

# KIC 006790346

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006790346-01	OBS	No	2.422704	133.533909	164.0	10.711	12.6	12.6	1.40	6344	1.80	2154.36

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006790346-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

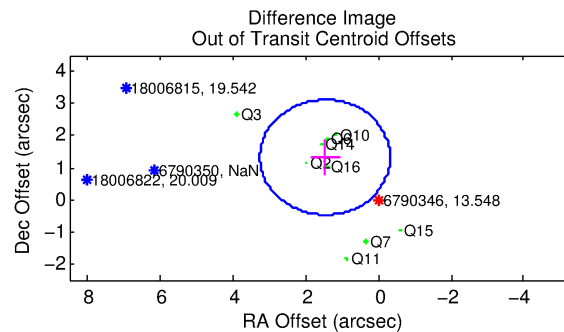
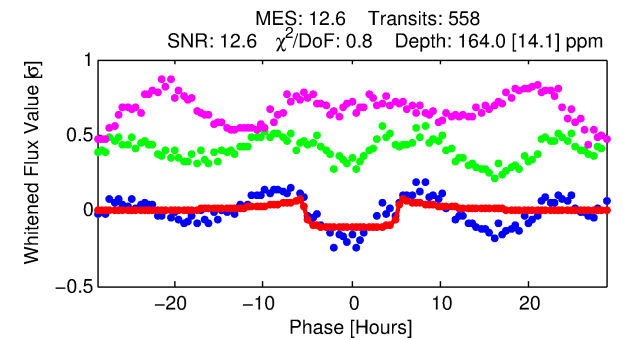
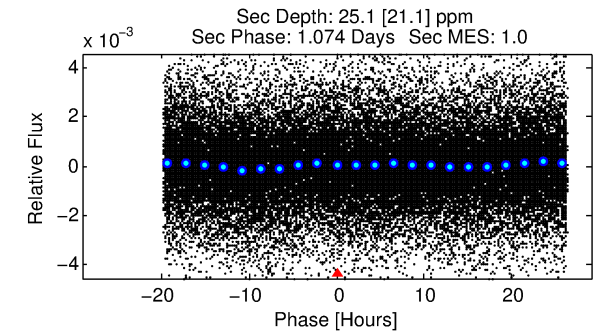
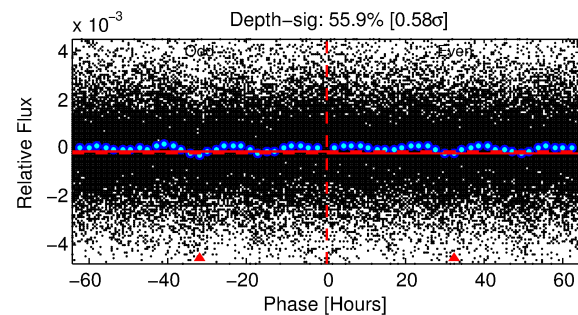
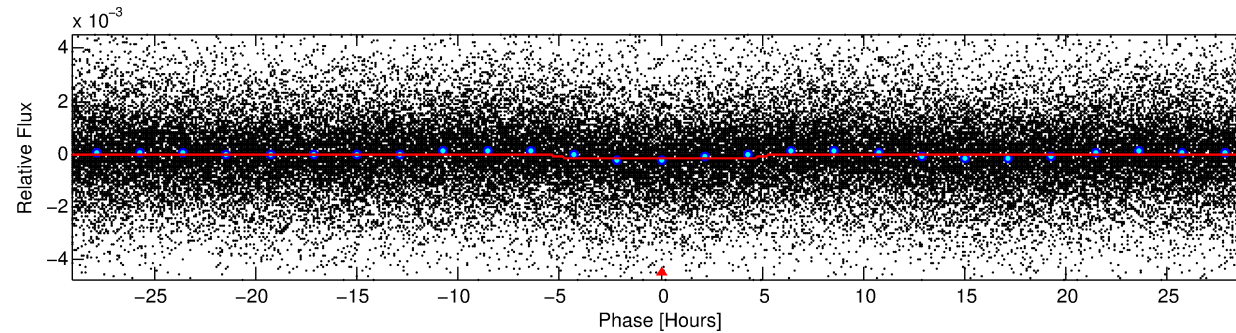
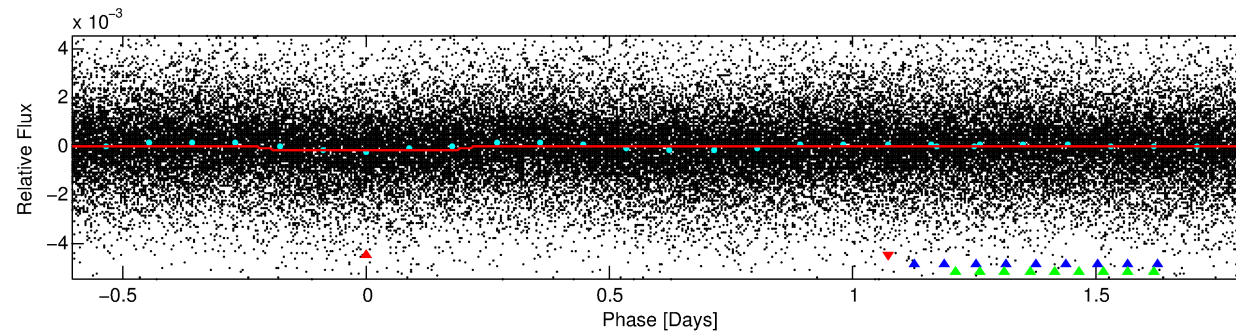
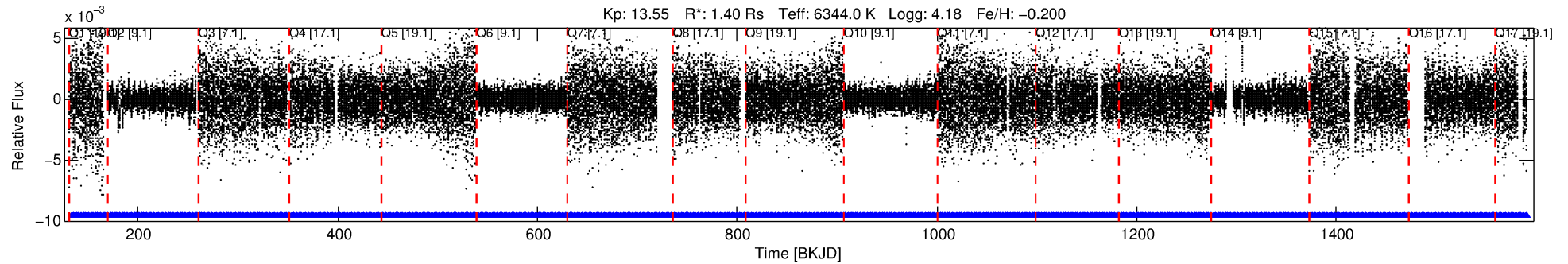
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006790346-01

No Significant Match Found

# DV One-Page Summary

KIC: 6790346 Candidate: 1 of 3 Period: 2.423 d



## DV Fit Results:

Period = 2.42270 [0.00002] d  
Epoch = 133.5339 [0.0057] BKJD  
Rp/R\* = 0.0118 [0.0096]  
a/R\* = 1.83 [5.42]  
b = 0.15 [26.79]  
Seff = 2154.36 [874.81]  
Teq = 1737 [176] K  
Rp = 1.81 [1.56] Re  
a = 0.0364 [0.0092] AU  
Ag = 5.63 [10.56] [0.44 $\sigma$ ]  
Teffp = 4137 [1906] K [1.25 $\sigma$ ]

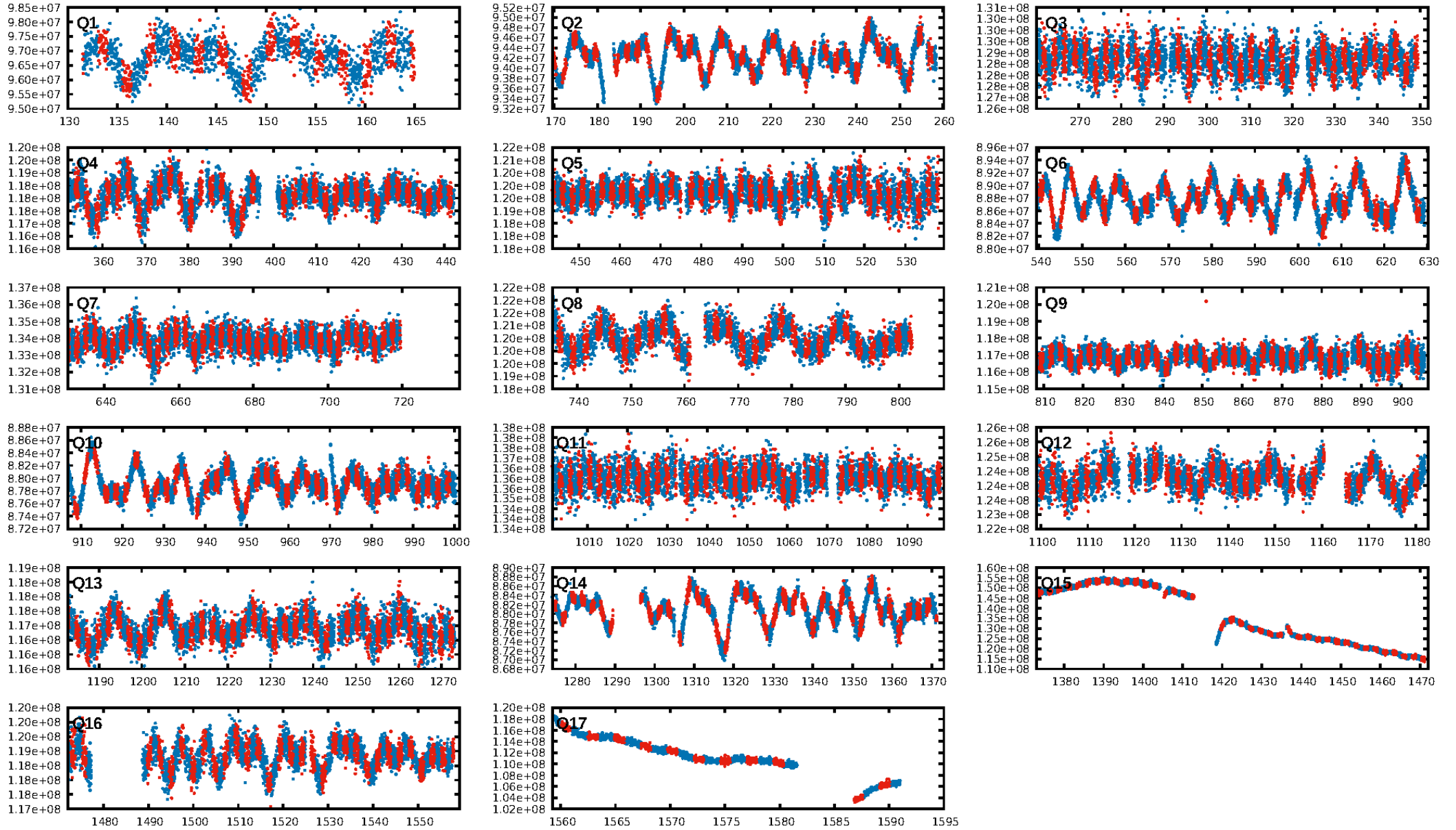
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [339.91 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.63e-38  
RollingBand-fgt: 1.00 [533/533]  
**GhostDiagnostic-chr: -0.8578**  
Centroid-sig: 0.0%  
Centroid-so: 3.649 arcsec [9.48 $\sigma$ ]  
OotOffset-rm: 1.973 arcsec [3.30 $\sigma$ ]  
KicOffset-rm: 5.725 arcsec [11.82 $\sigma$ ]  
OotOffset-st: 4/4/1/0 [9]  
KicOffset-st: 4/4/1/0 [9]  
DiffImageQuality-fgm: 0.56 [5/9]  
DiffImageOverlap-fno: 1.00 [17/17]

