

# KIC 005110034

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005110034-01	OBS	No	3.930216	134.144586	53.6	27.338	9.3	8.1	1.00	6382	0.76	607.43

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005110034-01	OBS	FP	0.00	1	0	0	0	<del>SWEET_NTL</del> — <del>LPP_DV</del> — <del>MOD_NONUNIQ_DV</del>

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

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

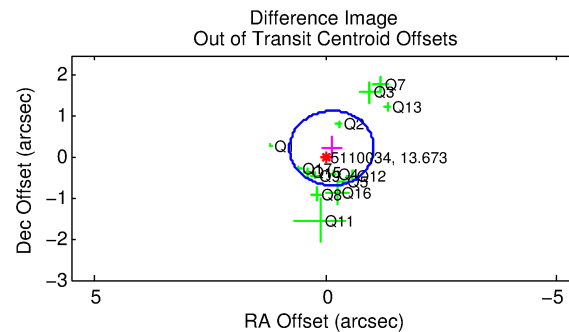
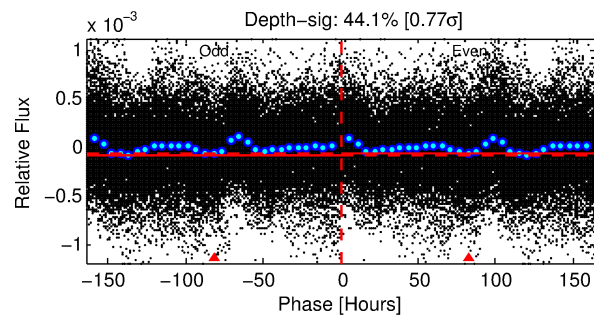
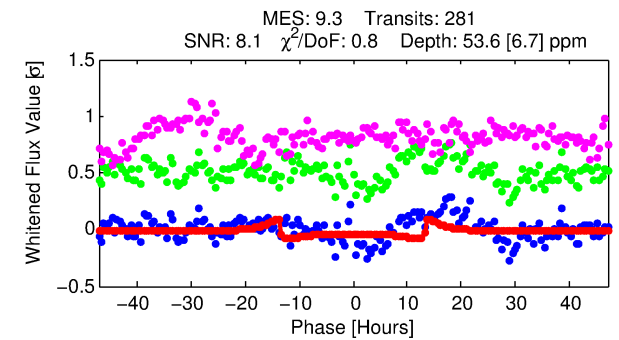
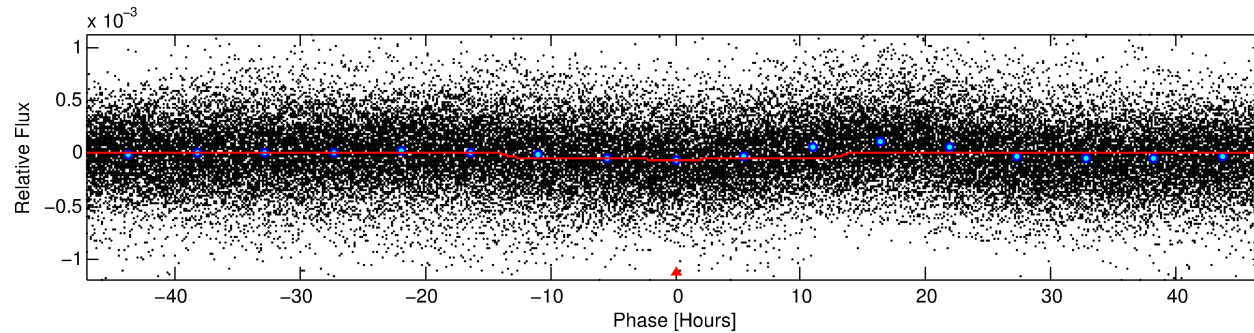
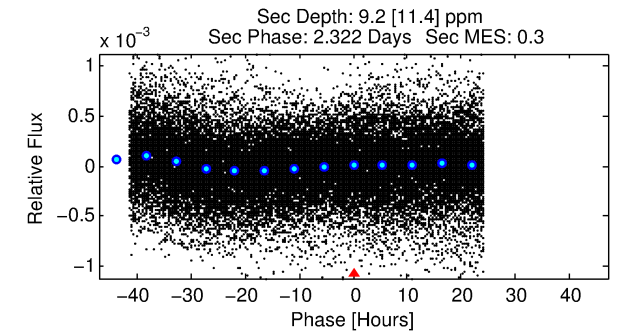
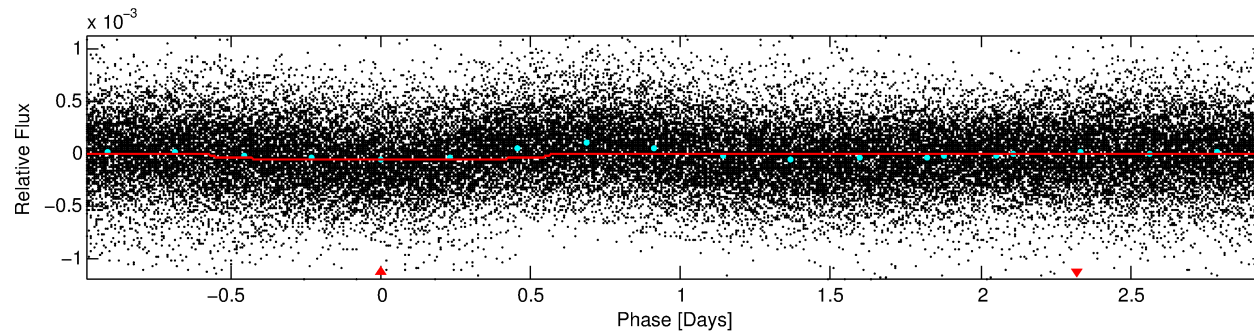
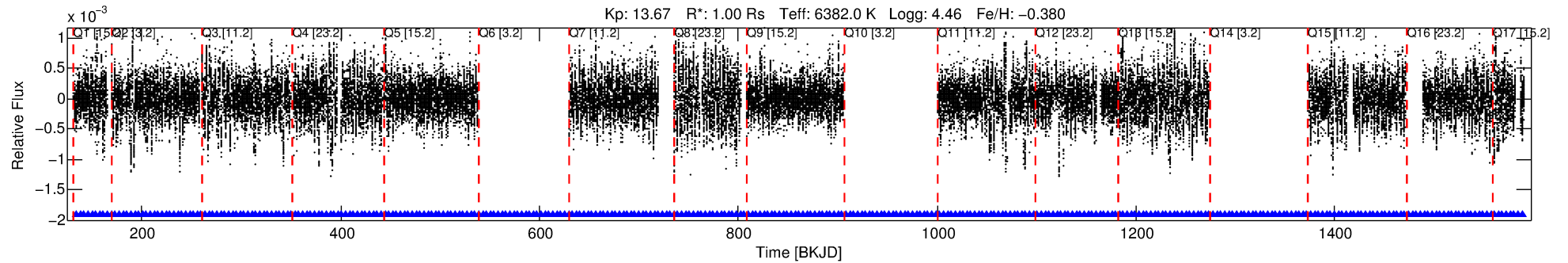
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005110034-01

No Significant Match Found

# DV One-Page Summary

KIC: 5110034 Candidate: 1 of 1 Period: 3.930 d



## DV Fit Results:

Period = 3.93022 [0.00004] d  
Epoch = 134.1446 [0.0076] BKJD  
Rp/R\* = 0.0070 [0.0016]  
a/R\* = 1.19 [0.45]  
b = 0.58 [1.46]  
Seff = 607.43 [254.54]  
Teff = 1266 [133] K  
Rp = 0.76 [0.31] Re  
a = 0.0495 [0.0137] AU  
Ag = 21.16 [29.31] [0.69σ]  
Teffp = 4198 [1399] K [2.09σ]

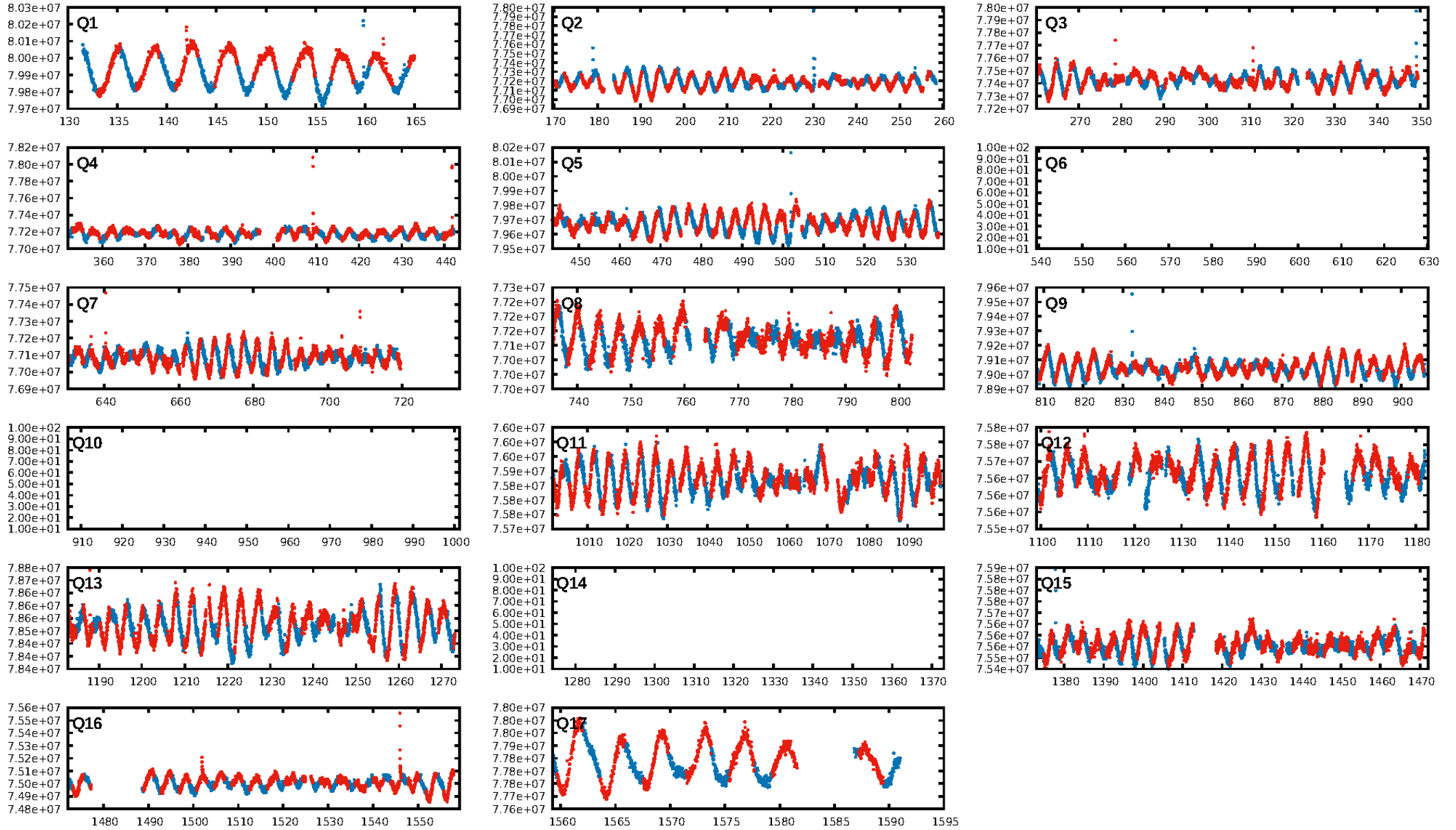
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.20e-39  
RollingBand-fgt: 1.00 [266/266]  
**GhostDiagnostic-chr: 0.8844**  
Centroid-sig: 0.0%  
Centroid-so: 1.133 arcsec [2.68σ]  
OotOffset-rm: 0.263 arcsec [0.87σ]  
KicOffset-rm: 0.220 arcsec [0.73σ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 0.29 [4/14]  
DiffImageOverlap-fno: 1.00 [14/14]

