

# KIC 003935914

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003935914-01	OBS	0809.01	1.594738	132.377697	14764.1	2.097	1015.9	919.3	0.89	5934	11.66	1330.25

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003935914-01	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.

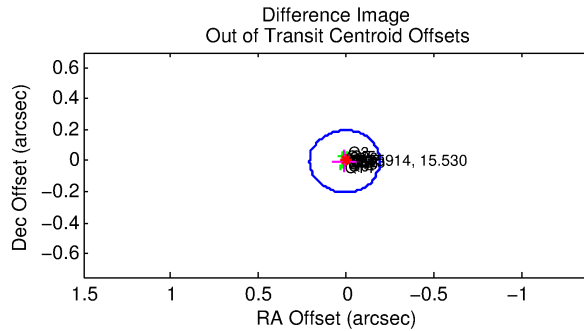
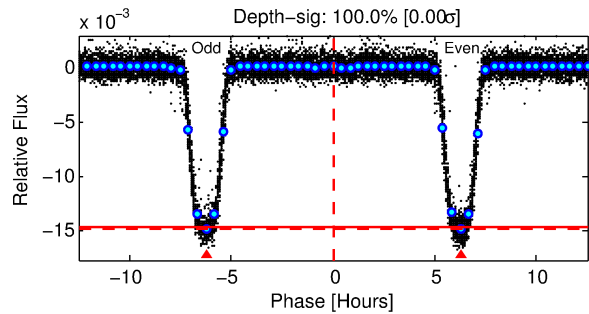
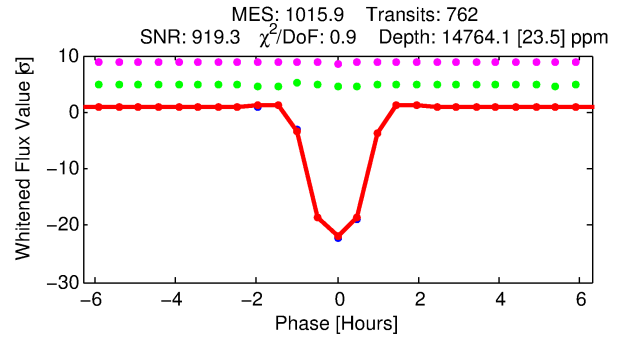
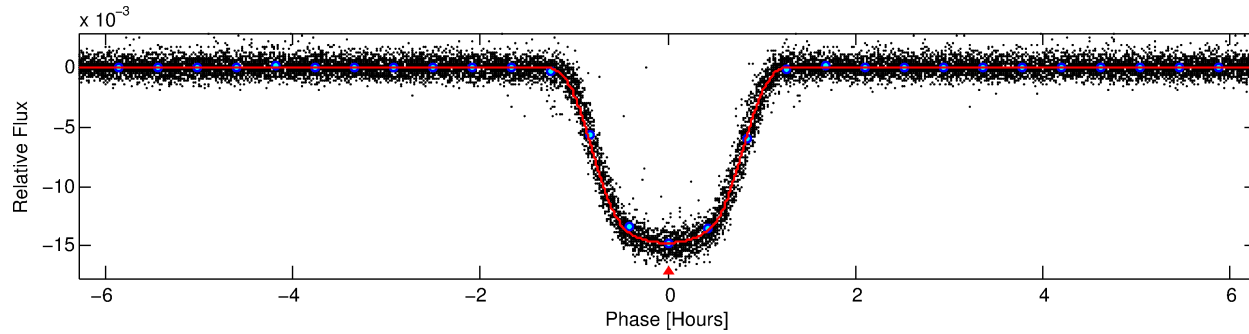
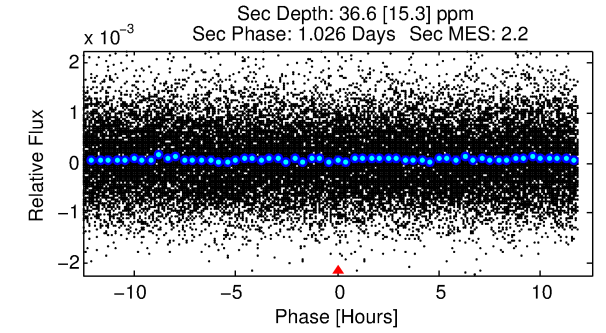
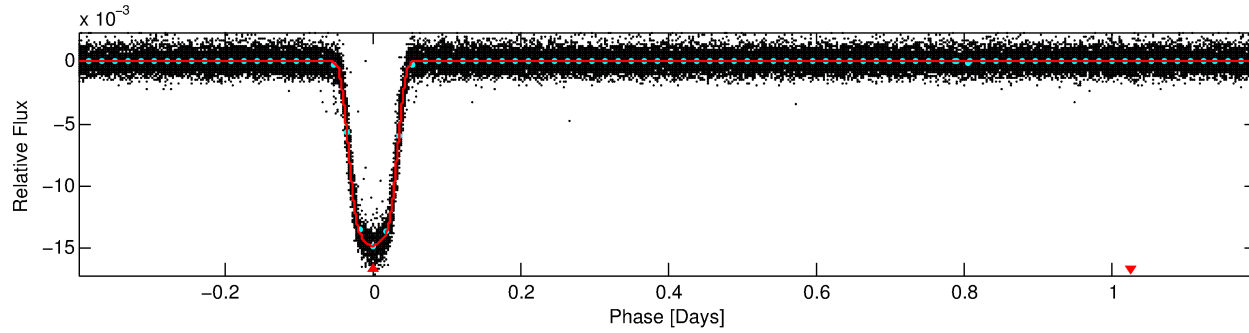
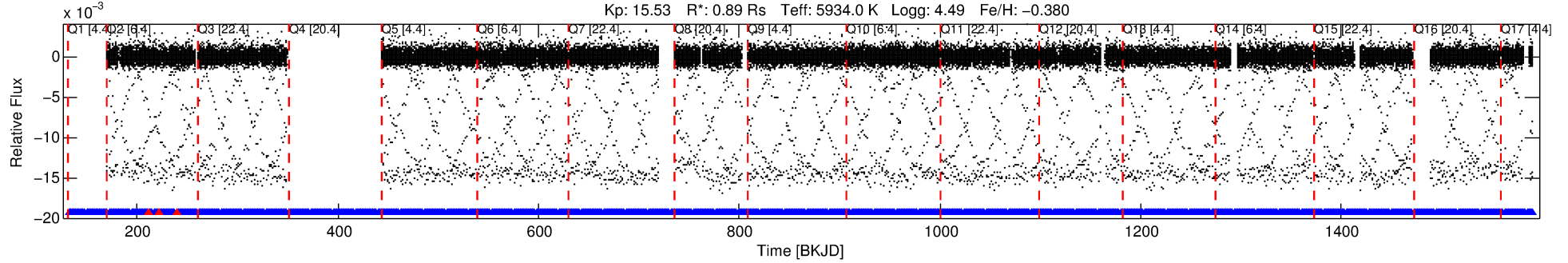
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003935914-01

No Significant Match Found

# DV One-Page Summary

KIC: 3935914 Candidate: 1 of 1 Period: 1.595 d  
KOI: K00809.01 Corr: 0.965



## DV Fit Results:

Period = 1.59474 [0.00000] d  
Epoch = 132.3777 [0.0000] BKJD  
Rp/R\* = 0.1196 [0.0003]  
a/R\* = 5.15 [0.05]  
b = 0.70 [0.01]  
Seff = 1330.25 [492.70]  
Teq = 1540 [143] K  
Rp = 11.66 [3.19] Re  
a = 0.0258 [0.0061] AU  
Ag = 0.10 [0.05] [-16.77 $\sigma$ ]  
Teffp = 1334 [145] K [-1.01 $\sigma$ ]

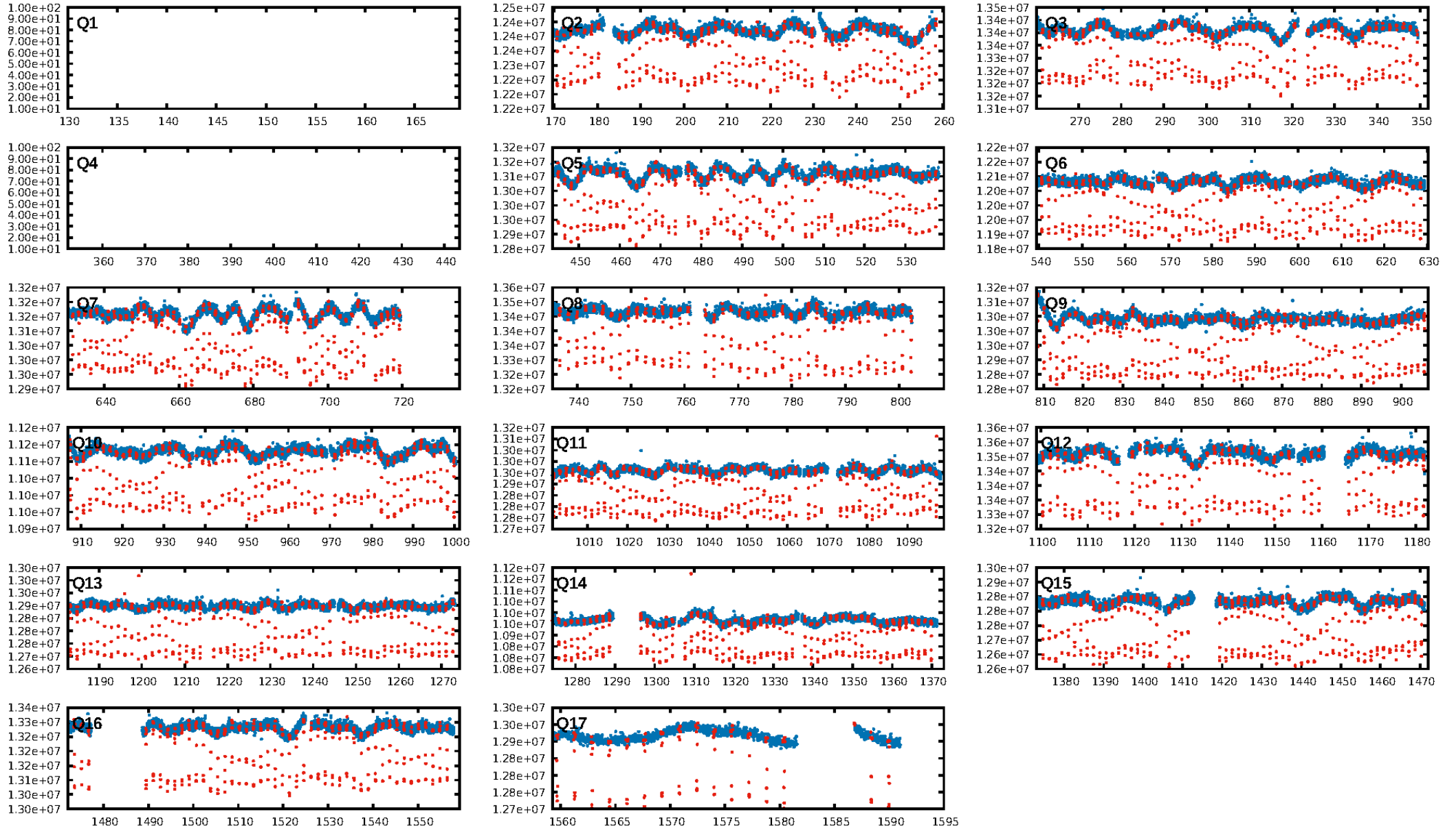
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [743/746]  
GhostDiagnostic-chr: 2.55  
Centroid-sig: 0.0%  
Centroid-so: 0.573 arcsec [50.56 $\sigma$ ]  
OotOffset-rm: 0.010 arcsec [0.15 $\sigma$ ]  
KicOffset-rm: 0.027 arcsec [0.40 $\sigma$ ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [15/15]

