

# KIC 011255231

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011255231-01	OBS	3003.01	13.655277	137.517425	180.6	4.302	12.4	12.9	0.96	6065	1.52	87.62

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011255231-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

**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 011255231-01

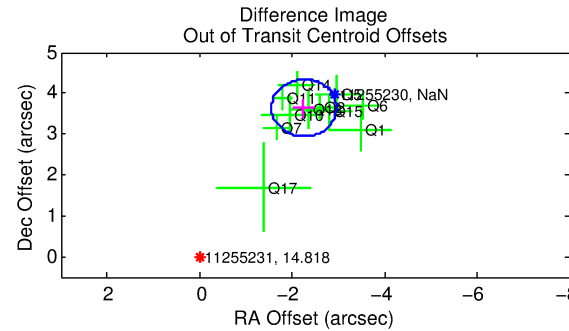
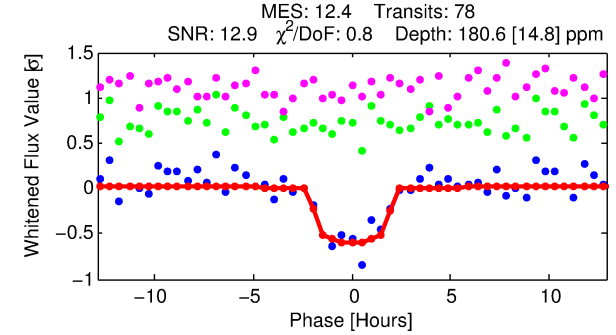
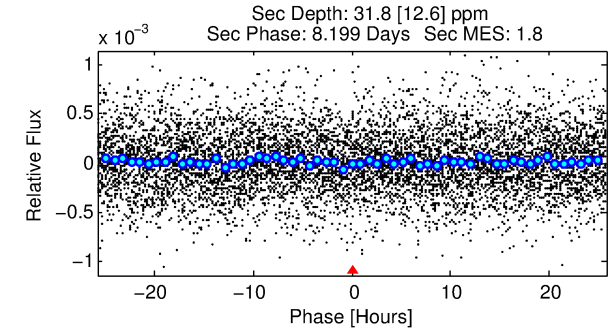
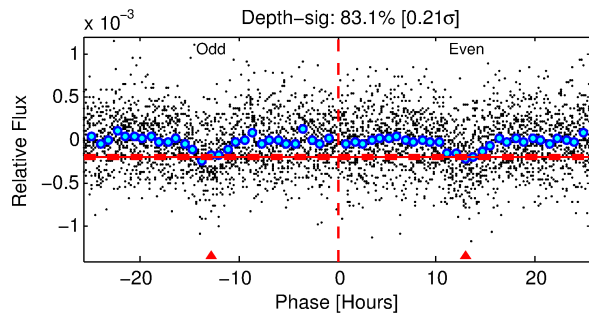
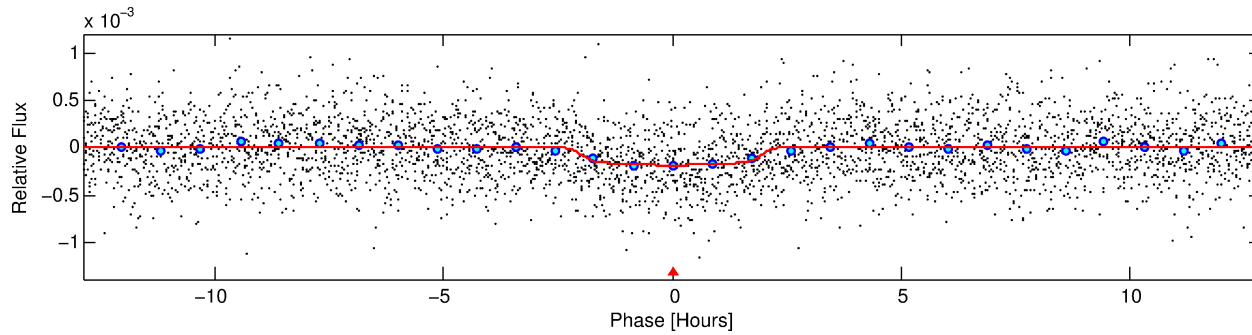
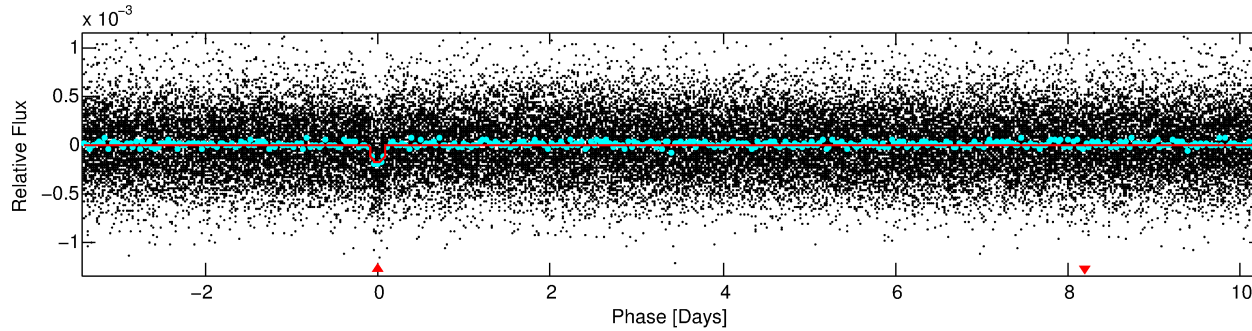
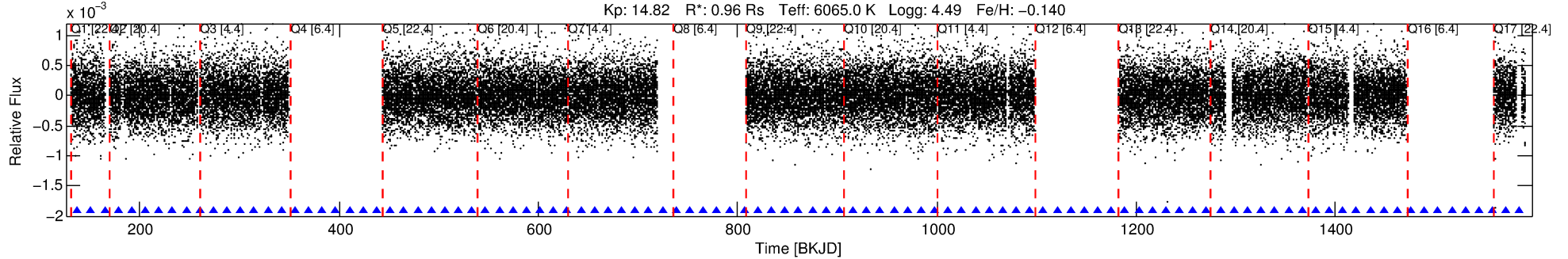
No Significant Match Found

# DV One-Page Summary

KIC: 11255231 Candidate: 1 of 1 Period: 13.655 d

KOI: K03003.01 Corr: 0.974

Kp: 14.82 R\*: 0.96 Rs Teff: 6065.0 K Logg: 4.49 Fe/H: -0.140



## DV Fit Results:

Period = 13.65528 [0.00012] d  
Epoch = 137.5174 [0.0072] BKJD  
Rp/R\* = 0.0145 [0.0045]  
a/R\* = 11.42 [18.30]  
b = 0.90 [0.35]  
Seff = 87.62 [36.62]  
Teff = 780 [82] K  
Rp = 1.52 [0.69] Re  
a = 0.1132 [0.0310] AU  
Ag = 96.58 [81.07] [1.18σ]  
Teffp = 3781 [710] K [4.20σ]

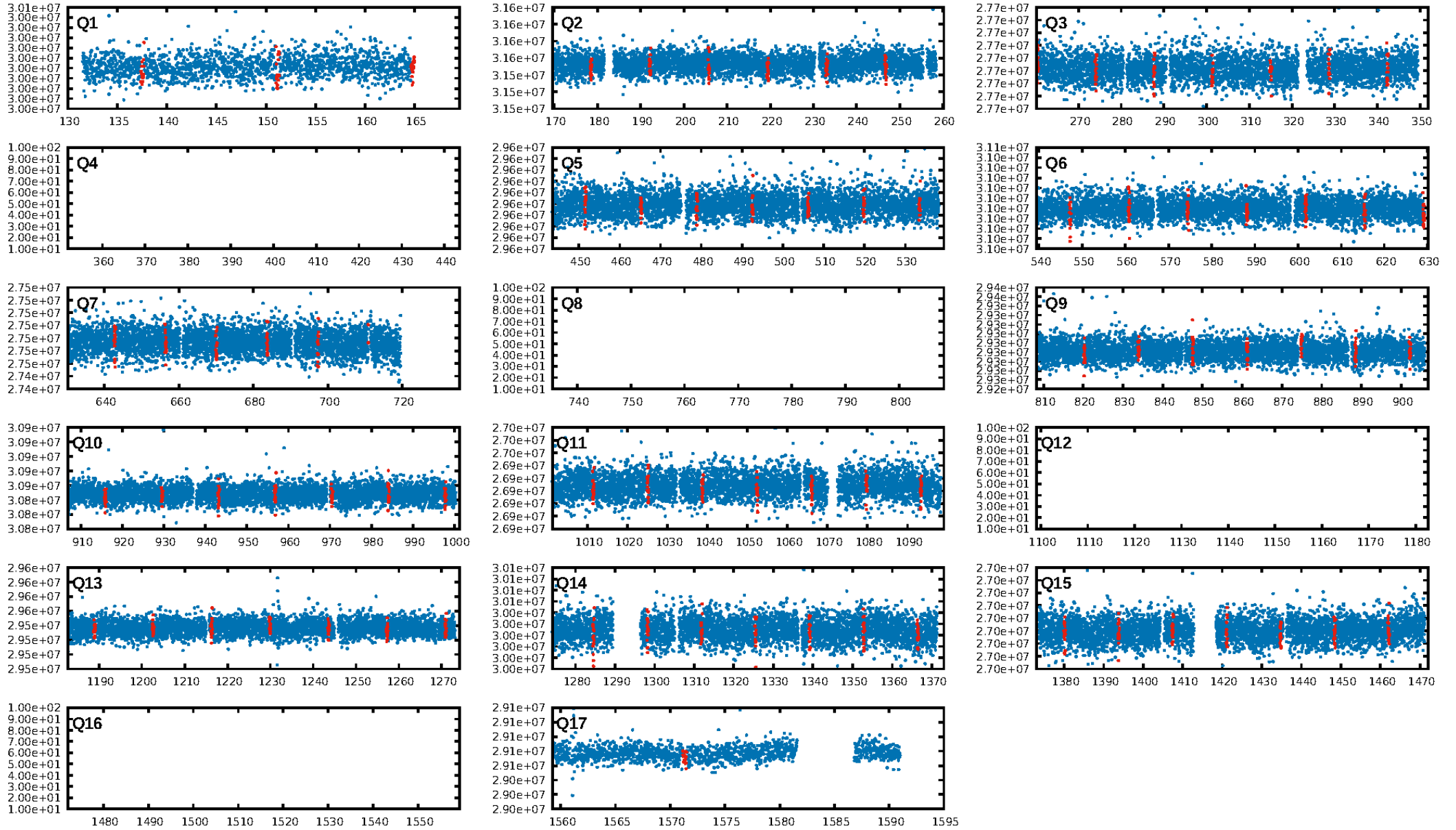
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 98.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.96e-35  
RollingBand-fgt: 1.00 [74/74]  
GhostDiagnostic-chr: 0.871  
Centroid-sig: 0.0%  
Centroid-so: 6.124 arcsec [5.75σ]  
OotOffset-rm: 4.279 arcsec [18.3σ]  
KicOffset-rm: 4.384 arcsec [20.3σ]  
OotOffset-st: 4/3/0/4 [11]  
KicOffset-st: 4/3/0/4 [11]  
DiffImageQuality-fgm: 0.91 [10/11]  
DiffImageOverlap-fno: 1.00 [13/13]

