

# KIC 011651712

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011651712-01	OBS	3363.01	14.532623	140.467420	333.6	2.497	23.4	27.2	0.93	6003	1.96	73.48

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011651712-01	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.

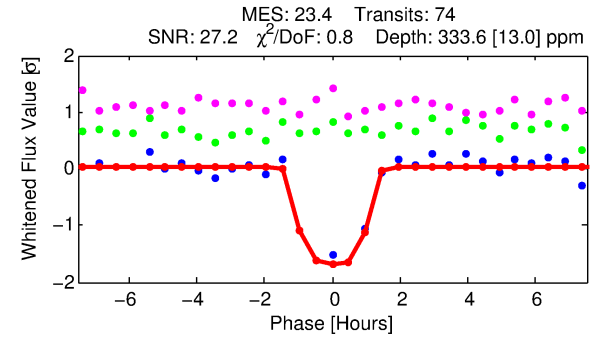
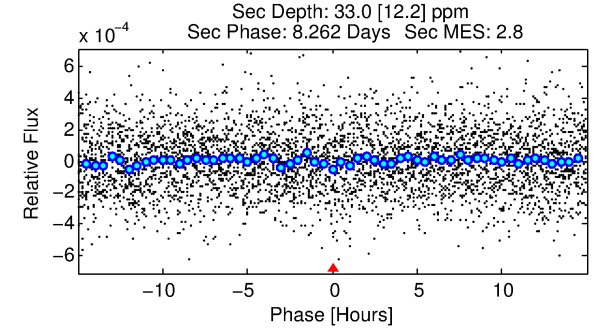
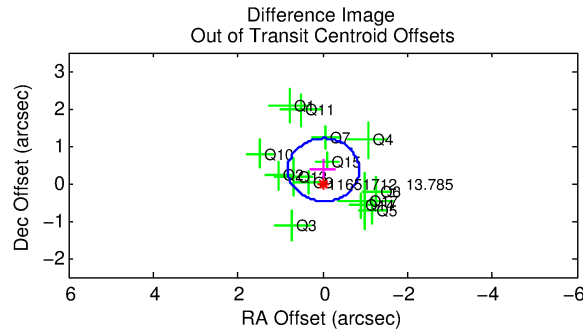
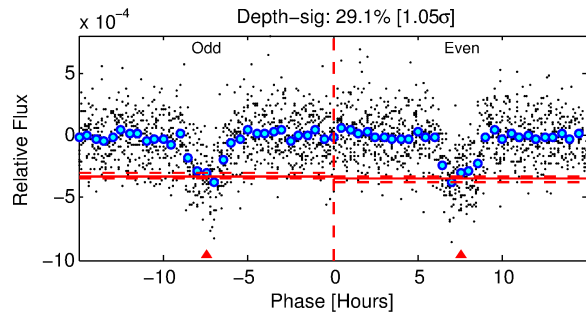
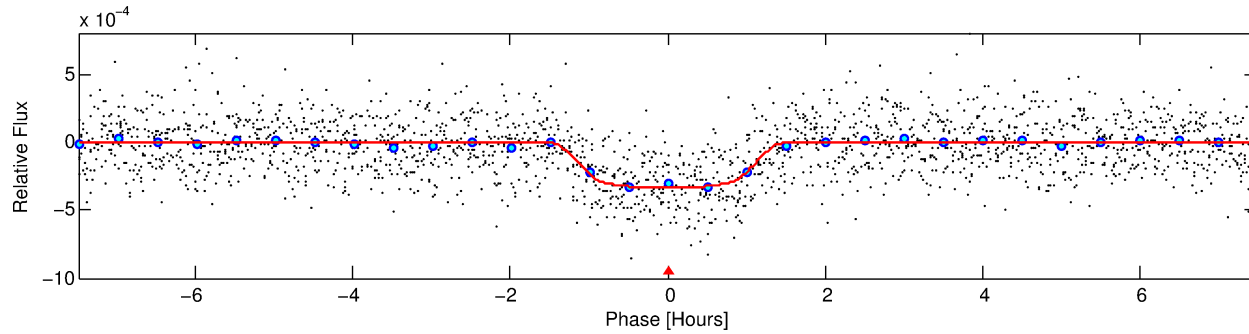
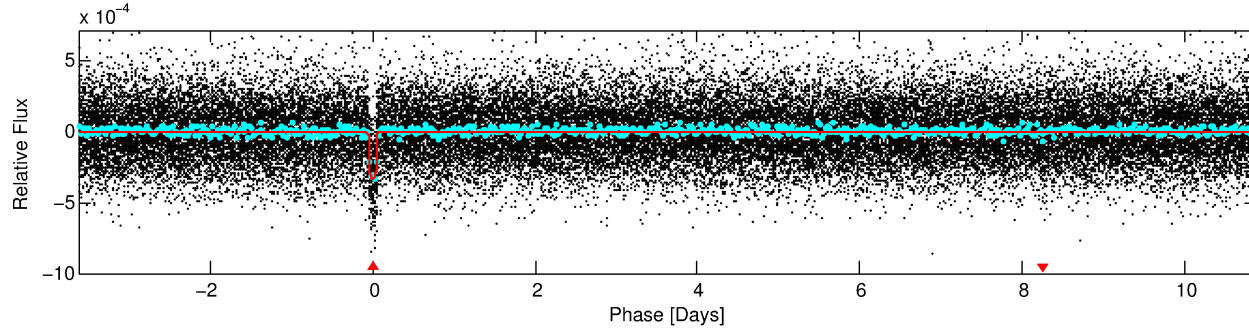
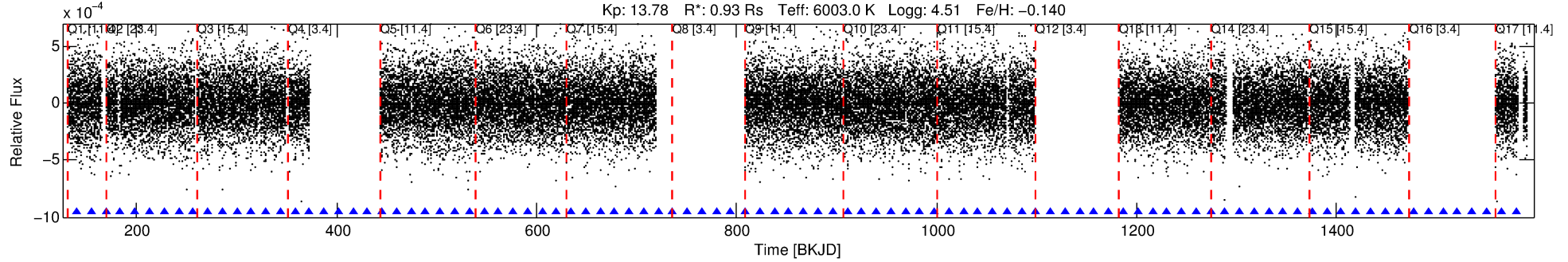
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011651712-01

No Significant Match Found

# DV One-Page Summary

KIC: 11651712 Candidate: 1 of 1 Period: 14.533 d  
KOI: K03363.01 Corr: 0.982



## DV Fit Results:

Period = 14.53262 [0.00004] d  
Epoch = 140.4674 [0.0021] BKJD  
Rp/R\* = 0.0192 [0.0045]  
a/R\* = 24.00 [28.17]  
b = 0.86 [0.35]  
Seff = 73.48 [29.02]  
Teq = 747 [74] K  
Rp = 1.96 [0.75] Re  
a = 0.1173 [0.0300] AU  
Ag = 65.31 [46.22] [1.39 $\sigma$ ]  
Teffp = 3281 [501] K [5.00 $\sigma$ ]

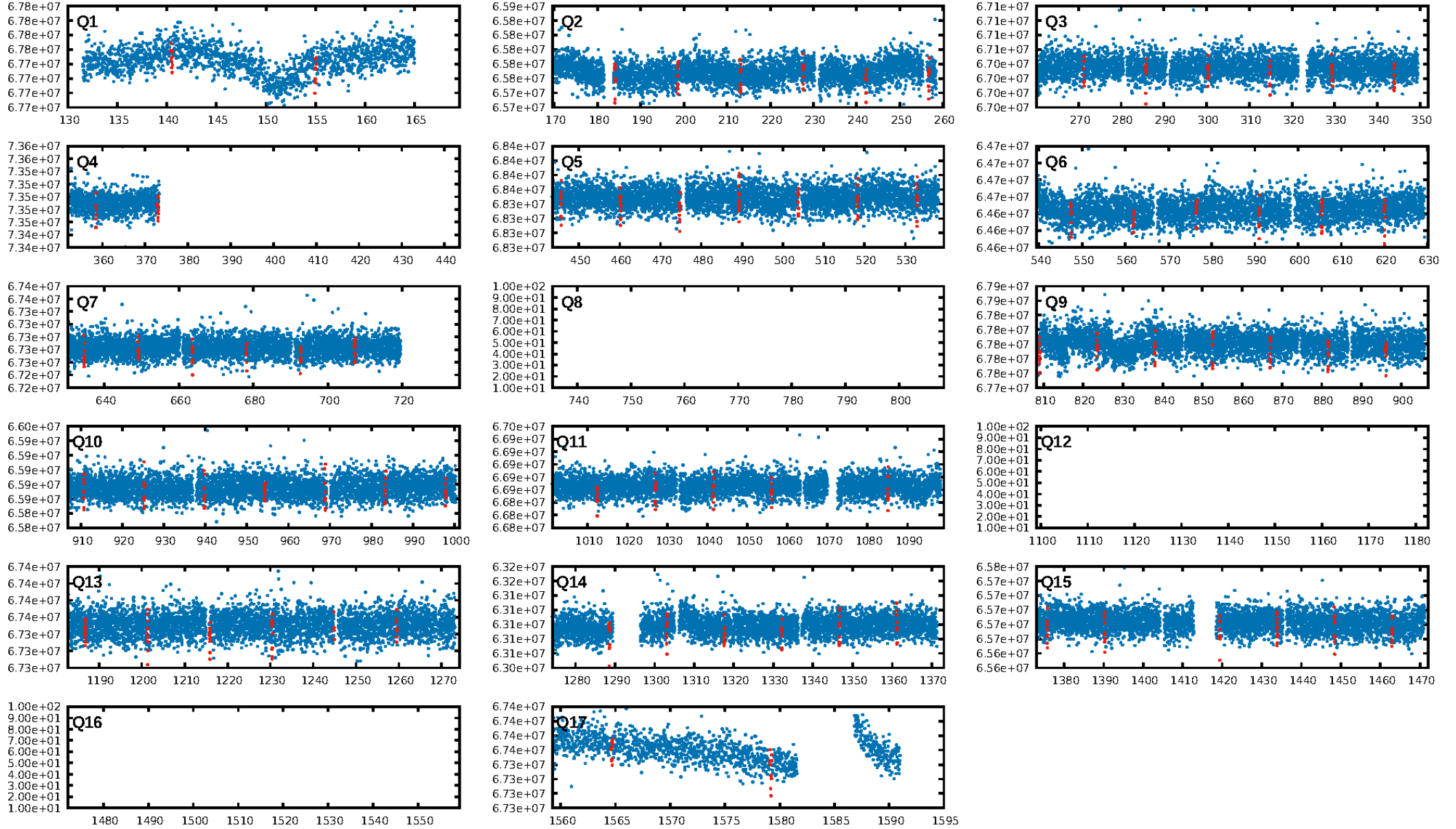
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.78e-120  
RollingBand-fgt: 1.00 [68/68]  
GhostDiagnostic-chr: 5.182  
Centroid-sig: 4.9%  
Centroid-so: 1.192 arcsec [2.02 $\sigma$ ]  
OotOffset-rm: 0.362 arcsec [1.29 $\sigma$ ]  
KicOffset-rm: 0.694 arcsec [2.52 $\sigma$ ]  
OotOffset-st: 4/4/1/5 [14]  
KicOffset-st: 4/4/1/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