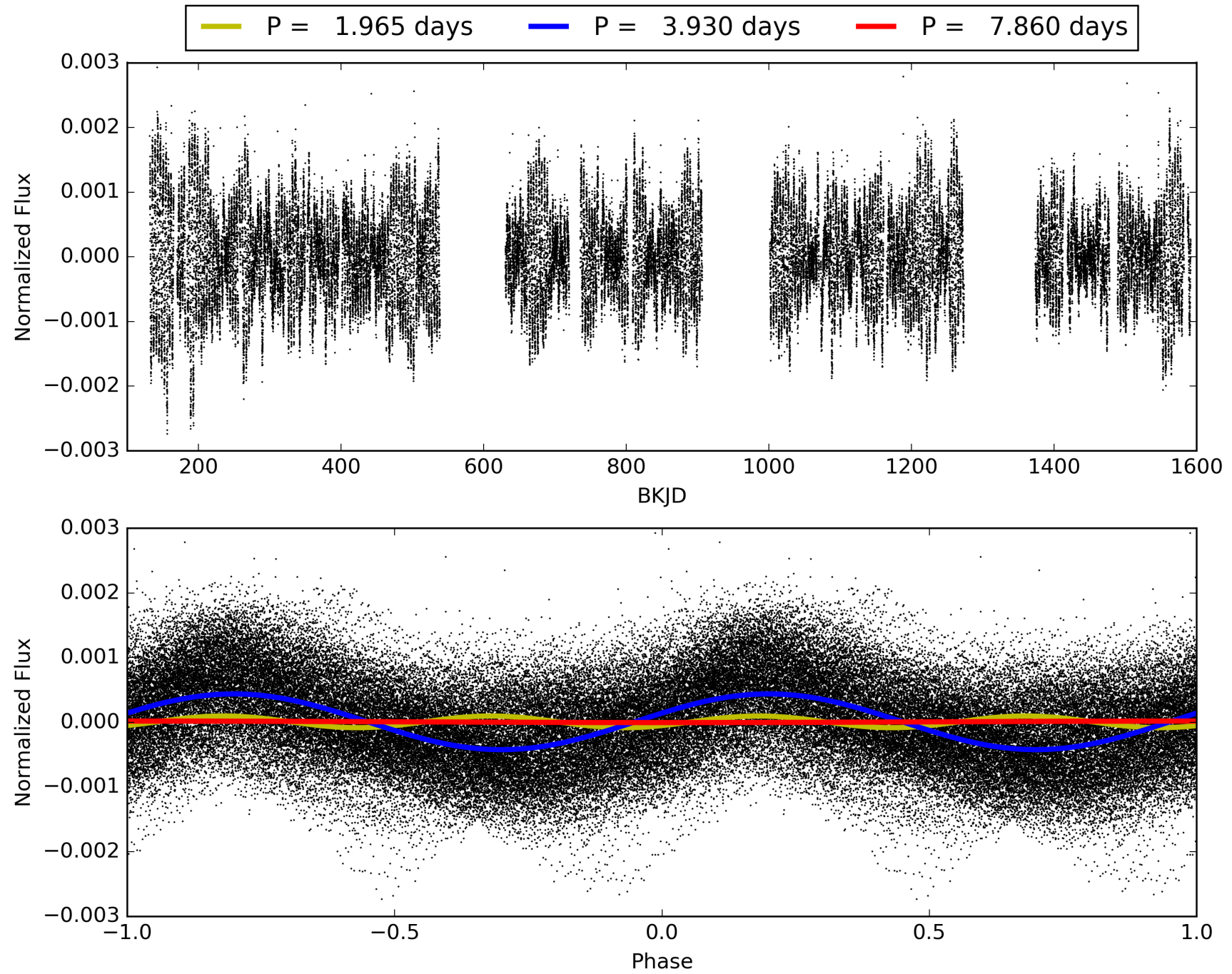
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:13:13 Z

