

# KIC 002584115

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002584115-01	OBS	No	1.890192	132.522616	76.8	5.632	9.1	8.8	0.95	6470	0.97	1578.56

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002584115-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

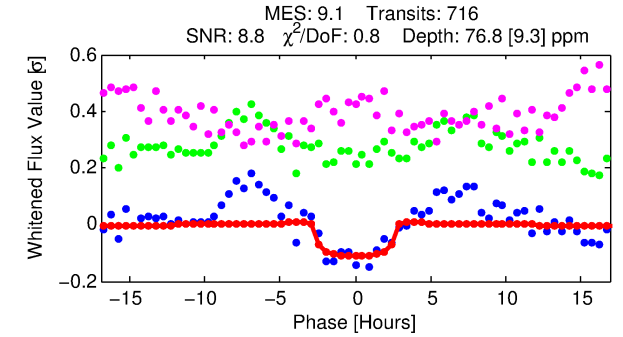
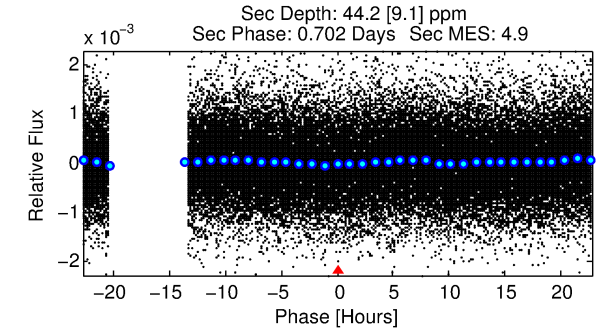
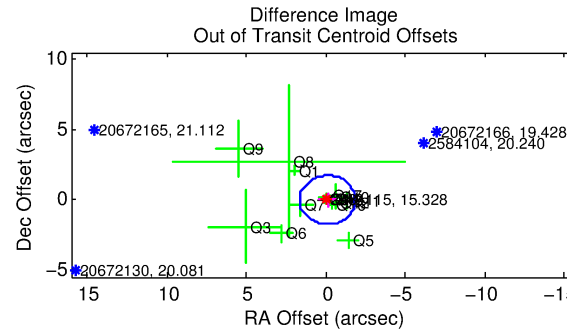
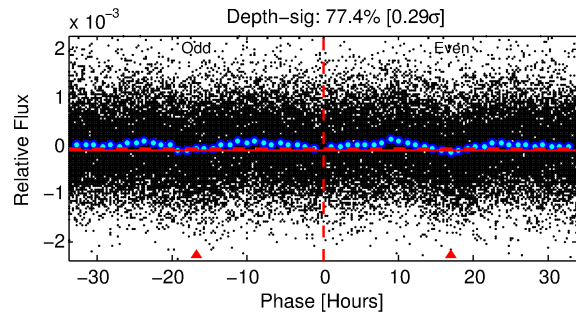
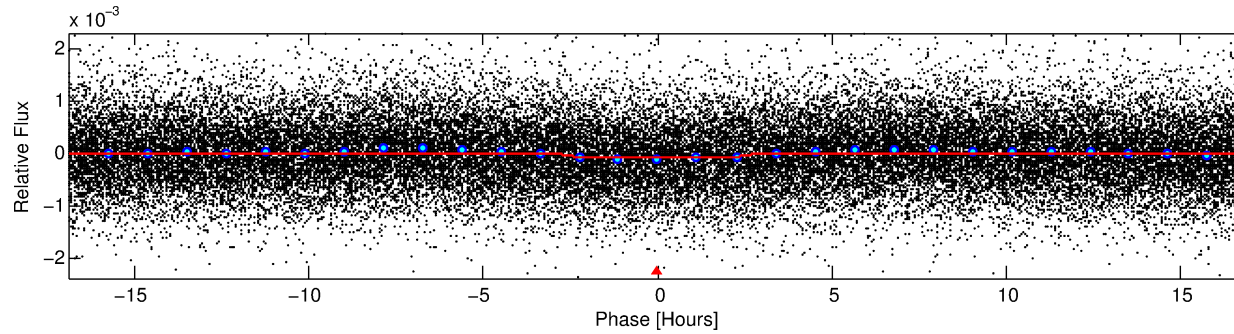
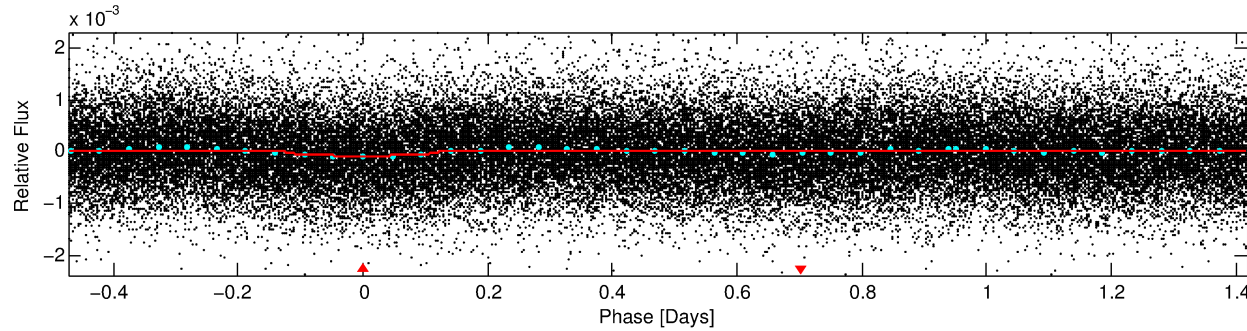
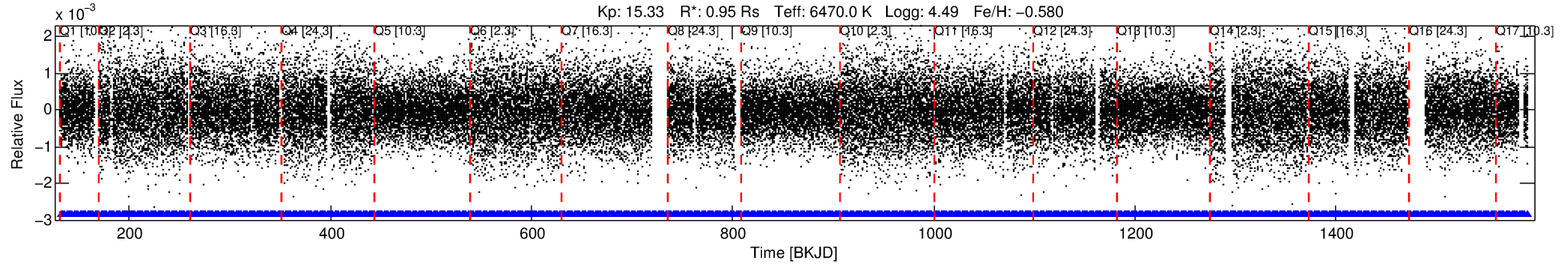
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 002584115-01

No Significant Match Found

# DV One-Page Summary

KIC: 2584115 Candidate: 1 of 1 Period: 1.890 d



## DV Fit Results:

Period = 1.89019 [0.00002] d  
Epoch = 132.5226 [0.0069] BKJD  
Rp/R\* = 0.0094 [0.0037]  
a/R\* = 1.50 [1.89]  
b = 0.90 [0.48]  
Seff = 1578.56 [615.34]  
Teff = 1607 [157] K  
Rp = 0.97 [0.48] Re  
a = 0.0300 [0.0075] AU  
Ag = 23.10 [20.55] [1.08 $\sigma$ ]  
Teffp = 5448 [1122] K [3.39 $\sigma$ ]

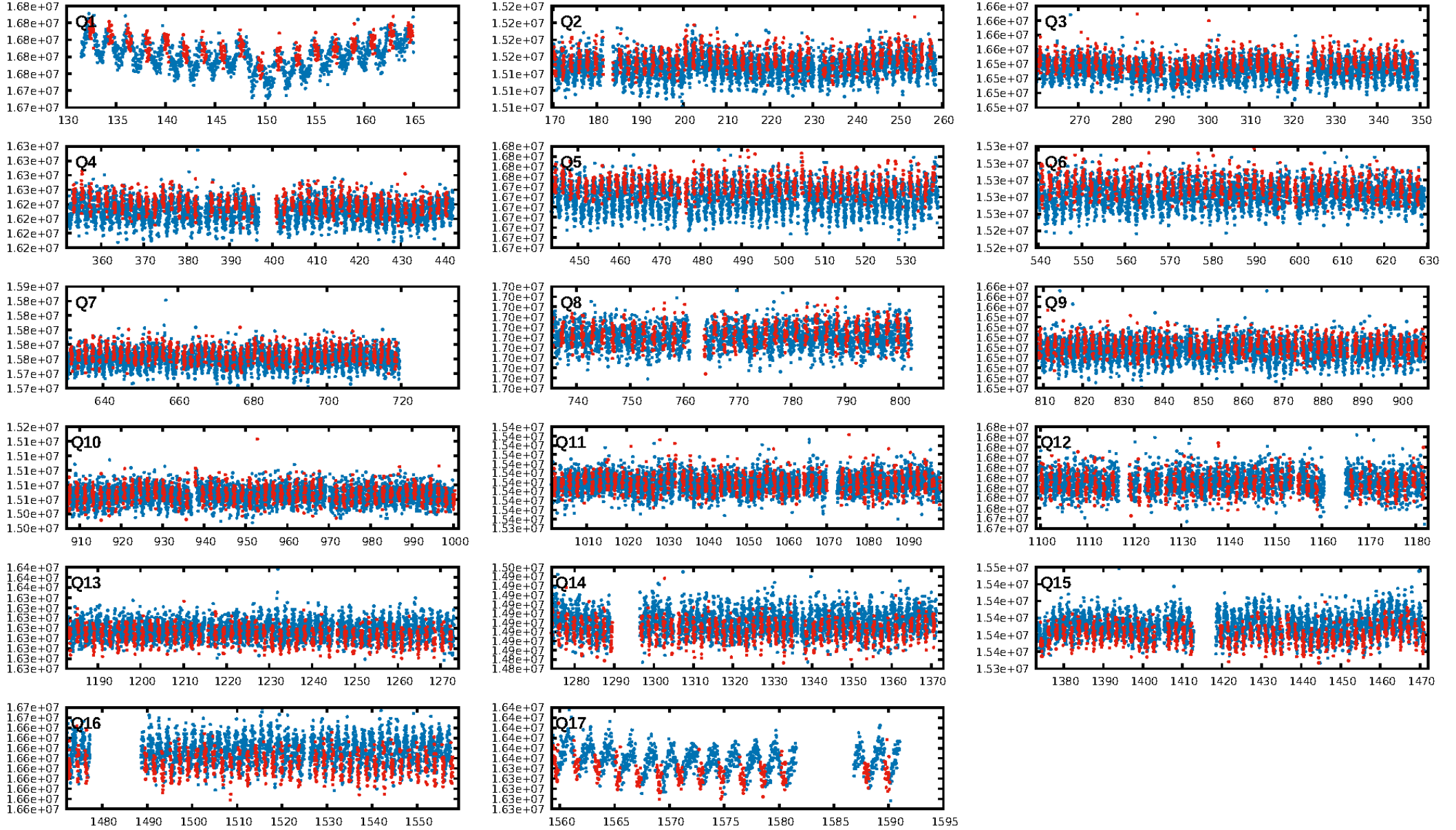
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.29e-18  
RollingBand-fgt: 1.00 [684/684]  
GhostDiagnostic-chr: 1.66  
Centroid-sig: 13.3%  
Centroid-so: 2.103 arcsec [1.58 $\sigma$ ]  
OotOffset-rm: 0.120 arcsec [0.21 $\sigma$ ]  
KicOffset-rm: 0.160 arcsec [0.32 $\sigma$ ]  
OotOffset-st: 3/4/3/5 [15]  
KicOffset-st: 3/4/3/5 [15]  
DiffImageQuality-fgm: 0.53 [8/15]  
DiffImageOverlap-fno: 1.00 [17/17]