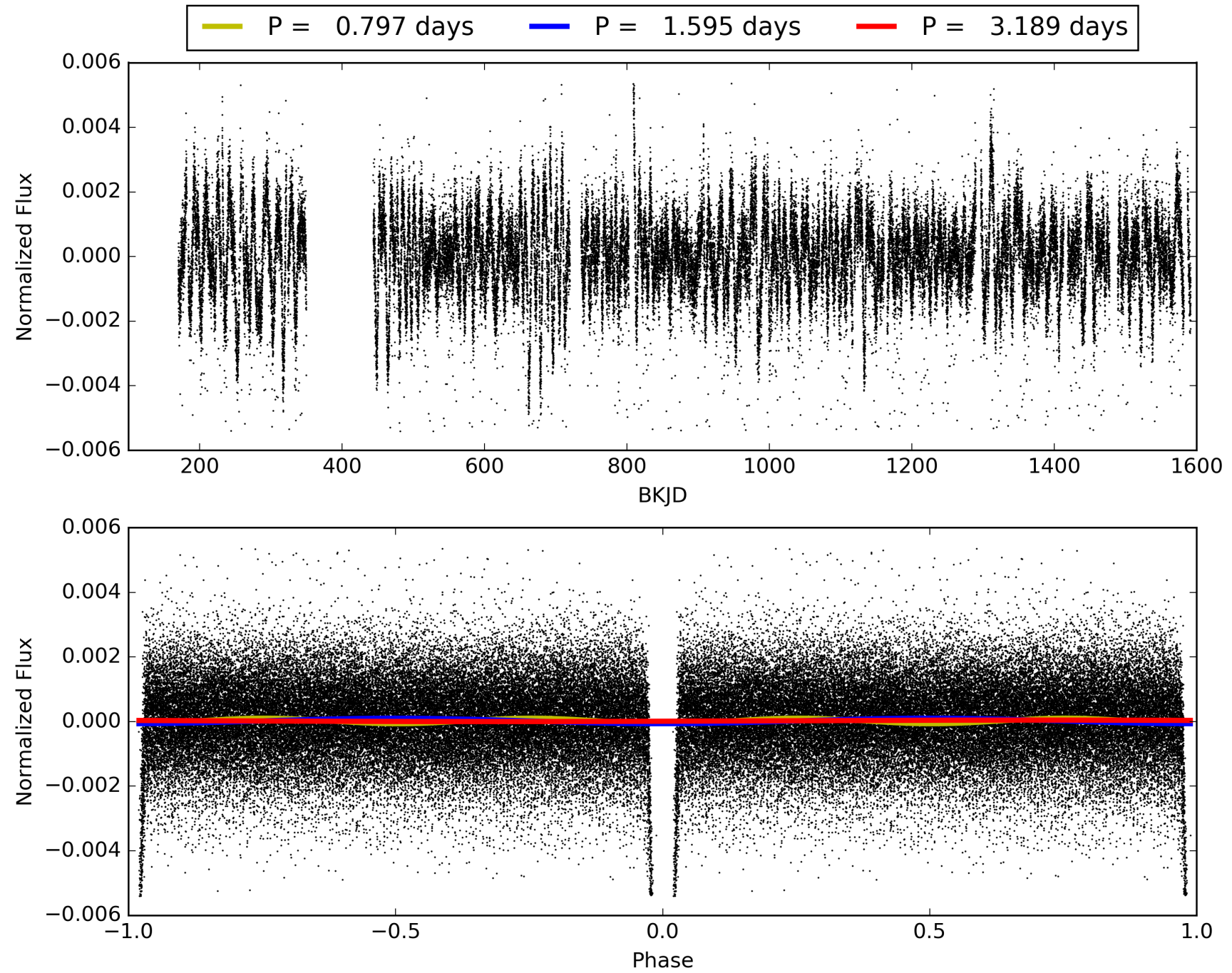
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:43:29 Z

