

# KIC 010341913

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010341913-01	OBS	1172.01	0.933697	131.538441	10.9	3.552	11.5	7.5	2.19	6215	0.85	15912.89

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010341913-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

**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 010341913-01

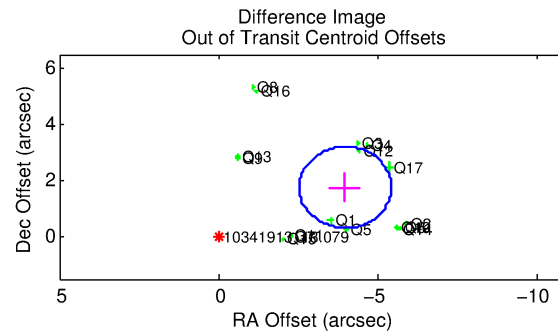
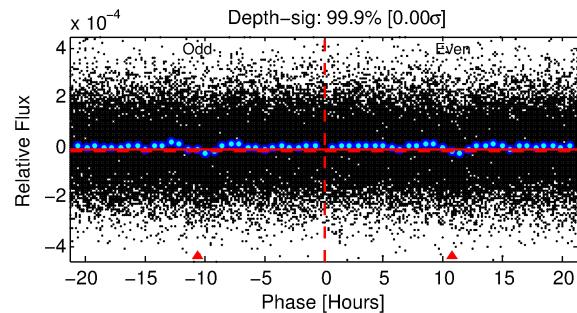
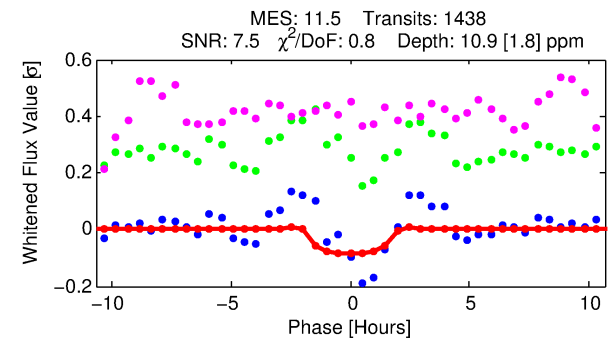
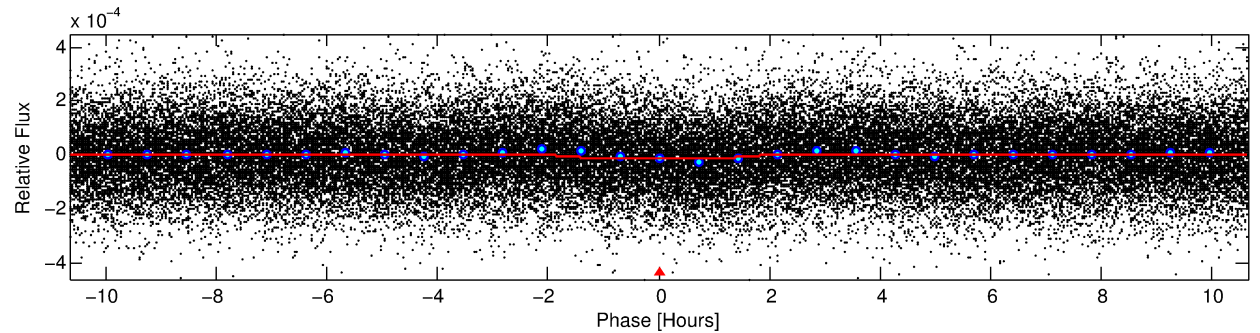
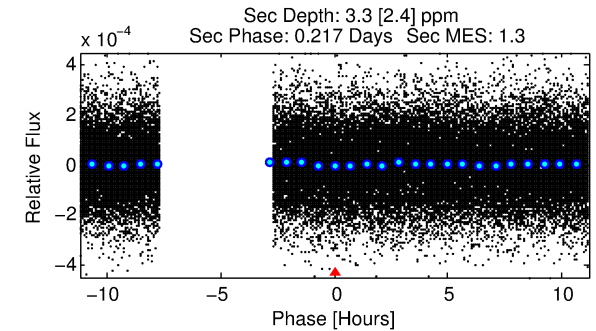
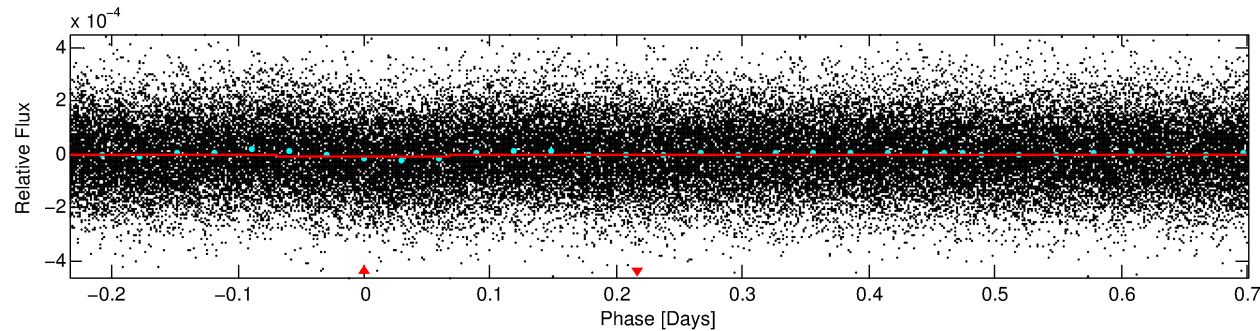
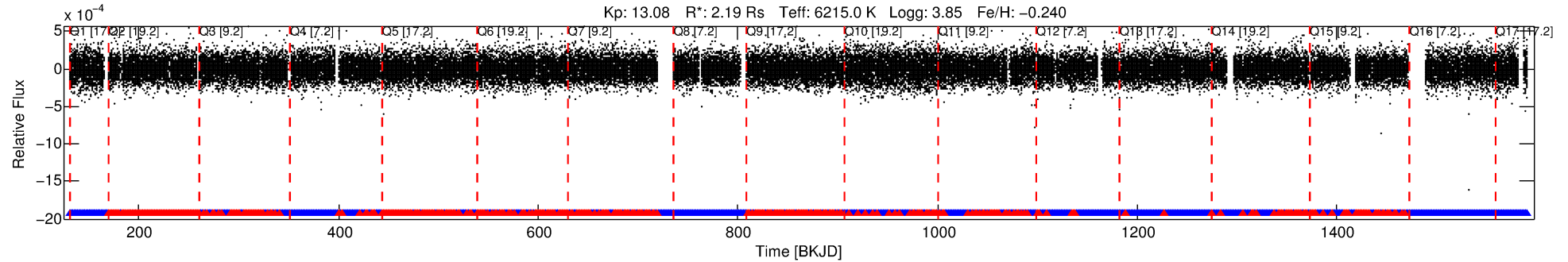
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
010341913-01	10341913	010407221-pri	10407221	1:1	360.3	-47	14	15.65	13.08	45.45	Col-Anomaly	1	4.30	1.74

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 10341913 Candidate: 1 of 1 Period: 0.934 d

KOI: K01172 Corr: No Ephemeris Match



## DV Fit Results:

Period = 0.93370 [0.00002] d  
Epoch = 131.5384 [0.0055] BKJD  
Rp/R\* = 0.0035 [0.0014]  
a/R\* = 1.29 [1.13]  
b = 0.90 [0.46]  
Seff = 15912.89 [8134.86]  
Teq = 2864 [366] K  
Rp = 0.85 [0.43] Re  
a = 0.0201 [0.0063] AU  
Ag = 1.03 [1.22] [0.02σ]  
Teffp = 4461 [1204] K [1.27σ]

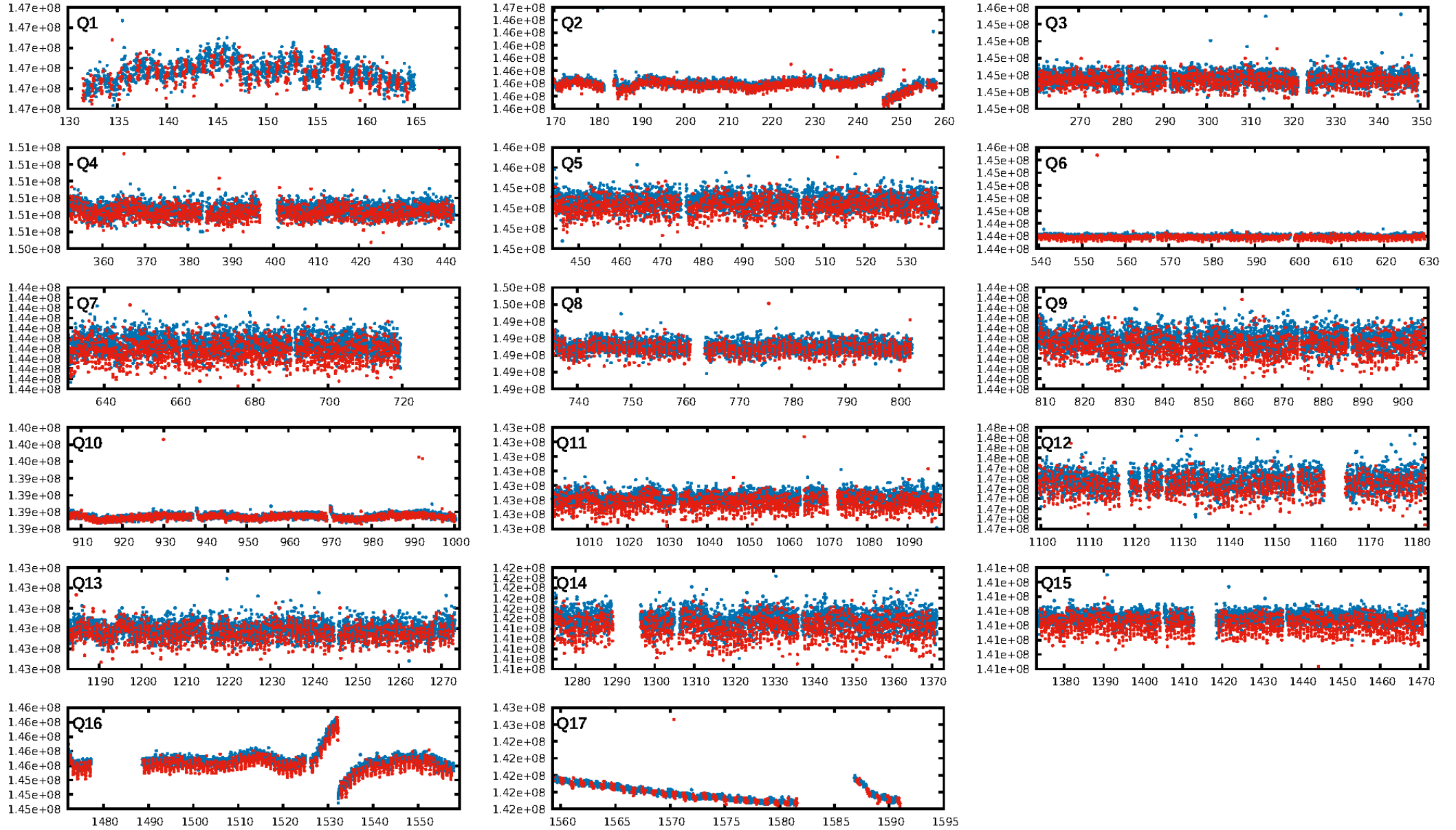
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 3.55e-27  
RollingBand-fgt: 0.61 [831/1373]  
GhostDiagnostic-chr: 0.01765  
Centroid-sig: 4.2%  
Centroid-so: 1.812 arcsec [1.35σ]  
OotOffset-rm: 4.363 arcsec [9.03σ]  
KicOffset-rm: 4.369 arcsec [9.06σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 1.00 [17/17]

