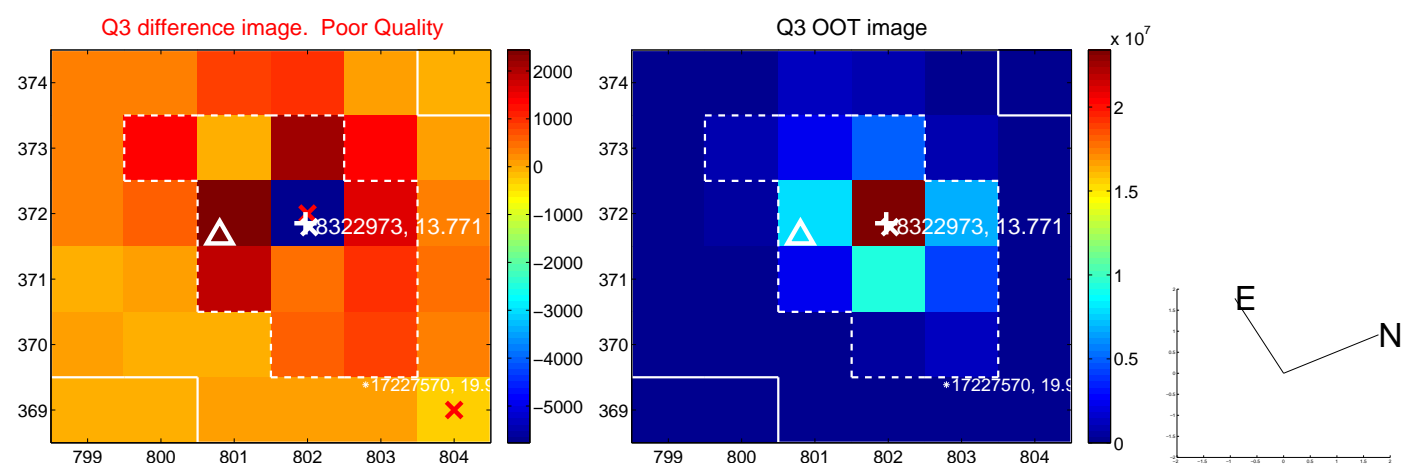
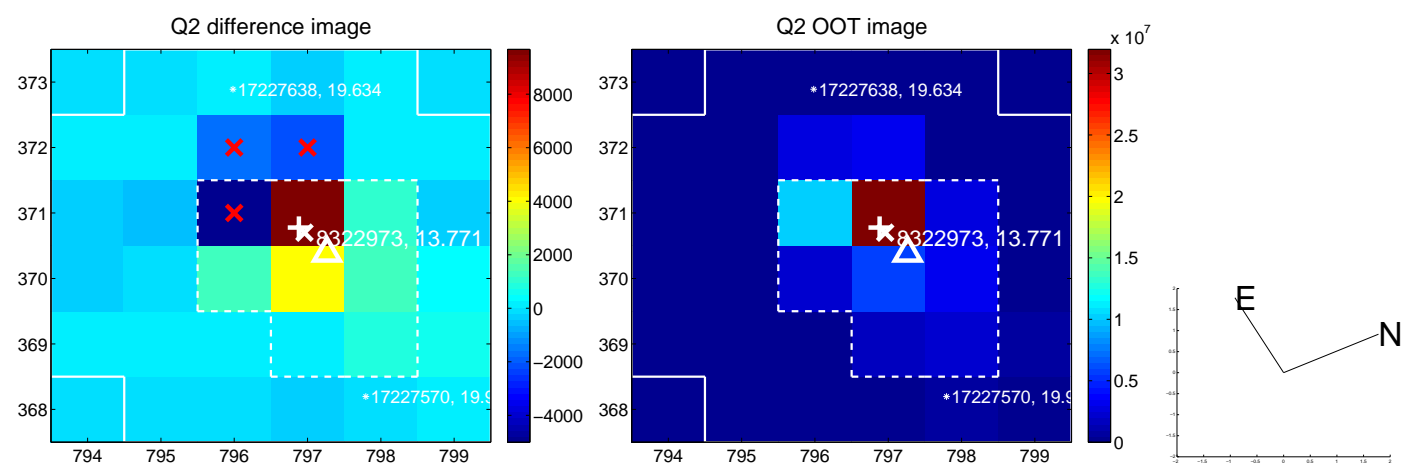
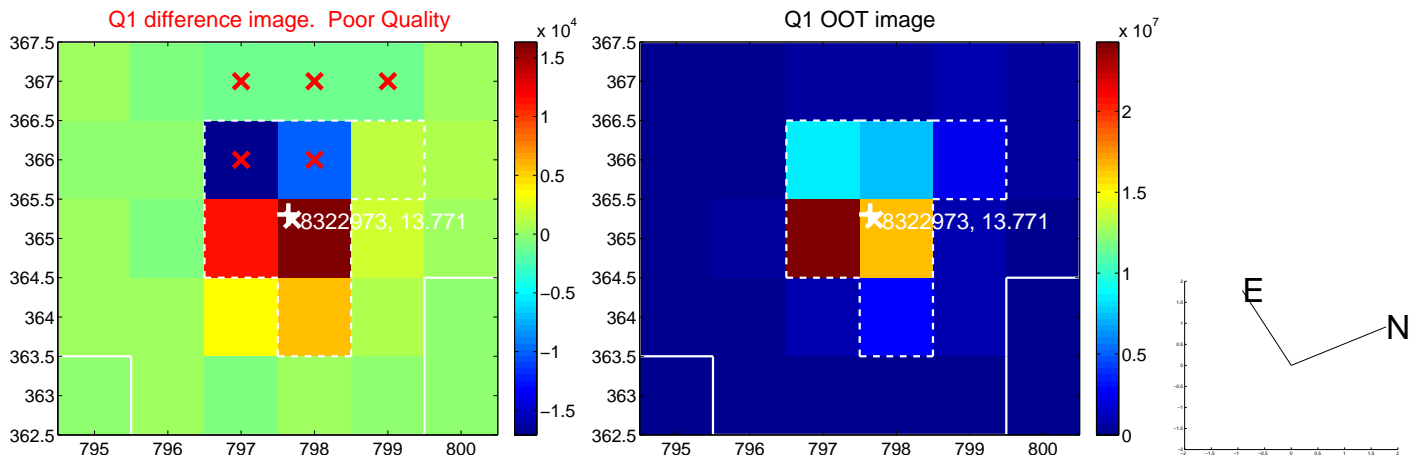