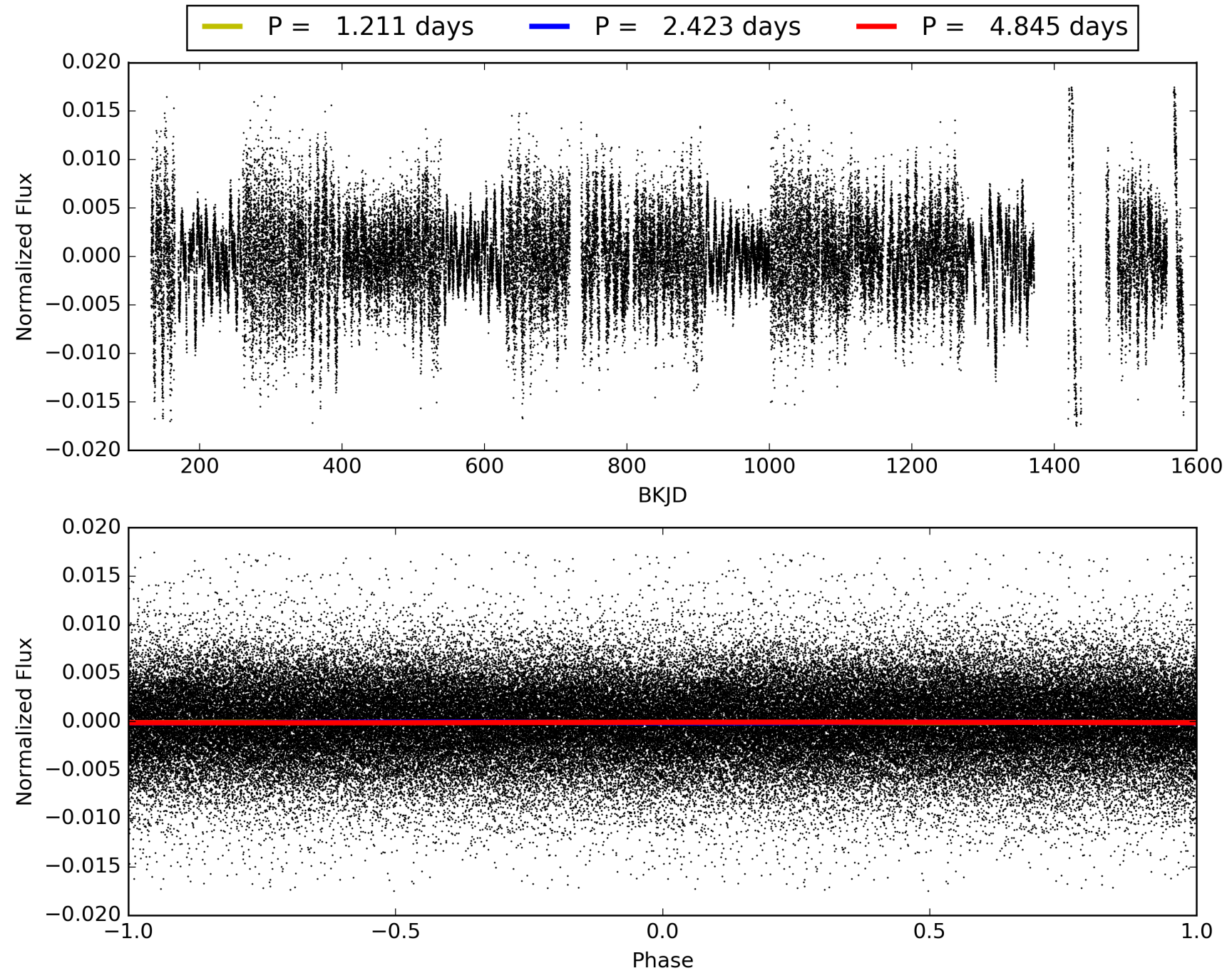
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:31:26 Z

