

# KIC 005360920

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005360920-01	OBS	1675.01	14.624019	144.454015	1091.5	1.907	20.1	24.2	0.81	5753	3.43	51.03

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005360920-01	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 005360920-01

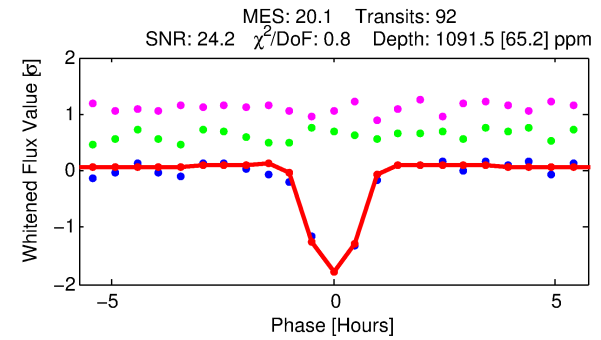
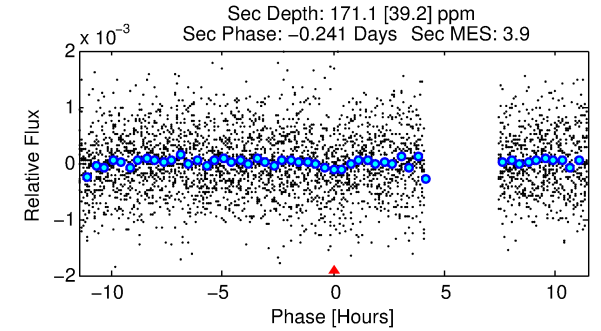
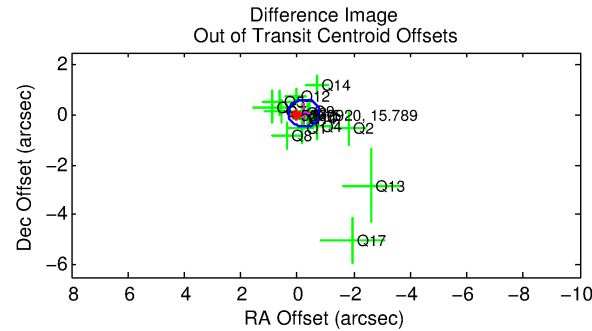
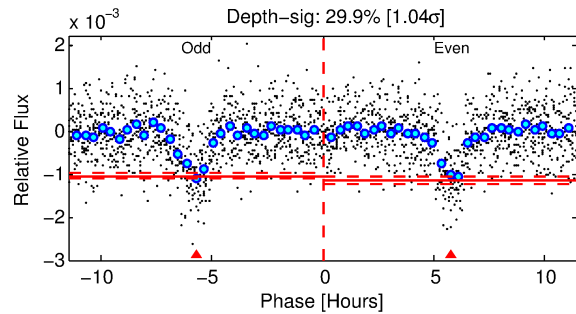
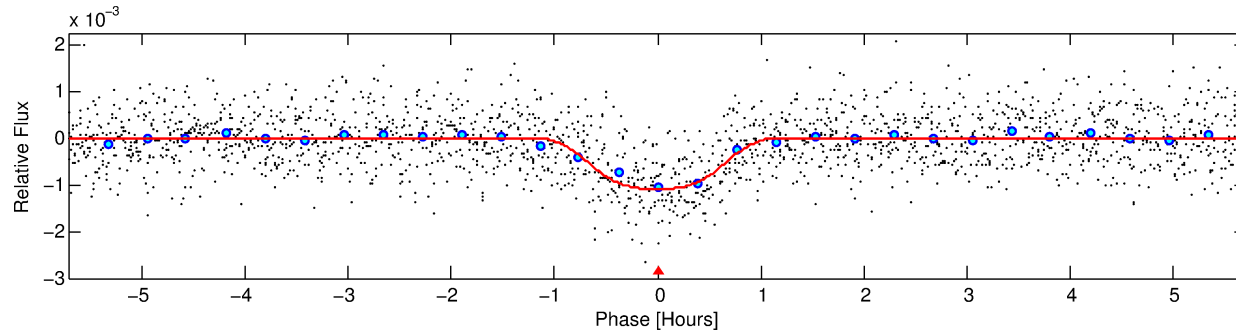
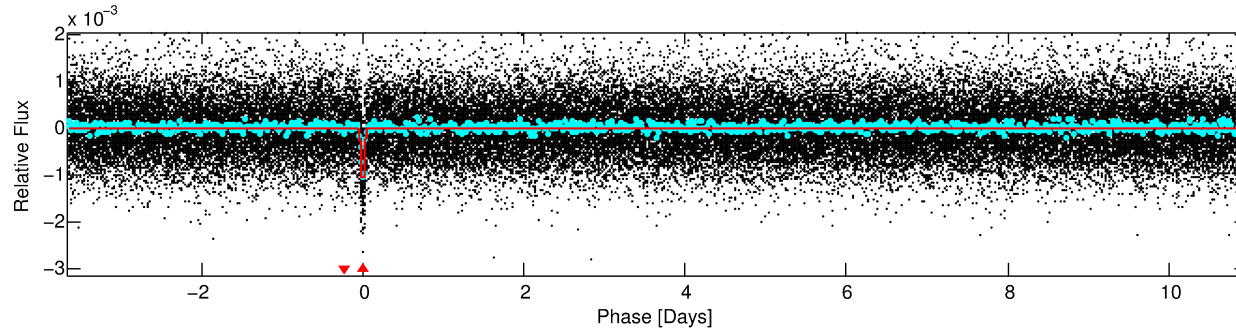
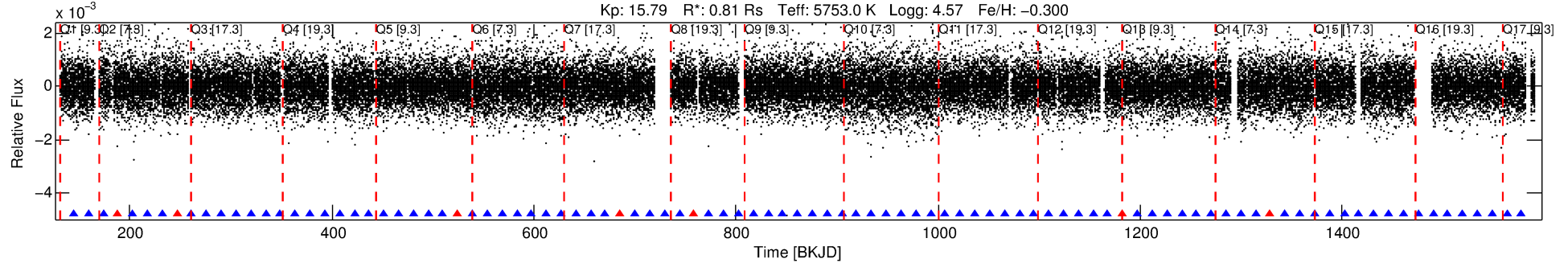
No Significant Match Found

# DV One-Page Summary

KIC: 5360920 Candidate: 1 of 1 Period: 14.624 d

KOI: K01675.01 Corr: 0.932

Kp: 15.79 R\*: 0.81 Rs Teff: 5753.0 K Logg: 4.57 Fe/H: -0.300



## DV Fit Results:

Period = 14.62402 [0.00003] d  
Epoch = 144.4540 [0.0019] BKJD  
Rp/R\* = 0.0386 [0.0024]  
a/R\* = 24.57 [4.10]  
b = 0.95 [0.02]  
Seff = 51.03 [15.49]  
Teq = 682 [52] K  
Rp = 3.43 [0.81] Re  
a = 0.1130 [0.0217] AU  
Ag = 102.12 [38.91] [2.60σ]  
Teffp = 3350 [239] K [10.90σ]

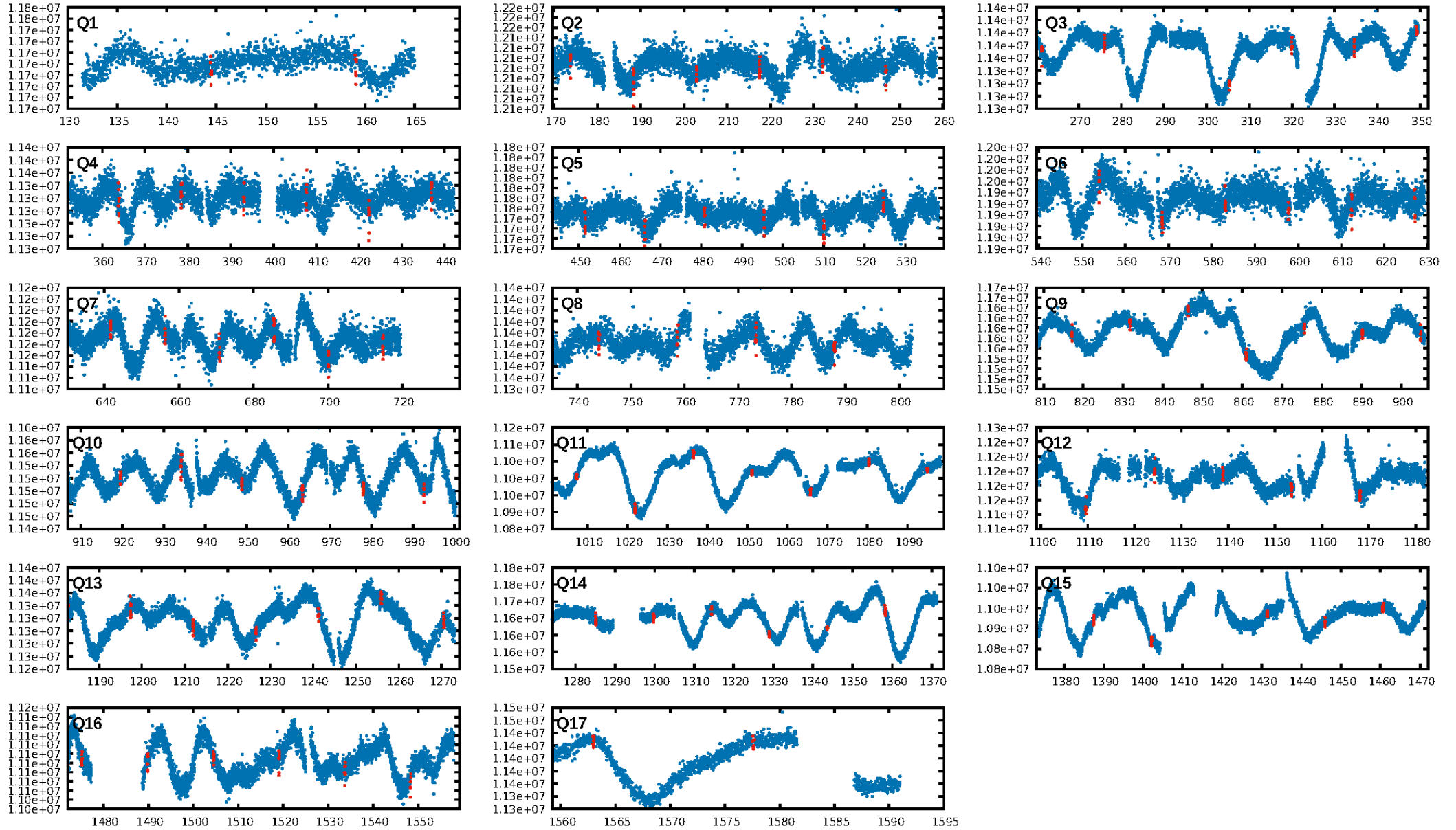
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.65e-85  
RollingBand-fgt: 0.92 [81/88]  
GhostDiagnostic-chr: 3.186  
Centroid-sig: 20.2%  
Centroid-so: 0.579 arcsec [1.05σ]  
OotOffset-rm: 0.237 arcsec [1.29σ]  
KicOffset-rm: 0.092 arcsec [0.34σ]  
OotOffset-st: 4/4/3/5 [16]  
KicOffset-st: 4/4/3/5 [16]  
DiffImageQuality-fgm: 0.81 [13/16]  
DiffImageOverlap-fno: 1.00 [17/17]

