

# KIC 005817986

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005817986-01	OBS	2897.01	0.584299	132.022633	198.7	1.172	18.9	21.7	0.88	5783	1.48	4210.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005817986-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

**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 005817986-01

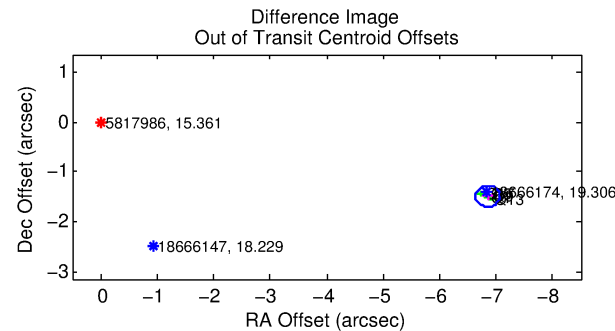
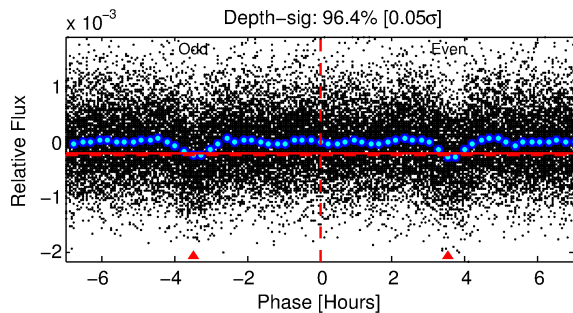
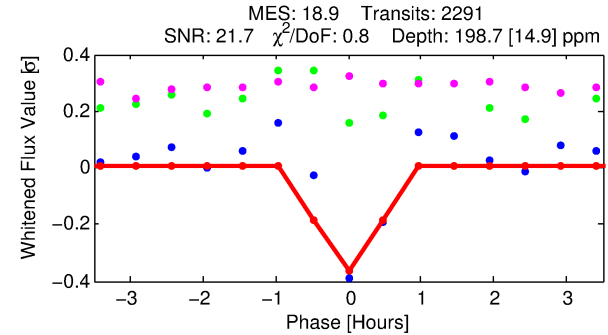
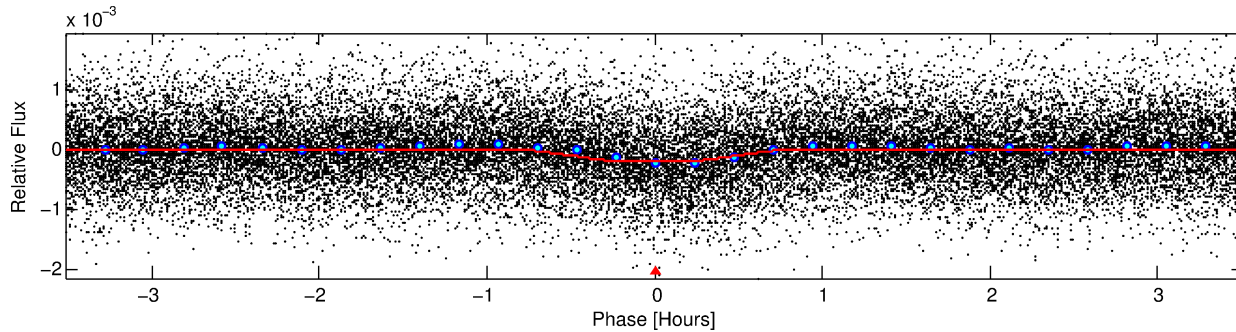
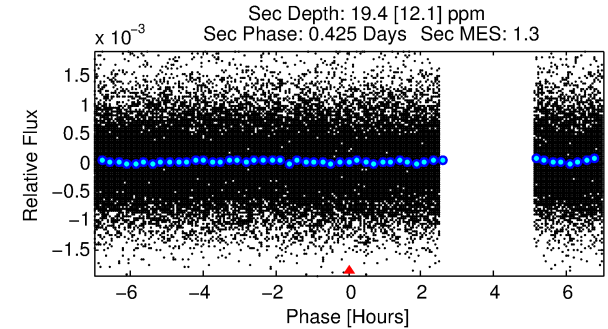
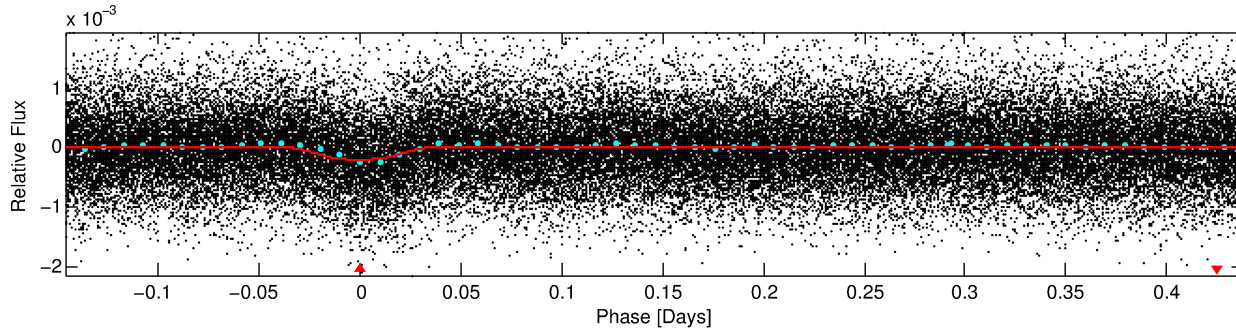
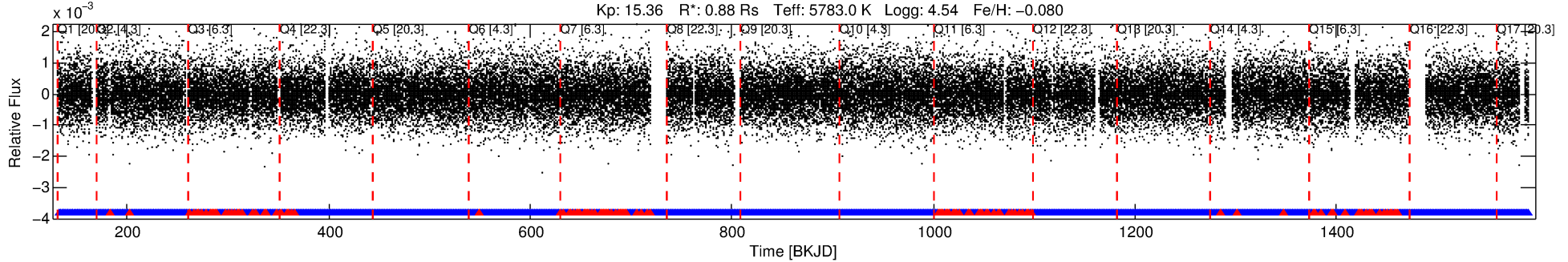
No Significant Match Found

# DV One-Page Summary

KIC: 5817986 Candidate: 1 of 1 Period: 0.584 d

KOI: K02897 Corr: No Ephemeris Match

Kp: 15.36 R\*: 0.88 Rs Teff: 5783.0 K Logg: 4.54 Fe/H: -0.080



## DV Fit Results:

Period = 0.58430 [0.00001] d  
Epoch = 132.0226 [0.0009] BKJD  
Rp/R\* = 0.0155 [0.0051]  
a/R\* = 2.02 [2.43]  
b = 0.90 [0.34]  
Seff = 4210.32 [1703.11]  
Teq = 2054 [208] K  
Rp = 1.48 [0.68] Re  
a = 0.0136 [0.0036] AU  
Ag = 0.89 [0.89] [-0.12σ]  
Teffp = 3088 [711] K [1.40σ]