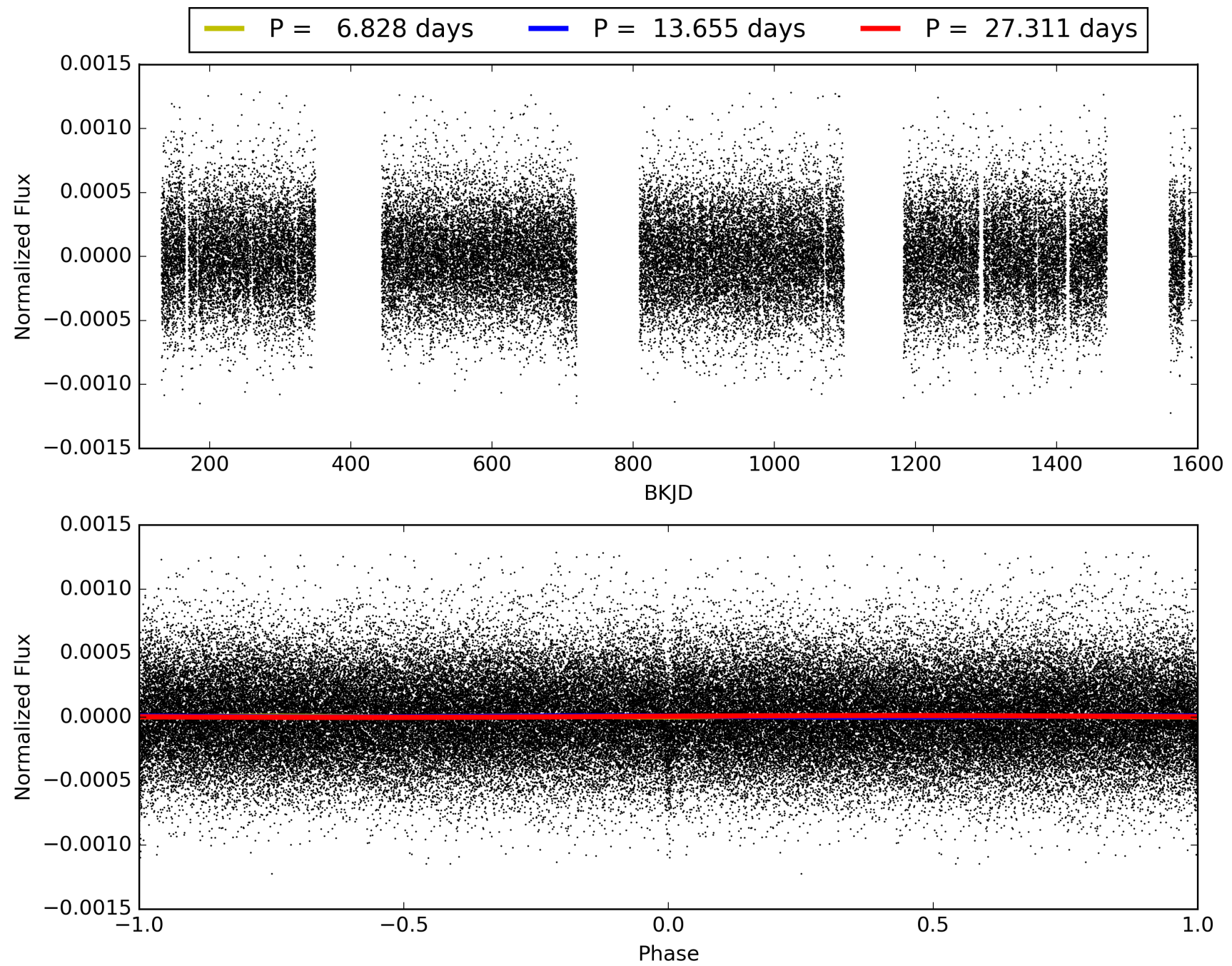
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:51:49 Z