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

# TCE 006790346-01, PDC Light Curves



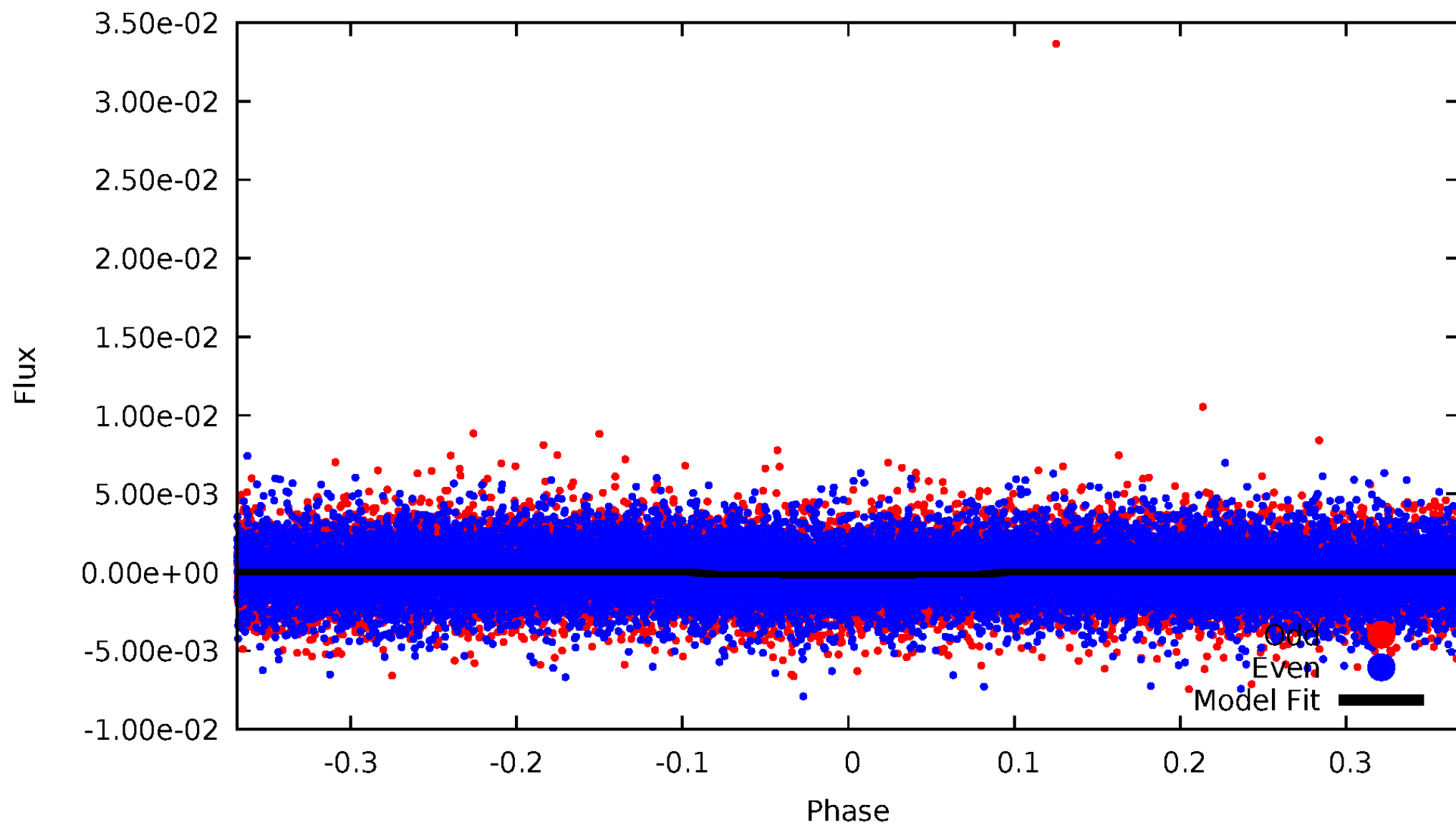
TCE 006790346-01





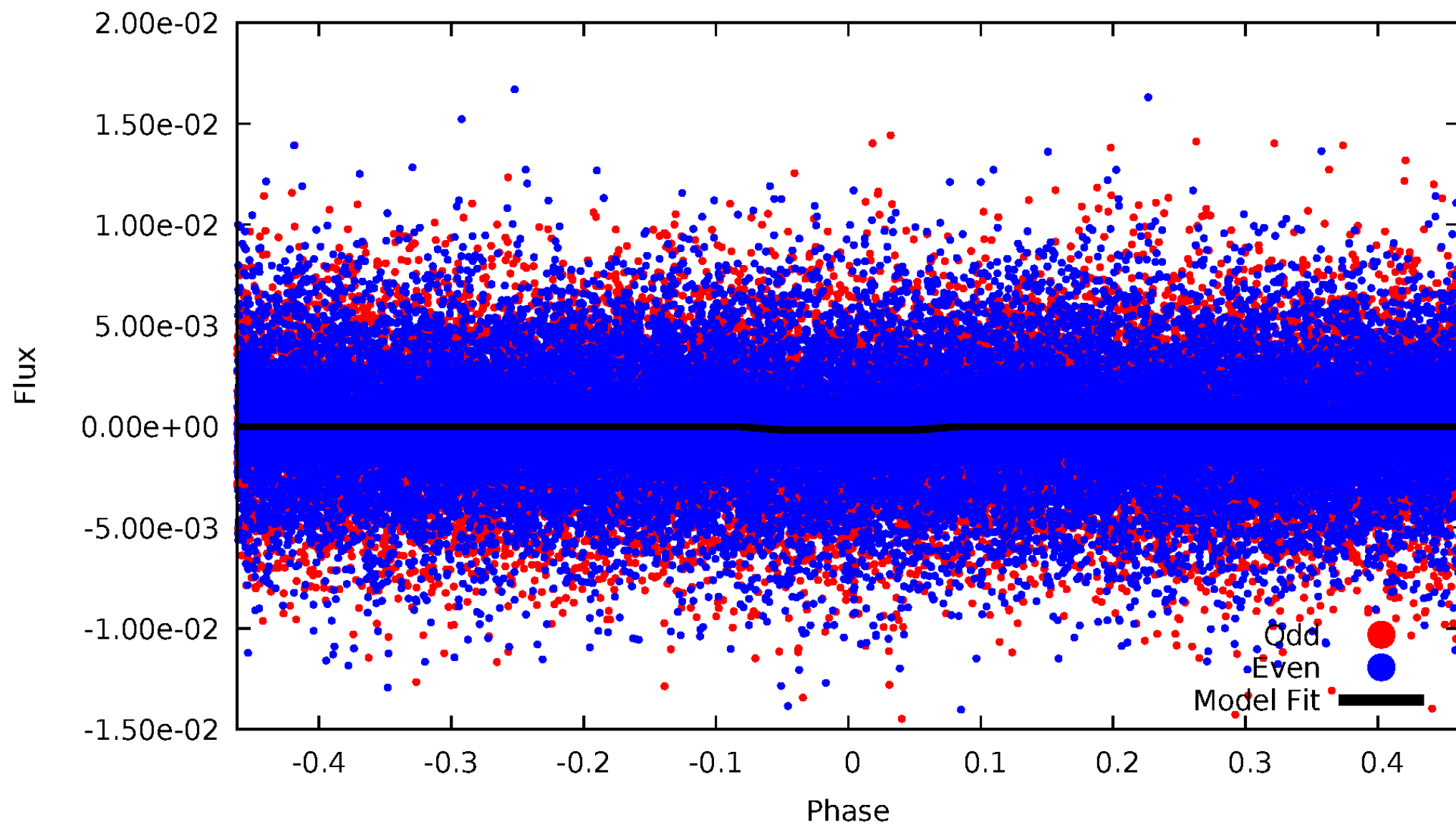
# DV Odd/Even

TCE 006790346-01



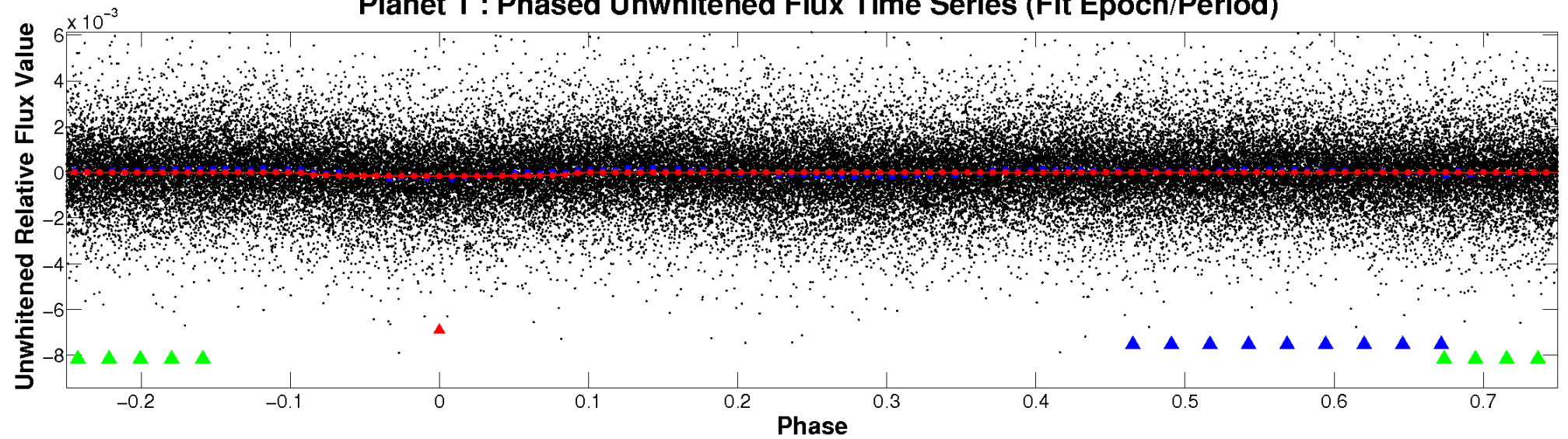
# ALT Odd/Even

TCE 006790346-01

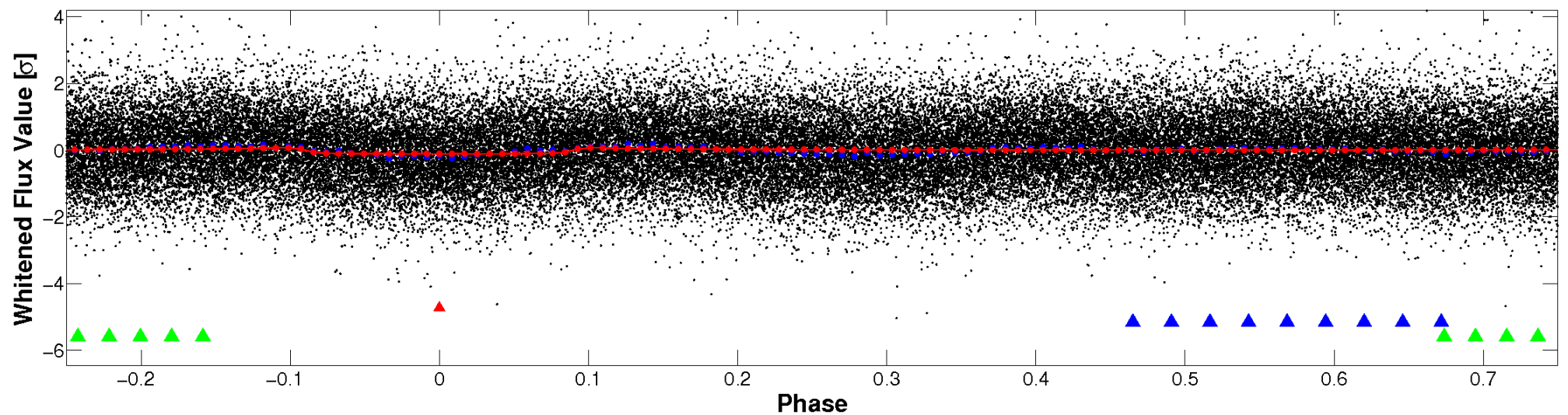


# Non-Whitened Vs. Whitened Light Curve

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