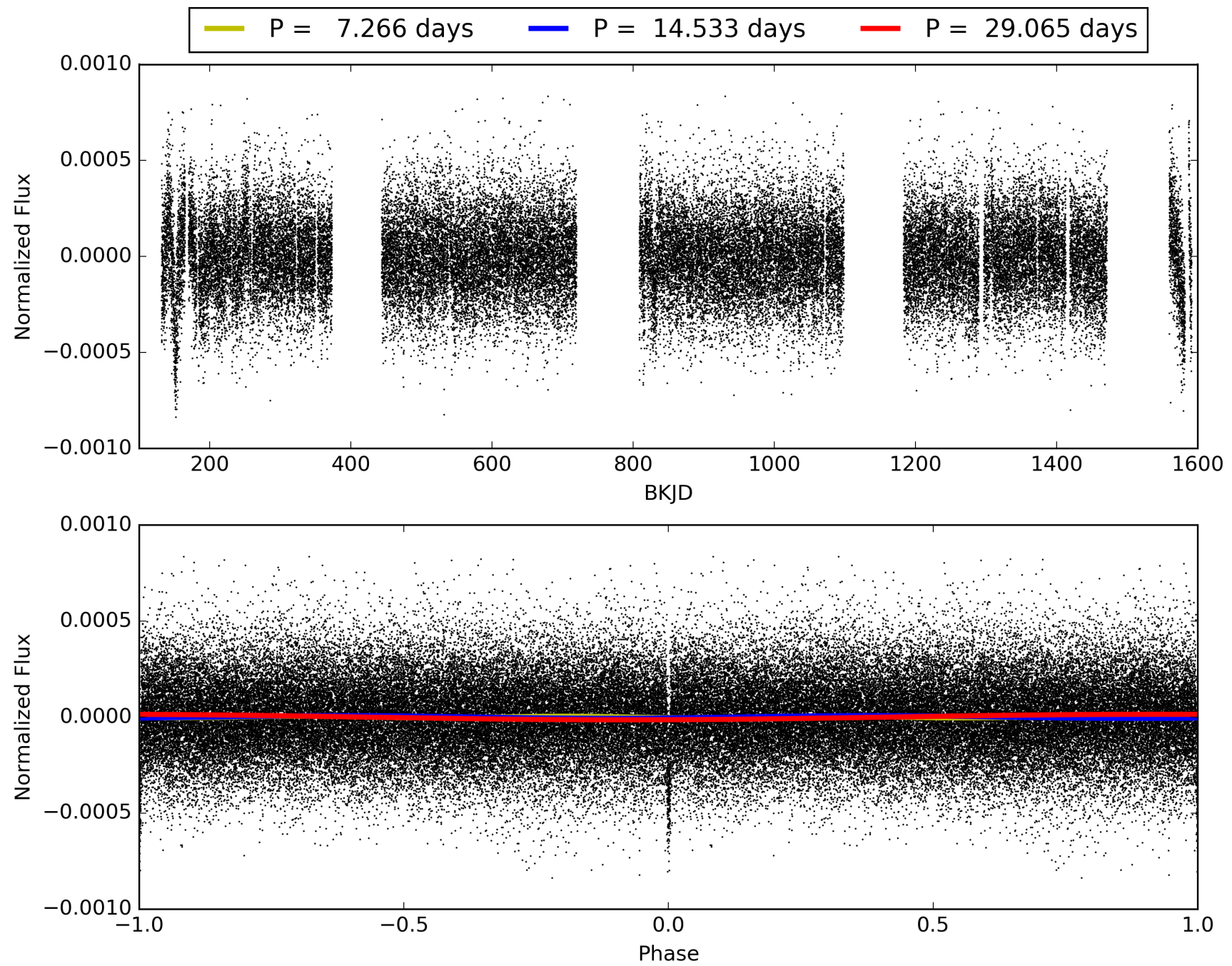
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:39:40 Z