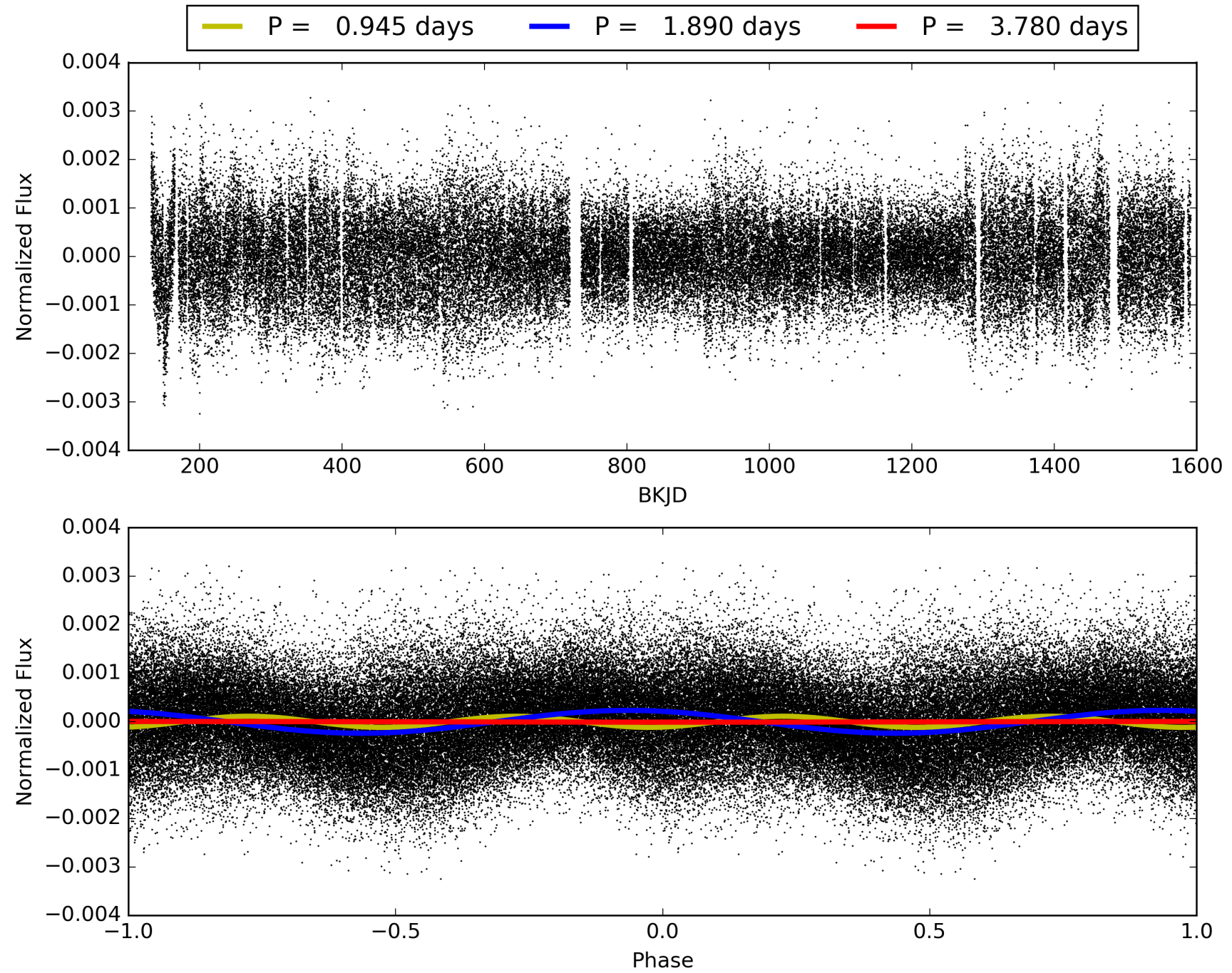
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:29:53 Z