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

# TCE 003935914-01, PDC Light Curves

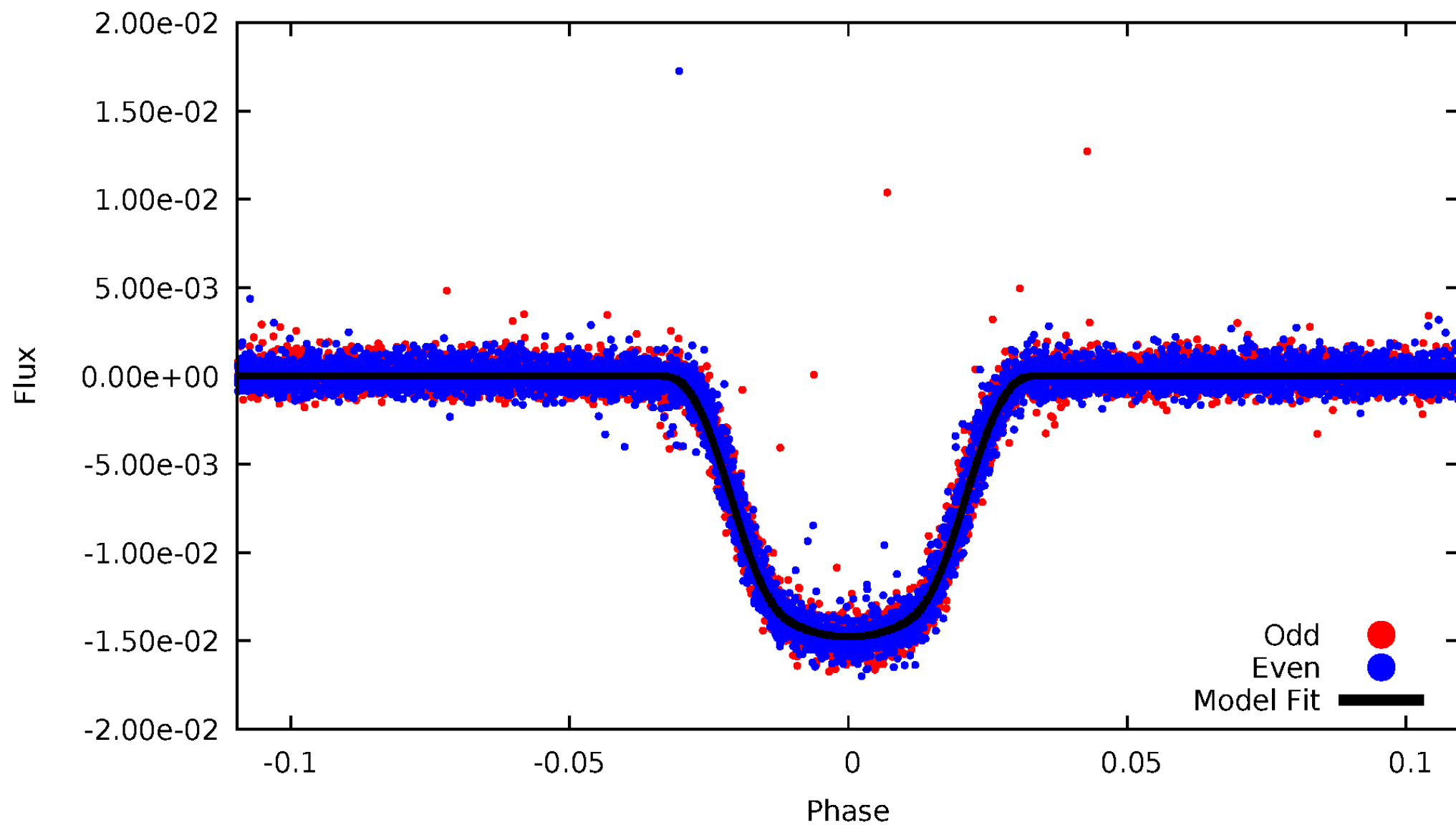


TCE 003935914-01



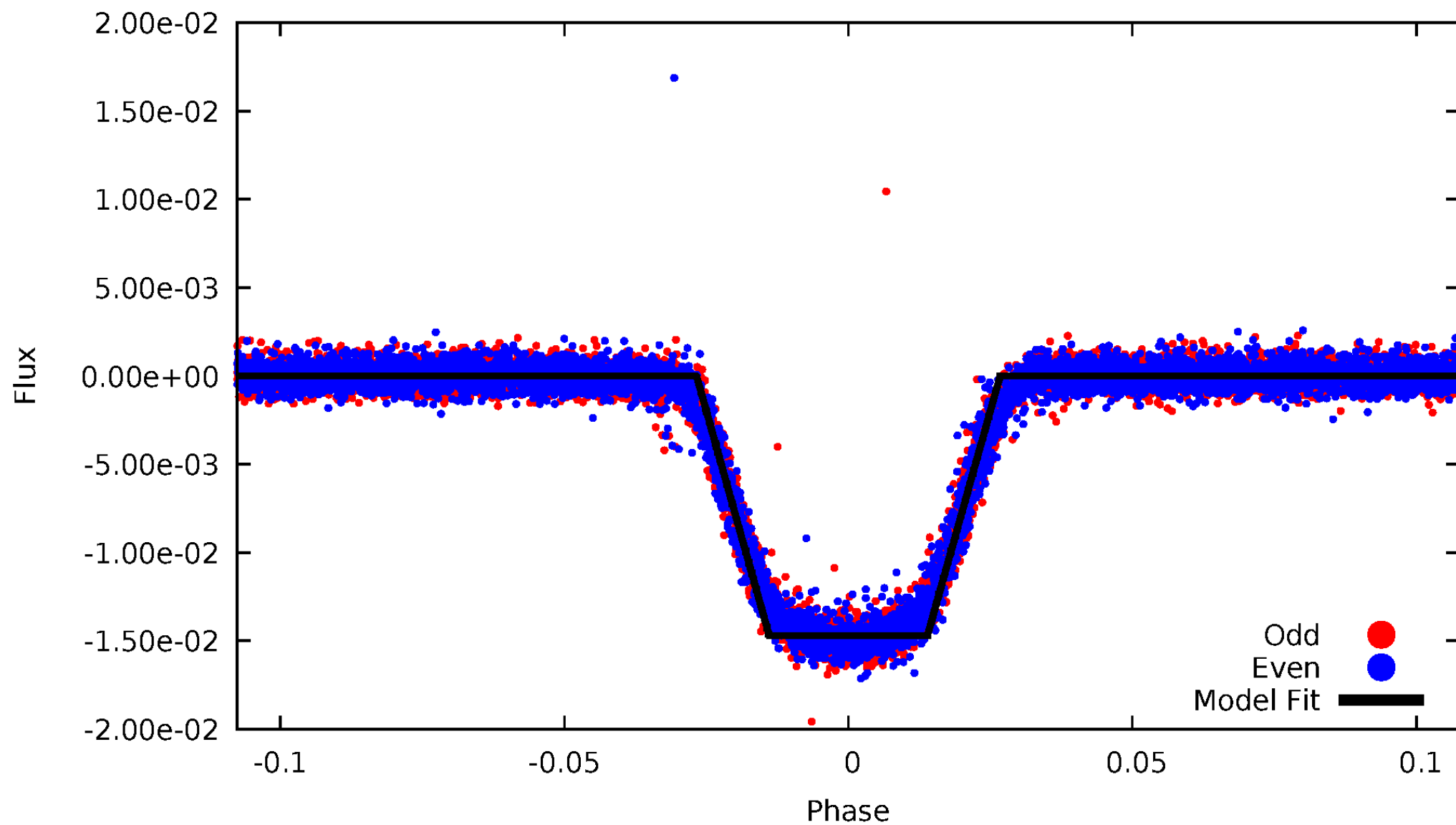
# DV Odd/Even

TCE 003935914-01



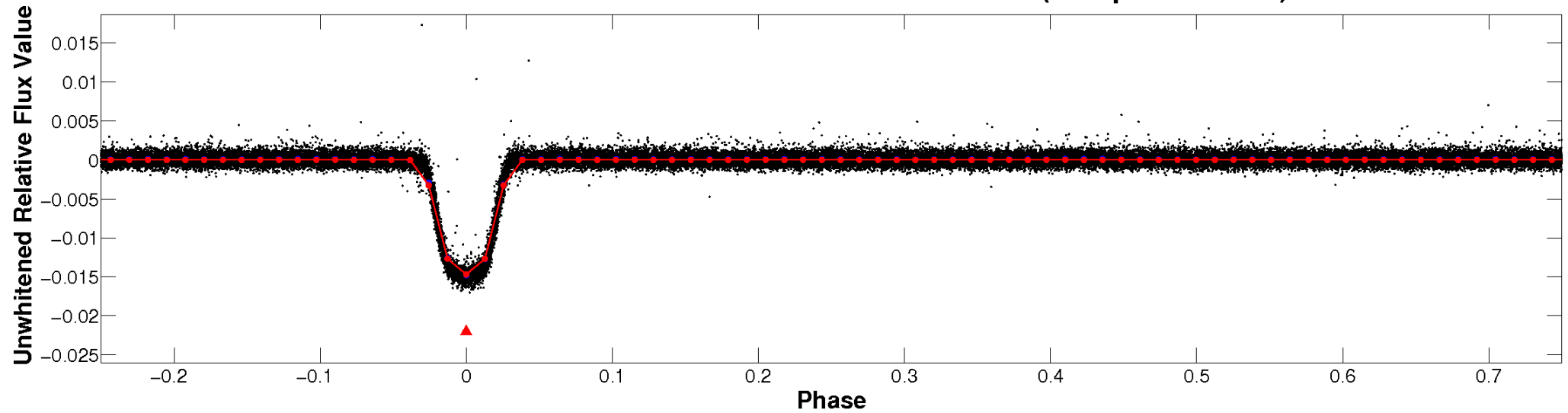
# ALT Odd/Even

TCE 003935914-01

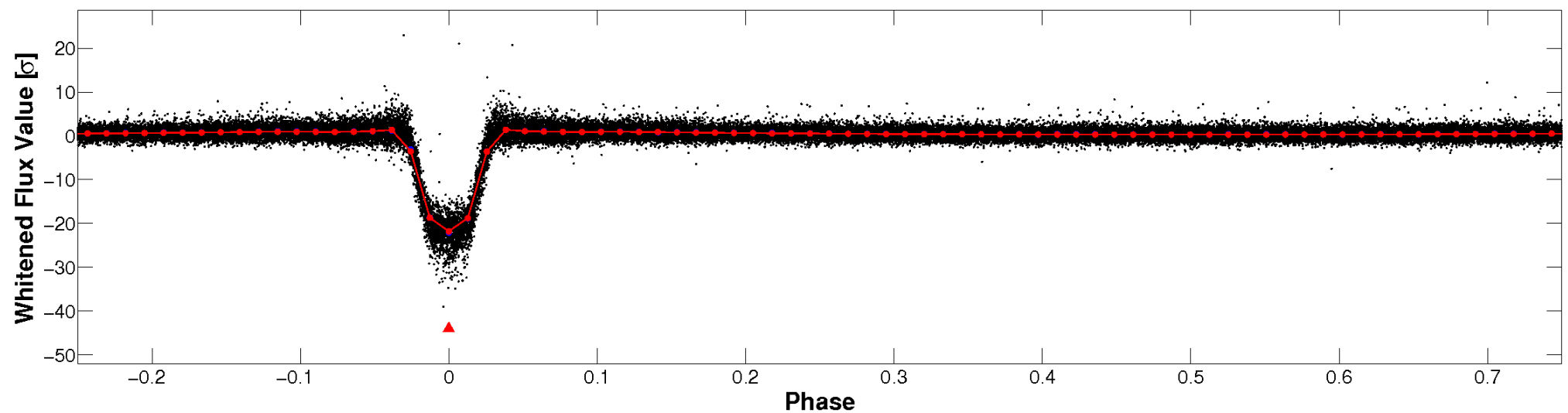


# Non-Whitened Vs. Whitened Light Curve

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



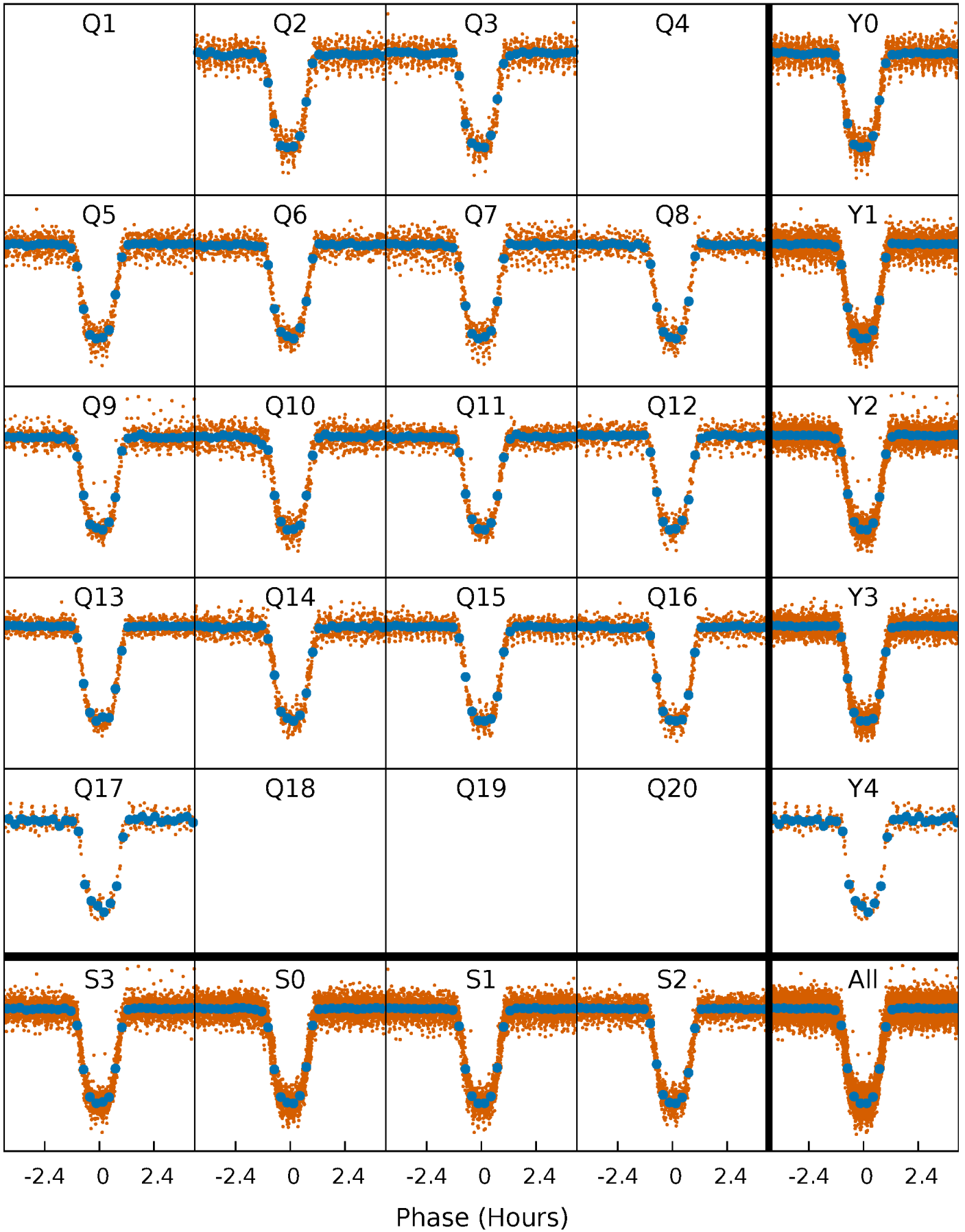
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