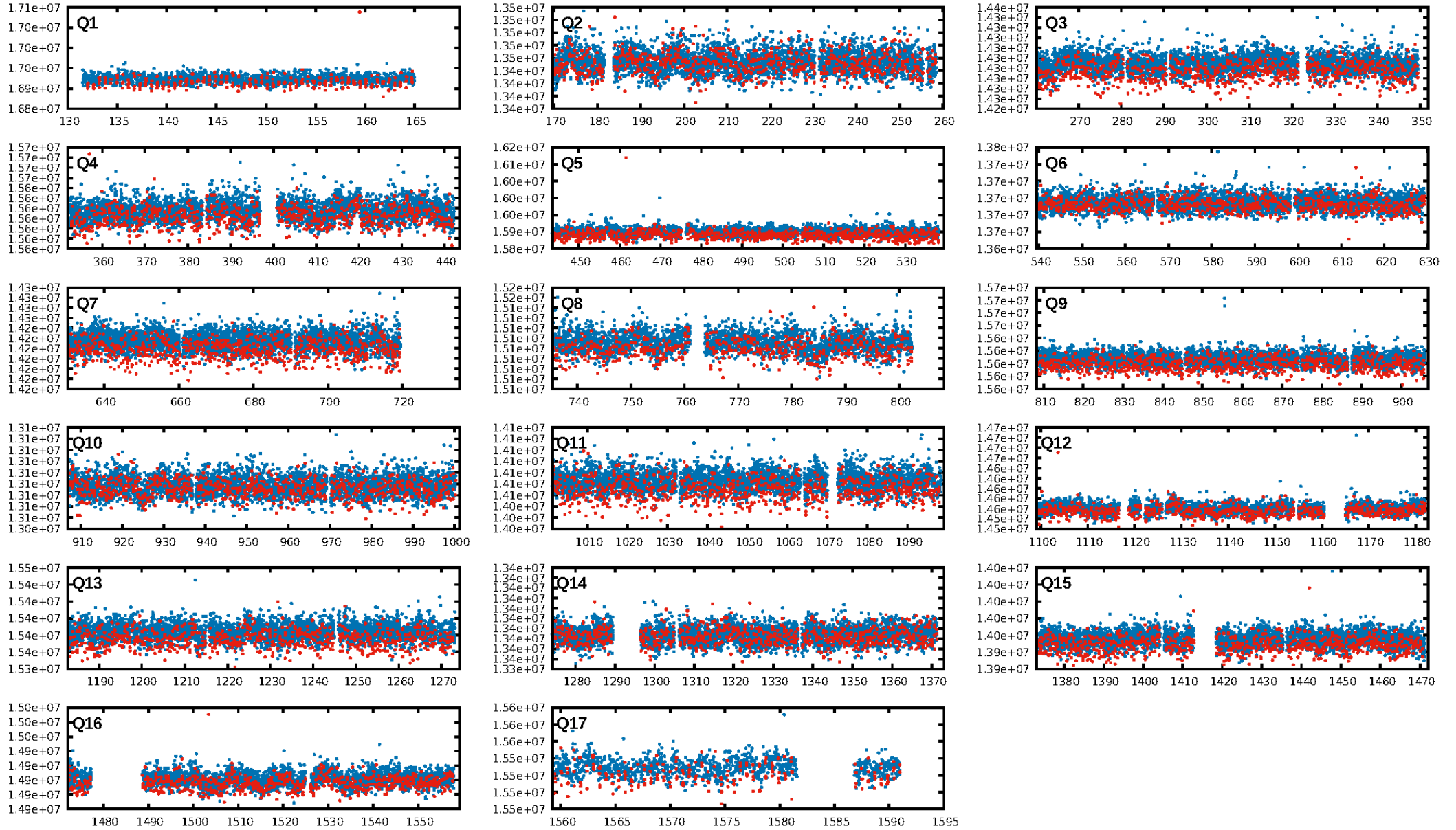
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.29e-72  
RollingBand-fgt: 0.94 [2057/2188]  
GhostDiagnostic-chr: -0.07589  
Centroid-sig: 0.0%  
Centroid-so: 130.066 arcsec [197.77σ]  
OotOffset-rm: 7.009 arcsec [99.12σ]  
KicOffset-rm: 7.242 arcsec [88.69σ]  
OotOffset-st: 0/0/0/5 [5]  
KicOffset-st: 0/0/0/5 [5]  
DiffImageQuality-fgm: 1.00 [5/5]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:50:07 Z

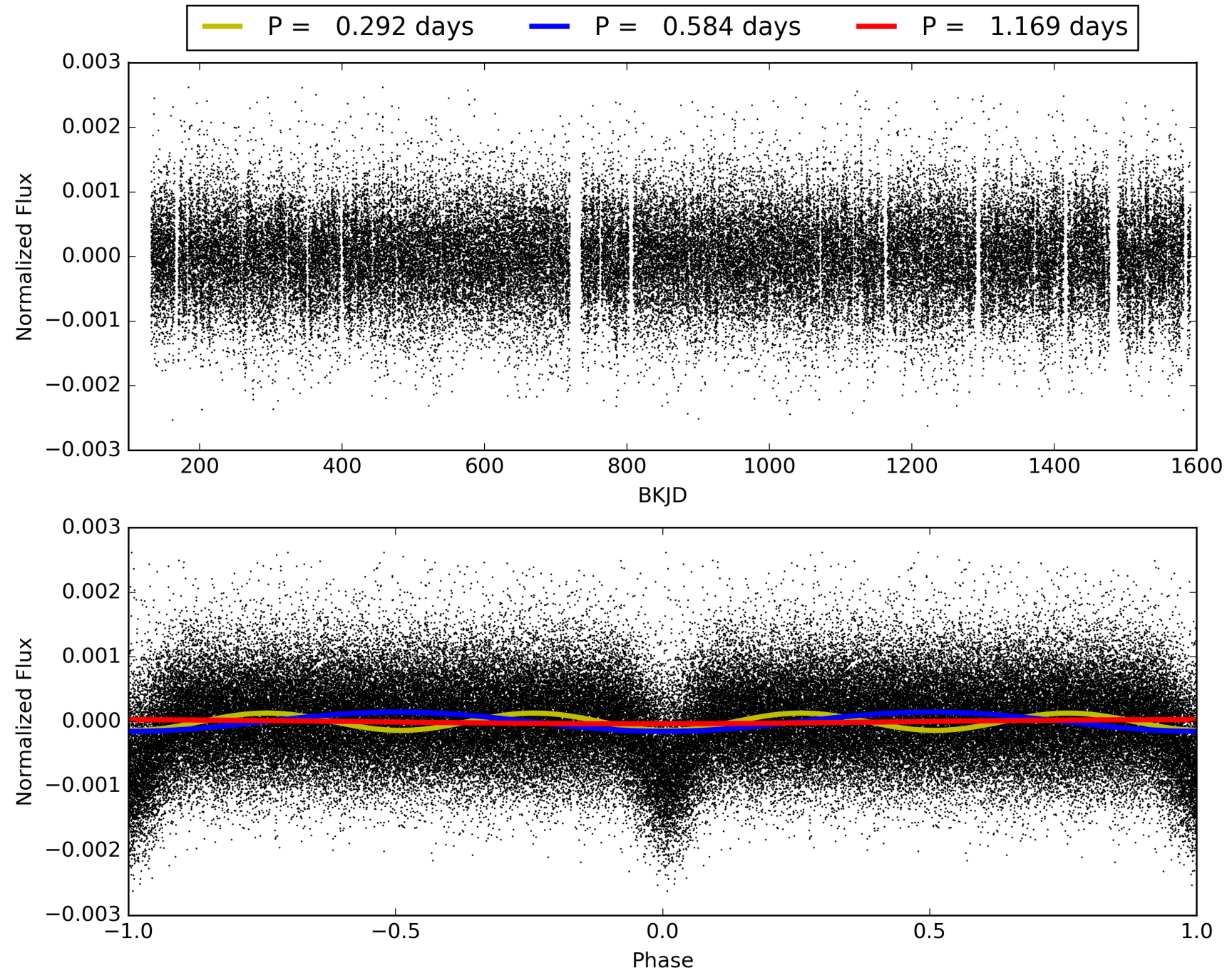
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005817986-01, PDC Light Curves