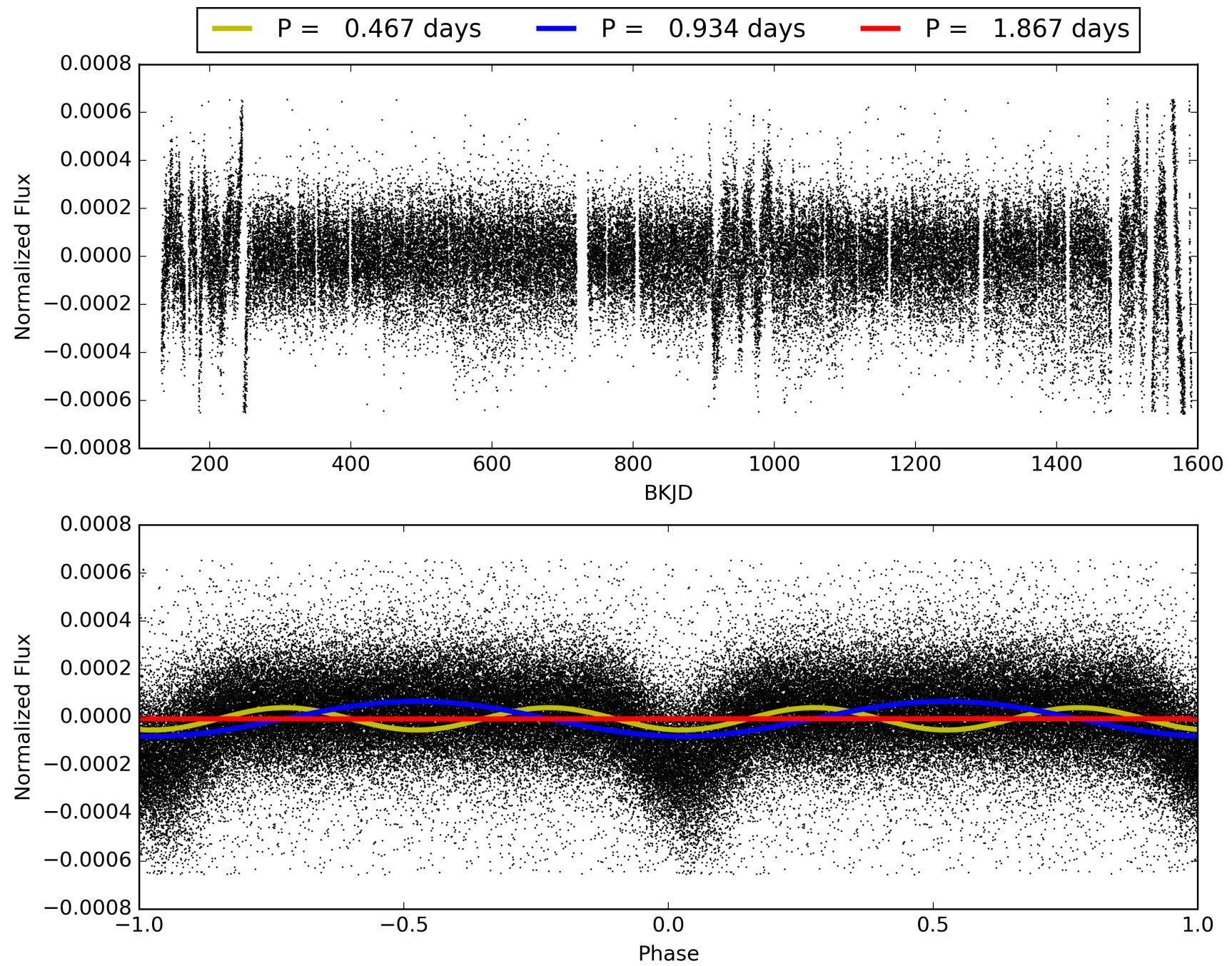
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:37:18 Z