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.587 \pm 0.490$	$3.24$	$-1.491 \pm 0.452$	$0.545 \pm 0.541$
PRF-fit source offset from KIC position	$1.148 \pm 0.482$	$2.38$	$-1.073 \pm 0.443$	$0.411 \pm 0.523$
photometric centroid source offset	$0.60 \pm 0.63$	$0.95$	$-0.40 \pm 0.67$	$0.44 \pm 0.60$

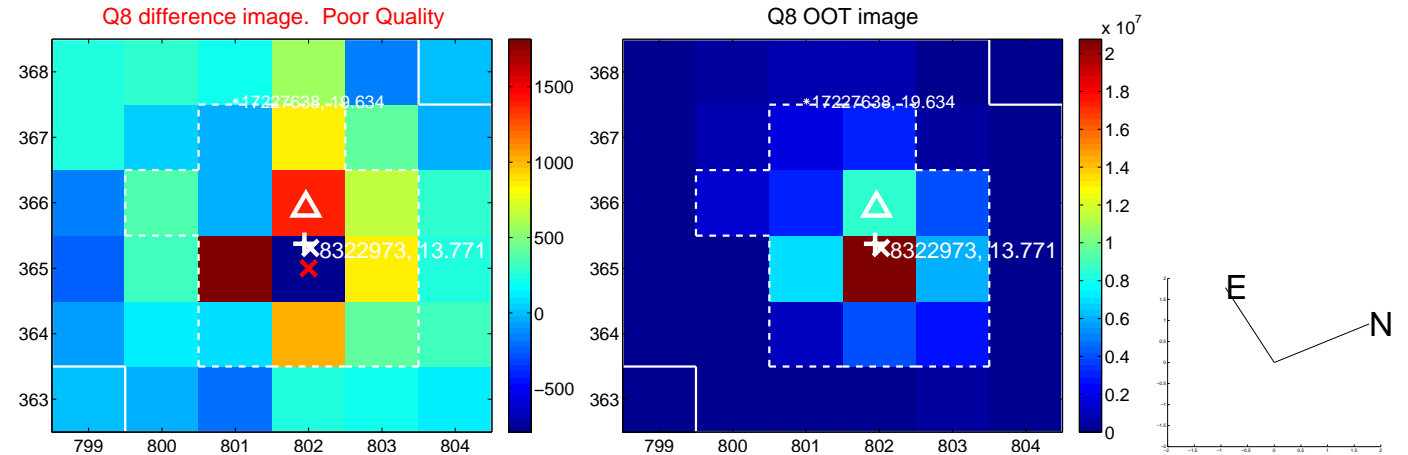
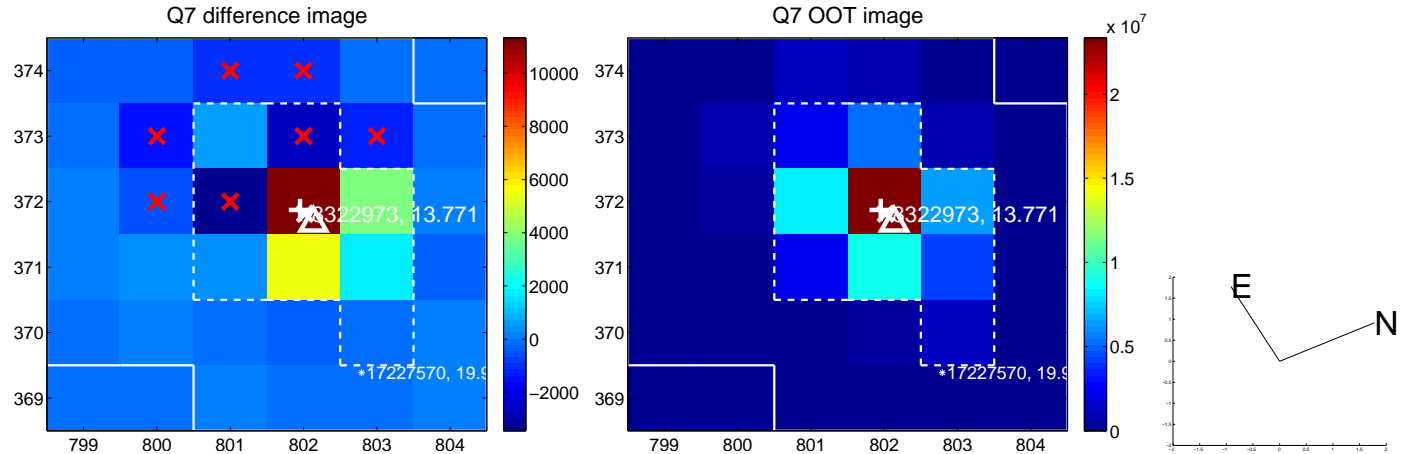
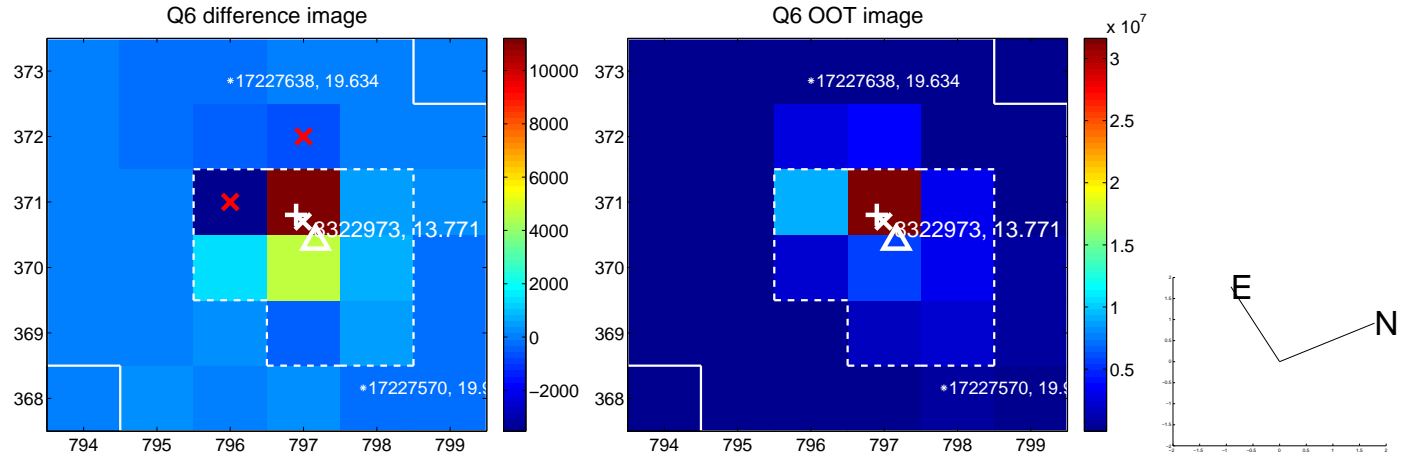
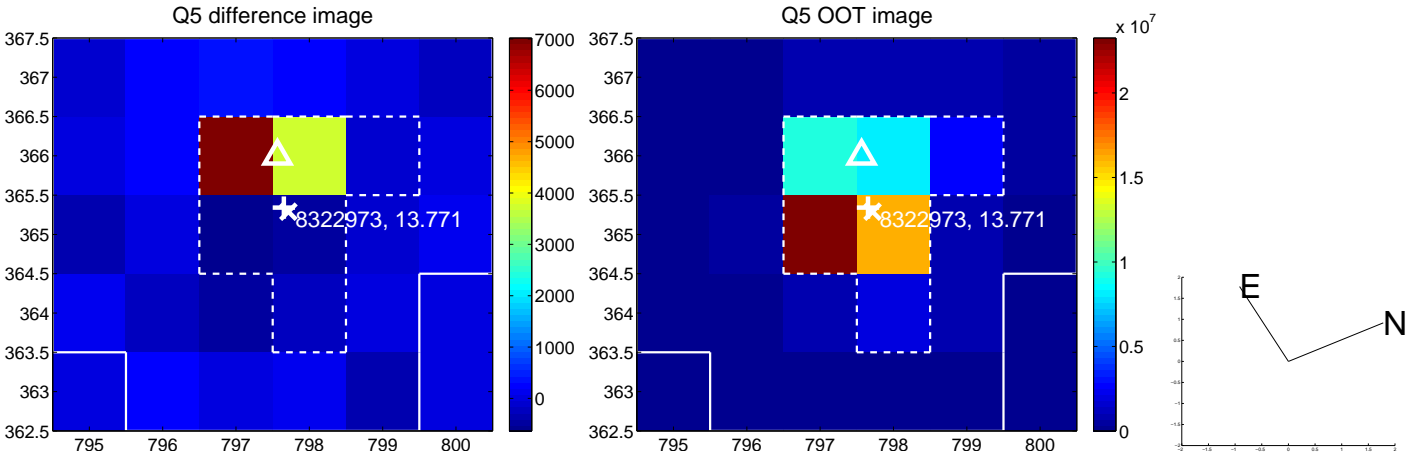