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

# TCE 002584115-01, PDC Light Curves

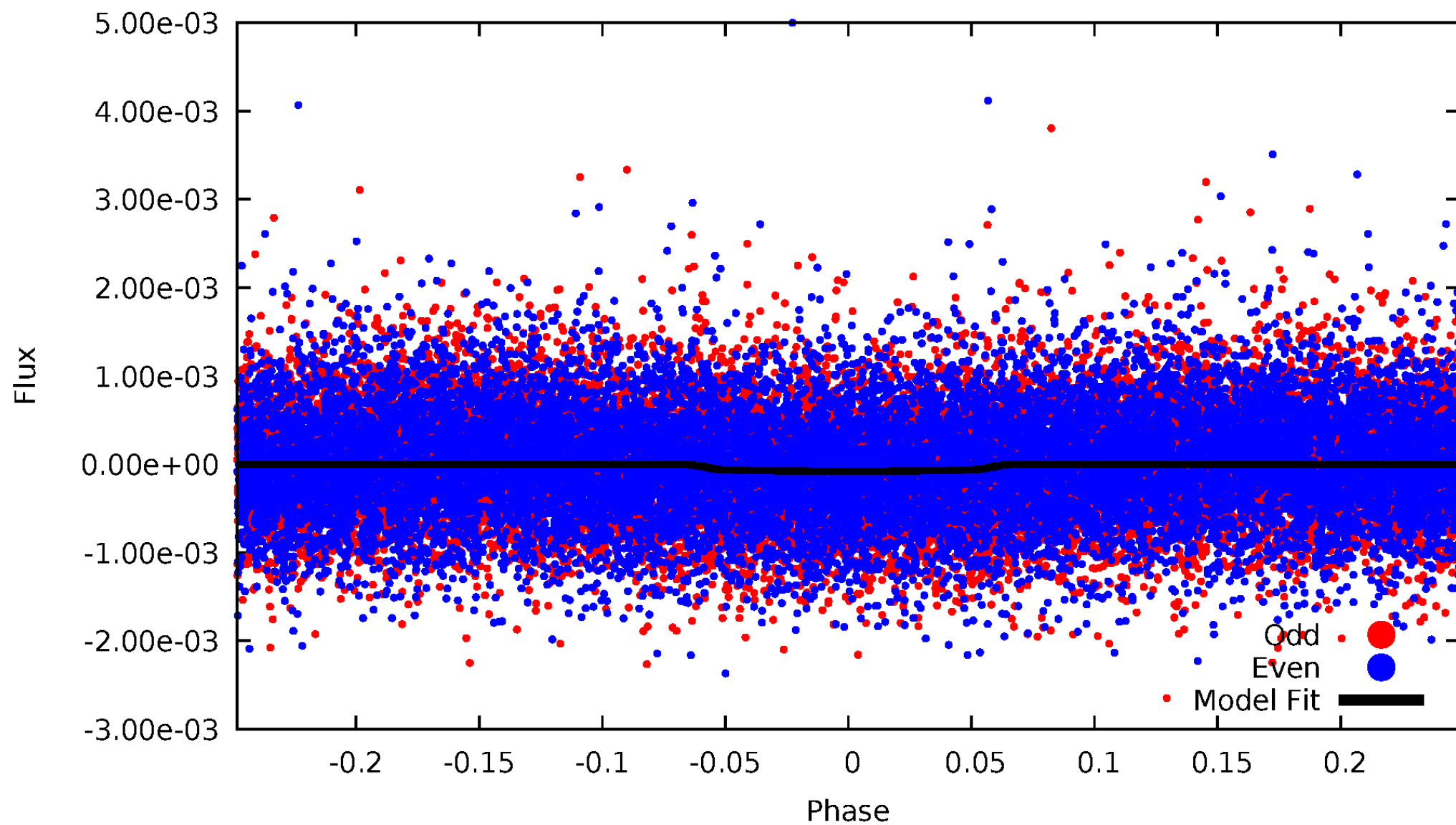


TCE 002584115-01



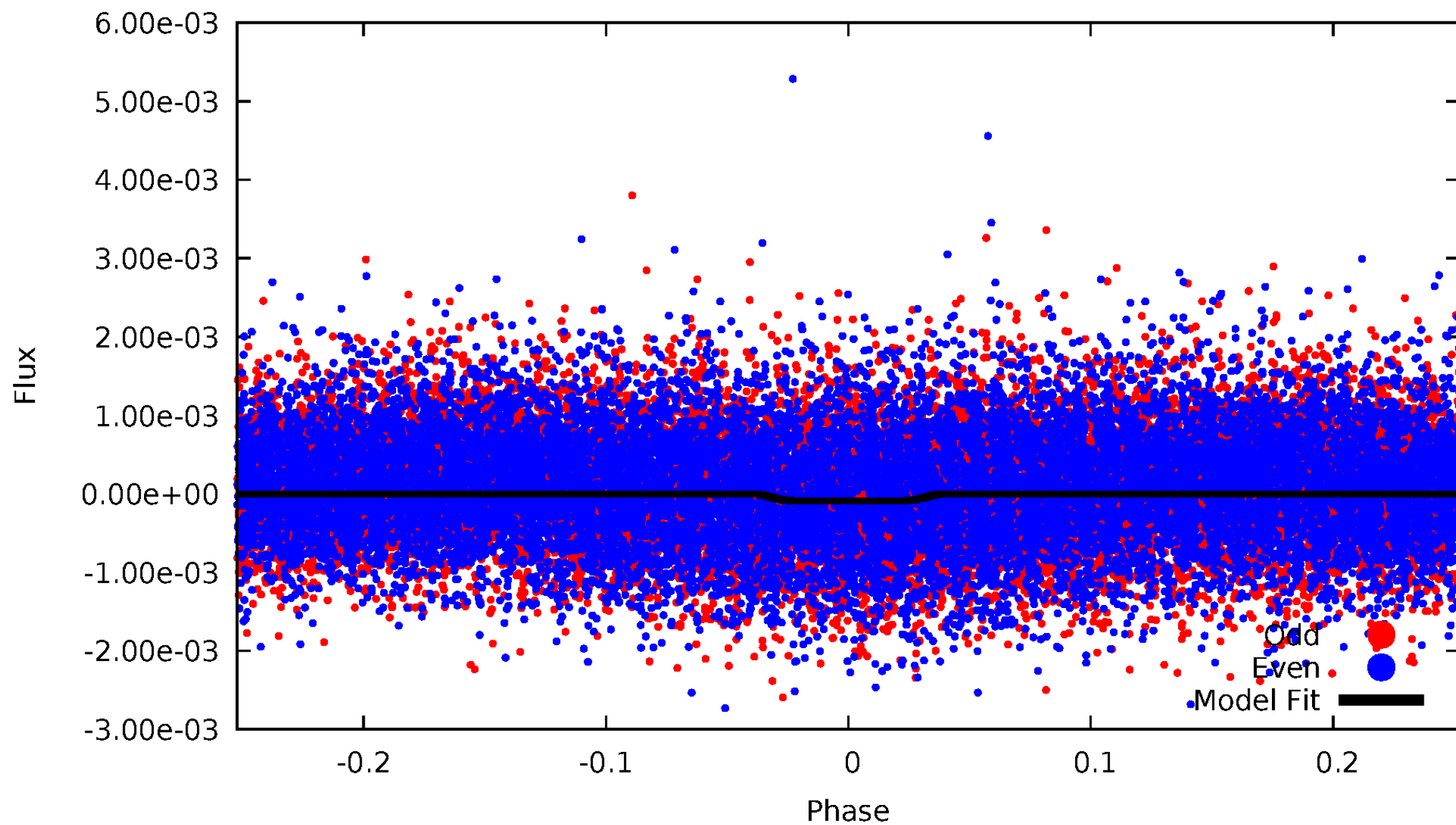
# DV Odd/Even

TCE 002584115-01

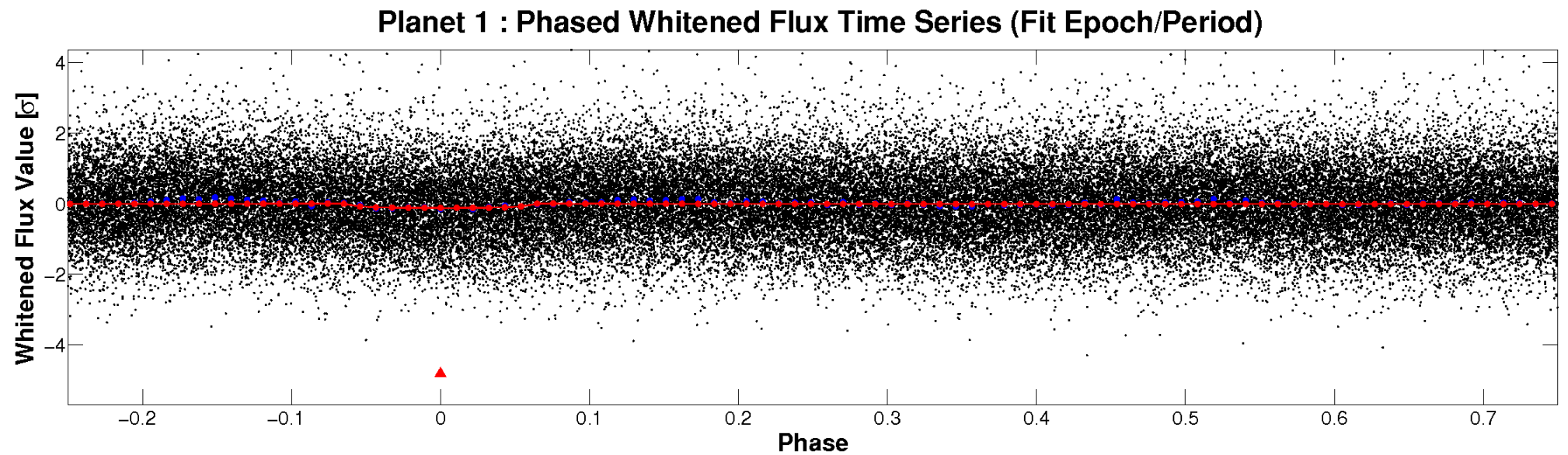
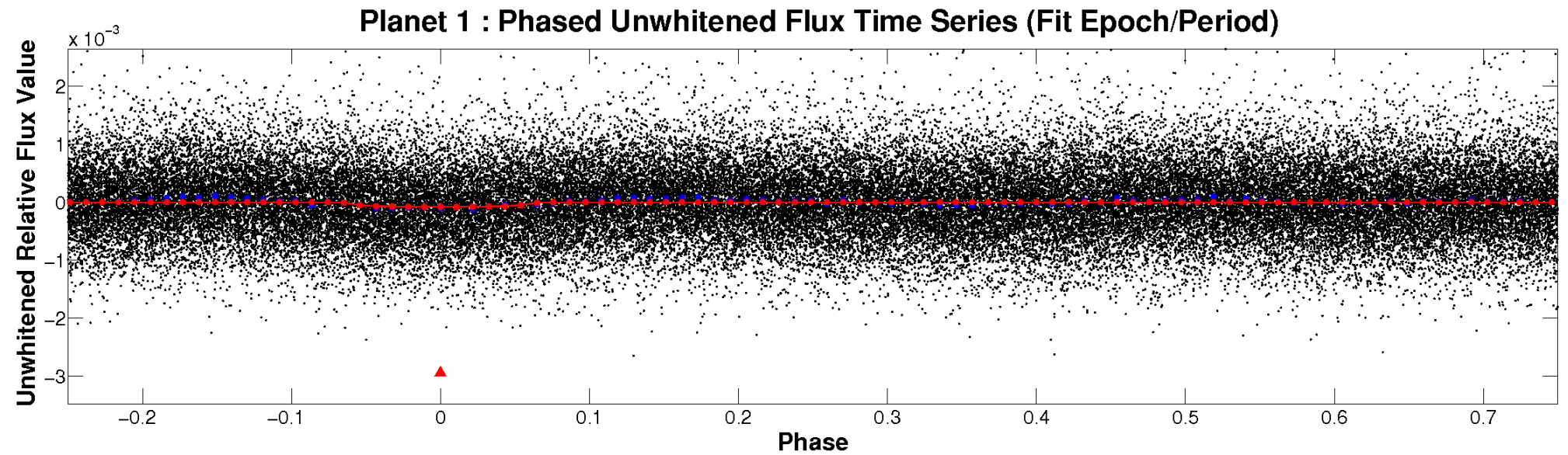