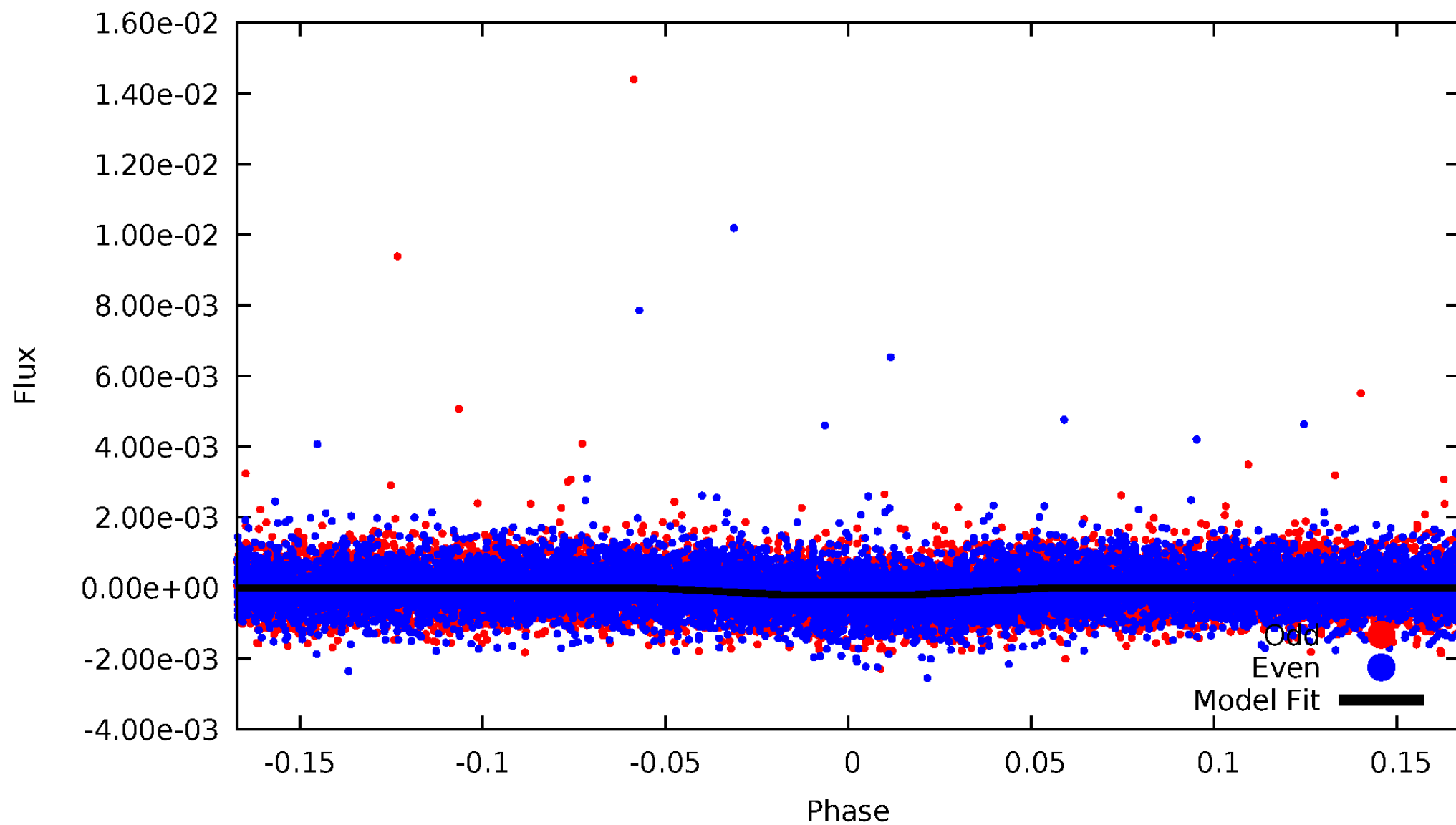


# TCE 005817986-01



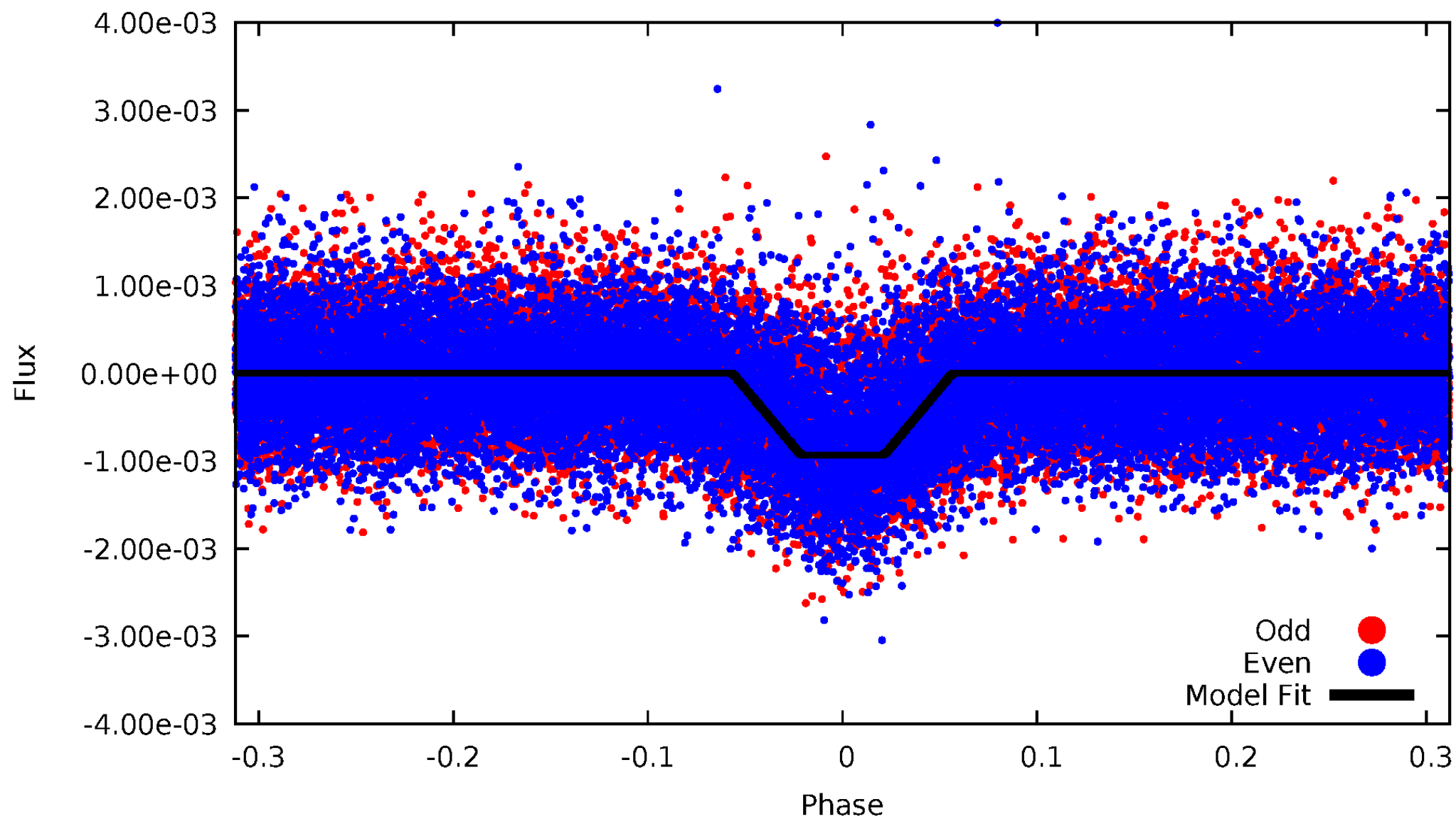
# DV Odd/Even

TCE 005817986-01



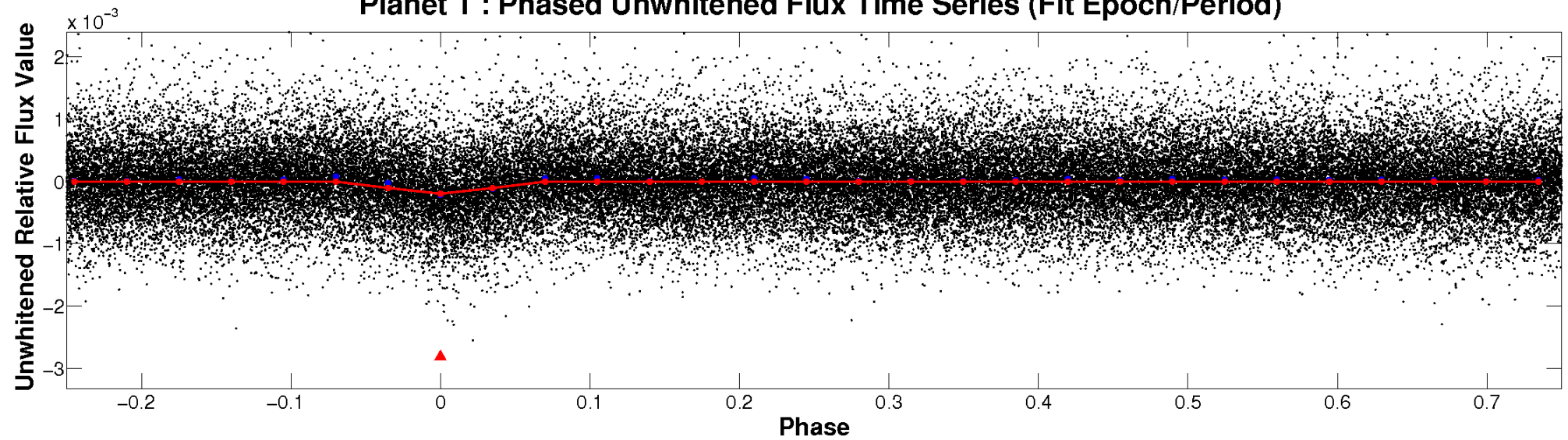
# ALT Odd/Even

TCE 005817986-01