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

# TCE 010341913-01, PDC Light Curves

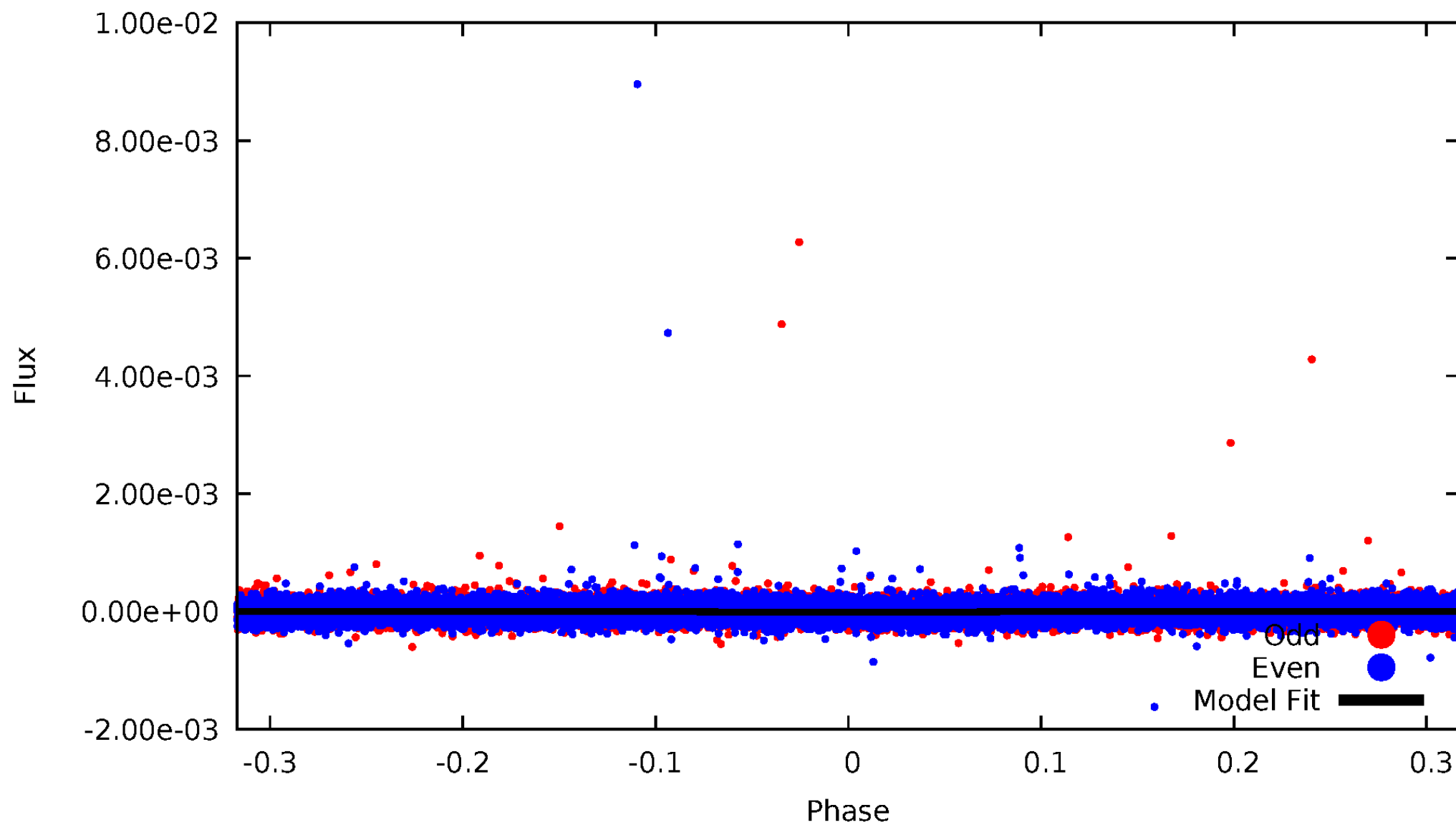


TCE 010341913-01



# DV Odd/Even

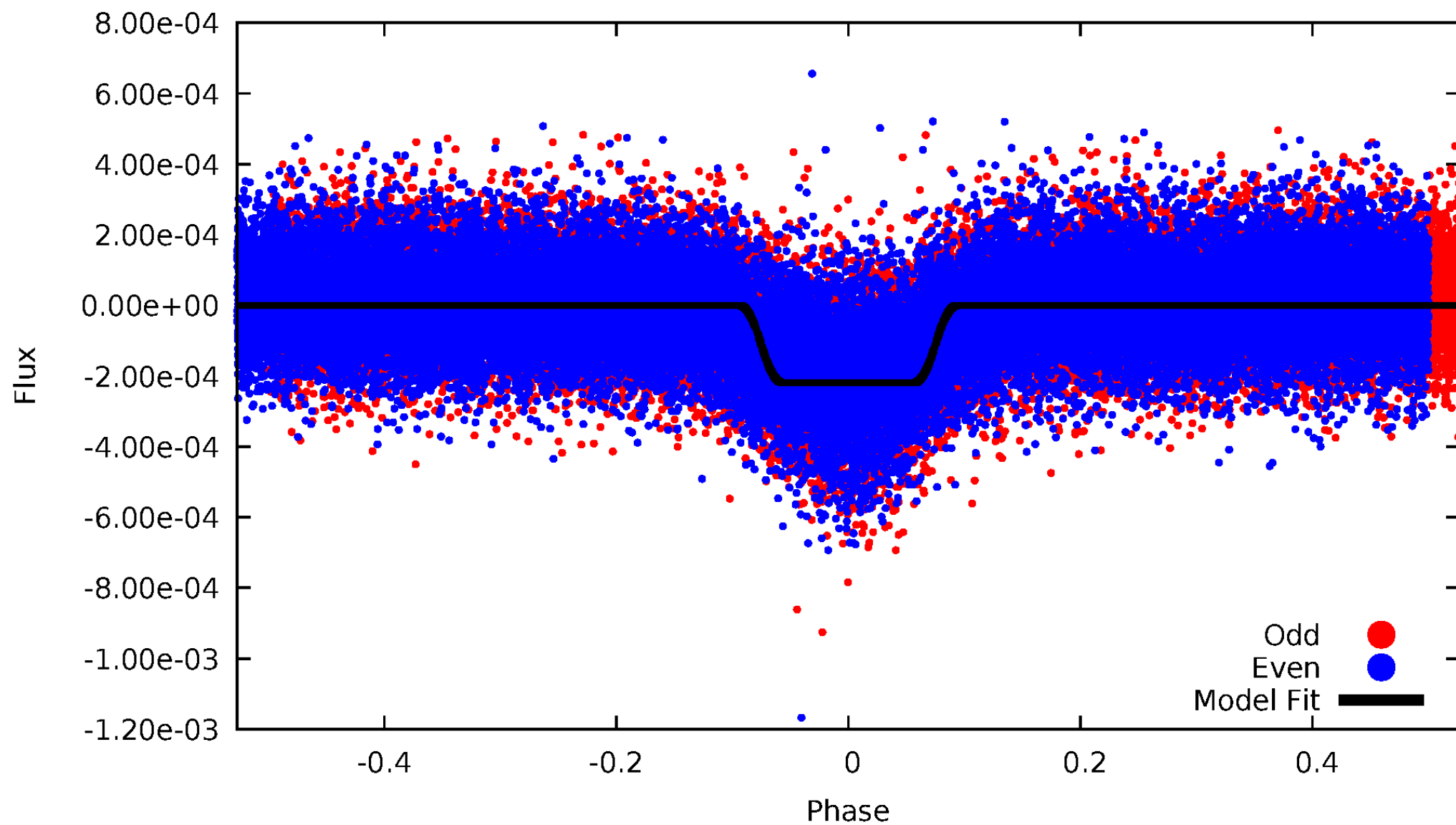
TCE 010341913-01





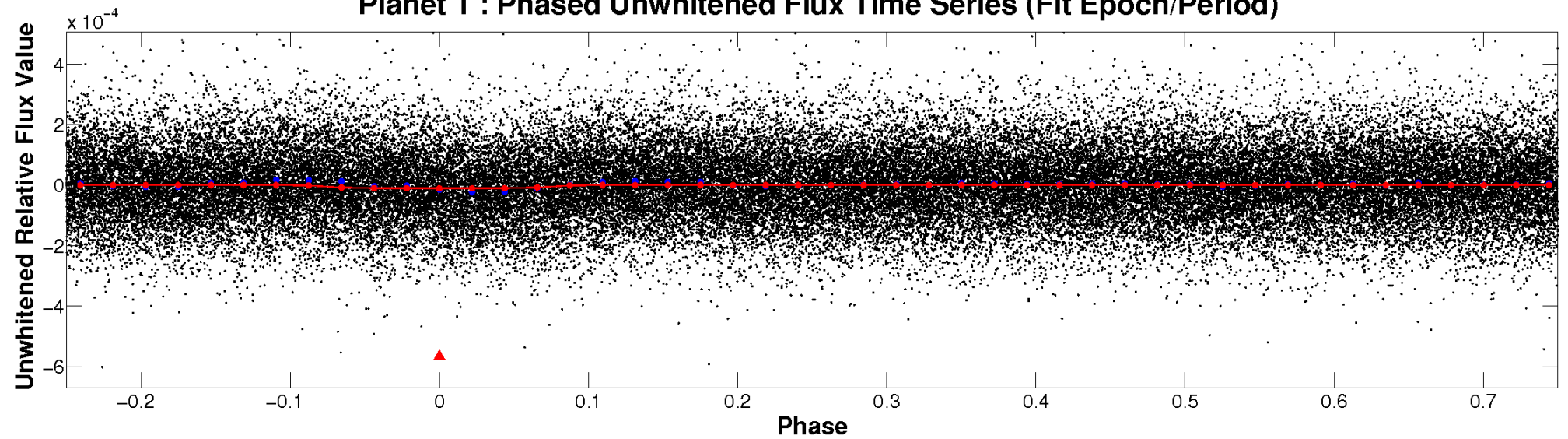
# ALT Odd/Even

TCE 010341913-01

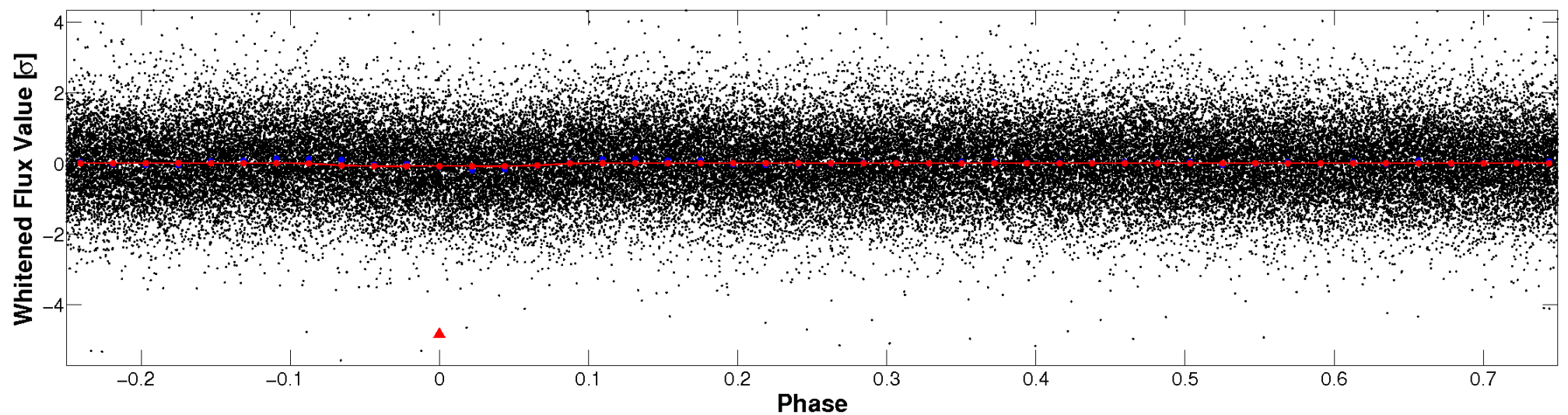


# Non-Whitened Vs. Whitened Light Curve

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

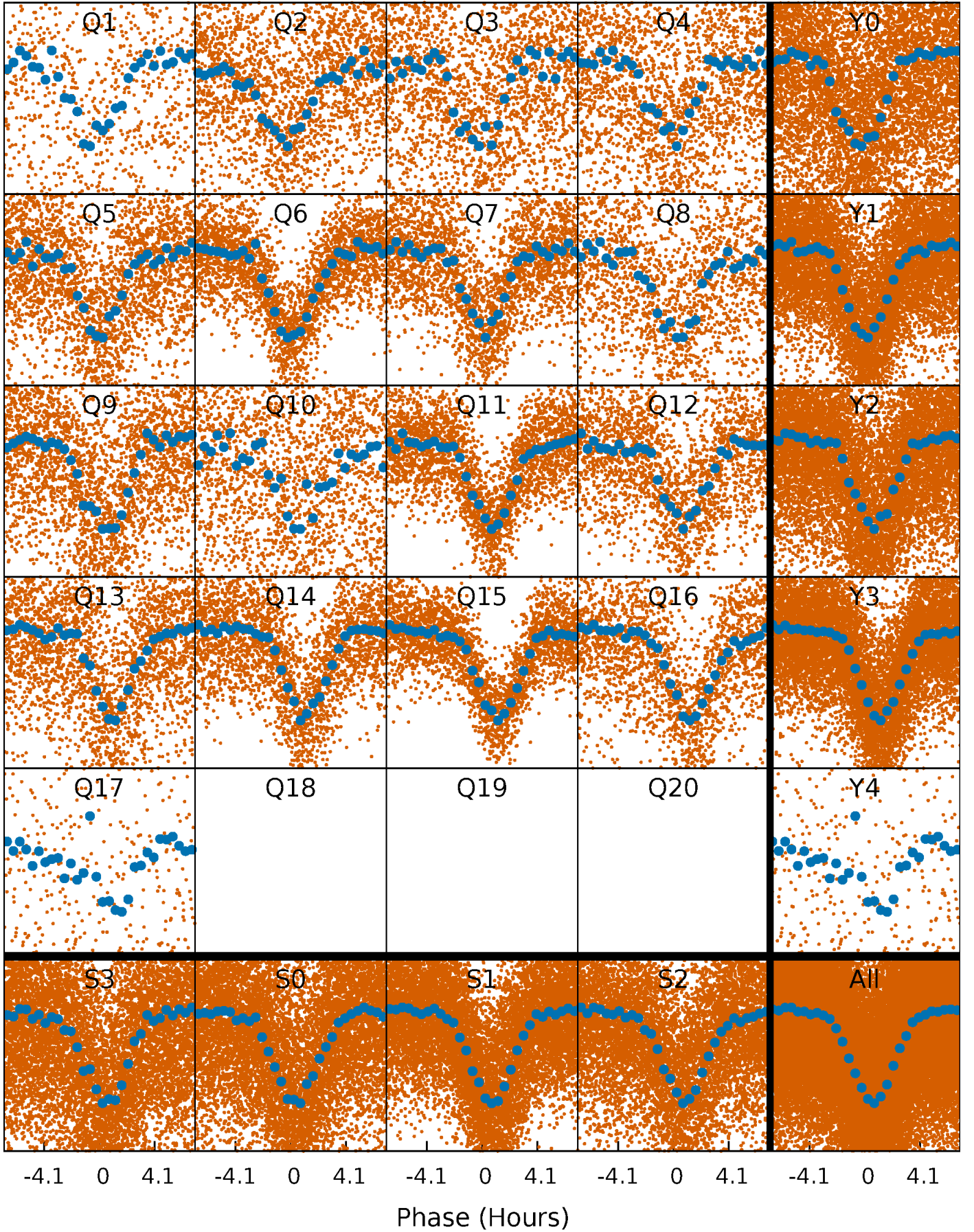


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

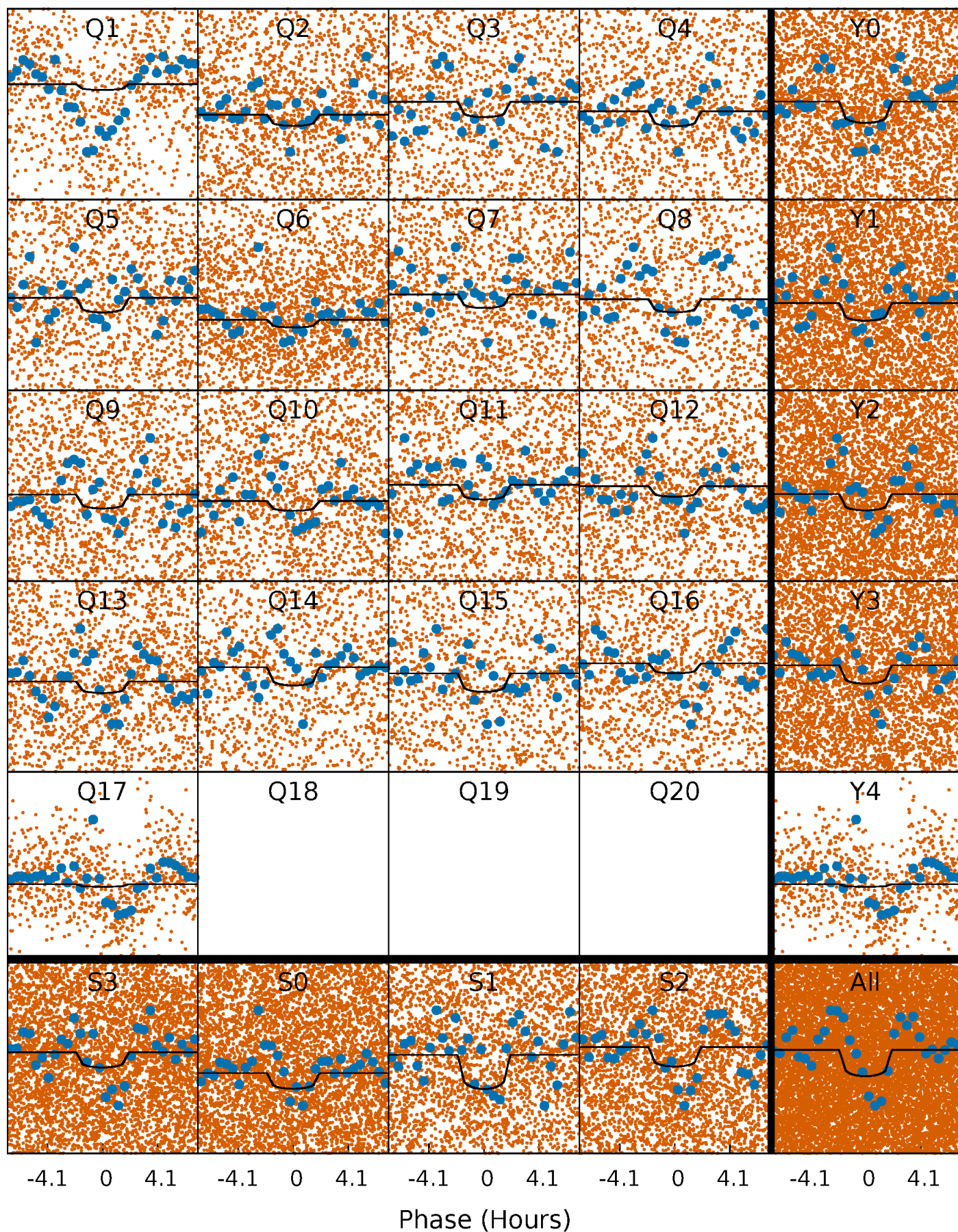
TCE 010341913-01   P= 0.933697 Days    $T_0=131.538441$  (BKJD)