# ALT Odd/Even

TCE 002584115-01

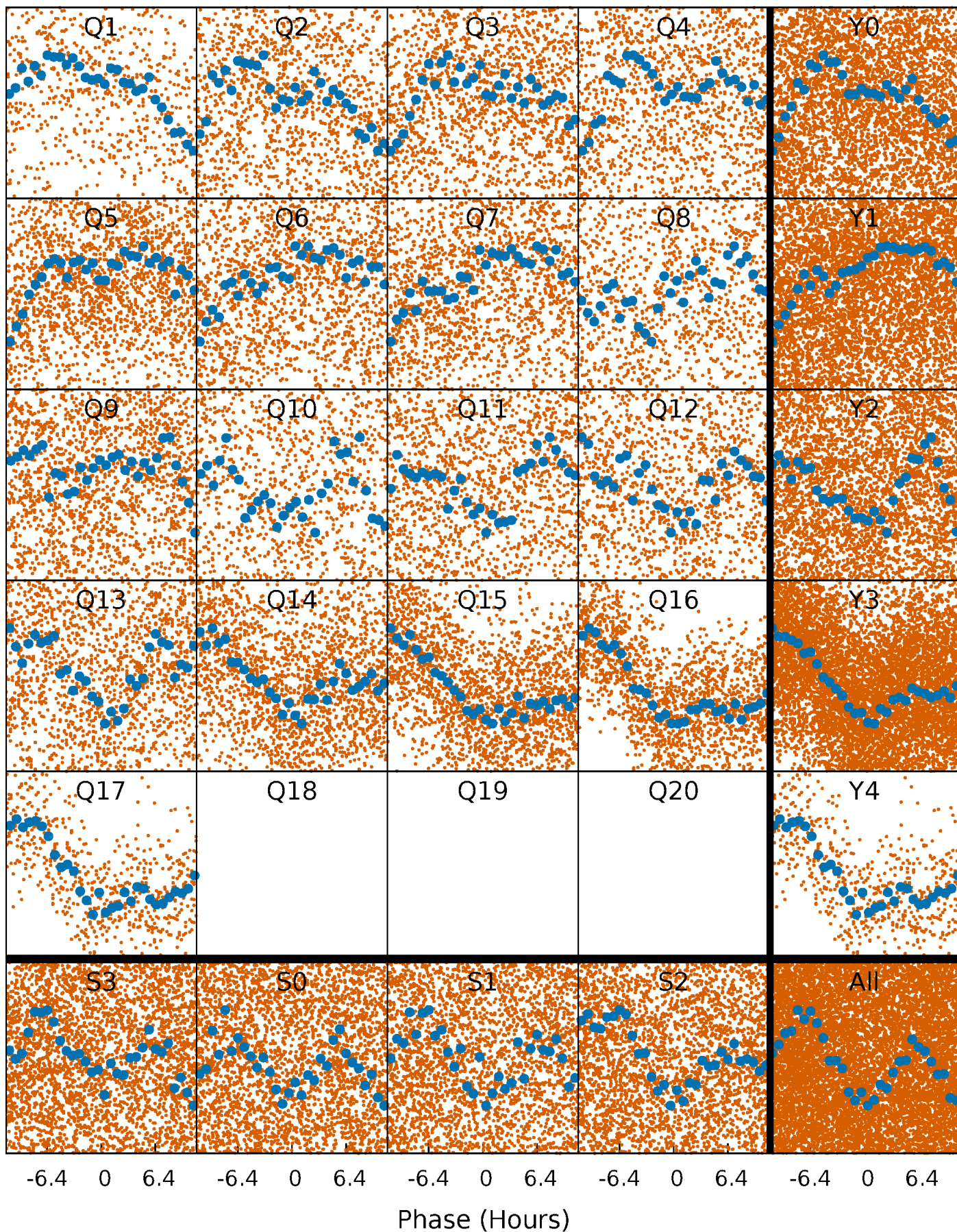


# Non-Whitened Vs. Whitened Light Curve



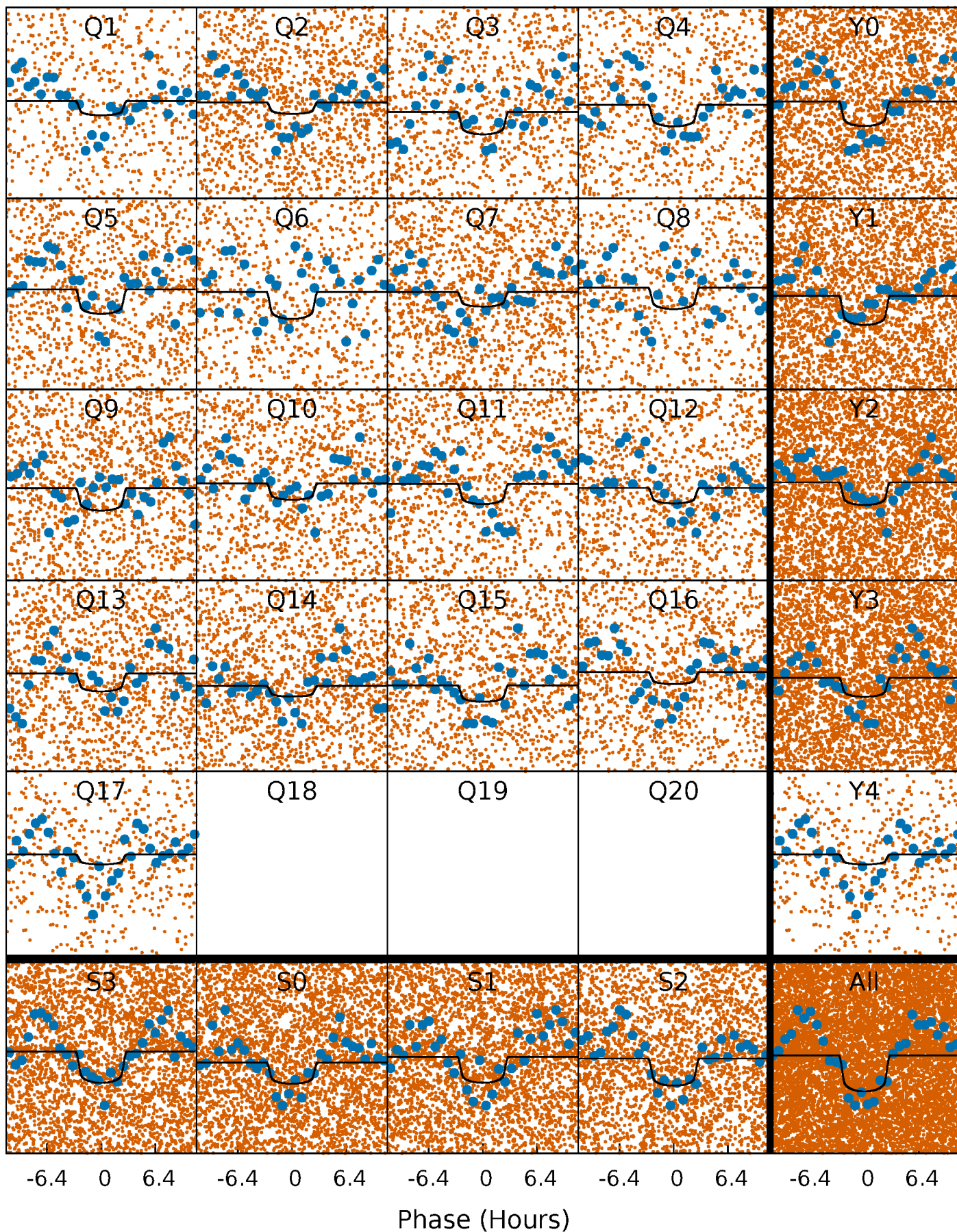
# PDC Quarter-Phased Transit Curves

TCE 002584115-01 P= 1.890192 Days  $T_0=132.522616$  (BKJD)



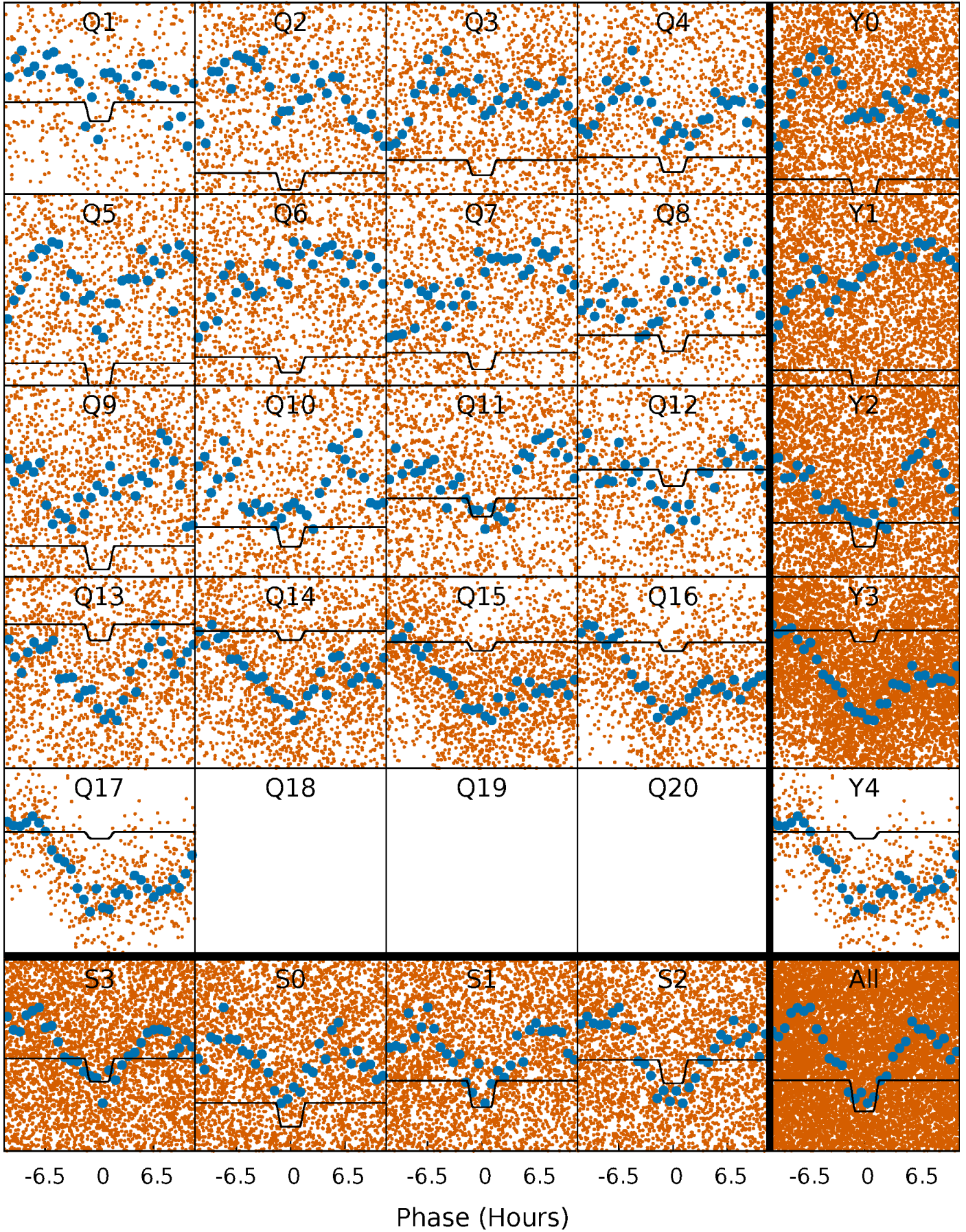
# DV Quarter-Phased Transit Curves

TCE 002584115-01 P= 1.890192 Days  $T_0=132.522616$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

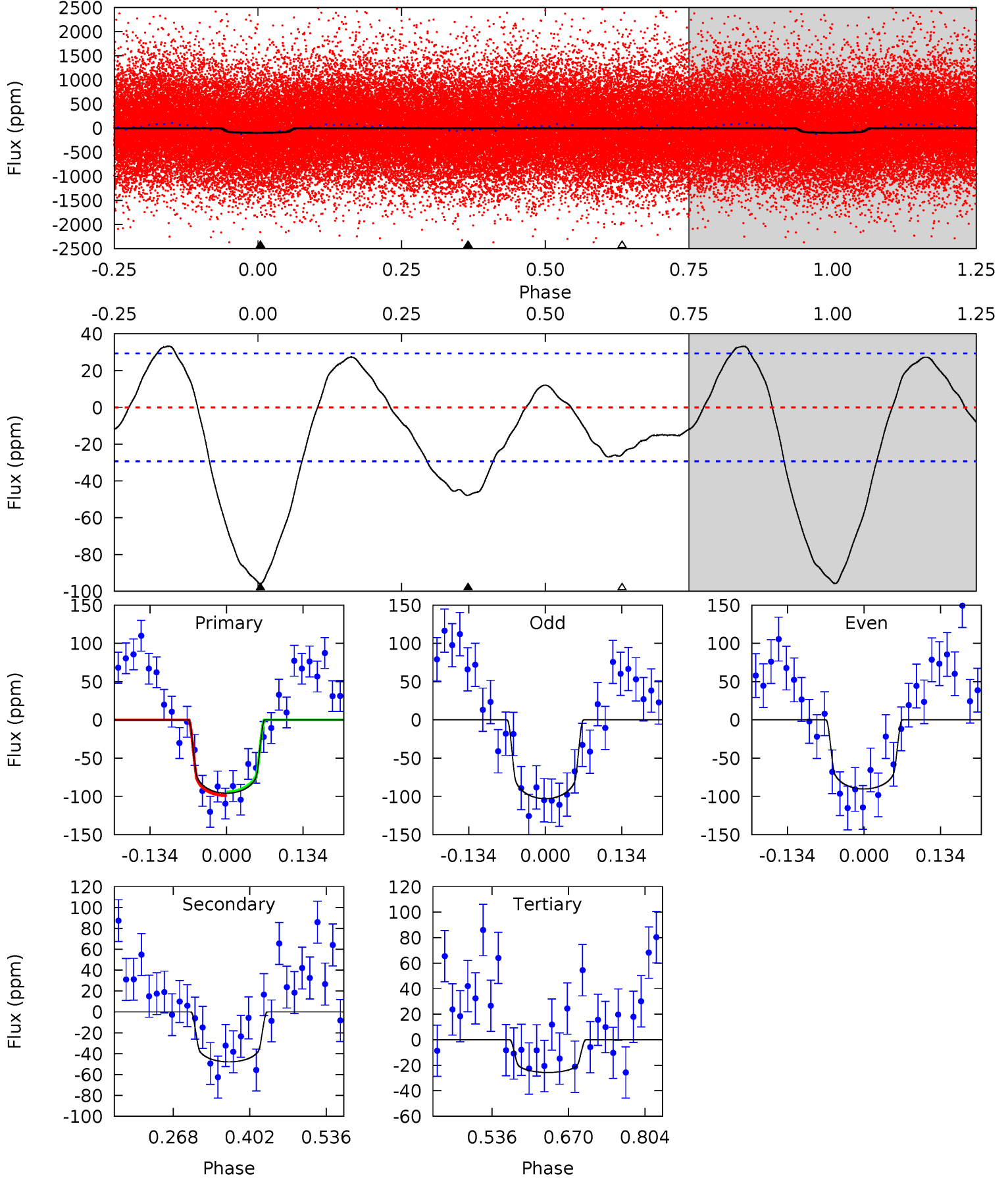
TCE 002584115-01 P= 1.890197 Days  $T_0=132.520722$  (BKJD)