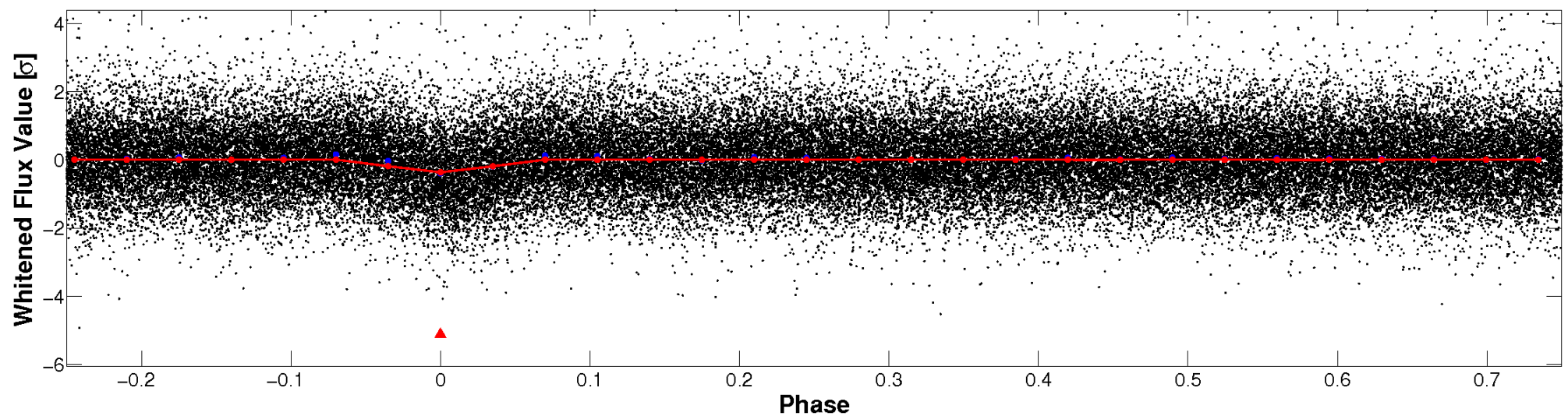


# Non-Whitened Vs. Whitened Light Curve

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



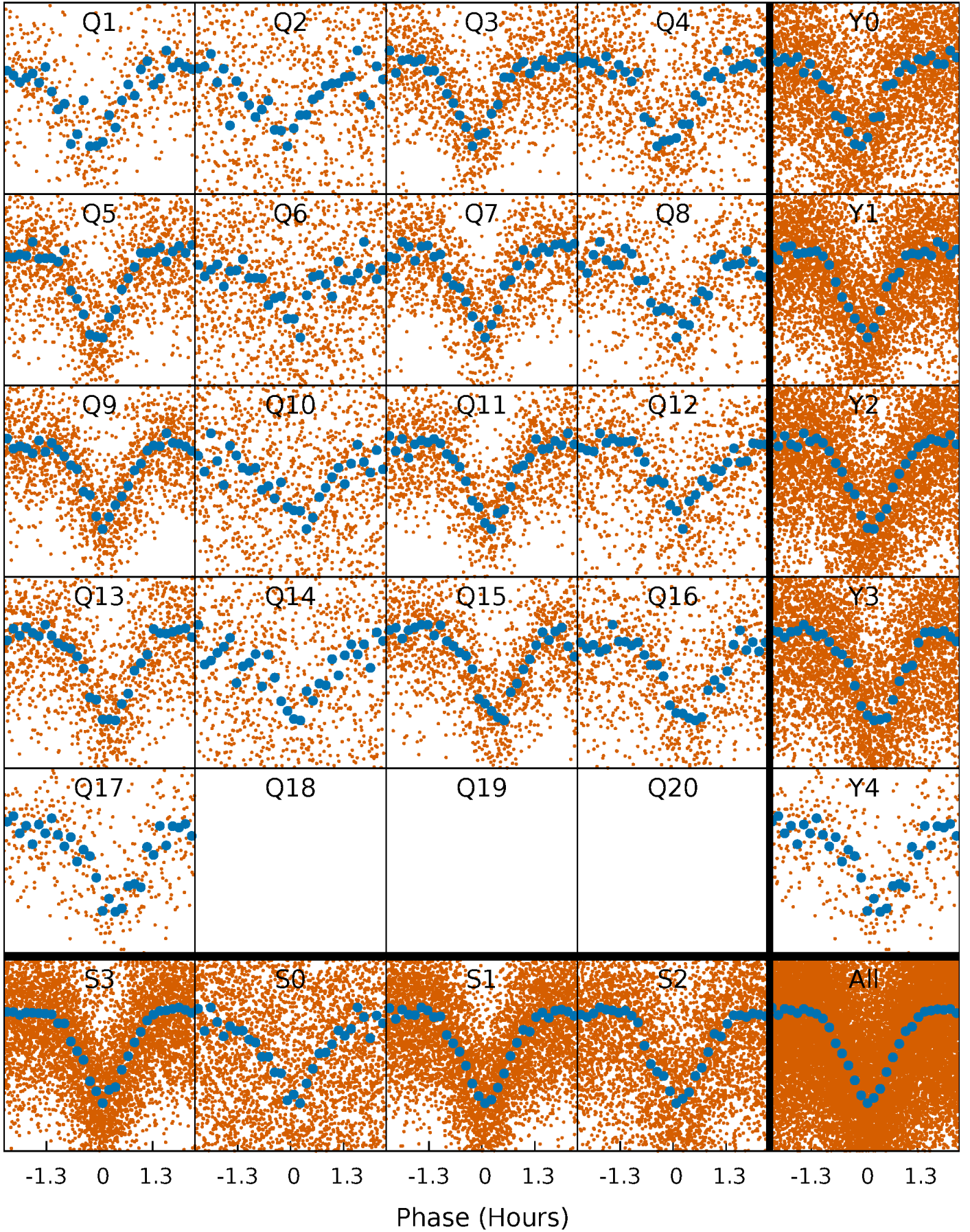
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