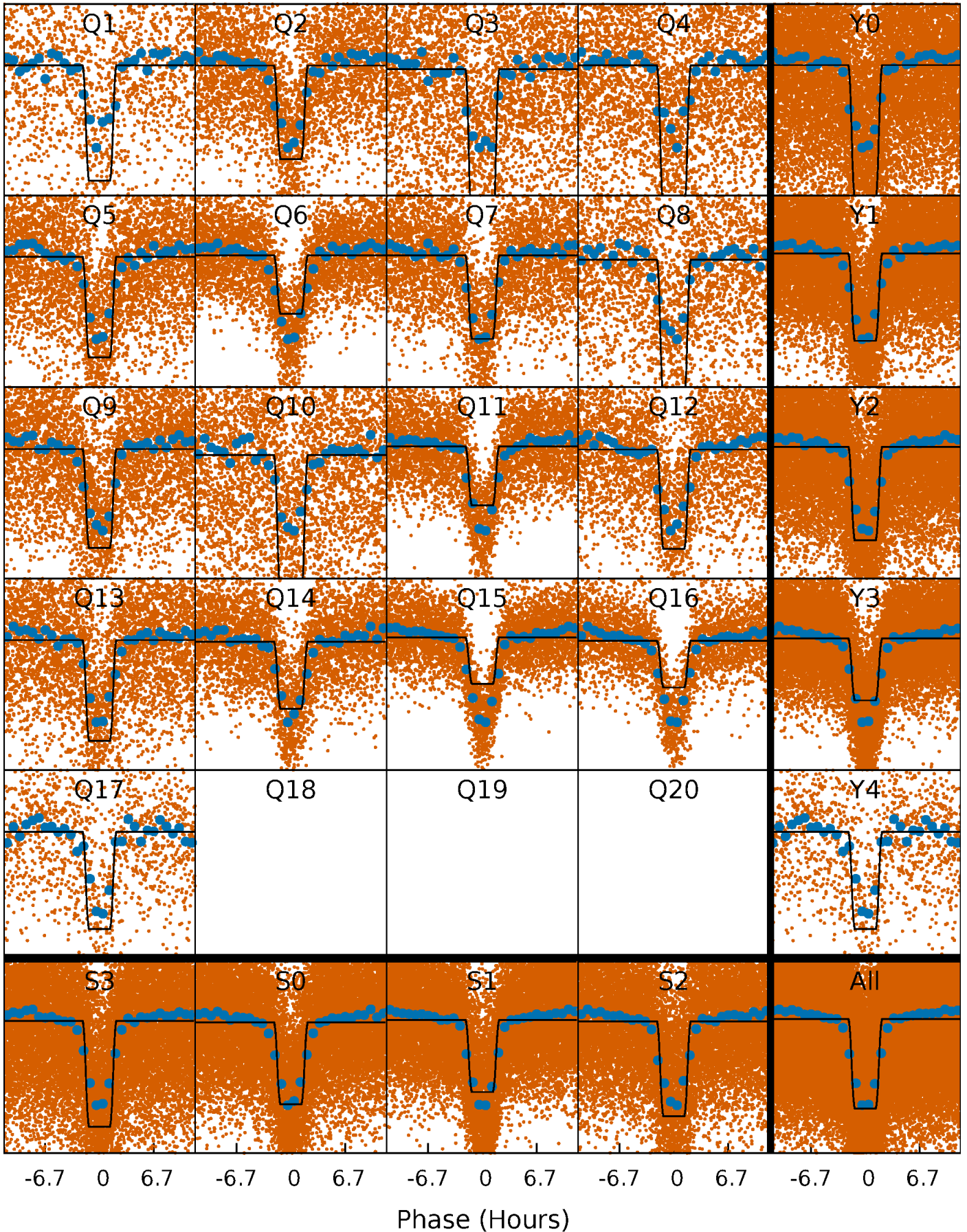
# DV Quarter-Phased Transit Curves

TCE 010341913-01 P= 0.933697 Days  $T_0=131.538441$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010341913-01 P= 0.933745 Days  $T_0=131.520763$  (BKJD)

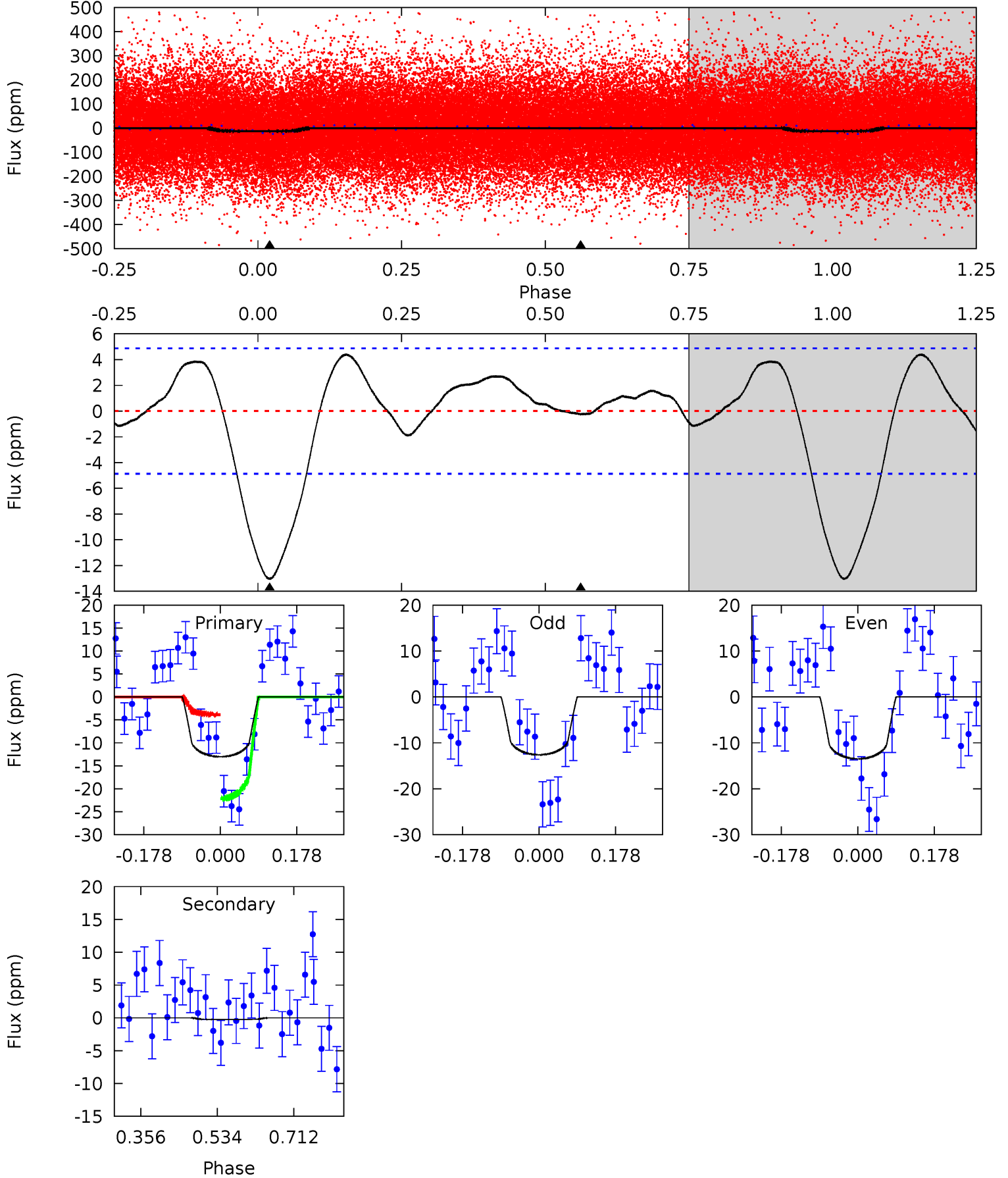




# DV Model-Shift Uniqueness Test

010341913-01, P = 0.933697 Days, E = 130.604744 Days

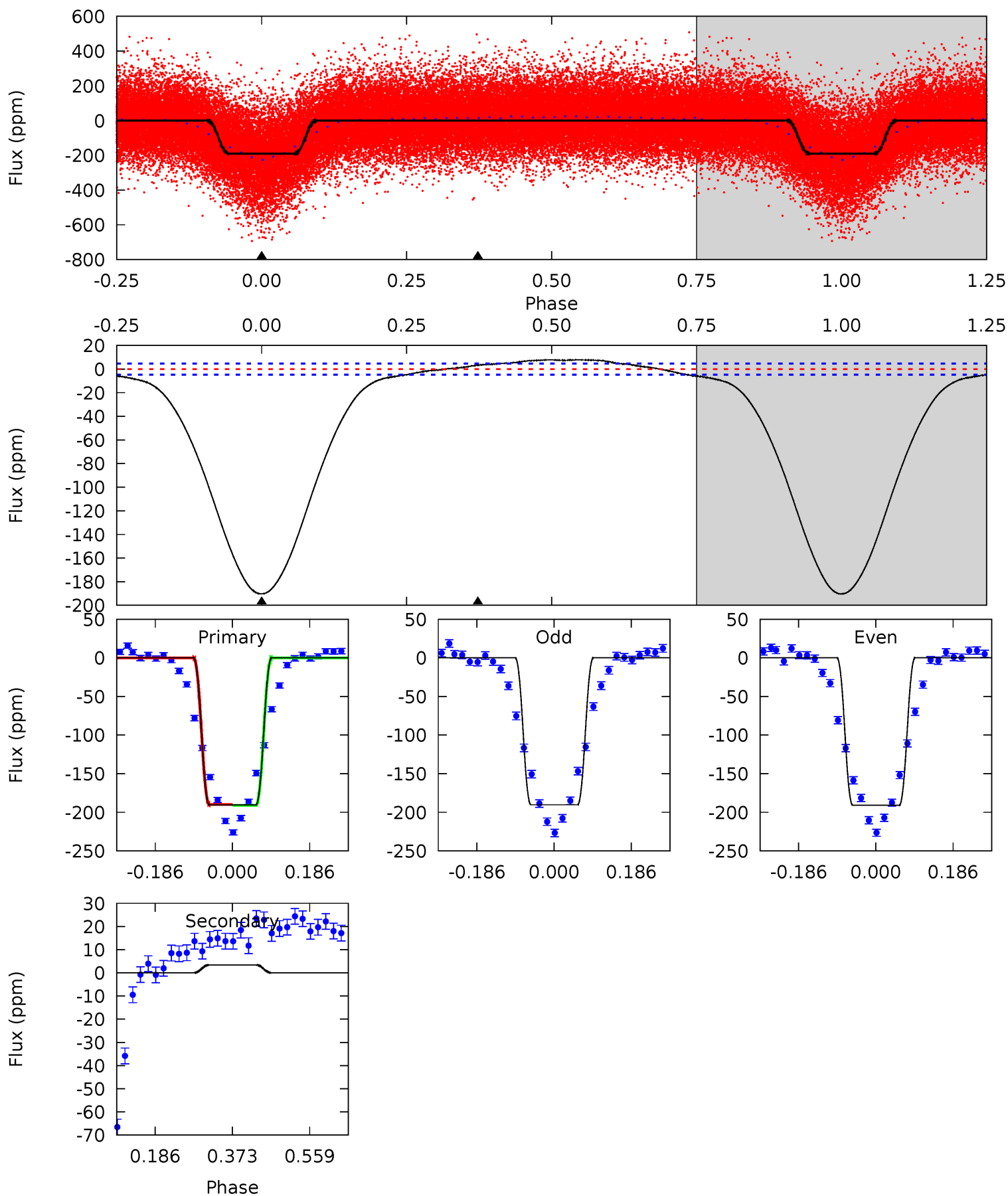
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	0.23	0	0	4.44	1.35	1.09	11.9	11.9	0.23	0.23	0.41	0.80	0.25	8.41