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

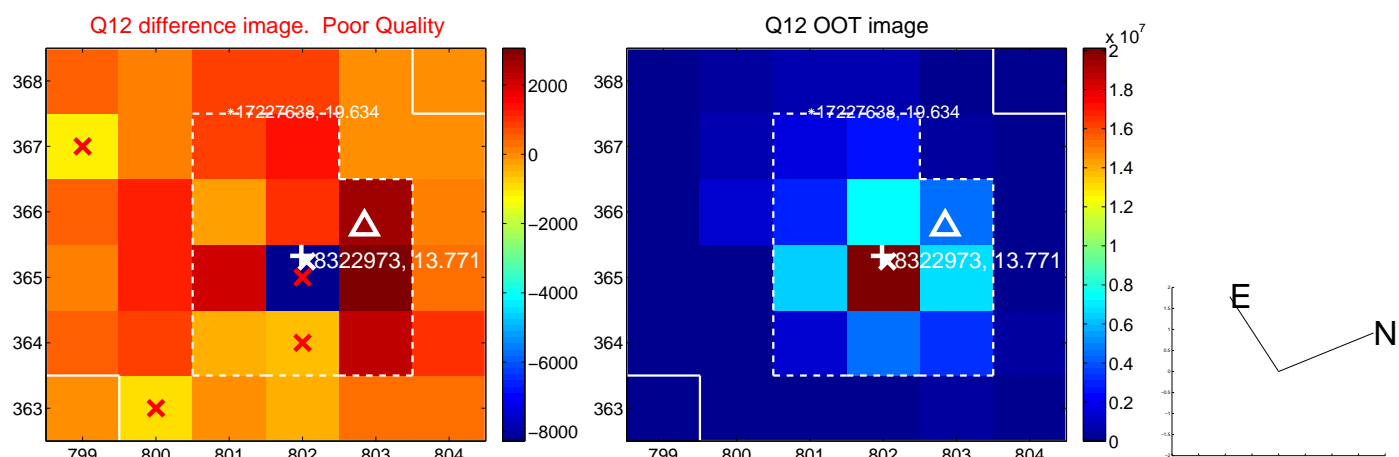
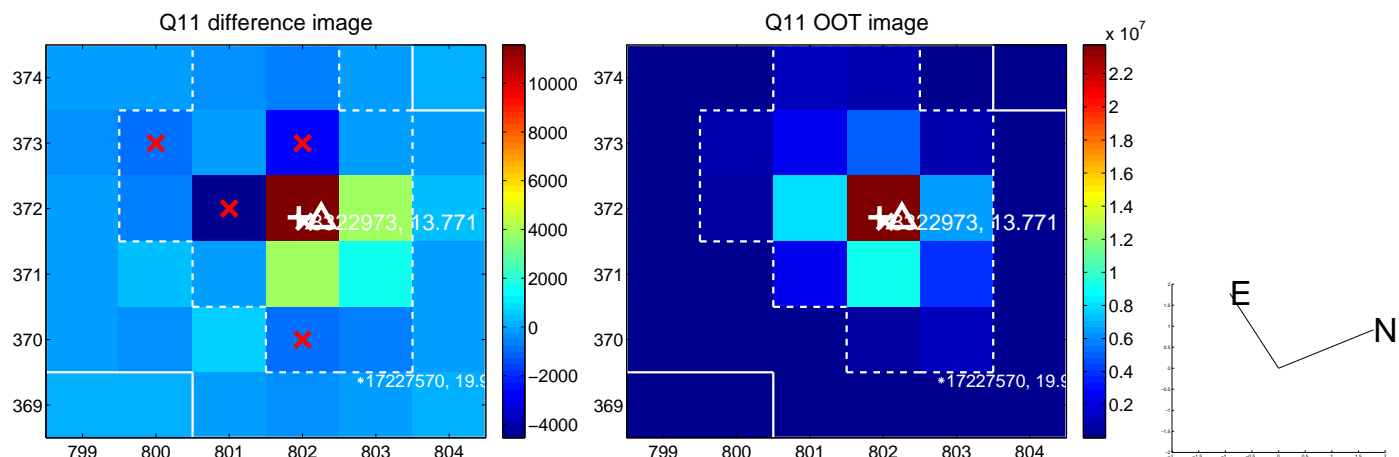