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

# TCE 005110034-01, PDC Light Curves

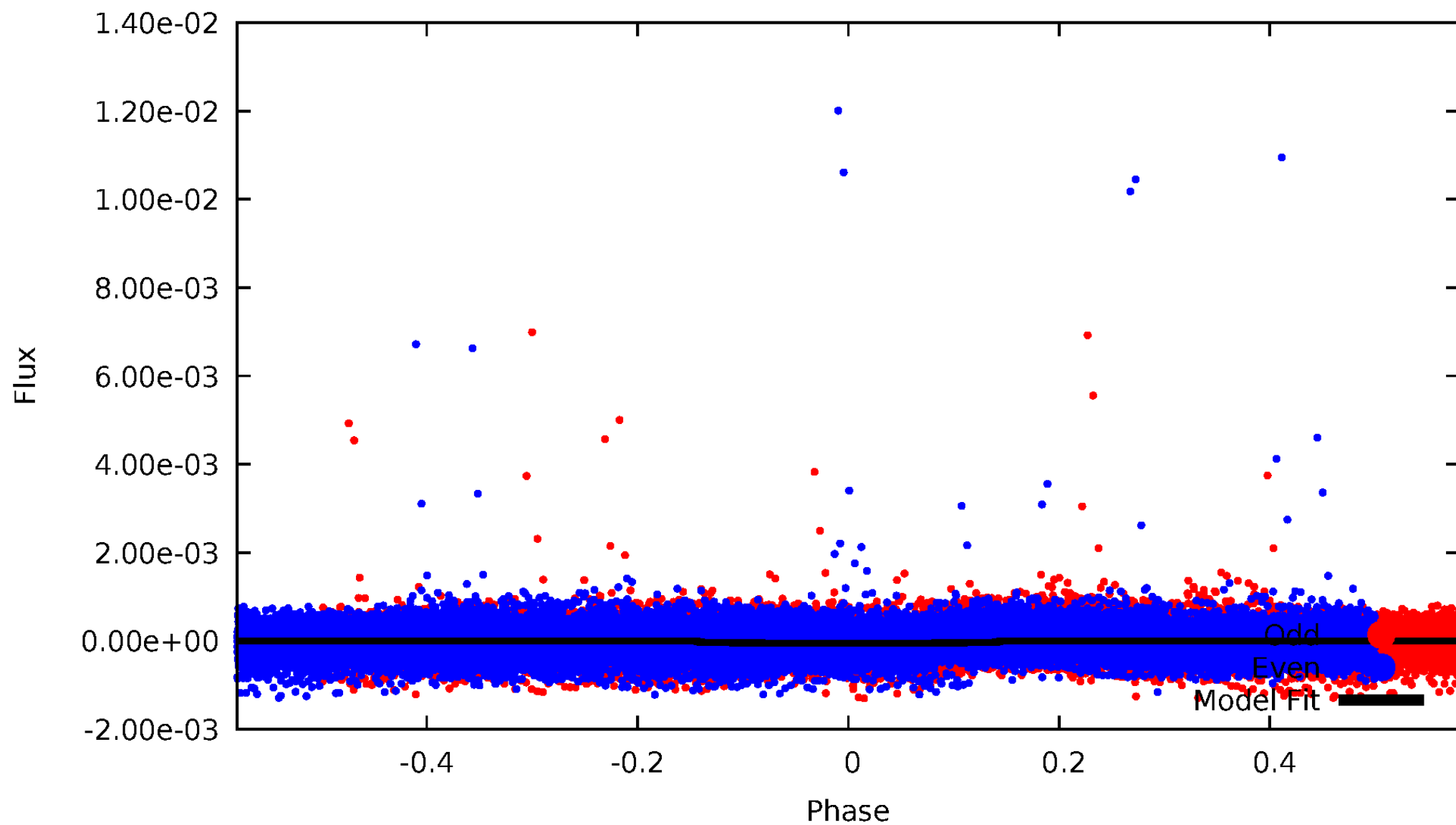


TCE 005110034-01



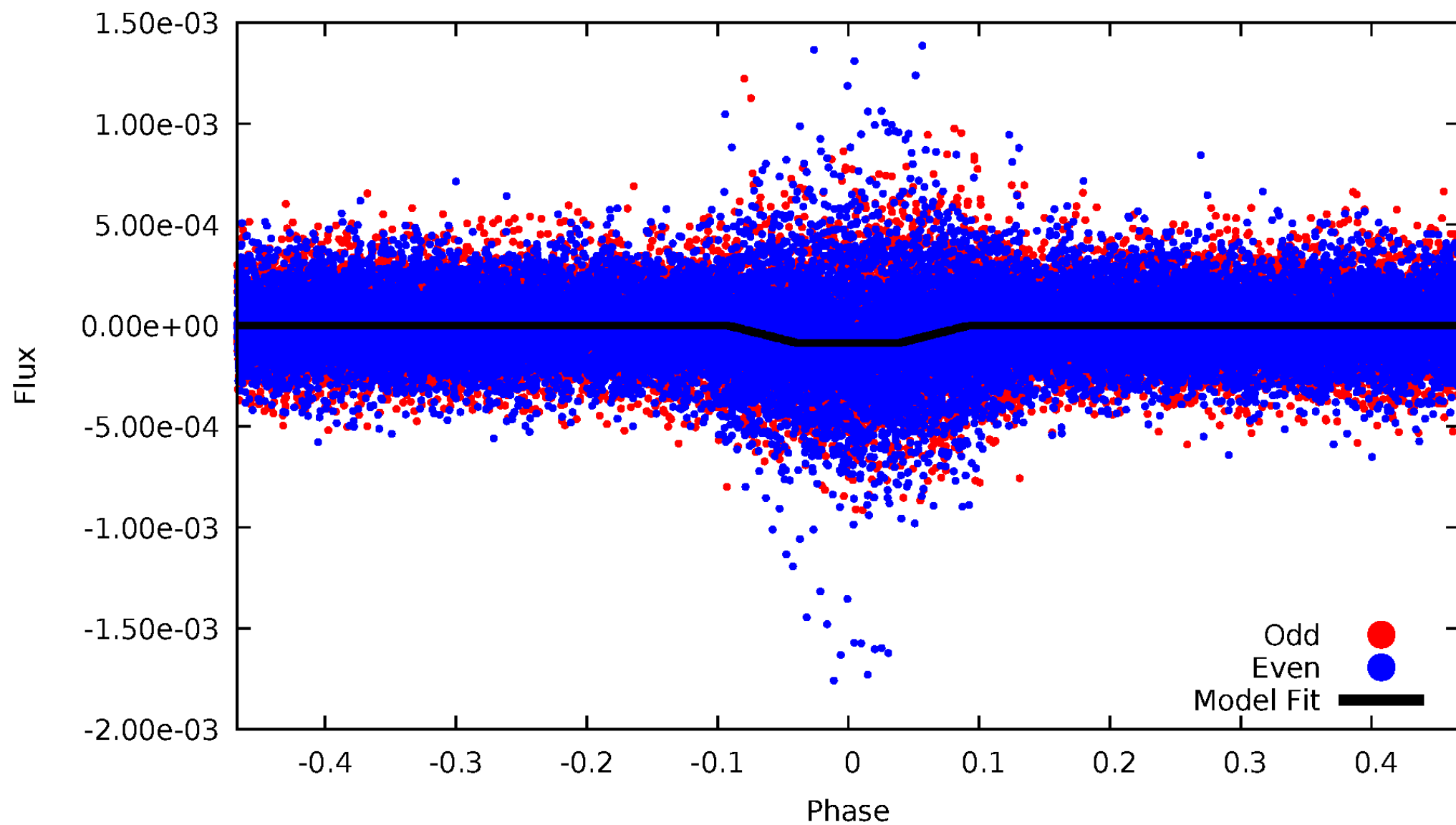
# DV Odd/Even

TCE 005110034-01



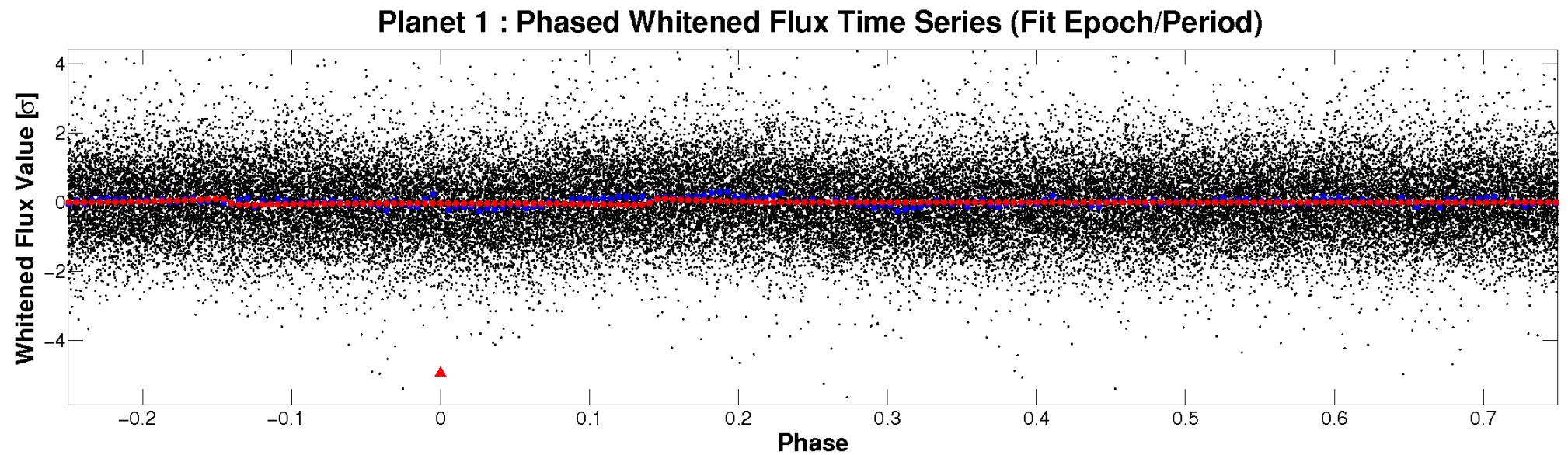
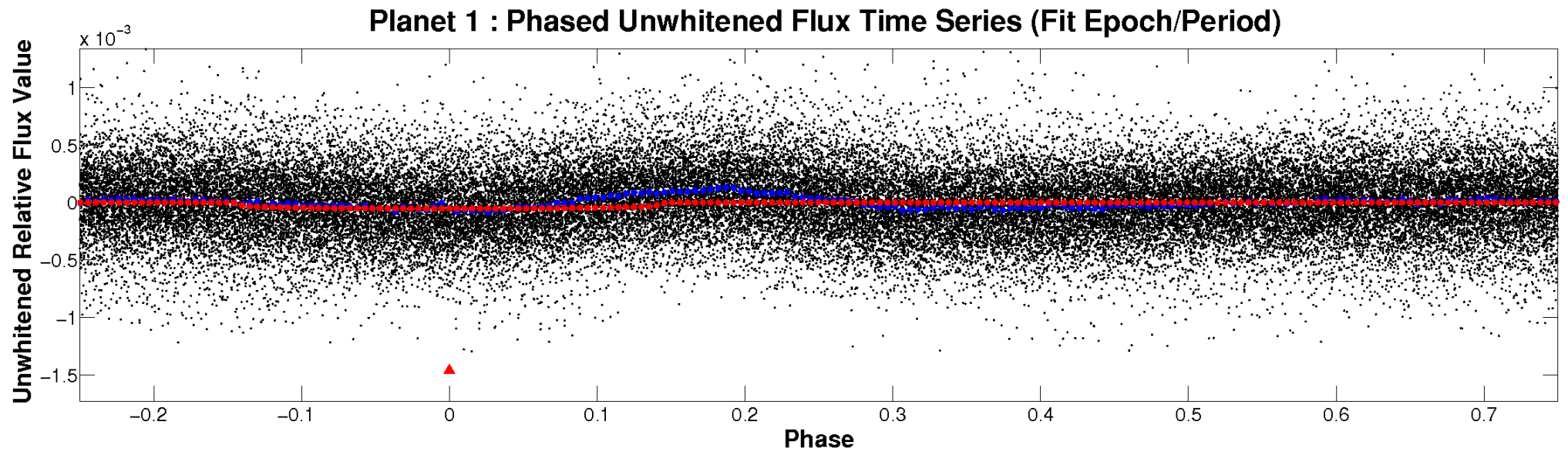
# ALT Odd/Even