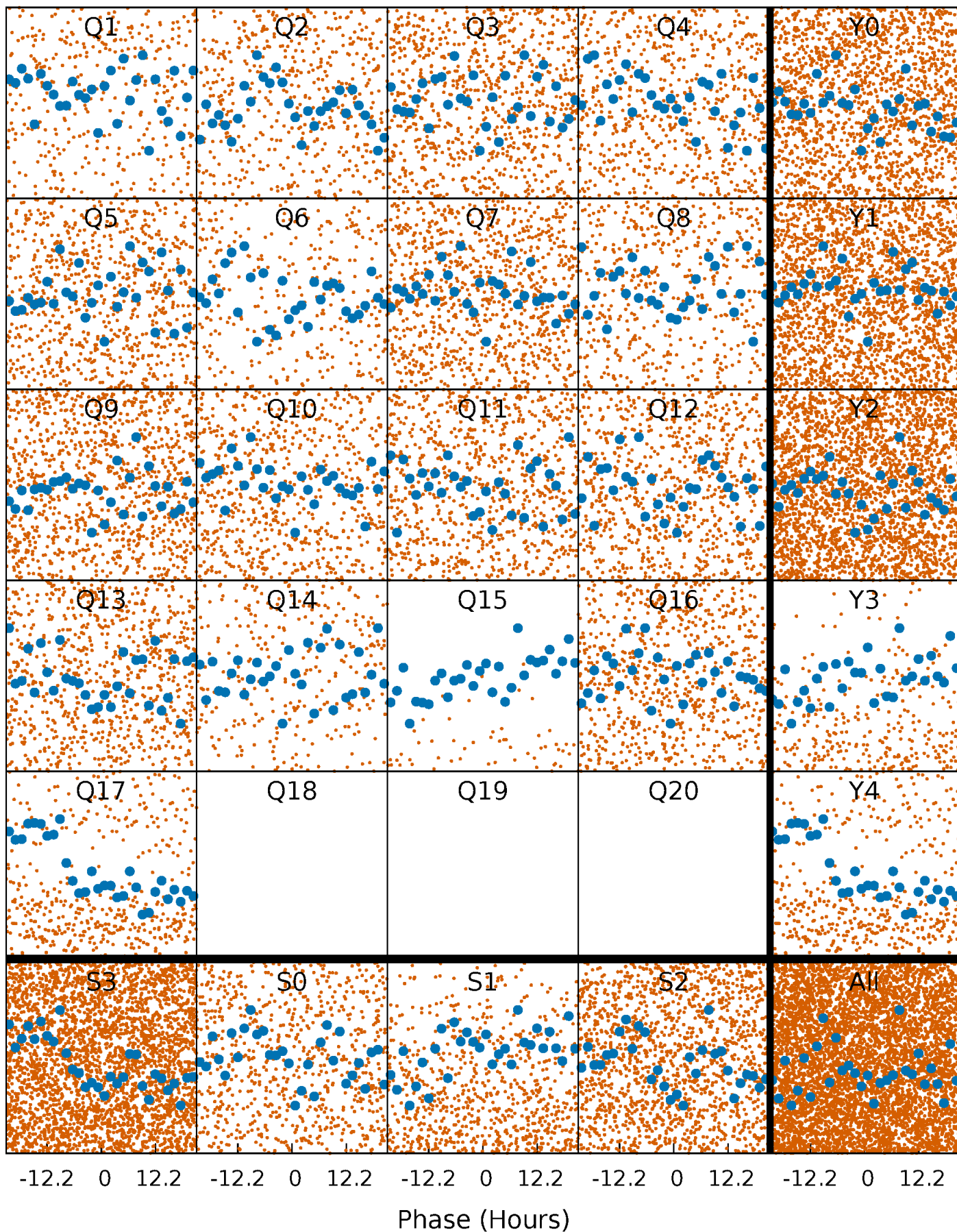


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

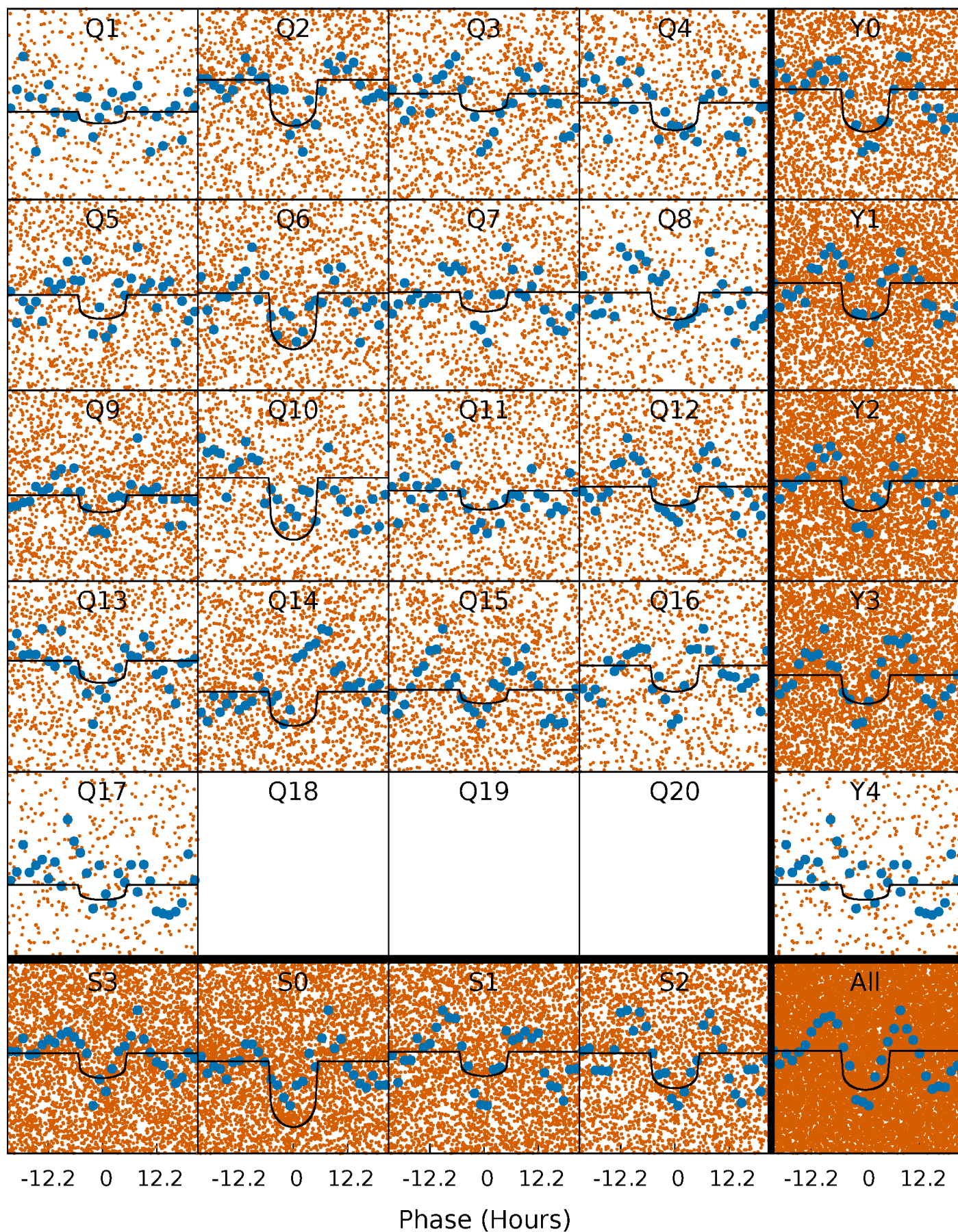
TCE 006790346-01 P= 2.422704 Days  $T_0=133.533909$  (BKJD)





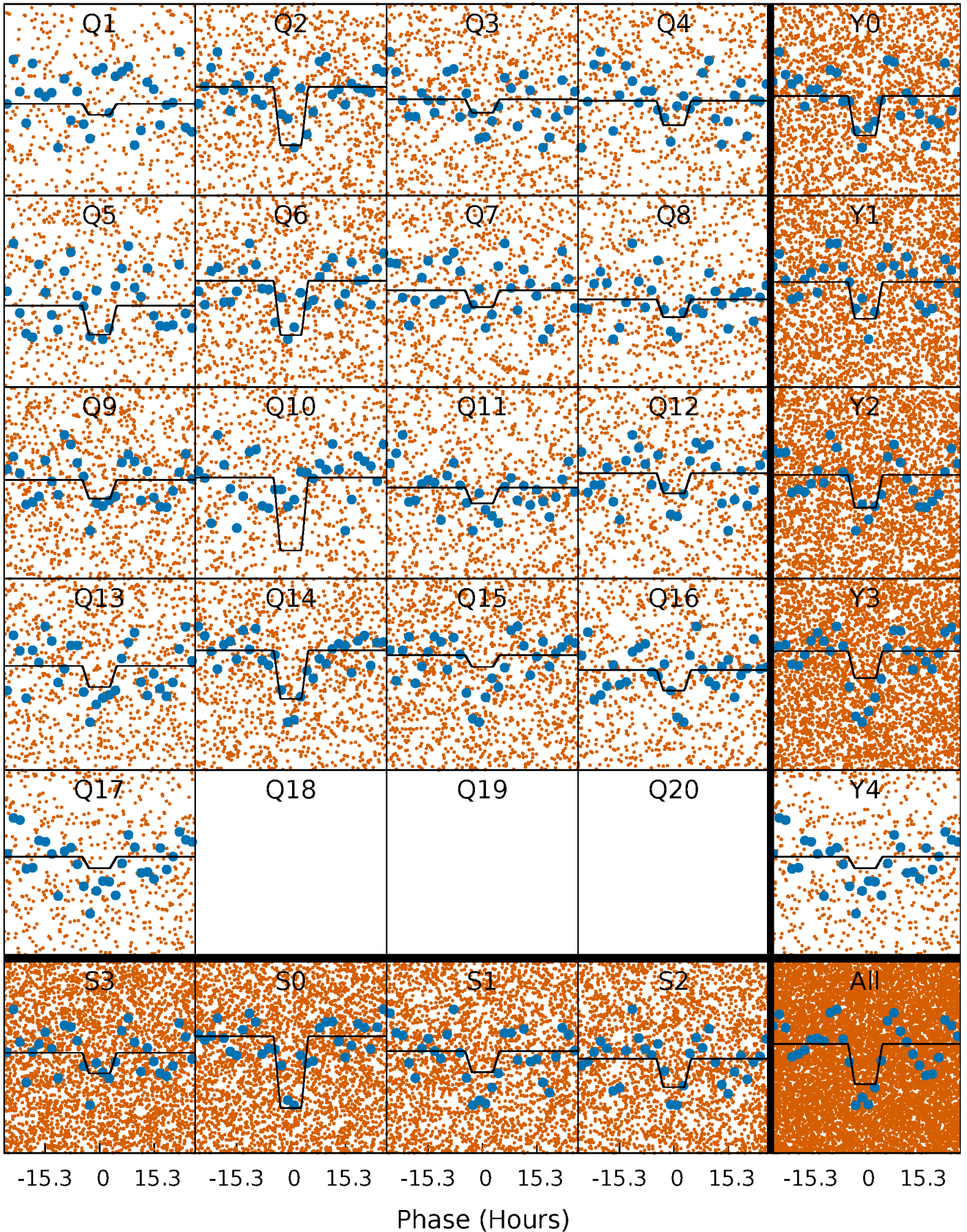
# DV Quarter-Phased Transit Curves

TCE 006790346-01 P= 2.422704 Days  $T_0=133.533909$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006790346-01 P= 2.422543 Days  $T_0=133.577894$  (BKJD)