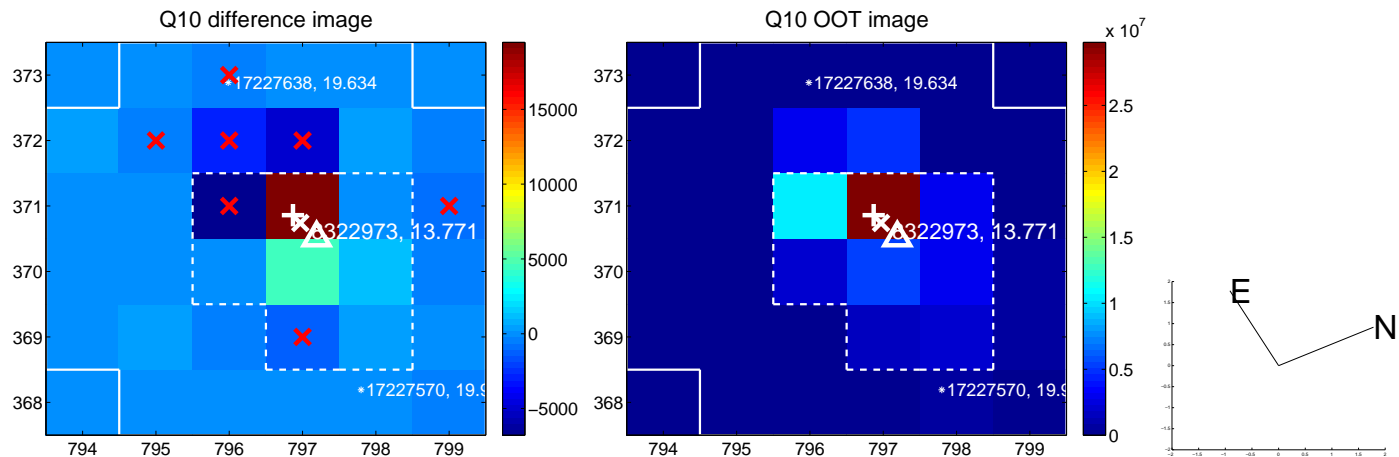
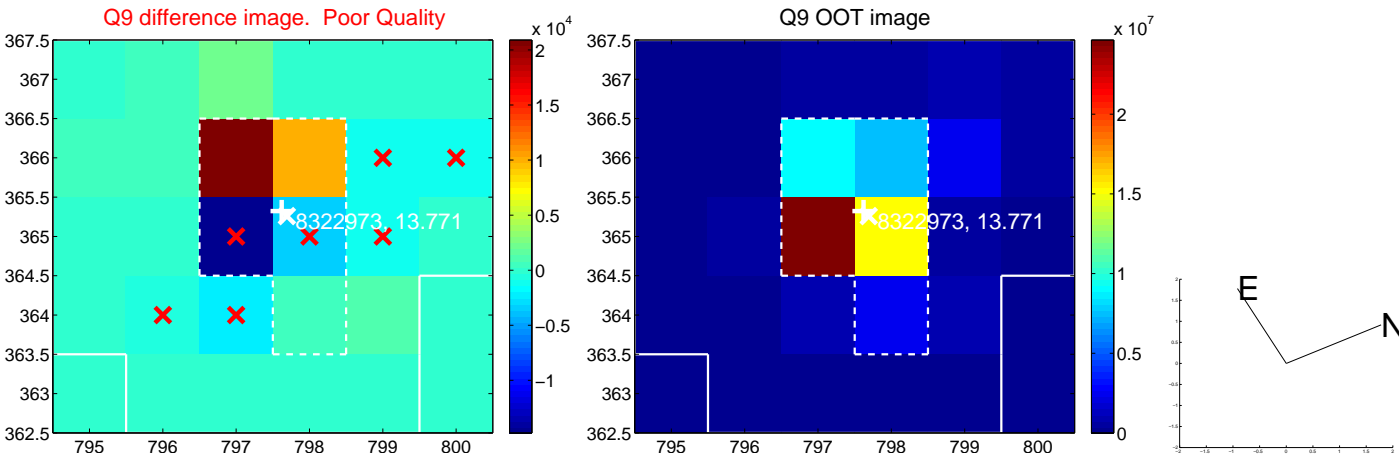


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