# Alt Model-Shift Uniqueness Test

010341913-01, P = 0.933745 Days, E = 130.587018 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
178.5	-3.20	0	0	4.43	1.32	5.65	178.5	178.5	-3.20	-3.20	0.21	1.06	0.04	0.56





### Stellar Parameters For KIC 010341913

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6215^{+171}_{-171}$	$3.849^{+0.293}_{-0.098}$	$-0.240^{+0.300}_{-0.250}$	$2.188^{+0.415}_{-0.711}$	$1.233^{+0.242}_{-0.220}$	$0.166^{+0.334}_{-0.050}$
	+3%/-3%	+8%/-3%	+125%/-104%	+19%/-32%	+20%/-18%	+202%/-30%
Source	PHO1	FLK73	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 010341913-01 / KOI 1172.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-0 \pm 1$	$0.79^{+0.37}_{-0.31}$	$3953^{+230}_{-331}$	$-3440^{+7213}_{-713}$	$0.096^{+0.595}_{-0.434}$
Alt.	$3 \pm 1$	$3.45^{+0.54}_{-0.67}$	$3934^{+239}_{-351}$	$-3772^{+189}_{-153}$	$-0.066^{+0.024}_{-0.039}$

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

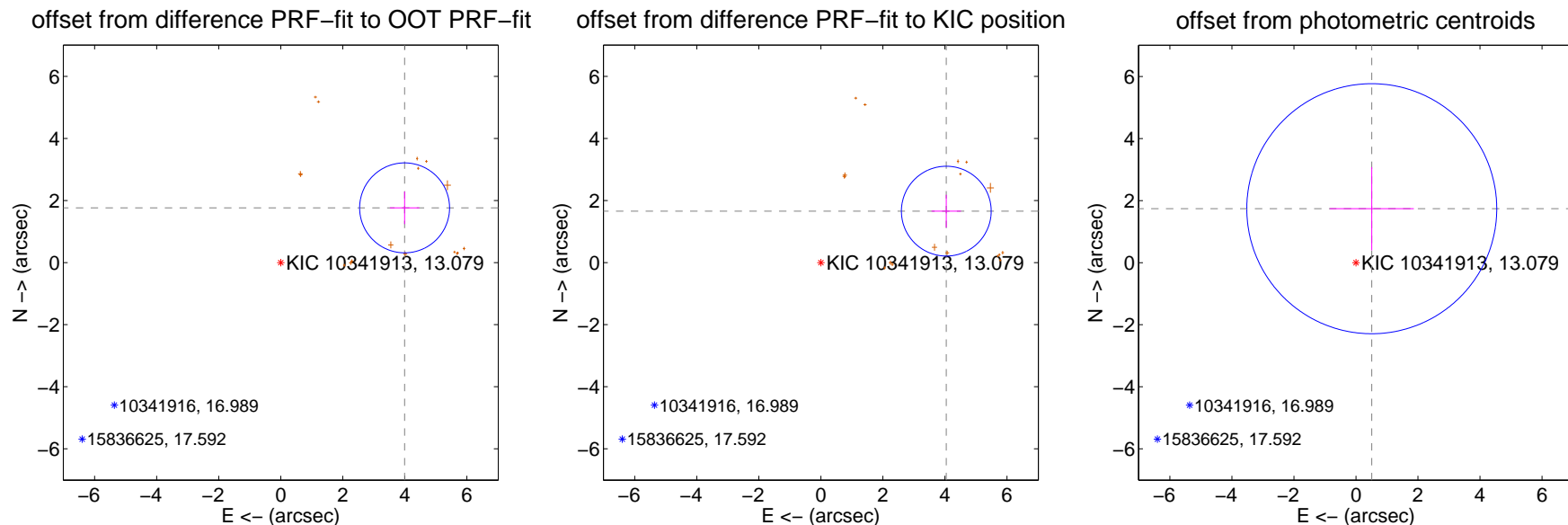
## DV Centroid Data

Supplemental centroid analysis for 010341913-01. Kepler magnitude: 13.08. Transit SNR 7.45

There are 0 quarters with good PRF difference image offsets

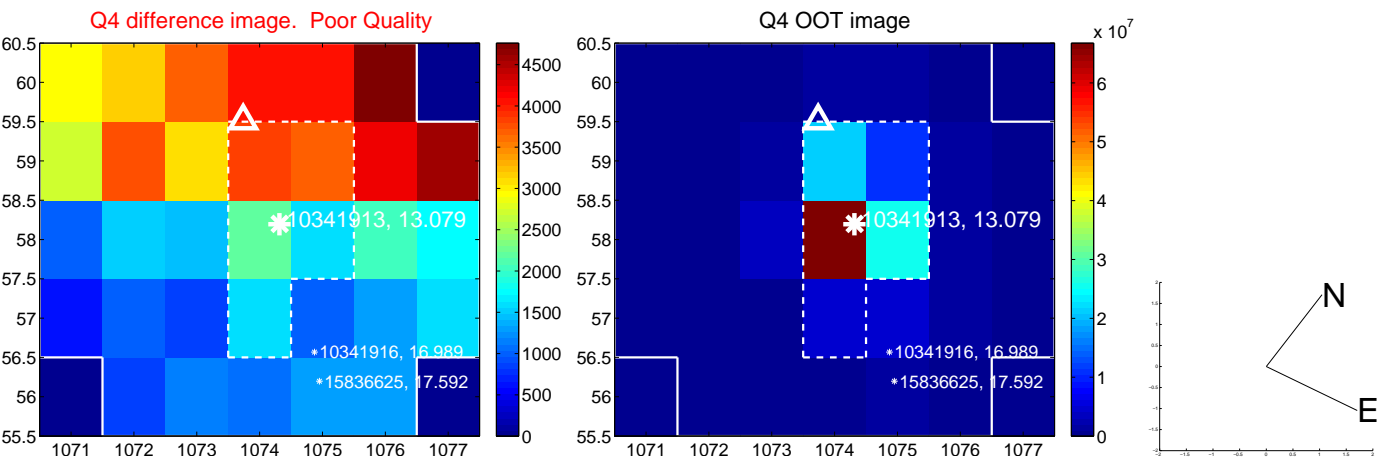
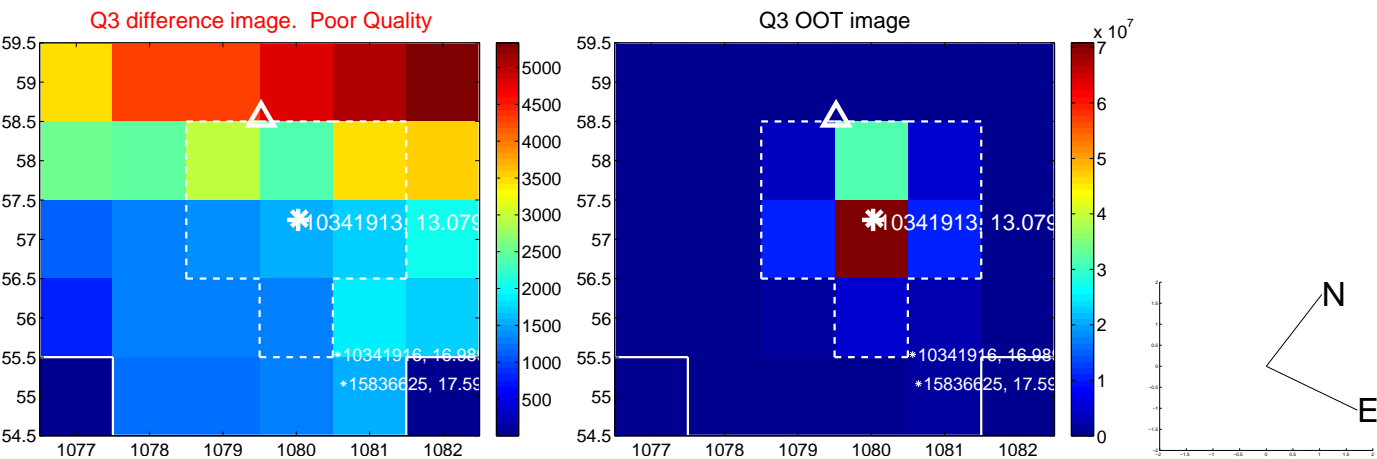
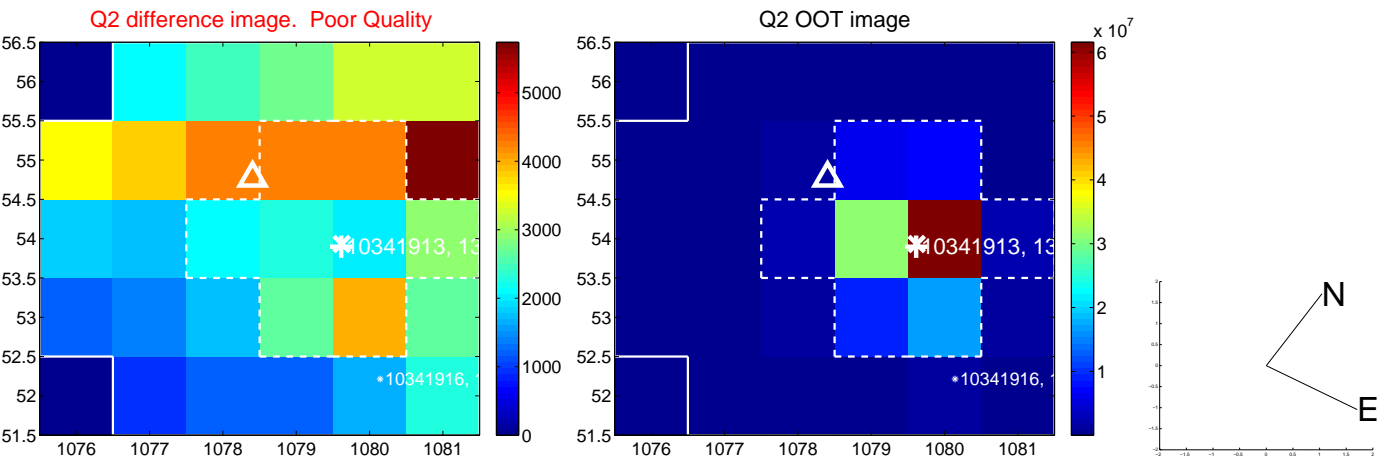
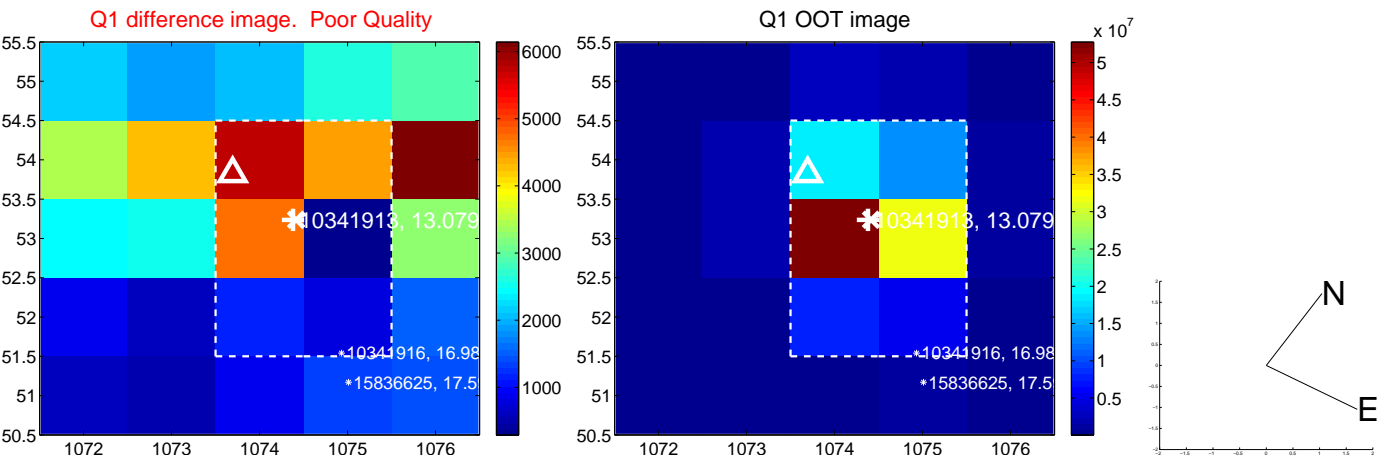
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.363 \pm 0.483$	9.03	$-3.991 \pm 0.474$	$1.763 \pm 0.525$
PRF-fit source offset from KIC position	$4.369 \pm 0.482$	9.06	$-4.042 \pm 0.474$	$1.657 \pm 0.527$
photometric centroid source offset	$1.81 \pm 1.34$	1.35	$-0.51 \pm 1.36$	$1.74 \pm 1.34$