TCE 005110034-01



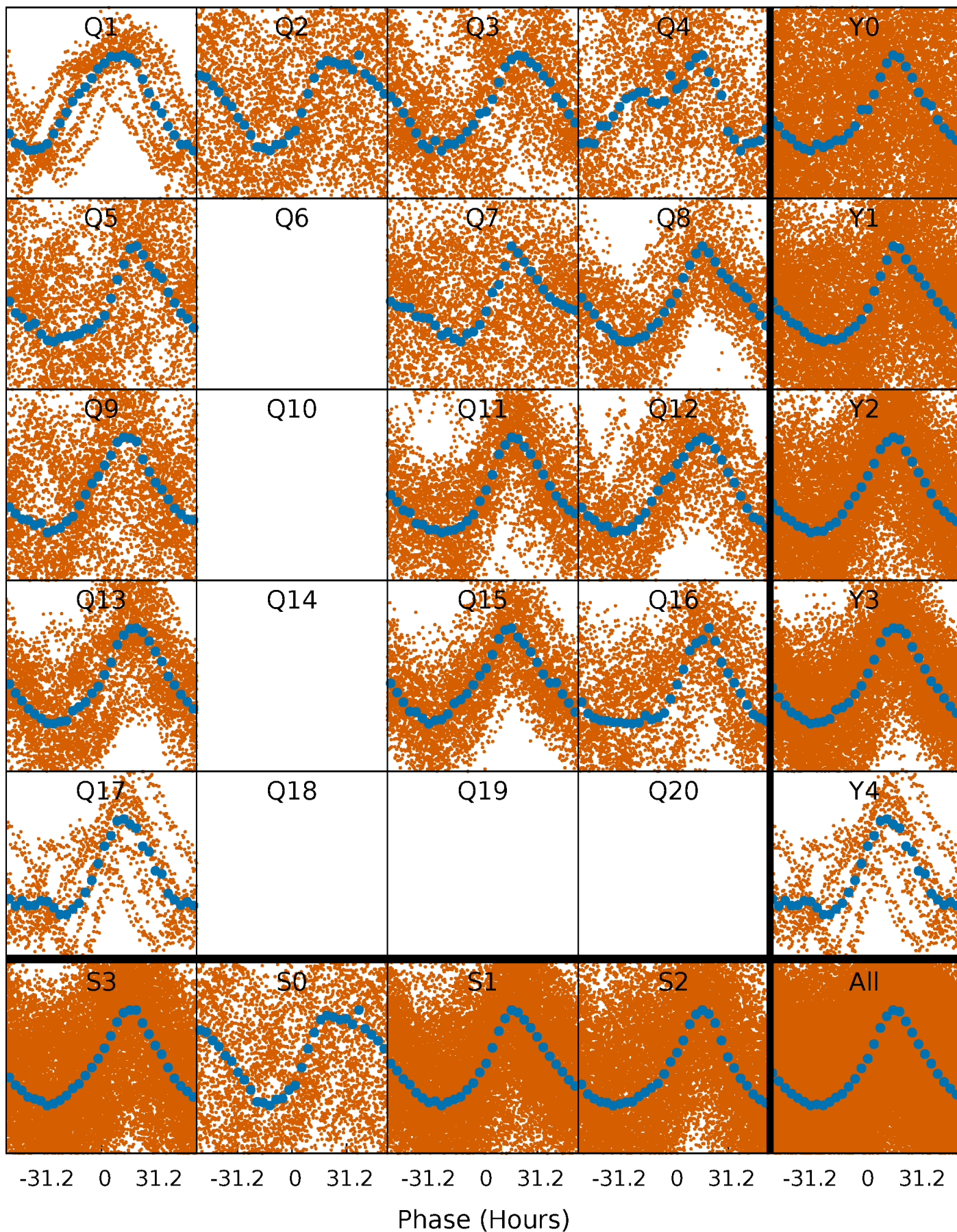


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

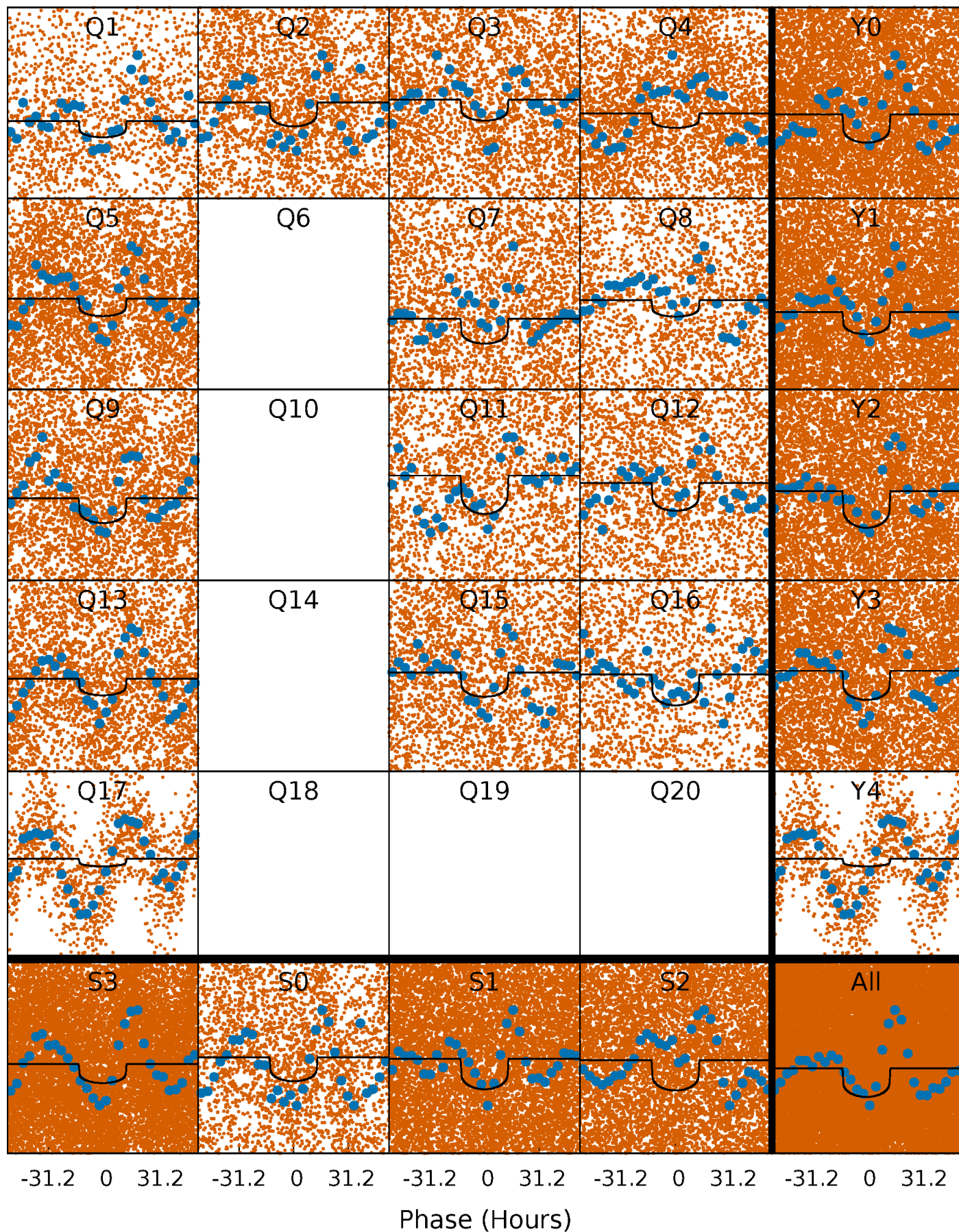
TCE 005110034-01 P= 3.930216 Days  $T_0=134.144586$  (BKJD)





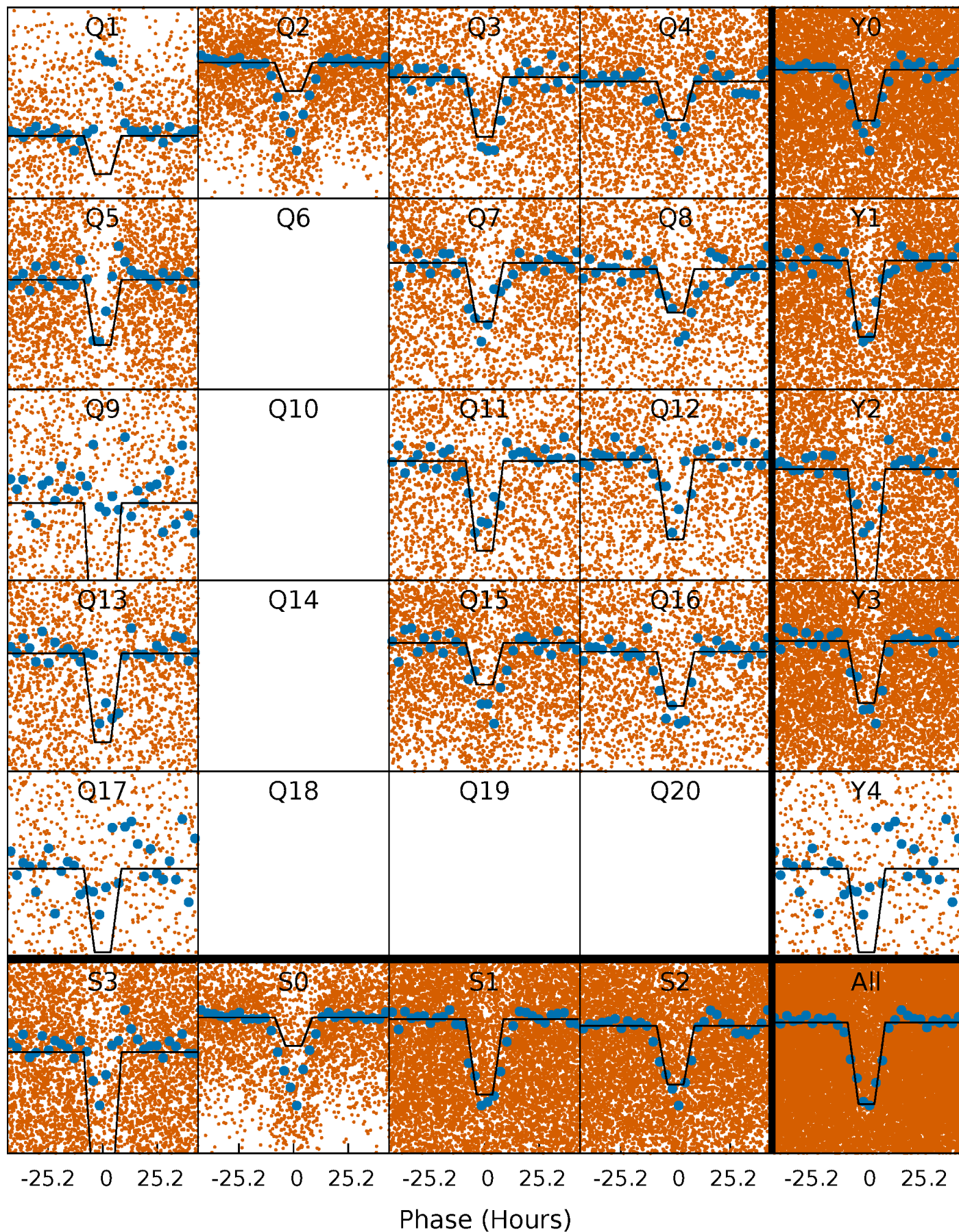
# DV Quarter-Phased Transit Curves

TCE 005110034-01 P= 3.930216 Days  $T_0=134.144586$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005110034-01 P= 3.929707 Days  $T_0=134.238603$  (BKJD)