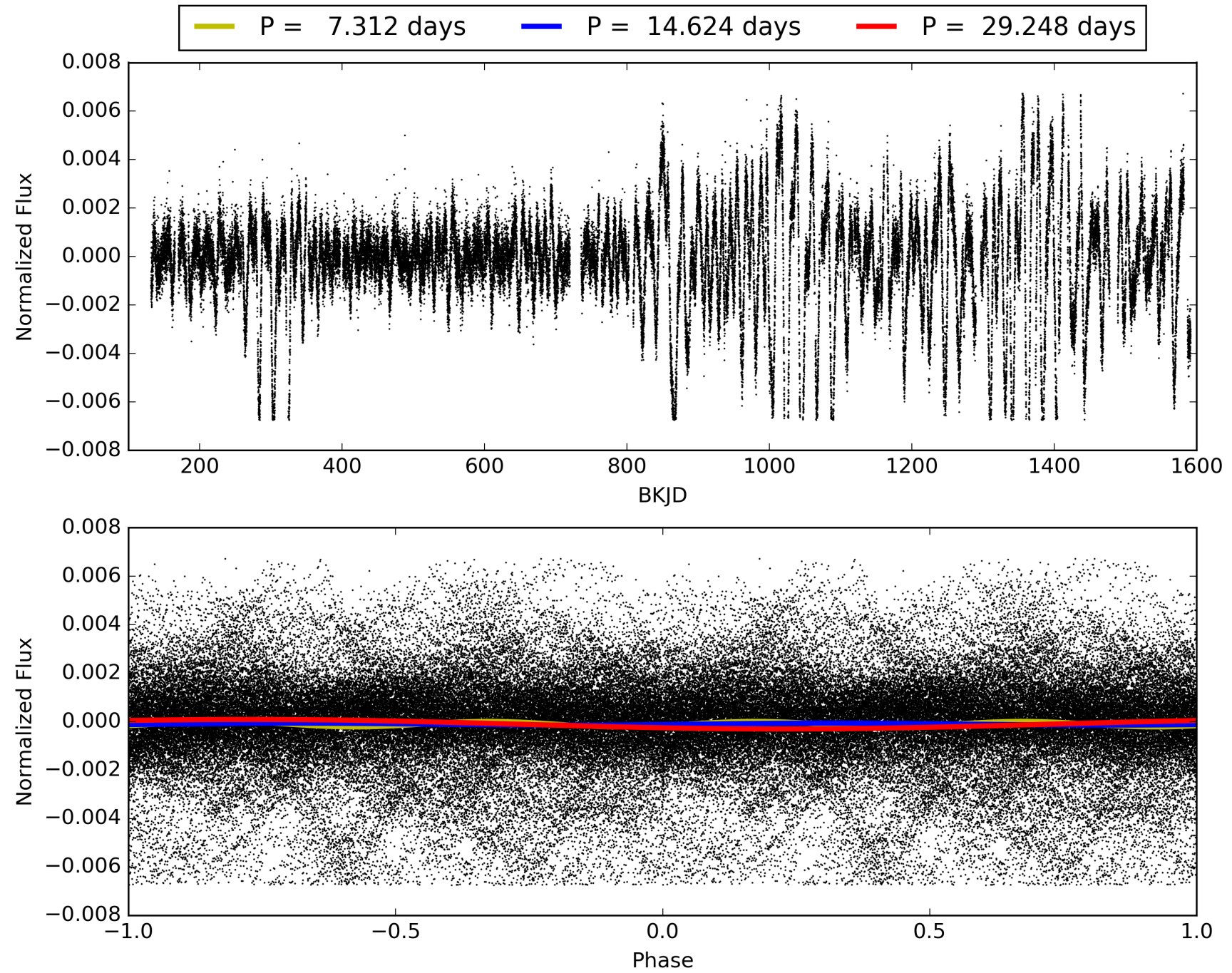
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:10:48 Z