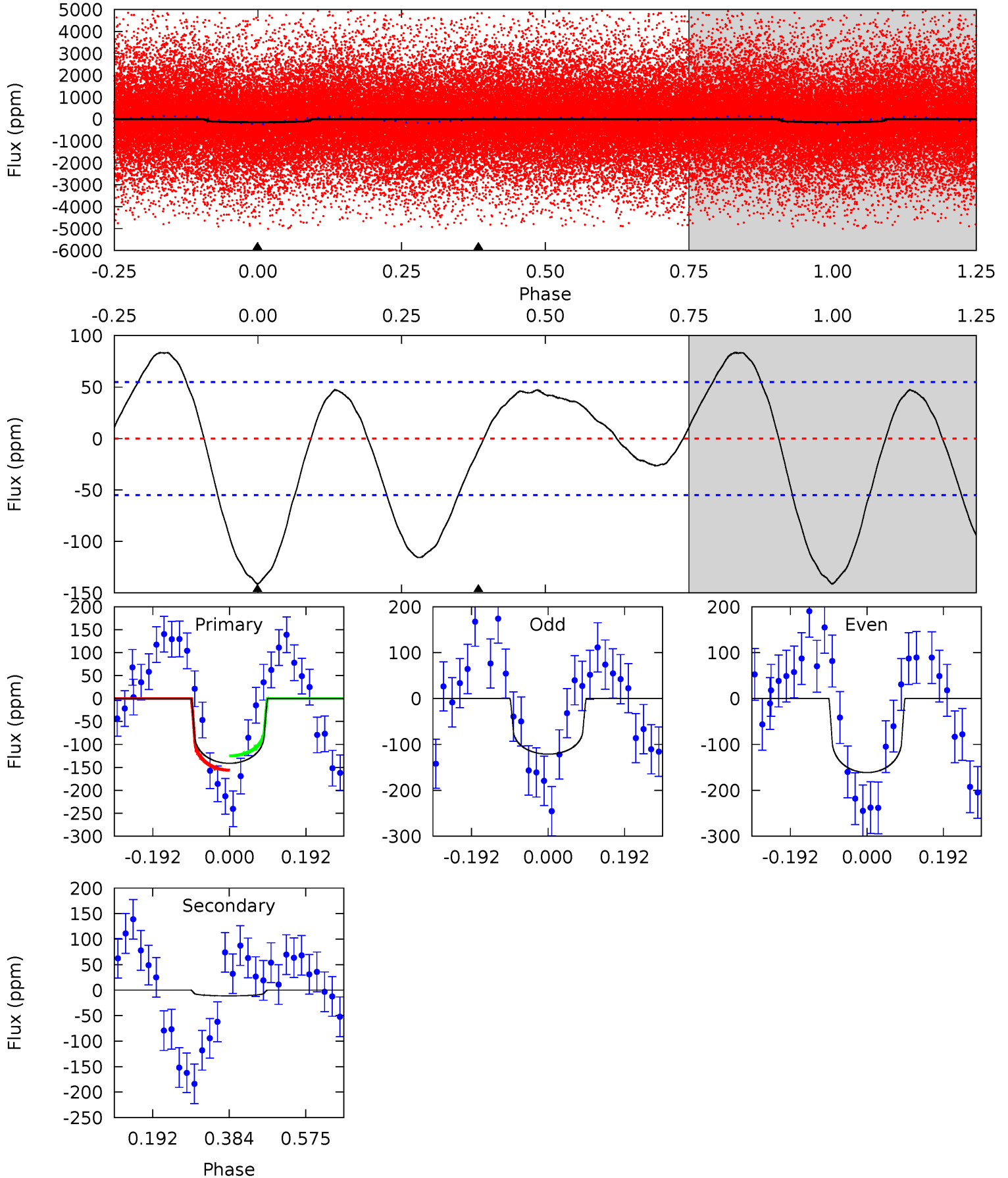




# DV Model-Shift Uniqueness Test

006790346-01, P = 2.422704 Days, E = 131.111205 Days

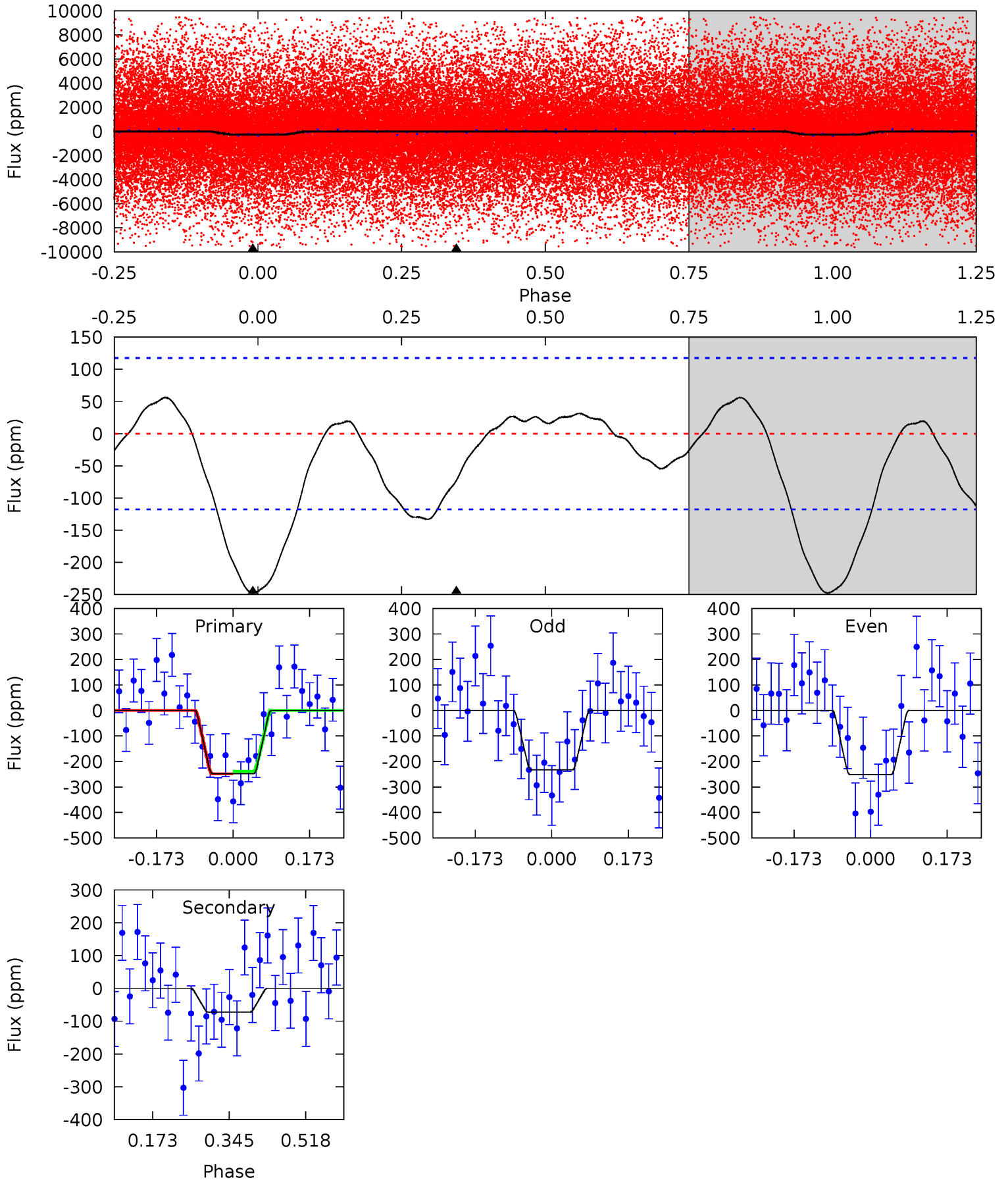
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	0.91	0	0	4.43	1.31	2.13	11.4	11.4	0.91	0.91	1.63	0.88	0.37	1.27



# Alt Model-Shift Uniqueness Test

006790346-01, P = 2.422543 Days, E = 131.155351 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
9.36	2.75	0	0	4.45	1.36	1.14	9.36	9.36	2.75	2.75	0.35	1.43	0.19	0.18





### Stellar Parameters For KIC 006790346

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6344^{+181}_{-227}$	$4.184^{+0.214}_{-0.175}$	$-0.200^{+0.250}_{-0.300}$	$1.403^{+0.402}_{-0.329}$	$1.095^{+0.193}_{-0.145}$	$0.559^{+0.656}_{-0.261}$
	+3%/-4%	+5%/-4%	+125%/-150%	+29%/-23%	+18%/-13%	+117%/-47%
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 006790346-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-11 \pm 12$	$2.07^{+1.35}_{-1.24}$	$2421^{+180}_{-173}$	$3354^{+1594}_{-6271}$	$1.567^{+9.535}_{-1.658}$
Alt.	$-73 \pm 26$	$2.23^{+1.52}_{-1.29}$	$2419^{+176}_{-188}$	$4789^{+2640}_{-884}$	$9.814^{+45.486}_{-6.473}$

$T_{\text{max}}$  = 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

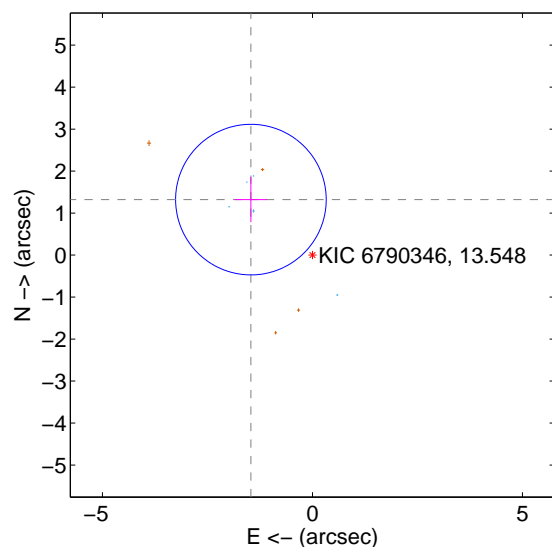
Supplemental centroid analysis for 006790346-01. Kepler magnitude: 13.55. Transit SNR 12.60

There are 5 quarters with good PRF difference image offsets

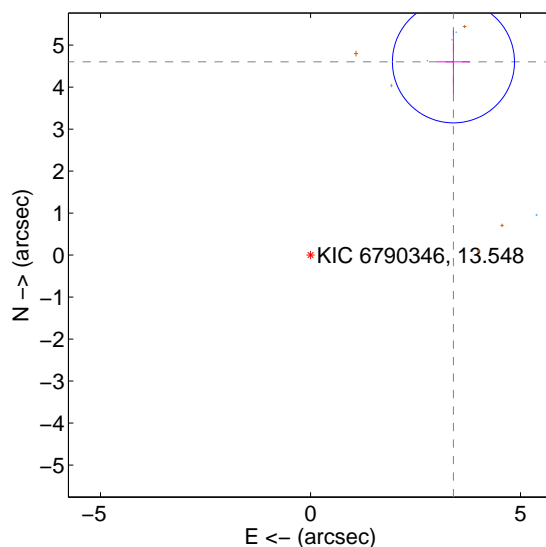
The OOT PRF centroid is offset from the target star catalog position by about 4.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.973 \pm 0.598$	3.30	$1.465 \pm 0.380$	$1.322 \pm 0.537$
PRF-fit source offset from KIC position	$5.725 \pm 0.485$	11.82	$-3.404 \pm 0.397$	$4.603 \pm 0.755$
photometric centroid source offset	$3.65 \pm 0.38$	9.48	$-2.75 \pm 0.44$	$2.40 \pm 0.30$

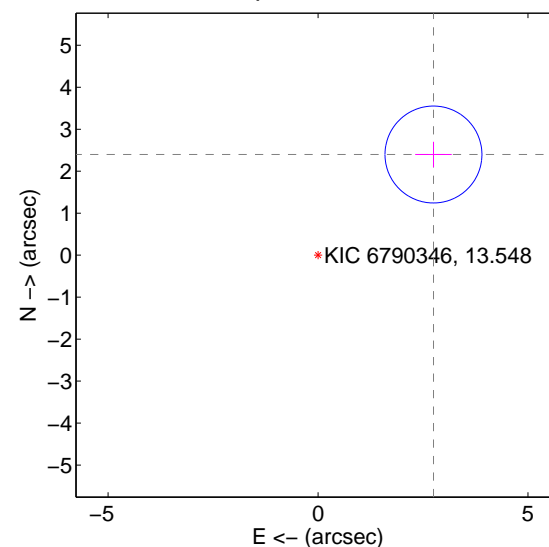
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

