

# KIC 008076630

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008076630-01	OBS	2235.01	0.861638	131.807602	151.0	1.955	24.4	29.8	0.69	5506	1.00	1602.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008076630-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_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.

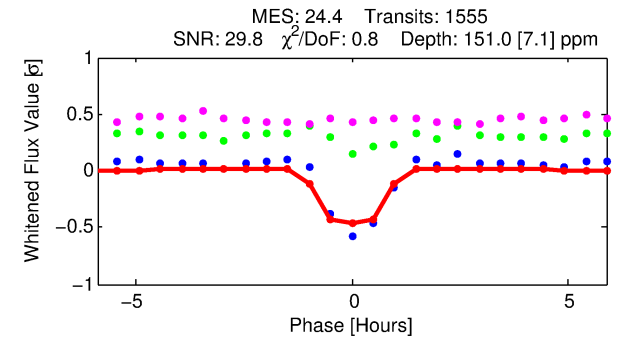
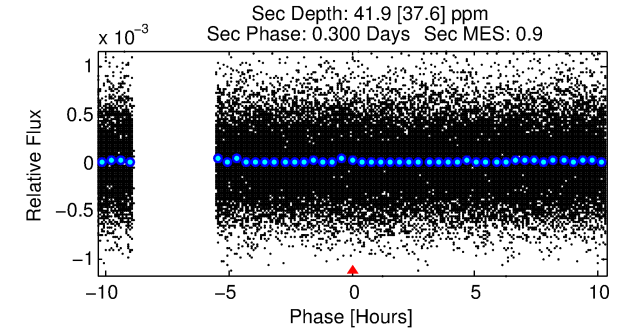
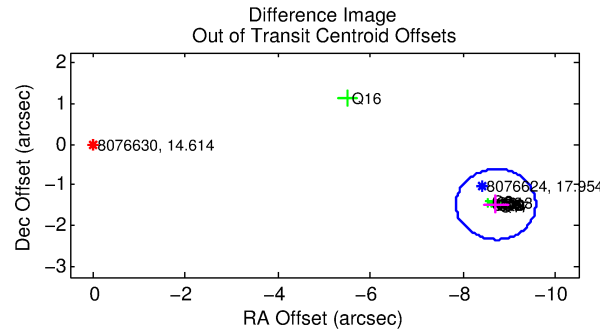
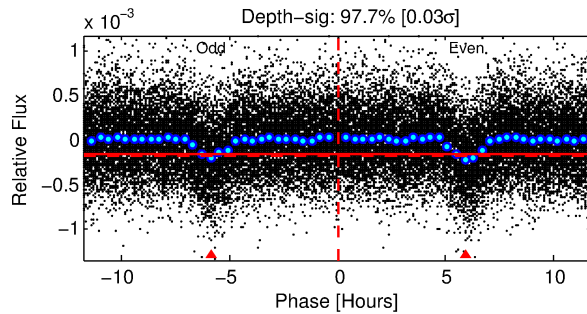
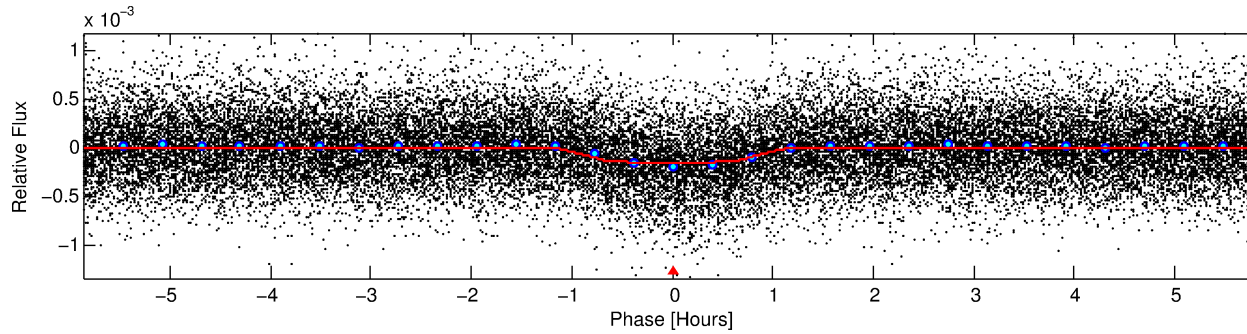
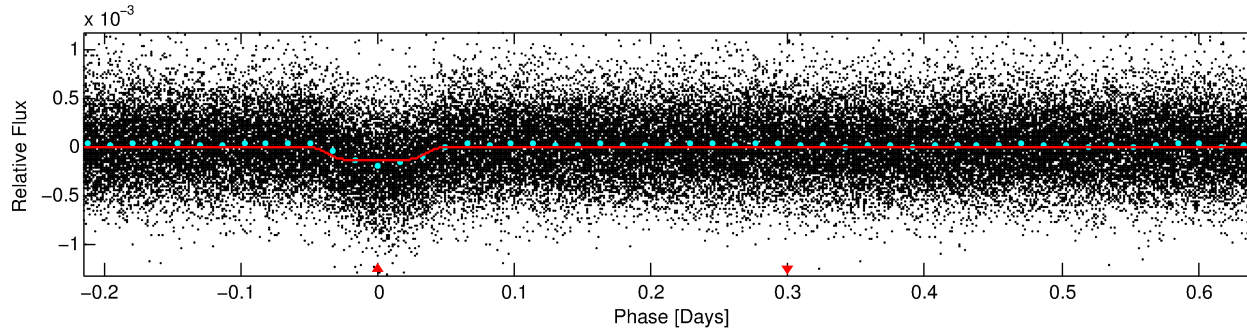
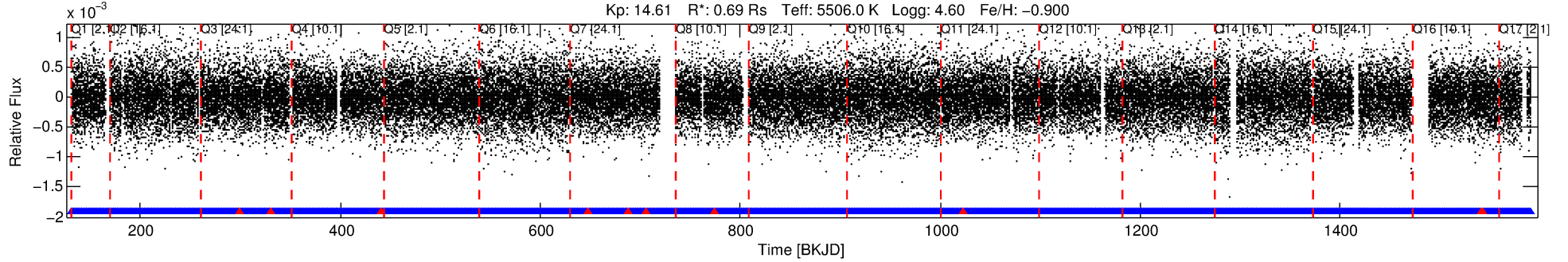
## Ephemeris Match Information For 008076630-01

No Significant Match Found

# DV One-Page Summary

KIC: 8076630 Candidate: 1 of 1 Period: 0.862 d  
KOI: K02235.01 Corr: 0.939

Kp: 14.61 R\*: 0.69 Rs Teff: 5506.0 K Logg: 4.60 Fe/H: -0.900



## DV Fit Results:

Period = 0.86164 [0.00000] d  
Epoch = 131.8076 [0.0009] BKJD  
Rp/R\* = 0.0133 [0.0031]  
a/R\* = 1.83 [1.50]  
b = 0.90 [0.25]  
Seff = 1602.75 [285.75]  
Teq = 1613 [72] K  
Rp = 1.00 [0.26] Re  
a = 0.0156 [0.0015] AU  
Ag = 5.61 [5.72] [0.81σ]  
Teffp = 3838 [977] K [2.27σ]

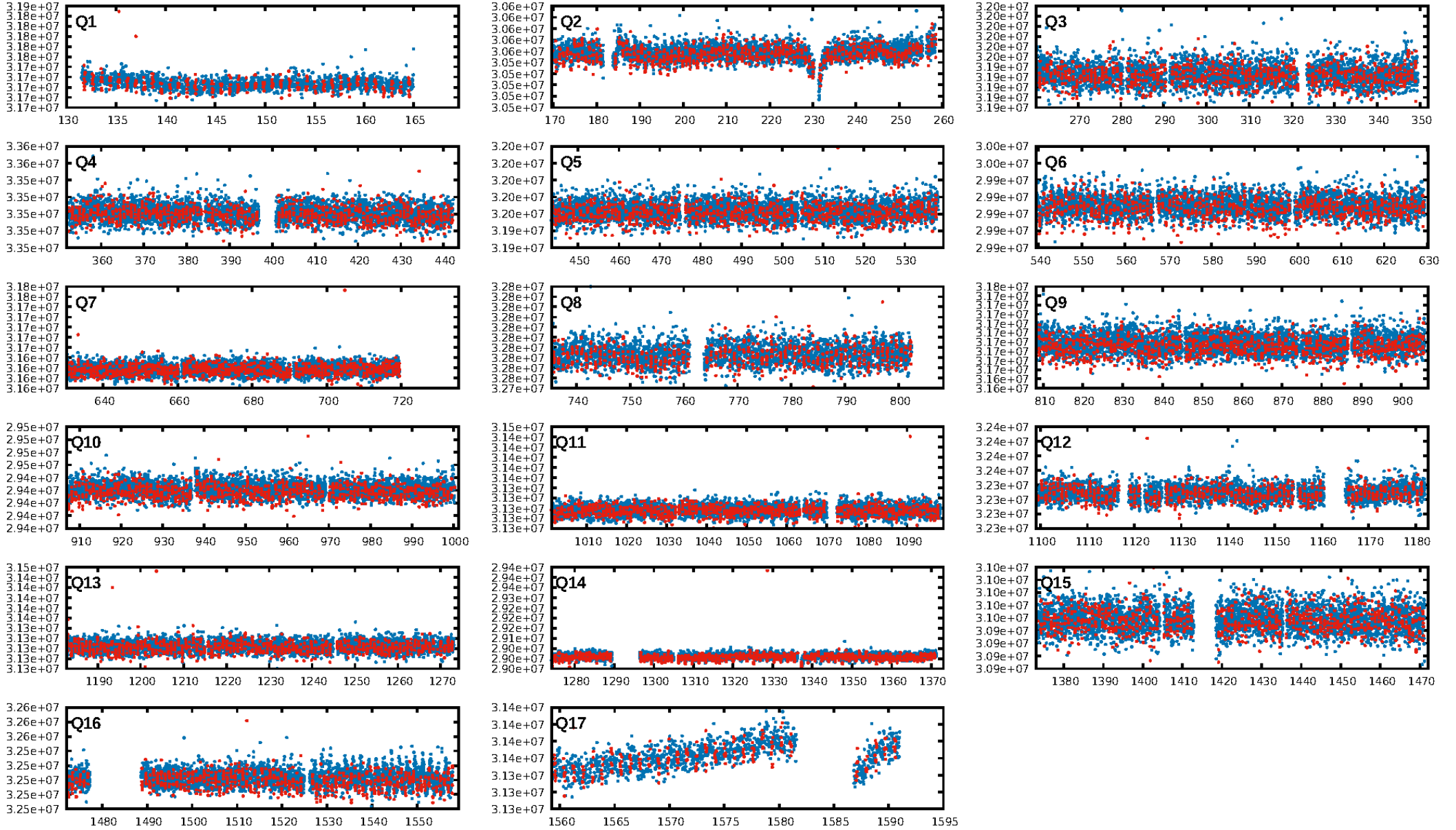
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.49e-126  
RollingBand-fgt: 0.99 [1475/1485]  
GhostDiagnostic-chr: -1.109  
Centroid-sig: 0.0%  
Centroid-so: 4.508 arcsec [9.68σ]  
OotOffset-rm: 8.834 arcsec [30.73σ]  
KicOffset-rm: 8.975 arcsec [27.10σ]  
OotOffset-st: 4/0/3/5 [12]  
KicOffset-st: 4/0/3/5 [12]  
DiffImageQuality-fgm: 1.00 [12/12]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:36:43 Z