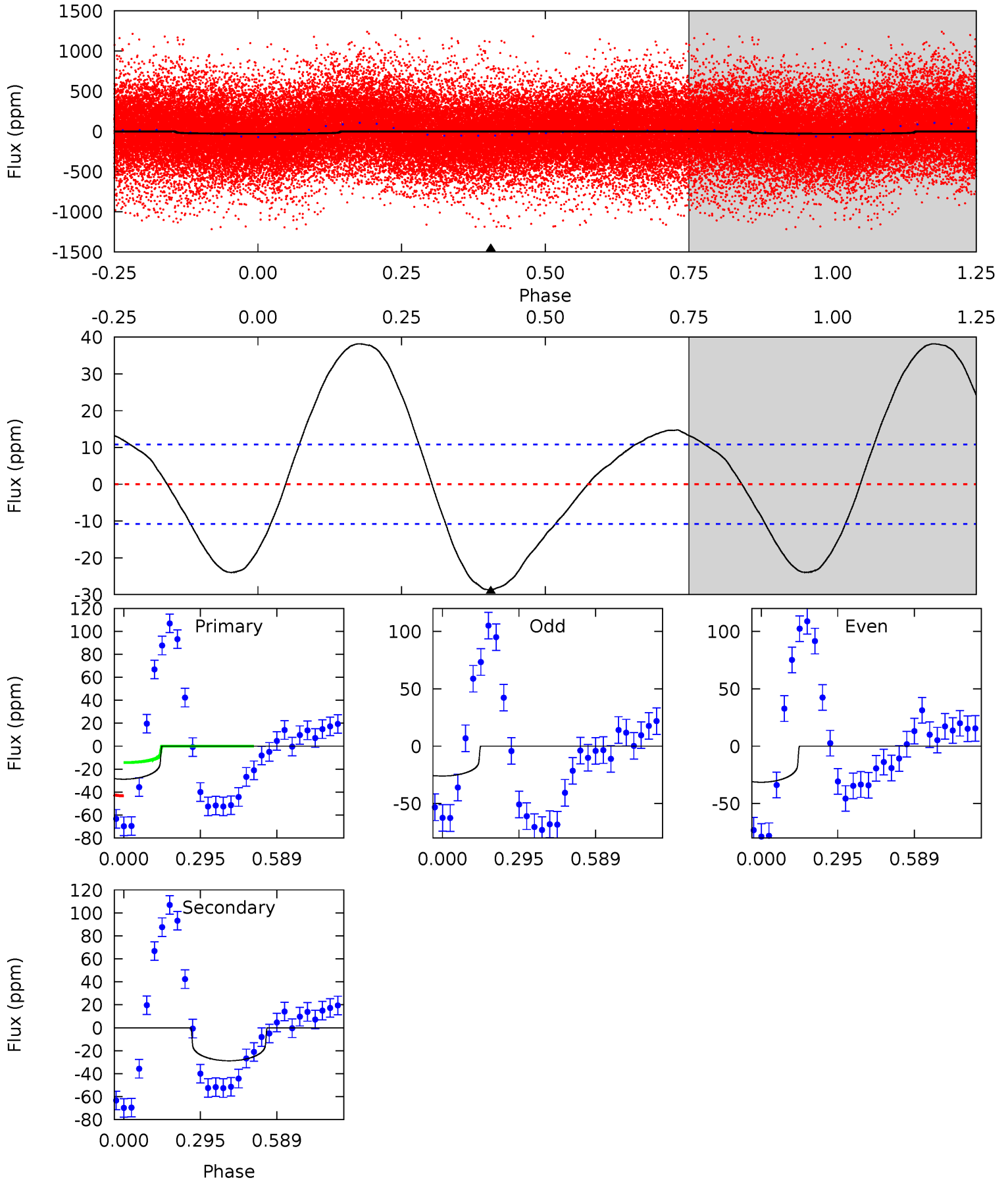




# DV Model-Shift Uniqueness Test

005110034-01, P = 3.930216 Days, E = 130.214370 Days

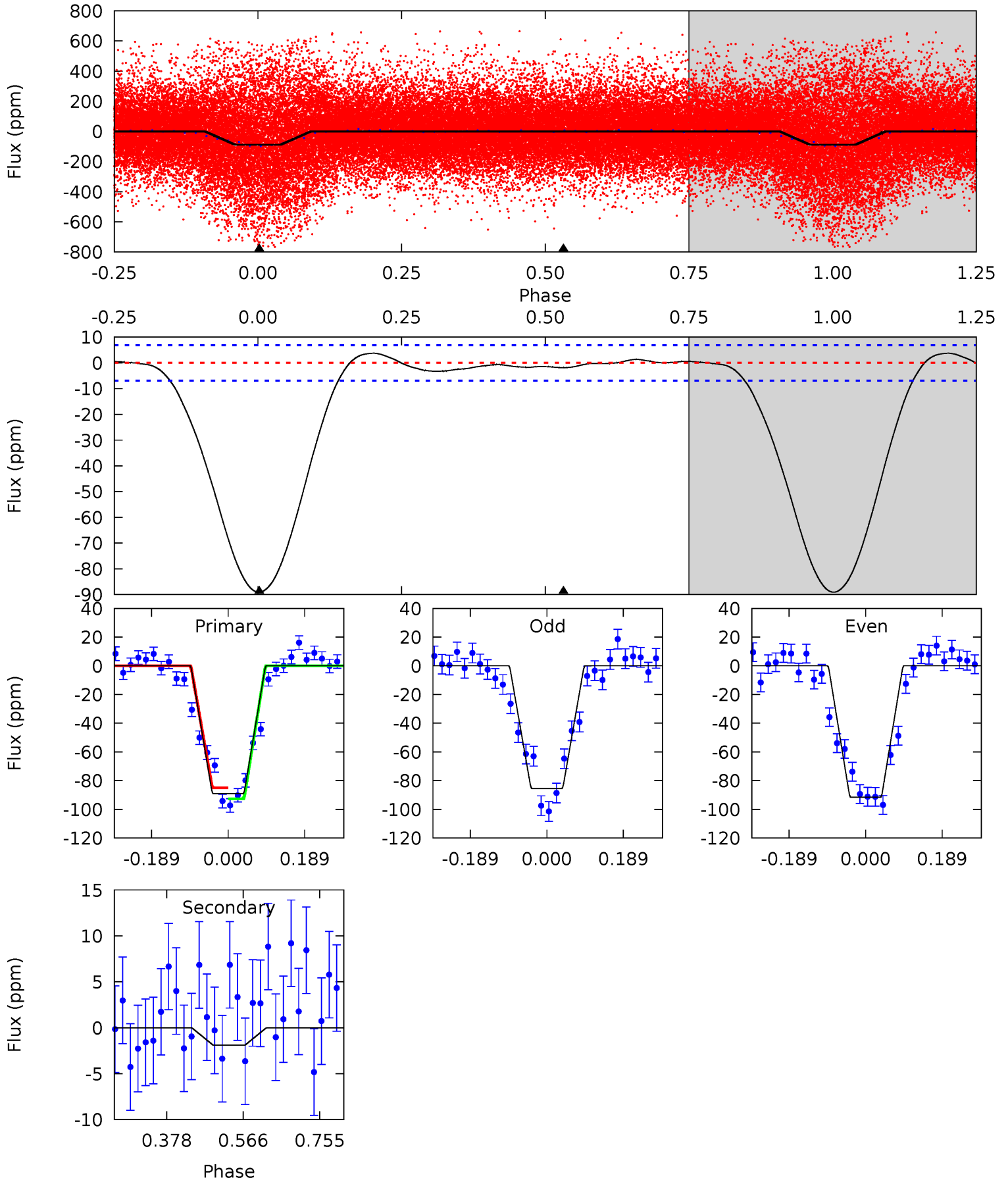
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	11.5	0	0	4.33	1.05	5.90	11.5	11.5	11.5	11.5	1.07	1.90	0.57	5.80



# Alt Model-Shift Uniqueness Test

005110034-01, P = 3.929707 Days, E = 130.308896 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
57.4	1.23	0	0	4.43	1.31	1.36	57.4	57.4	1.23	1.23	1.95	1.00	0.04	2.43





### Stellar Parameters For KIC 005110034

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6382^{+158}_{-206}$	$4.457^{+0.054}_{-0.216}$	$-0.380^{+0.300}_{-0.300}$	$1.000^{+0.332}_{-0.111}$	$1.044^{+0.145}_{-0.132}$	$1.469^{+0.424}_{-0.782}$
	+2%/-3%	+1%/-5%	+79%/-79%	+33%/-11%	+14%/-13%	+29%/-53%
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 005110034-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	-29±2	$0.78^{+0.24}_{-0.21}$	$1803^{+138}_{-90}$	$5625^{+819}_{-546}$	$61^{+48}_{-24}$
Alt.	-2±2	$1.08^{+0.26}_{-0.21}$	$1806^{+132}_{-92}$	$2965^{+400}_{-1399}$	$2.015^{+2.492}_{-1.713}$

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

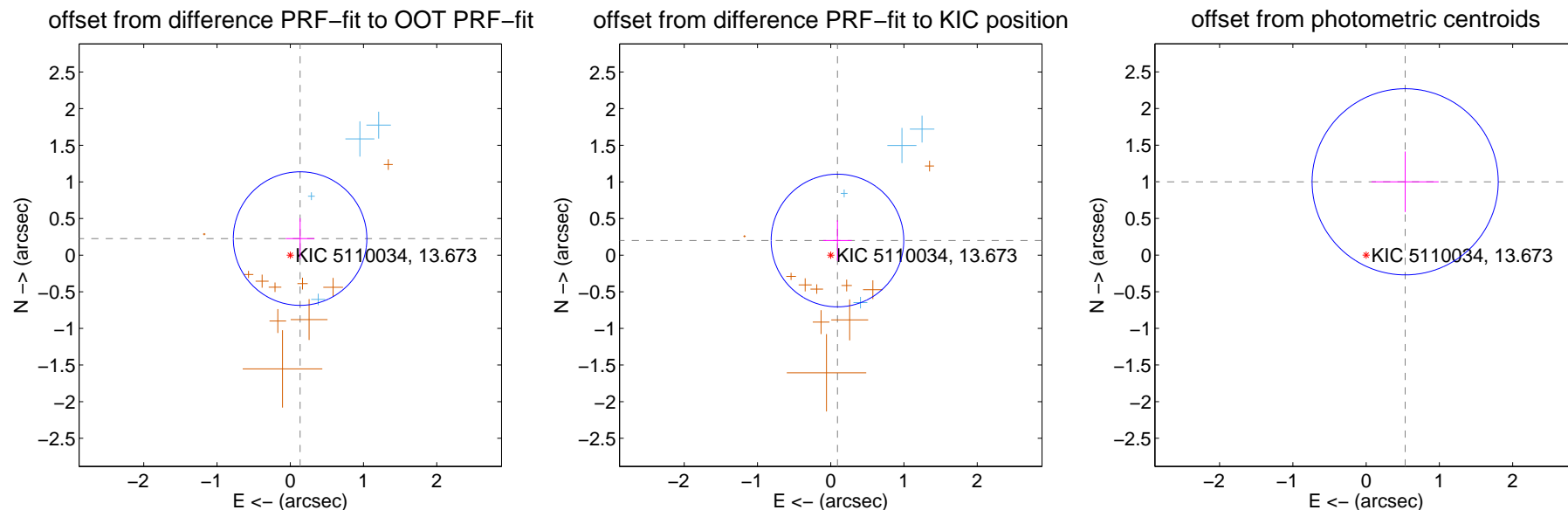
## DV Centroid Data

Supplemental centroid analysis for 005110034-01. Kepler magnitude: 13.67. Transit SNR 8.05