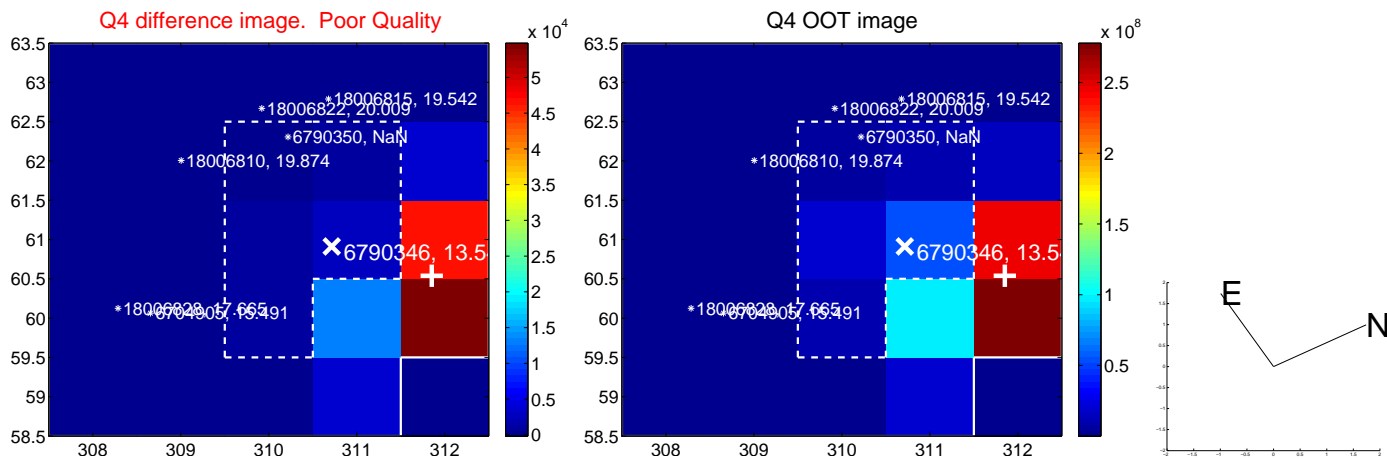
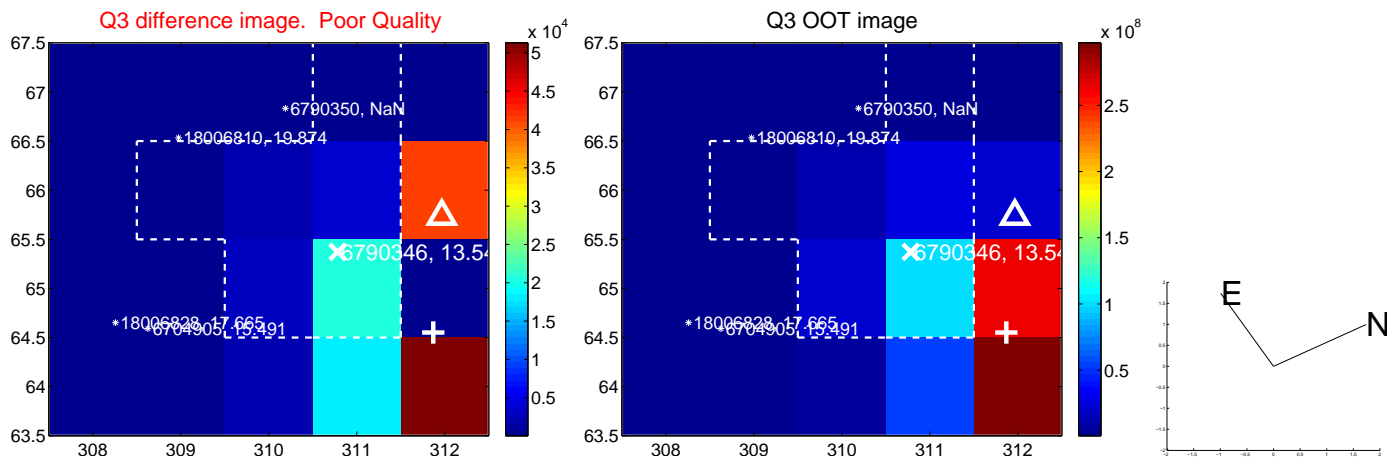
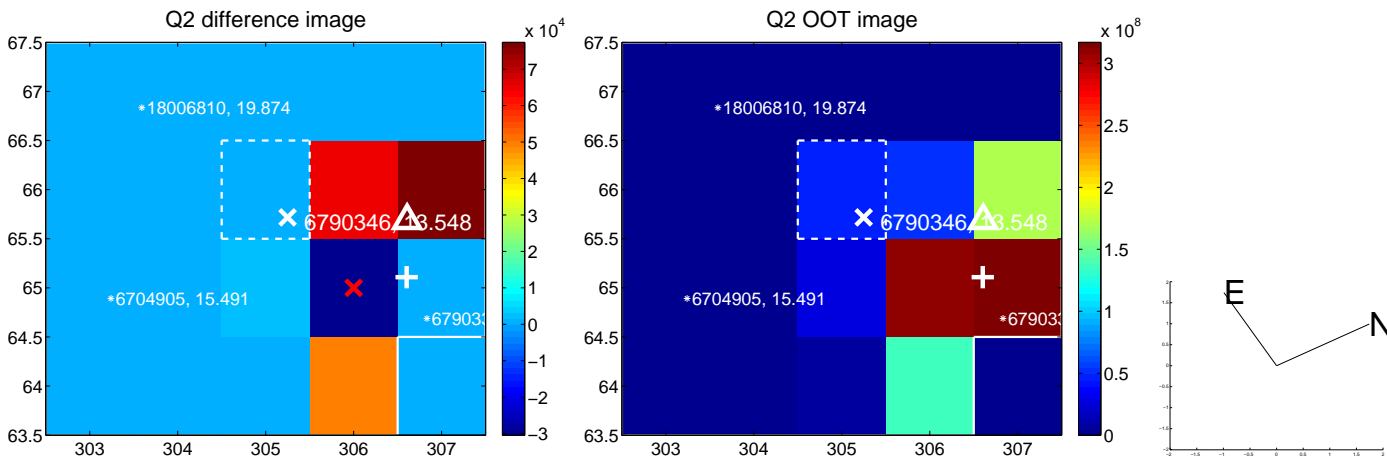
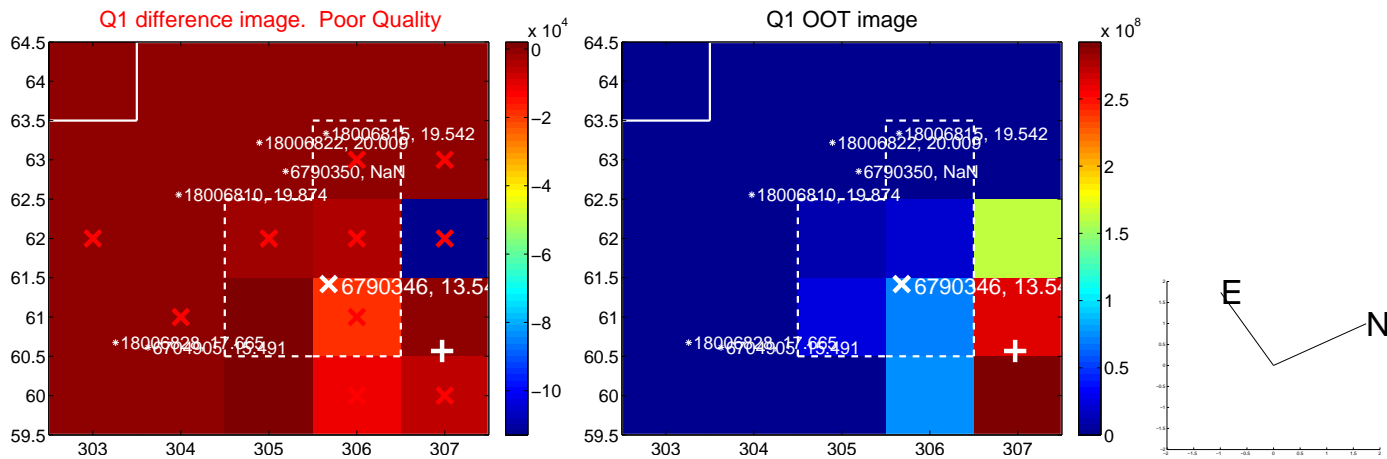