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

# TCE 011651712-01, PDC Light Curves

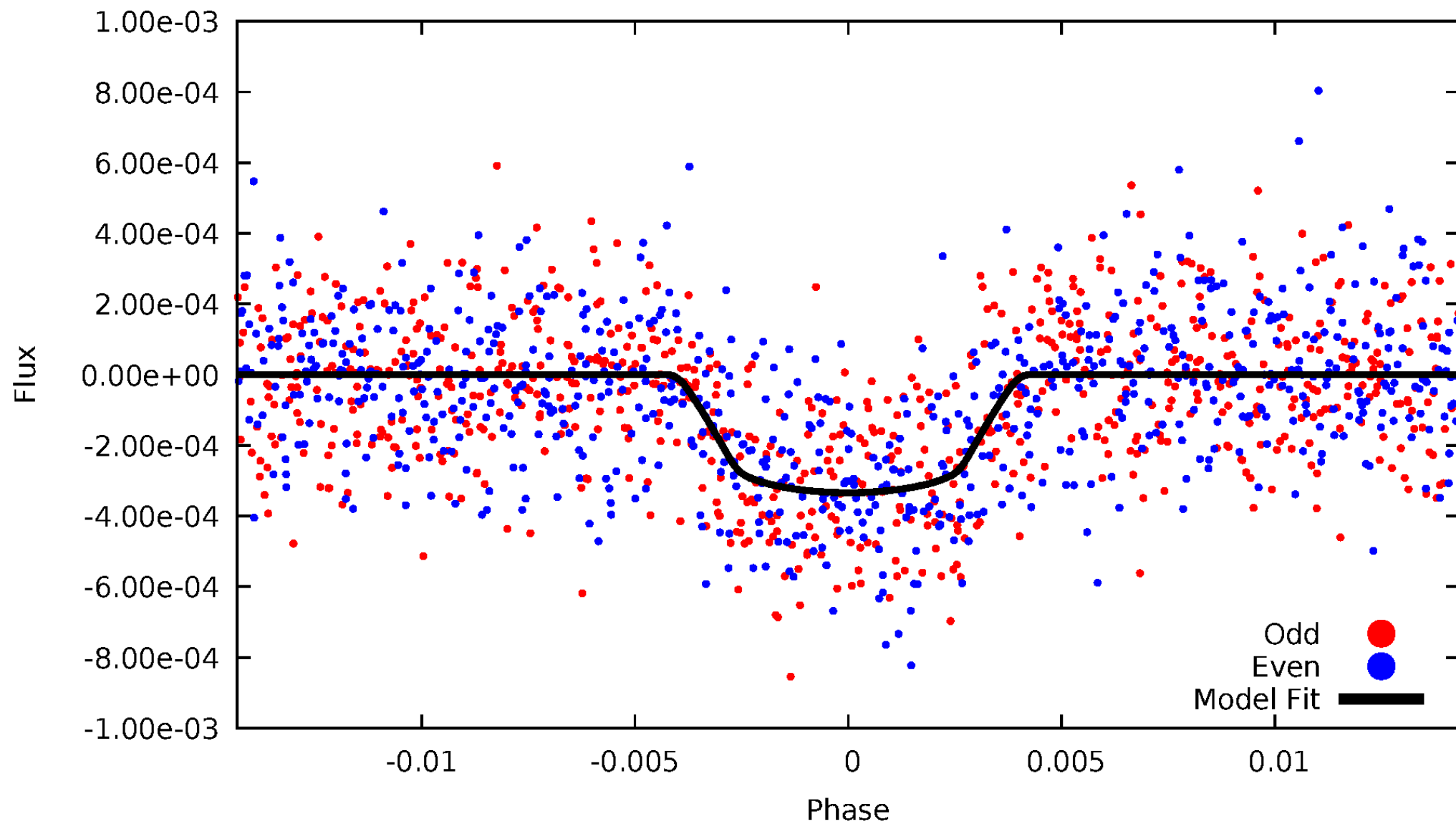


# TCE 011651712-01



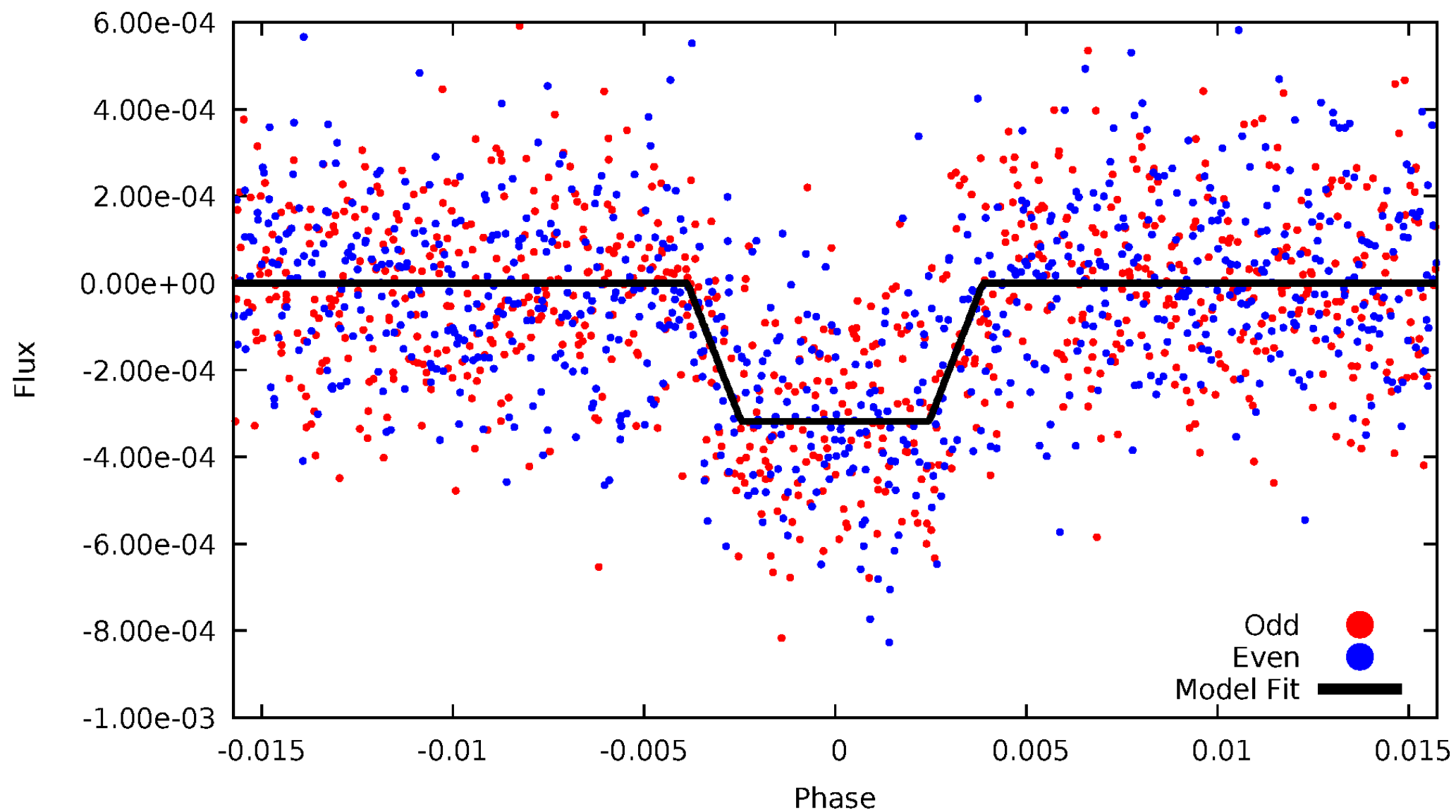
# DV Odd/Even

TCE 011651712-01



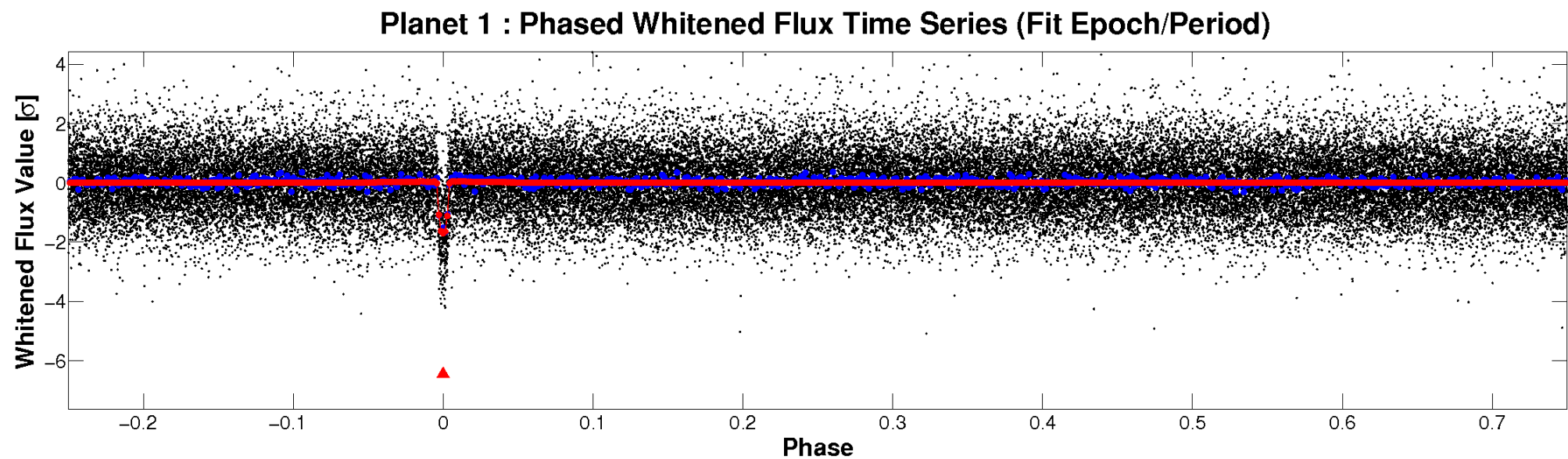
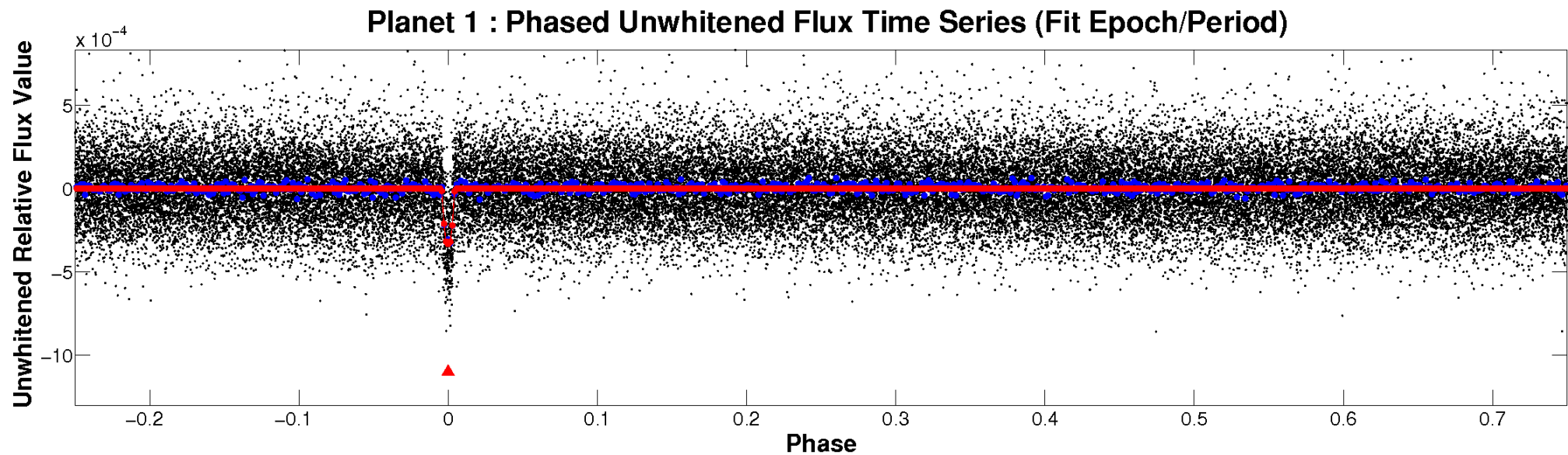
# ALT Odd/Even

TCE 011651712-01



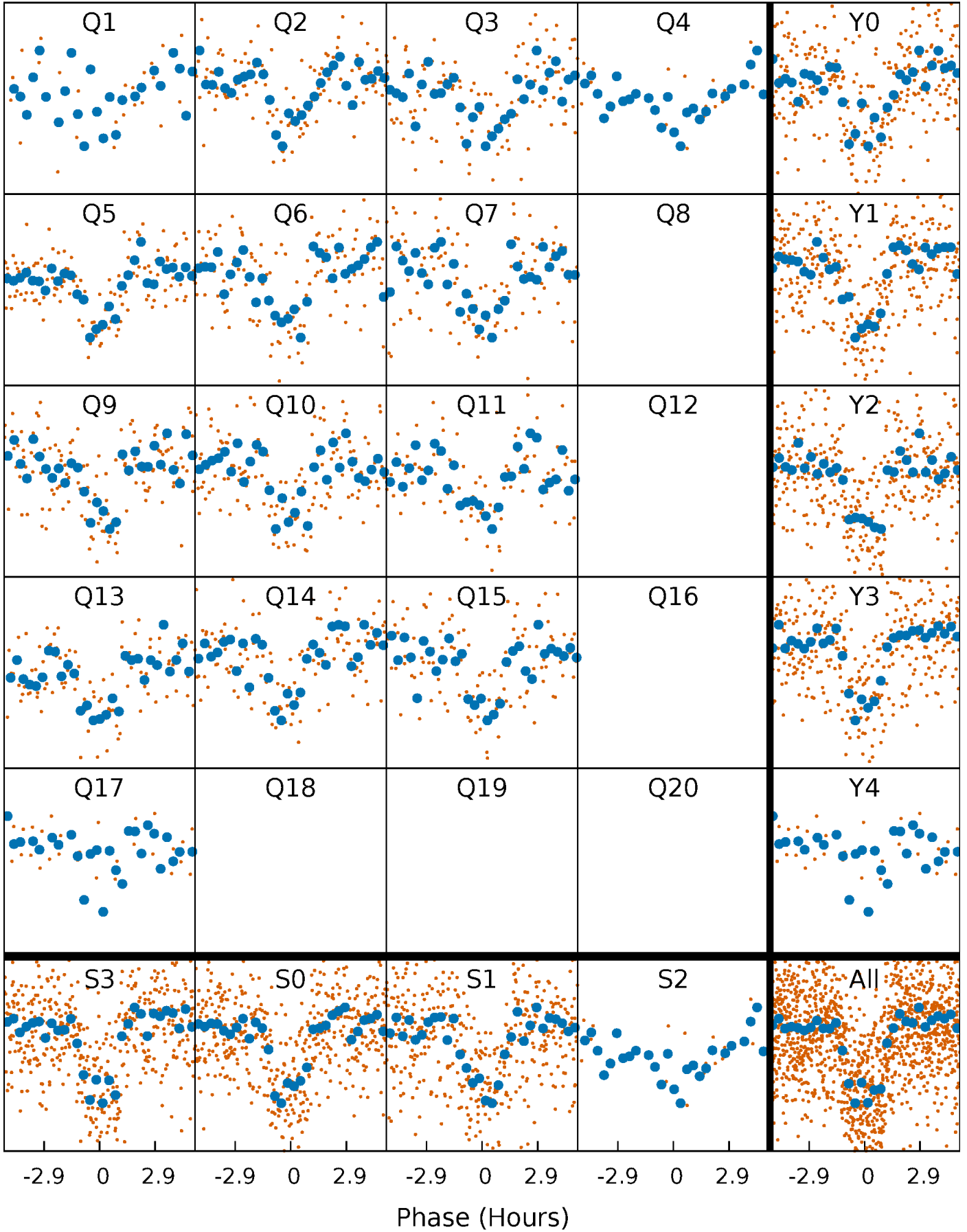


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

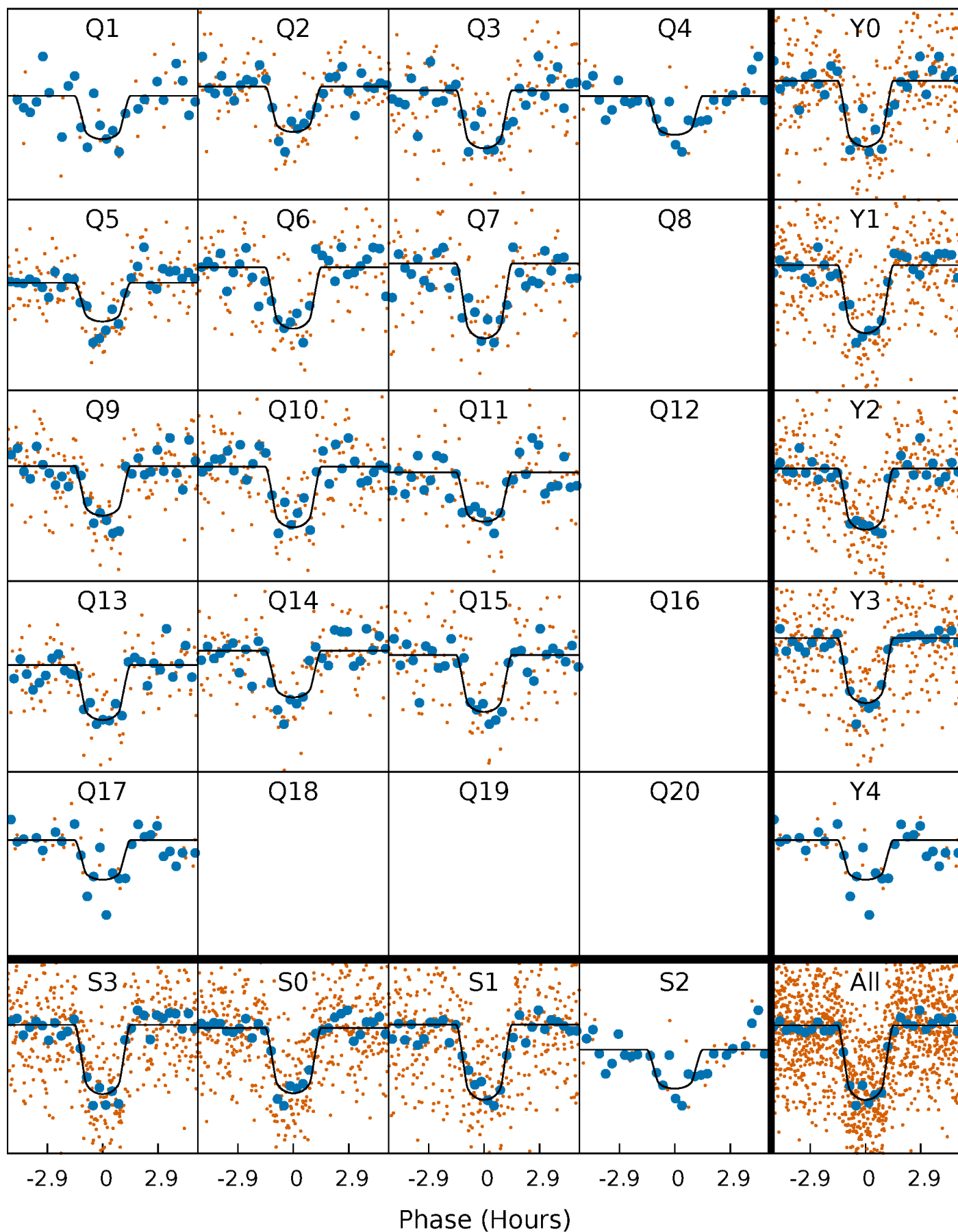
TCE 011651712-01 P= 14.532623 Days  $T_0=140.467420$  (BKJD)