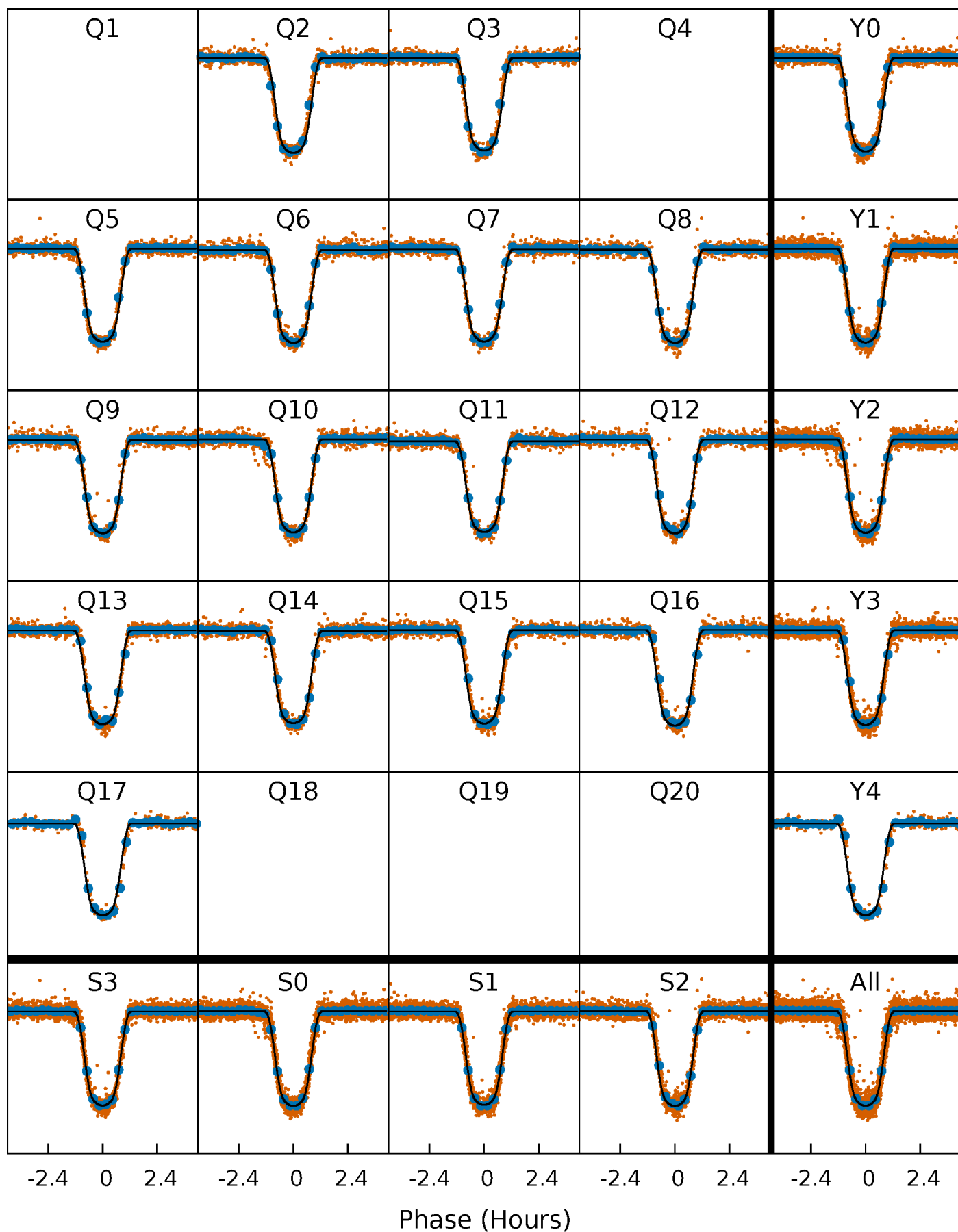
TCE 003935914-01   P= 1.594738 Days    $T_0=132.377697$  (BKJD)





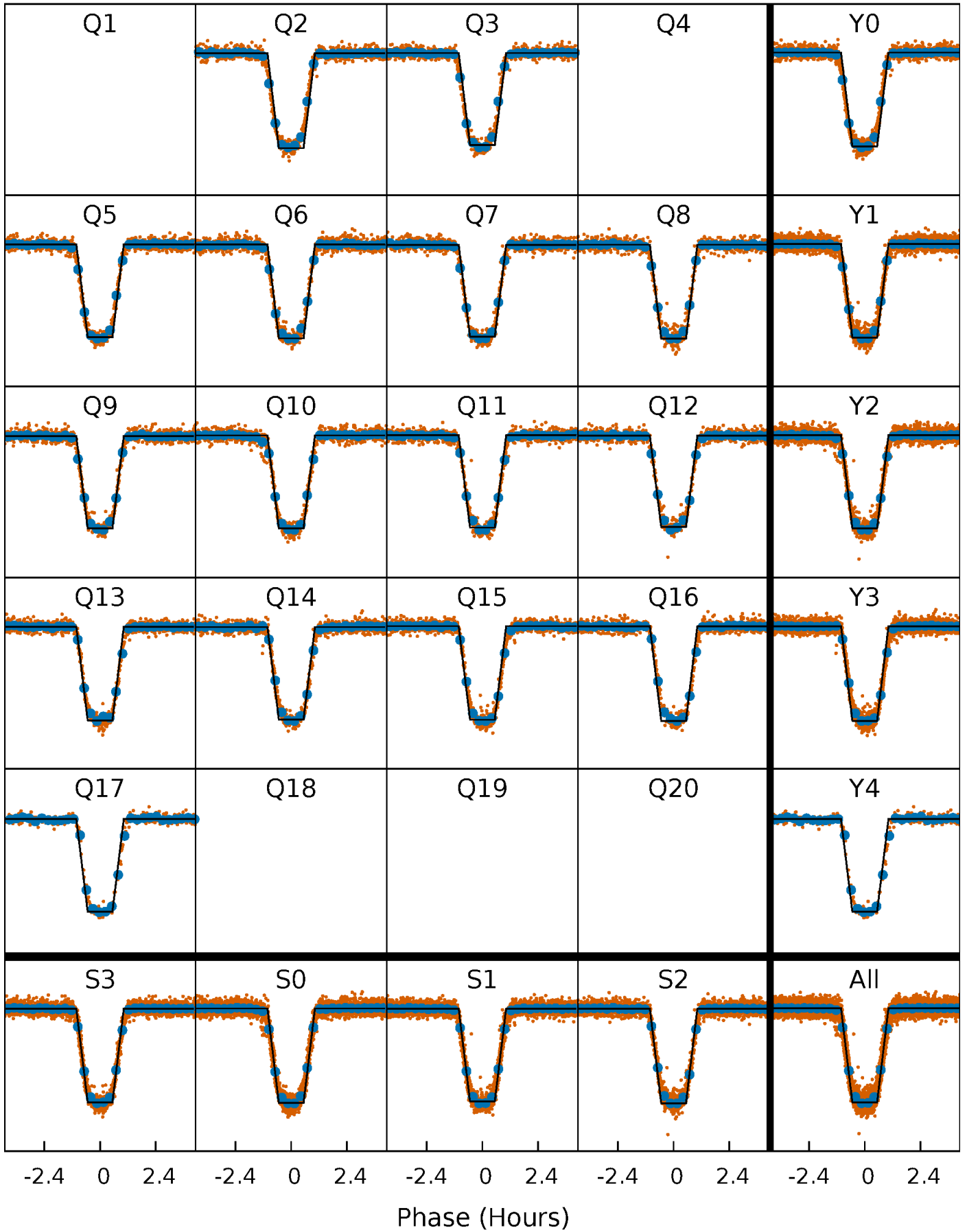
# DV Quarter-Phased Transit Curves

TCE 003935914-01   P= 1.594738 Days    $T_0=132.377697$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

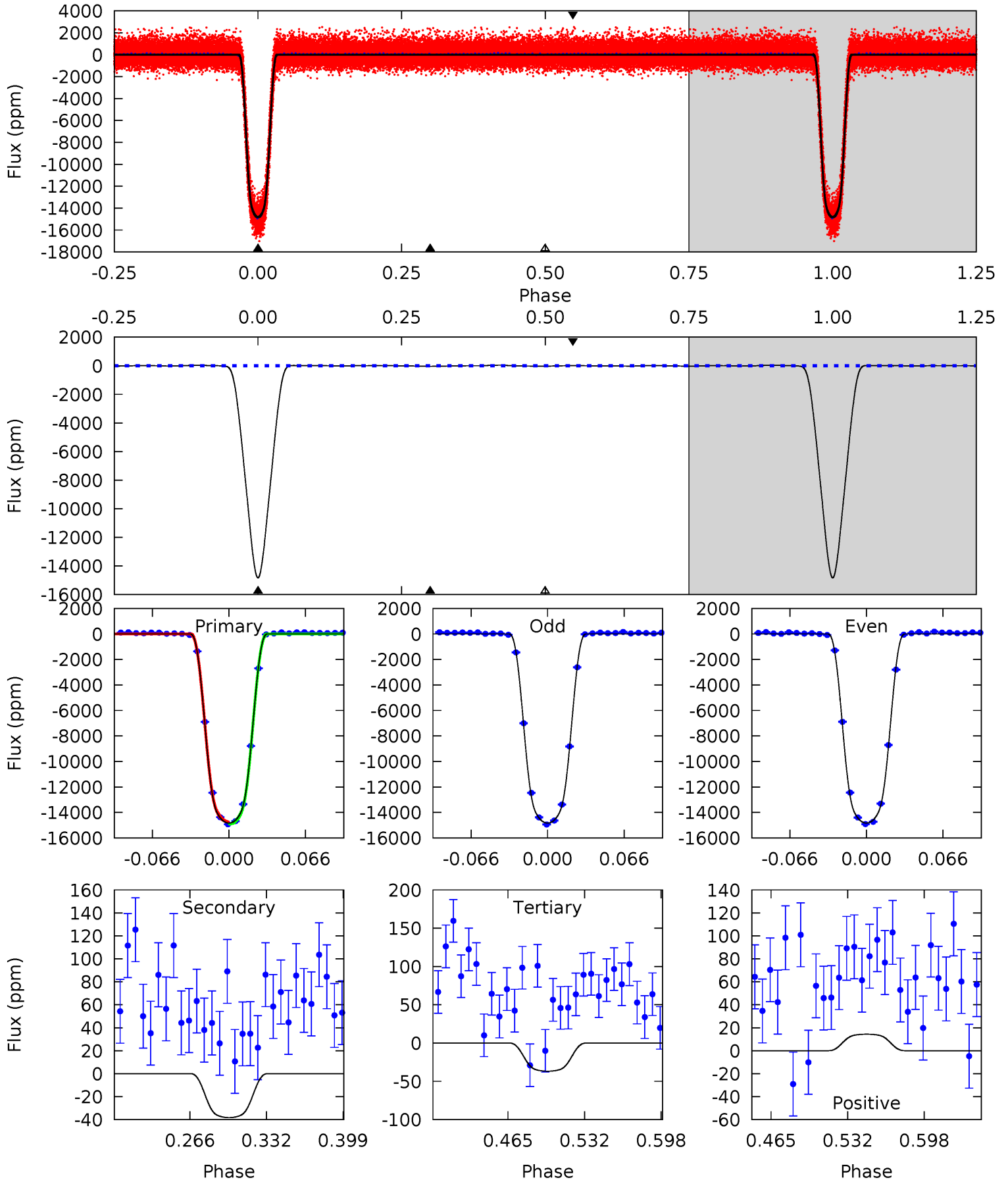
TCE 003935914-01     $P = 1.594739$  Days     $T_0 = 132.377548$  (BKJD)