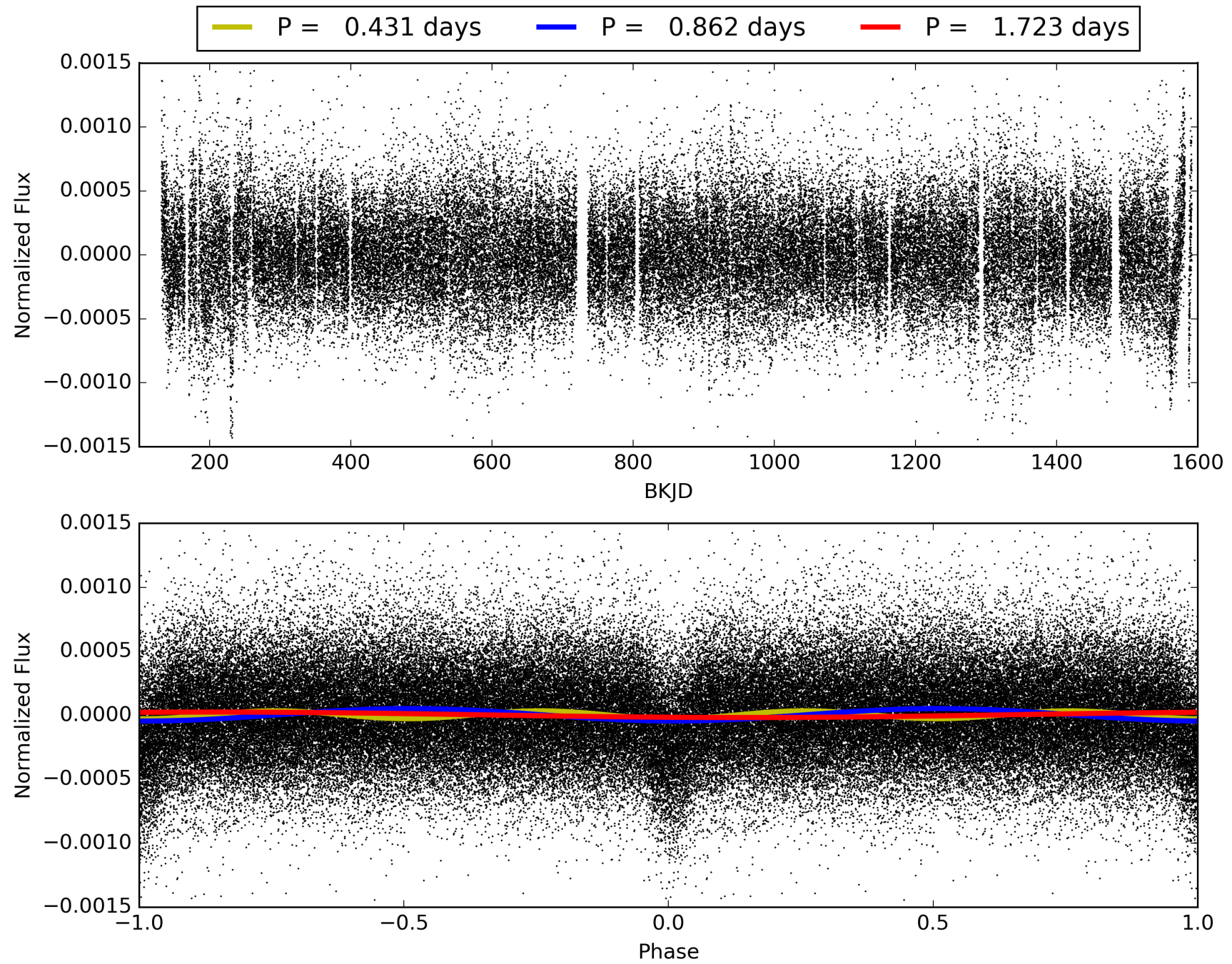
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008076630-01, PDC Light Curves