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

# TCE 011255231-01, PDC Light Curves

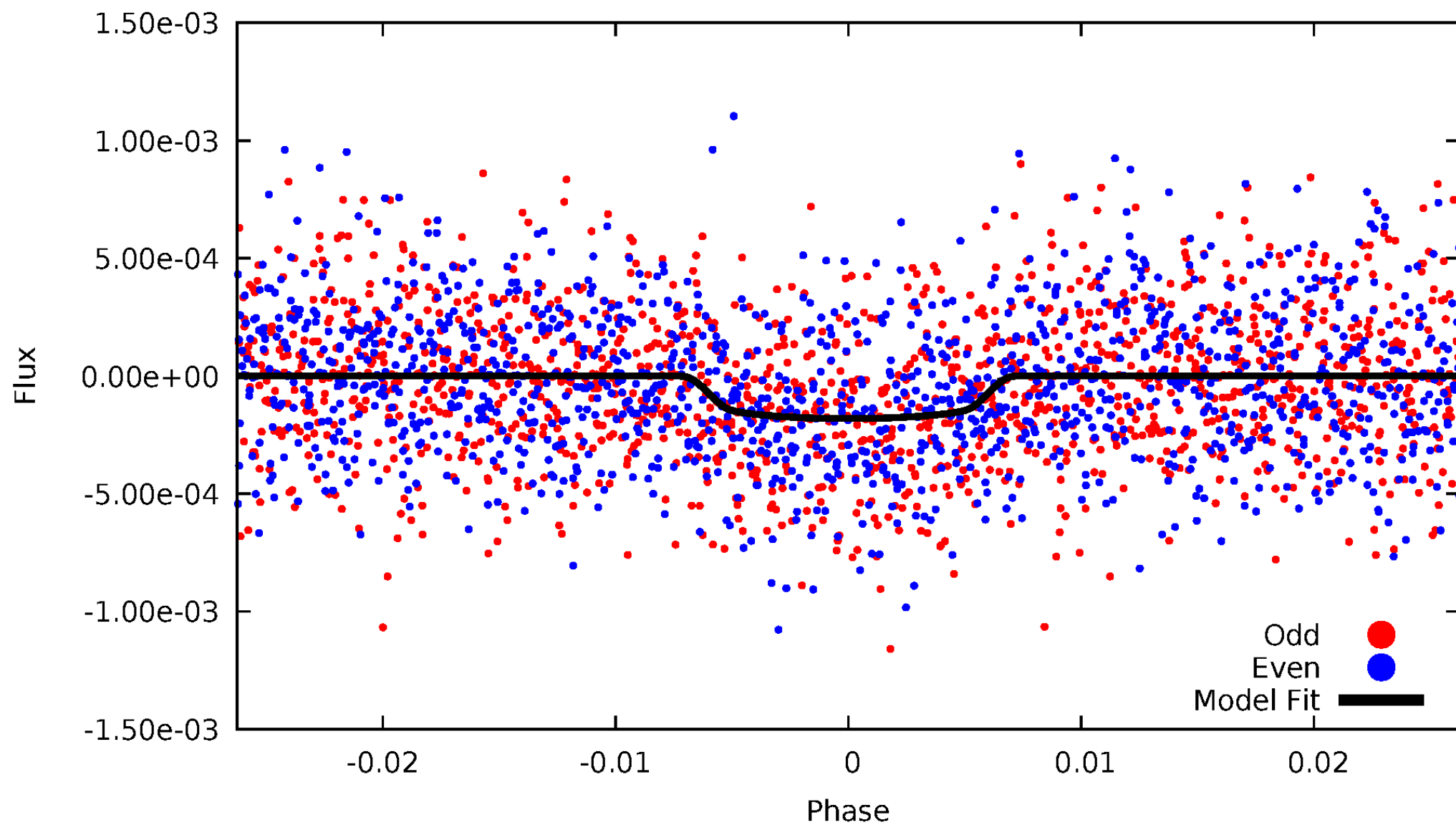


TCE 011255231-01



# DV Odd/Even

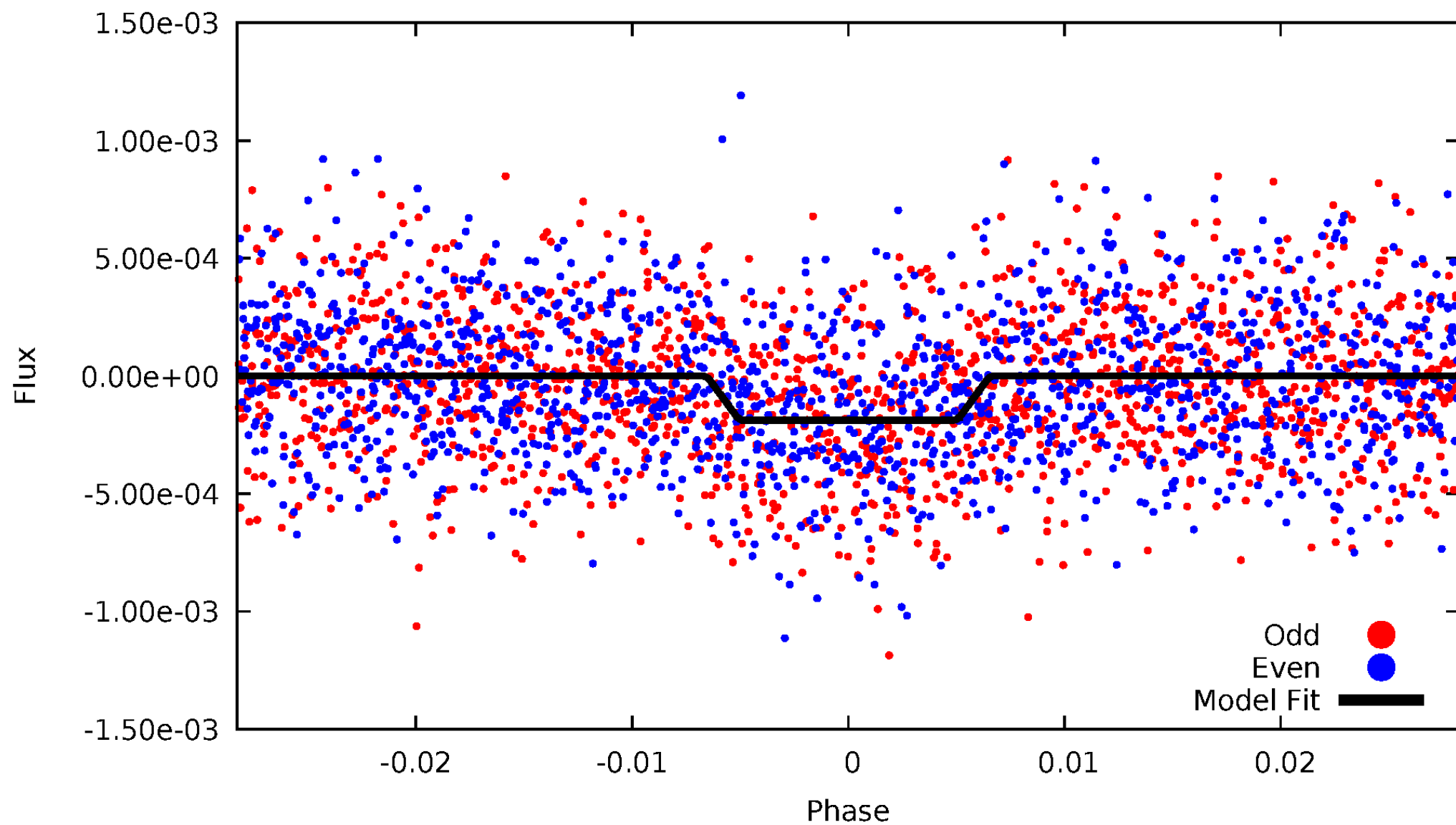
TCE 011255231-01



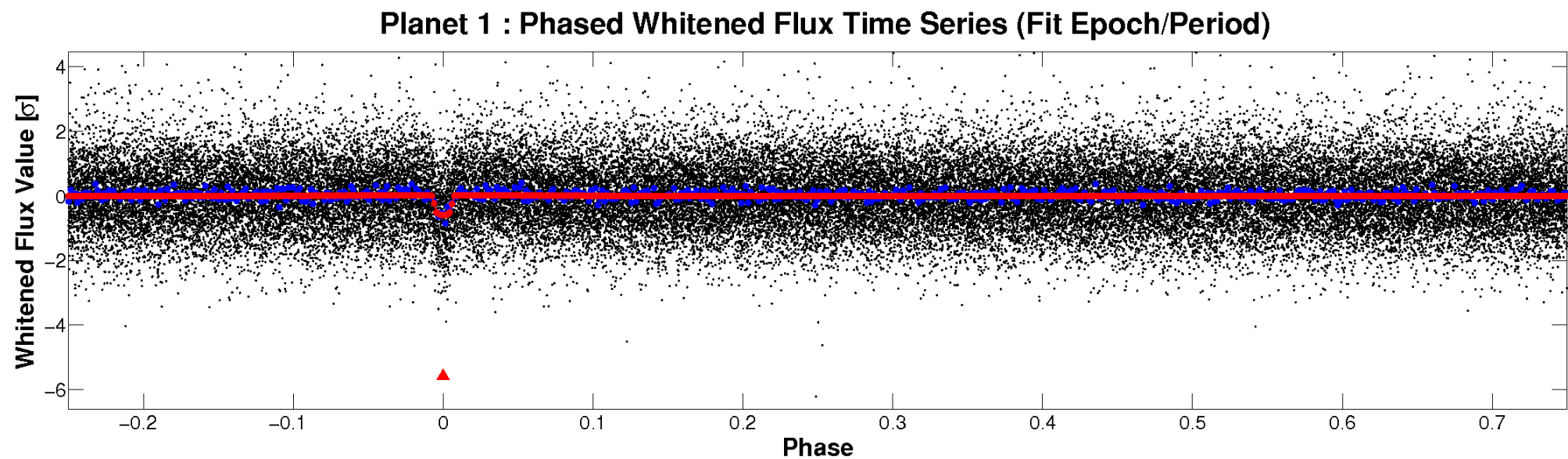
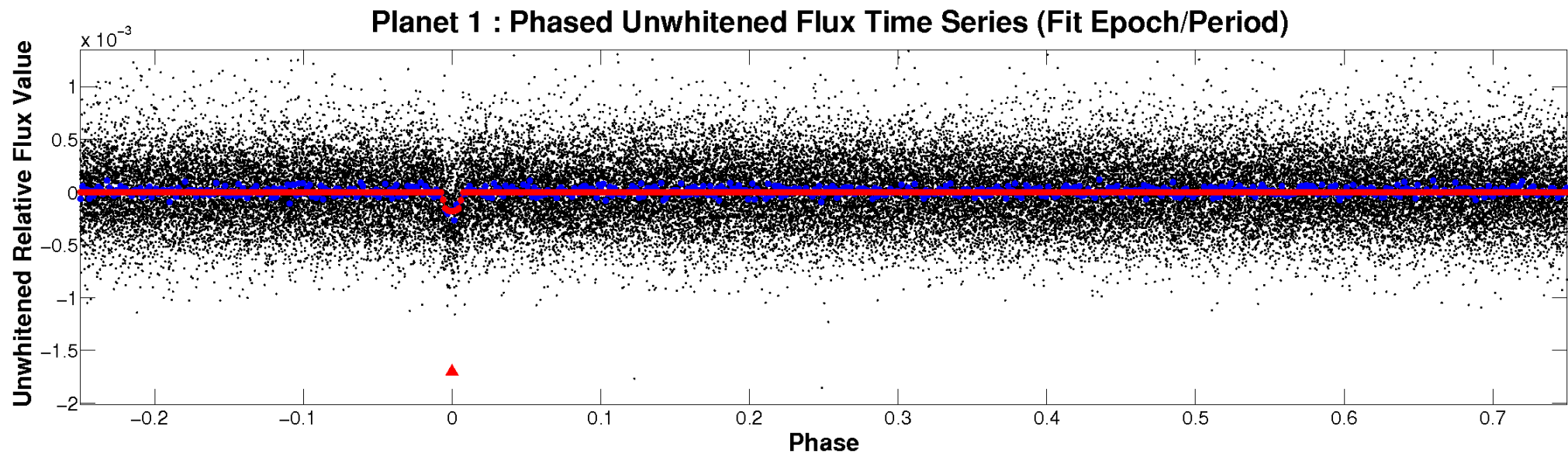