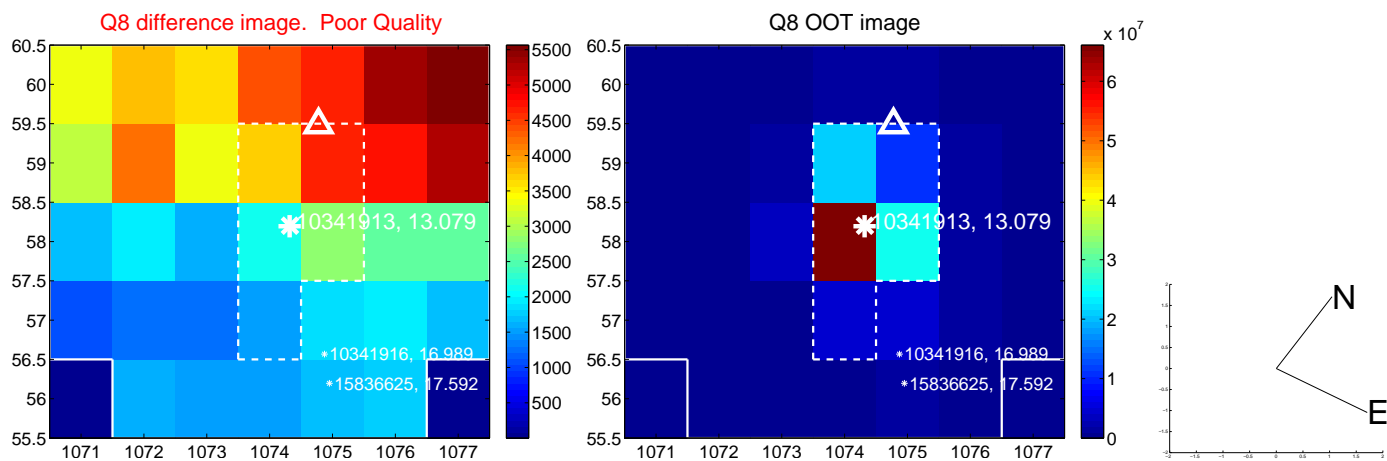
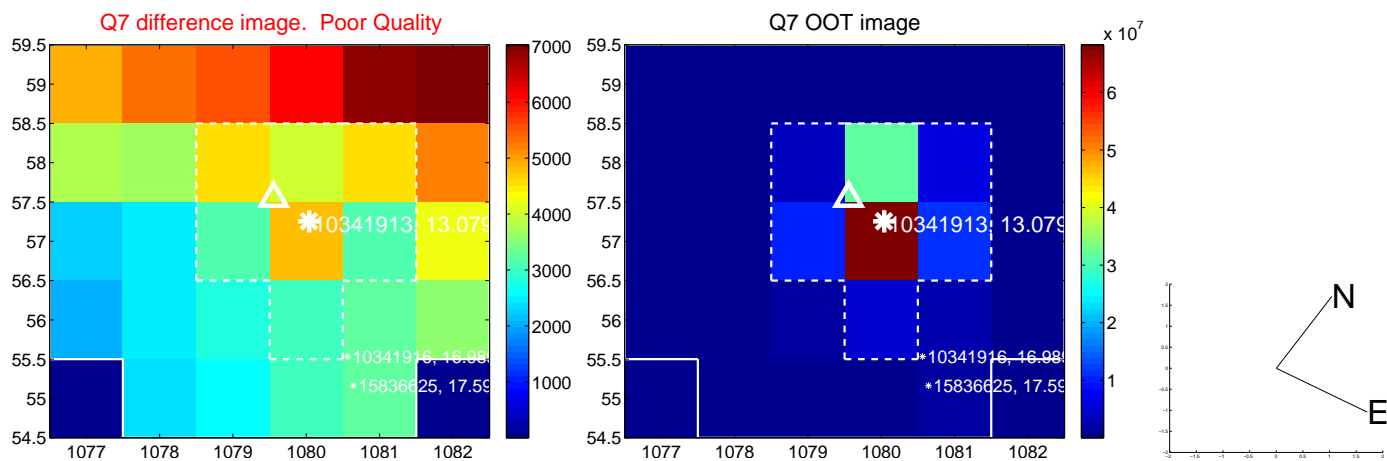
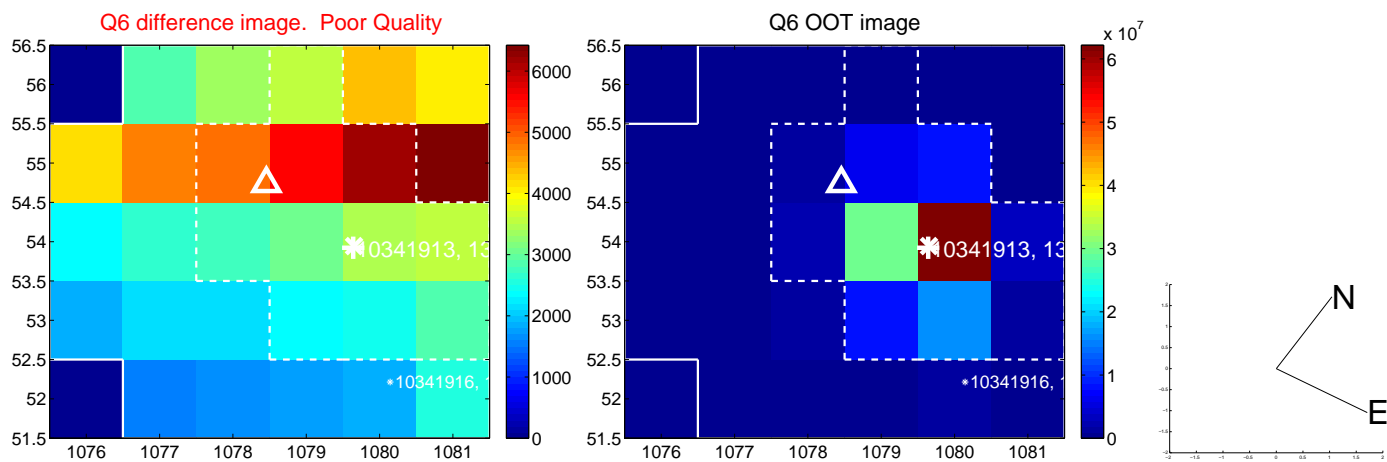
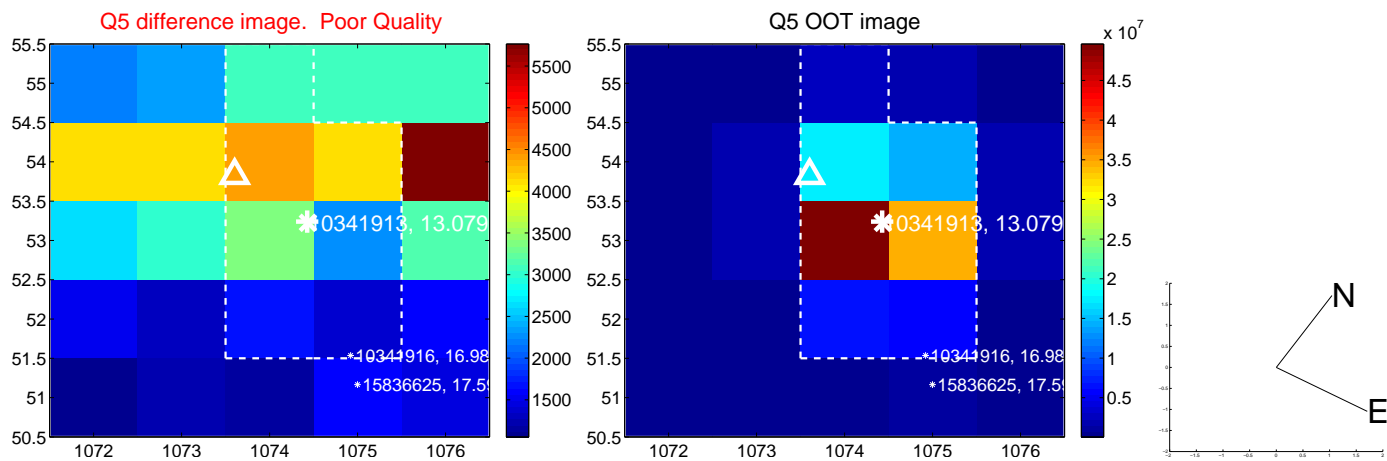