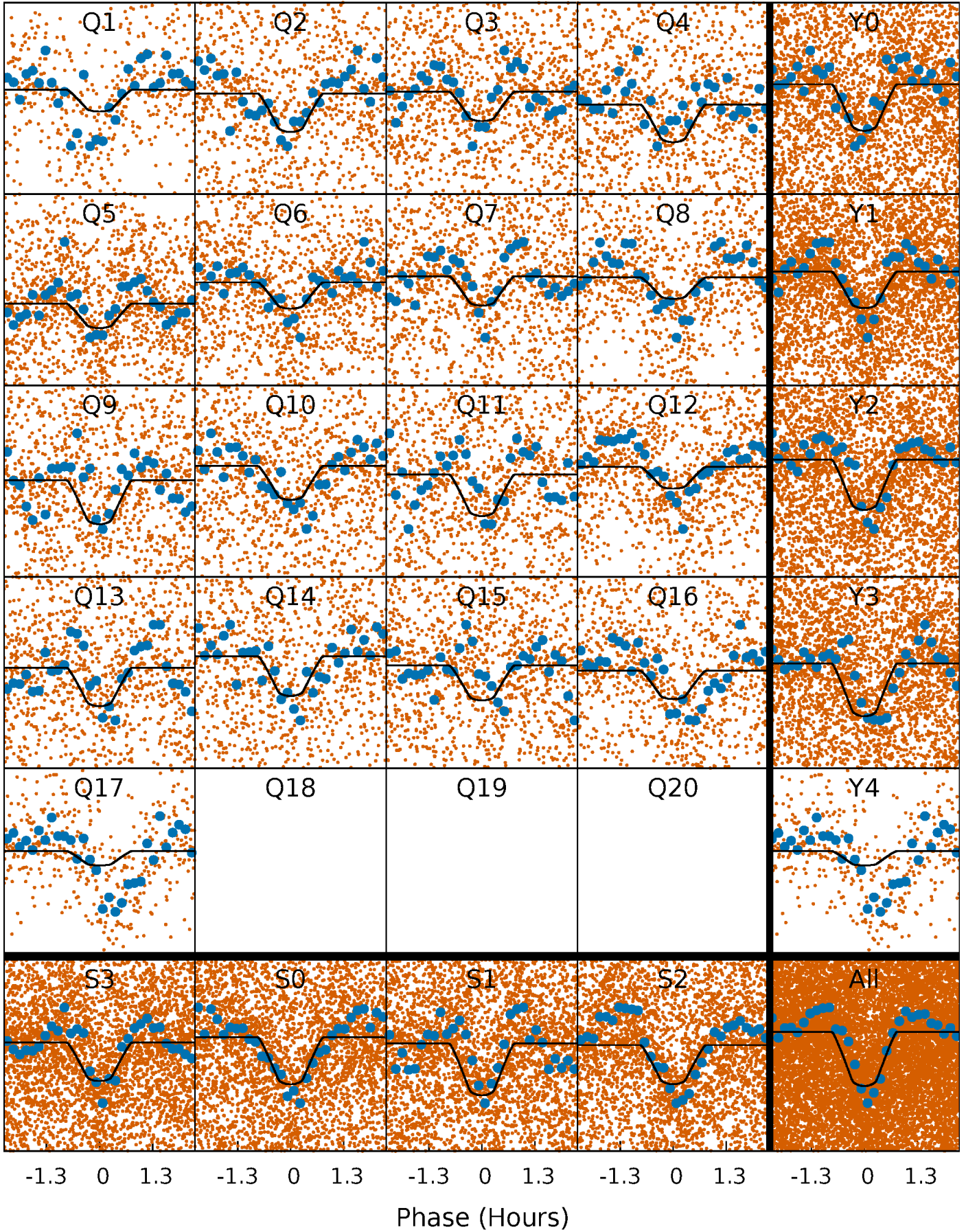
TCE 005817986-01 P= 0.584299 Days  $T_0=132.022632$  (BKJD)





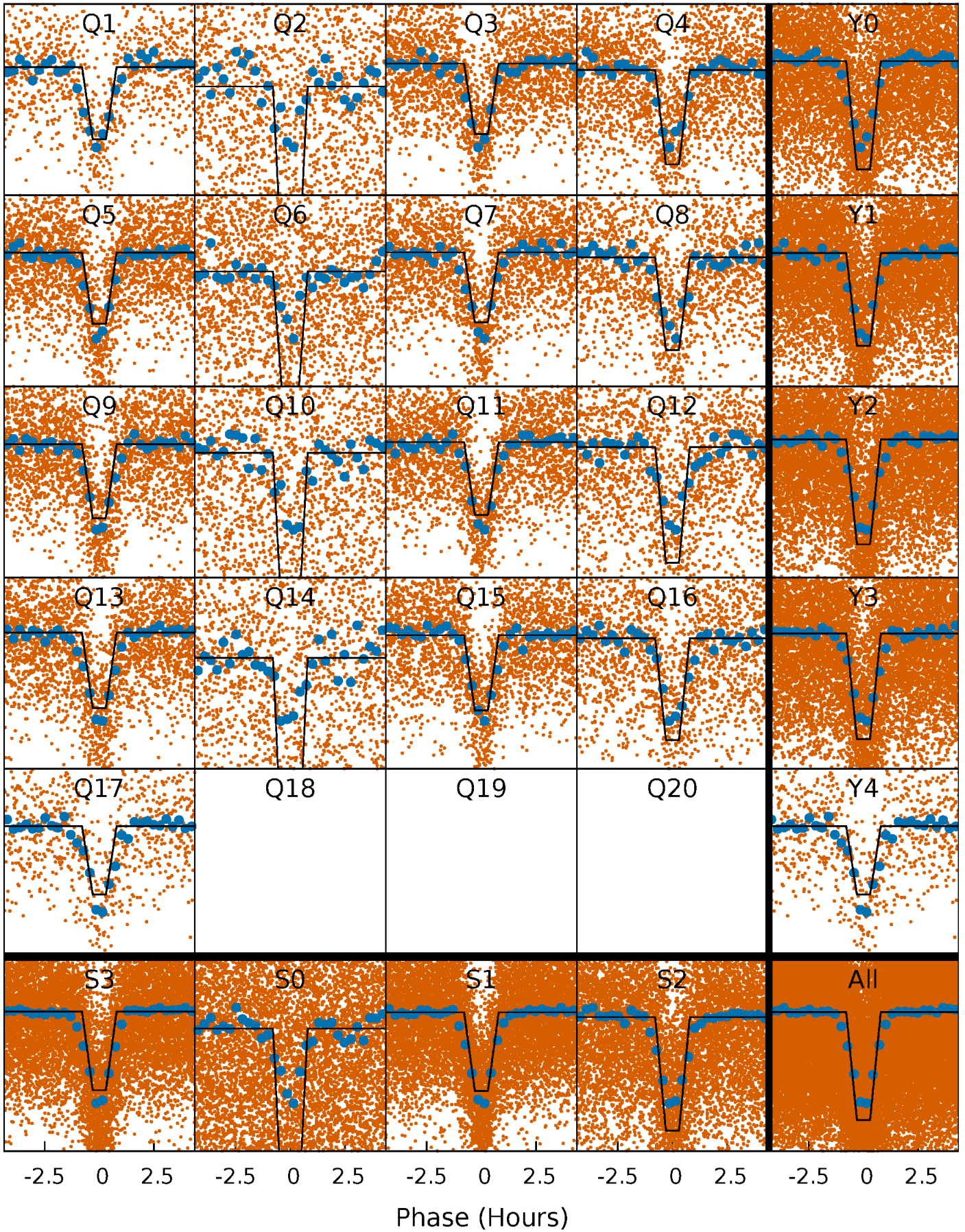
# DV Quarter-Phased Transit Curves

TCE 005817986-01 P= 0.584299 Days  $T_0=132.022632$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005817986-01 P= 0.584307 Days  $T_0=132.016686$  (BKJD)