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

# TCE 005360920-01, PDC Light Curves

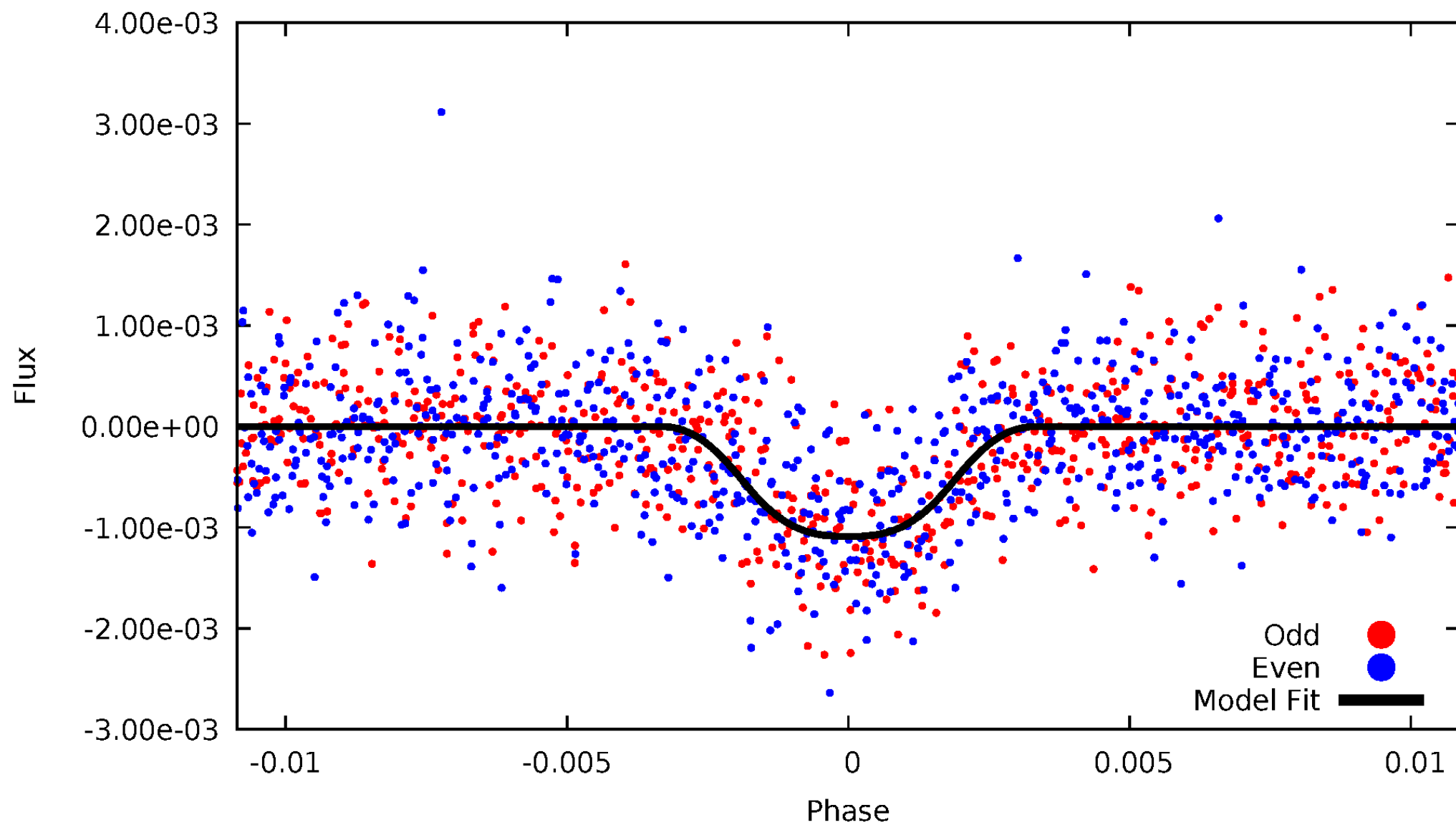


TCE 005360920-01



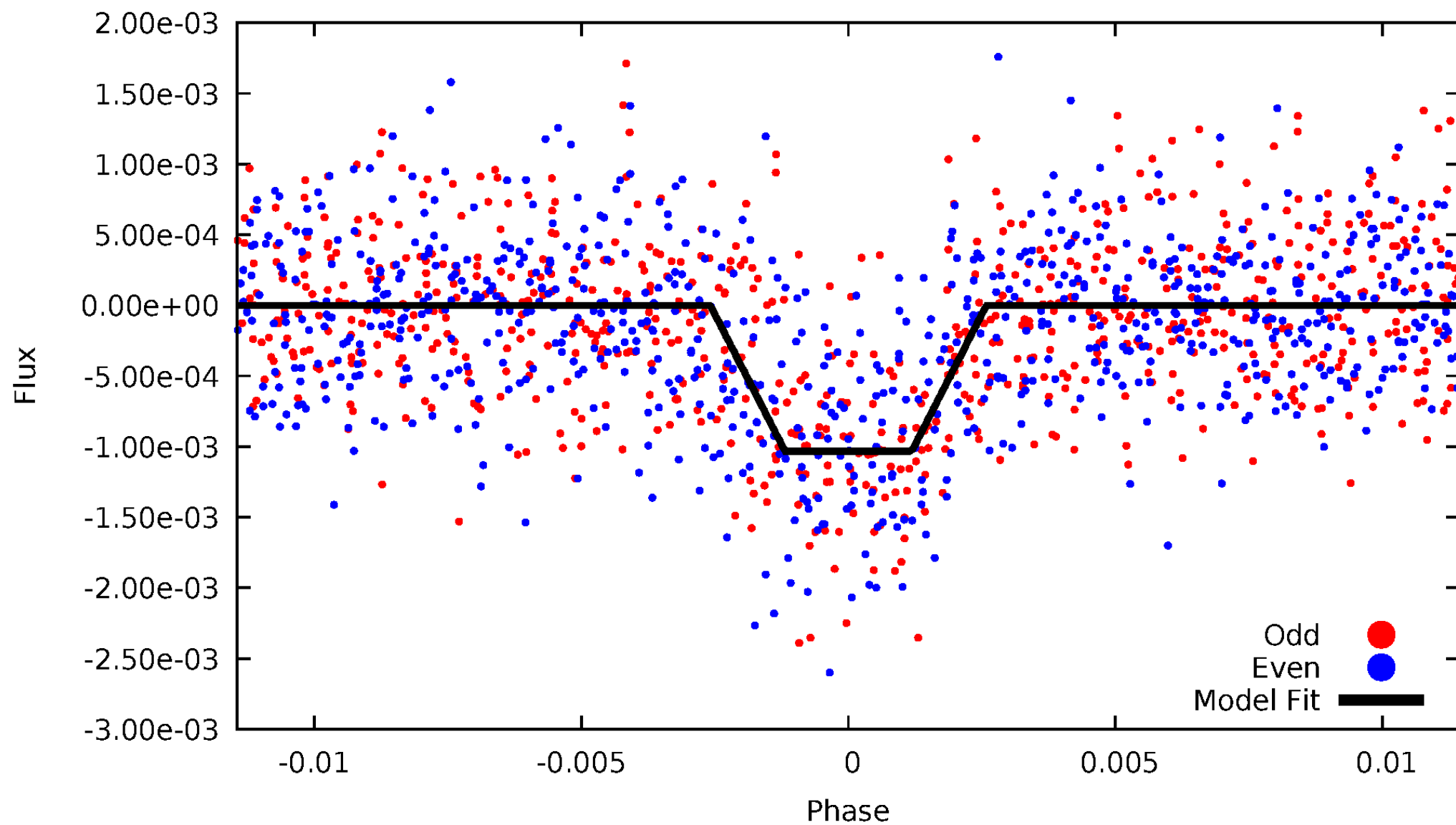
# DV Odd/Even

TCE 005360920-01



# ALT Odd/Even

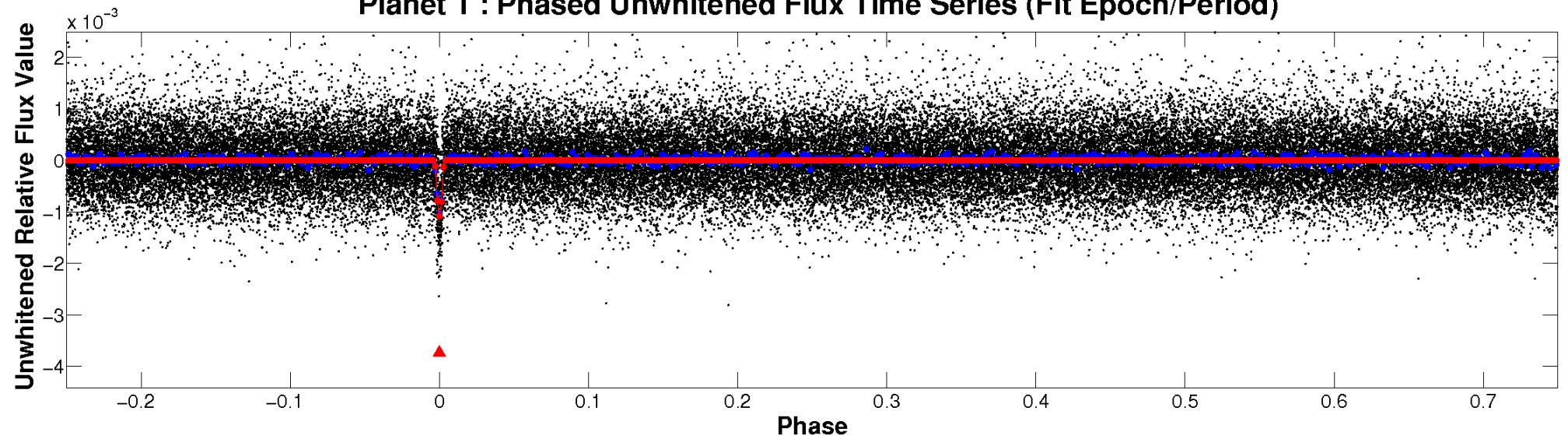
TCE 005360920-01



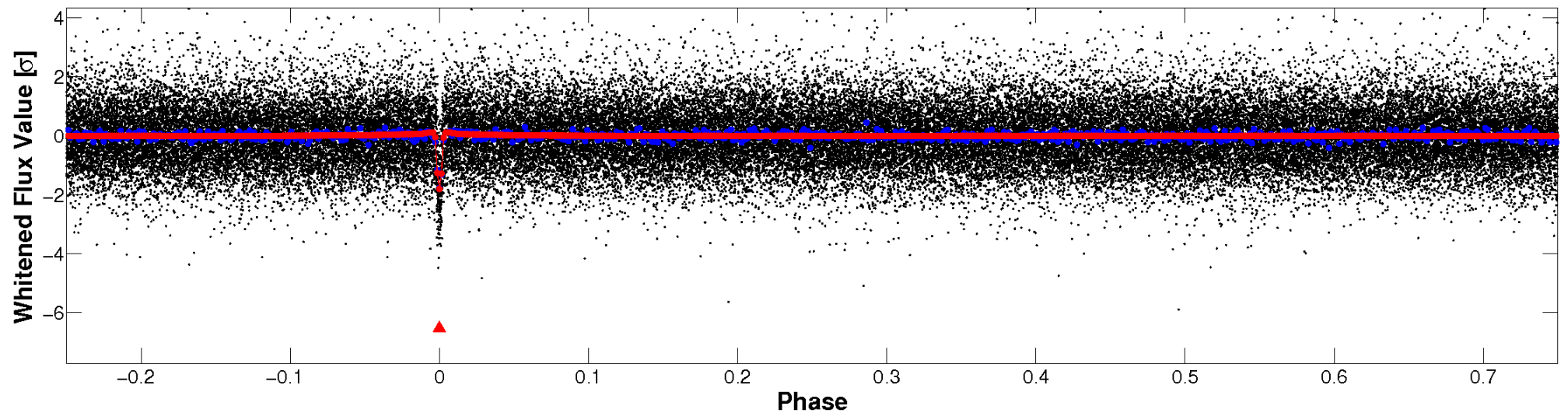


# Non-Whitened Vs. Whitened Light Curve

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

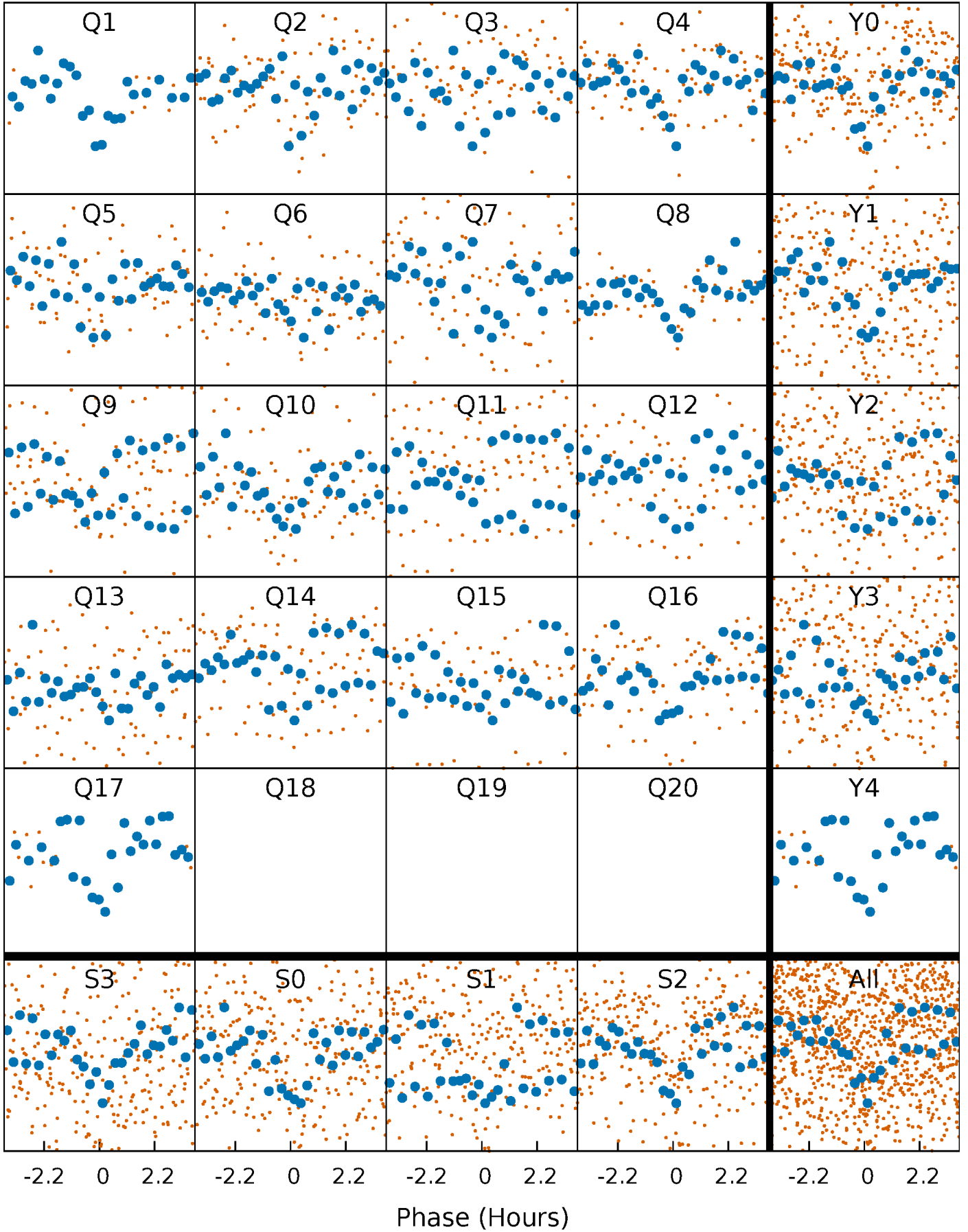