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

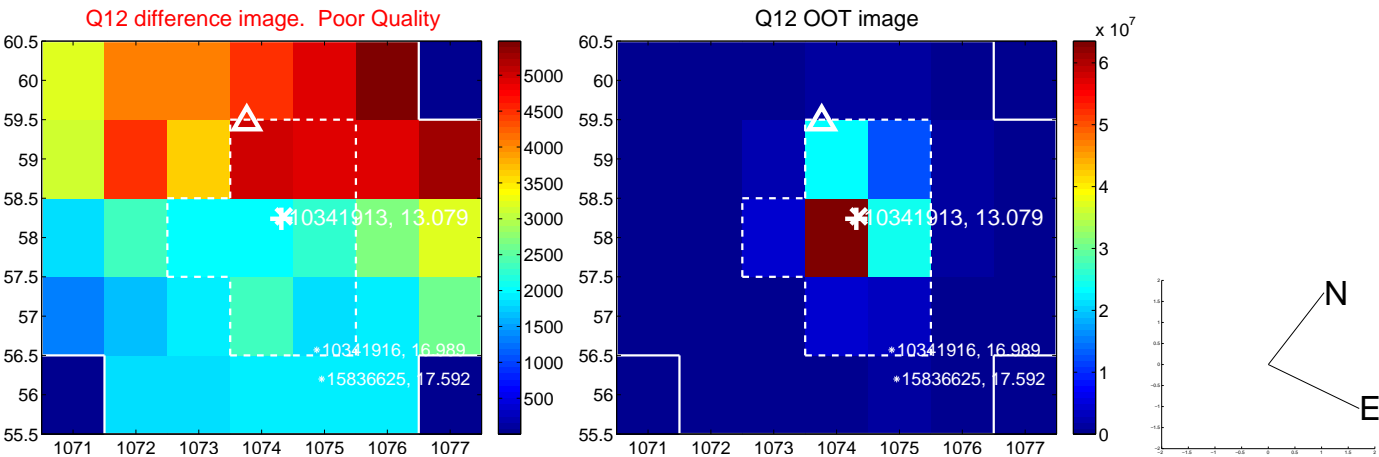
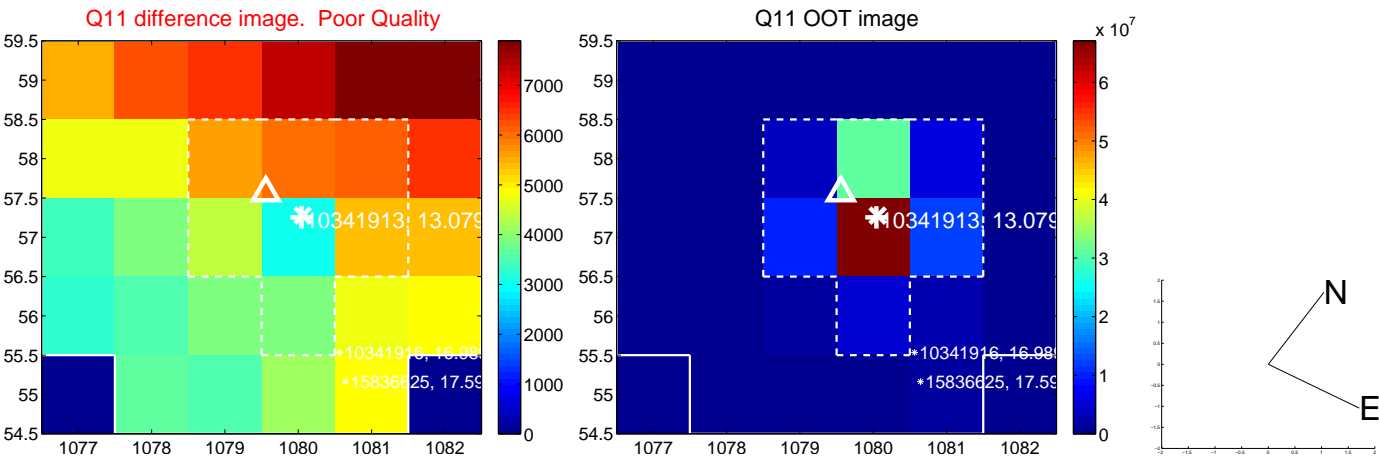
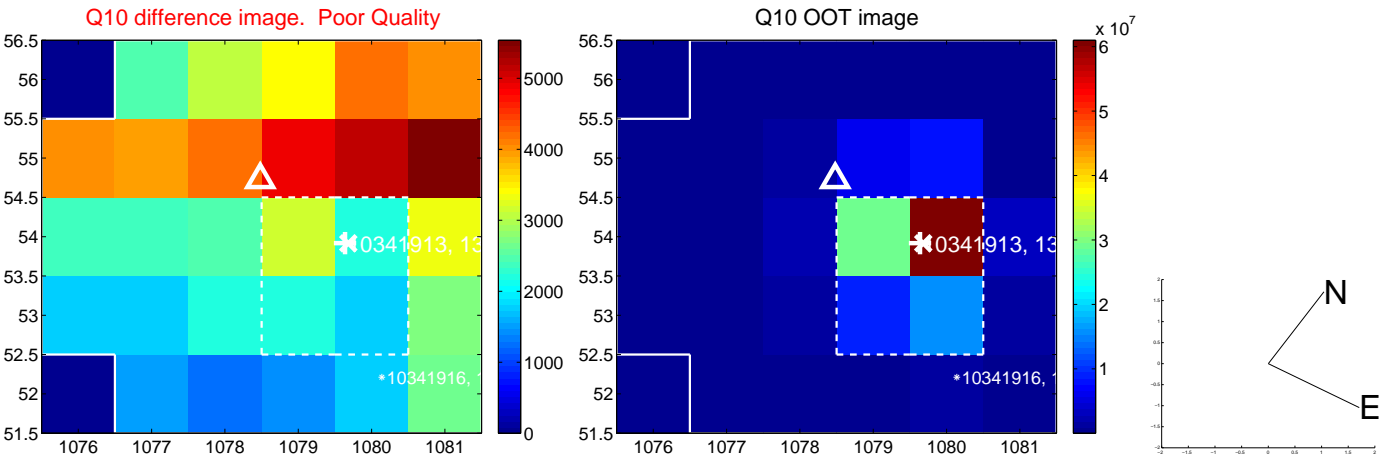
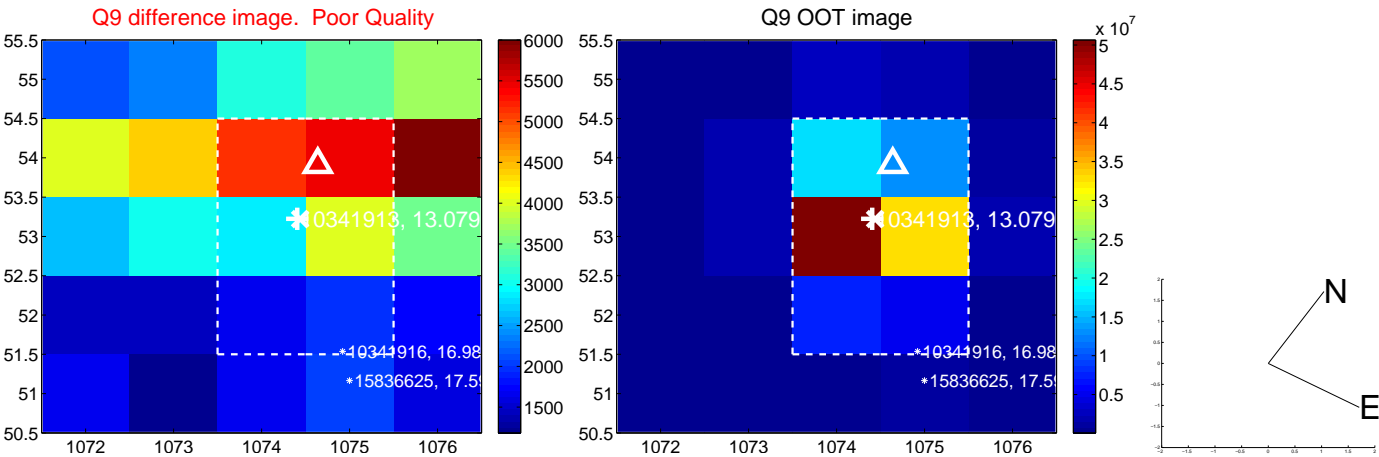