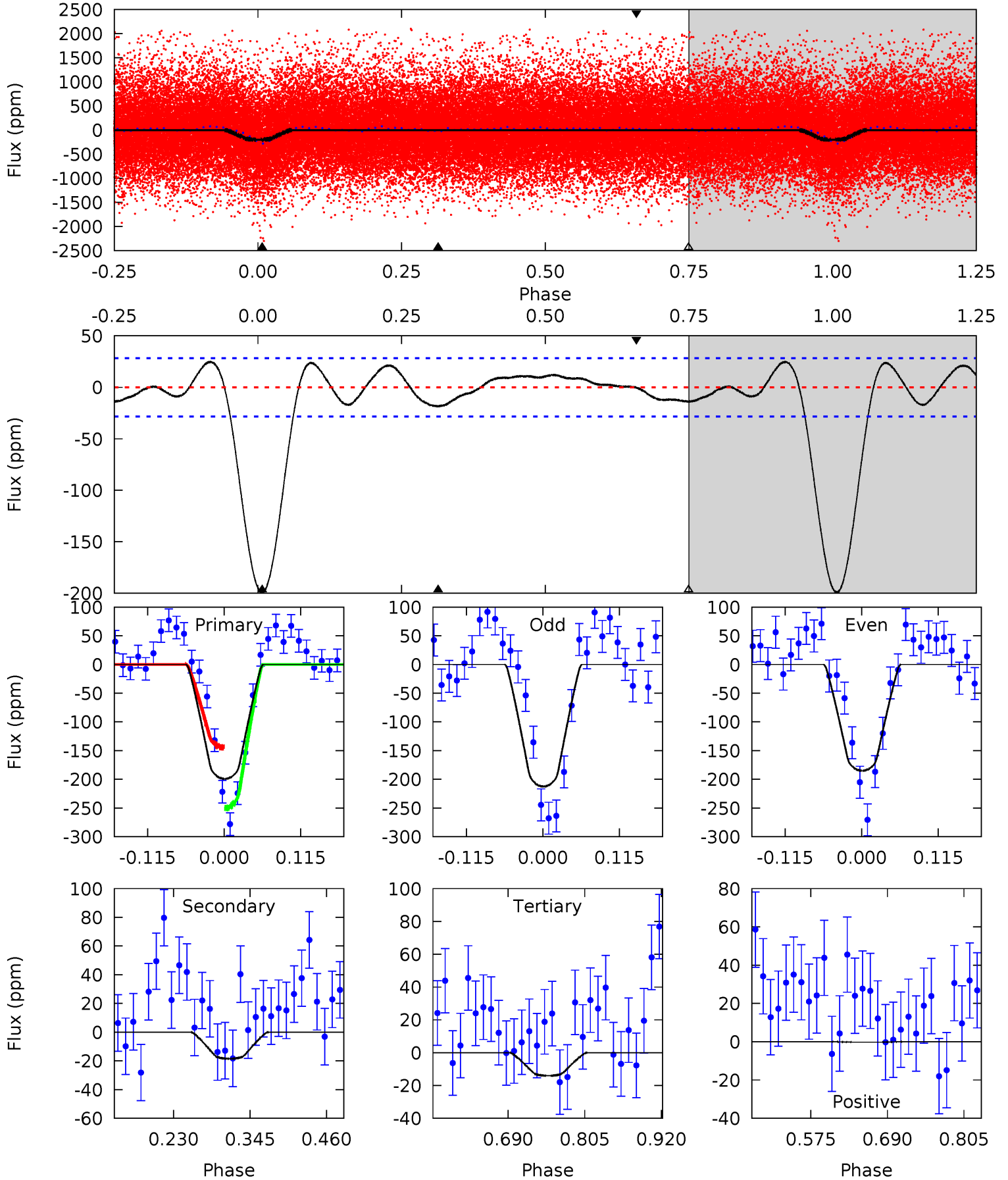




# DV Model-Shift Uniqueness Test

005817986-01, P = 0.584299 Days, E = 131.438333 Days

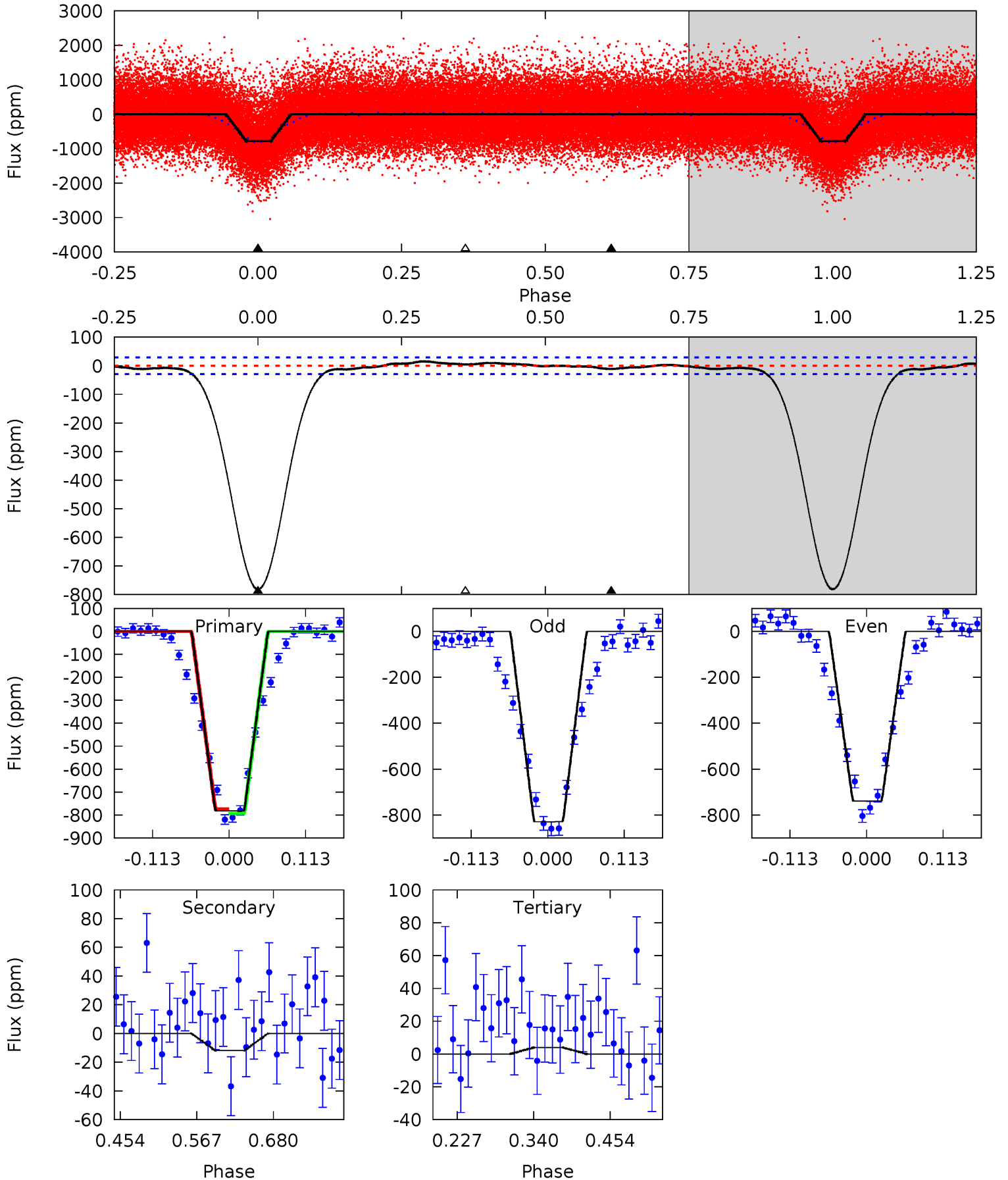
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.9	2.97	2.25	-0.04	4.54	1.58	1.39	29.6	31.9	0.71	3.00	2.20	0.96	0.11	8.49



# Alt Model-Shift Uniqueness Test

005817986-01, P = 0.584307 Days, E = 131.432379 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
121.5	1.85	-0.62	0	4.54	1.58	1.48	122.1	121.5	2.47	1.85	6.96	0.96	0.02	1.58





### Stellar Parameters For KIC 005817986

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5783^{+156}_{-173}$	$4.539^{+0.038}_{-0.212}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.275}_{-0.086}$	$0.977^{+0.114}_{-0.125}$	$2.021^{+0.420}_{-1.073}$
	+3%/-3%	+1%/-5%	+375%/-375%	+31%/-10%	+12%/-13%	+21%/-53%
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 005817986-01 / KOI 2897.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-19 \pm 6$	$1.58^{+0.63}_{-0.56}$	$2948^{+211}_{-131}$	$3217^{+737}_{-908}$	$0.733^{+1.046}_{-0.406}$
Alt.	$-12 \pm 6$	$3.08^{+0.72}_{-0.57}$	$2953^{+188}_{-139}$	$-2844^{+301}_{-195}$	$0.122^{+0.101}_{-0.067}$