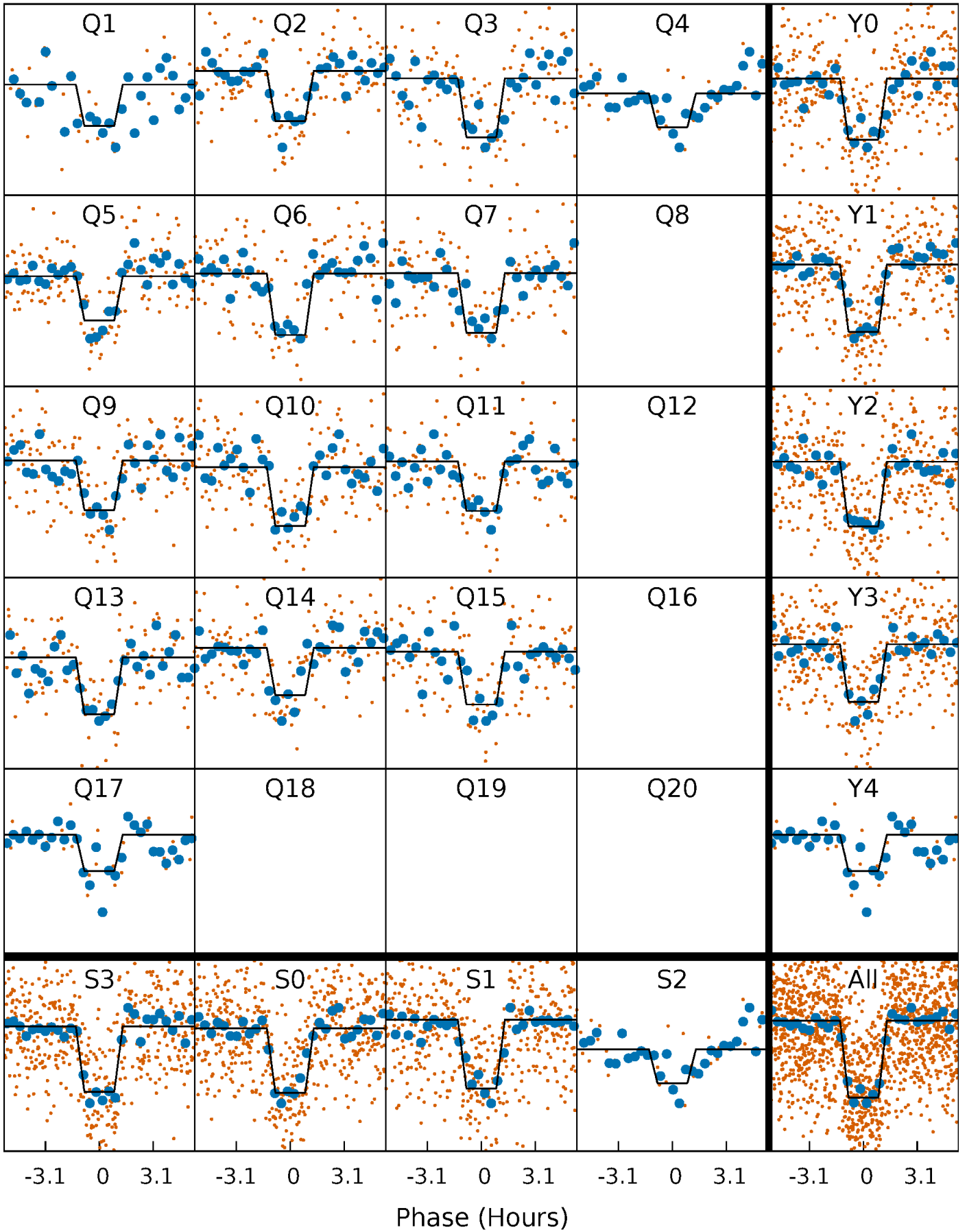
# DV Quarter-Phased Transit Curves

TCE 011651712-01 P= 14.532623 Days  $T_0=140.467420$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

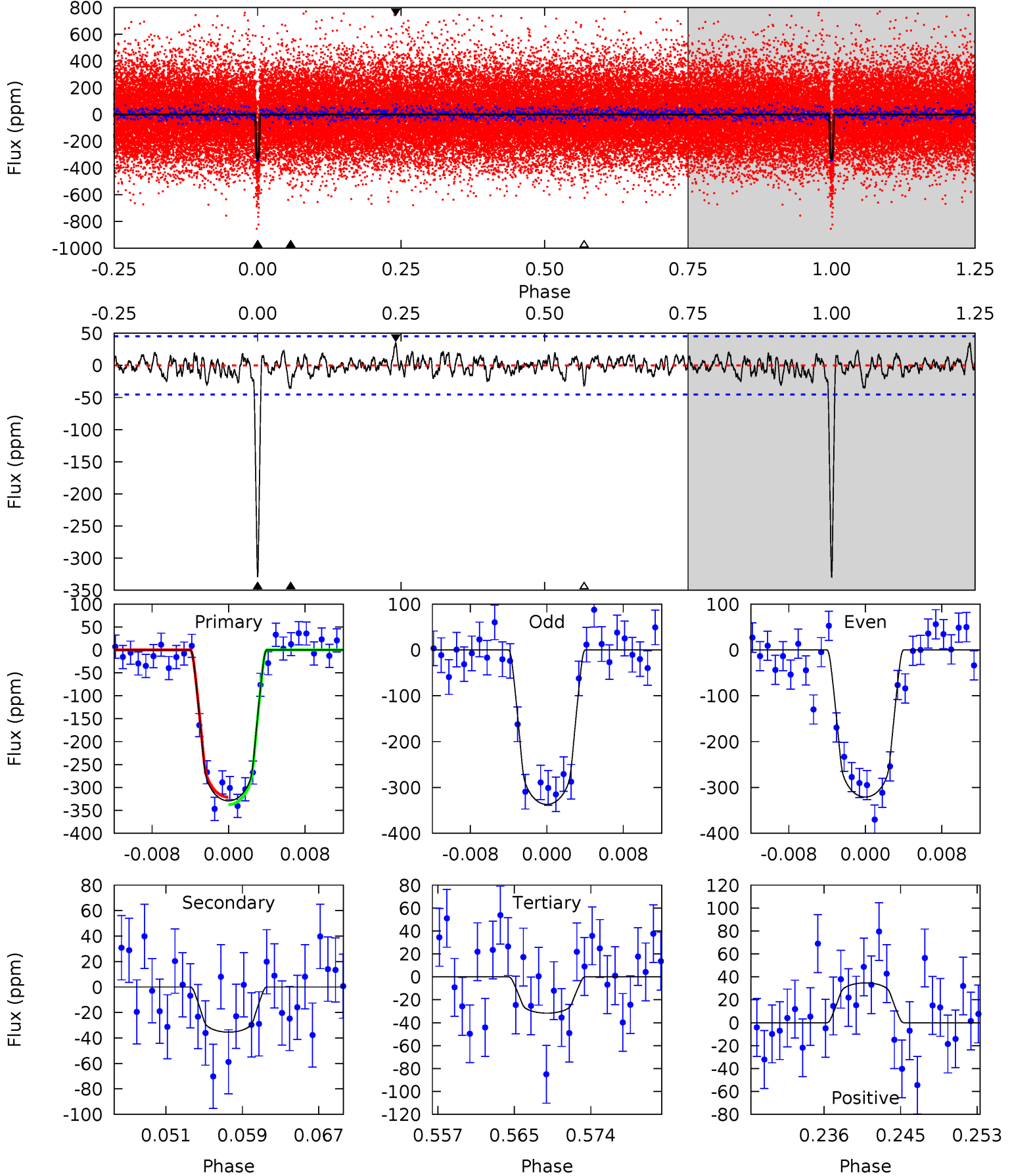
TCE 011651712-01 P= 14.532643 Days  $T_0=140.466640$  (BKJD)