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

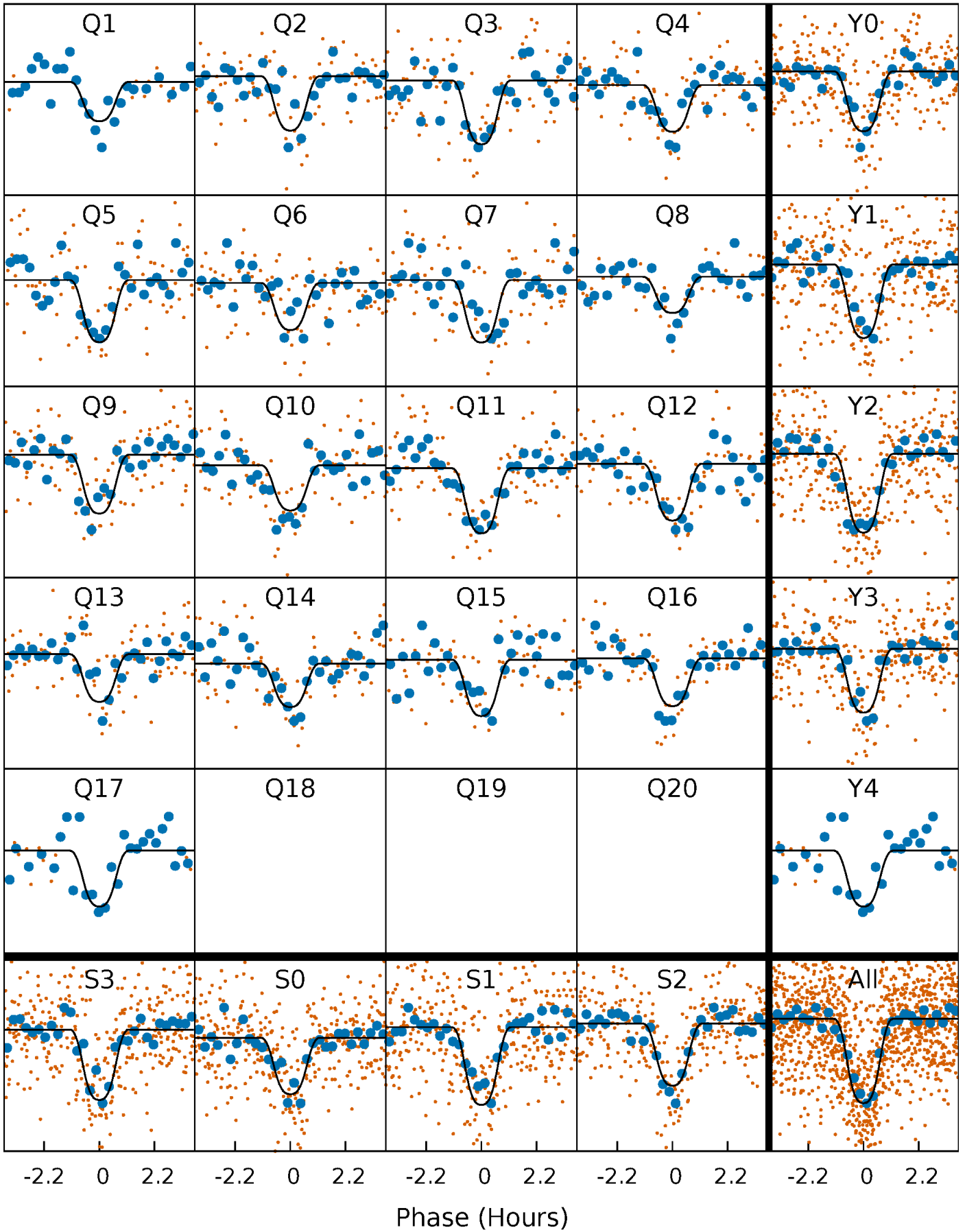
TCE 005360920-01 P= 14.624019 Days  $T_0=144.454015$  (BKJD)





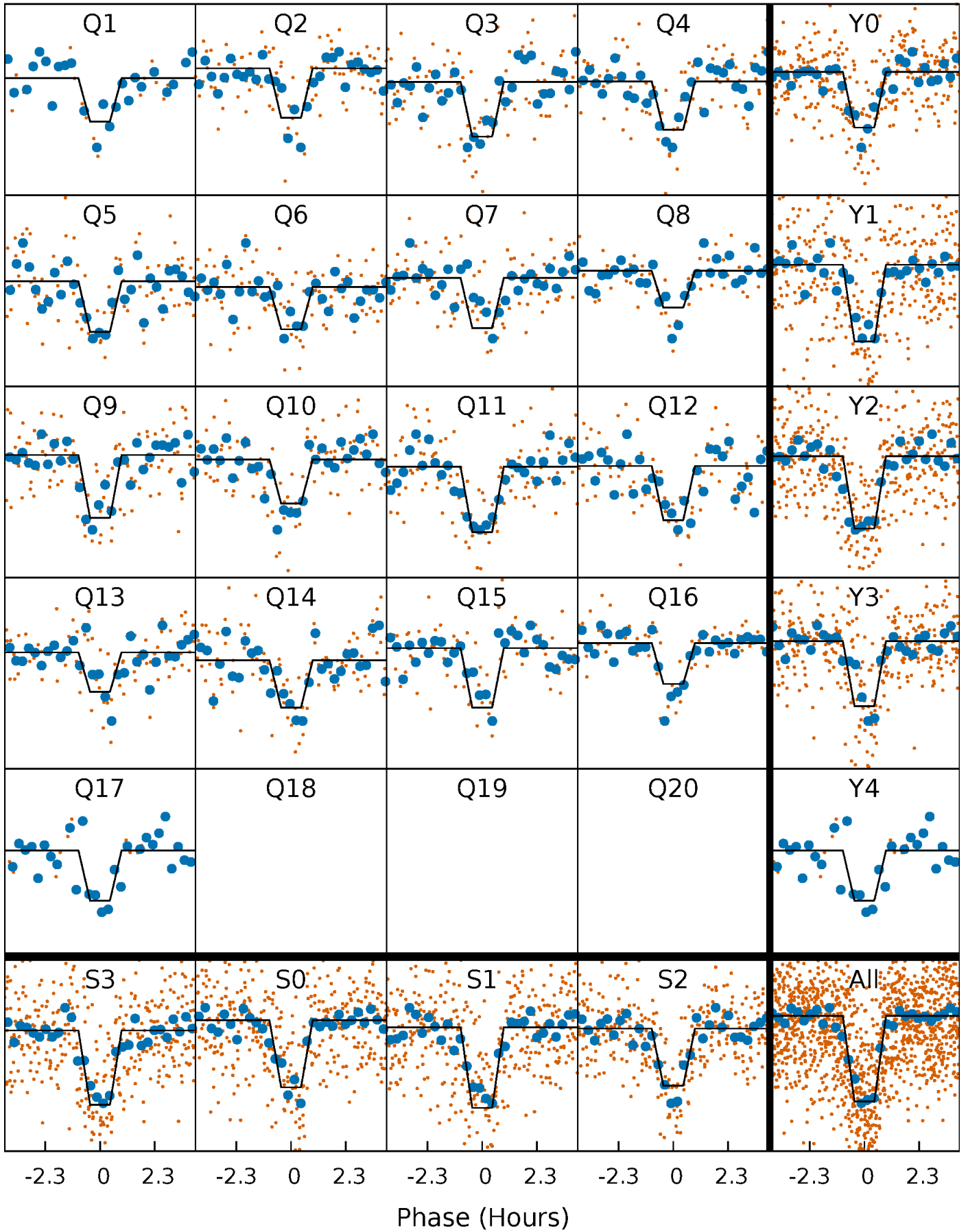
# DV Quarter-Phased Transit Curves

TCE 005360920-01 P= 14.624019 Days  $T_0=144.454015$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

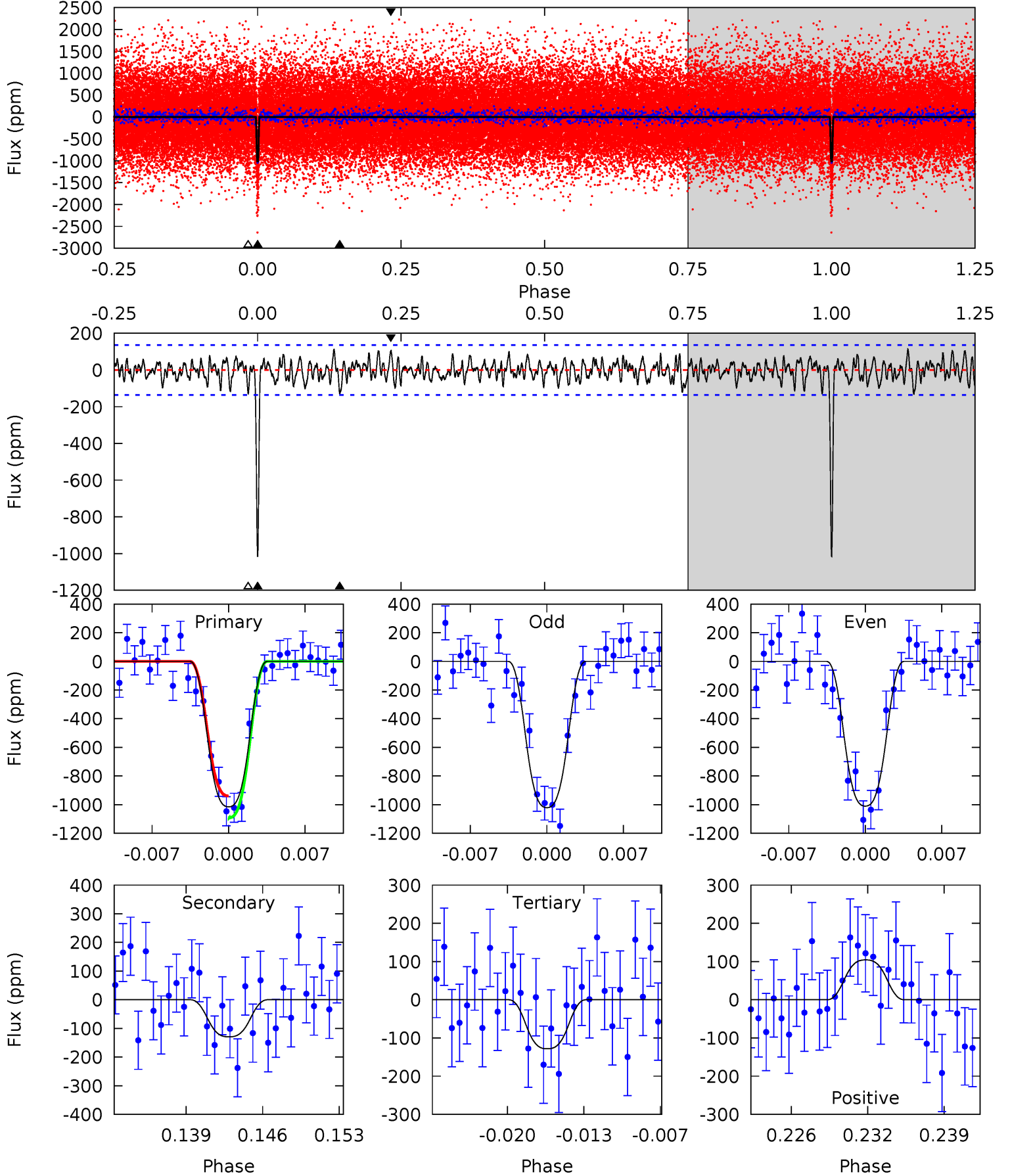
TCE 005360920-01 P= 14.623945 Days  $T_0=144.458359$  (BKJD)