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

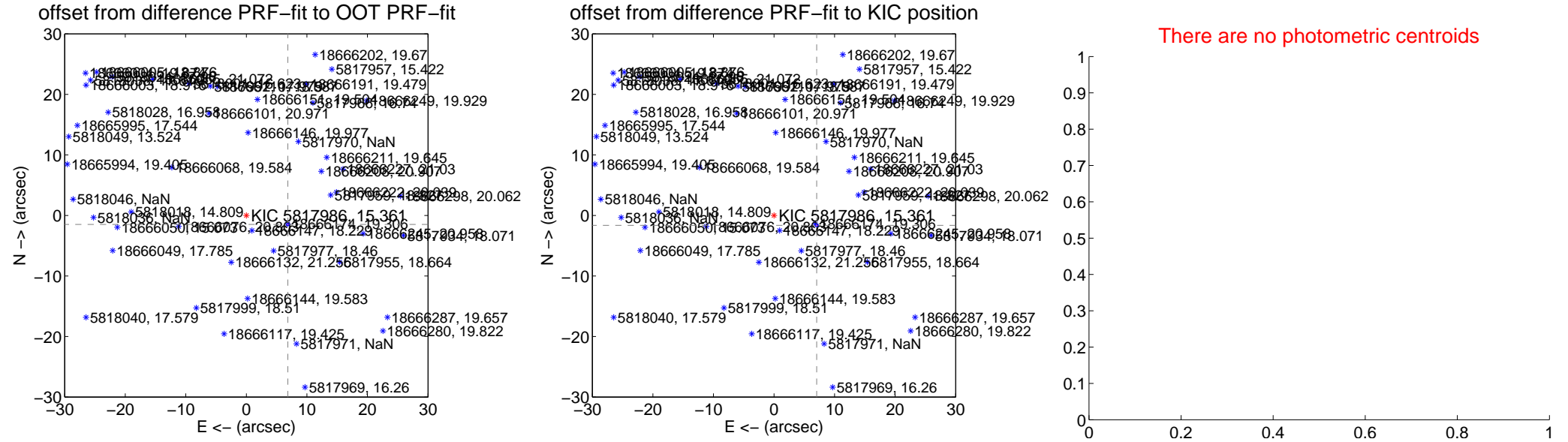
## DV Centroid Data

Supplemental centroid analysis for 005817986-01. Kepler magnitude: 15.36. Transit SNR 21.67

There are 5 quarters with good PRF difference image offsets

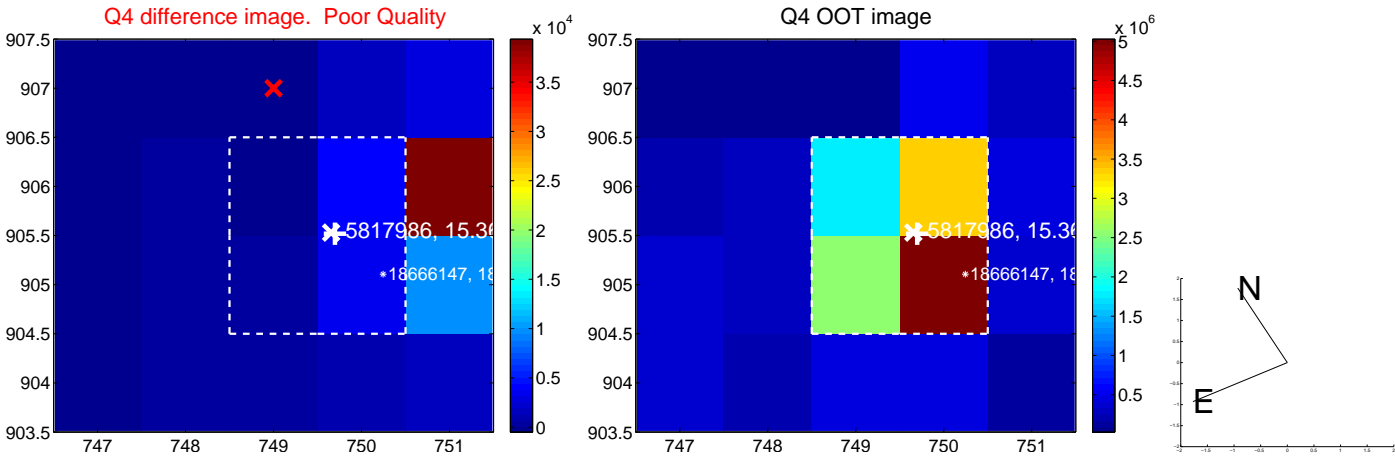
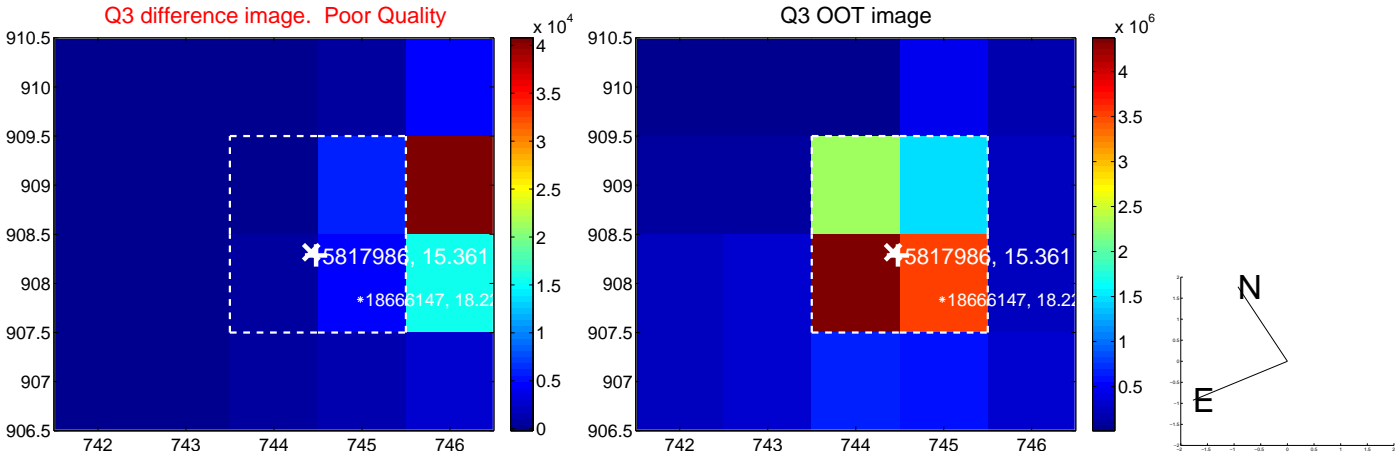
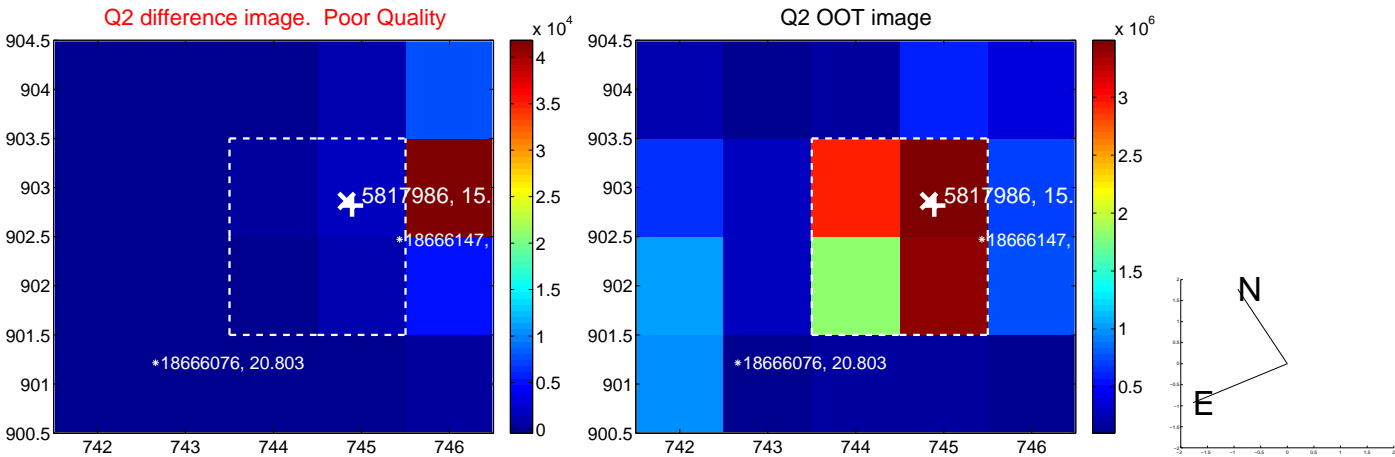
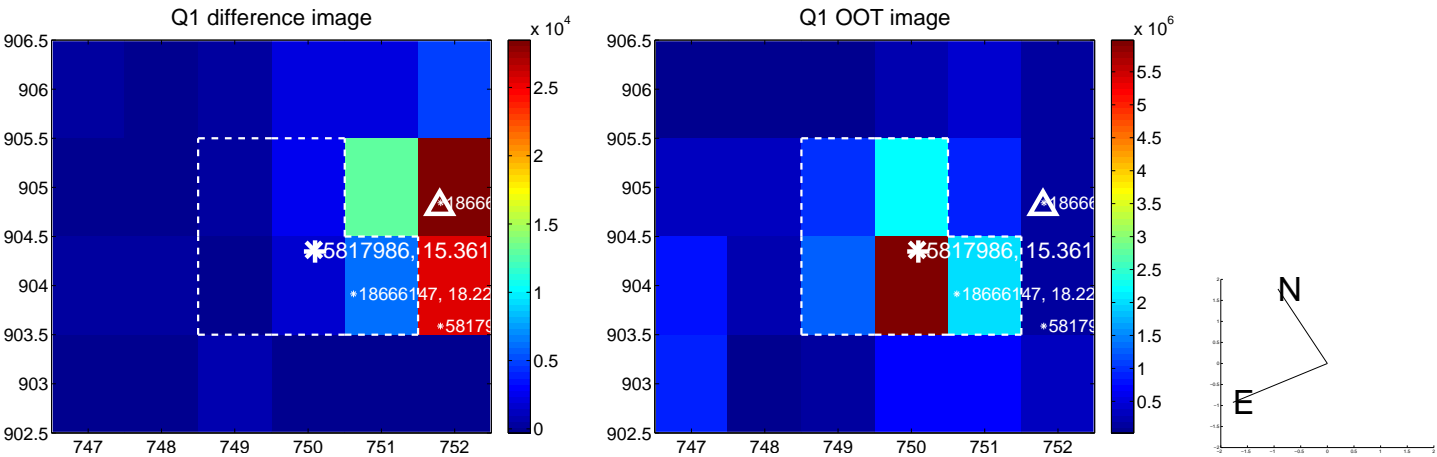
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	7.009 $\pm$ 0.071	99.12	-6.849 $\pm$ 0.070	-1.488 $\pm$ 0.069
PRF-fit source offset from KIC position	7.242 $\pm$ 0.082	88.69	-7.056 $\pm$ 0.082	-1.633 $\pm$ 0.076
photometric centroid source offset	—	—	—	—