# DV Model-Shift Uniqueness Test

011651712-01, P = 14.532623 Days, E = 125.934797 Days

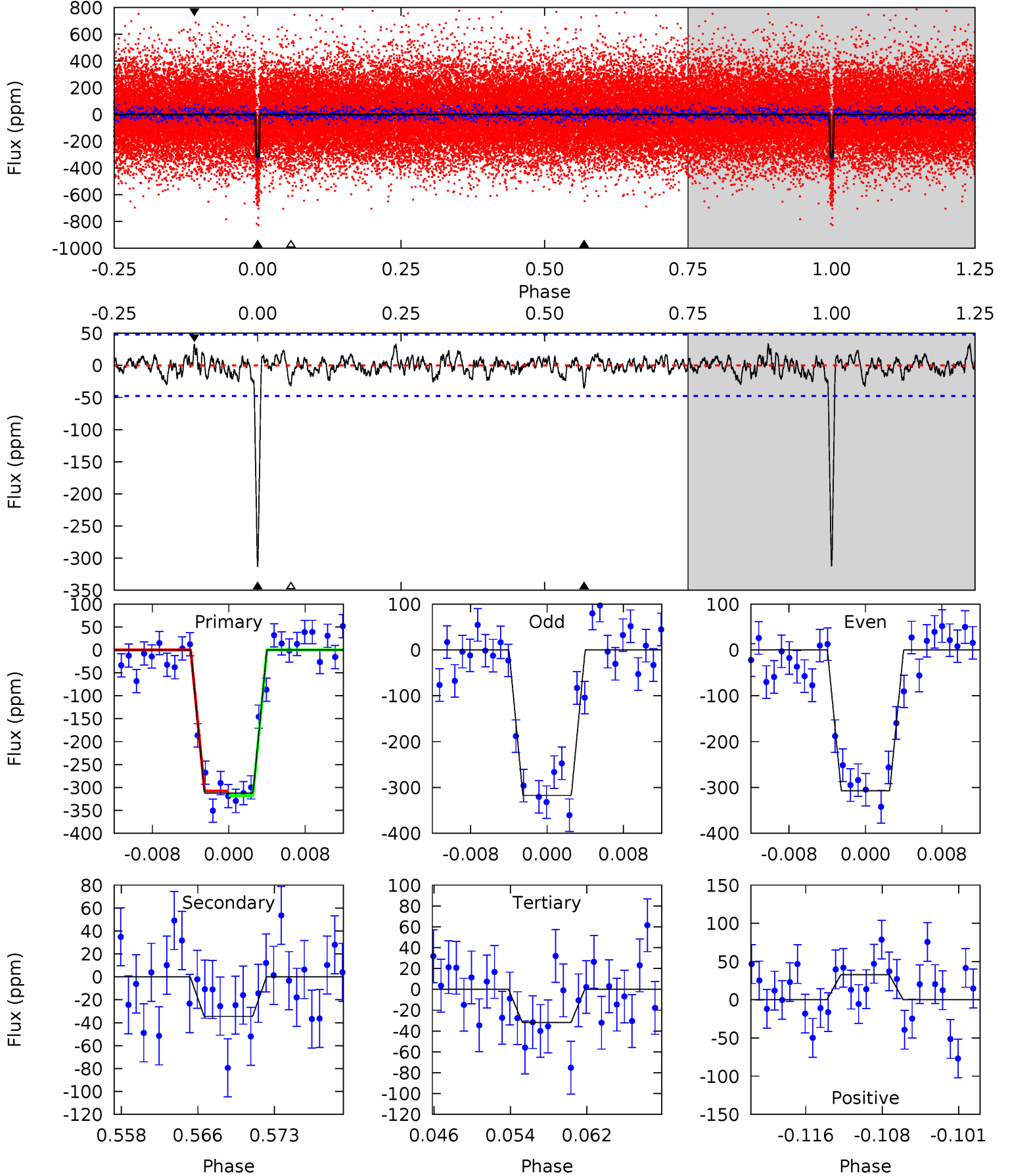
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.7	3.95	3.53	3.87	5.06	2.63	1.11	33.2	32.8	0.42	0.08	0.90	0.97	0.10	0.91



# Alt Model-Shift Uniqueness Test

011651712-01,  $P = 14.532643$  Days,  $E = 125.933997$  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
33.2	3.67	3.39	3.48	5.08	2.66	1.08	29.8	29.7	0.28	0.18	0.54	0.99	0.09	0.54



### Stellar Parameters For KIC 011651712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6003^{+161}_{-179}$	$4.507^{+0.052}_{-0.208}$	$-0.140^{+0.250}_{-0.350}$	$0.932^{+0.279}_{-0.093}$	$1.019^{+0.131}_{-0.131}$	$1.772^{+0.379}_{-0.917}$
	+3%/-3%	+1%/-5%	+179%/-250%	+30%/-10%	+13%/-13%	+21%/-52%
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 011651712-01 / KOI 3363.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-35 \pm 9$	$2.02^{+0.58}_{-0.51}$	$1063^{+78}_{-49}$	$3739^{+408}_{-291}$	$64^{+50}_{-26}$
Alt.	$-35 \pm 9$	$1.90^{+0.58}_{-0.52}$	$1065^{+73}_{-45}$	$3831^{+452}_{-364}$	$71^{+68}_{-32}$

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



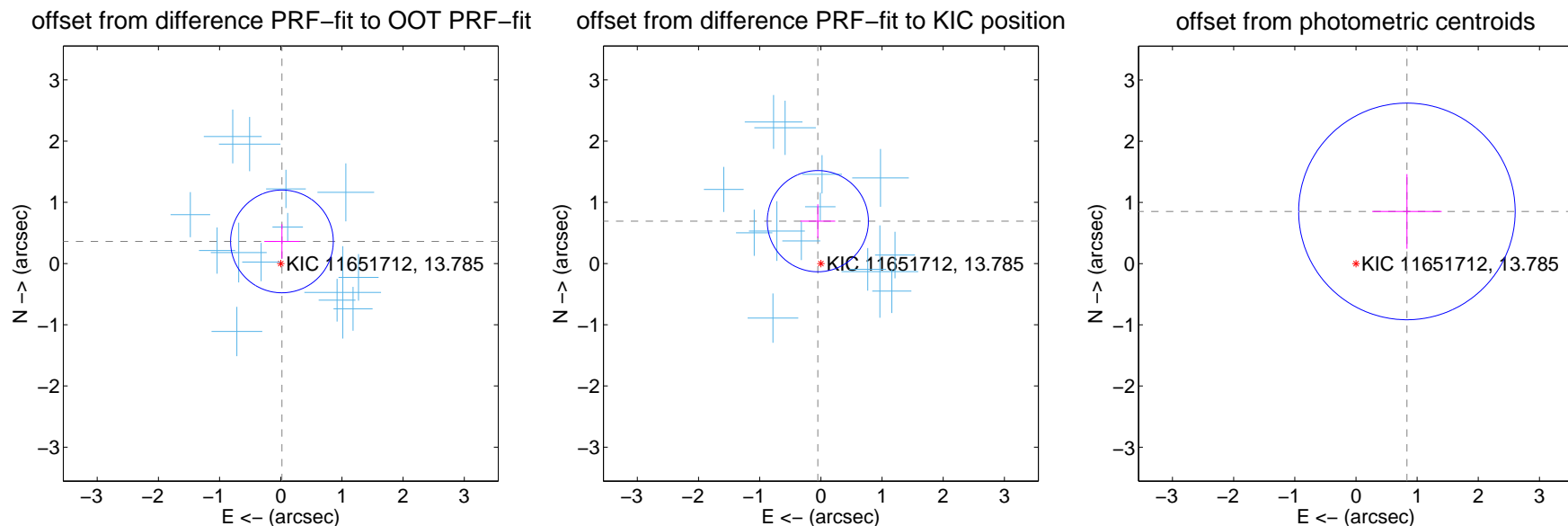
## DV Centroid Data

Supplemental centroid analysis for 011651712-01. Kepler magnitude: 13.79. Transit SNR 27.17

There are 14 quarters with good PRF difference image offsets

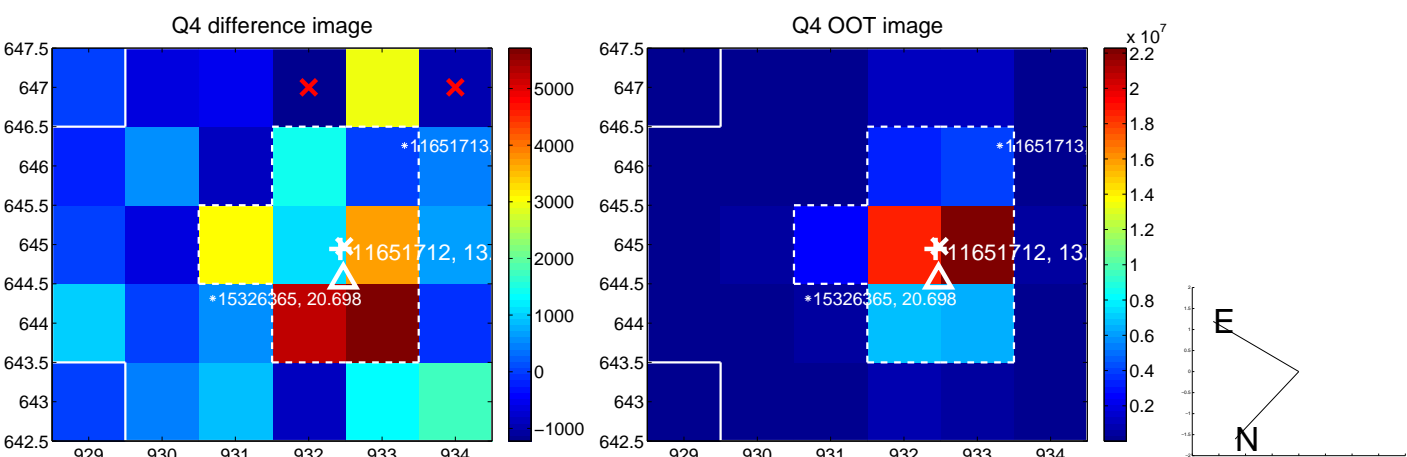
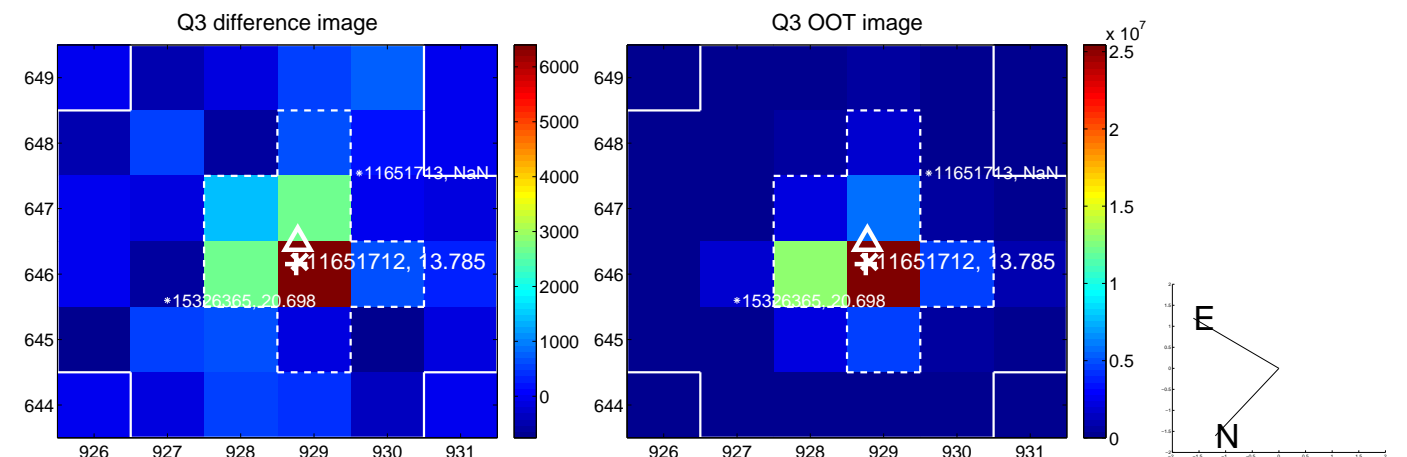
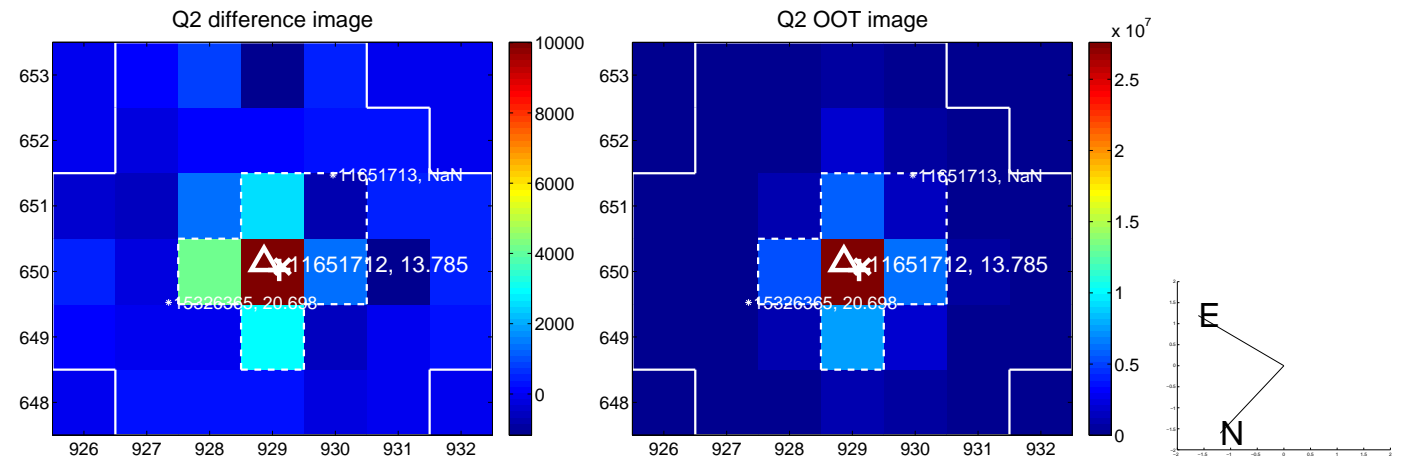
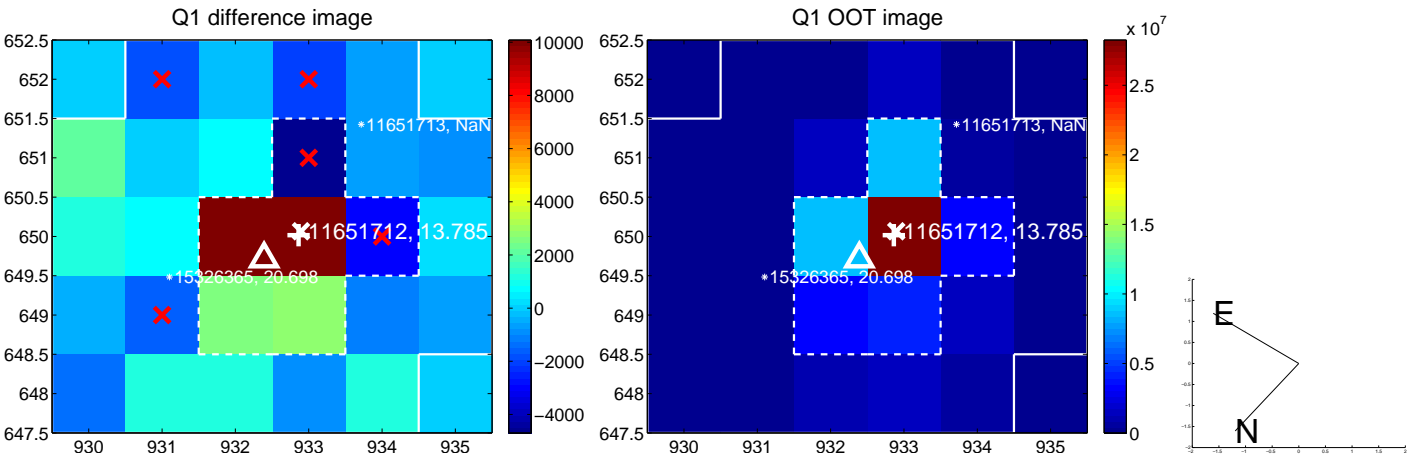
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.362 \pm 0.280$	1.29	$-0.019 \pm 0.288$	$0.361 \pm 0.280$
PRF-fit source offset from KIC position	$0.694 \pm 0.276$	2.52	$0.049 \pm 0.285$	$0.692 \pm 0.275$
photometric centroid source offset	$1.19 \pm 0.59$	2.02	$-0.83 \pm 0.57$	$0.85 \pm 0.61$