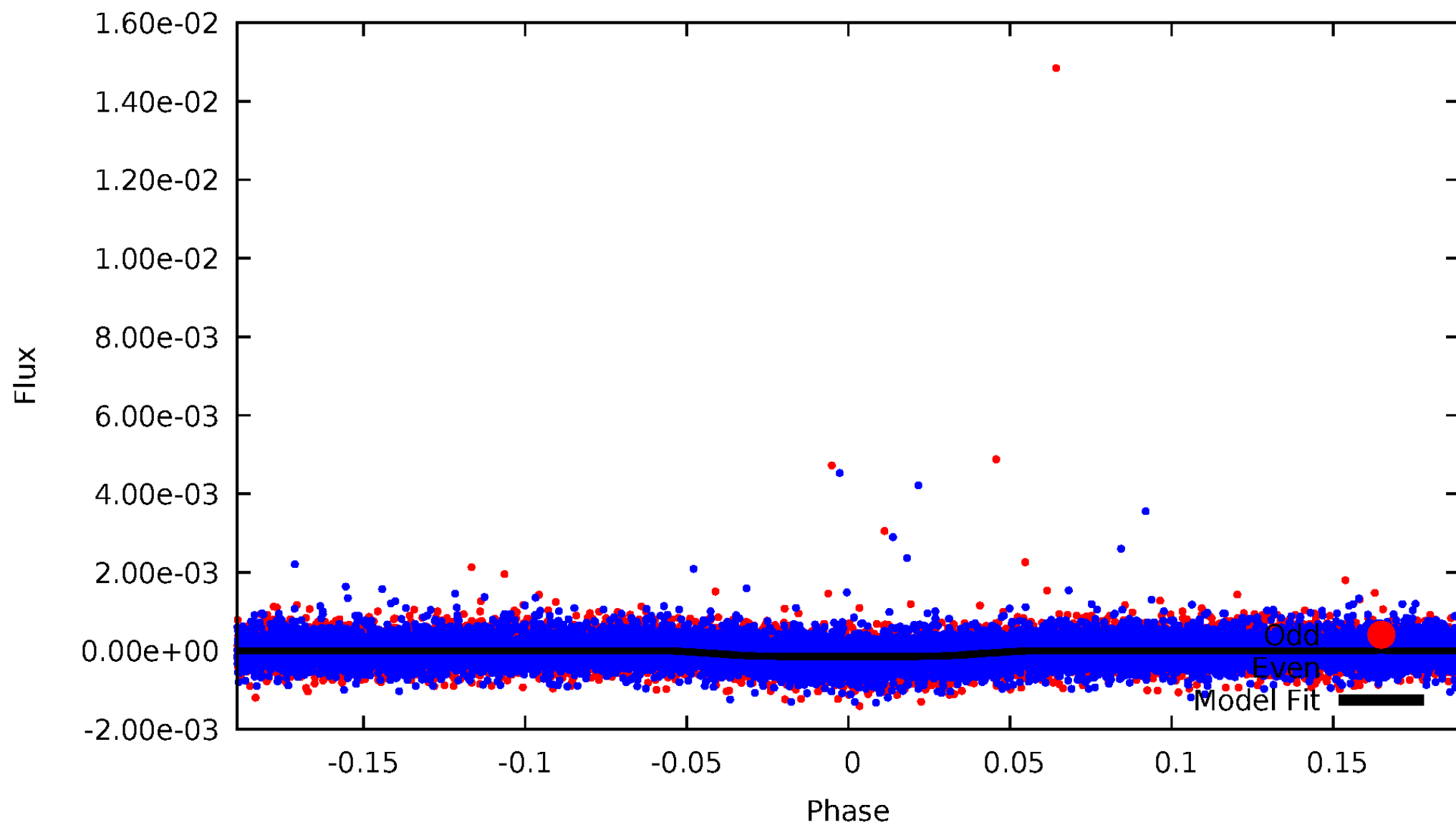


TCE 008076630-01



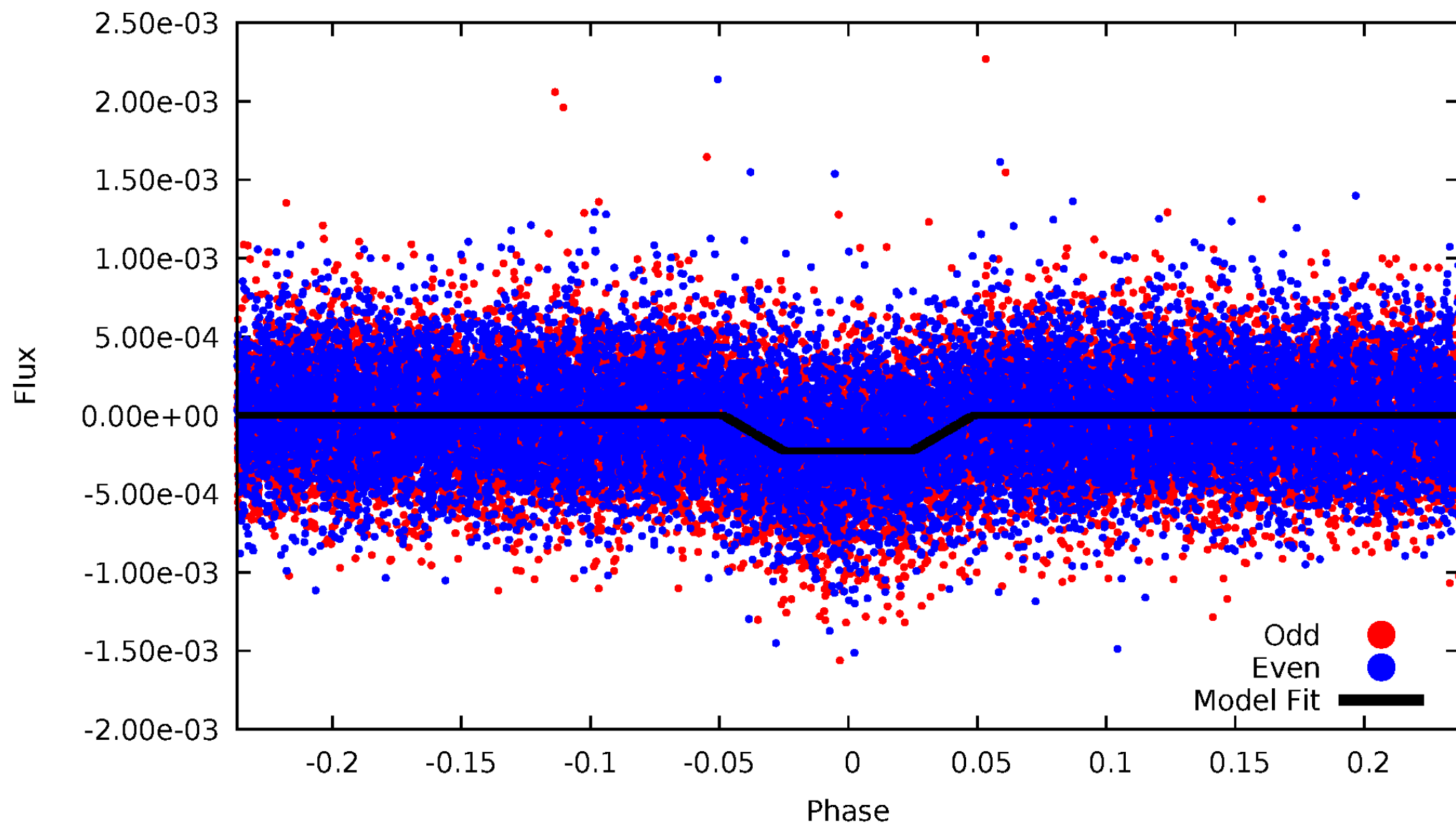
# DV Odd/Even

TCE 008076630-01



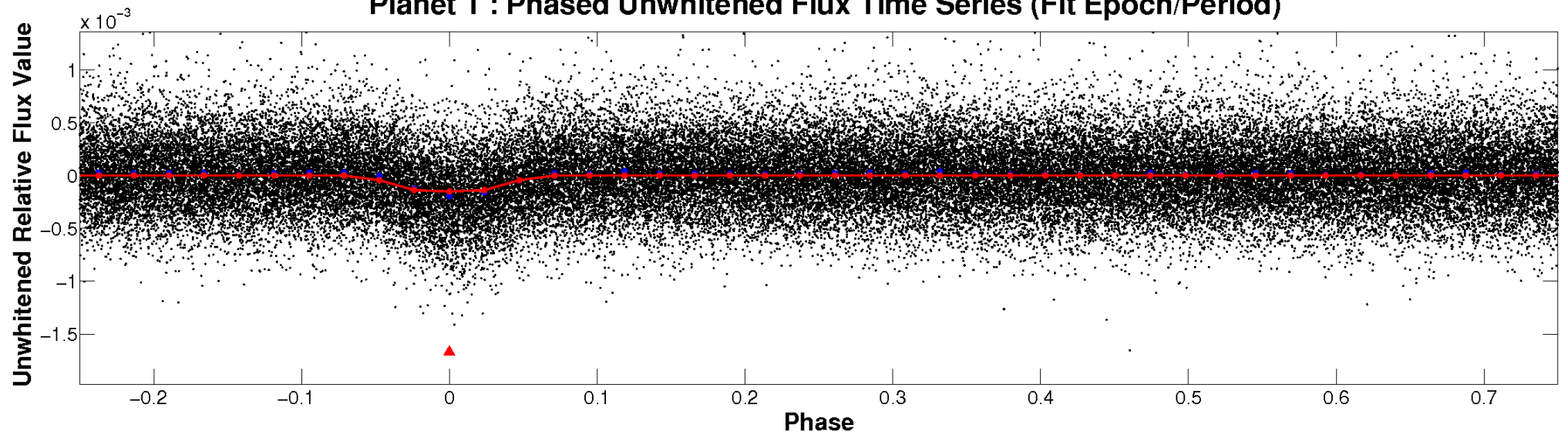
# ALT Odd/Even

TCE 008076630-01

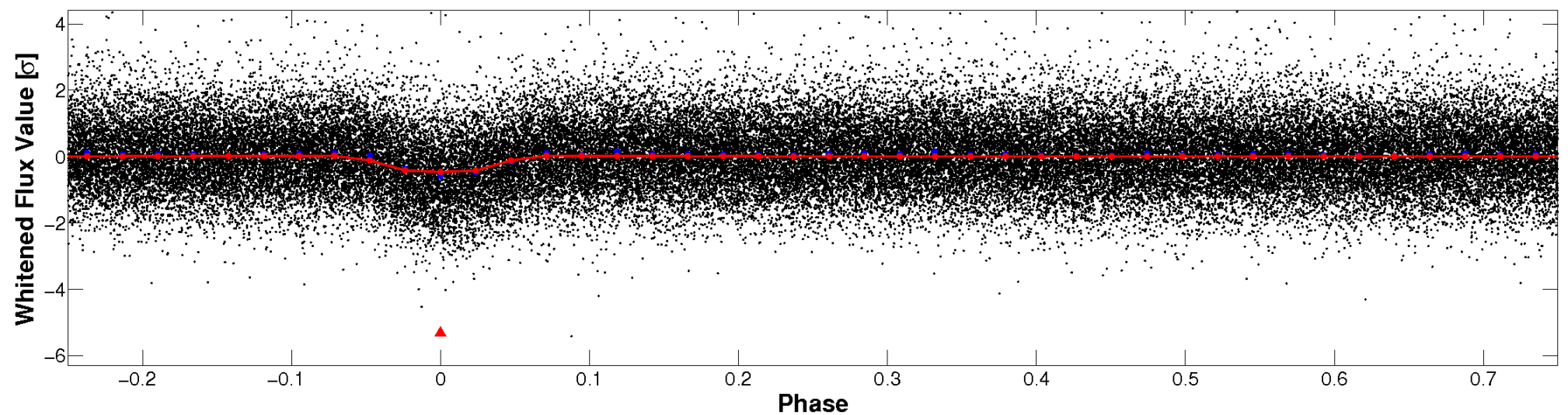


# Non-Whitened Vs. Whitened Light Curve

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



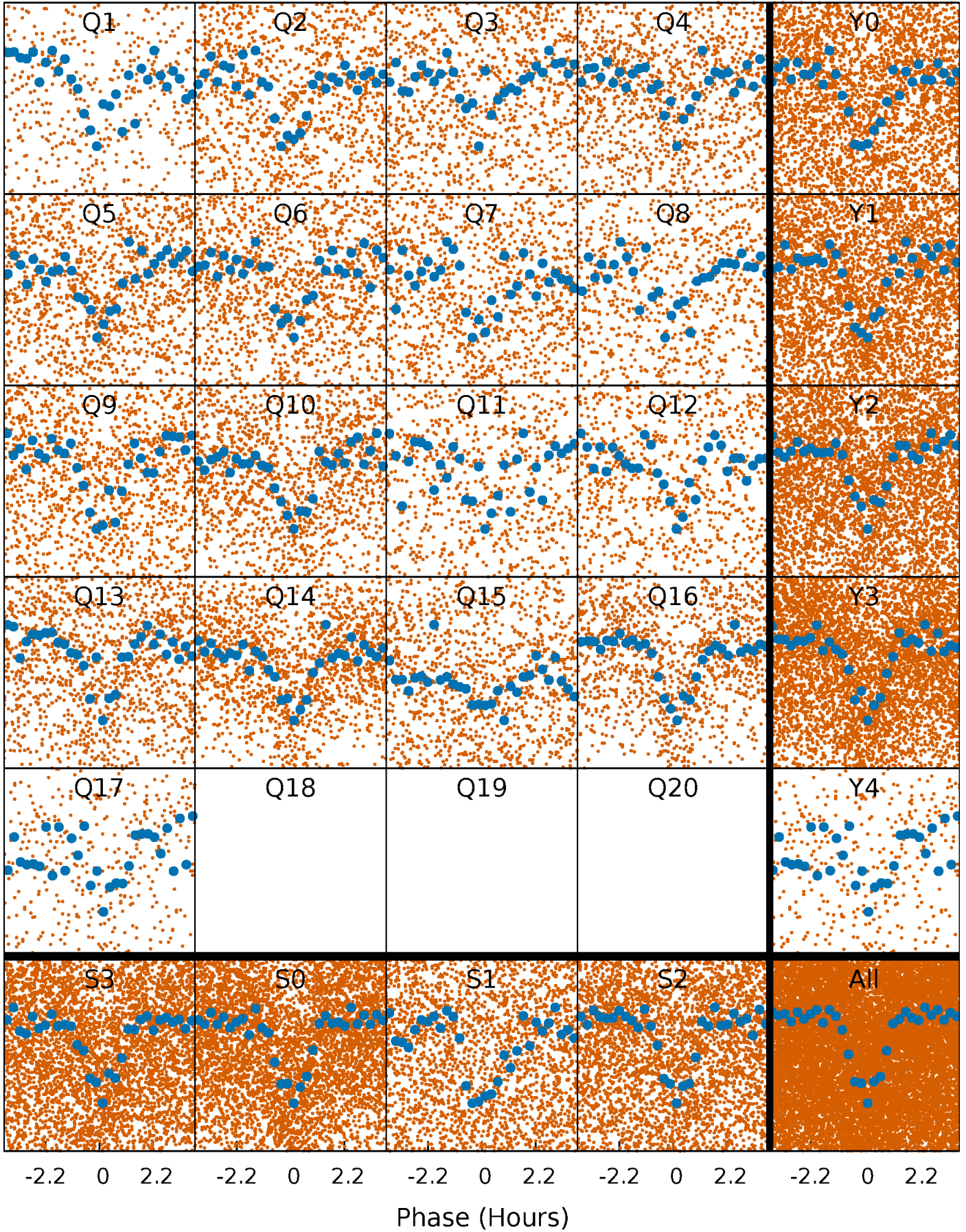
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

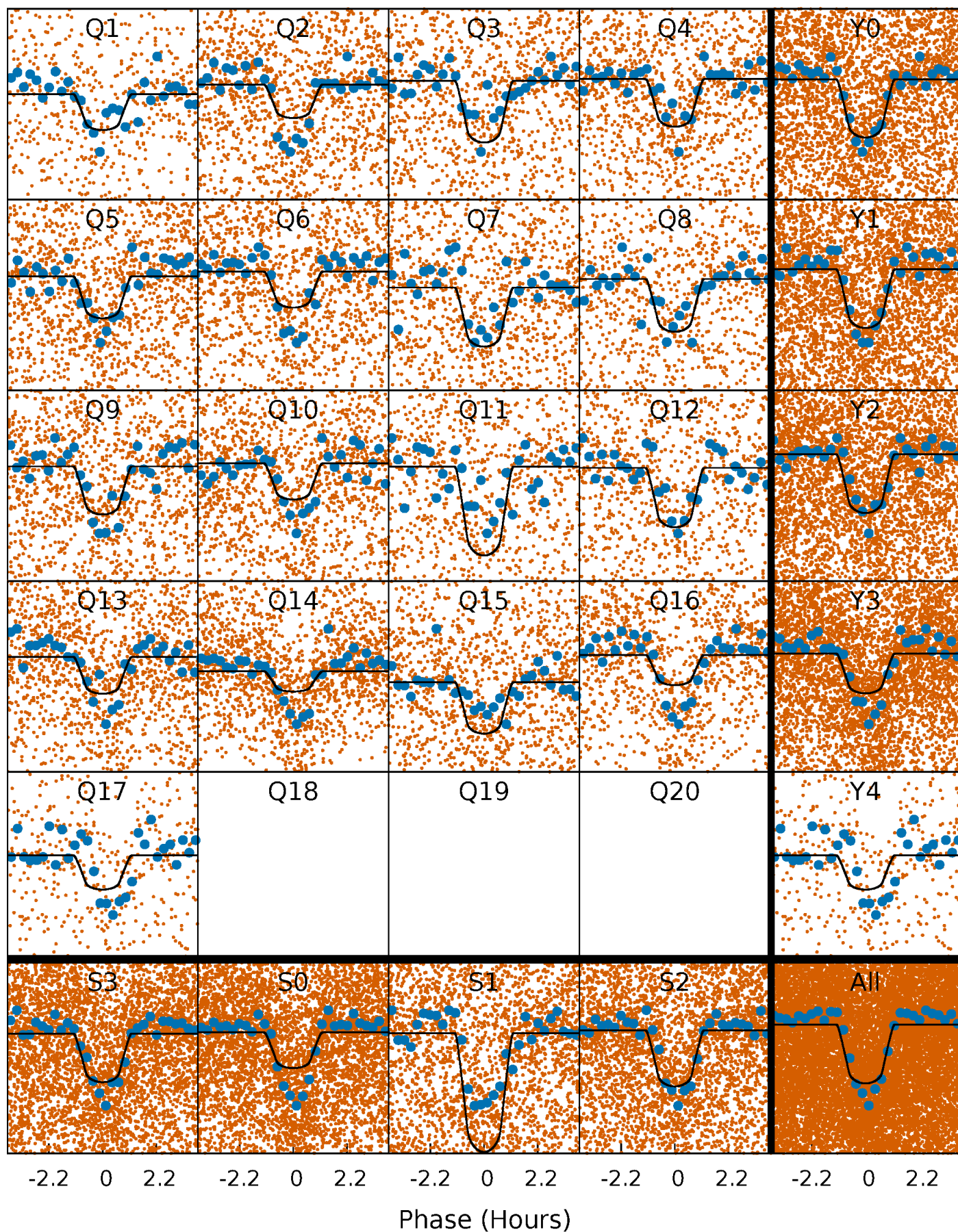
TCE 008076630-01 P= 0.861638 Days  $T_0=131.807602$  (BKJD)