# DV Model-Shift Uniqueness Test

003935914-01, P = 1.594738 Days, E = 132.377697 Days

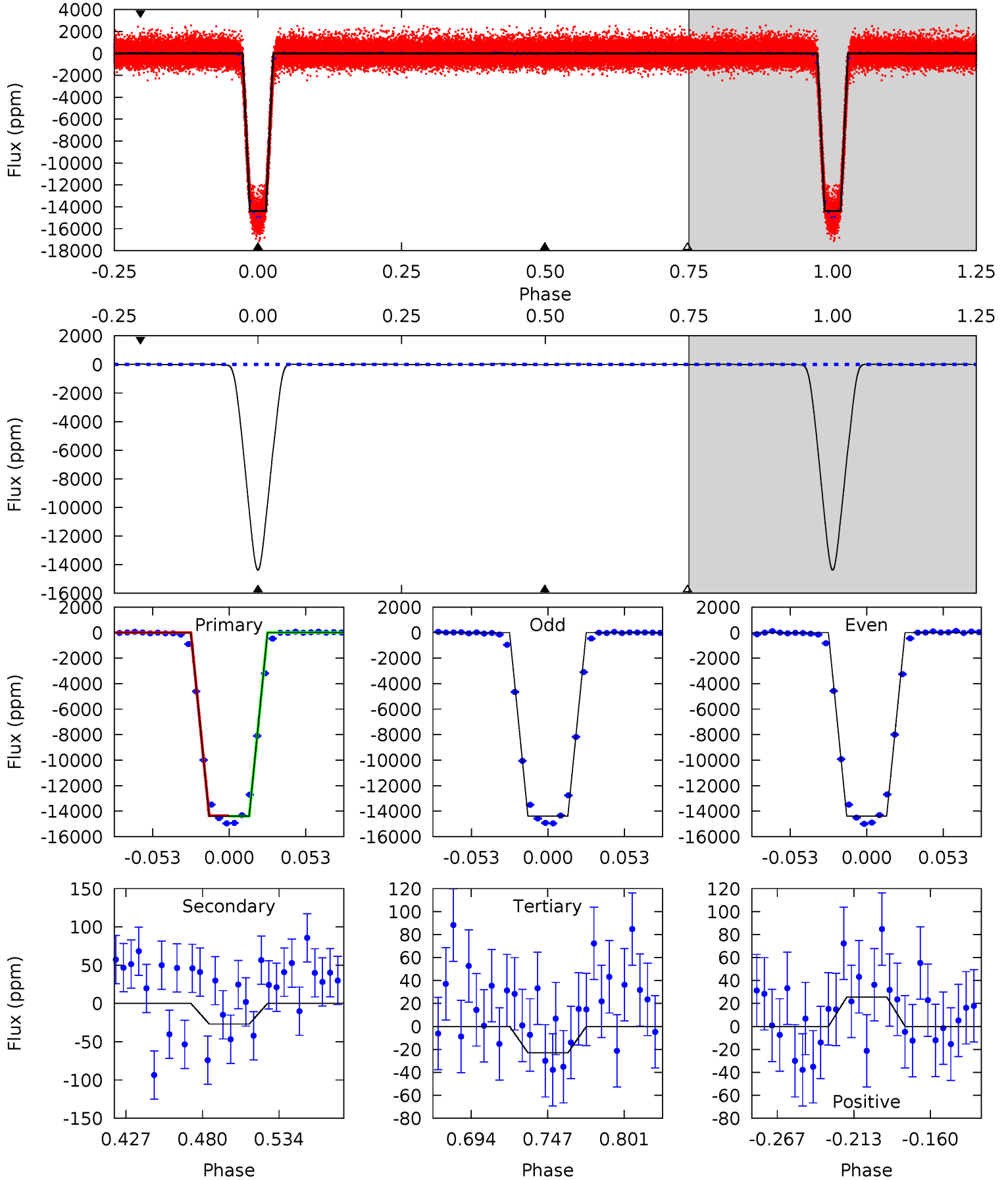
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1525	3.93	3.78	1.48	4.65	1.84	1.72	1521	1523	0.15	2.46	0.03	1.00	0.00	8.53



# Alt Model-Shift Uniqueness Test

003935914-01, P = 1.594739 Days, E = 132.377548 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
1329	2.48	2.12	2.36	4.69	1.93	1.28	1327	1326	0.36	0.12	0.24	1.00	0.00	2.18



### Stellar Parameters For KIC 003935914

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5934^{+160}_{-178}$	$4.491^{+0.065}_{-0.195}$	$-0.380^{+0.300}_{-0.300}$	$0.893^{+0.244}_{-0.105}$	$0.901^{+0.110}_{-0.090}$	$1.784^{+0.572}_{-0.845}$
	+3%/-3%	+1%/-4%	+79%/-79%	+27%/-12%	+12%/-10%	+32%/-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 003935914-01 / KOI 0809.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-38 \pm 10$	$12.03^{+1.64}_{-0.95}$	$2193^{+138}_{-108}$	$-2492^{+98}_{-112}$	$0.094^{+0.031}_{-0.030}$
Alt.	$-27 \pm 11$	$12.11^{+1.88}_{-0.92}$	$2187^{+145}_{-103}$	$-2533^{+89}_{-107}$	$0.063^{+0.032}_{-0.028}$

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

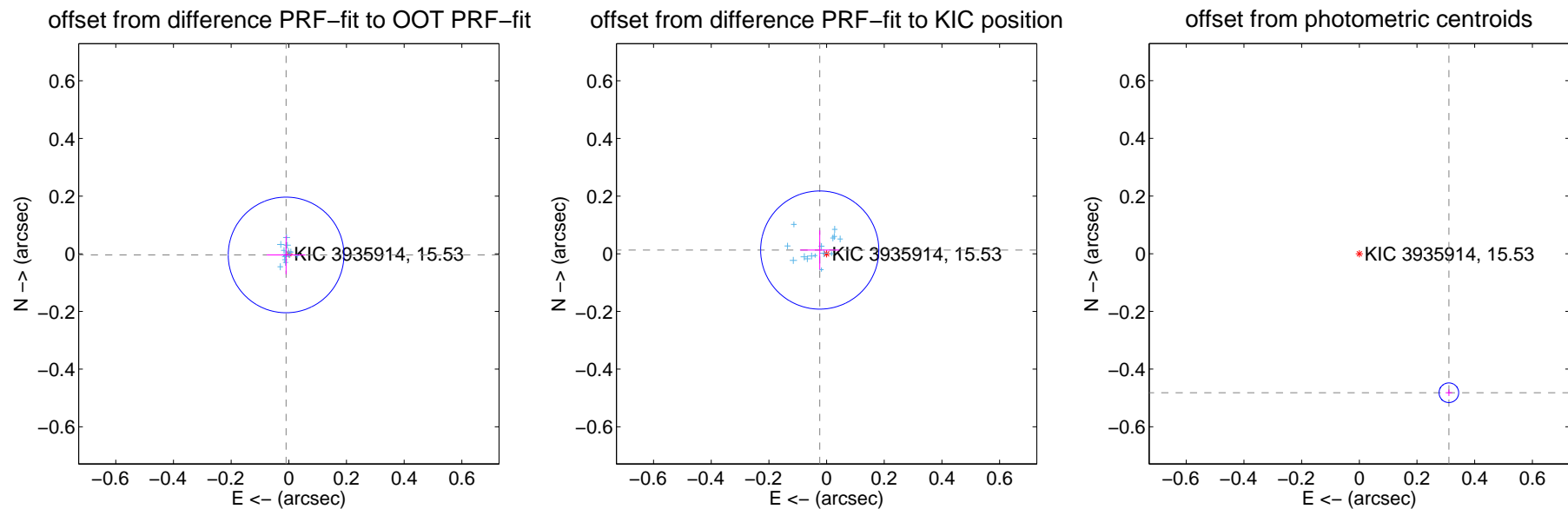
## DV Centroid Data

Supplemental centroid analysis for 003935914-01. Kepler magnitude: 15.53. Transit SNR 919.30