There are 4 quarters with good PRF difference image offsets

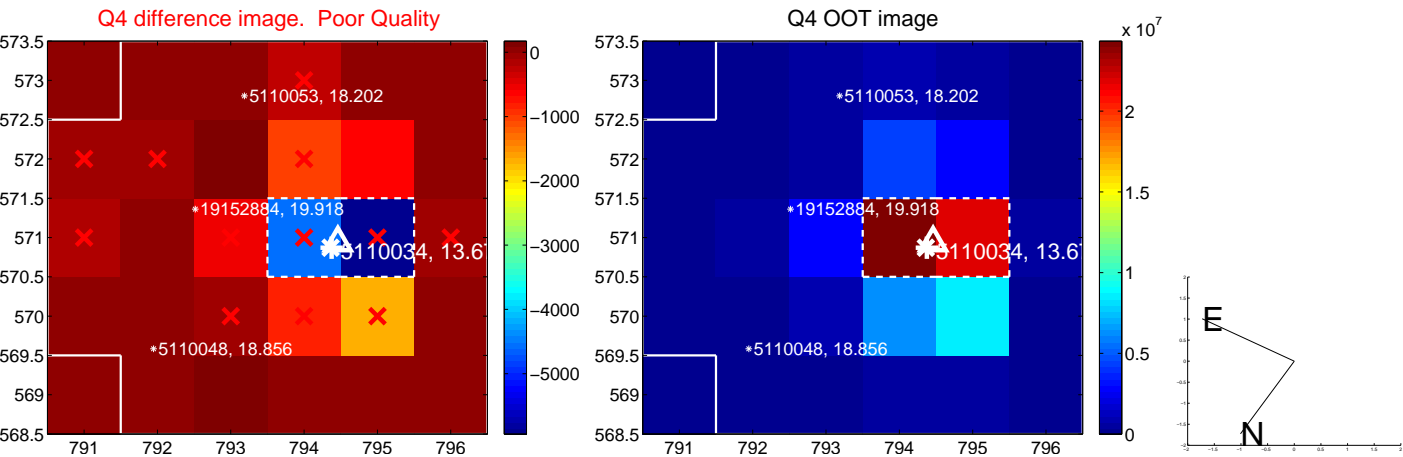
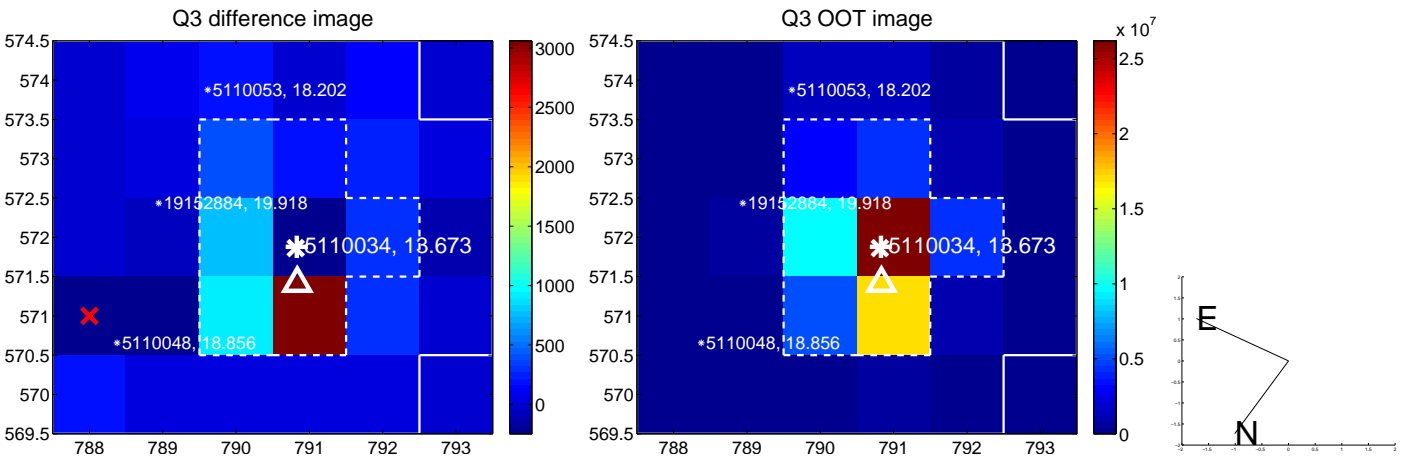
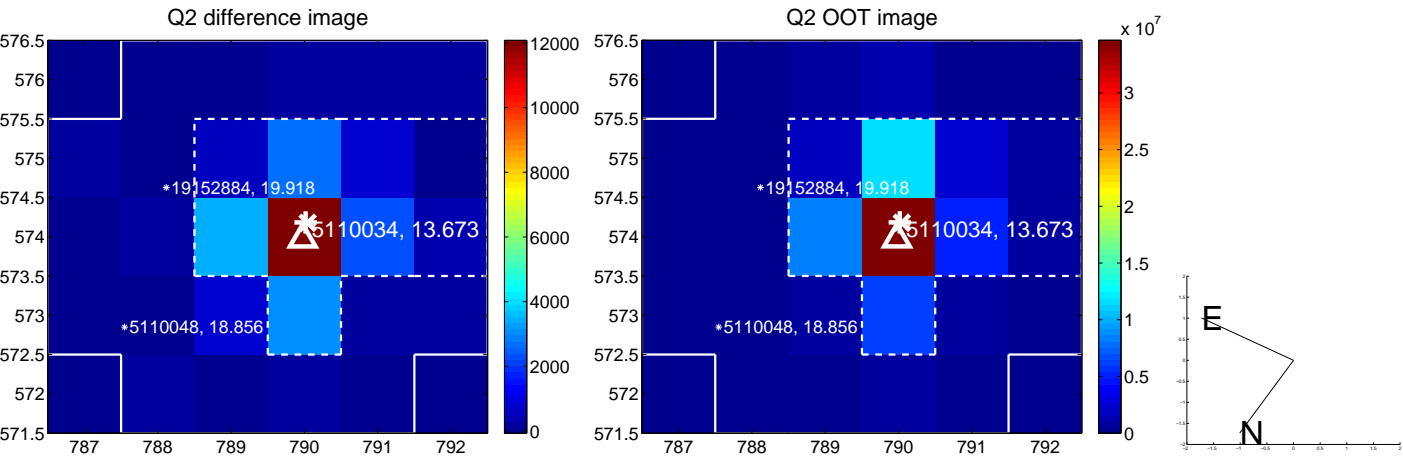
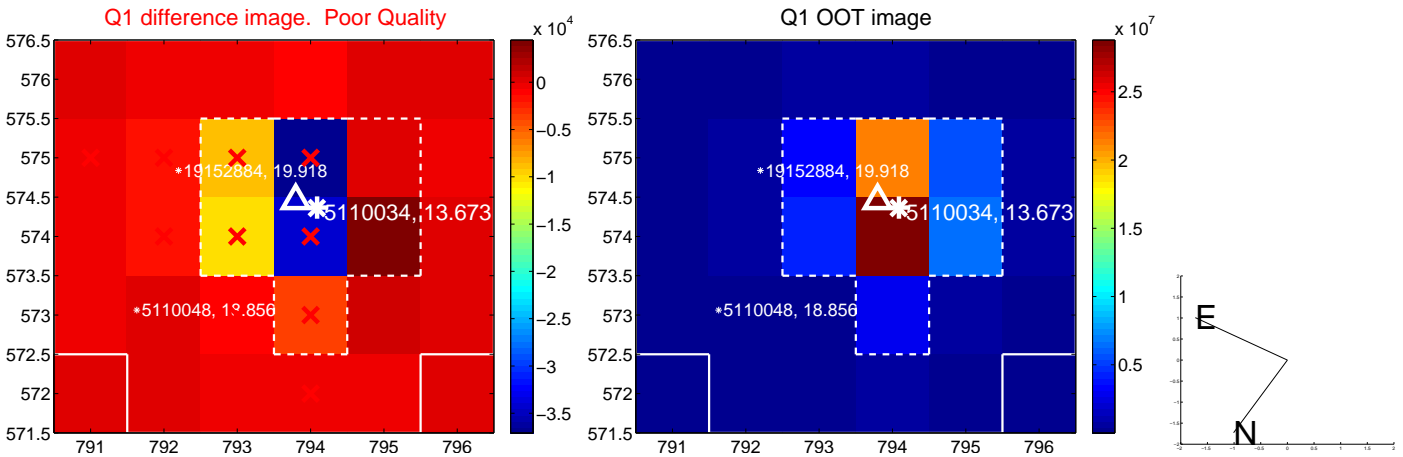
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.263 \pm 0.304$	0.87	$-0.134 \pm 0.196$	$0.226 \pm 0.278$
PRF-fit source offset from KIC position	$0.220 \pm 0.302$	0.73	$-0.092 \pm 0.195$	$0.200 \pm 0.275$
photometric centroid source offset	$1.13 \pm 0.42$	2.68	$-0.53 \pm 0.46$	$1.00 \pm 0.41$

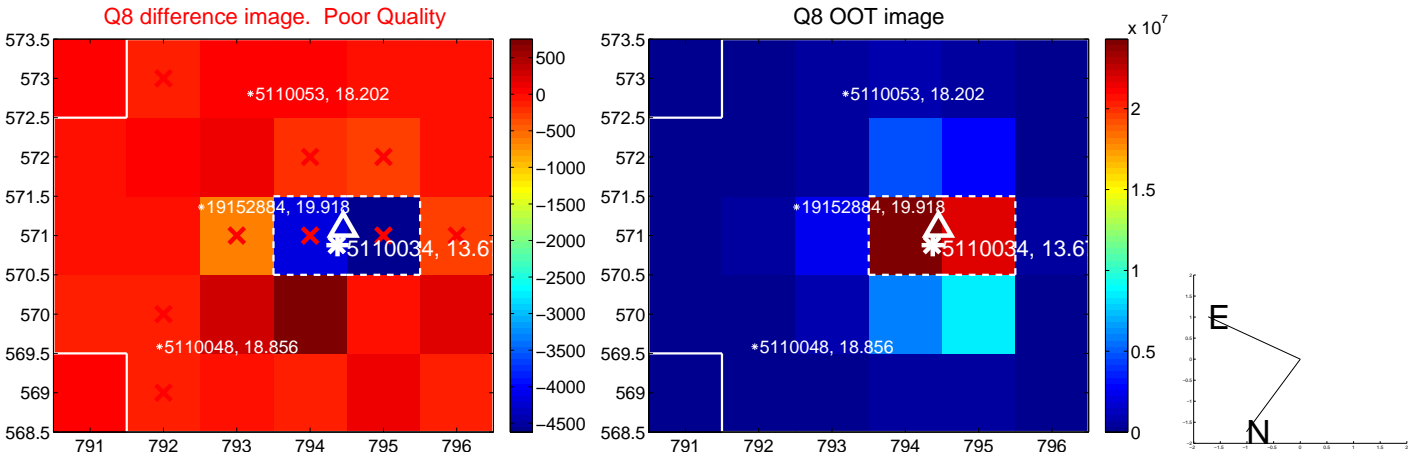
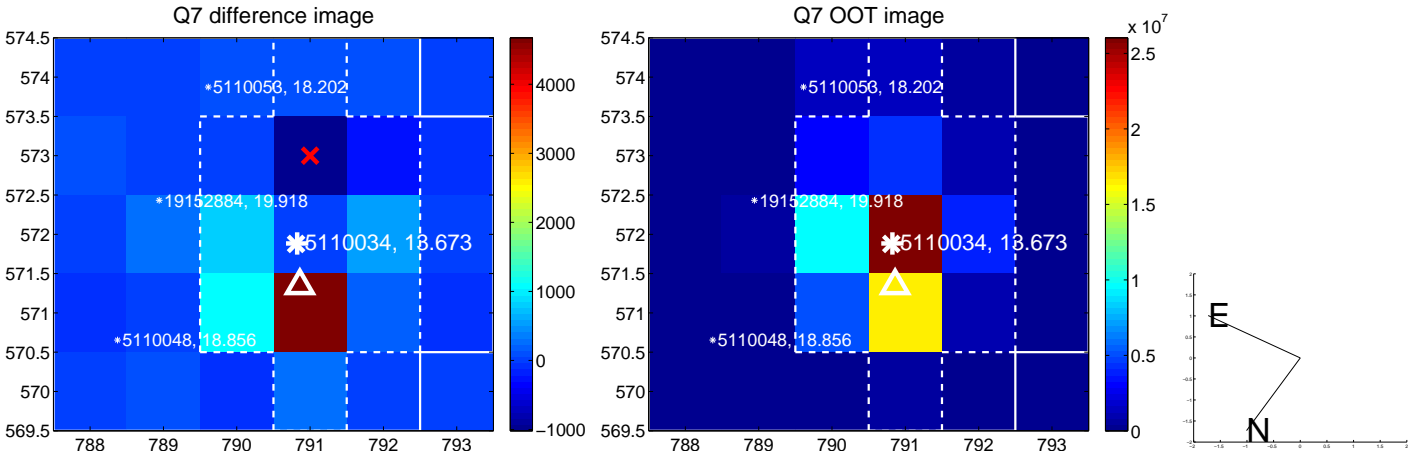
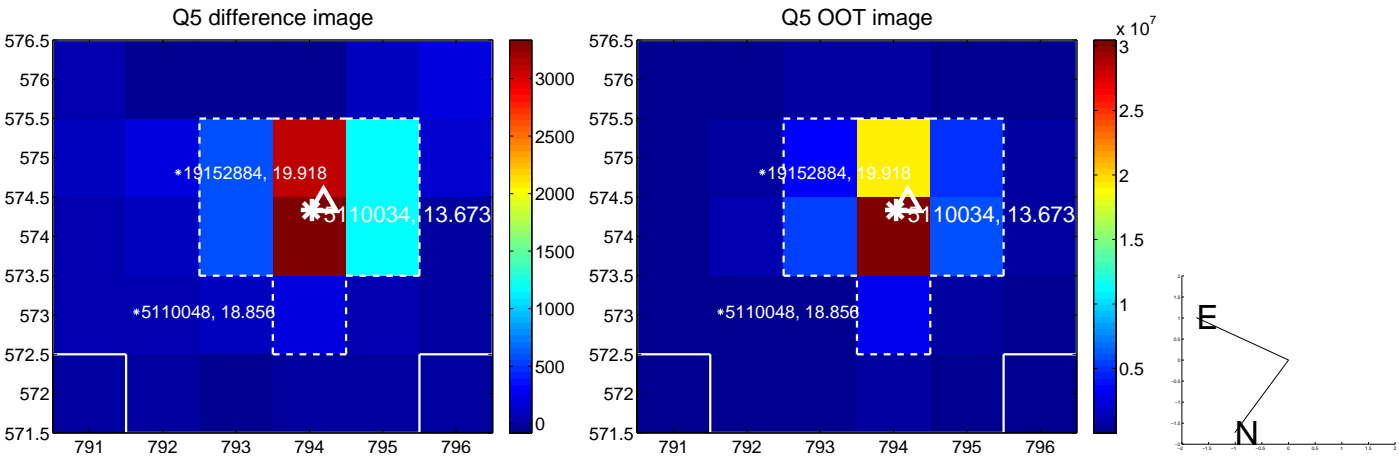