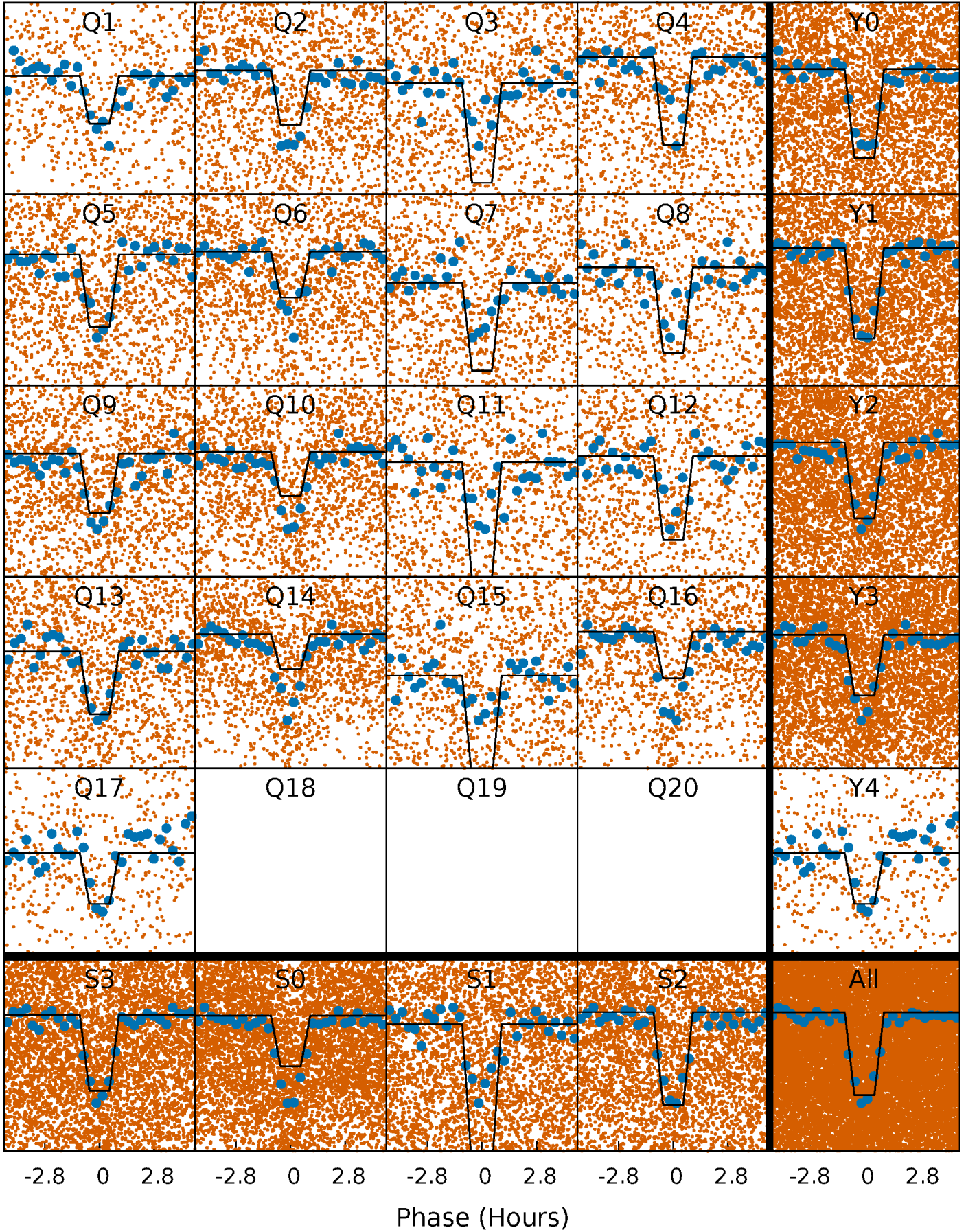
# DV Quarter-Phased Transit Curves

TCE 008076630-01 P= 0.861638 Days  $T_0=131.807602$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008076630-01 P= 0.861647 Days  $T_0=131.804894$  (BKJD)

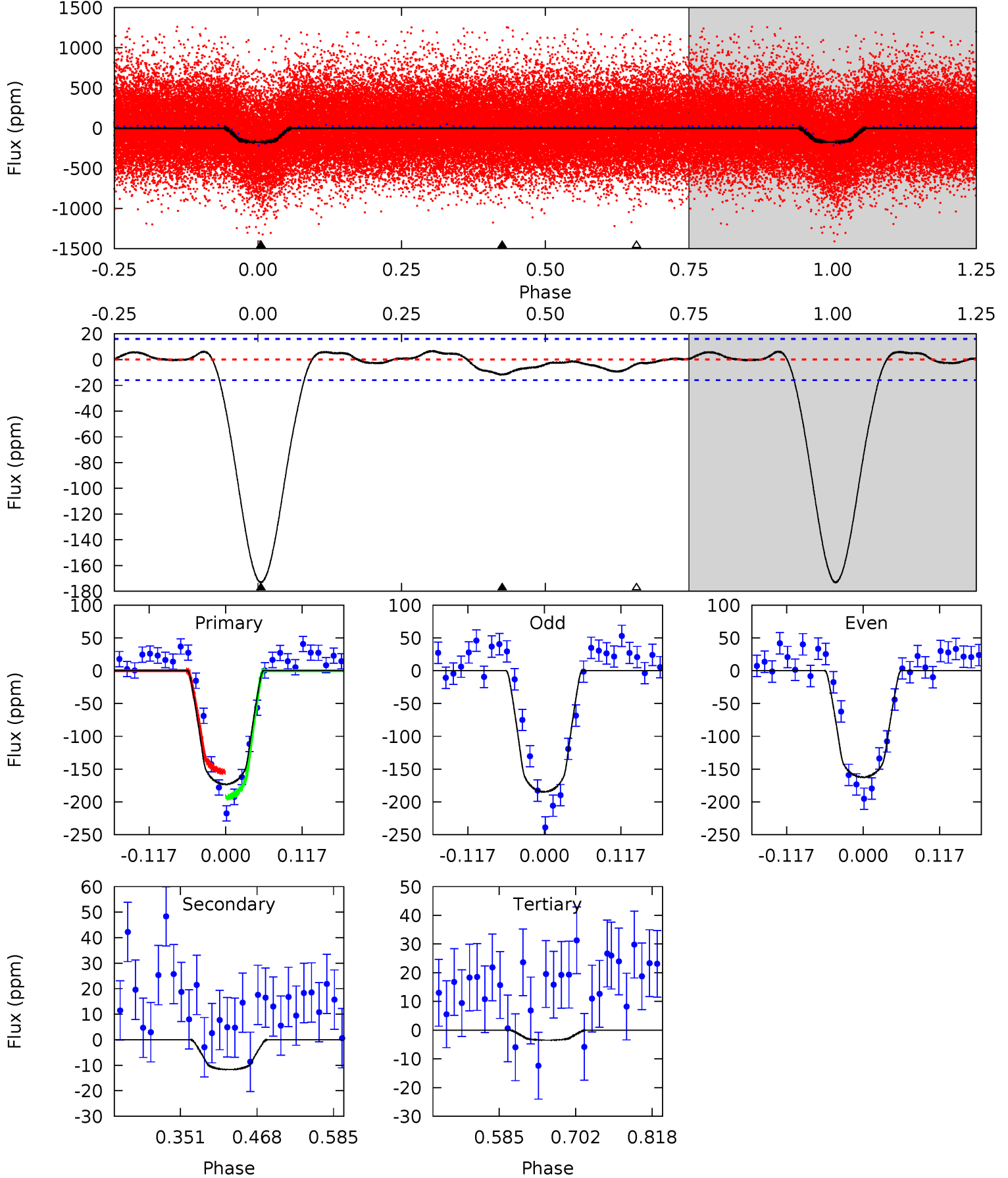




# DV Model-Shift Uniqueness Test

008076630-01, P = 0.861638 Days, E = 130.945964 Days

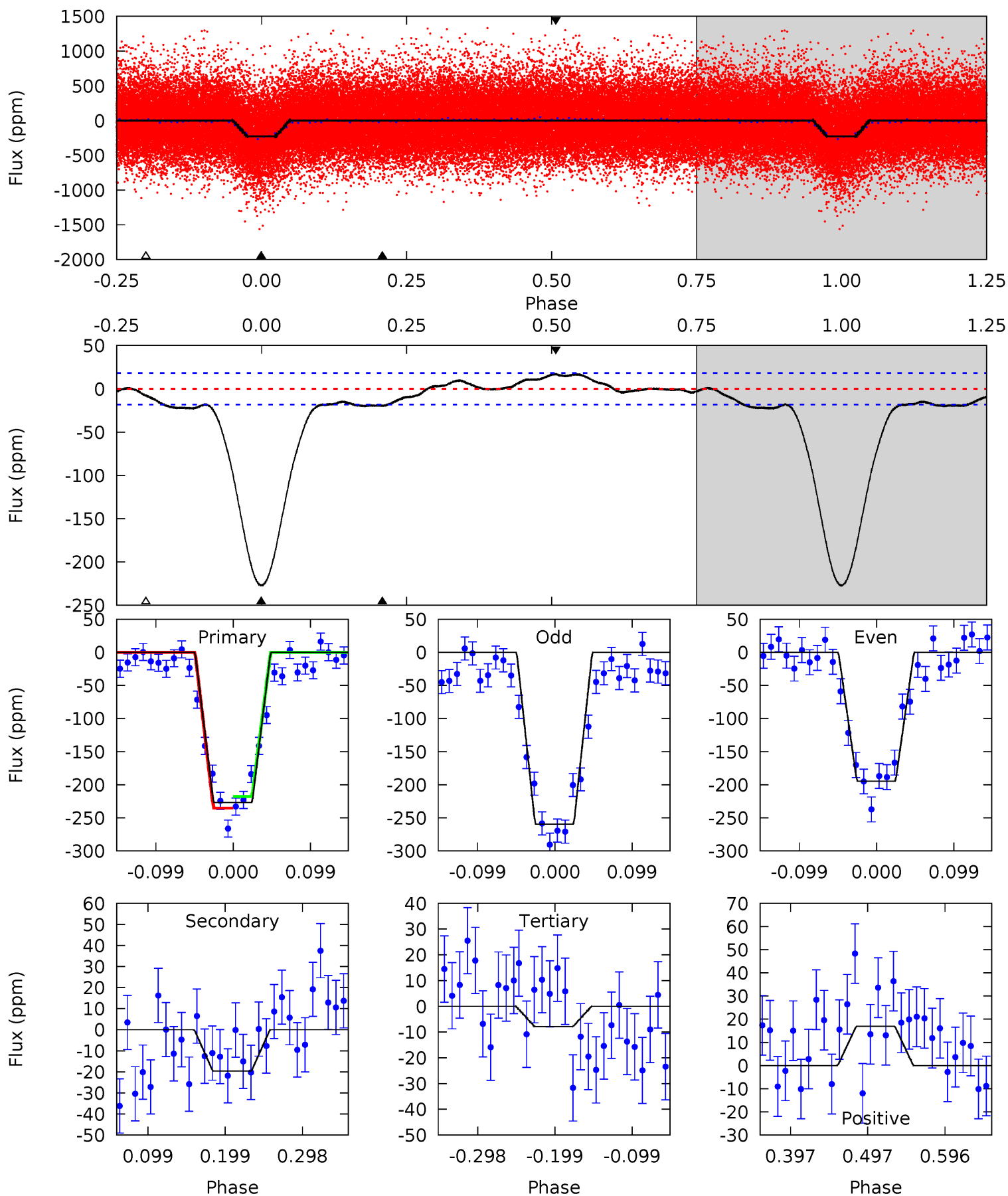
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.9	3.31	0.98	0	4.53	1.57	1.09	47.9	48.9	2.33	3.31	3.15	0.99	0.04	5.50