offset from photometric centroids

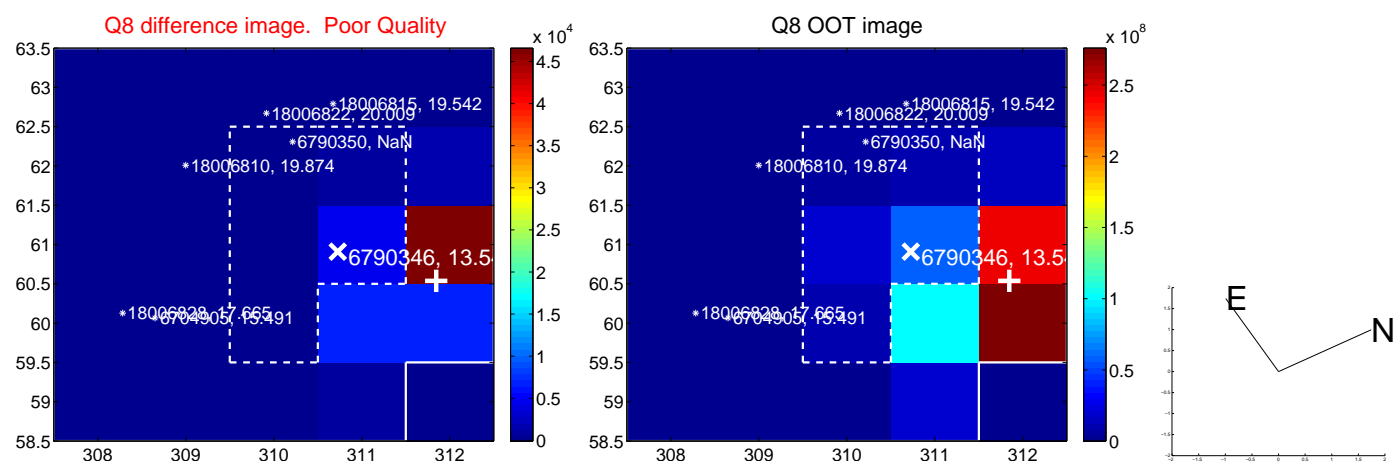
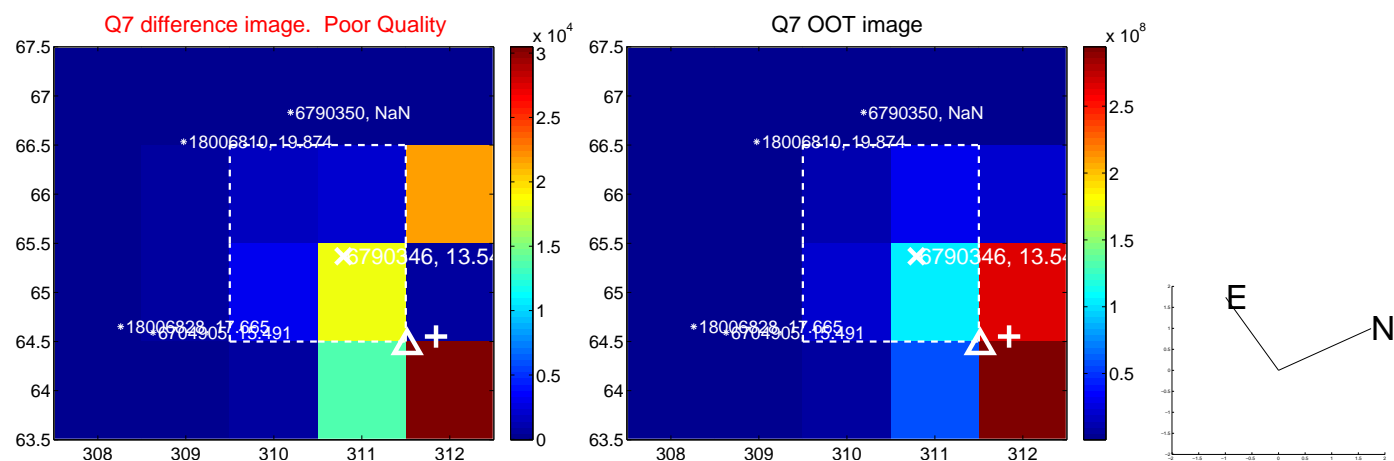
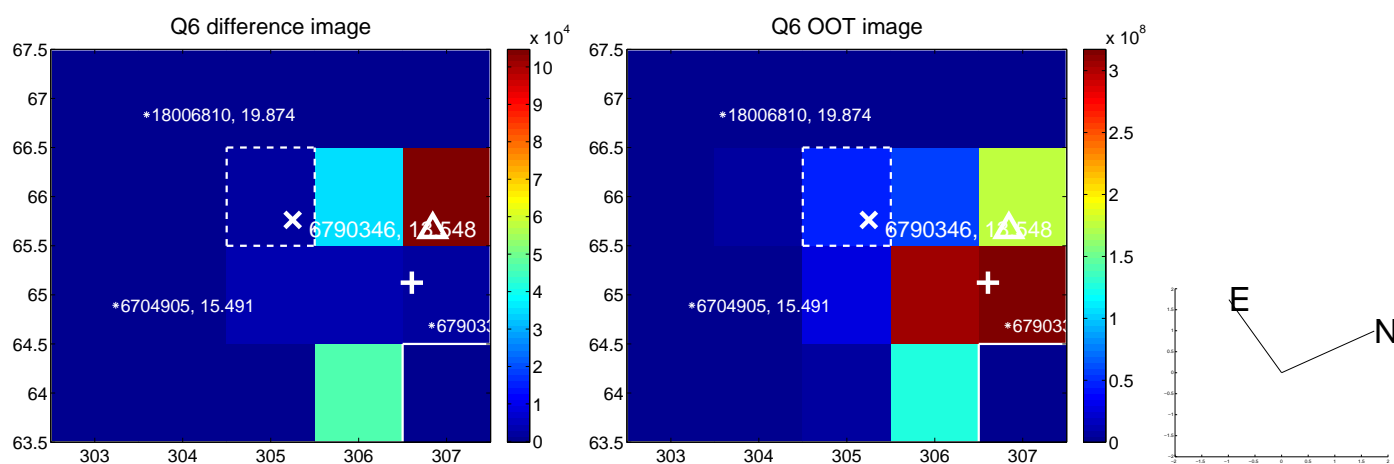
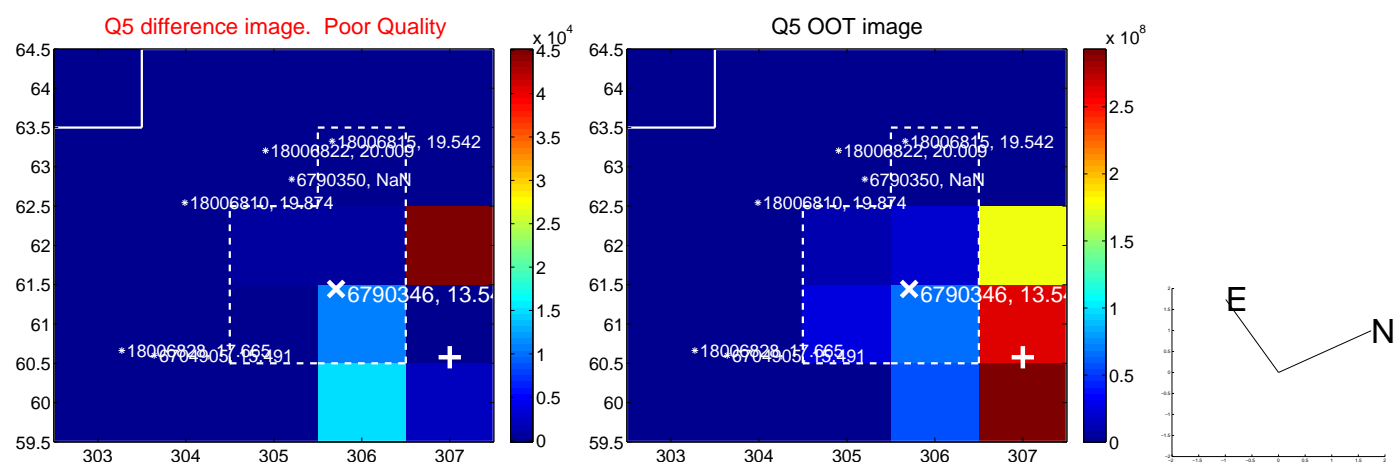