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

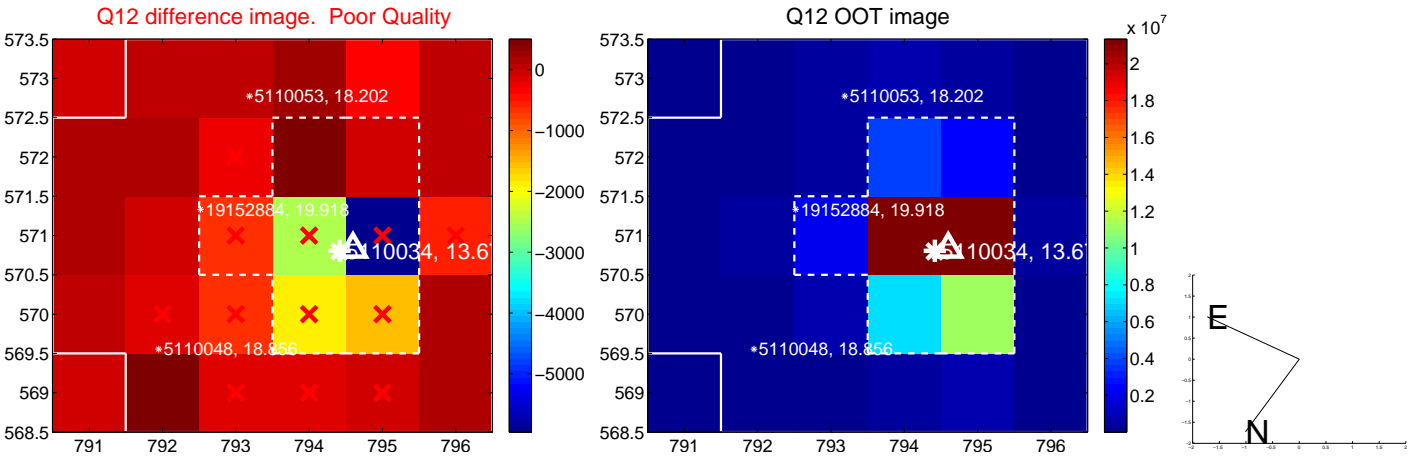
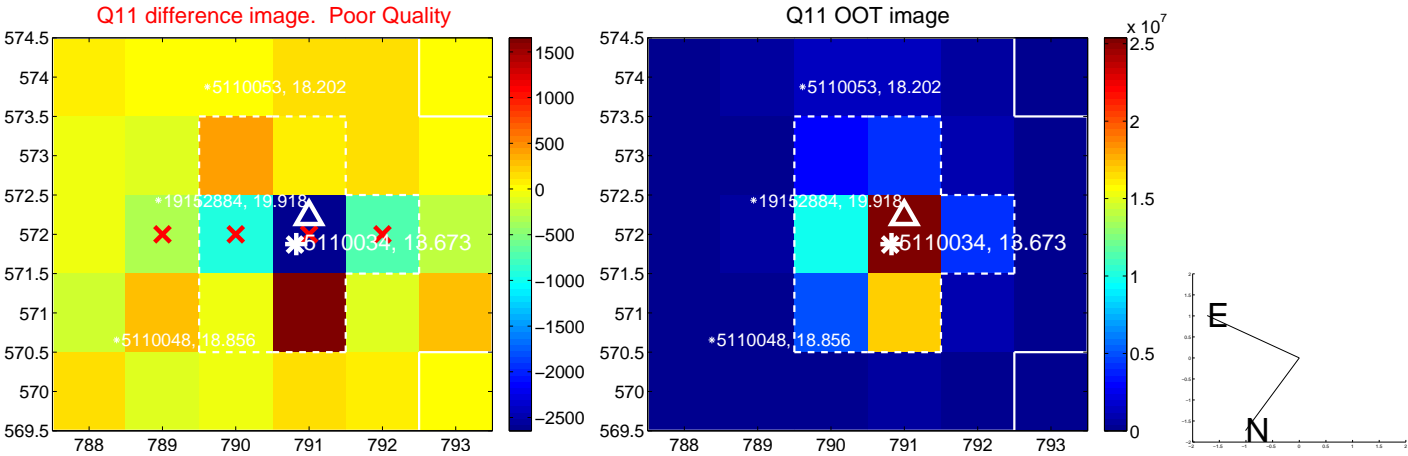
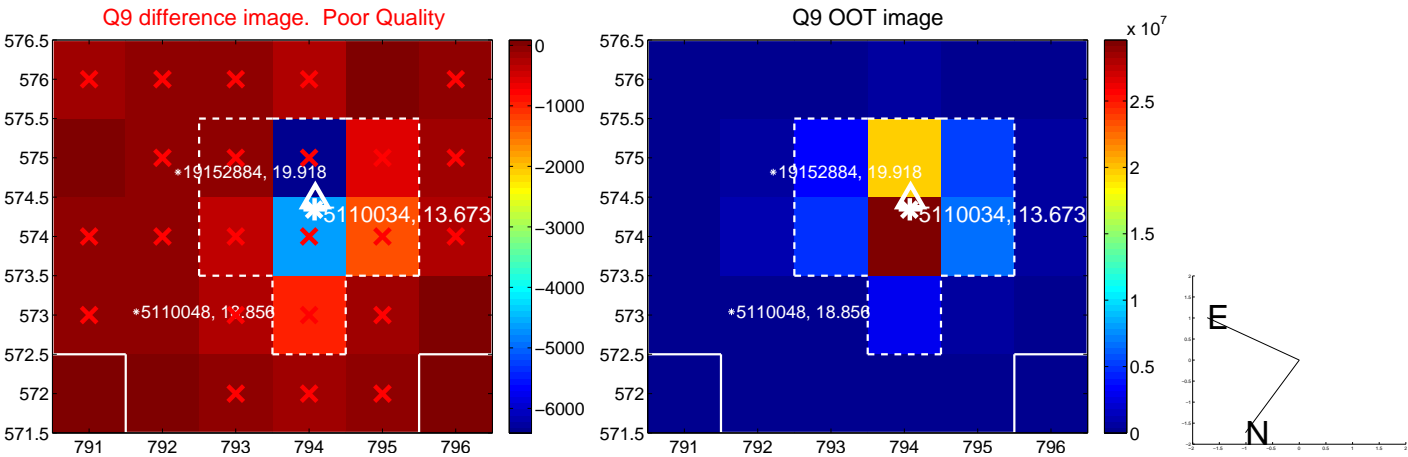