# DV Model-Shift Uniqueness Test

002584115-01, P = 1.890192 Days, E = 130.632424 Days

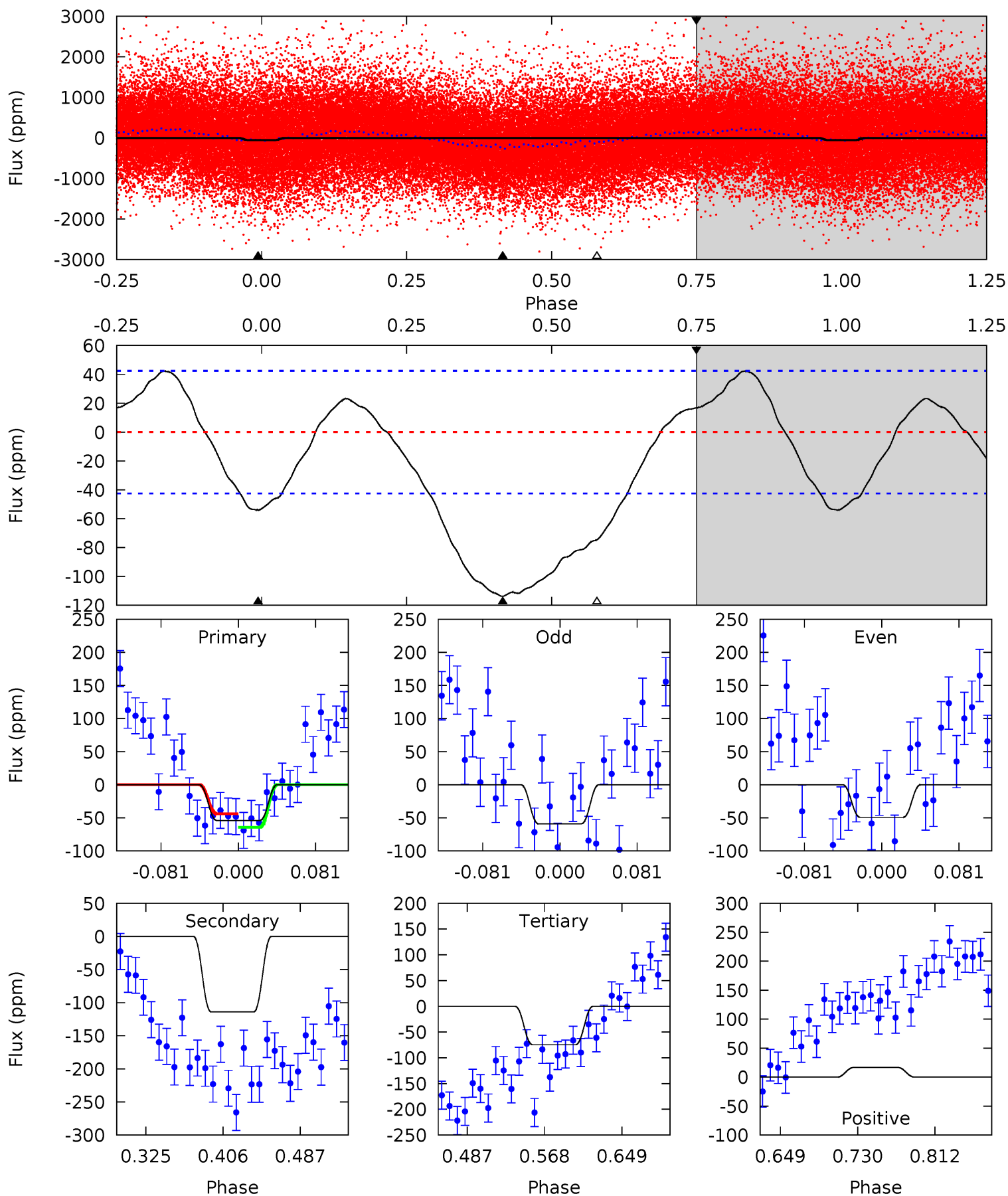
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	7.35	3.94	0	4.50	1.50	2.93	10.8	14.7	3.41	7.35	0.98	0.94	0.26	0.36



# Alt Model-Shift Uniqueness Test

002584115-01, P = 1.890197 Days, E = 130.630525 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
5.86	12.3	8.08	1.83	4.61	1.74	4.33	-2.22	4.03	4.24	10.5	0.52	20.5	0.27	1.12



### Stellar Parameters For KIC 002584115

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6470^{+158}_{-226}$	$4.485^{+0.050}_{-0.200}$	$-0.580^{+0.300}_{-0.300}$	$0.952^{+0.279}_{-0.093}$	$1.010^{+0.123}_{-0.123}$	$1.647^{+0.428}_{-0.824}$
	+2%/-3%	+1%/-4%	+52%/-52%	+29%/-10%	+12%/-12%	+26%/-50%
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 002584115-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-48 \pm 7$	$1.03^{+0.47}_{-0.42}$	$2289^{+165}_{-114}$	$5488^{+1675}_{-778}$	$22^{+38}_{-11}$
Alt.	$-114 \pm 9$	$1.04^{+0.42}_{-0.42}$	$2284^{+160}_{-104}$	$6886^{+2114}_{-1134}$	$51^{+94}_{-26}$

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

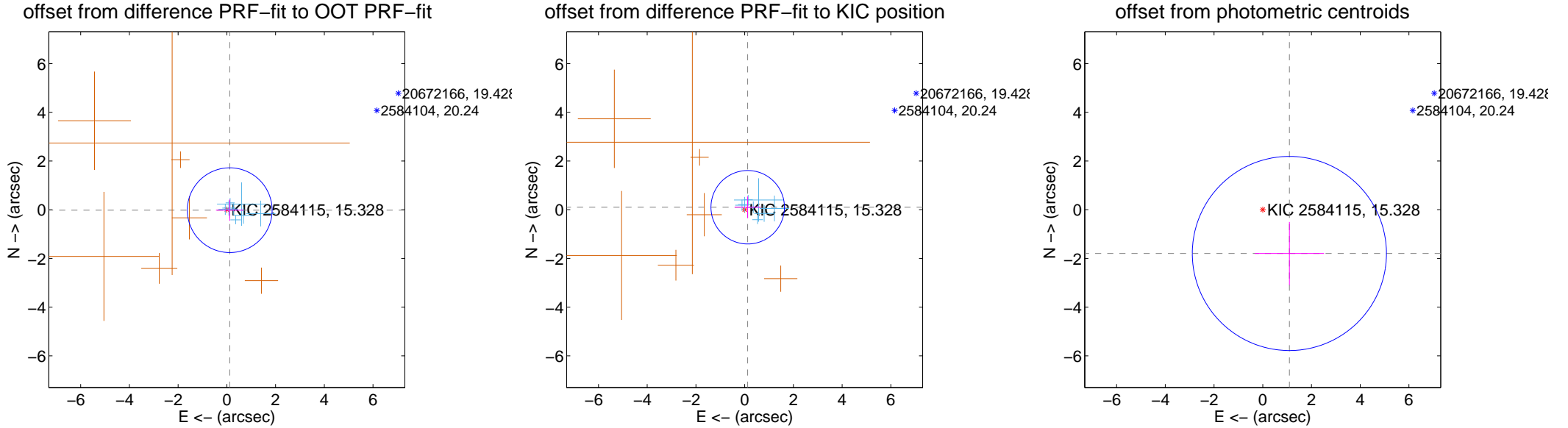
## DV Centroid Data

Supplemental centroid analysis for 002584115-01. Kepler magnitude: 15.33. Transit SNR 8.81

There are 8 quarters with good PRF difference image offsets

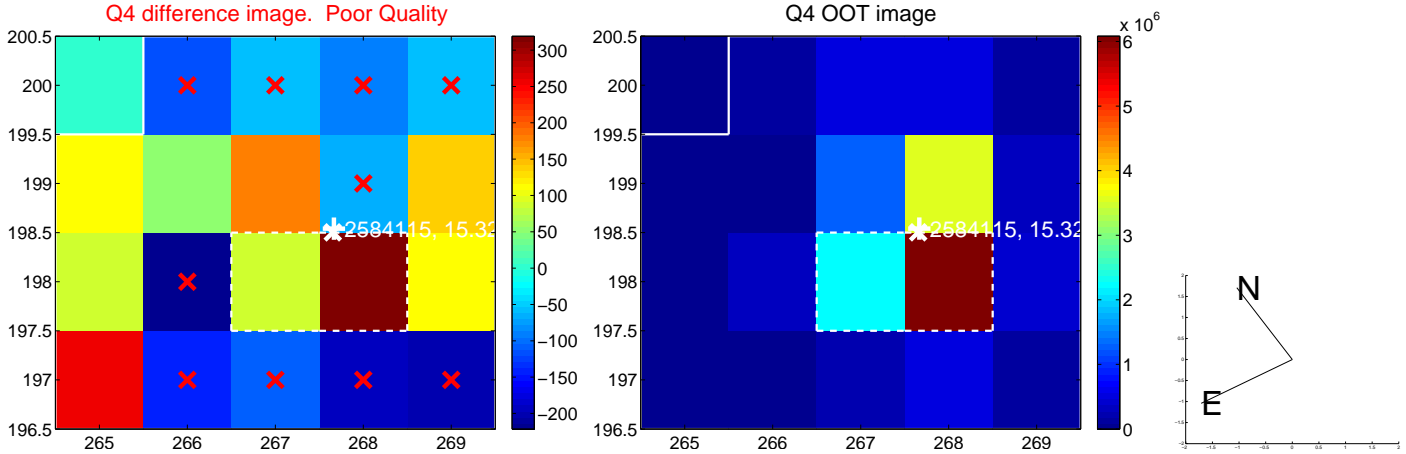
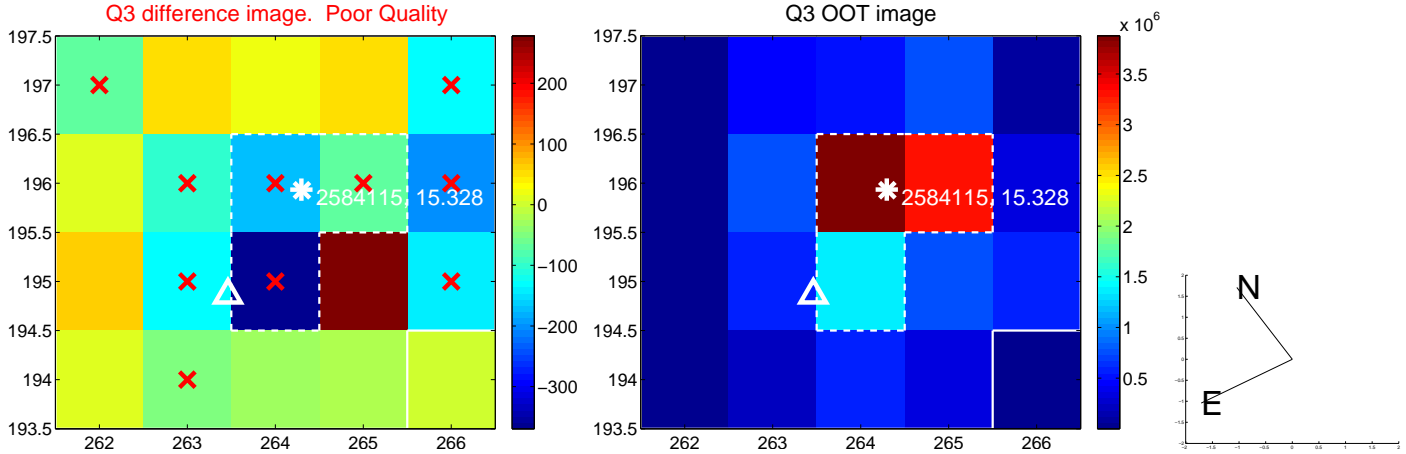
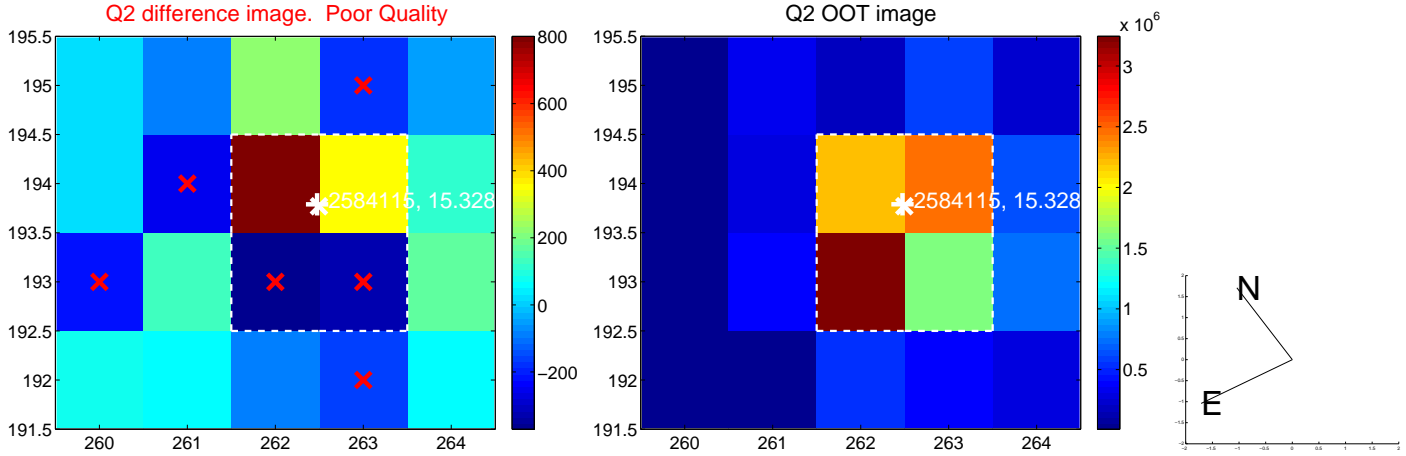
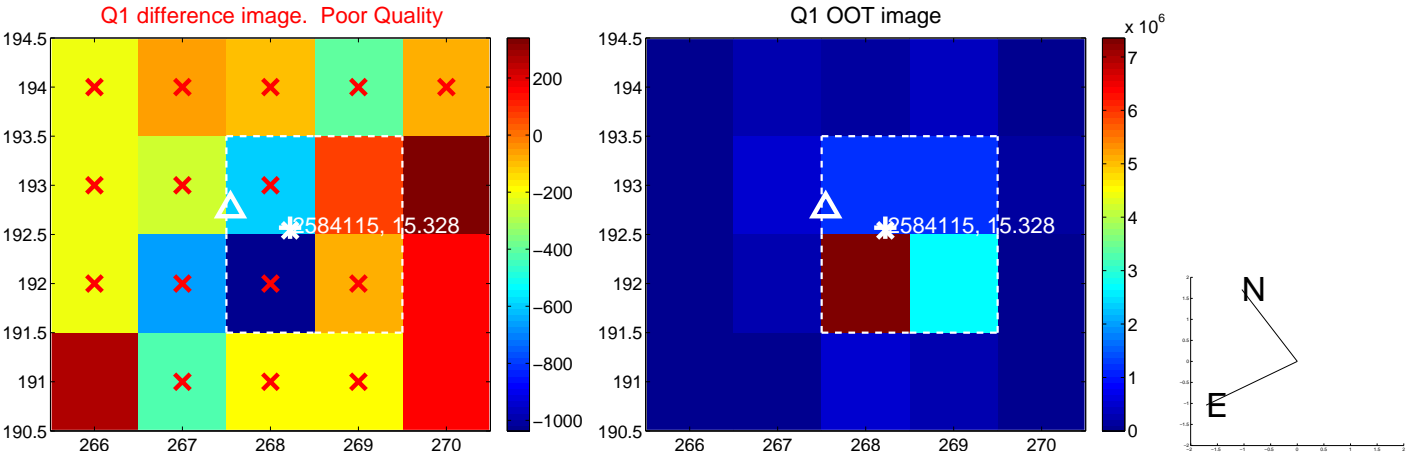
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.120 \pm 0.580$	0.21	$-0.118 \pm 0.563$	$-0.019 \pm 0.435$
PRF-fit source offset from KIC position	$0.160 \pm 0.503$	0.32	$-0.124 \pm 0.538$	$0.101 \pm 0.445$
photometric centroid source offset	$2.10 \pm 1.33$	1.58	$-1.09 \pm 1.42$	$-1.80 \pm 1.29$