There are 15 quarters with good PRF difference image offsets

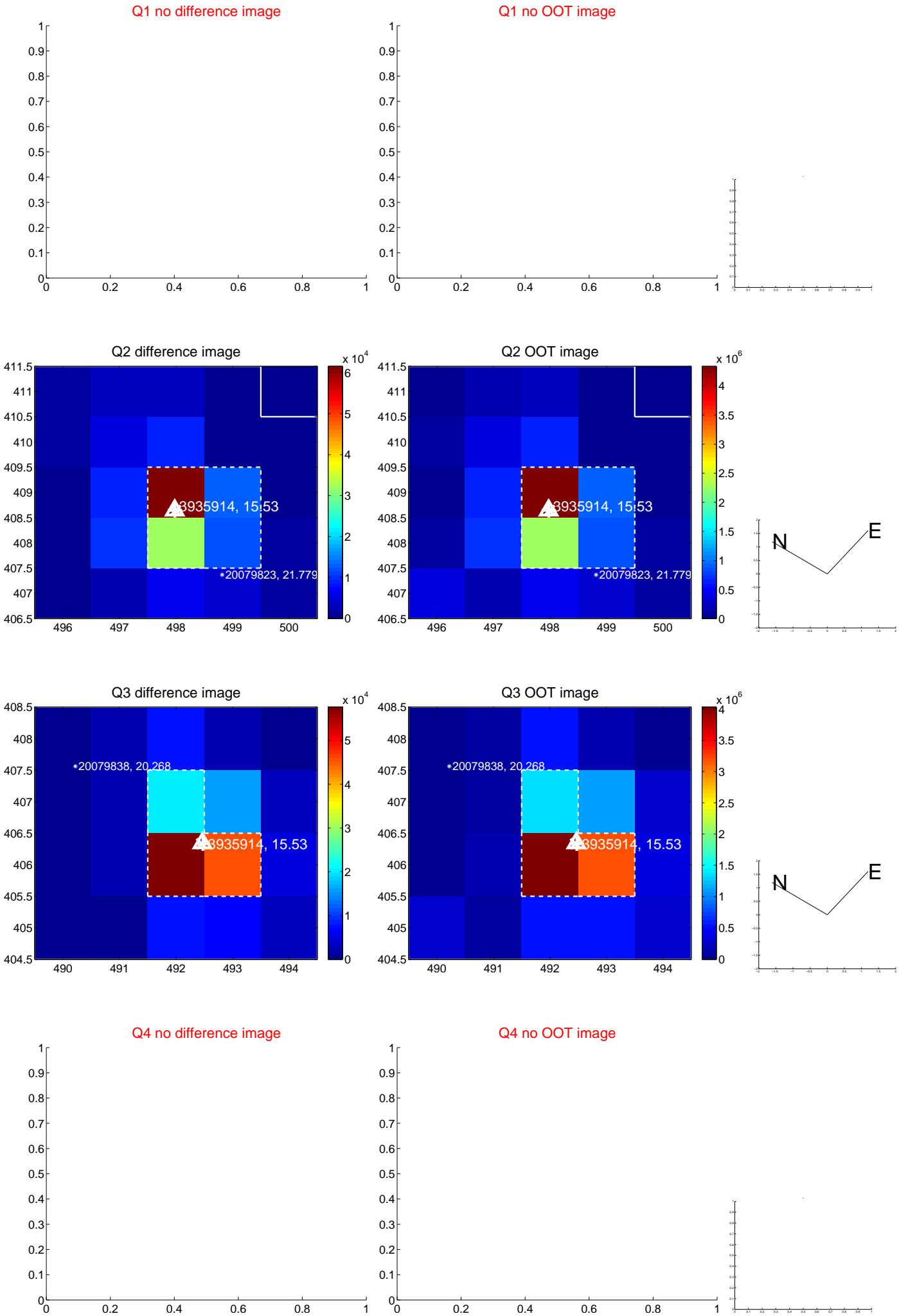
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.010 \pm 0.067$	0.15	$0.009 \pm 0.067$	$-0.004 \pm 0.067$
PRF-fit source offset from KIC position	$0.027 \pm 0.068$	0.40	$0.024 \pm 0.068$	$0.013 \pm 0.068$
photometric centroid source offset	$0.57 \pm 0.01$	50.56	$-0.31 \pm 0.01$	$-0.48 \pm 0.01$



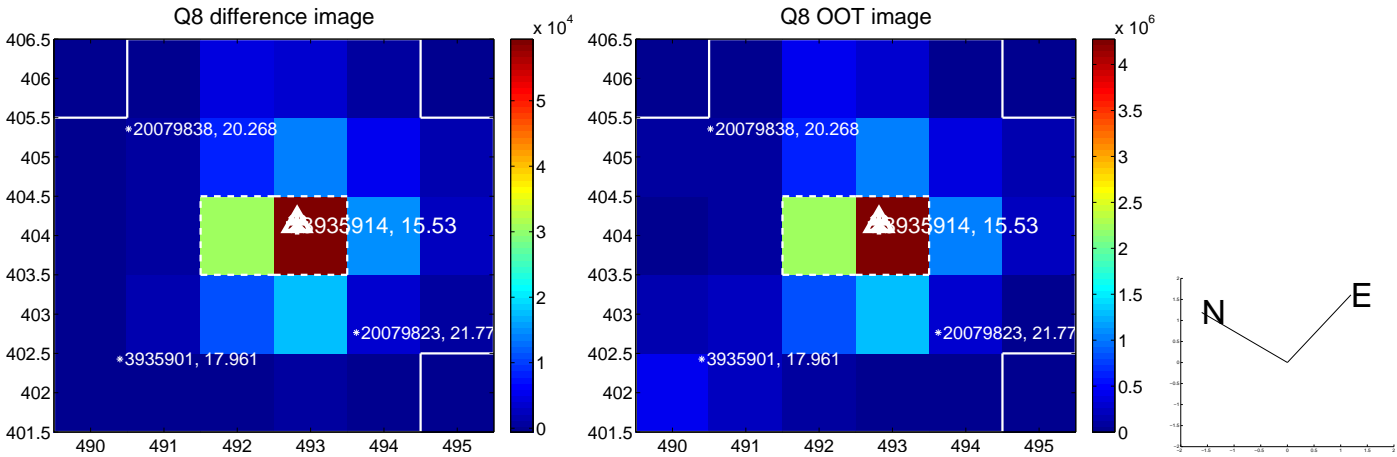
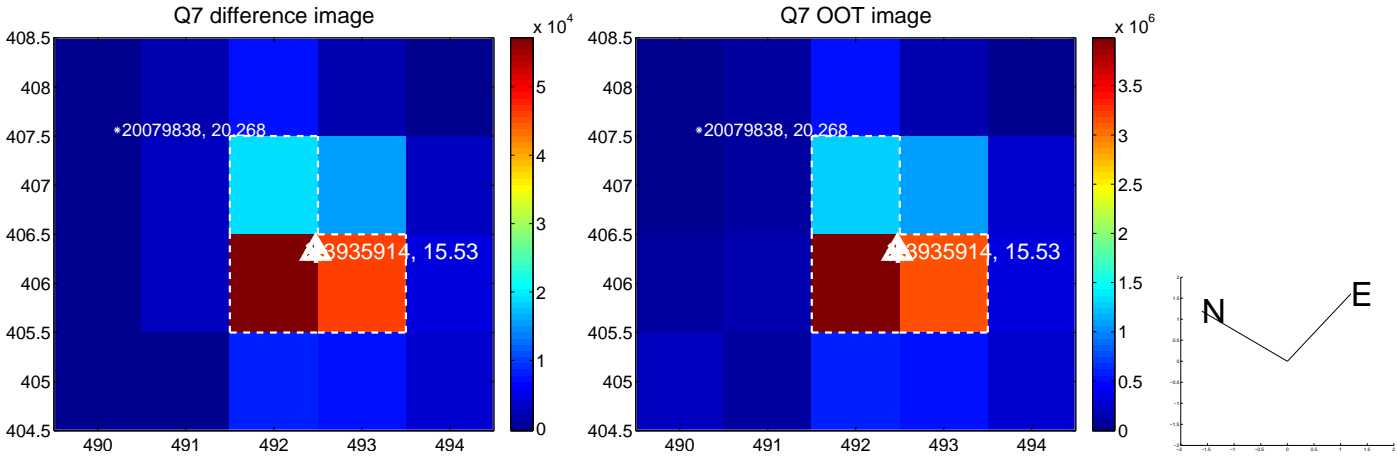
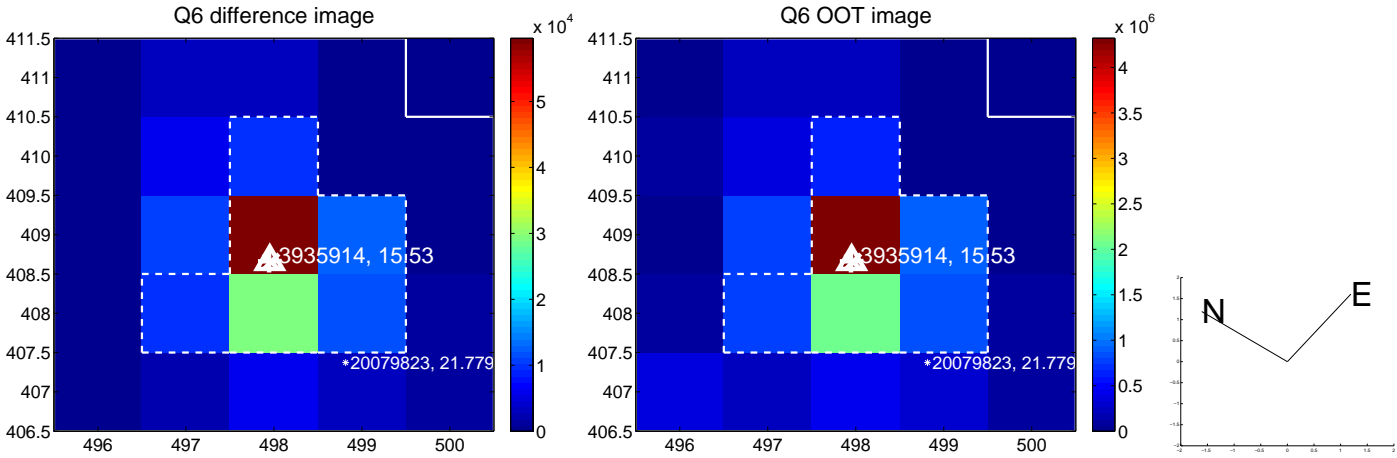
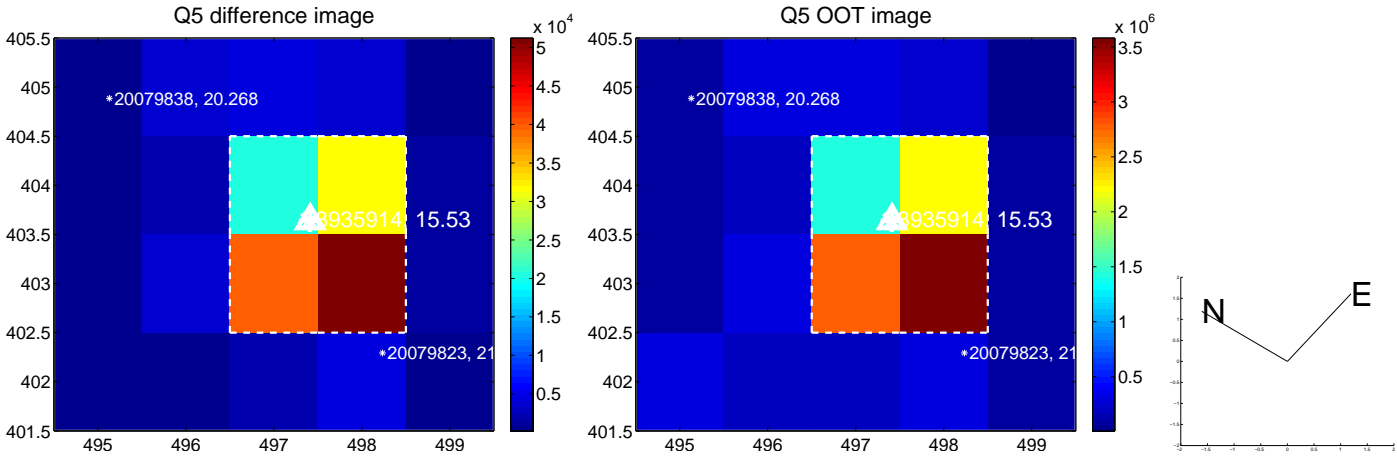
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