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

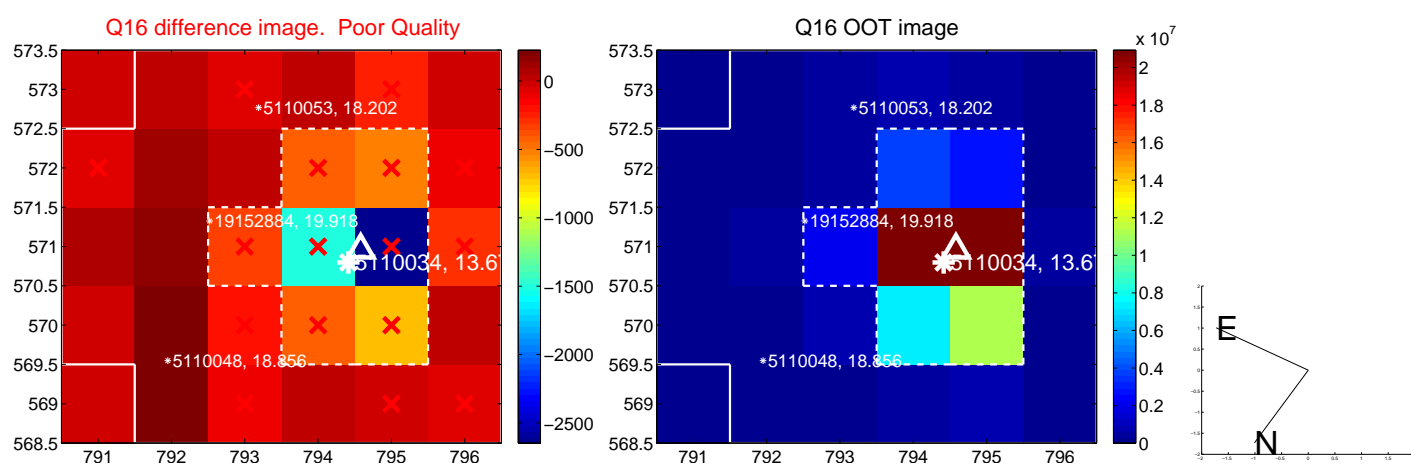
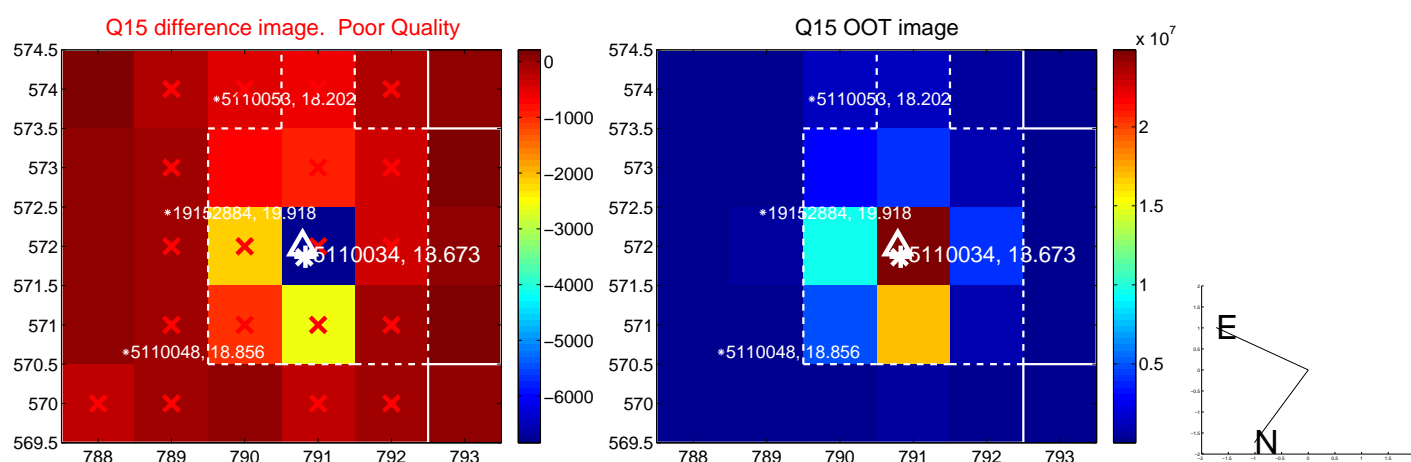
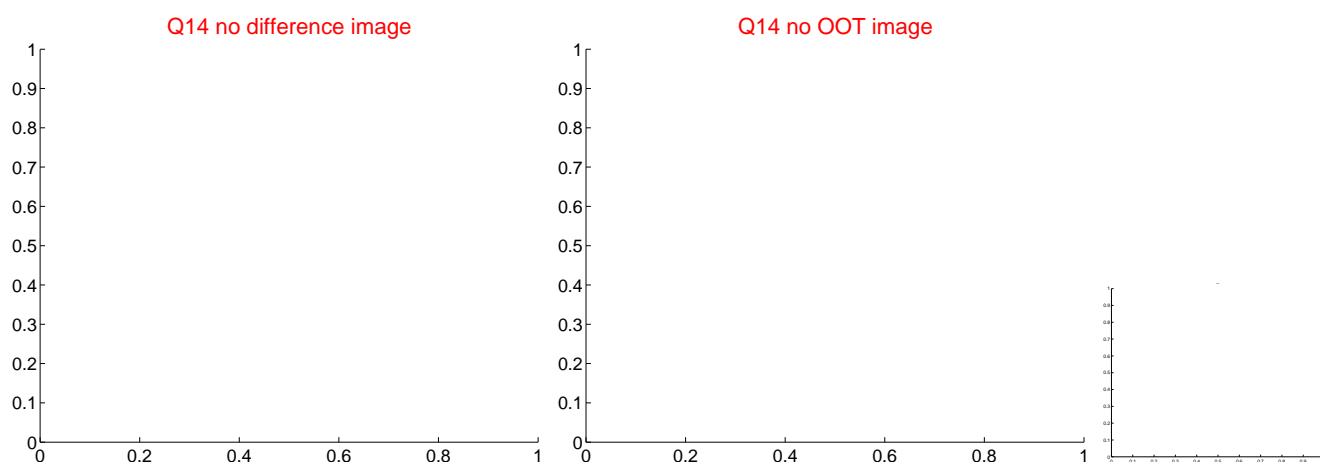
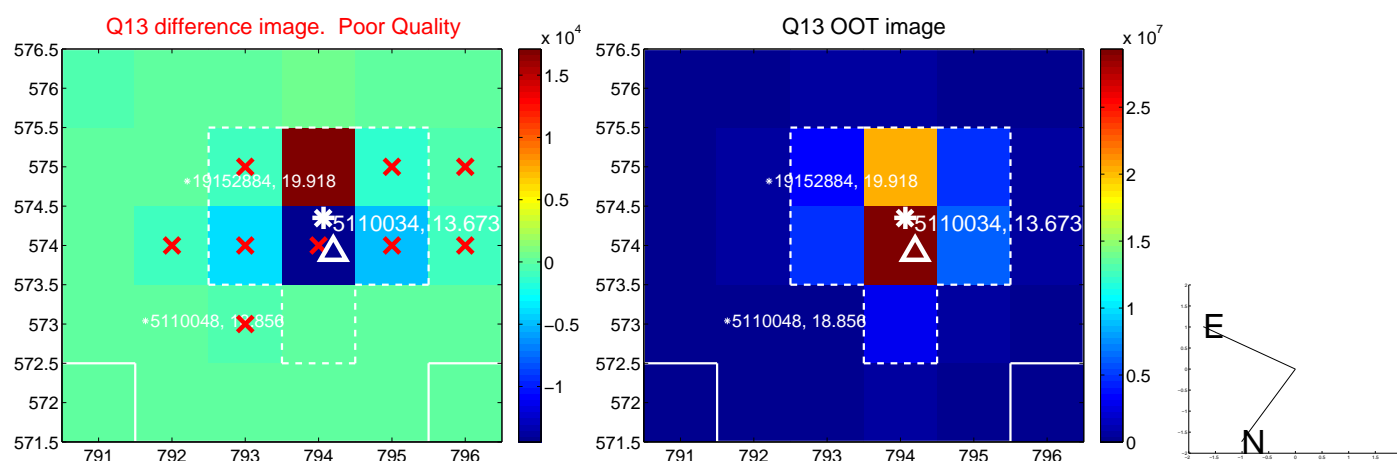




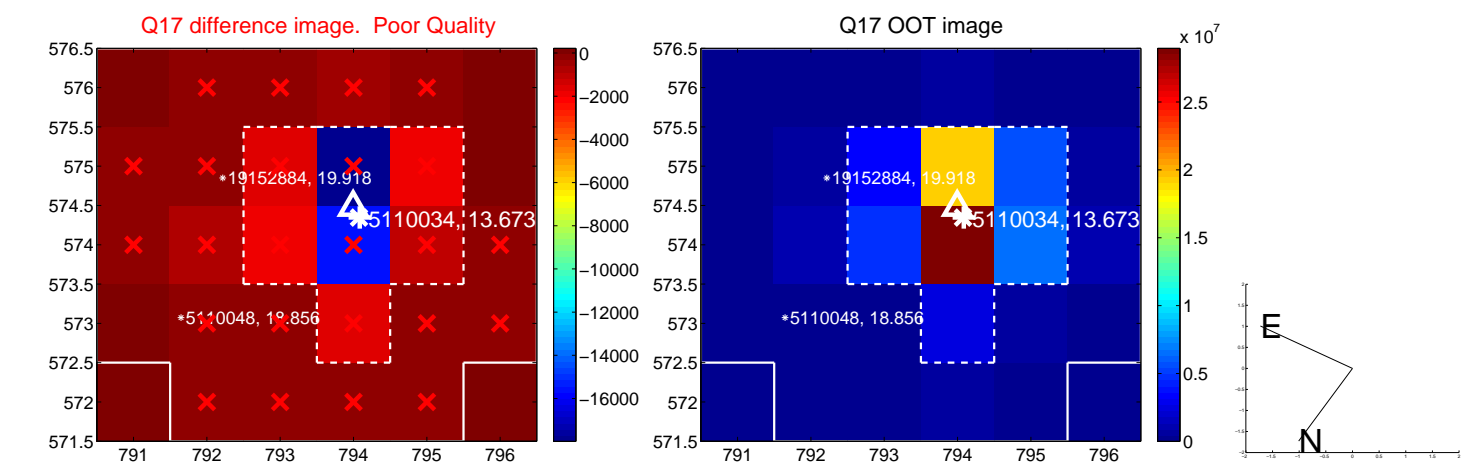
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



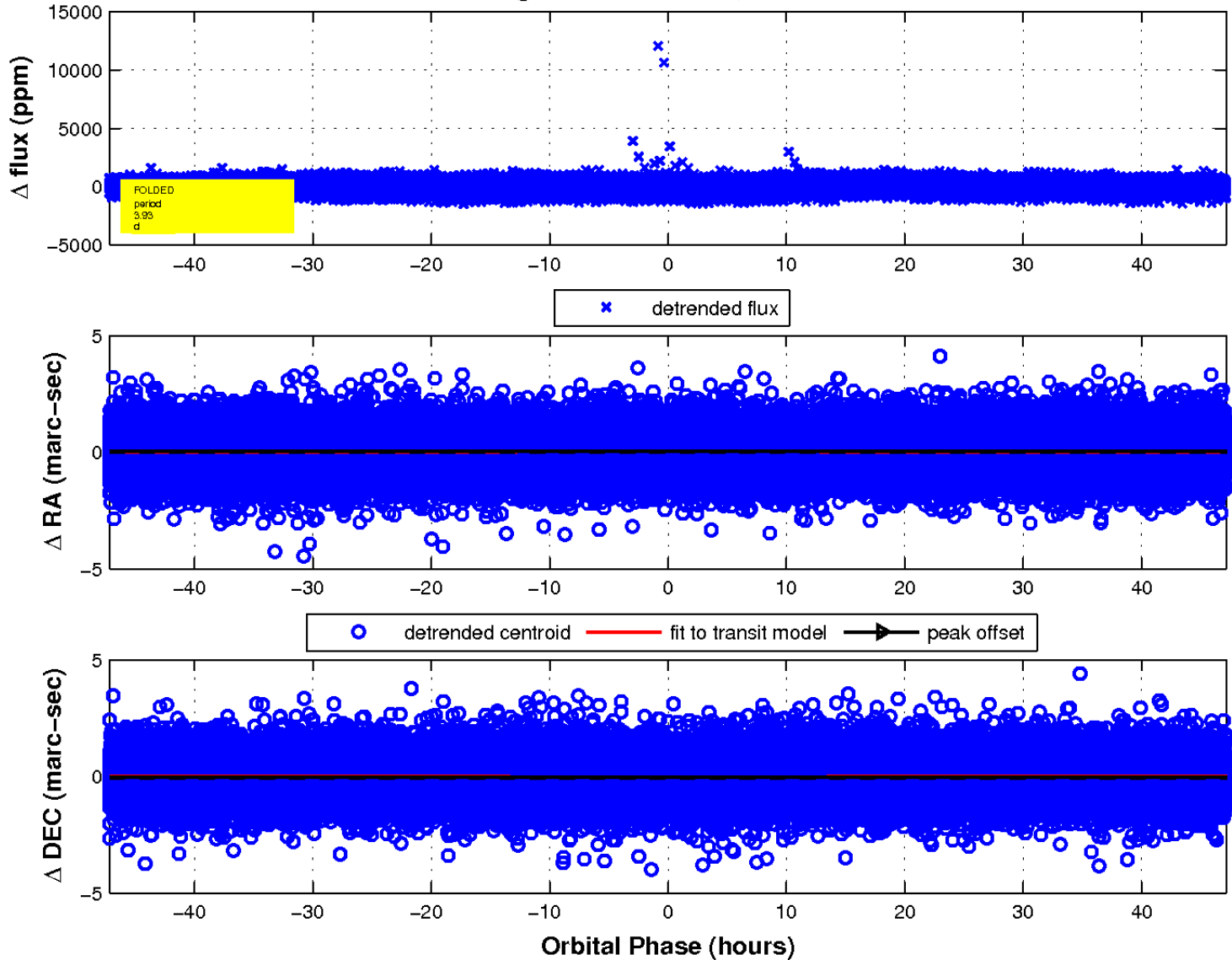
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