# ALT Odd/Even

TCE 011255231-01

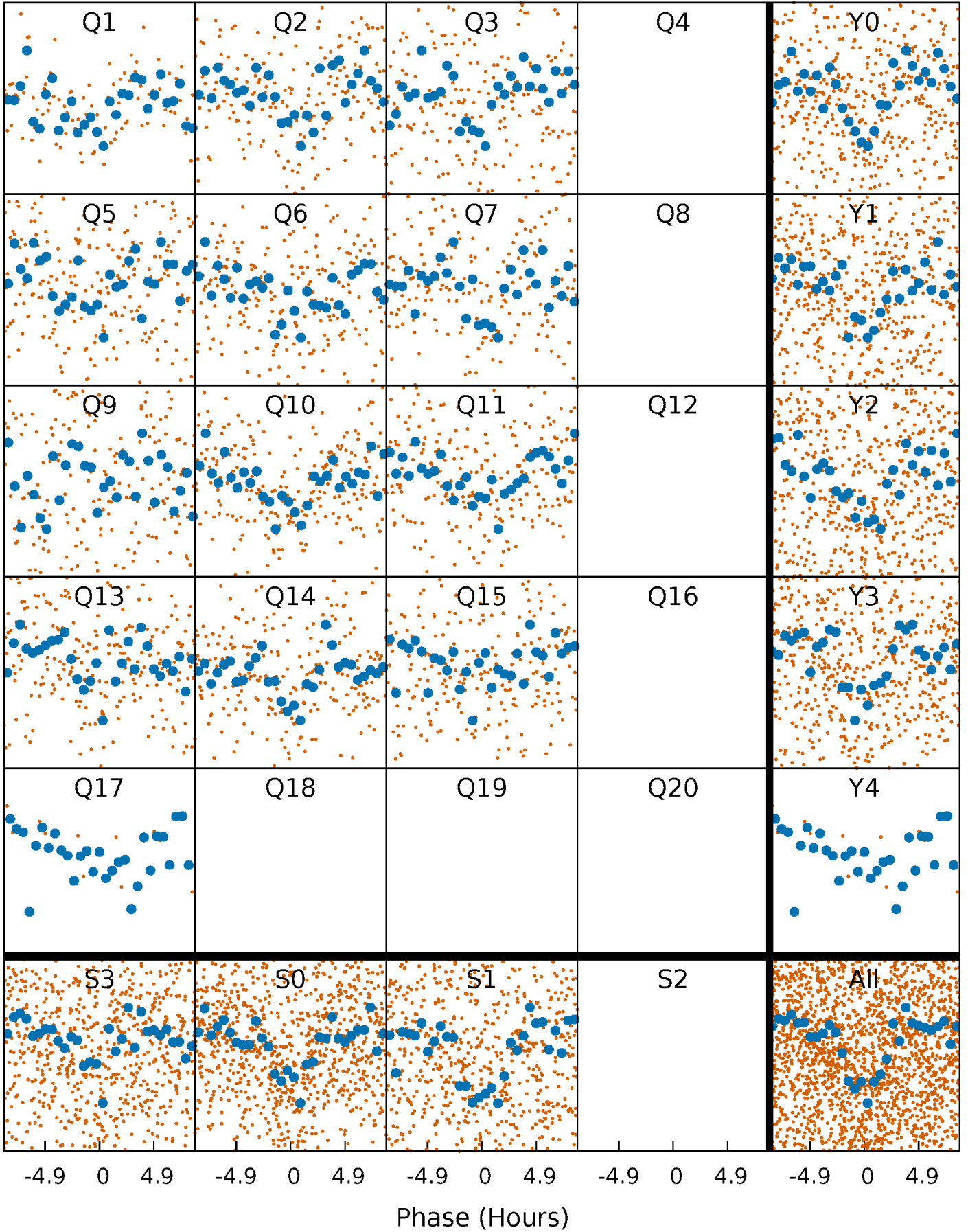


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

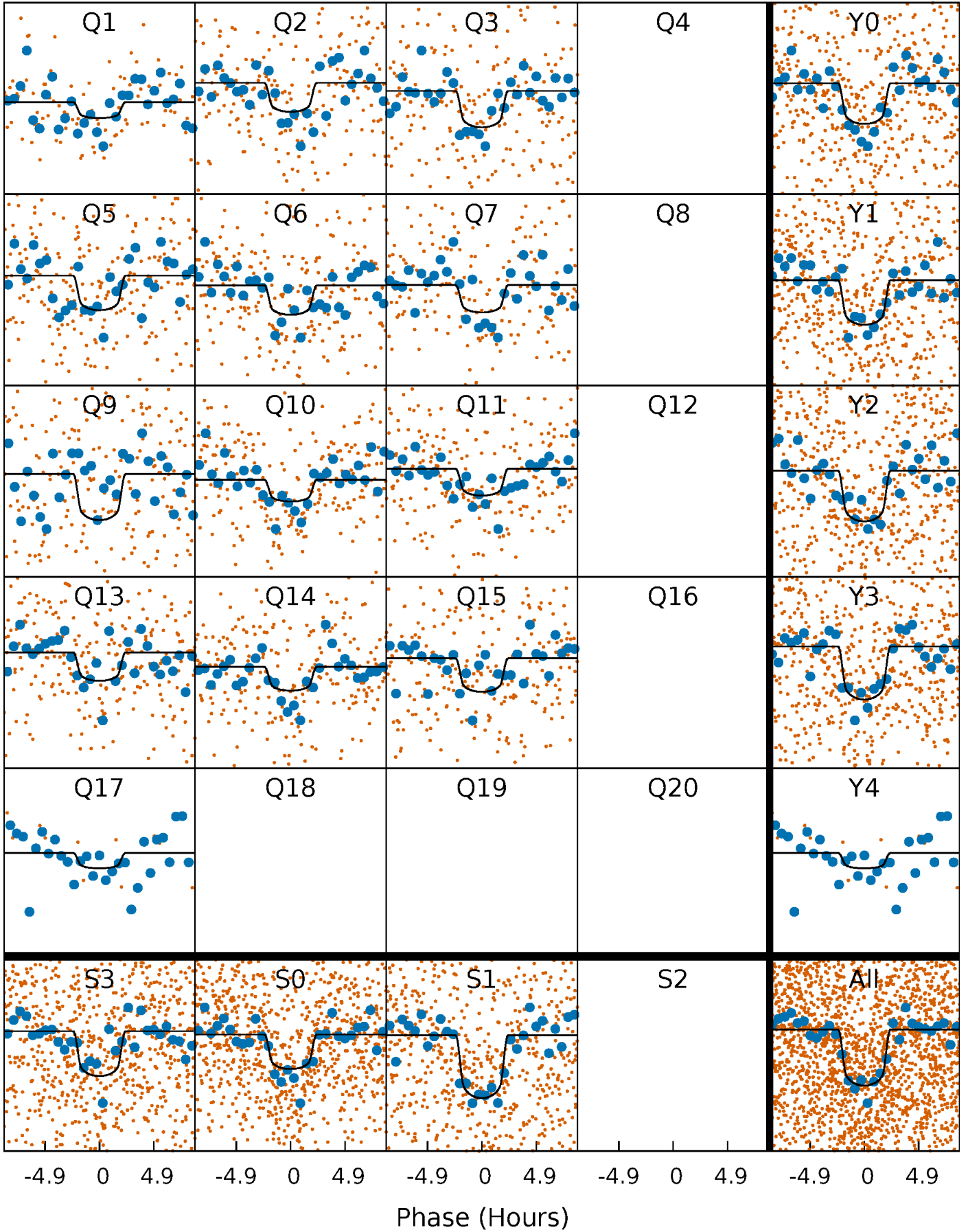
TCE 011255231-01     $P = 13.655277$  Days     $T_0 = 137.517425$  (BKJD)





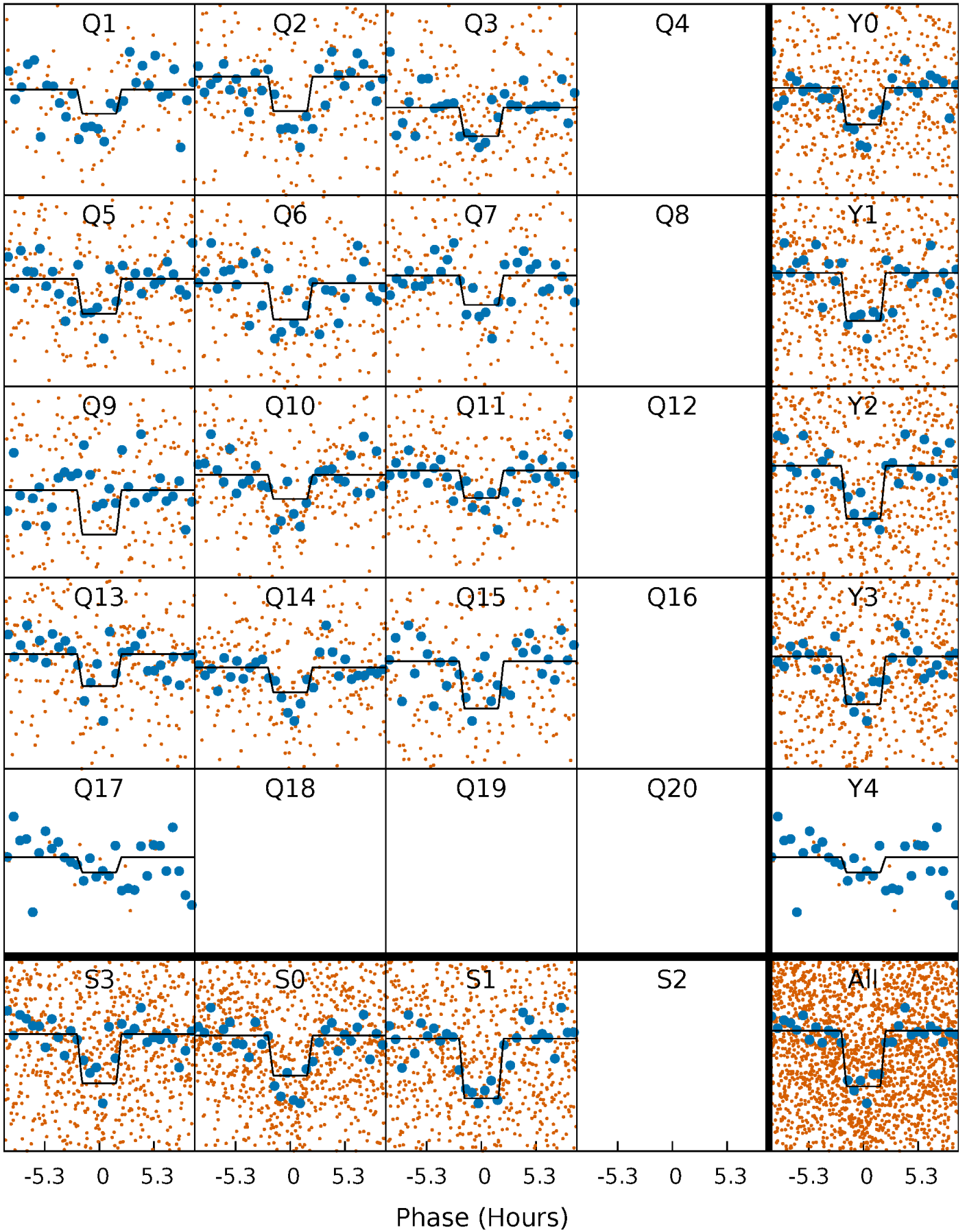
# DV Quarter-Phased Transit Curves

TCE 011255231-01   P= 13.655277 Days    $T_0=137.517425$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

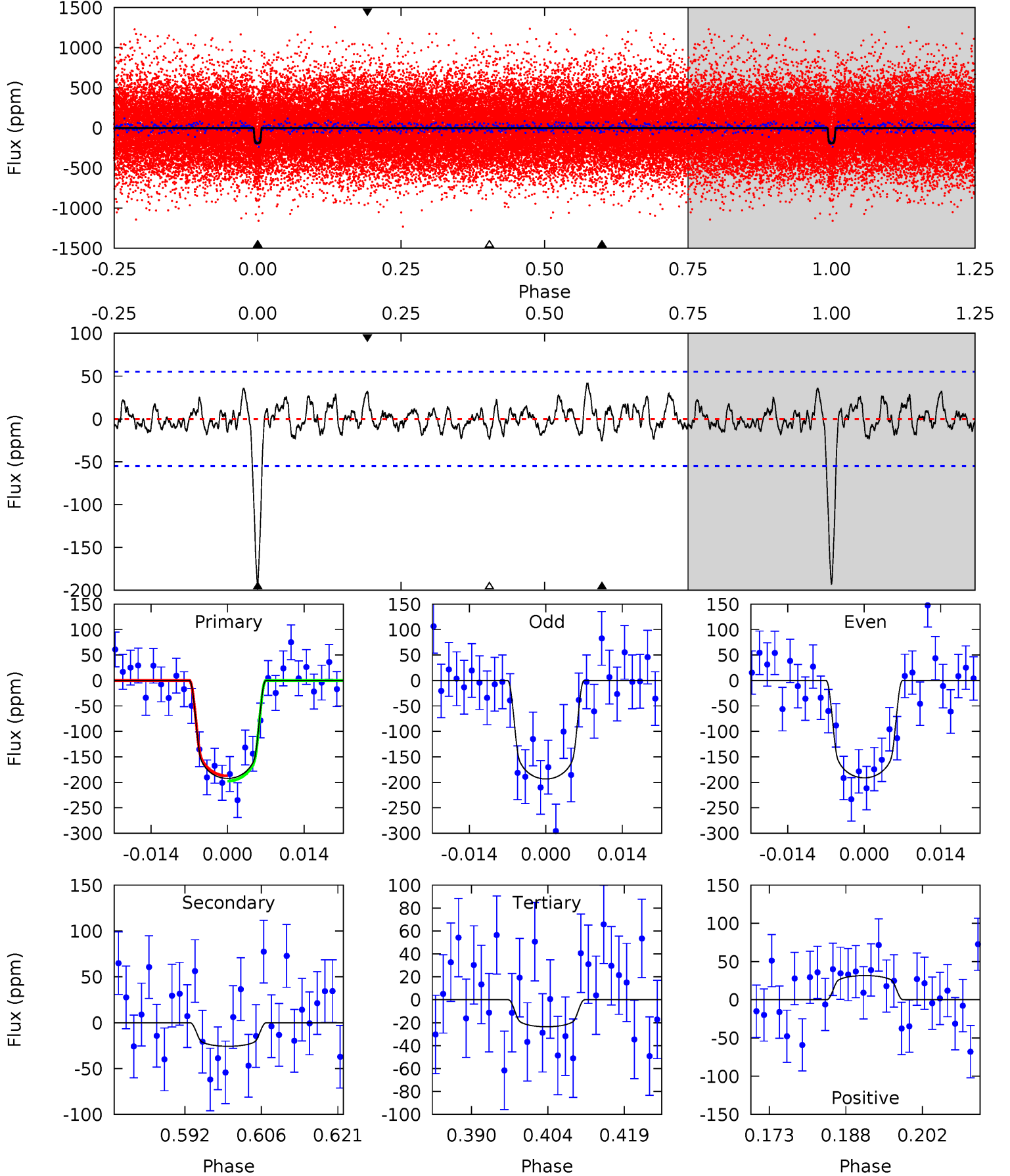
TCE 011255231-01     $P = 13.655232$  Days     $T_0 = 137.520306$  (BKJD)