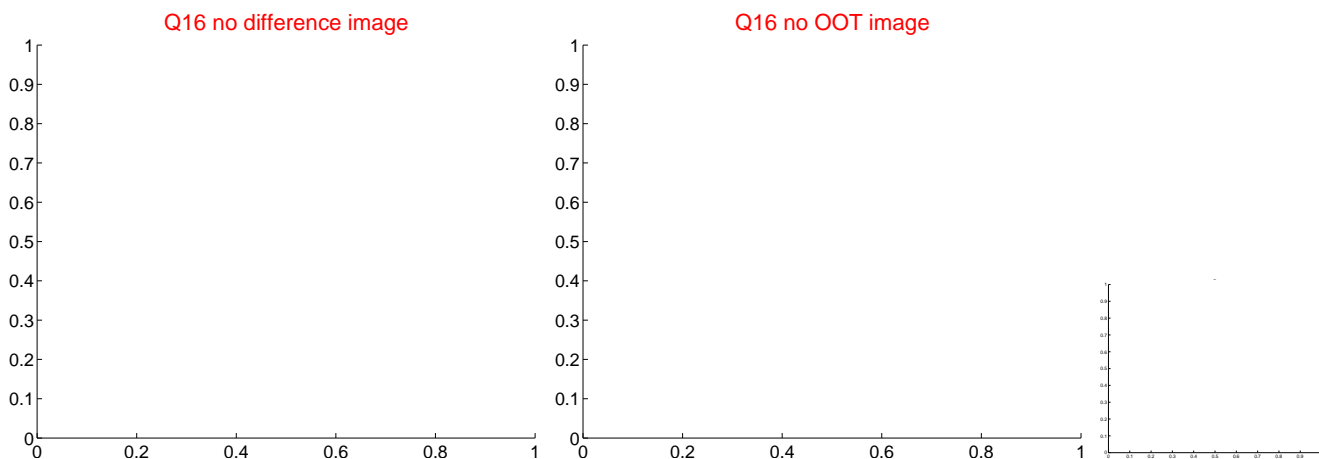
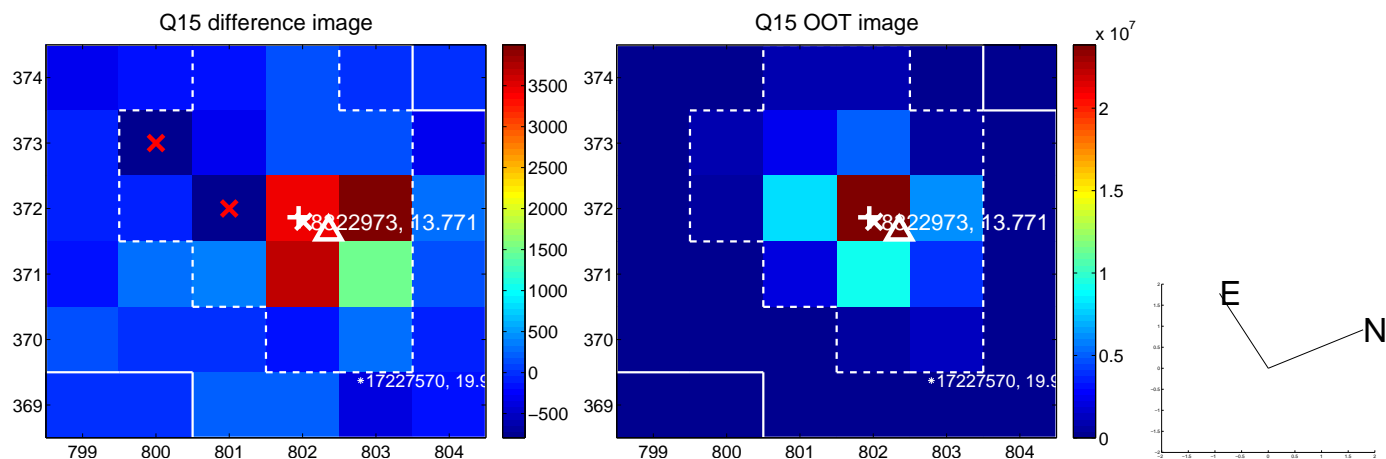
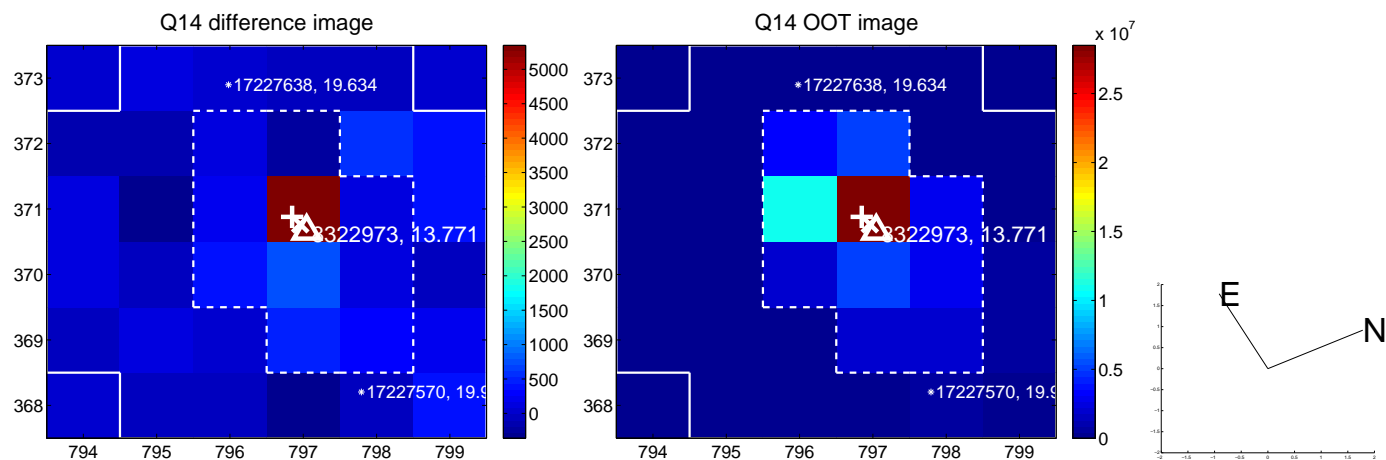
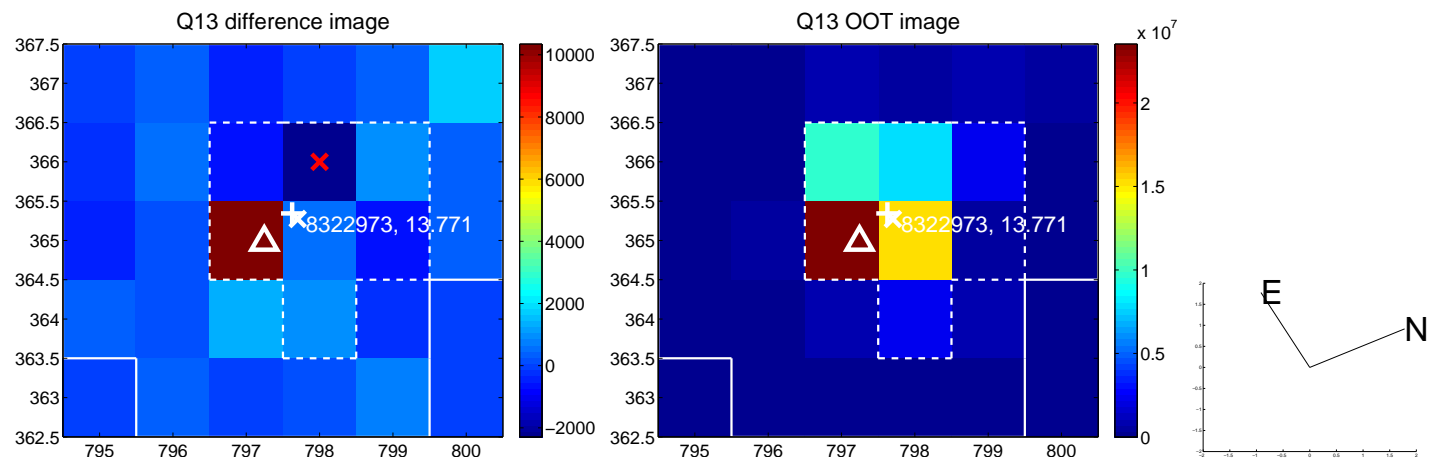