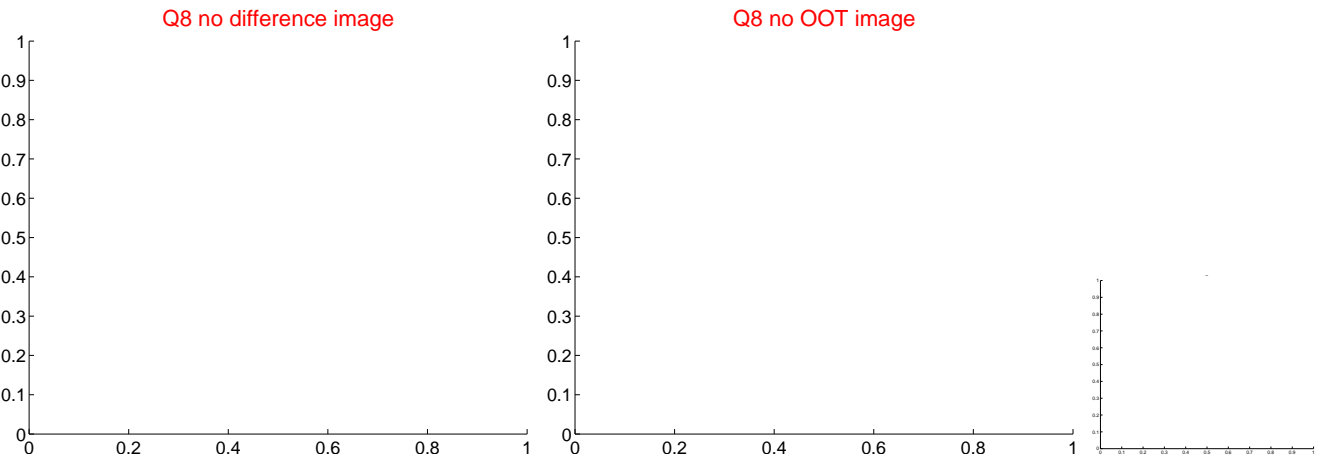
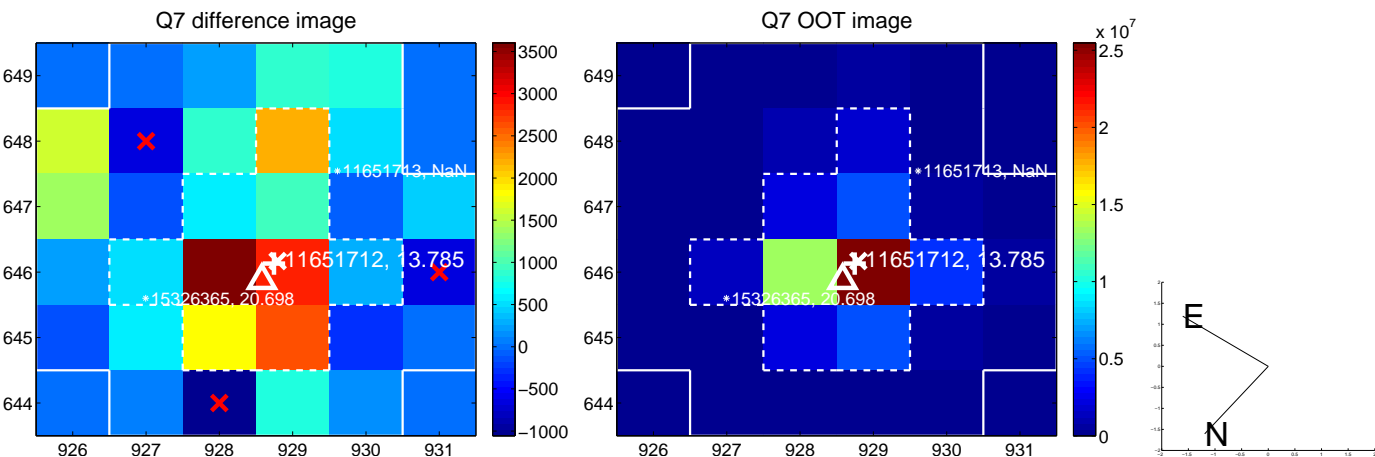
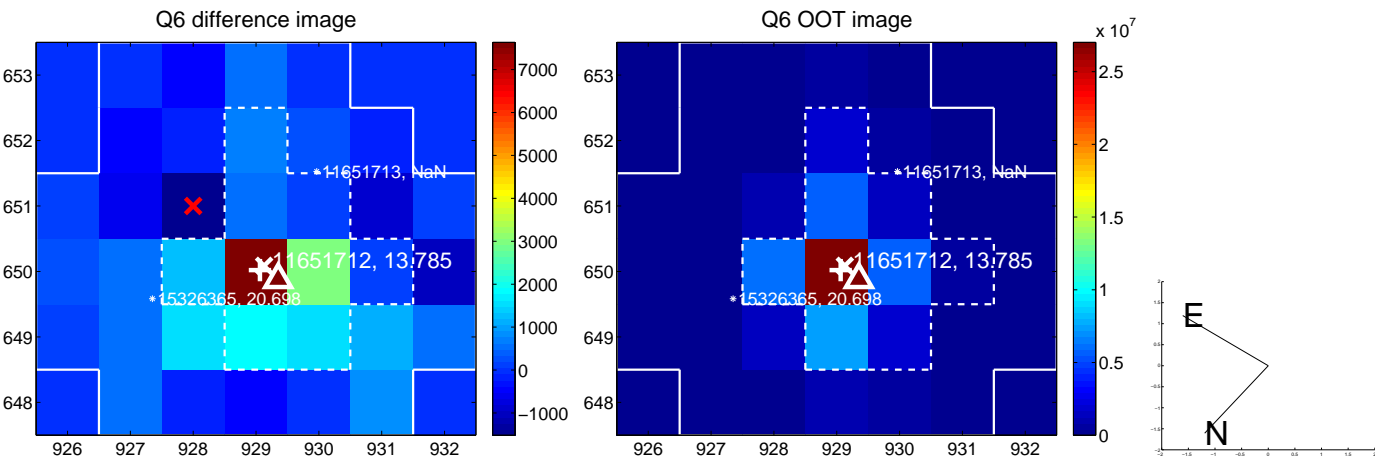
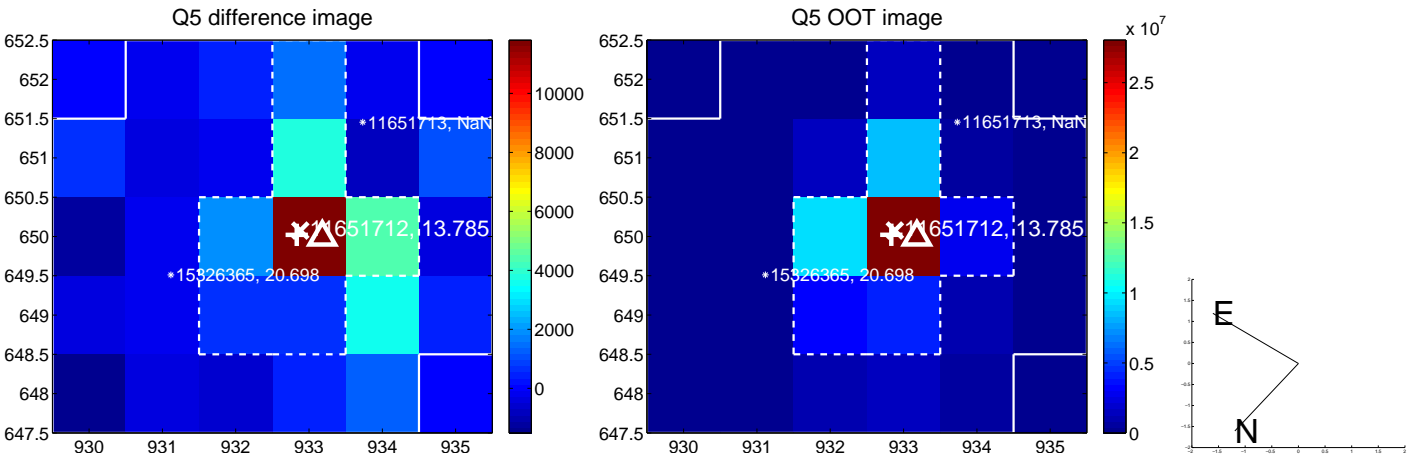