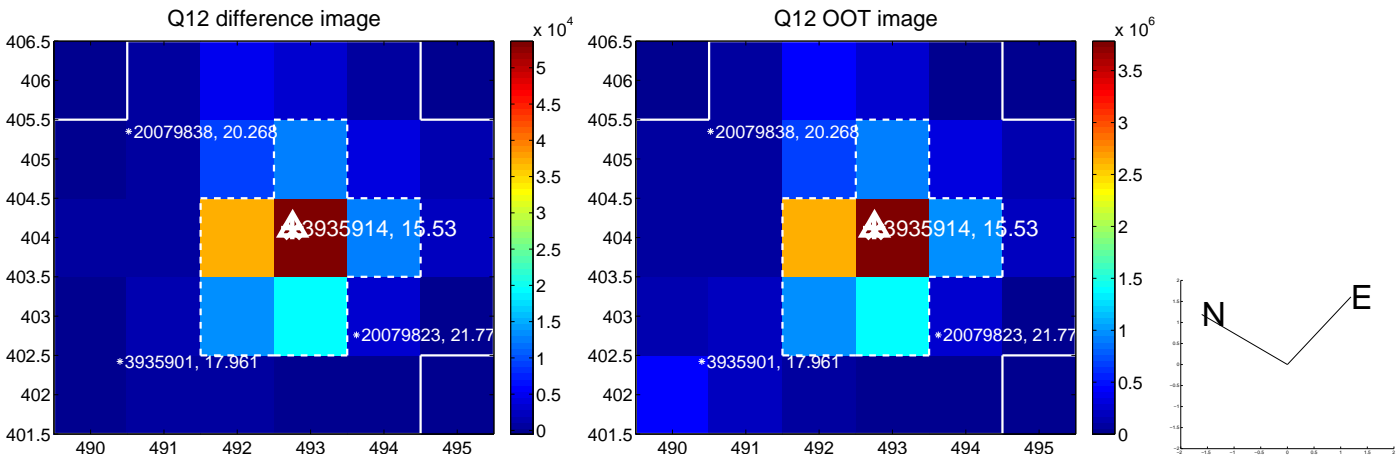
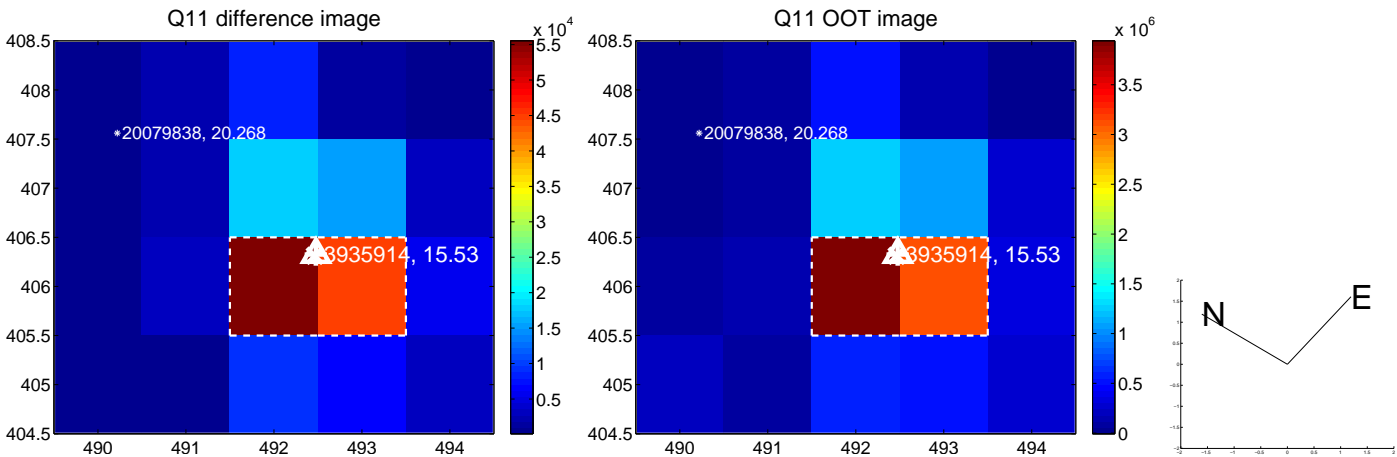
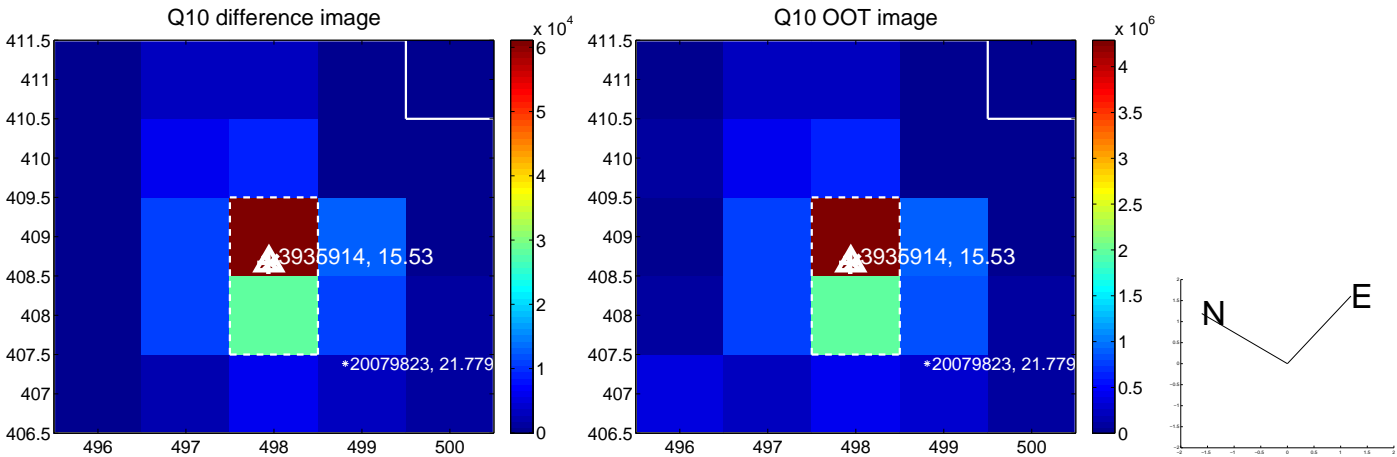
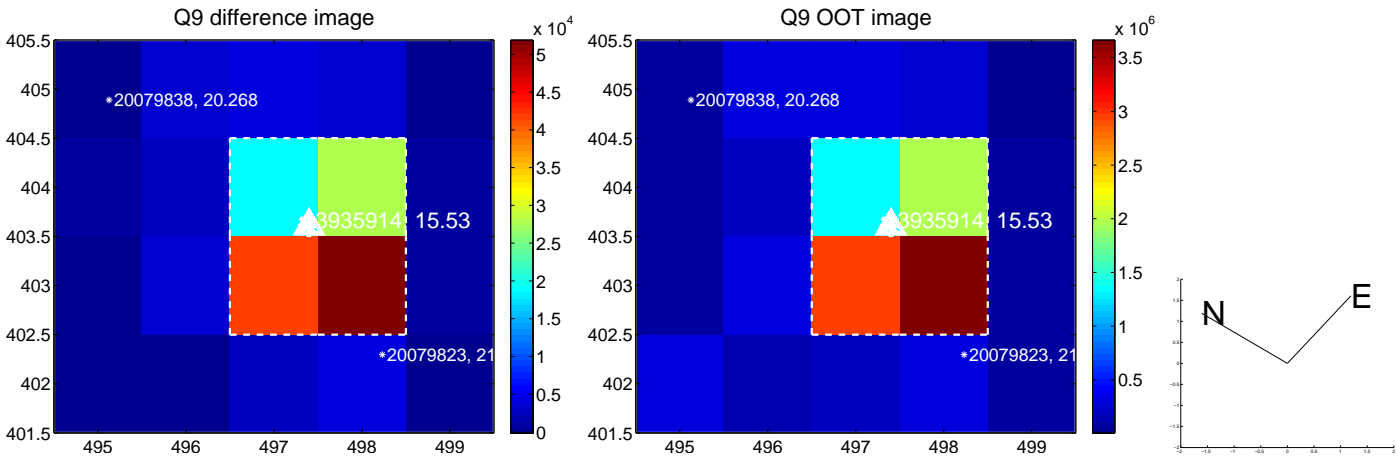