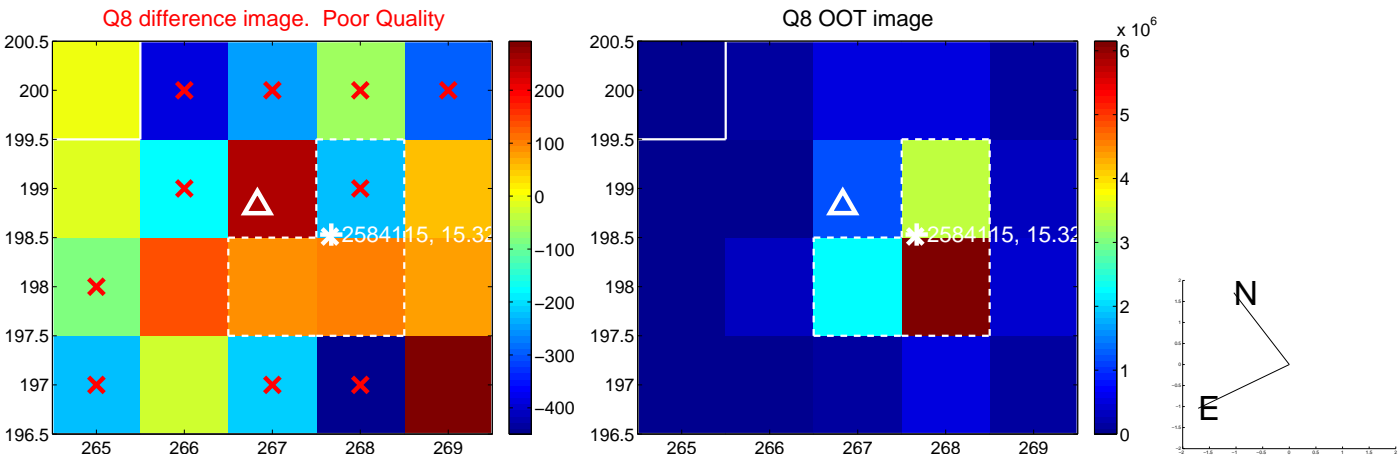
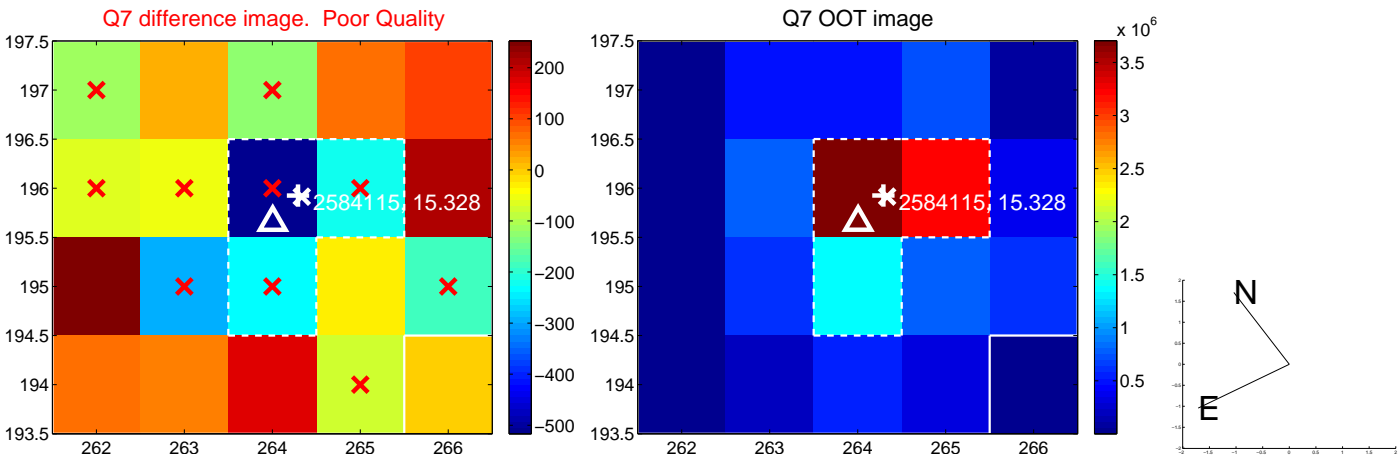
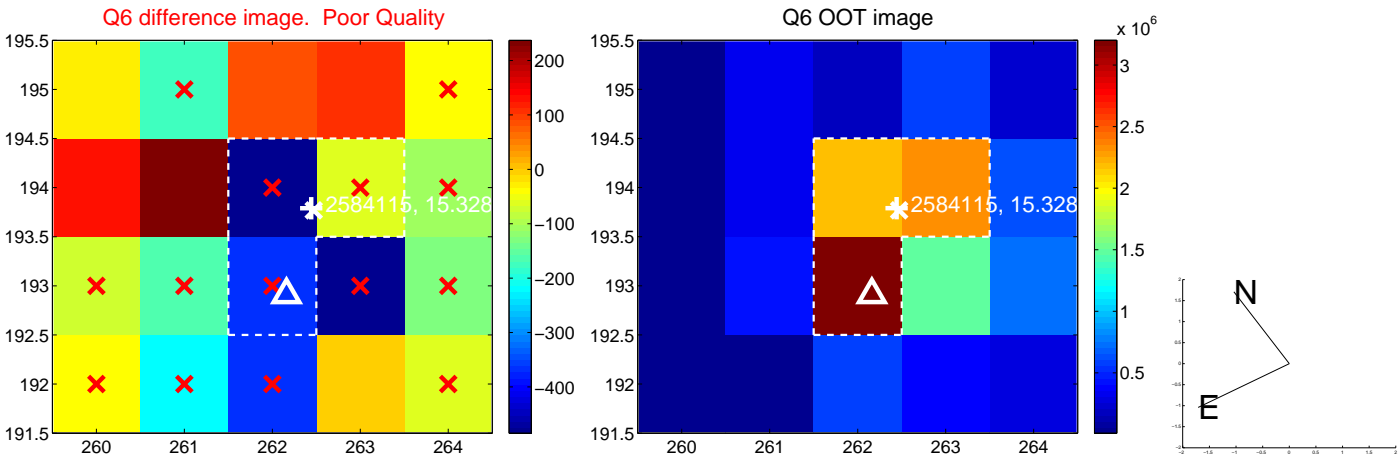
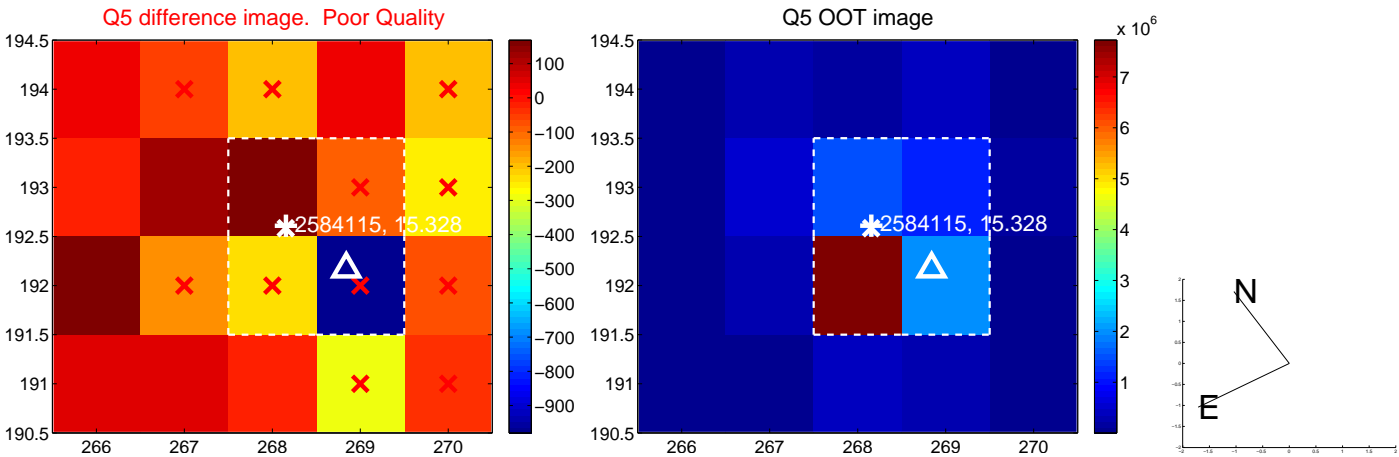