# DV Model-Shift Uniqueness Test

011255231-01, P = 13.655277 Days, E = 123.862148 Days

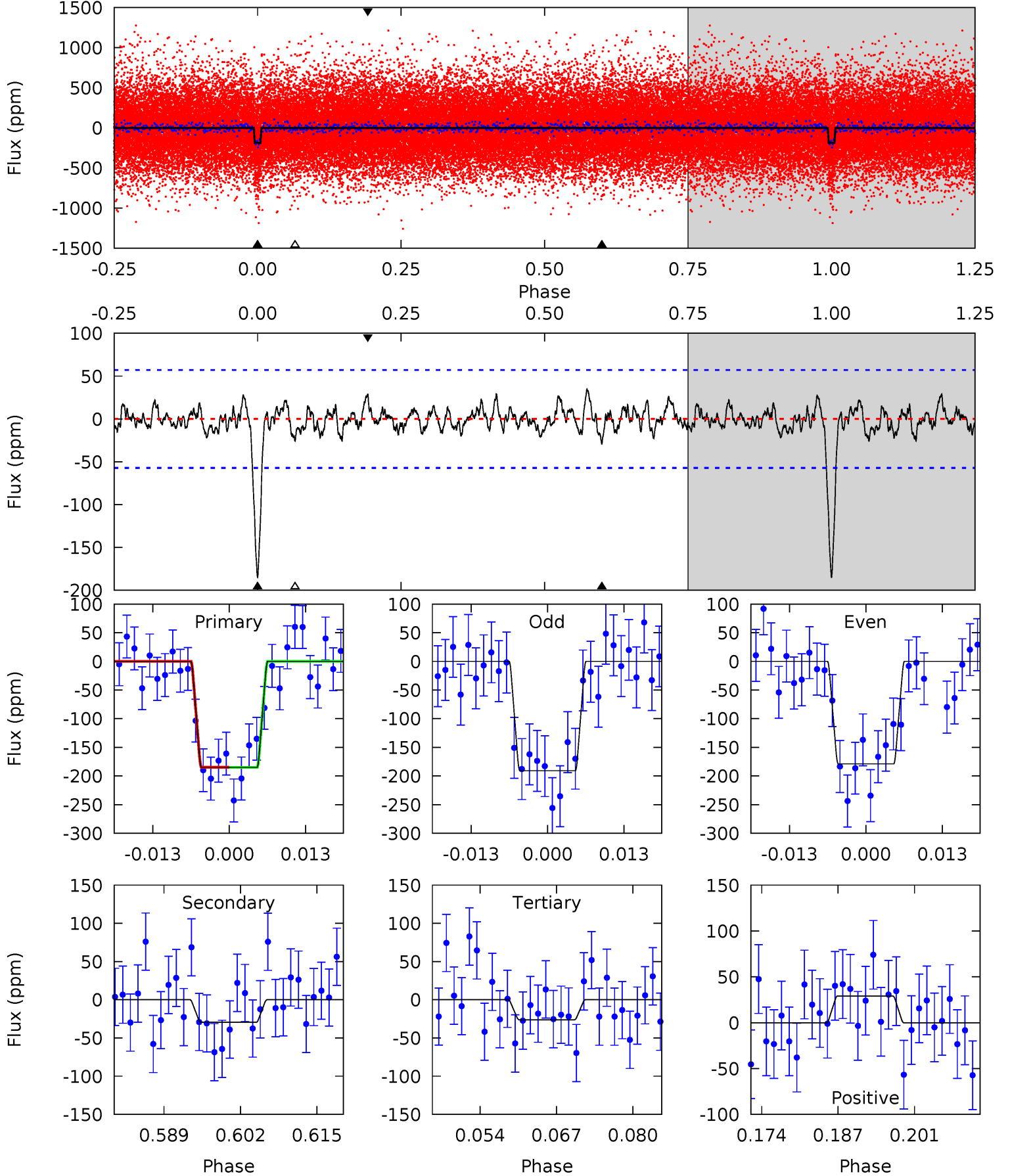
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	2.31	2.12	2.85	4.96	2.45	1.08	15.2	14.5	0.19	-0.54	0.10	1.00	0.18	0.46



# Alt Model-Shift Uniqueness Test

011255231-01, P = 13.655232 Days, E = 123.865074 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
16.1	2.56	2.27	2.52	4.97	2.47	0.93	13.8	13.6	0.29	0.04	0.52	0.96	0.16	0.00



### Stellar Parameters For KIC 011255231

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6065^{+180}_{-198}$	$4.487^{+0.054}_{-0.216}$	$-0.140^{+0.250}_{-0.350}$	$0.962^{+0.315}_{-0.105}$	$1.035^{+0.139}_{-0.139}$	$1.638^{+0.467}_{-0.900}$
	+3%/-3%	+1%/-5%	+179%/-250%	+33%/-11%	+13%/-13%	+29%/-55%
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 011255231-01 / KOI 3003.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-26 \pm 11$	$1.59^{+0.58}_{-0.53}$	$1114^{+88}_{-56}$	$3920^{+648}_{-481}$	$69^{+97}_{-39}$
Alt.	$-29 \pm 12$	$1.49^{+0.54}_{-0.52}$	$1118^{+83}_{-55}$	$4083^{+758}_{-512}$	$88^{+122}_{-48}$

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



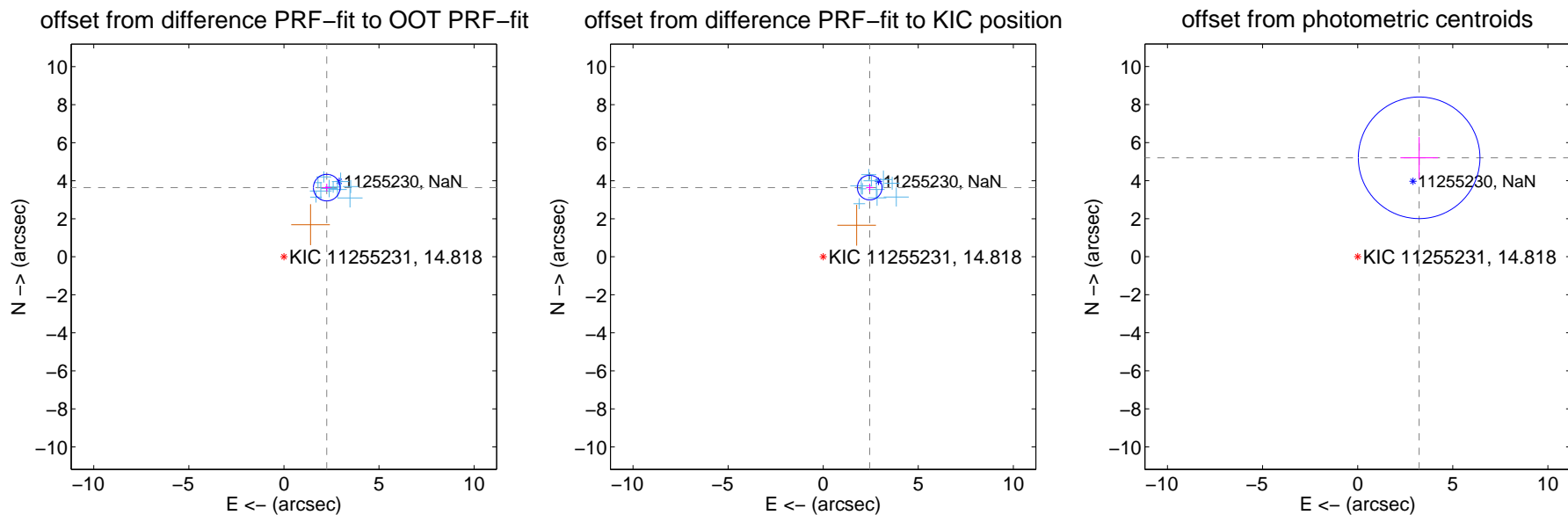
## DV Centroid Data

Supplemental centroid analysis for 011255231-01. Kepler magnitude: 14.82. Transit SNR 12.90