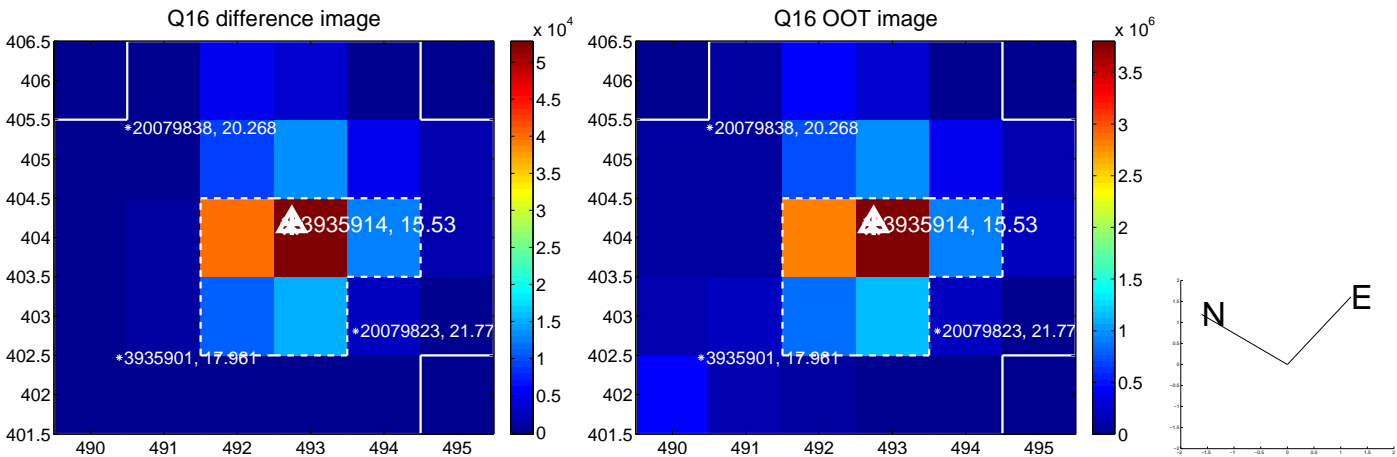
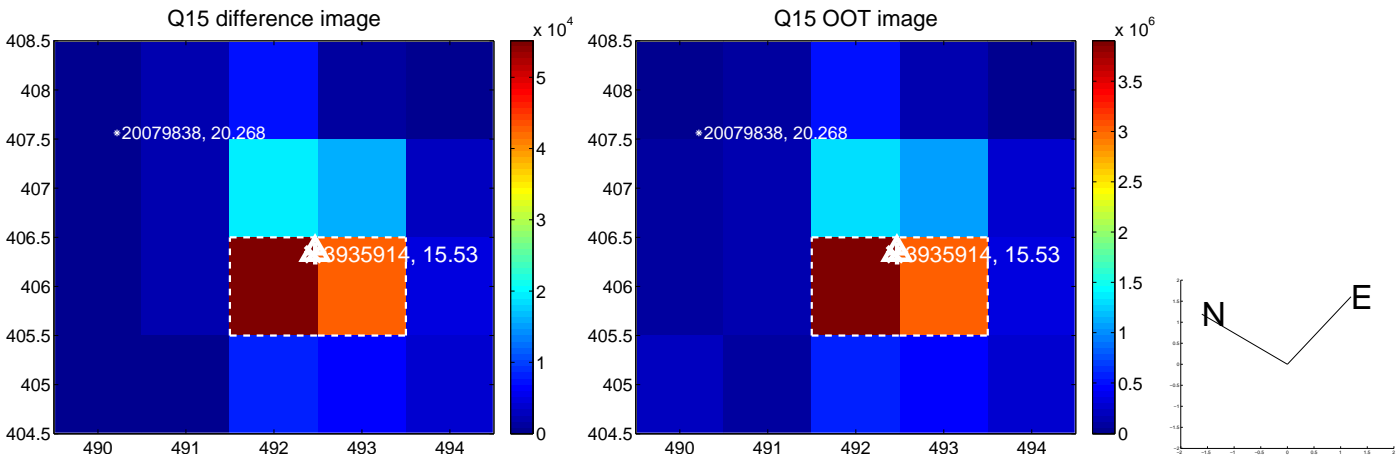
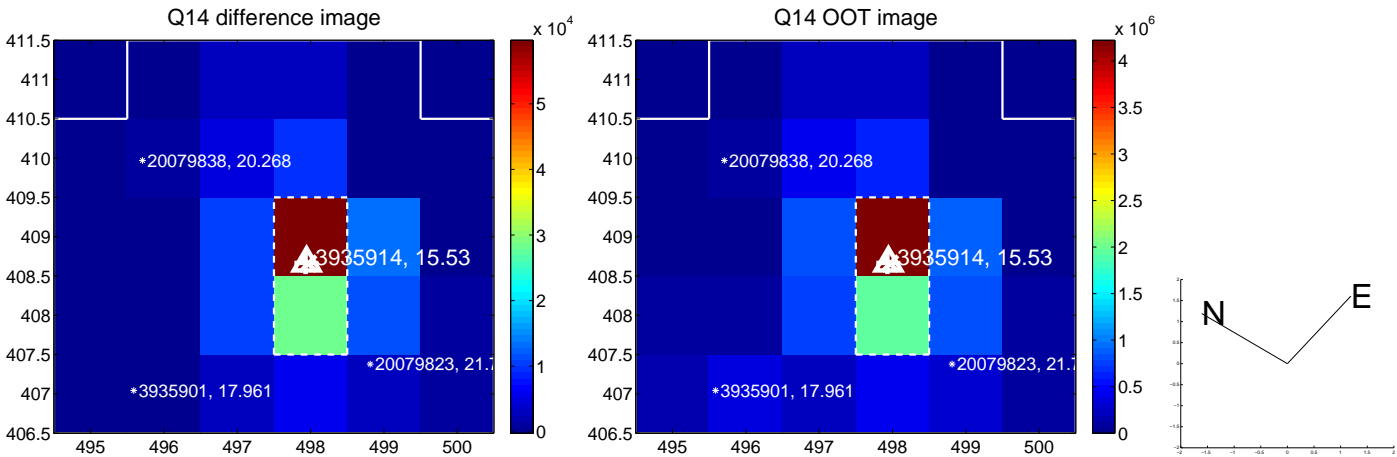
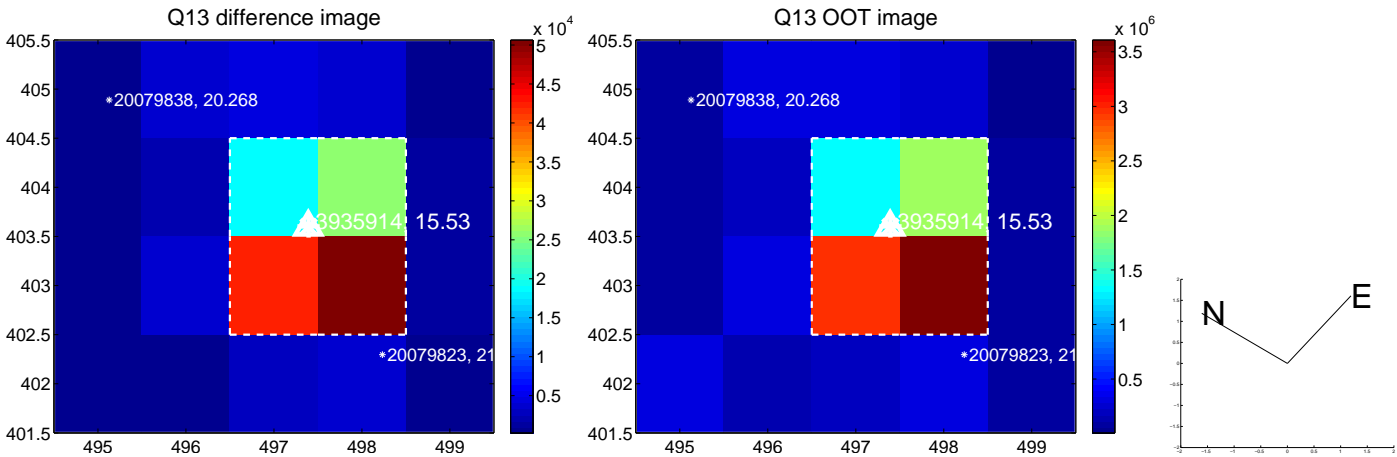
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



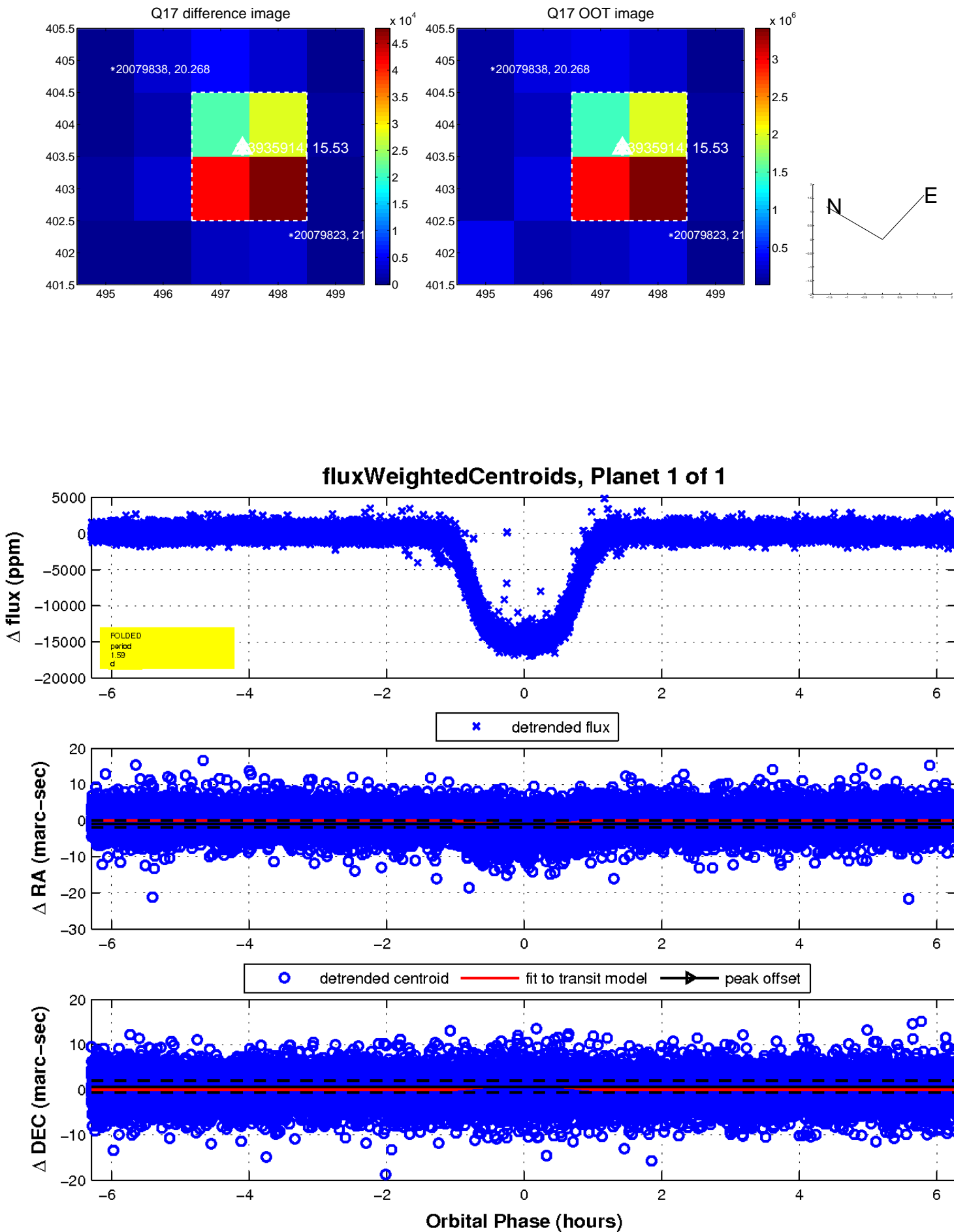
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