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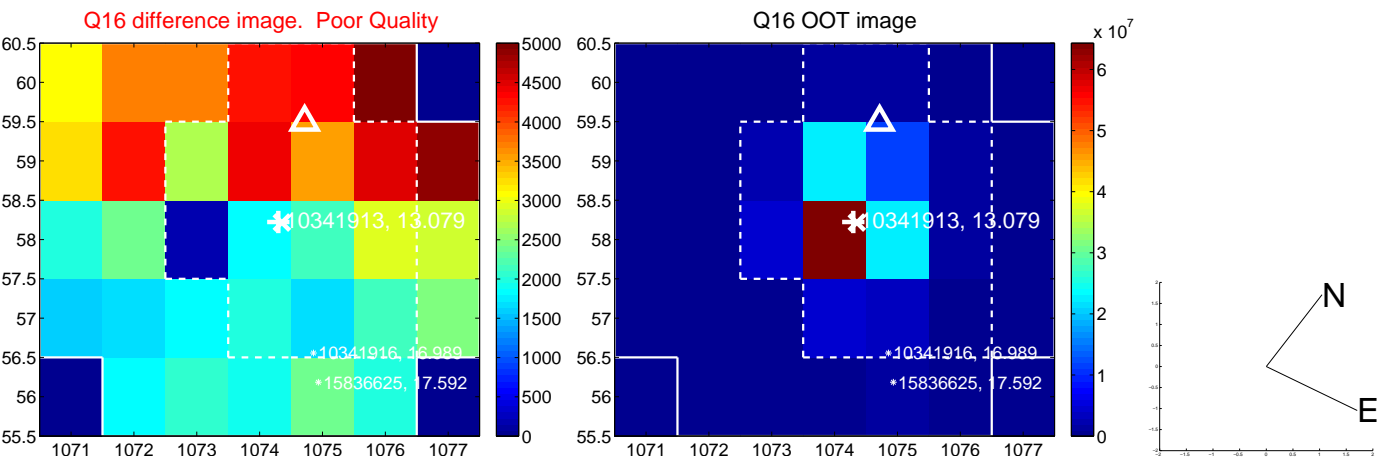
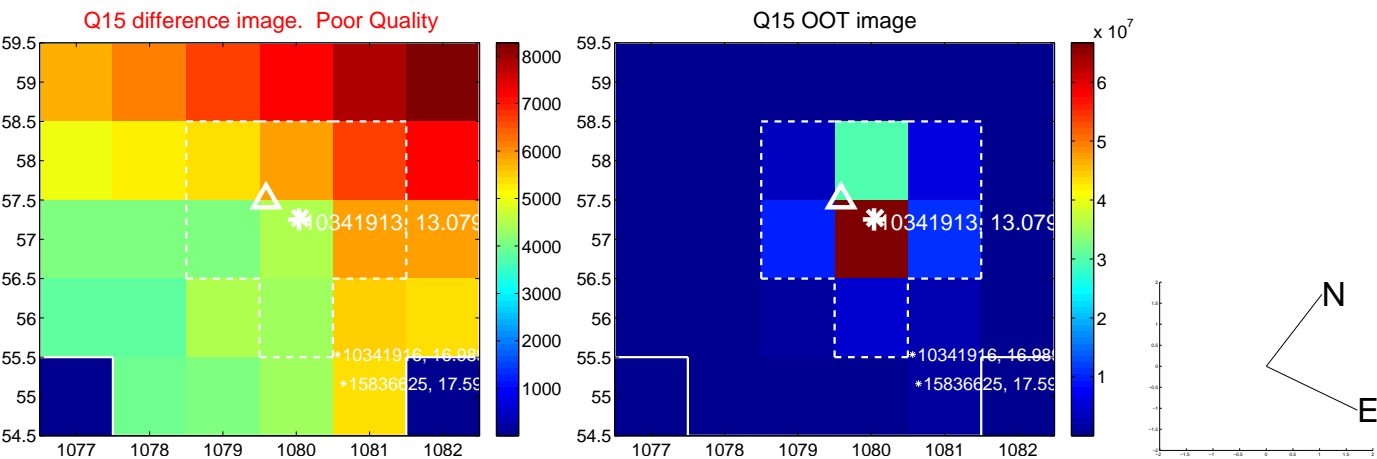
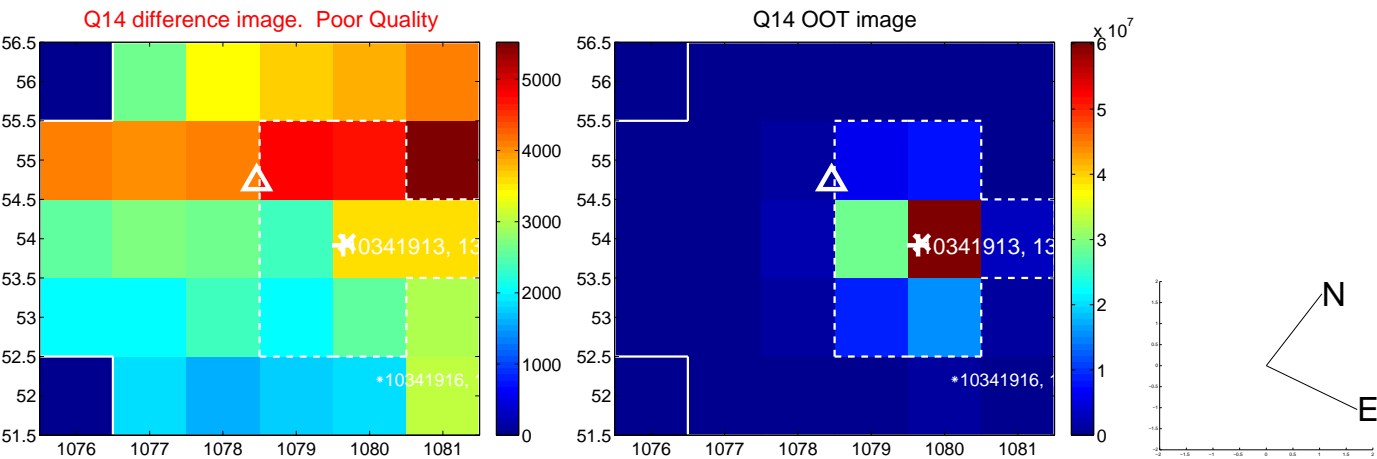
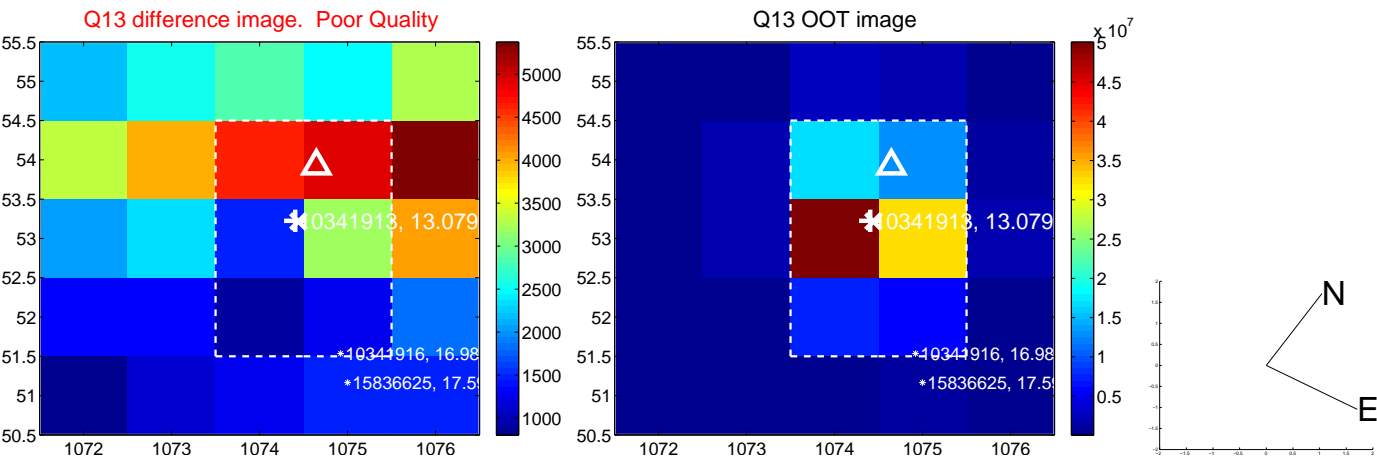




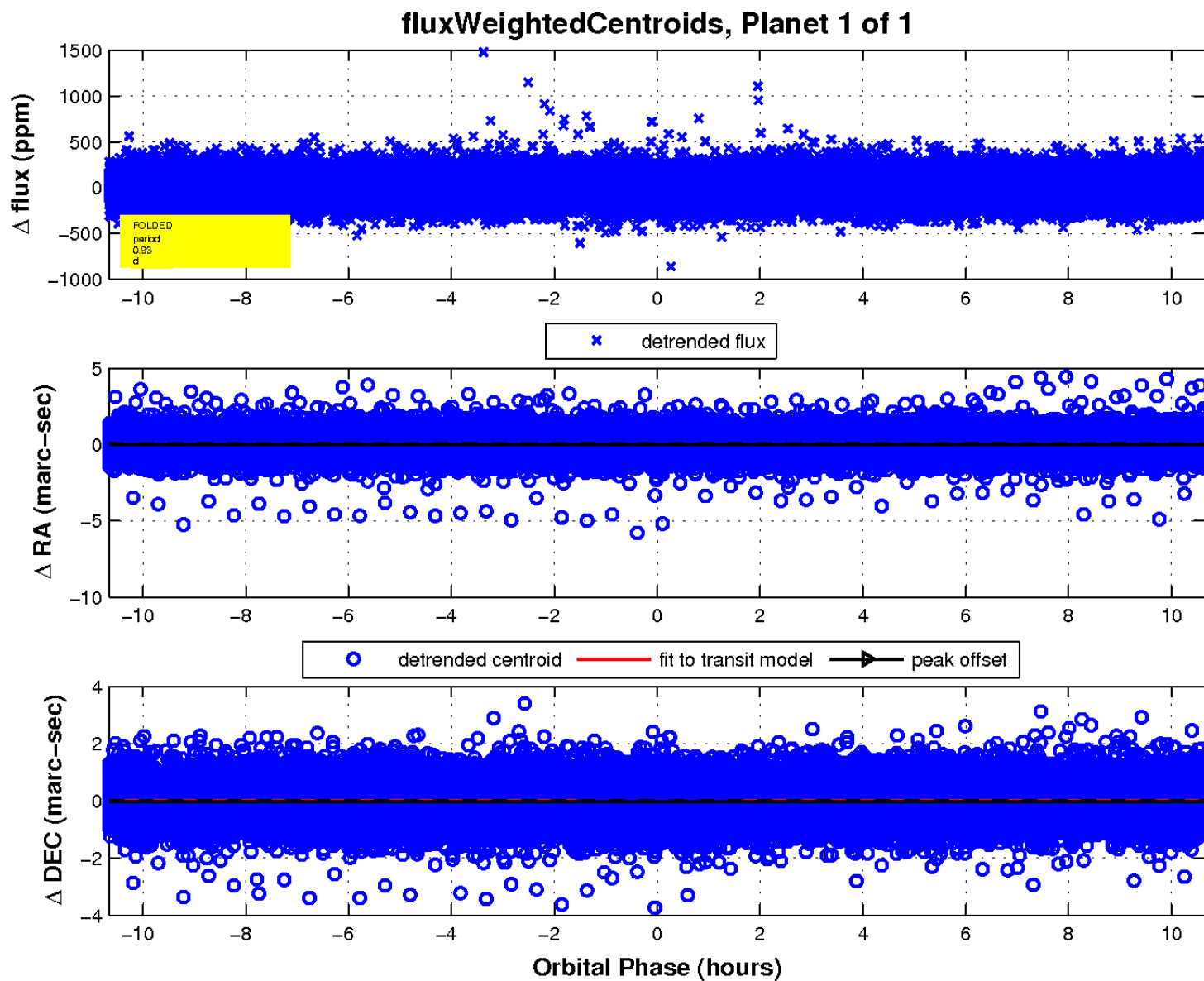
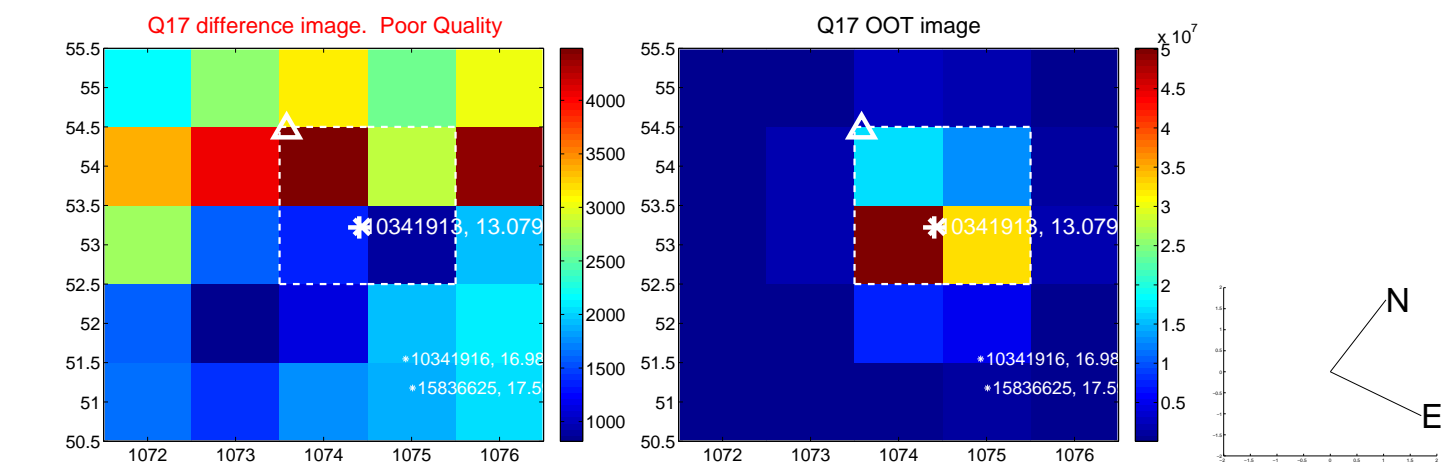
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