There are 10 quarters with good PRF difference image offsets

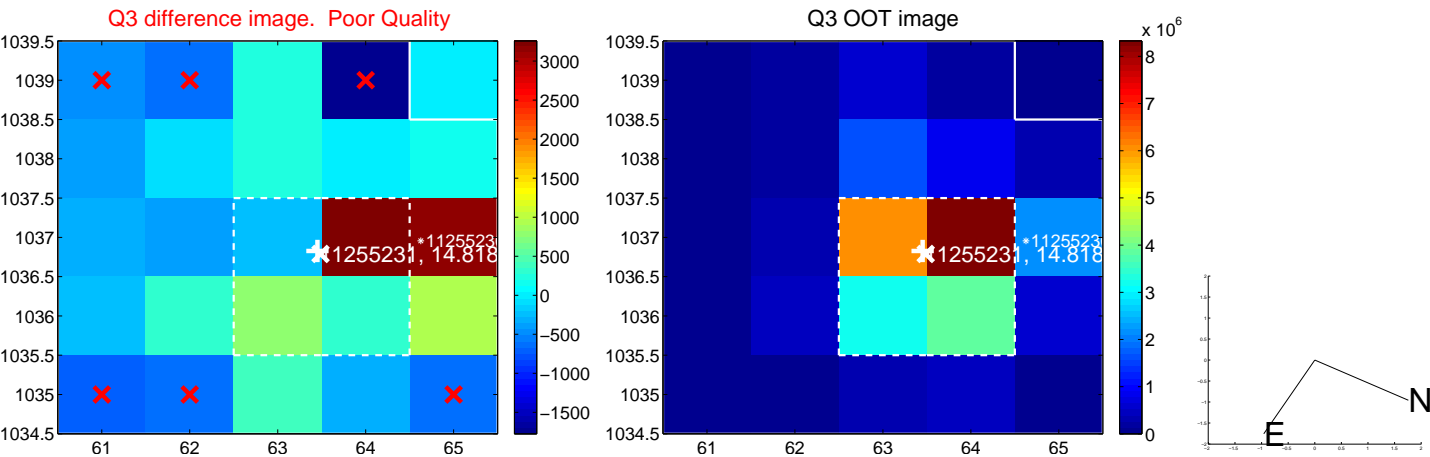
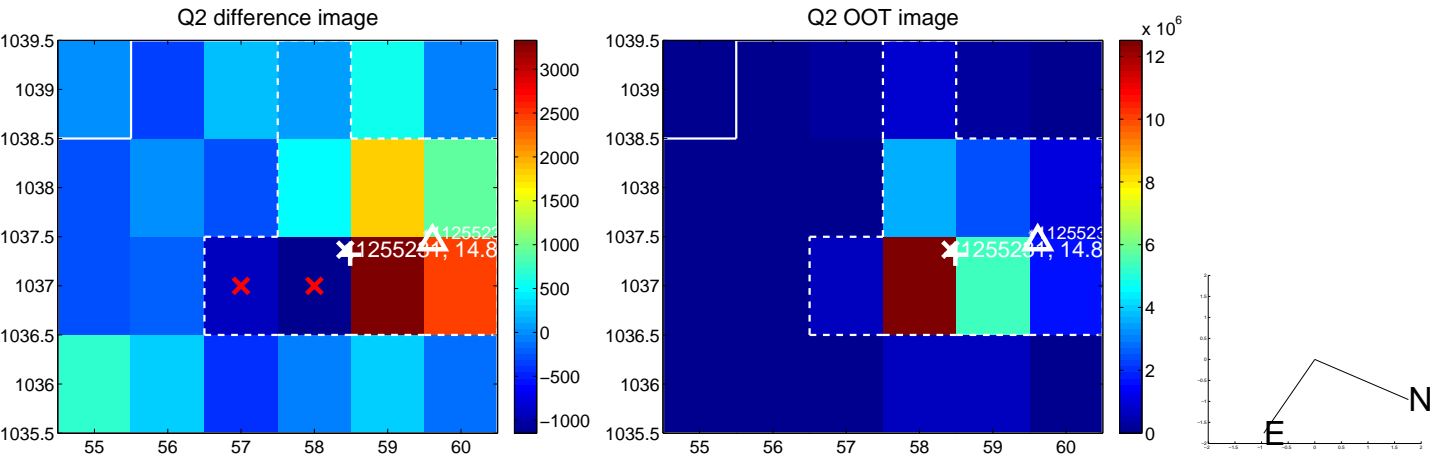
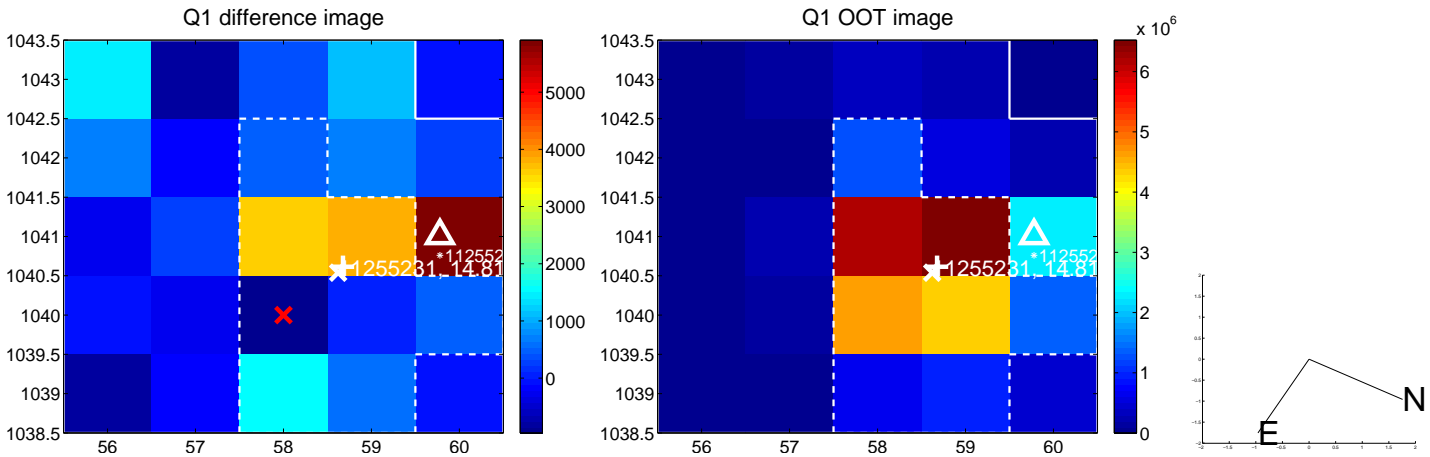
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.279 \pm 0.233$	<b>18.33</b>	$-2.252 \pm 0.220$	$3.639 \pm 0.201$
PRF-fit source offset from KIC position	$4.384 \pm 0.216$	<b>20.30</b>	$-2.446 \pm 0.189$	$3.638 \pm 0.203$
photometric centroid source offset	$6.12 \pm 1.07$	<b>5.75</b>	$-3.23 \pm 0.99$	$5.20 \pm 1.09$

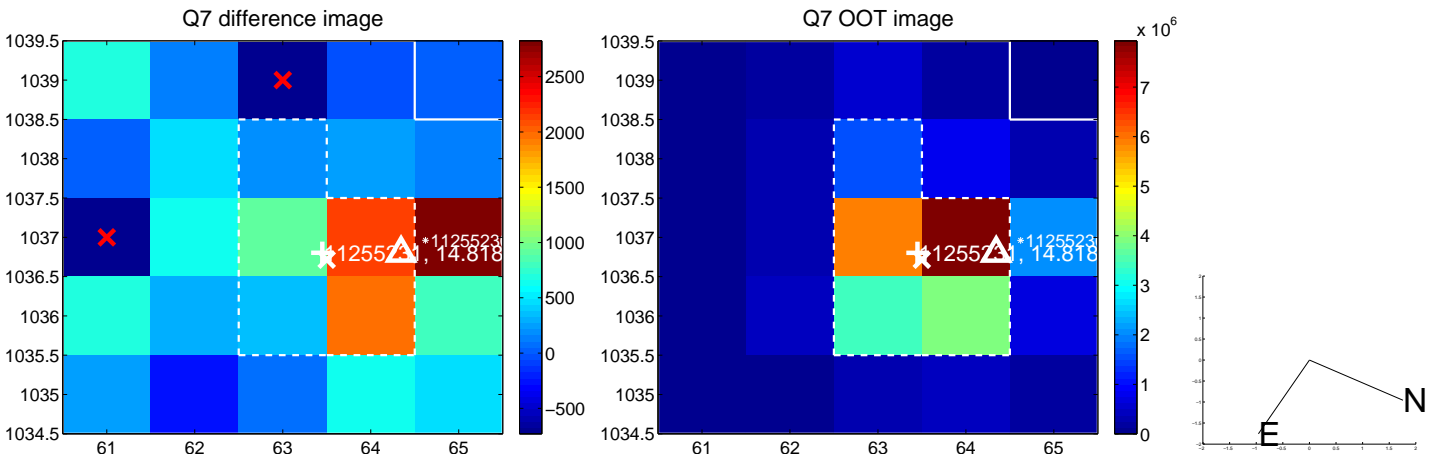
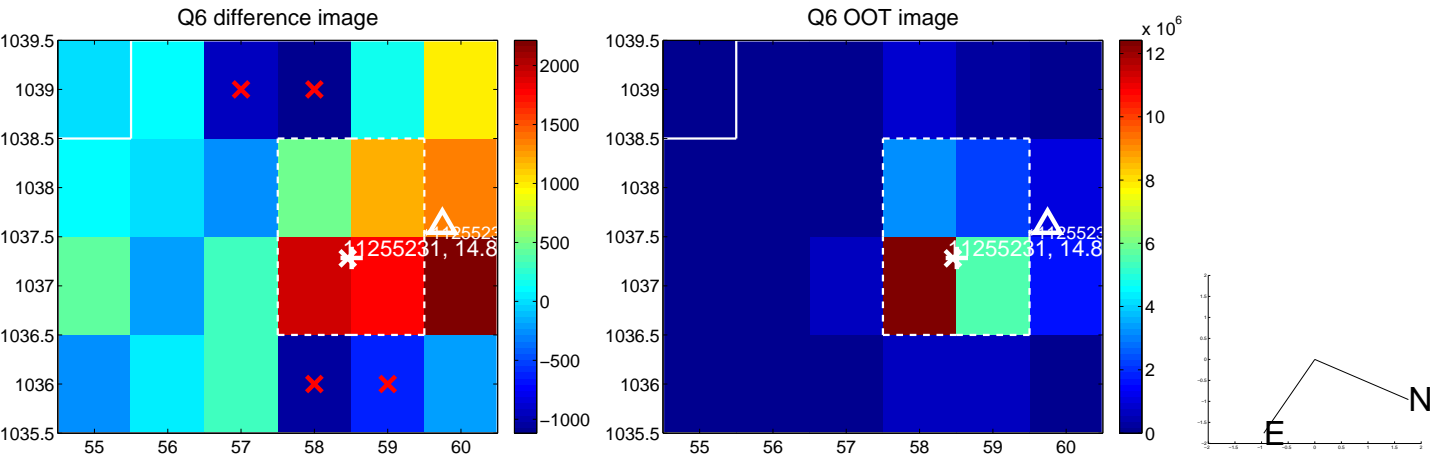
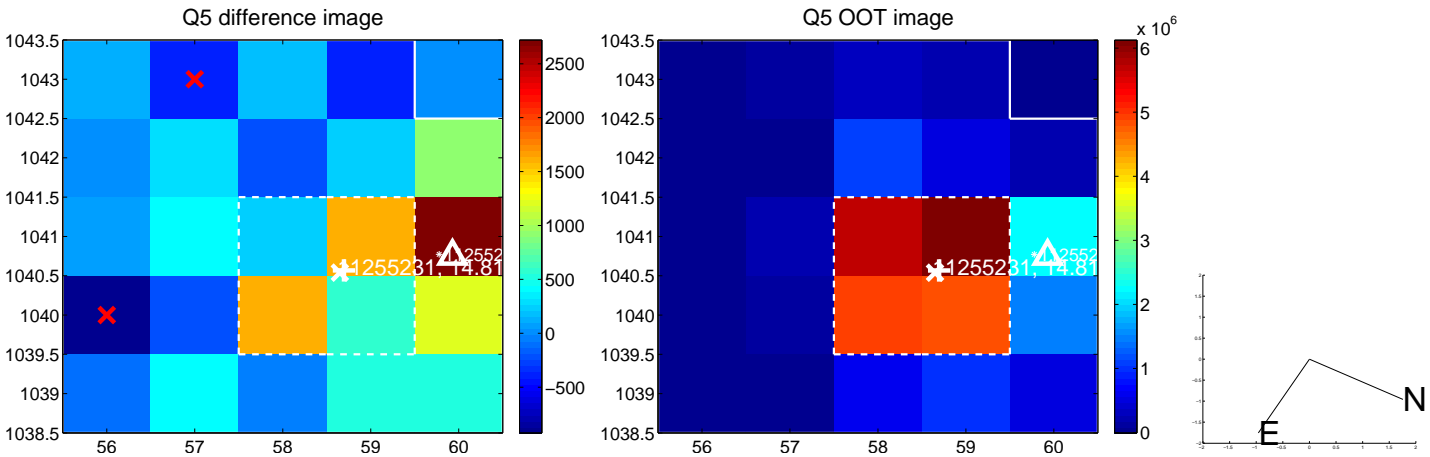