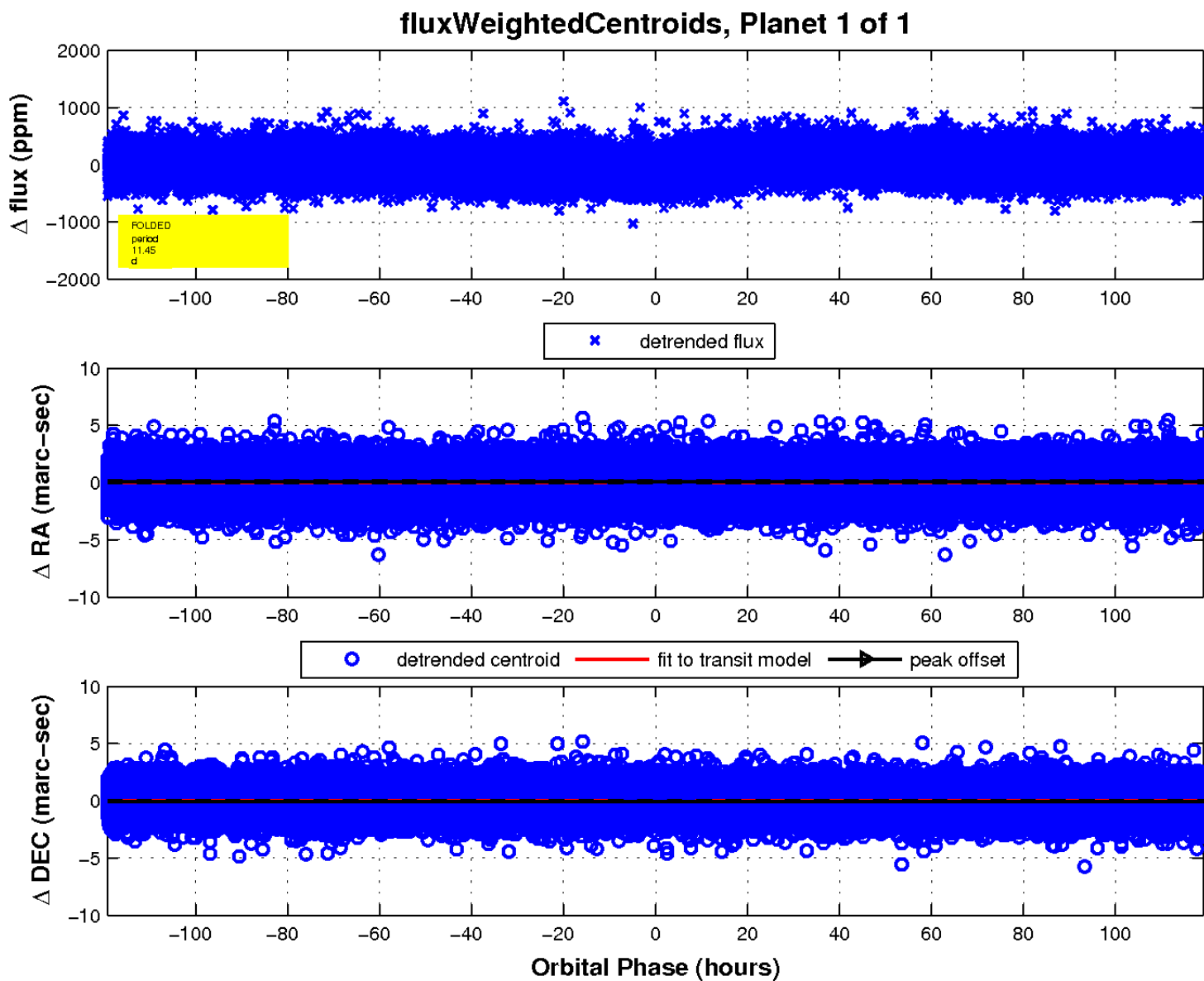
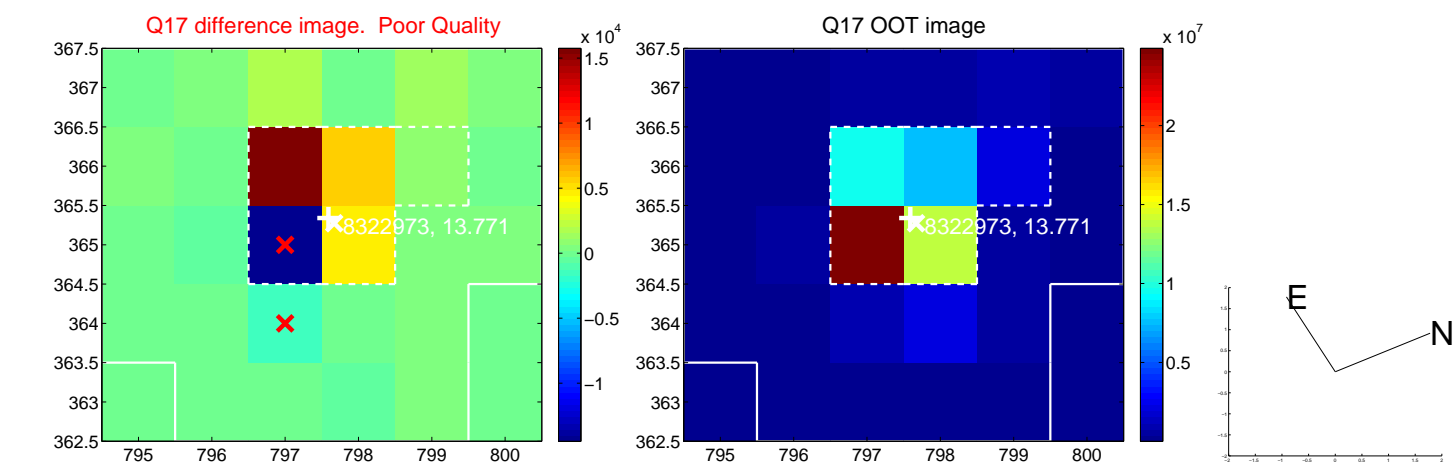
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