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

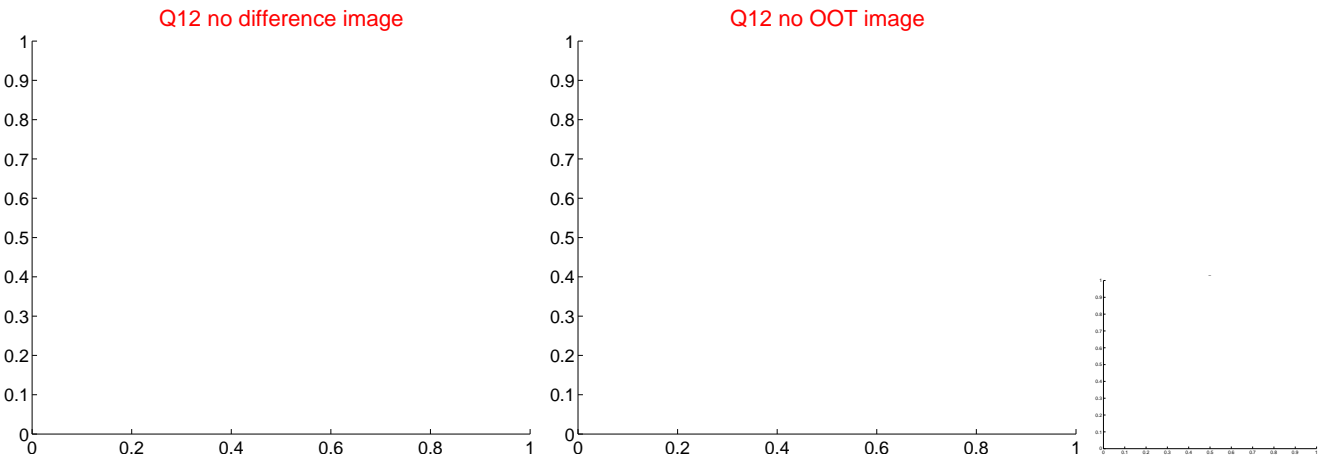
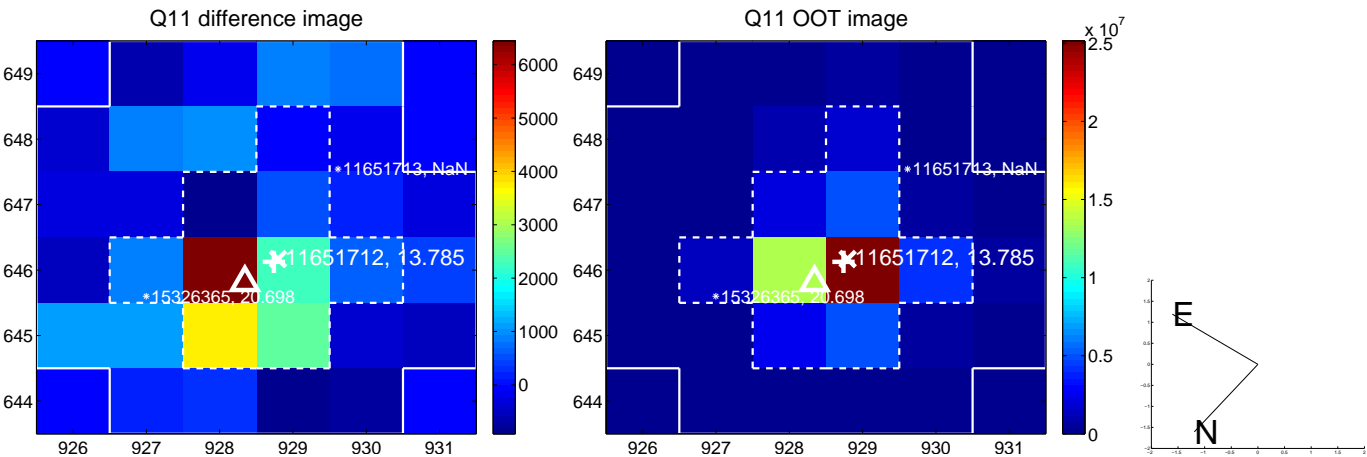
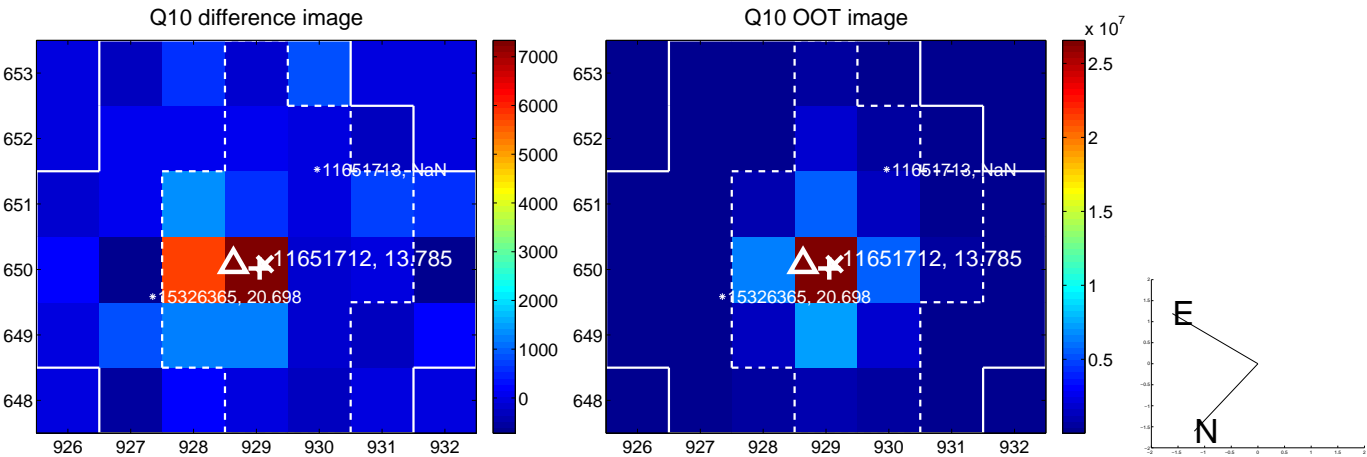
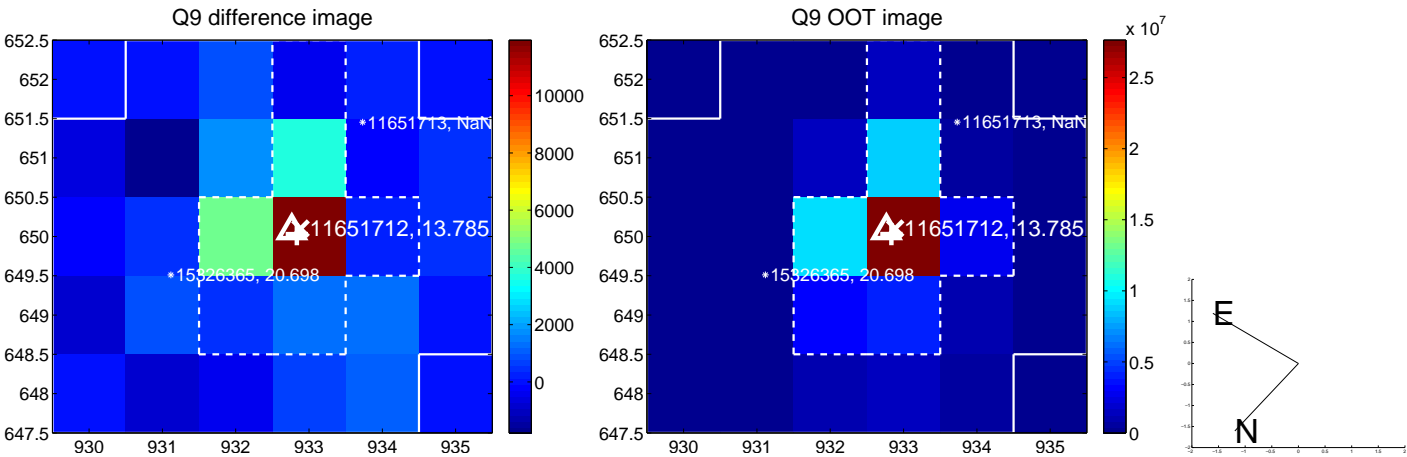
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