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

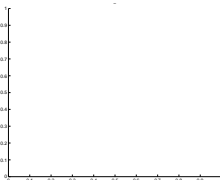
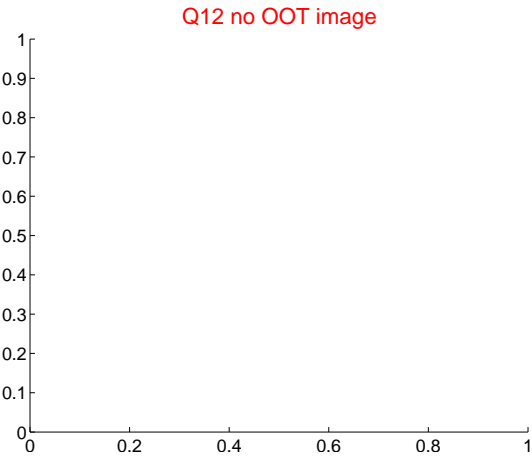
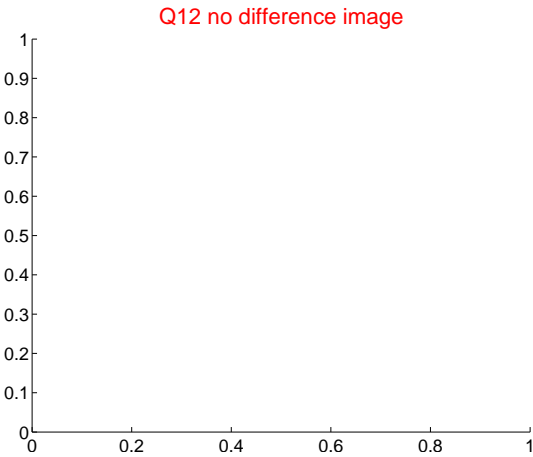
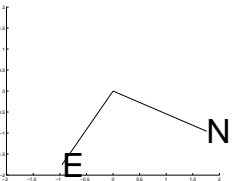
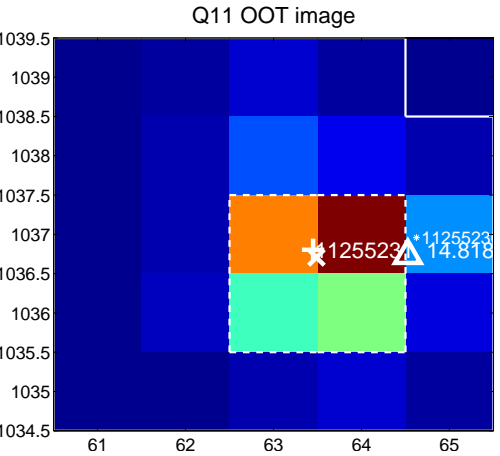
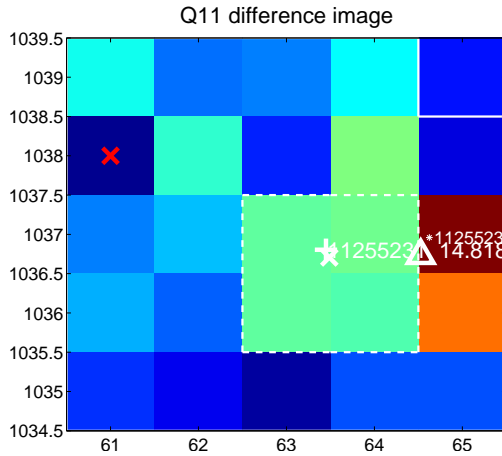
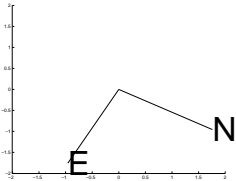
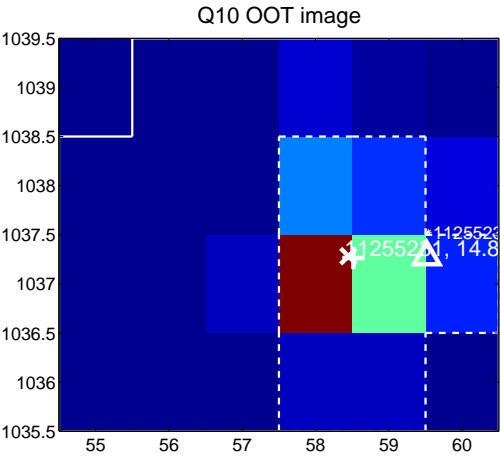
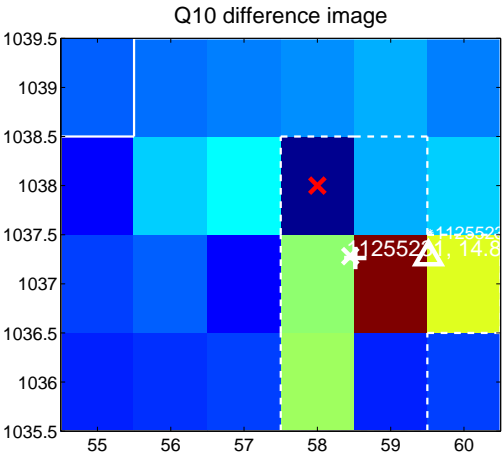
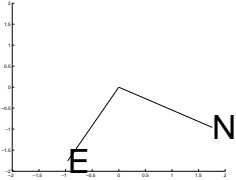
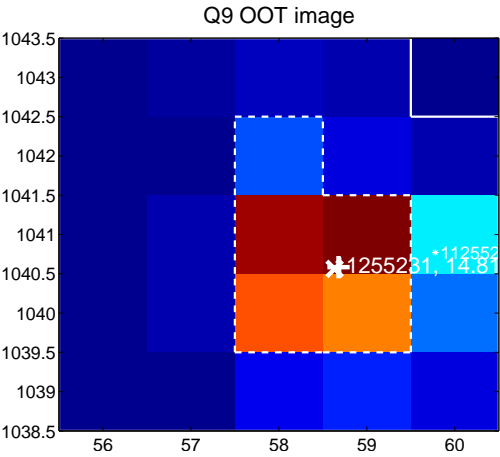
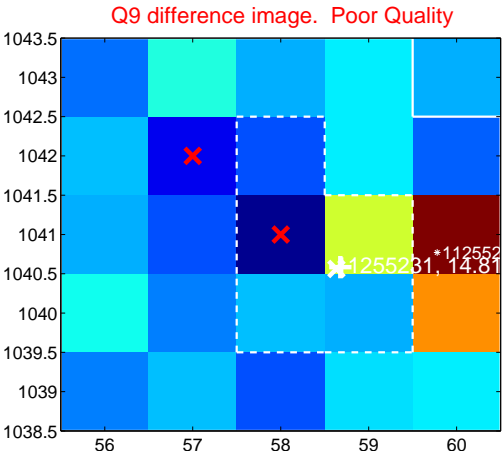
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