# Alt Model-Shift Uniqueness Test

008076630-01, P = 0.861647 Days, E = 130.943247 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
56.9	4.93	1.97	4.25	4.57	1.65	2.69	55.0	52.7	2.96	0.68	8.15	1.03	0.07	2.20





### Stellar Parameters For KIC 008076630

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5506^{+164}_{-164}$	$4.596^{+0.071}_{-0.065}$	$-0.900^{+0.300}_{-0.300}$	$0.688^{+0.078}_{-0.058}$	$0.682^{+0.068}_{-0.034}$	$2.949^{+0.851}_{-0.661}$
	+3%/-3%	+2%/-1%	+33%/-33%	+11%/-8%	+10%/-5%	+29%/-22%
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 008076630-01 / KOI 2235.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-12 \pm 4$	$1.01^{+0.25}_{-0.23}$	$2255^{+93}_{-88}$	$3214^{+377}_{-328}$	$1.530^{+1.354}_{-0.651}$
Alt.	$-20 \pm 4$	$1.14^{+0.25}_{-0.23}$	$2249^{+91}_{-83}$	$3372^{+322}_{-267}$	$2.025^{+1.216}_{-0.715}$

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

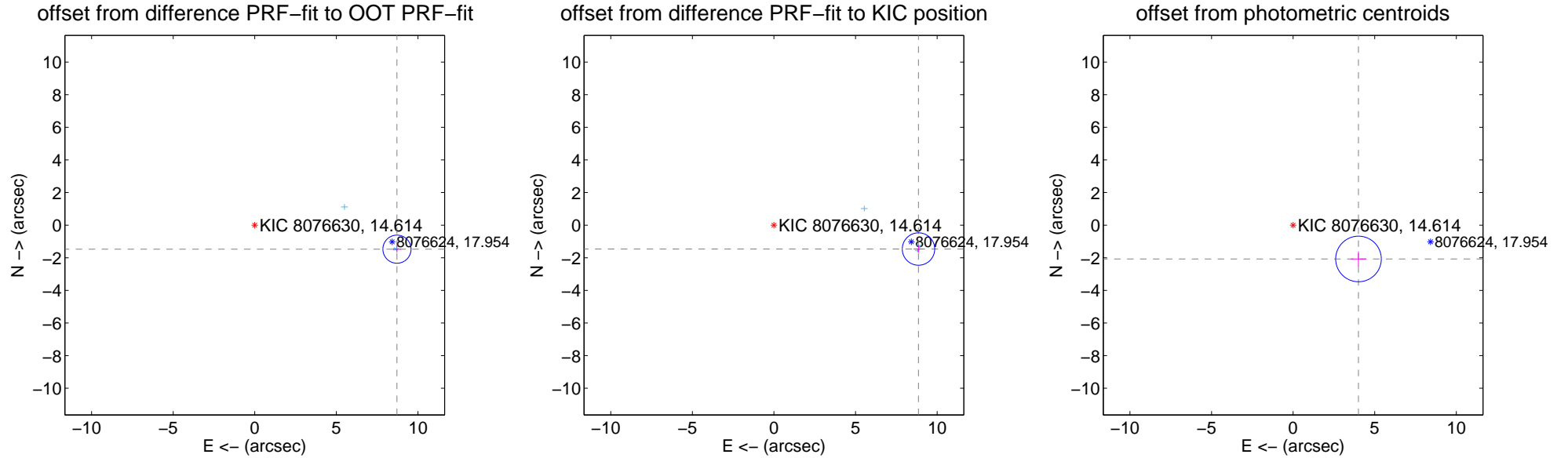
## DV Centroid Data

Supplemental centroid analysis for 008076630-01. Kepler magnitude: 14.61. Transit SNR 29.84

There are 12 quarters with good PRF difference image offsets

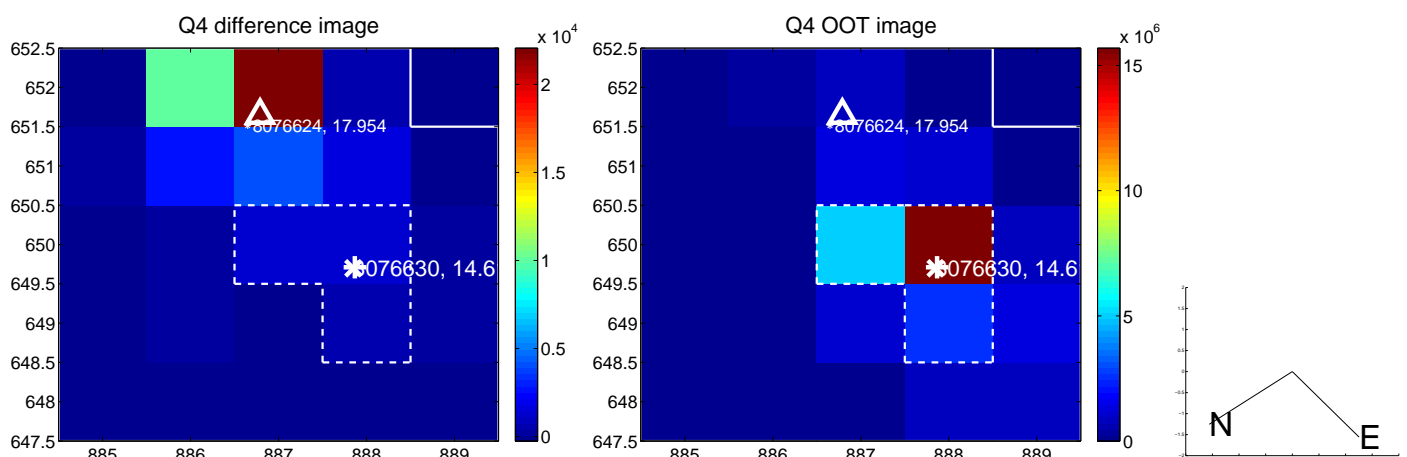
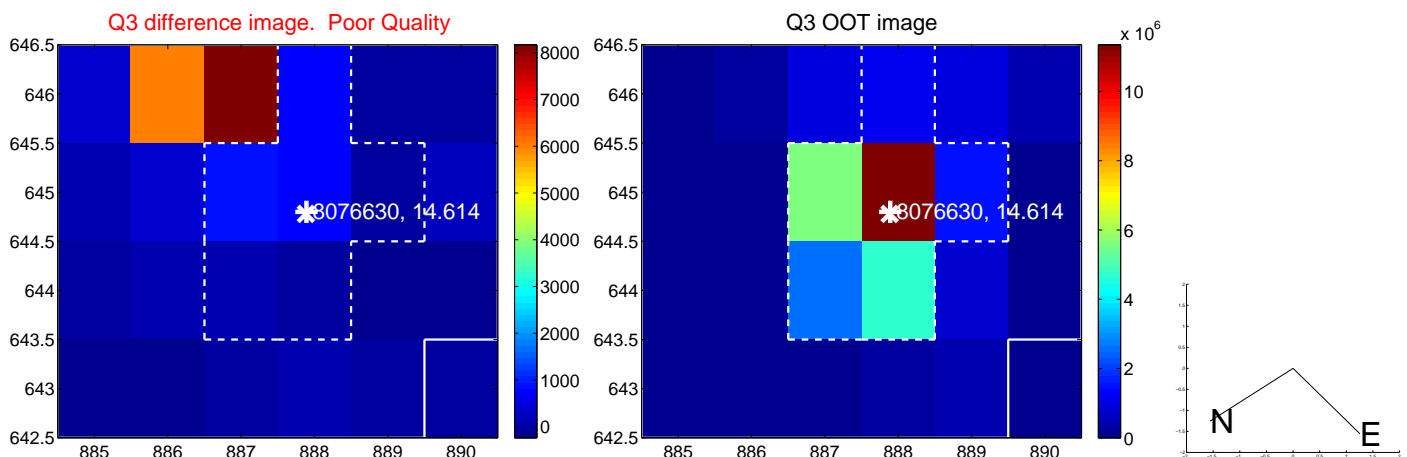
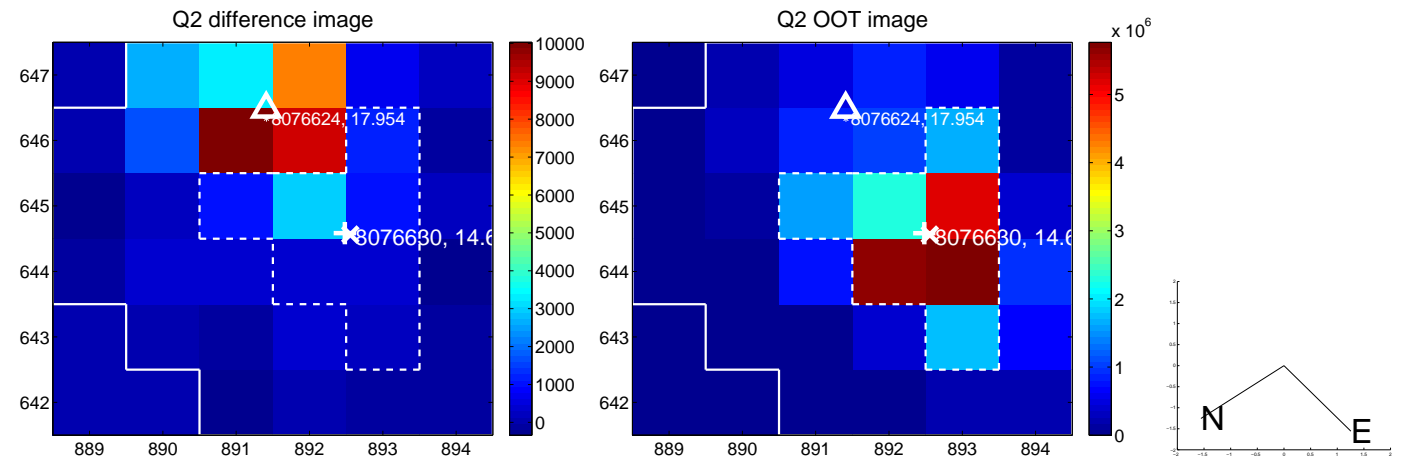
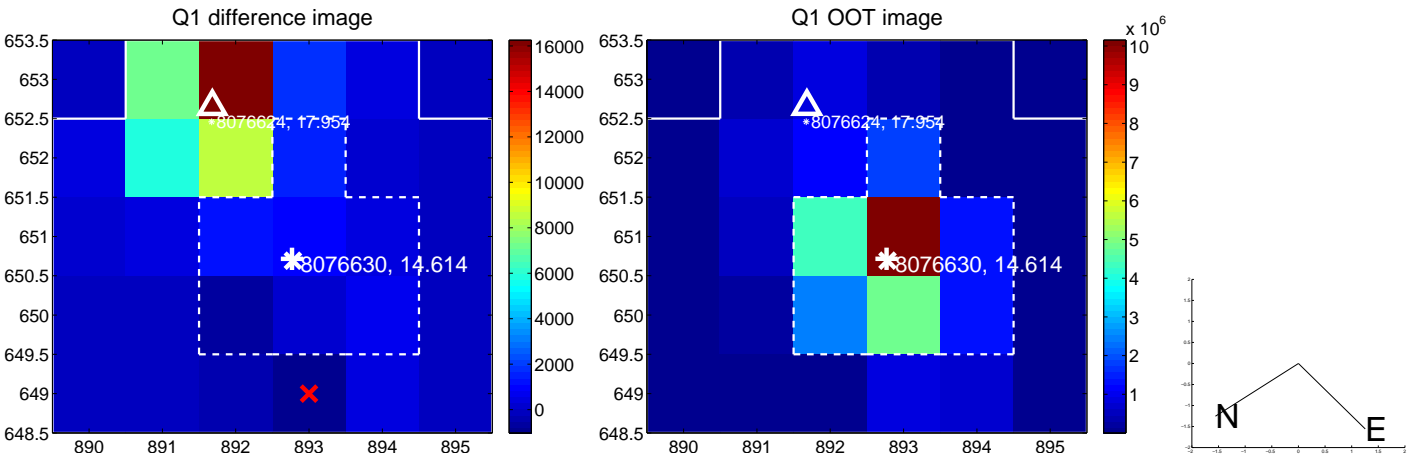
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$8.834 \pm 0.288$	30.73	$-8.711 \pm 0.258$	$-1.473 \pm 0.214$
PRF-fit source offset from KIC position	$8.975 \pm 0.331$	27.10	$-8.855 \pm 0.301$	$-1.464 \pm 0.227$
photometric centroid source offset	$4.51 \pm 0.47$	9.68	$-4.00 \pm 0.47$	$-2.07 \pm 0.46$