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

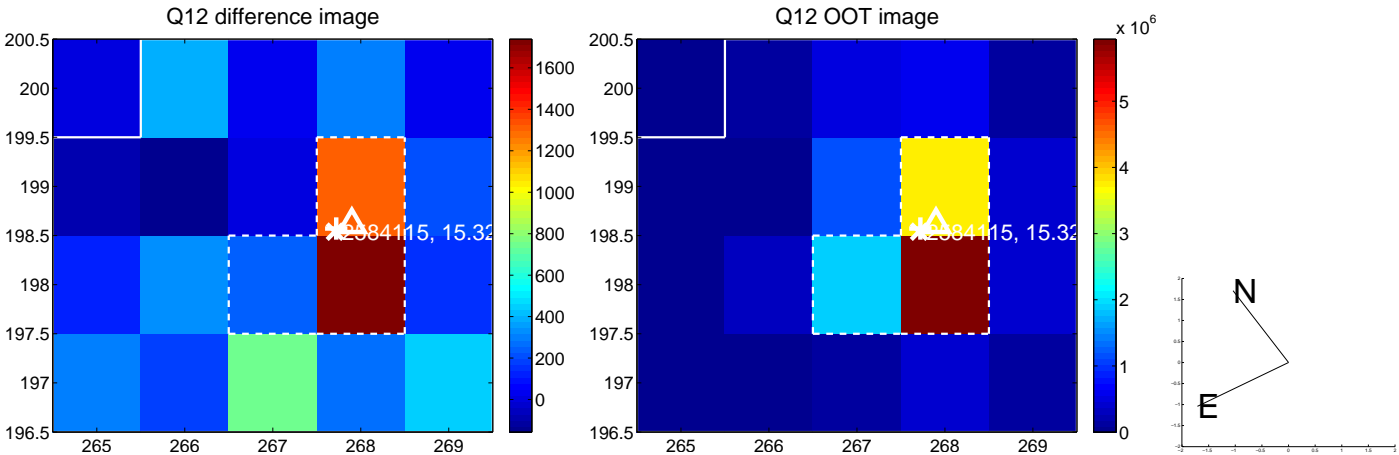
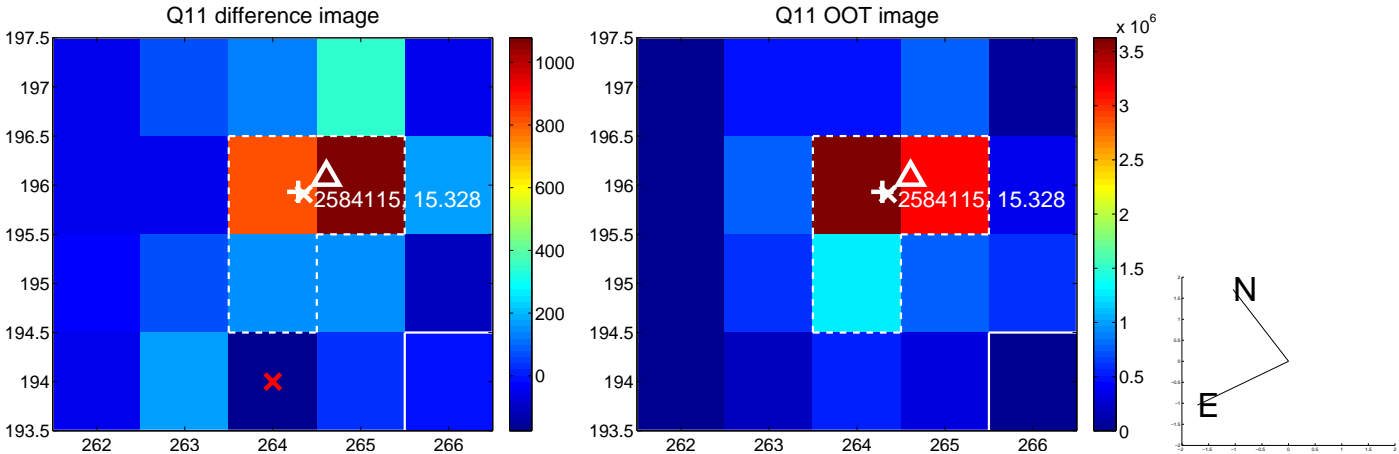
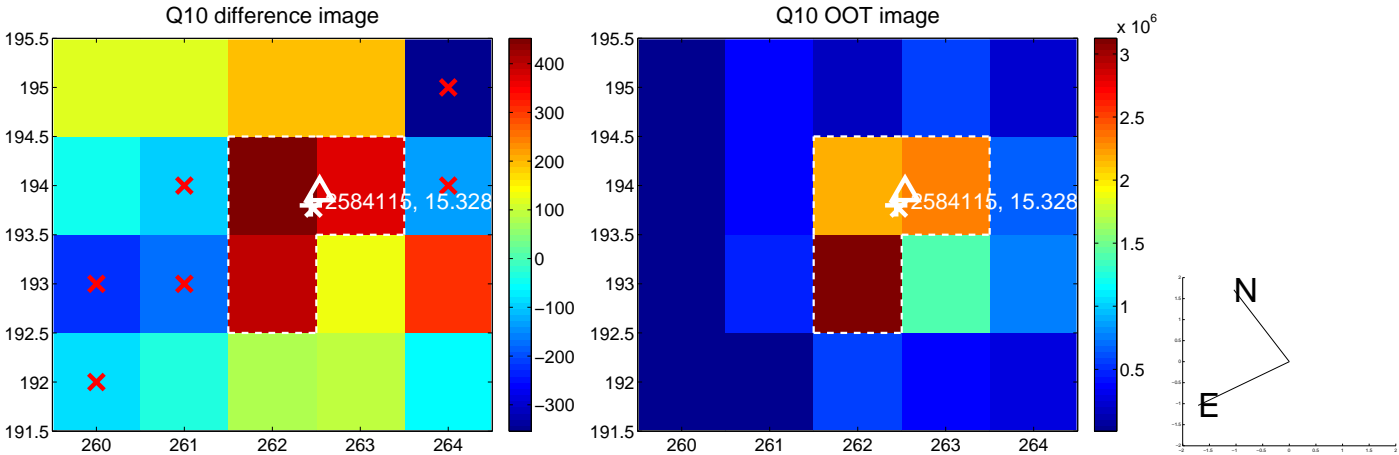
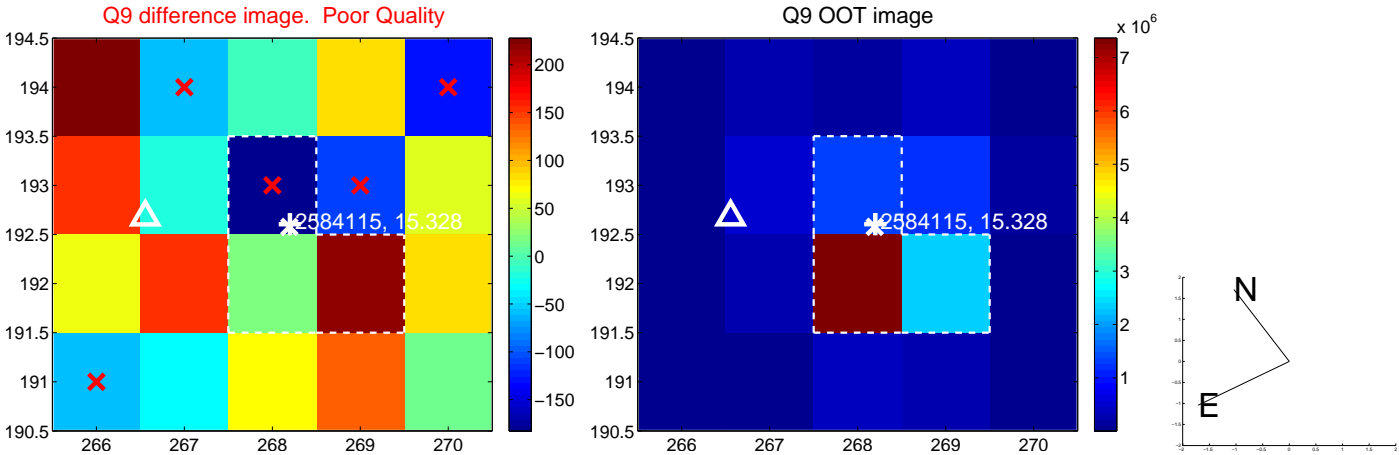
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