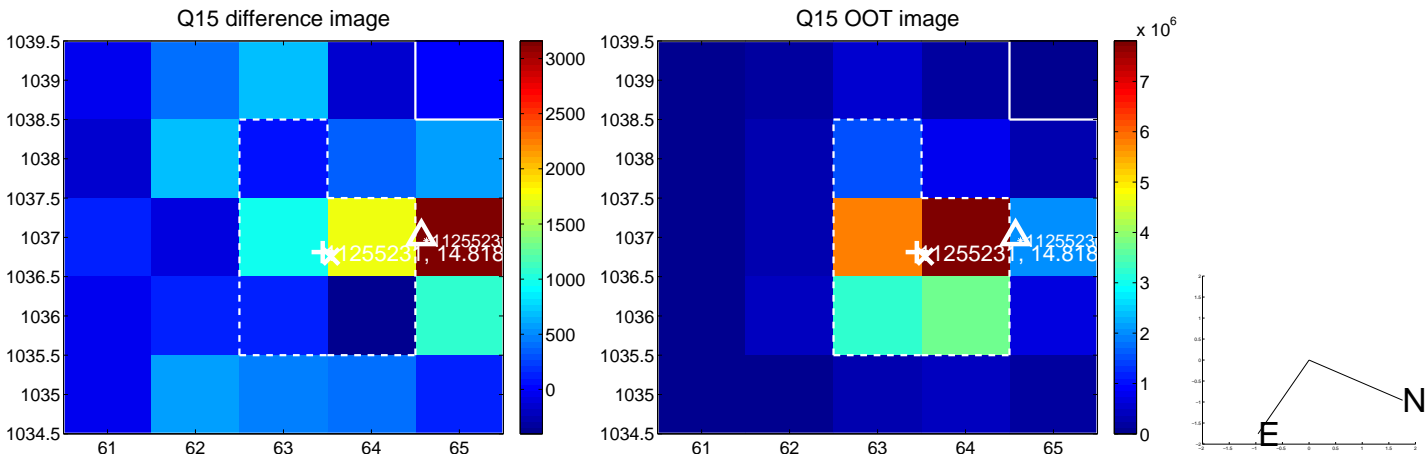
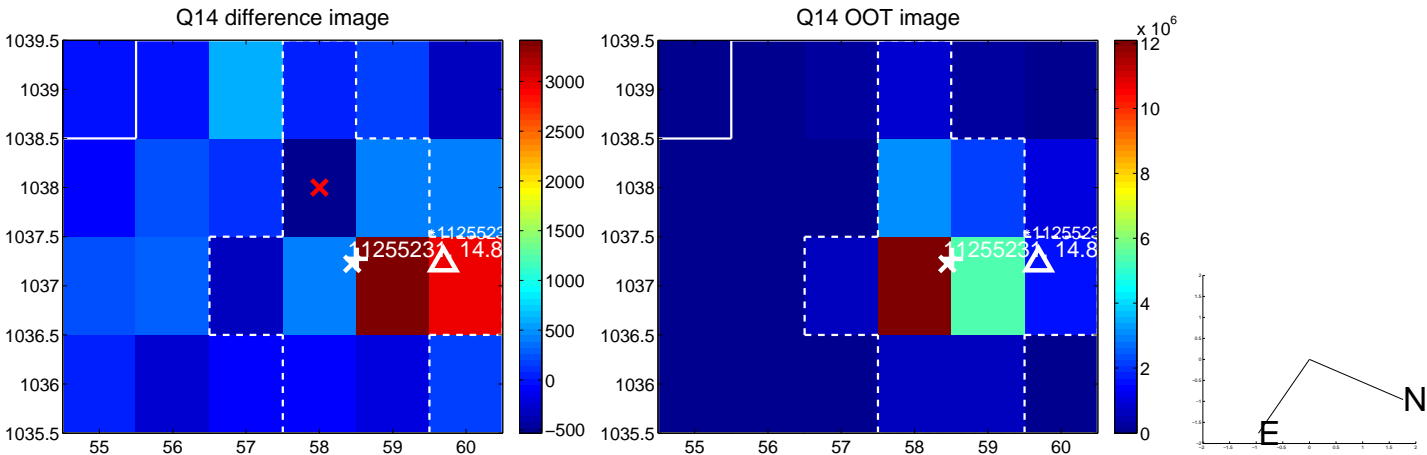
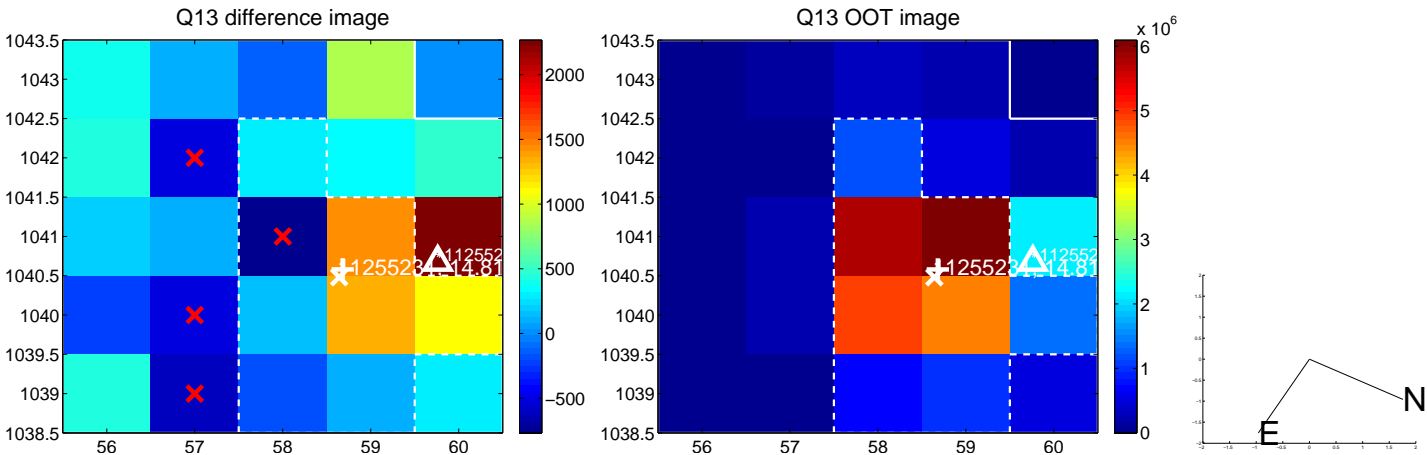
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

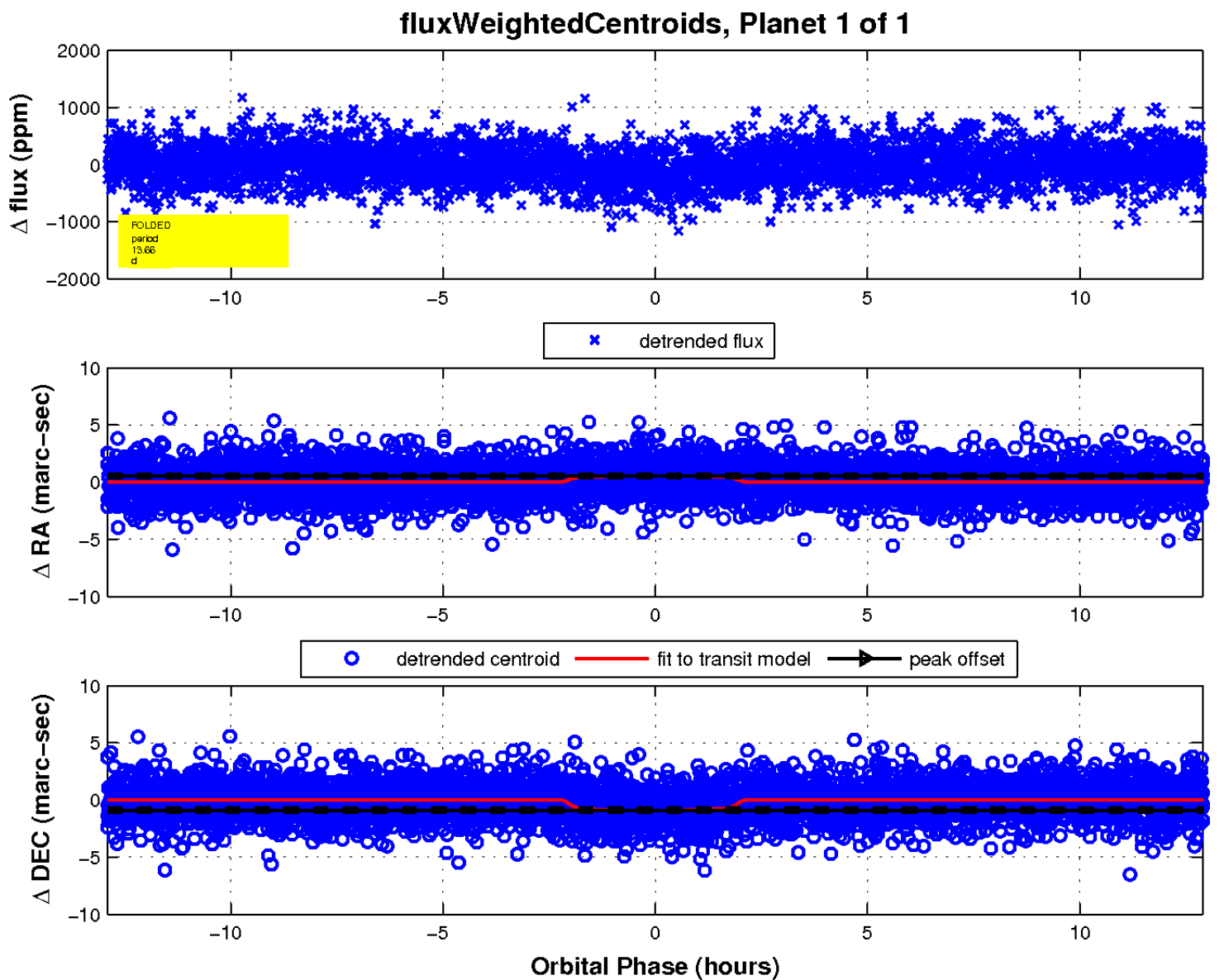
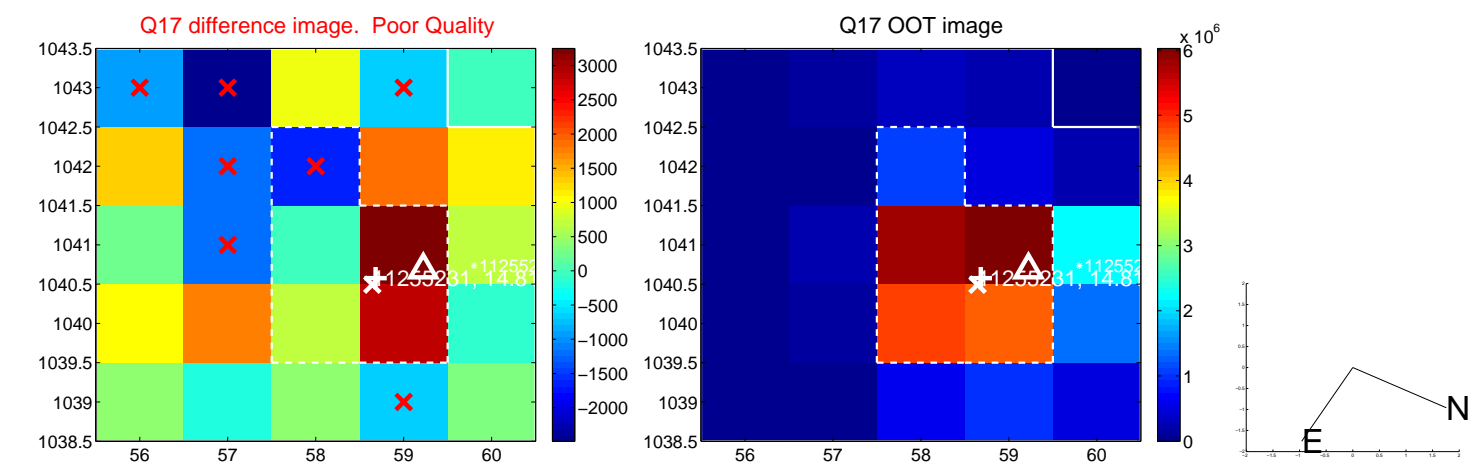


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination