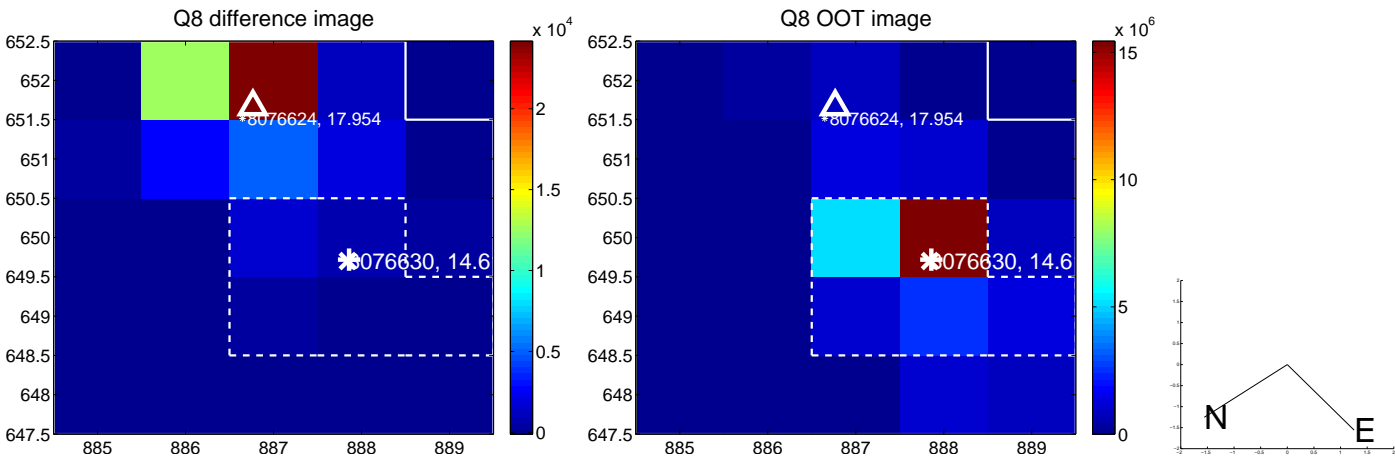
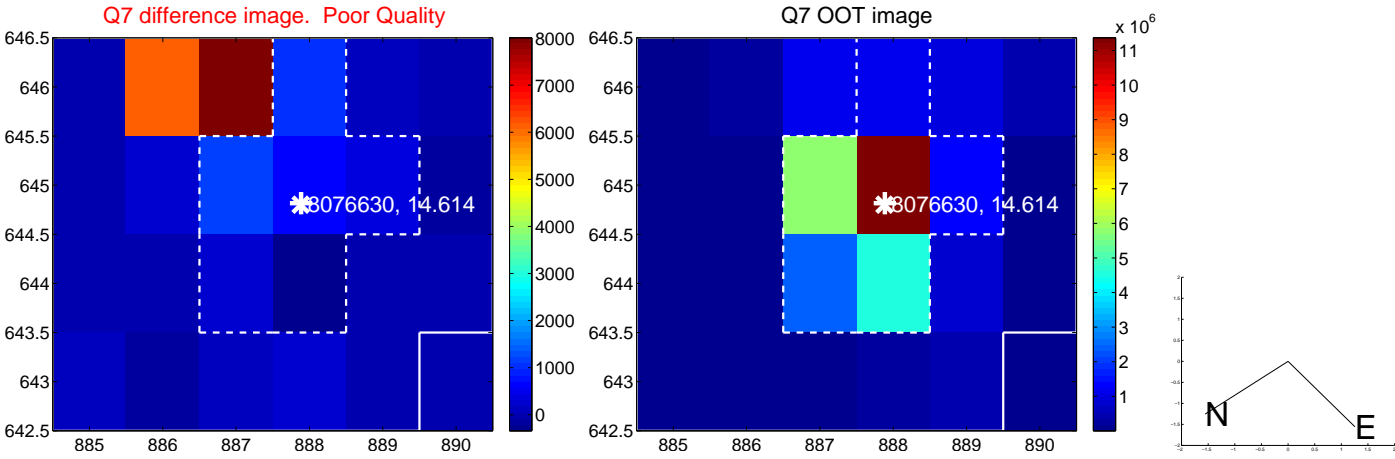
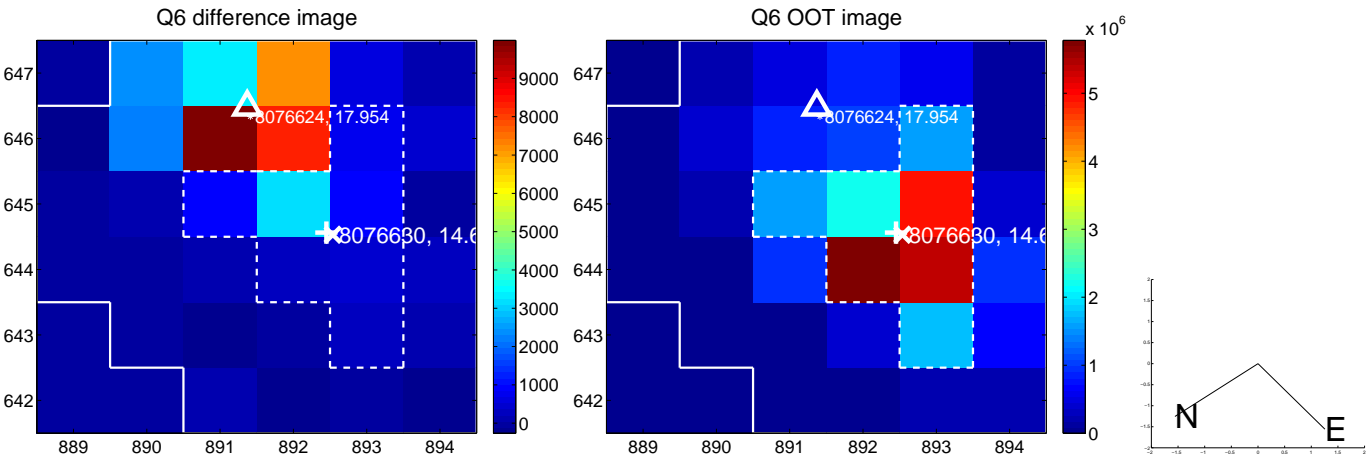
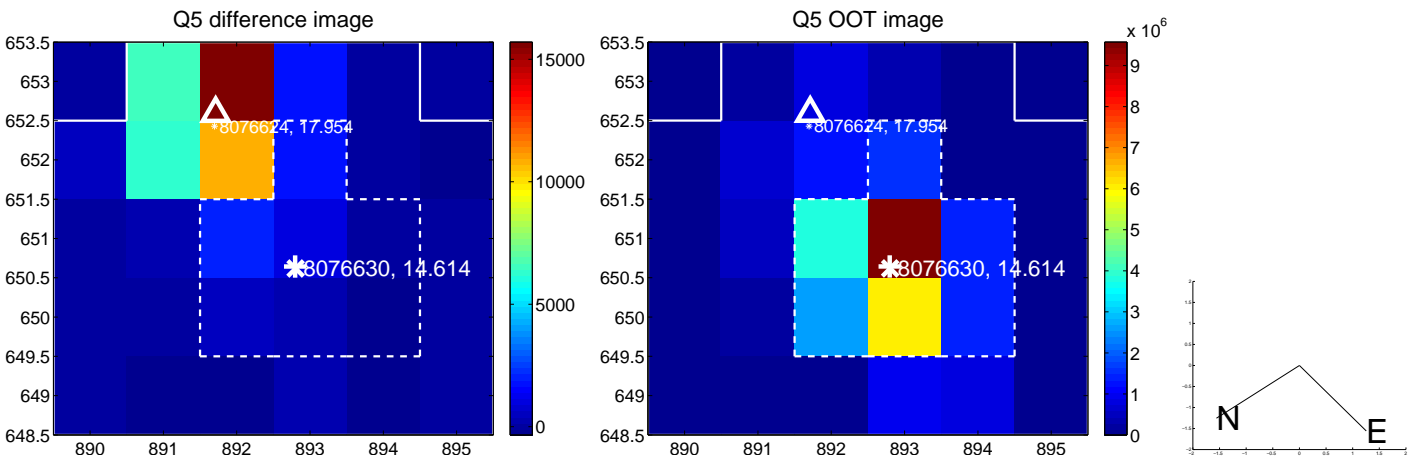