# DV Model-Shift Uniqueness Test

005360920-01,  $P = 14.624019$  Days,  $E = 129.829996$  Days

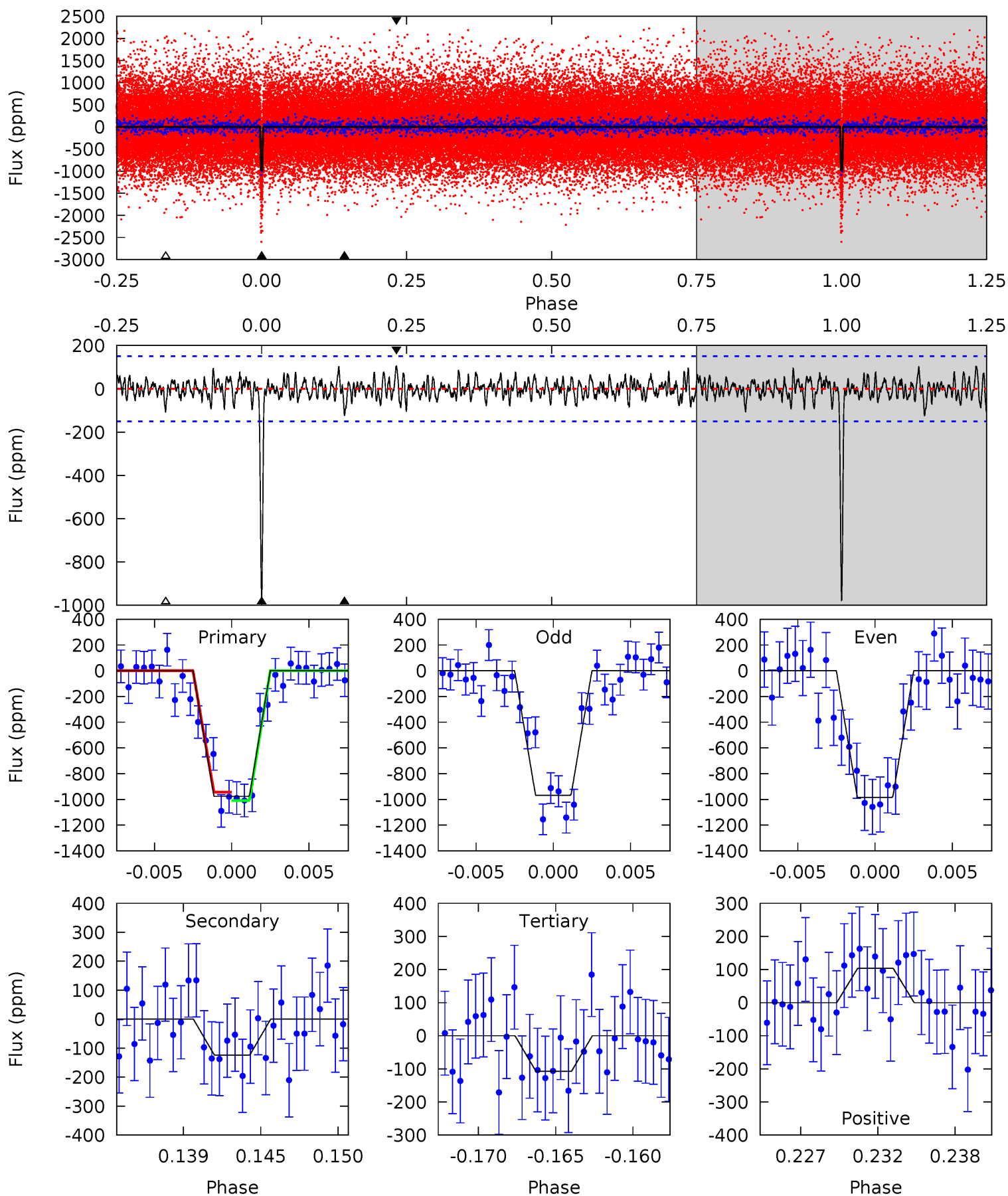
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.1	4.86	4.82	3.92	5.10	2.71	1.54	33.3	34.2	0.04	0.94	0.20	0.99	0.10	2.88



# Alt Model-Shift Uniqueness Test

005360920-01,  $P = 14.623945$  Days,  $E = 129.834414$  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
33.5	4.24	3.70	3.56	5.15	2.80	1.19	29.8	29.9	0.55	0.68	0.27	1.00	0.10	1.11



### Stellar Parameters For KIC 005360920

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5753^{+155}_{-172}$	$4.570^{+0.038}_{-0.152}$	$-0.300^{+0.300}_{-0.300}$	$0.815^{+0.187}_{-0.075}$	$0.907^{+0.090}_{-0.110}$	$2.362^{+0.466}_{-1.037}$
	+3%/-3%	+1%/-3%	+100%/-100%	+23%/-9%	+10%/-12%	+20%/-44%
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 005360920-01 / KOI 1675.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-129 \pm 27$	$3.52^{+0.51}_{-0.31}$	$968^{+54}_{-39}$	$3565^{+163}_{-163}$	$70^{+21}_{-19}$
Alt.	$-124 \pm 29$	$2.96^{+0.40}_{-0.32}$	$971^{+53}_{-43}$	$3769^{+202}_{-199}$	$97^{+36}_{-28}$

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

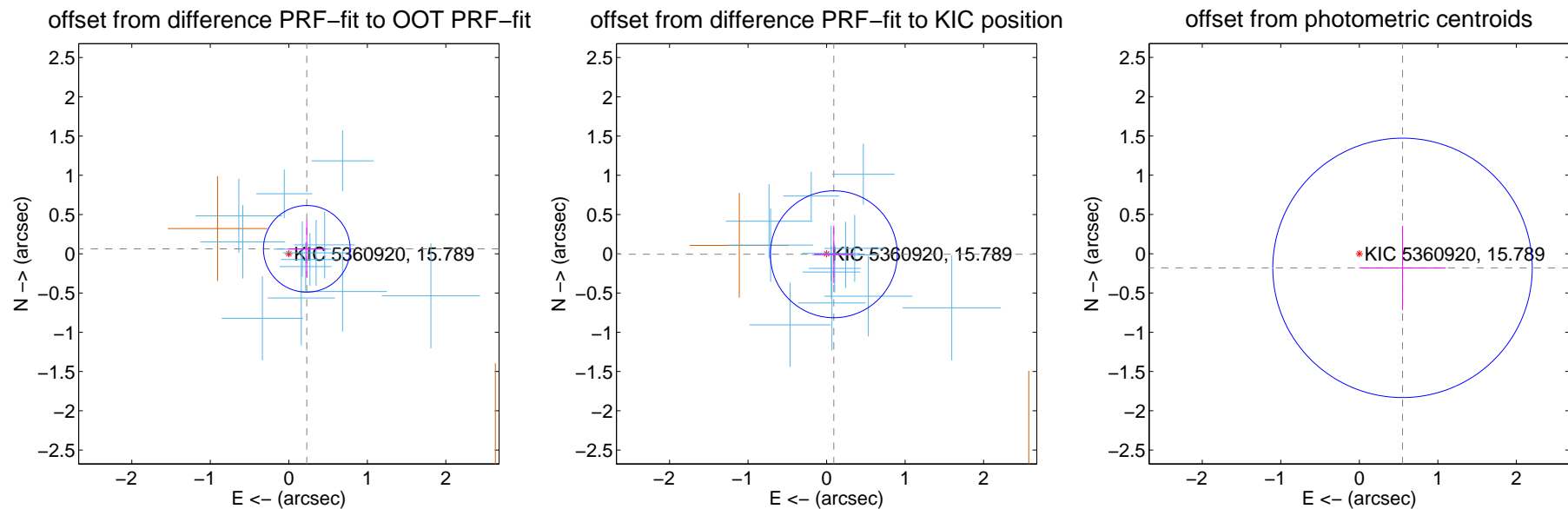
## DV Centroid Data

Supplemental centroid analysis for 005360920-01. Kepler magnitude: 15.79. Transit SNR 24.20

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

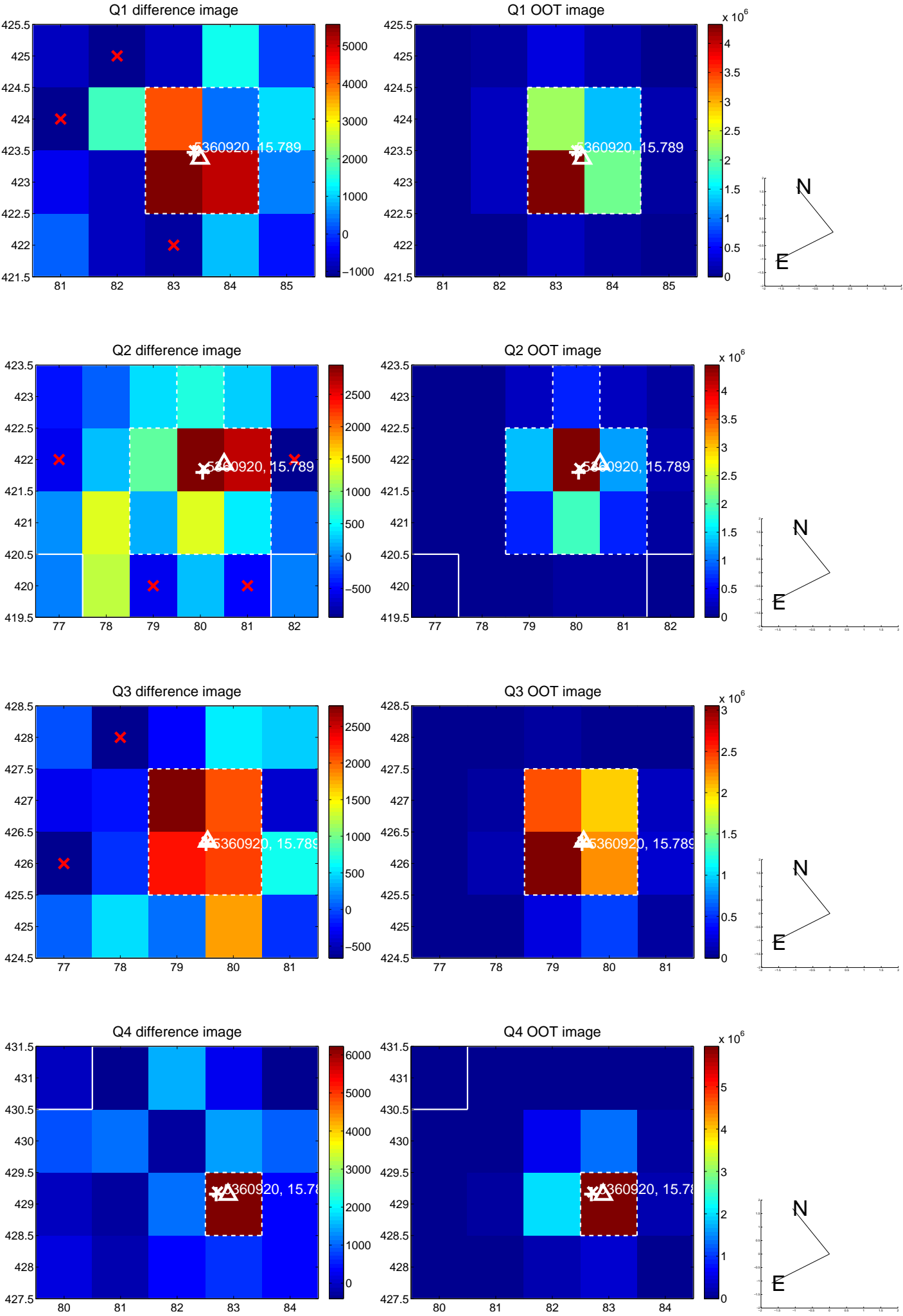
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.237 \pm 0.184$	1.29	$-0.229 \pm 0.240$	$0.063 \pm 0.365$
PRF-fit source offset from KIC position	$0.092 \pm 0.269$	0.34	$-0.092 \pm 0.253$	$-0.006 \pm 0.367$
photometric centroid source offset	$0.58 \pm 0.55$	1.05	$-0.55 \pm 0.55$	$-0.18 \pm 0.54$