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

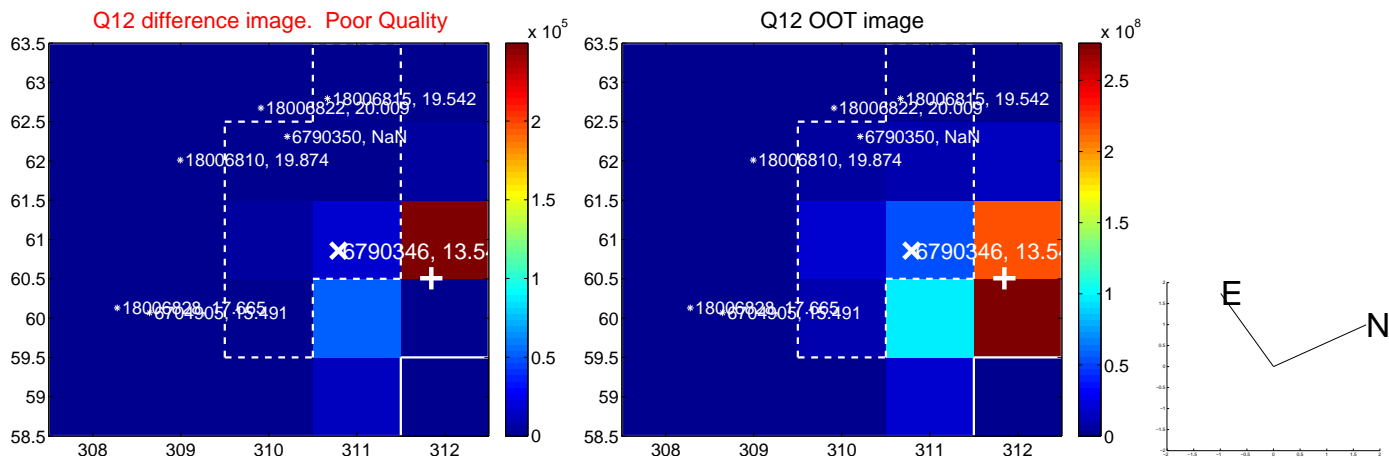
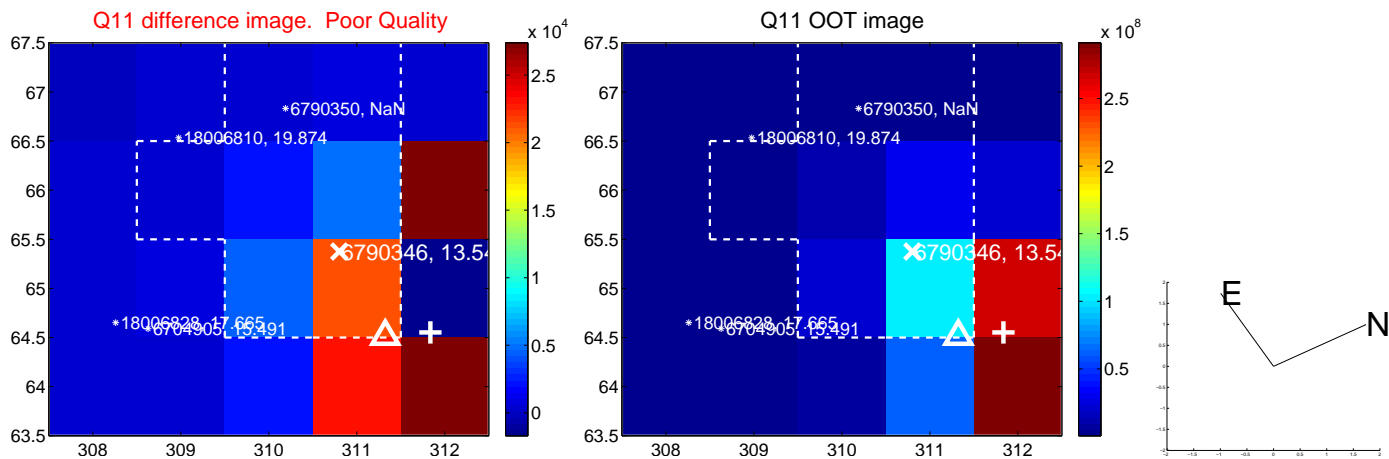
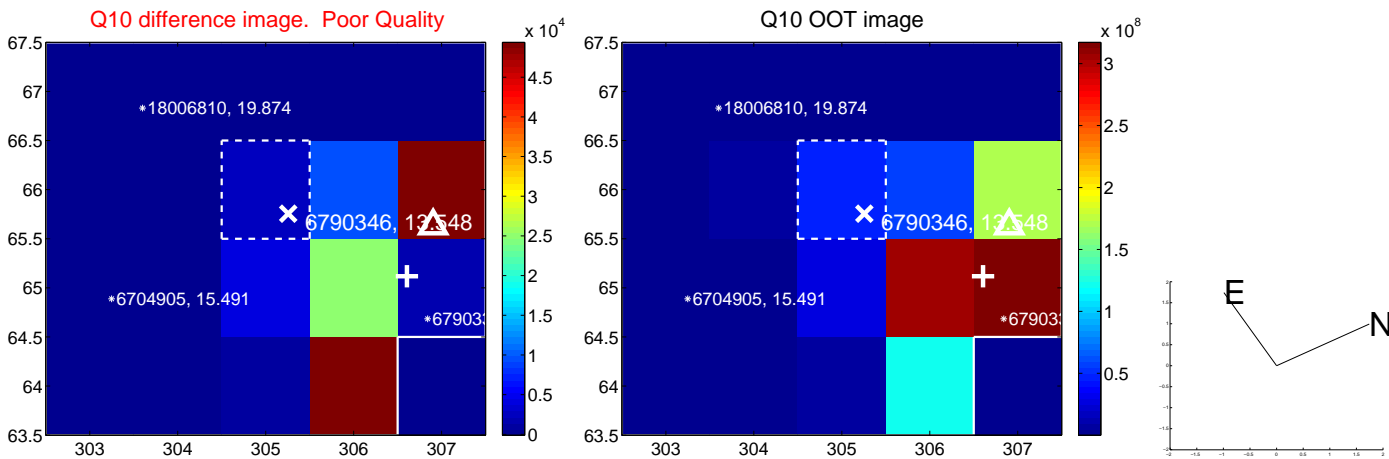
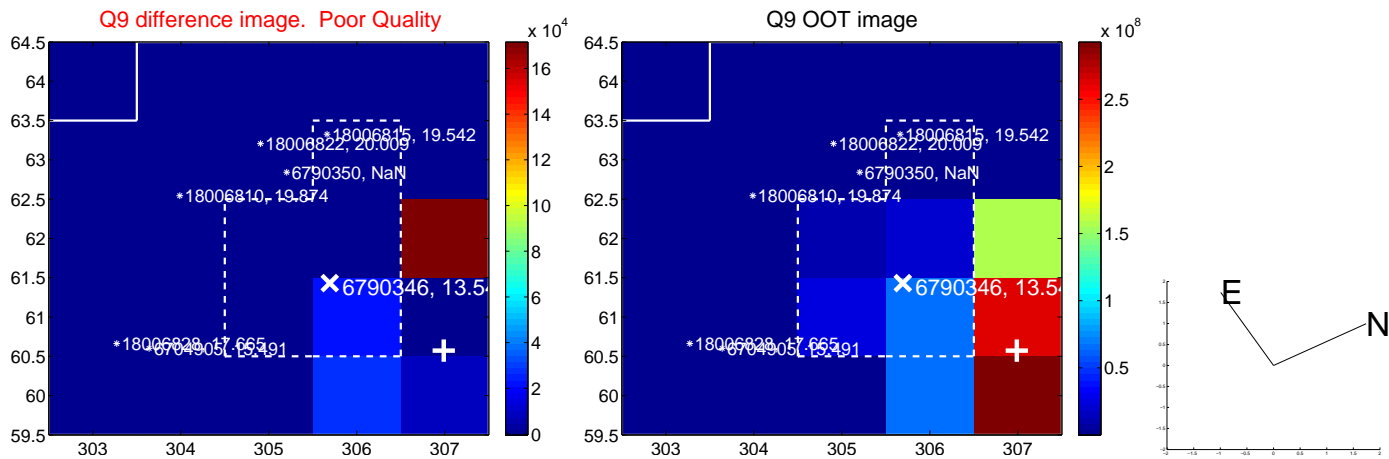


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



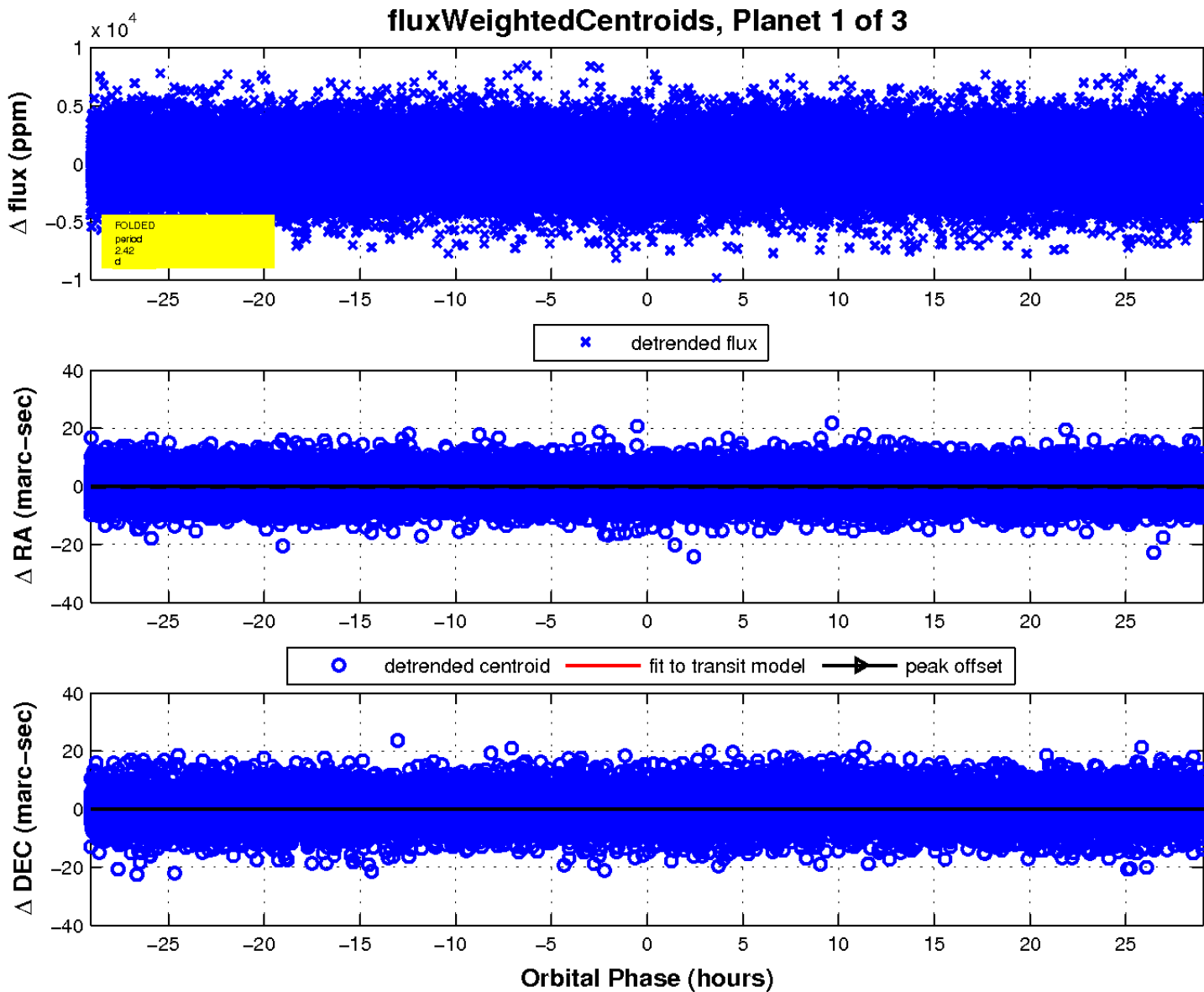
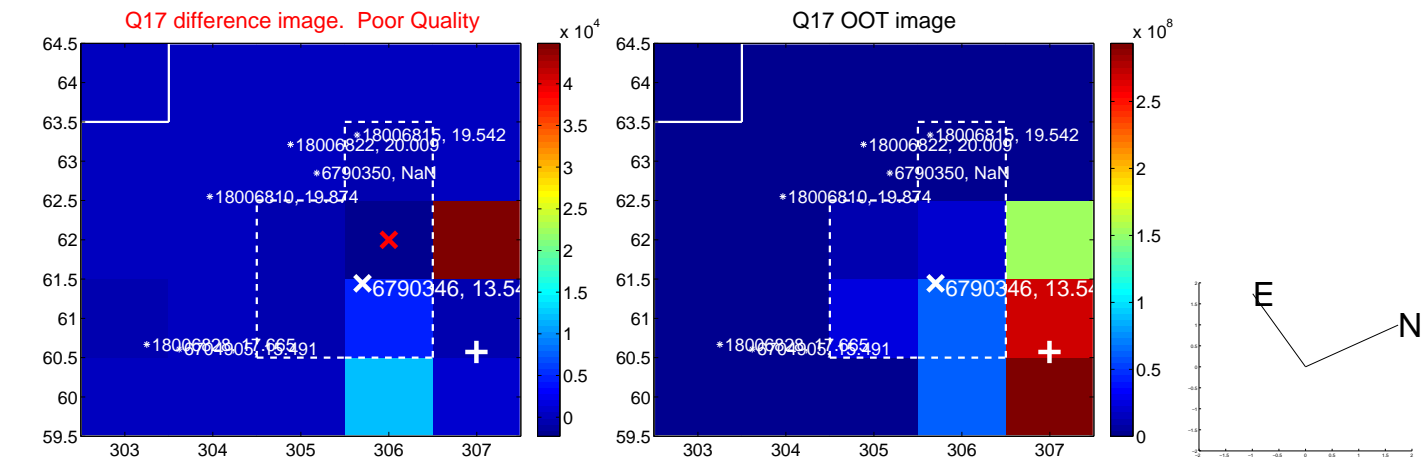


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