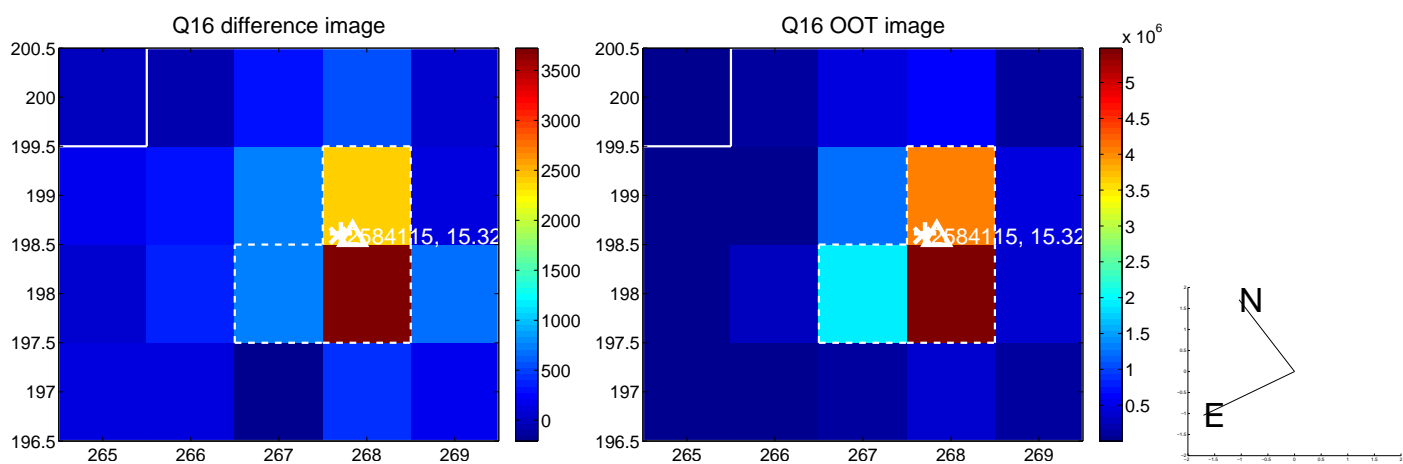
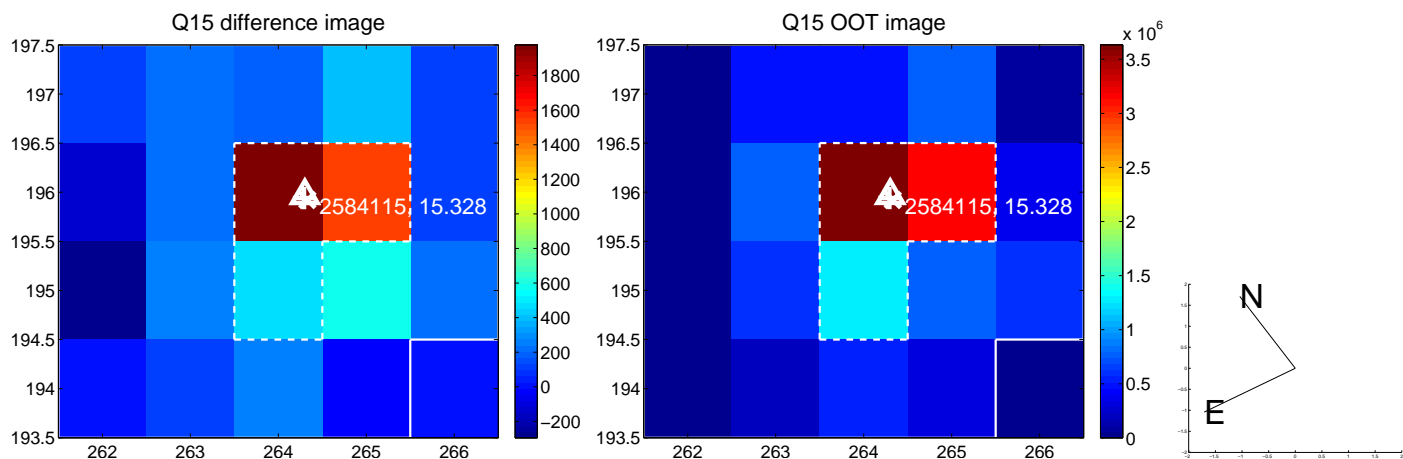
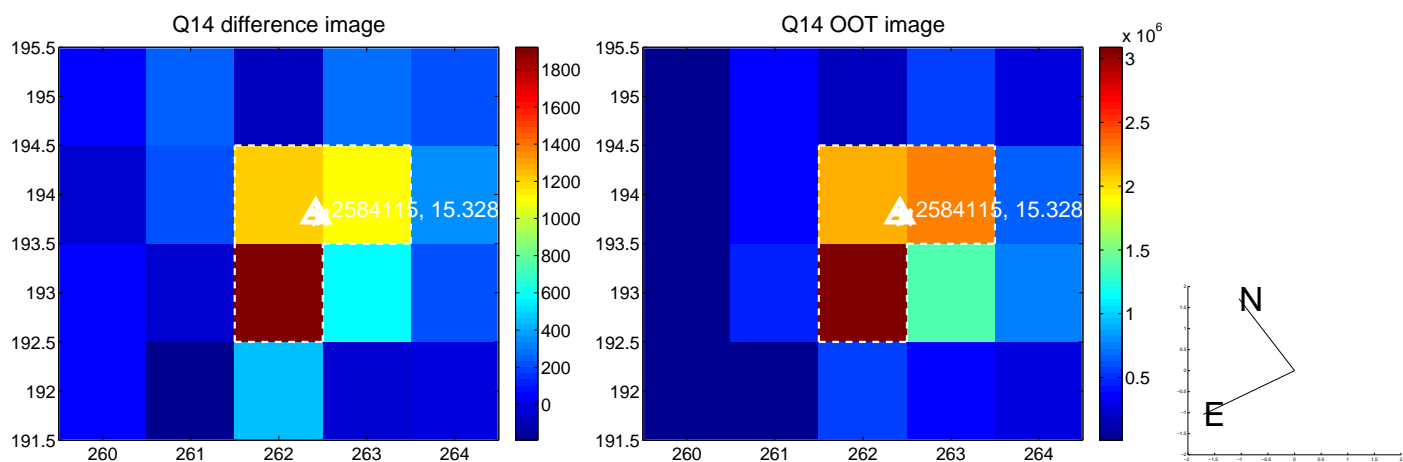
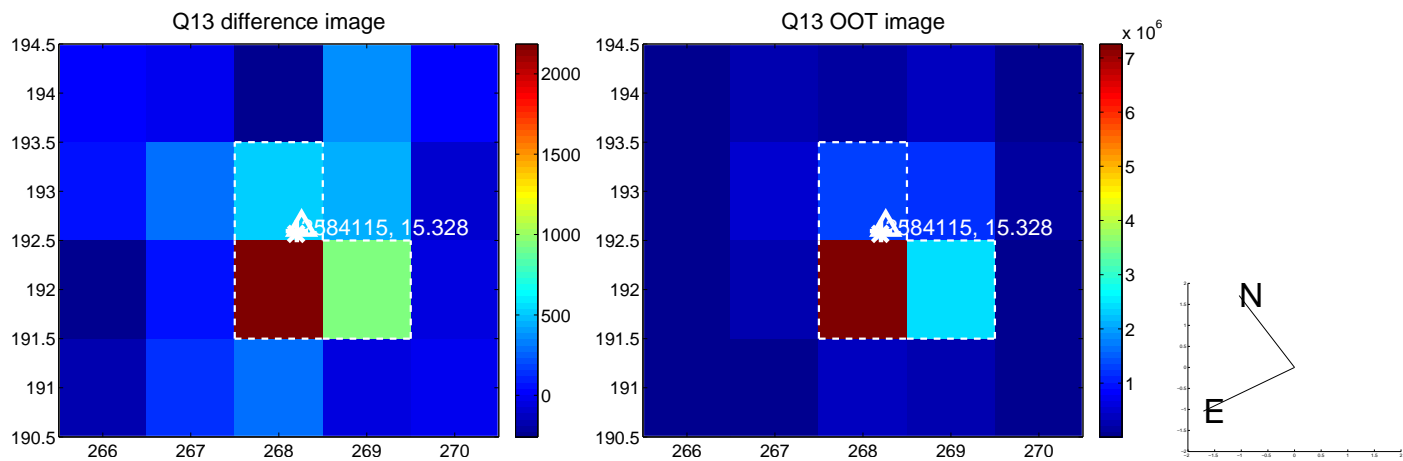
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



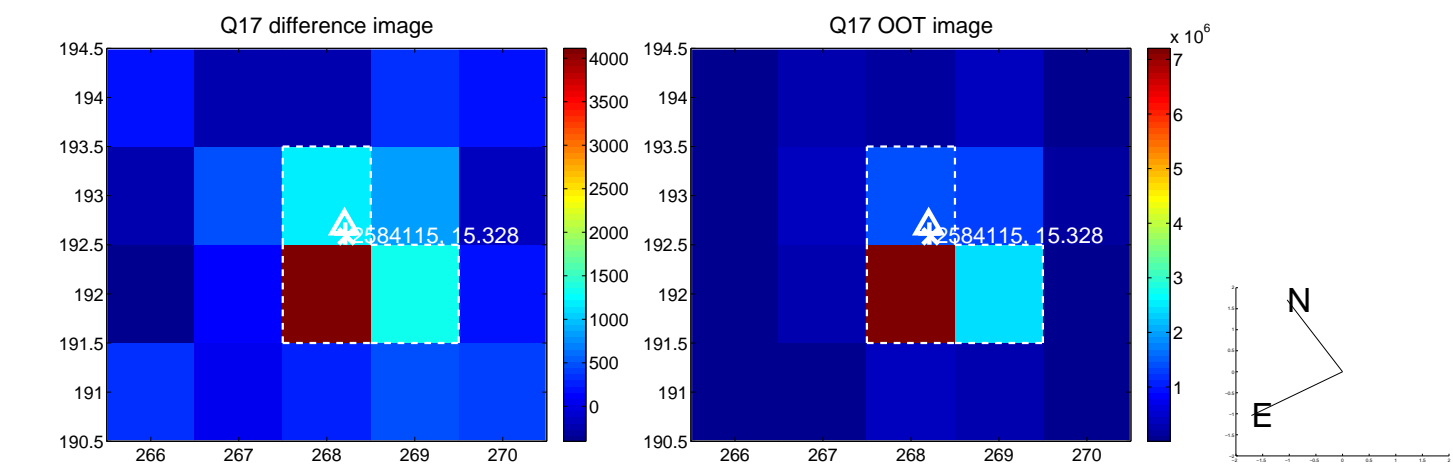
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



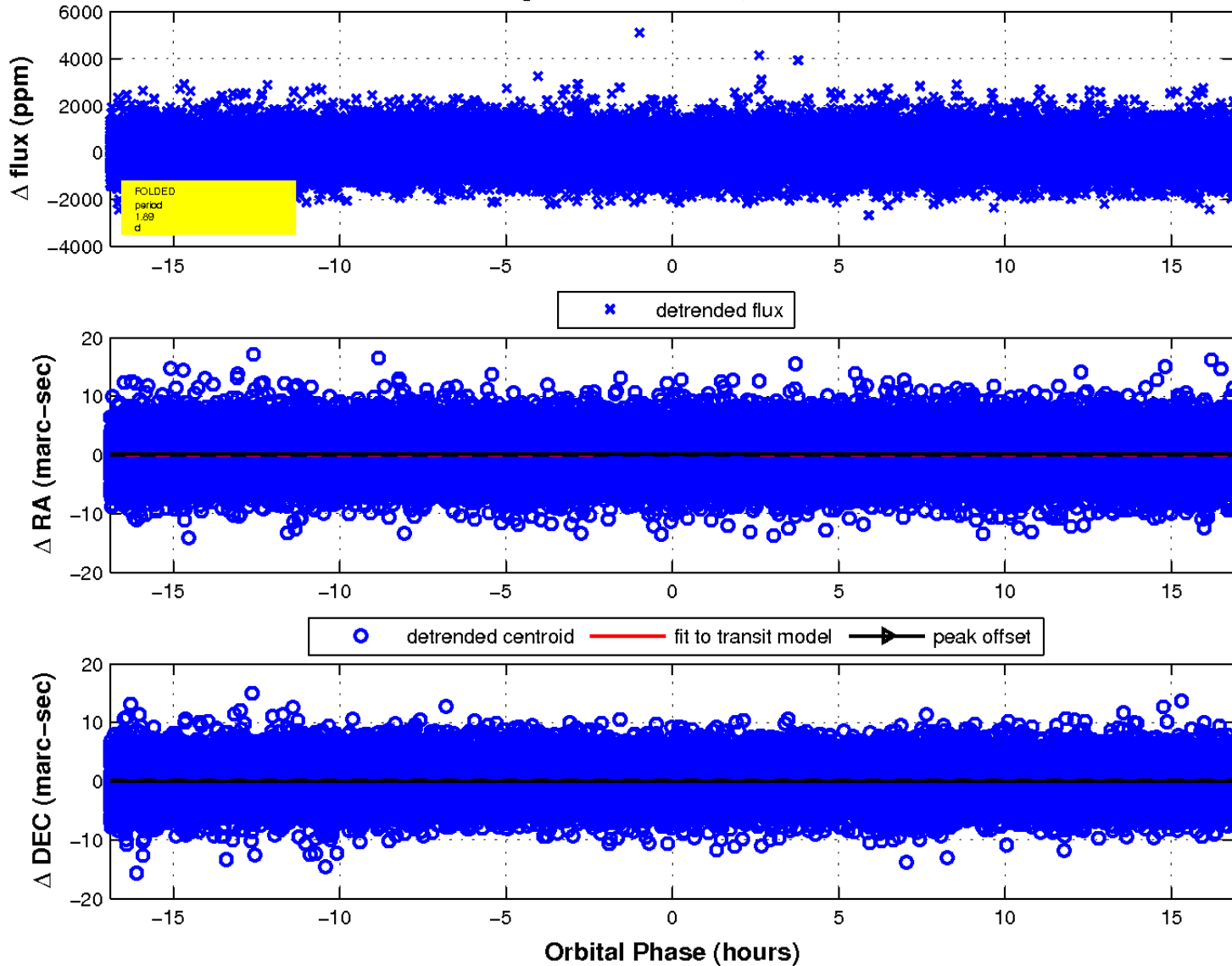
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