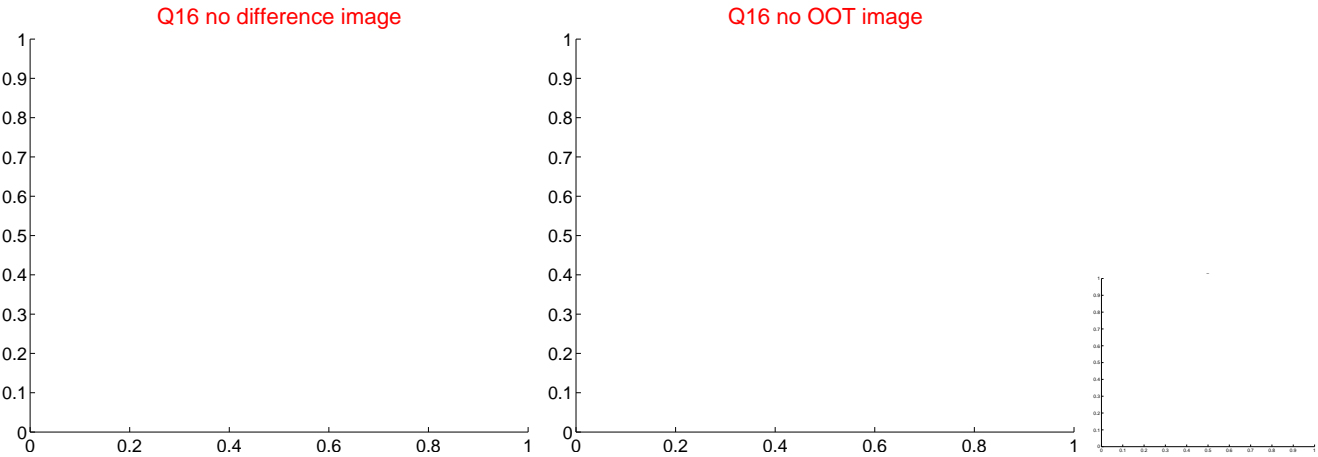
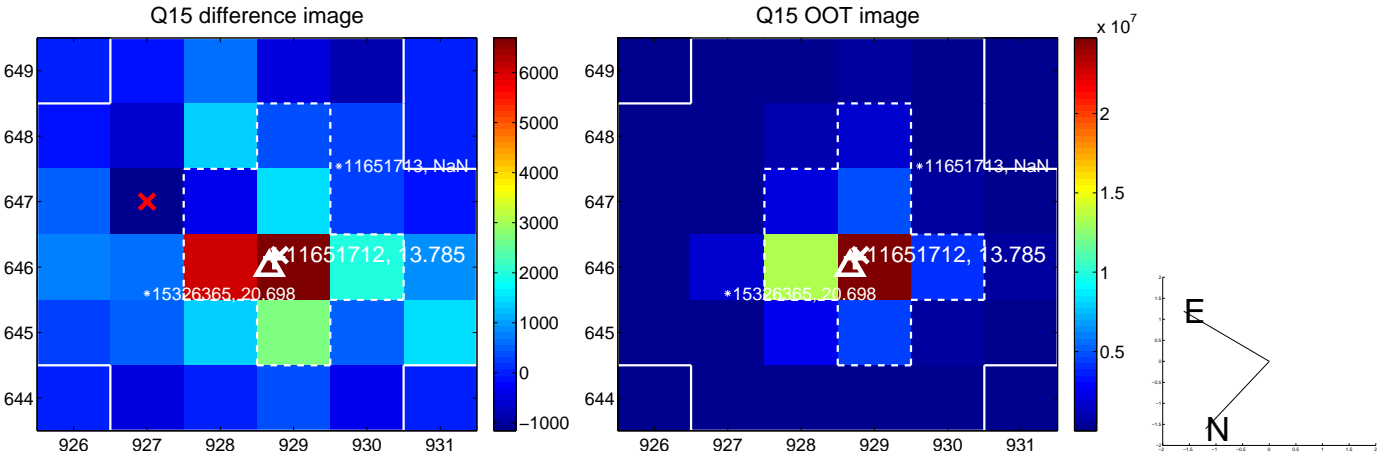
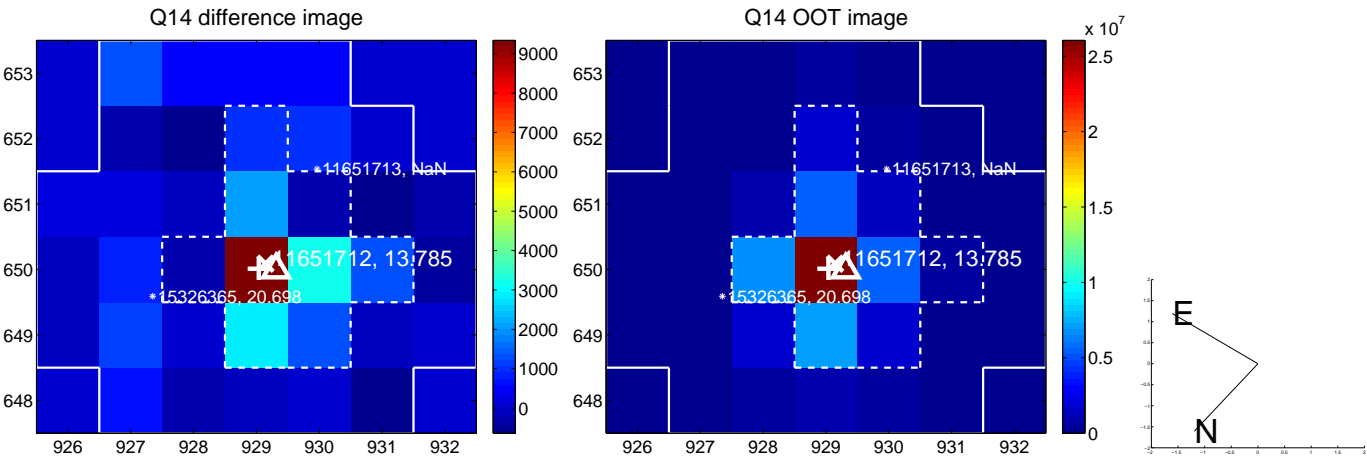
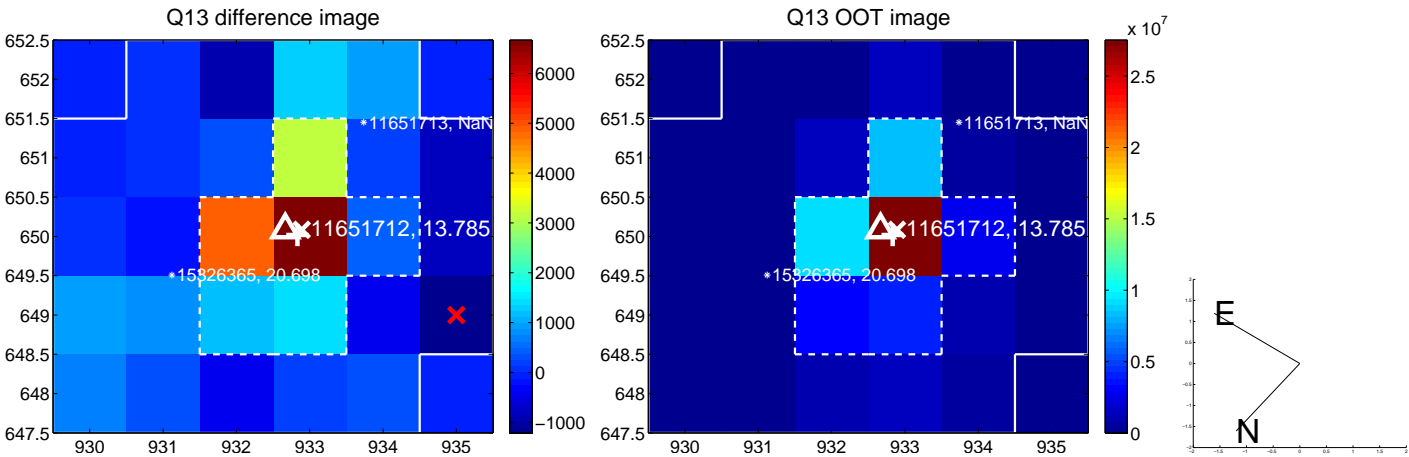
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

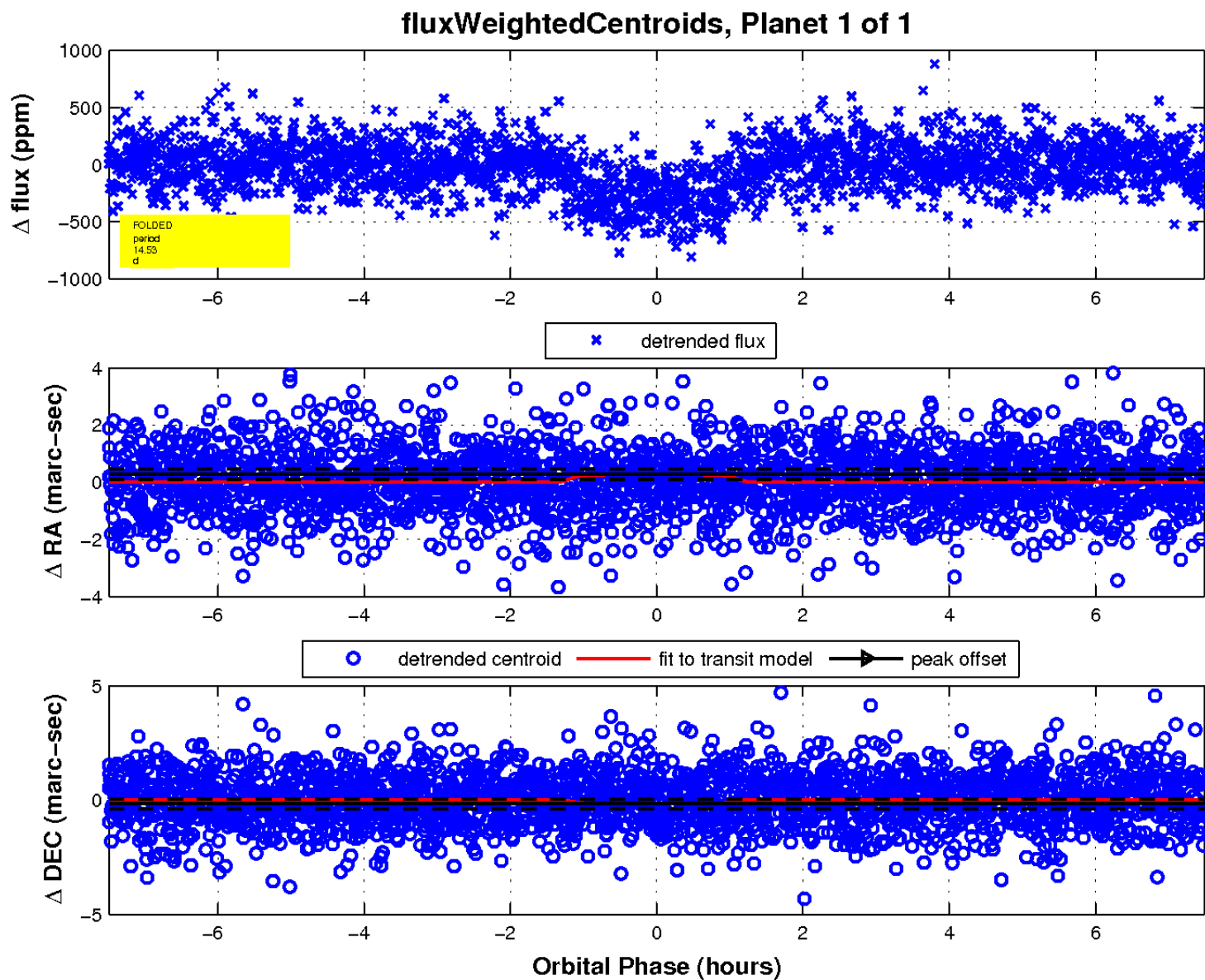
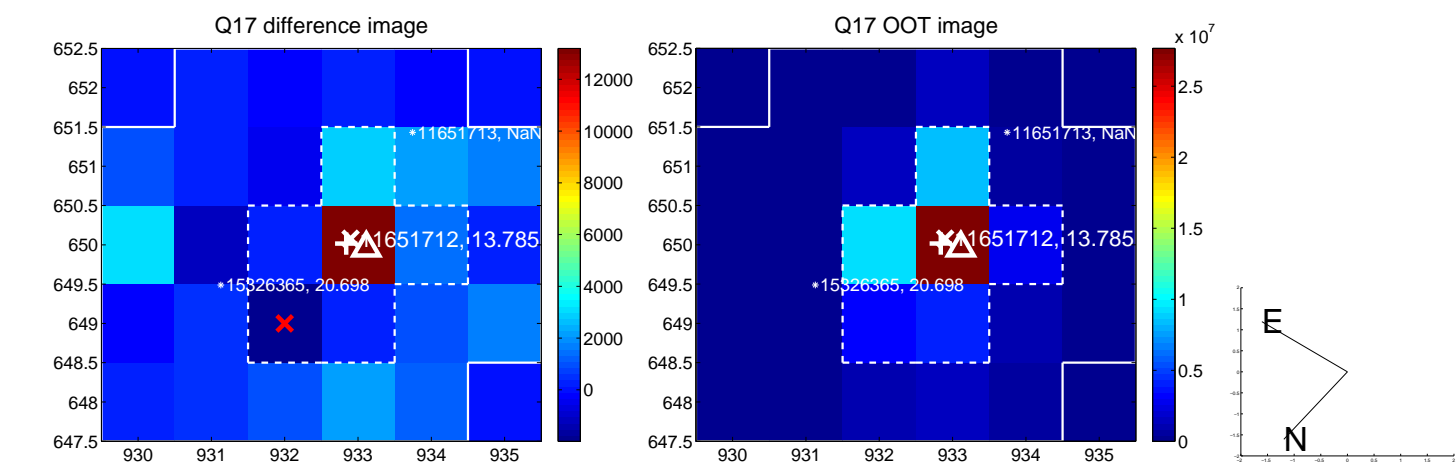


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



# UKIRT Image

Declination