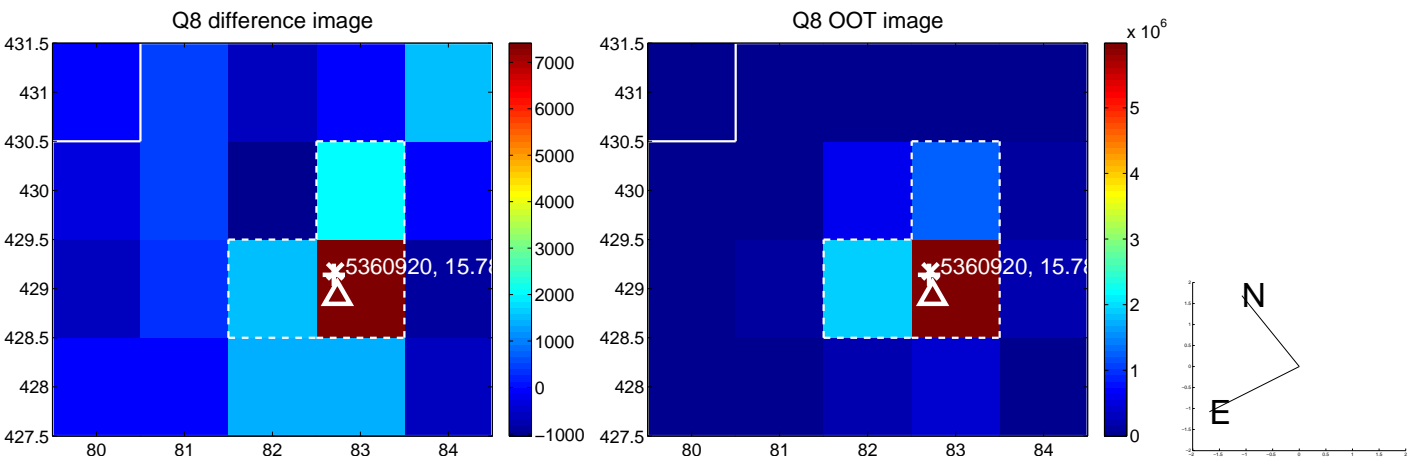
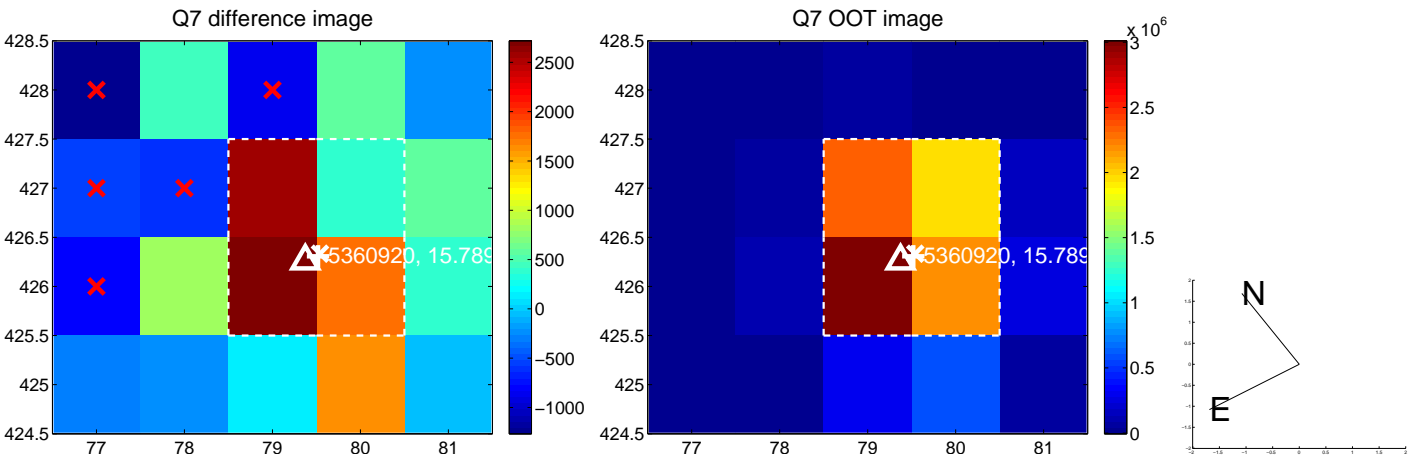
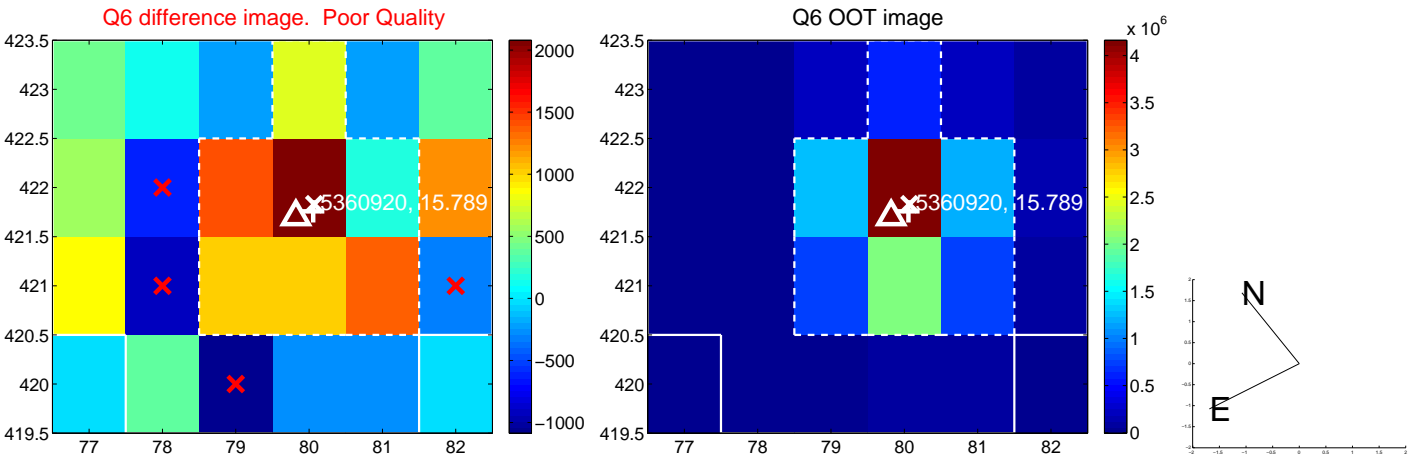
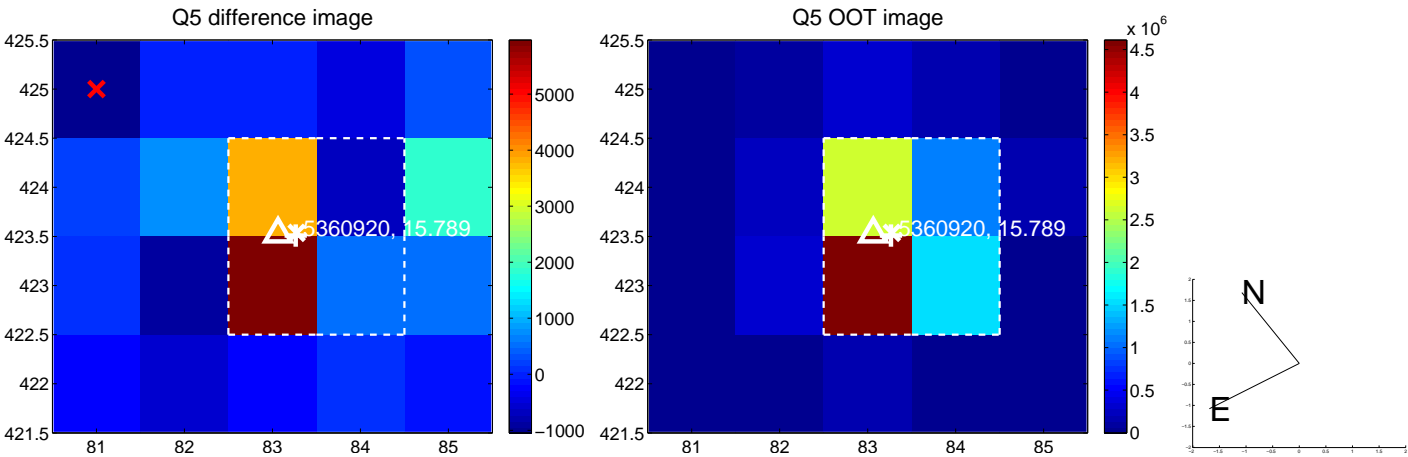
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