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

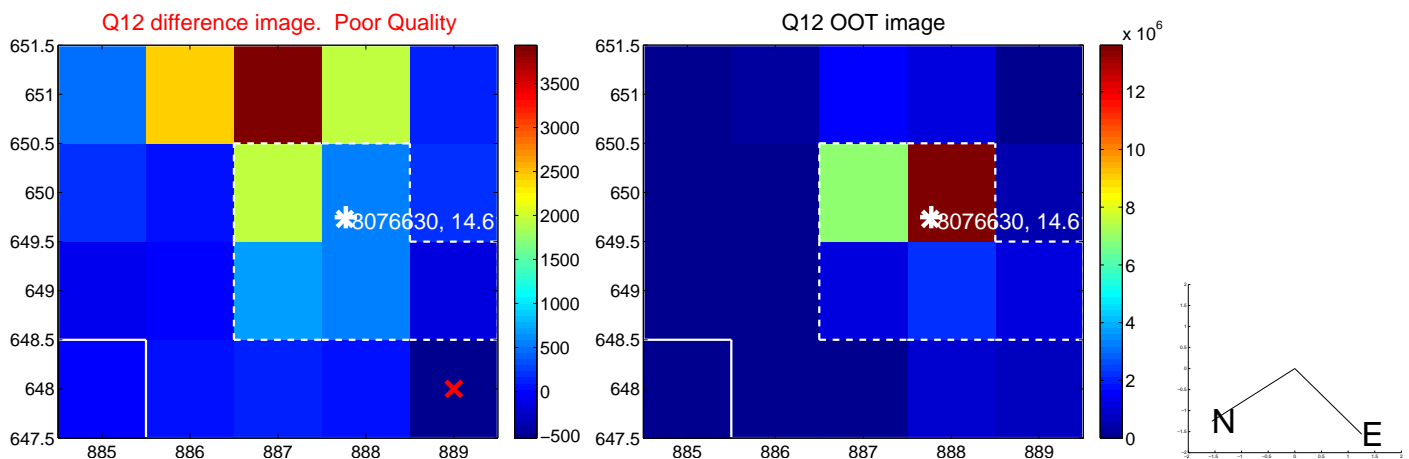
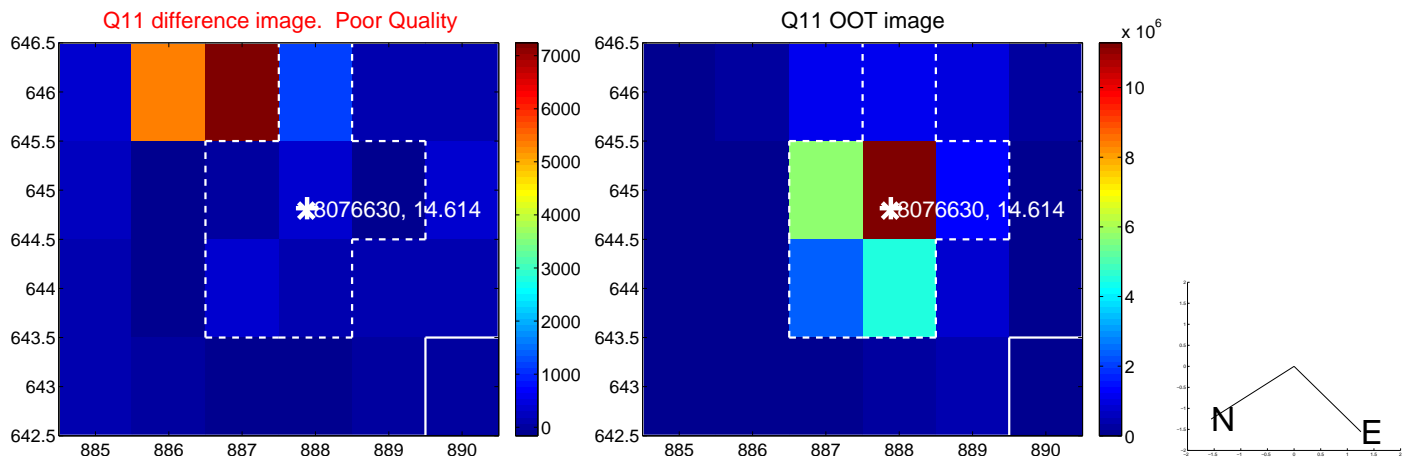
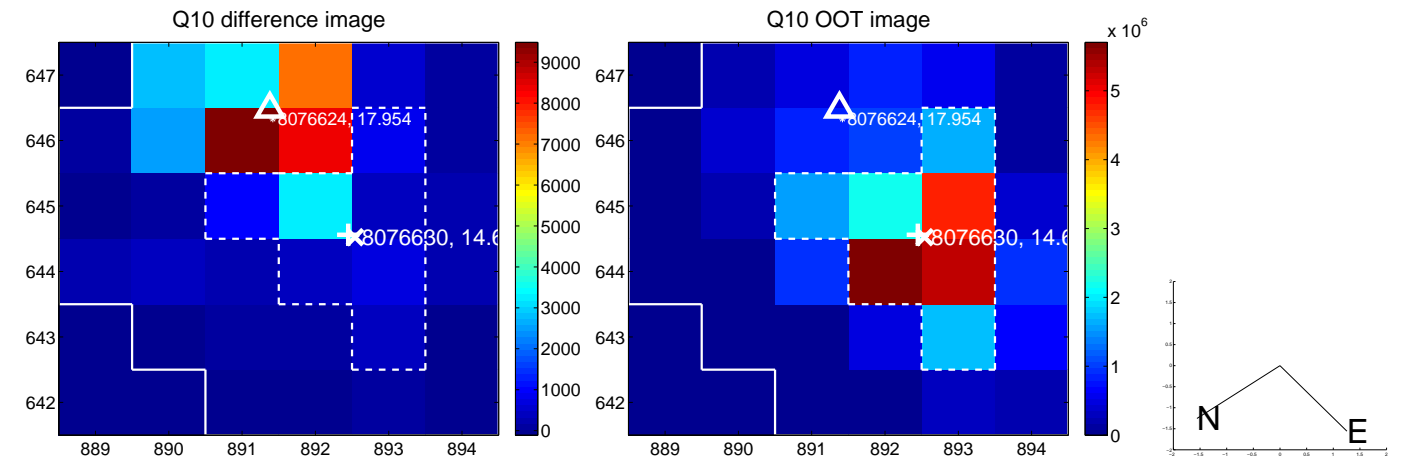
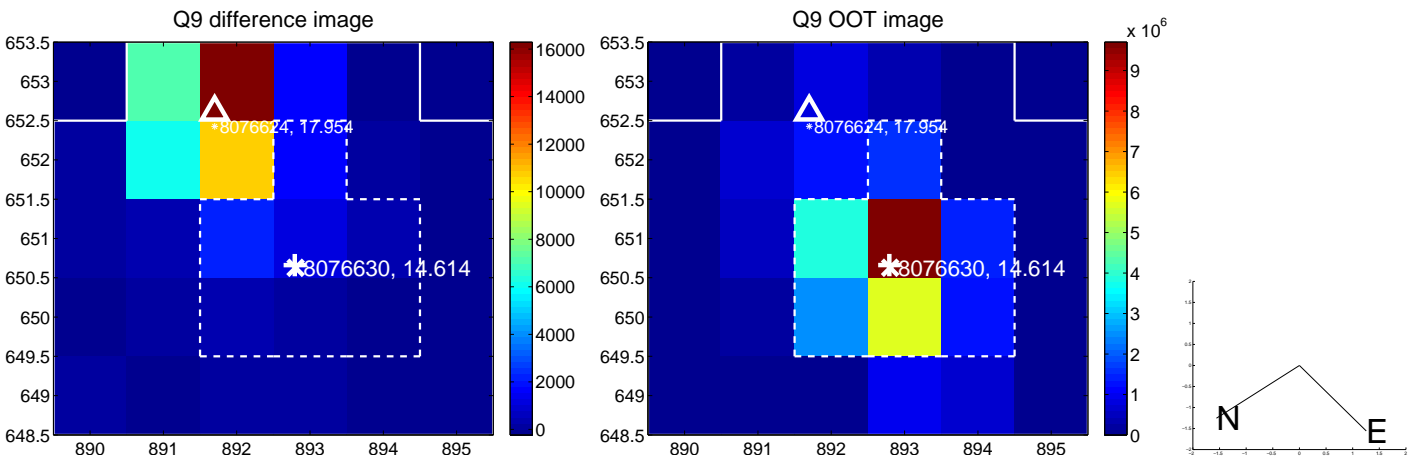