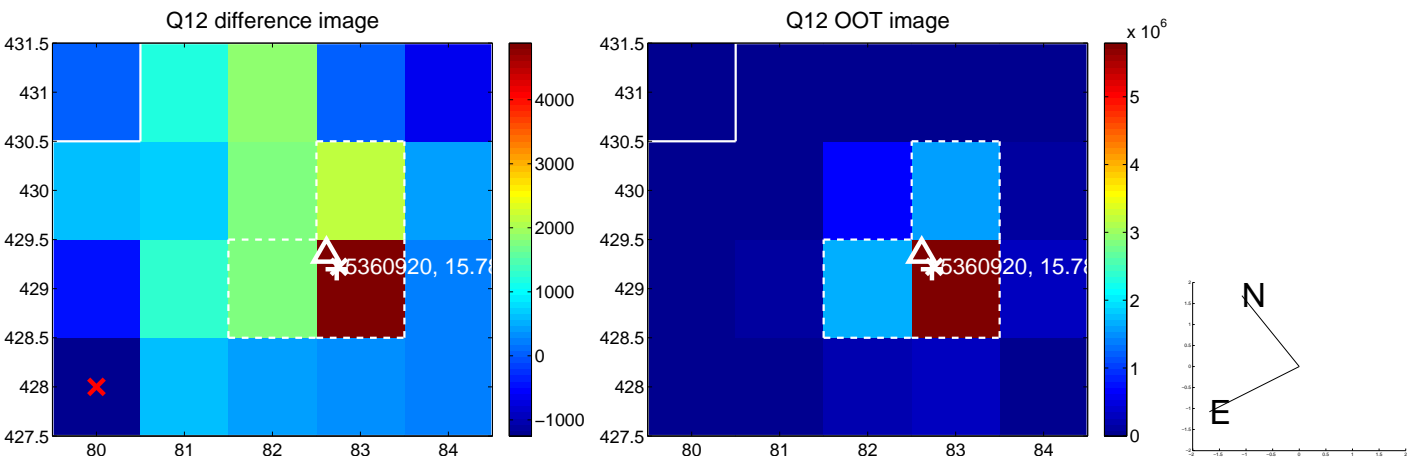
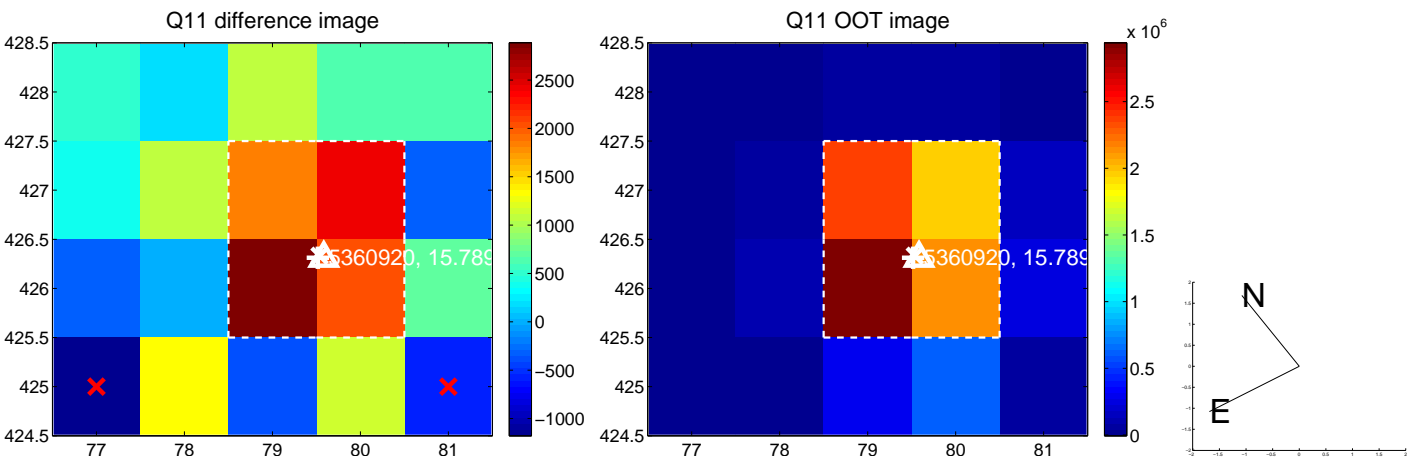
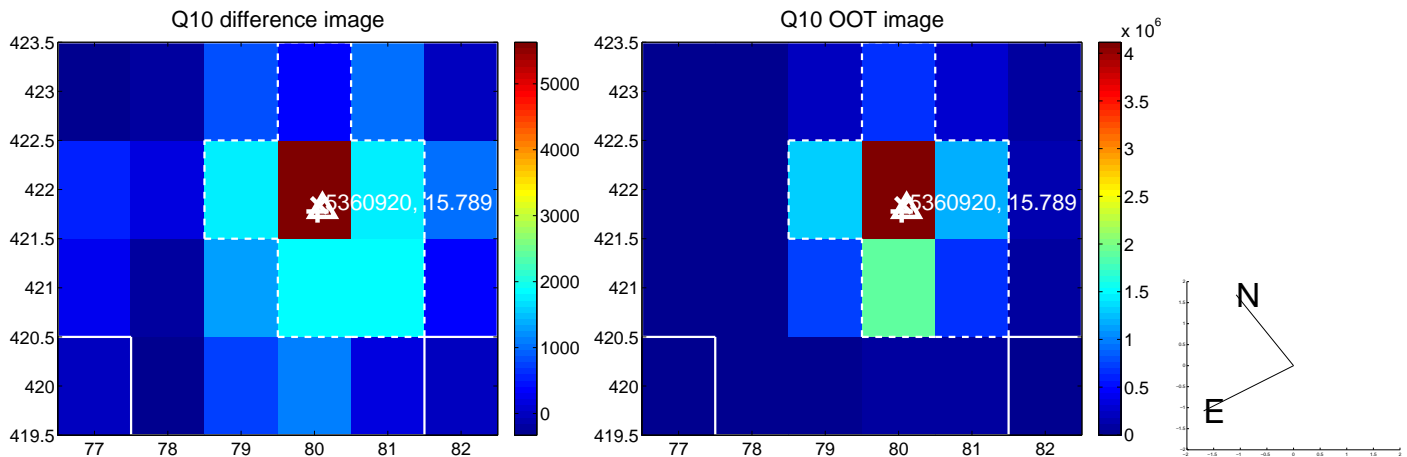
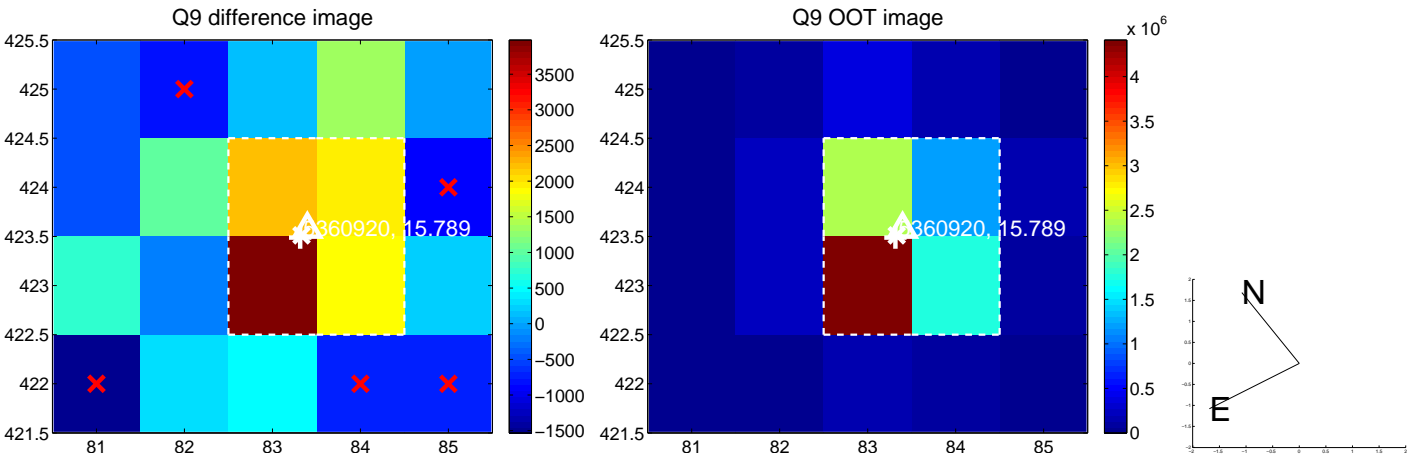
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



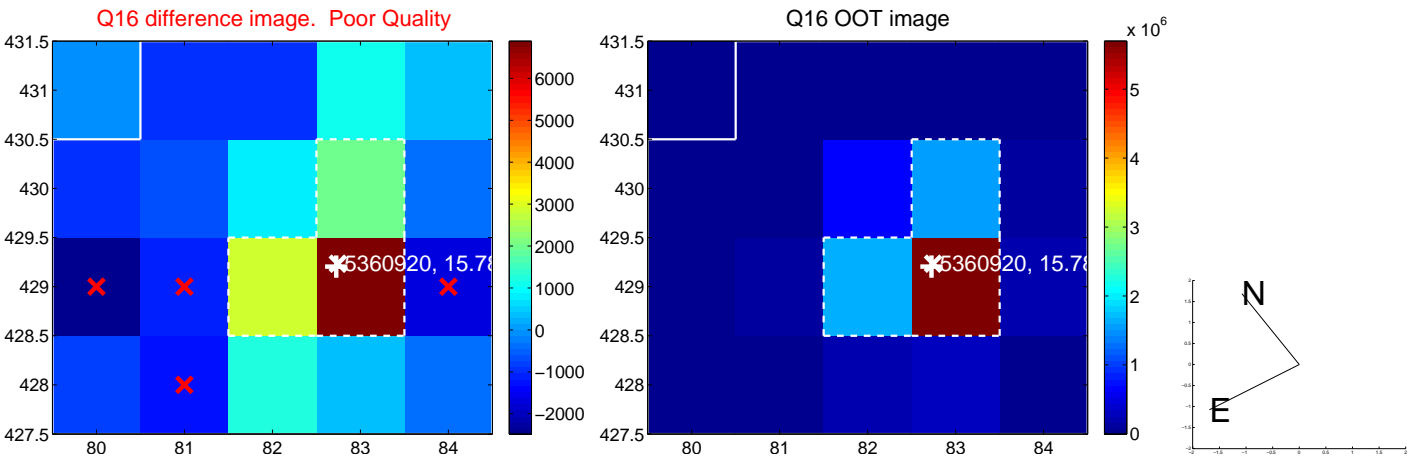
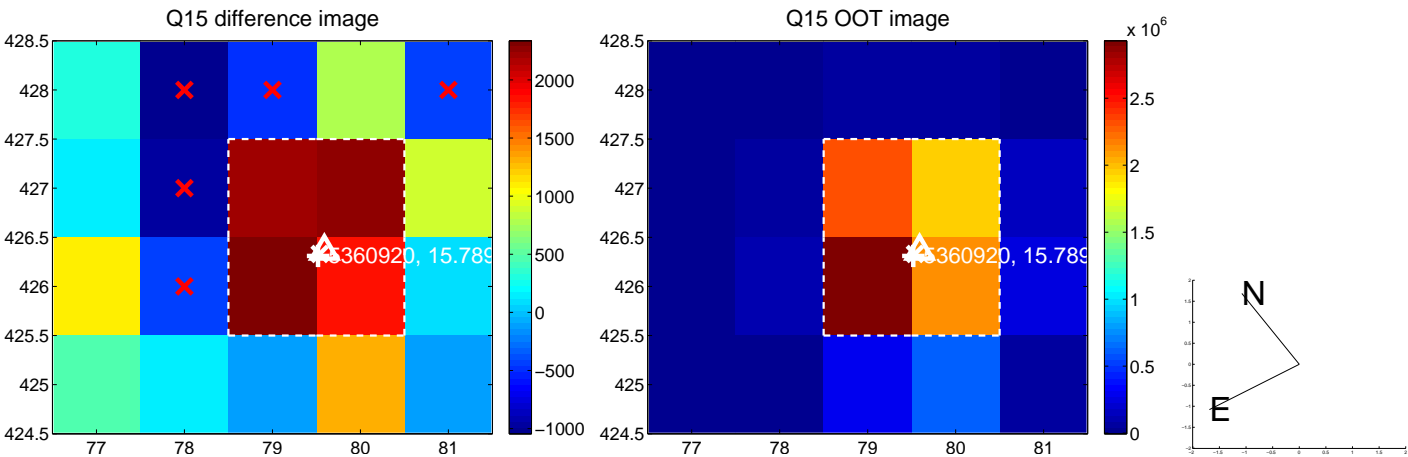
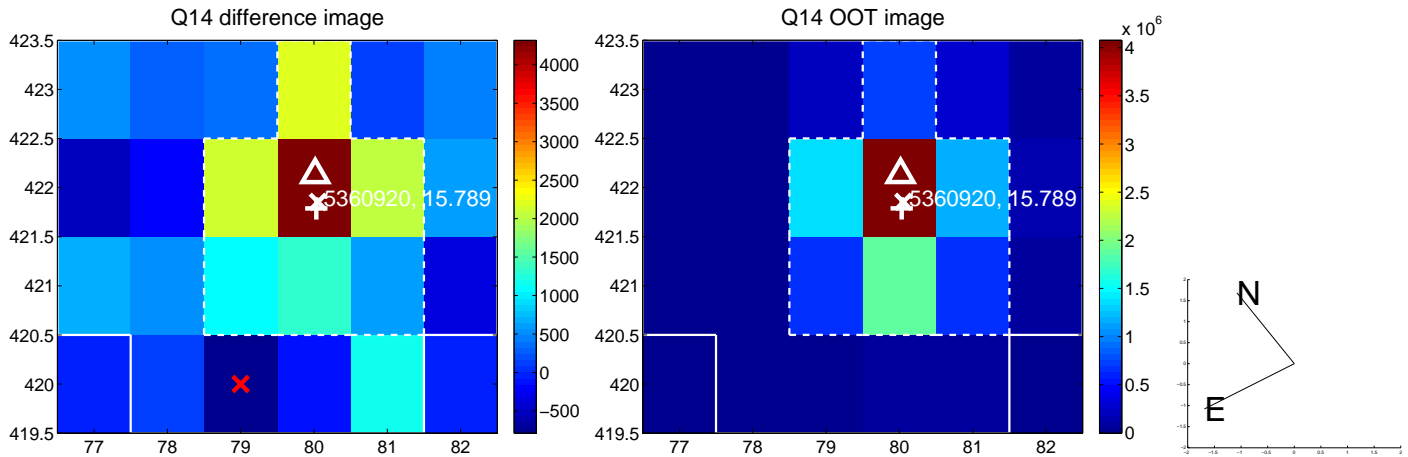
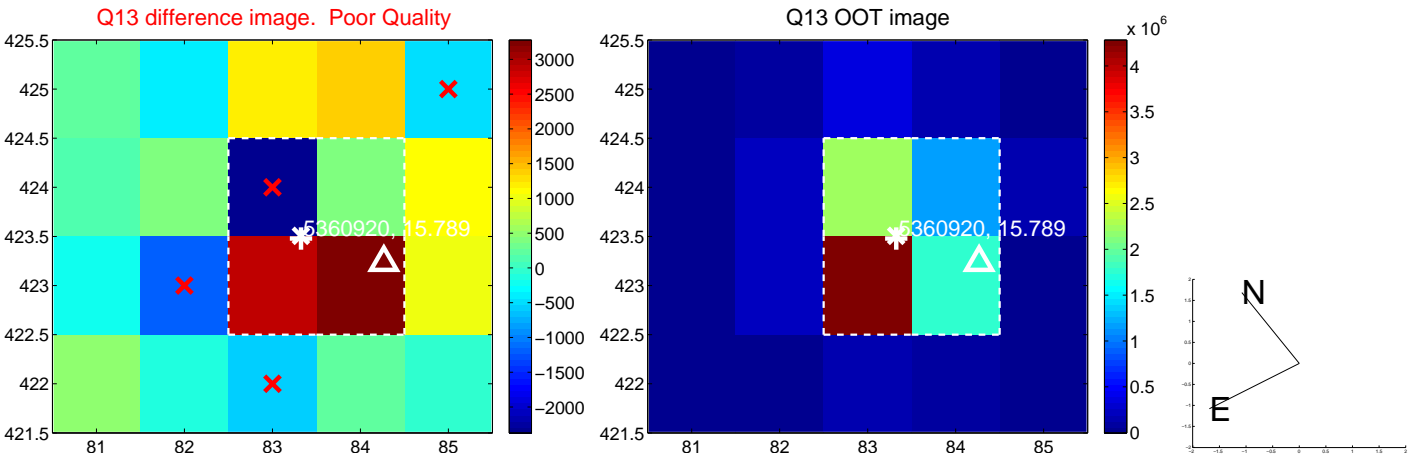
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



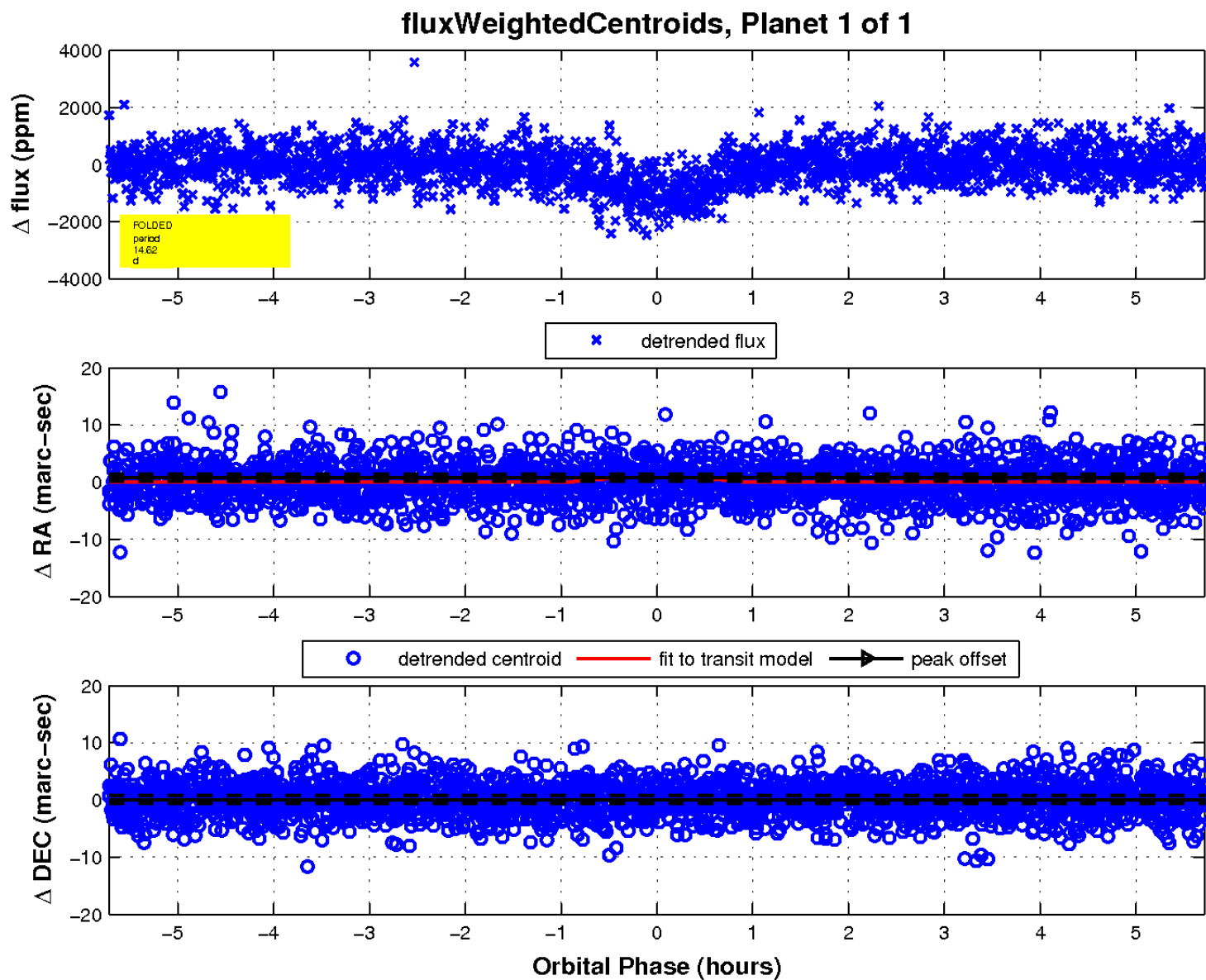
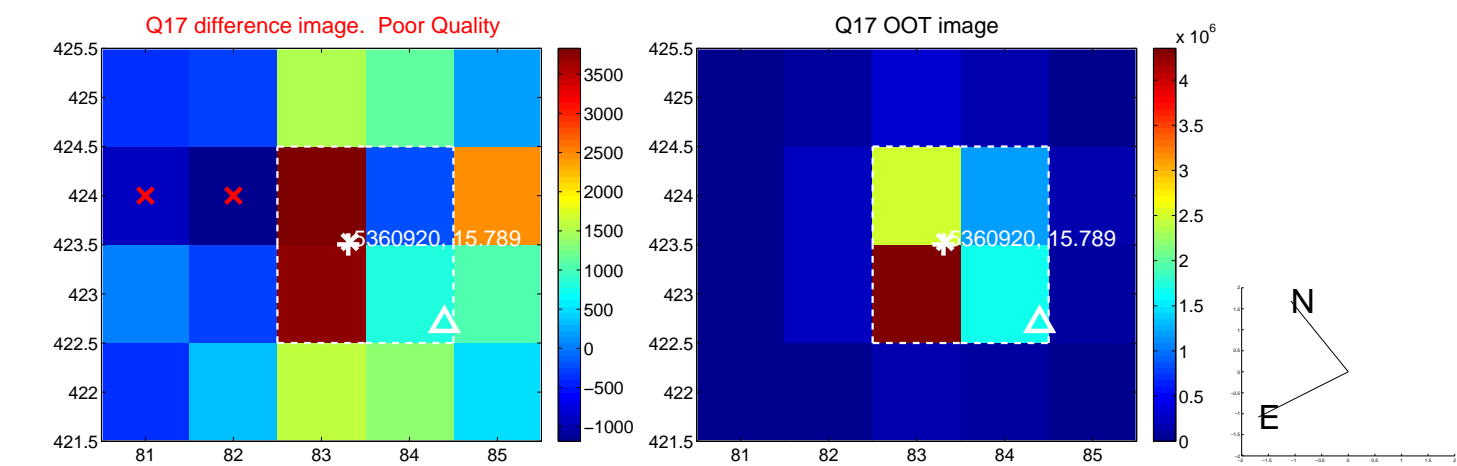
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