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

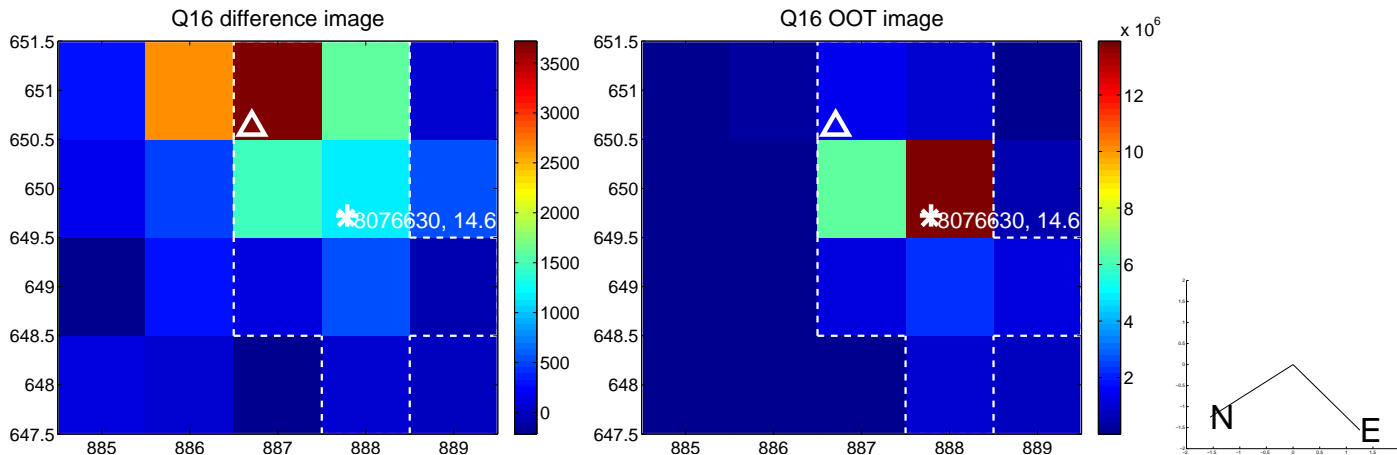
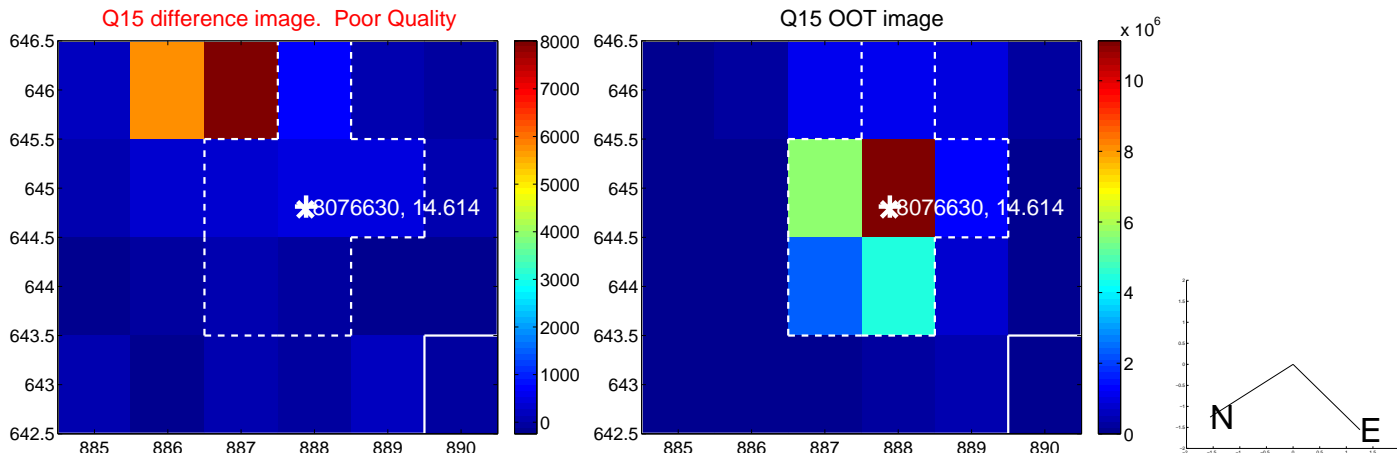
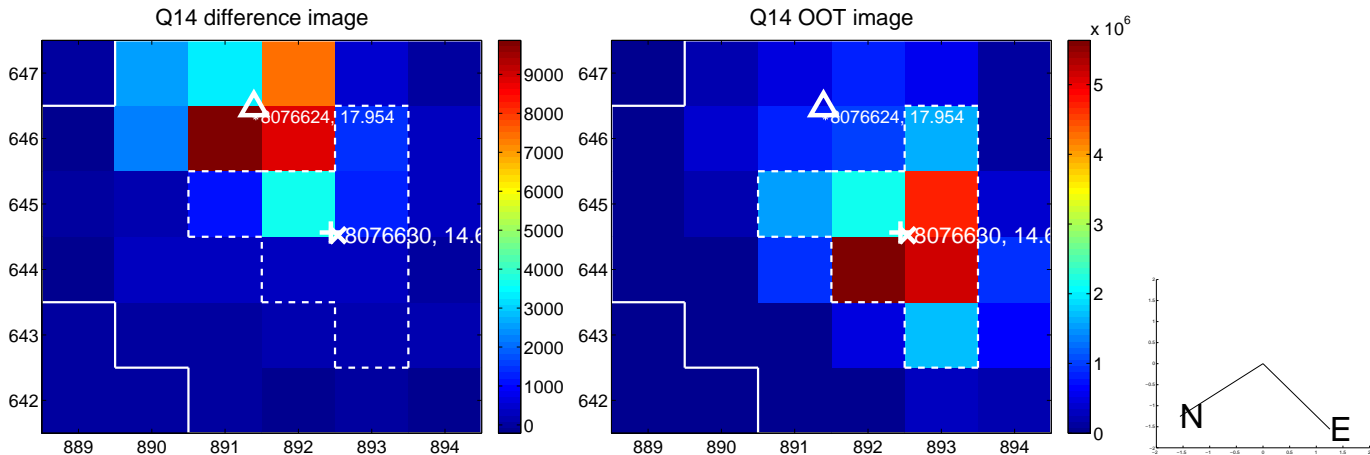
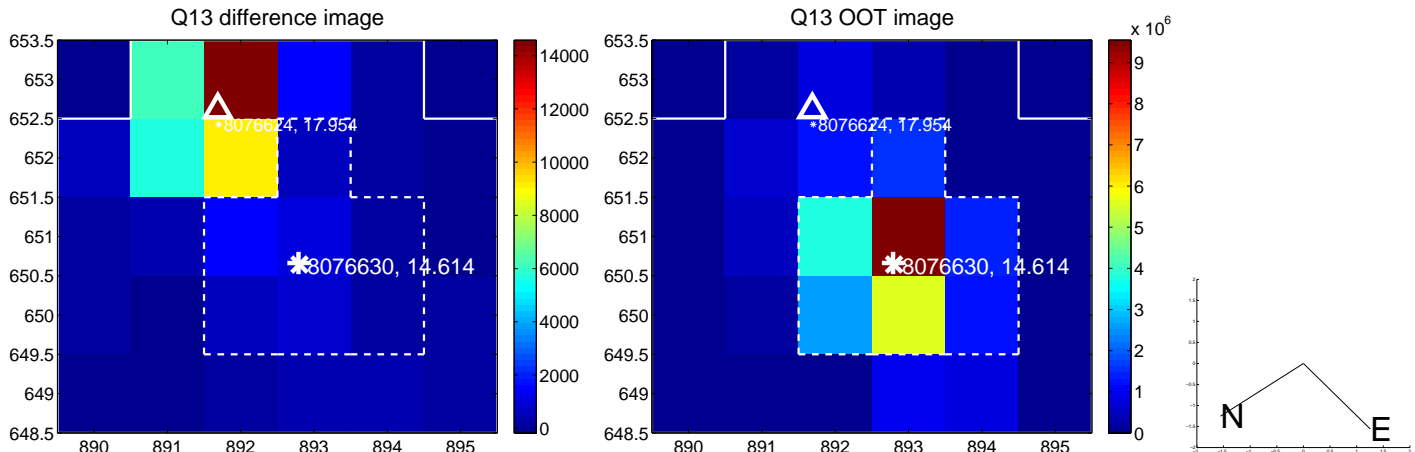




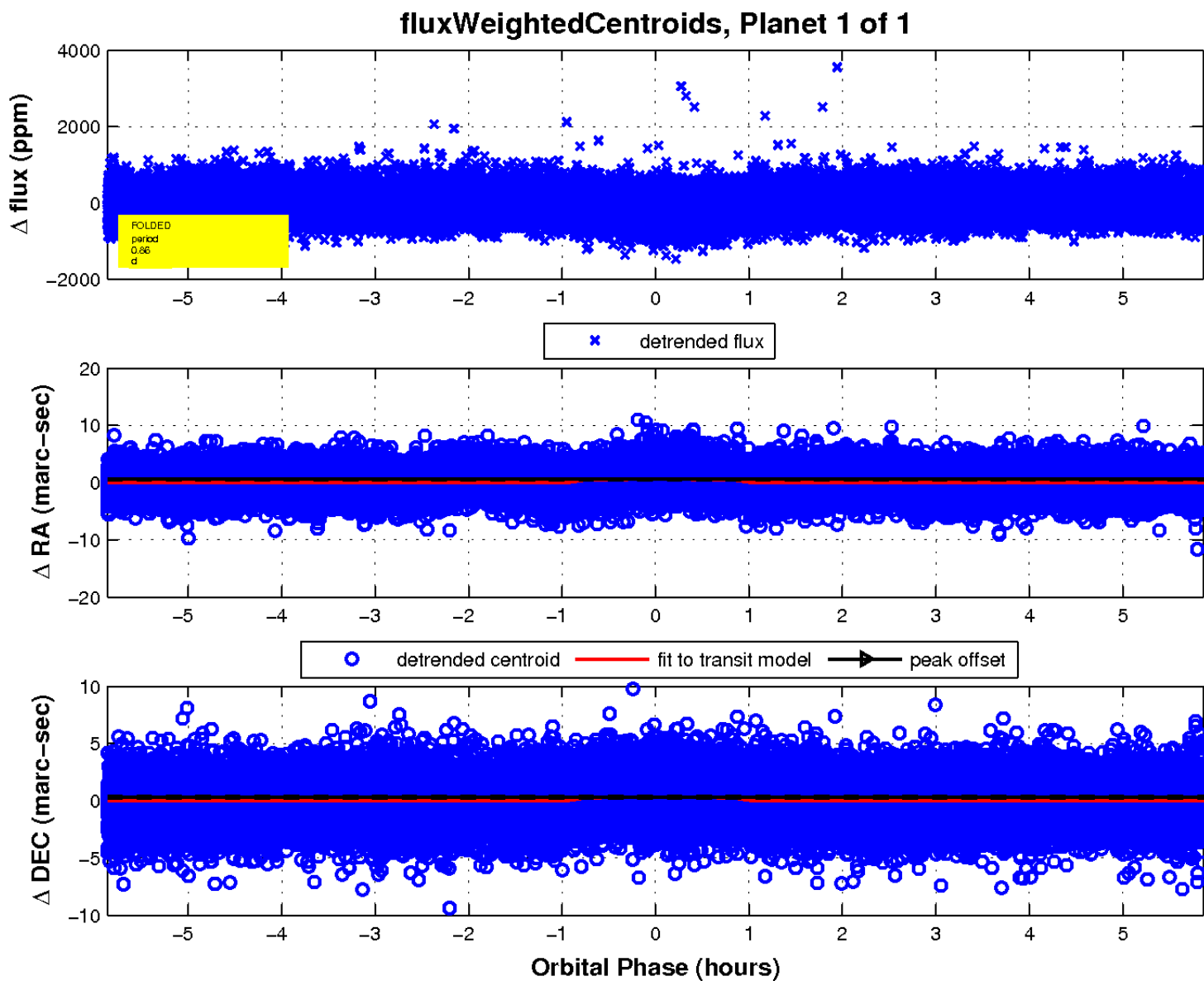
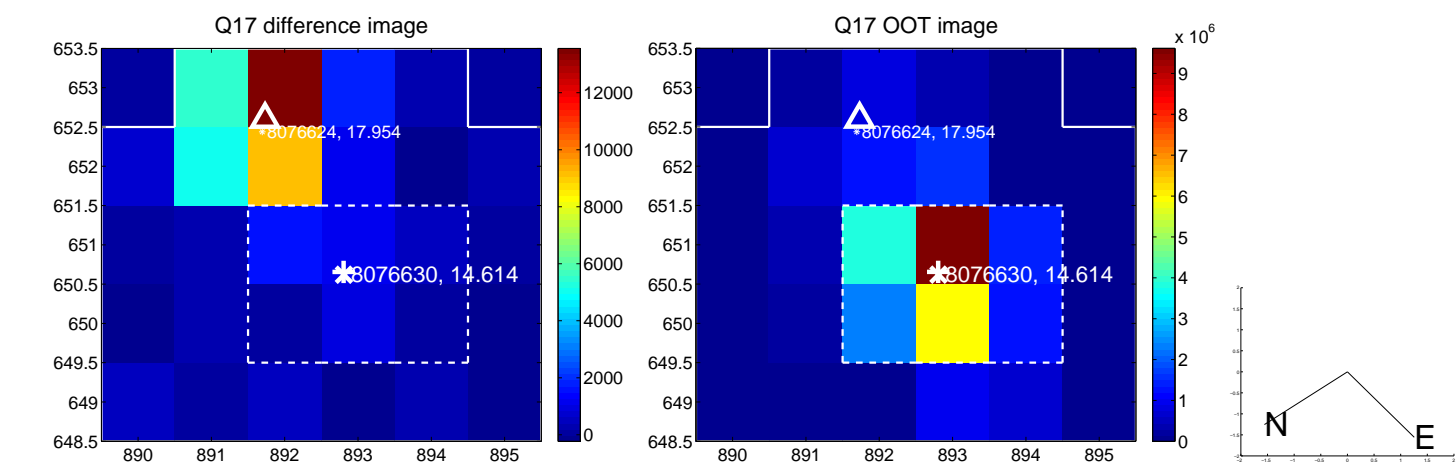
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