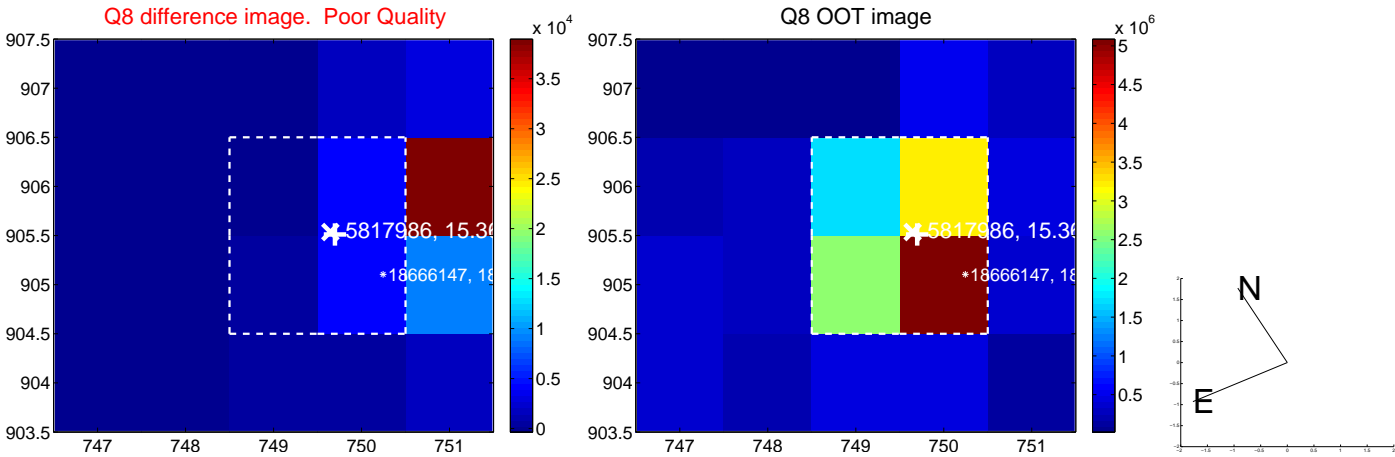
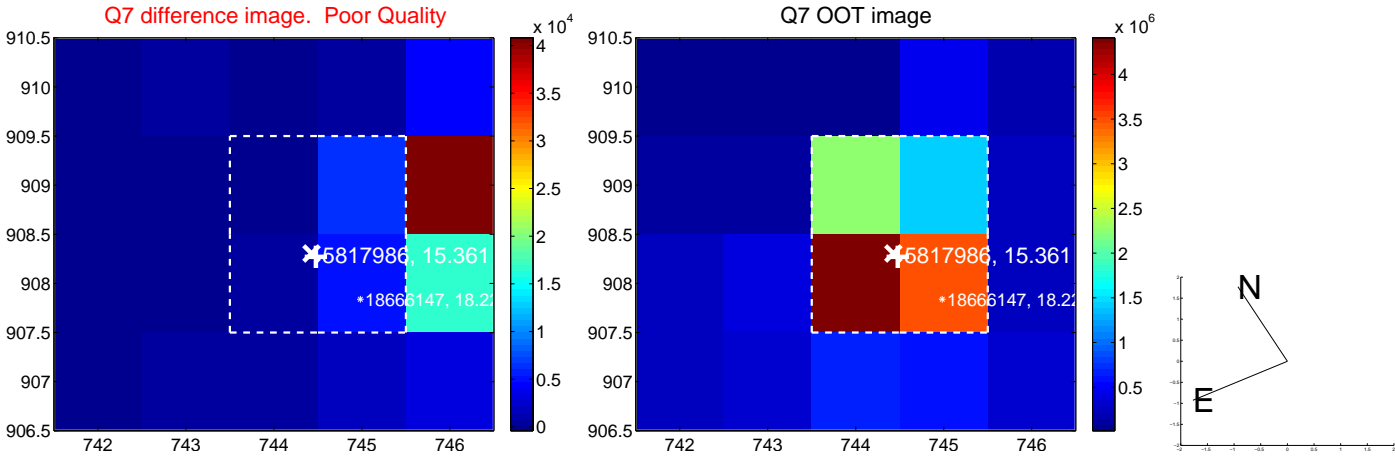
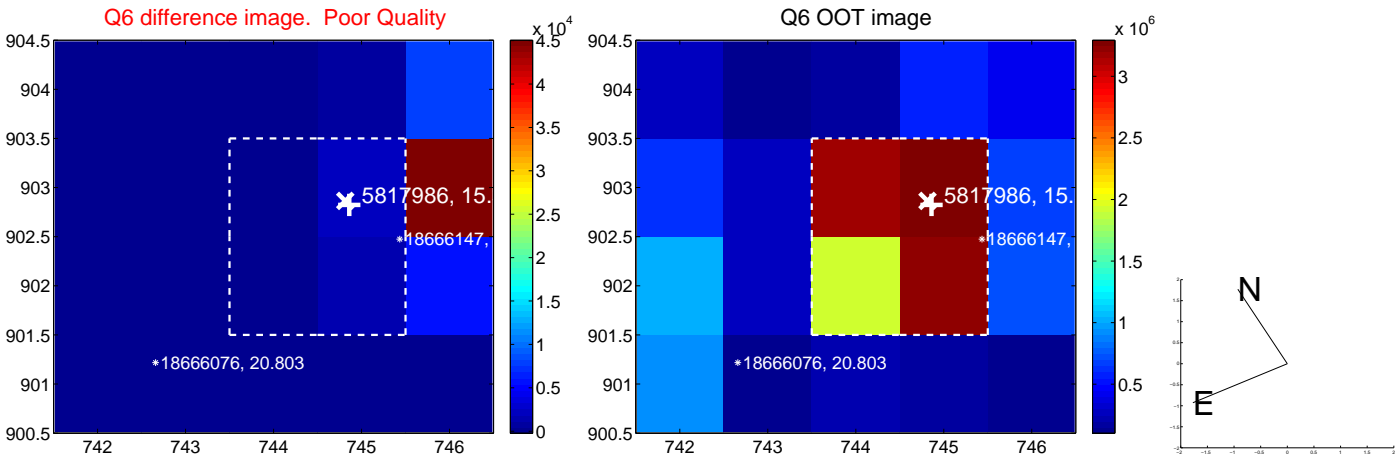
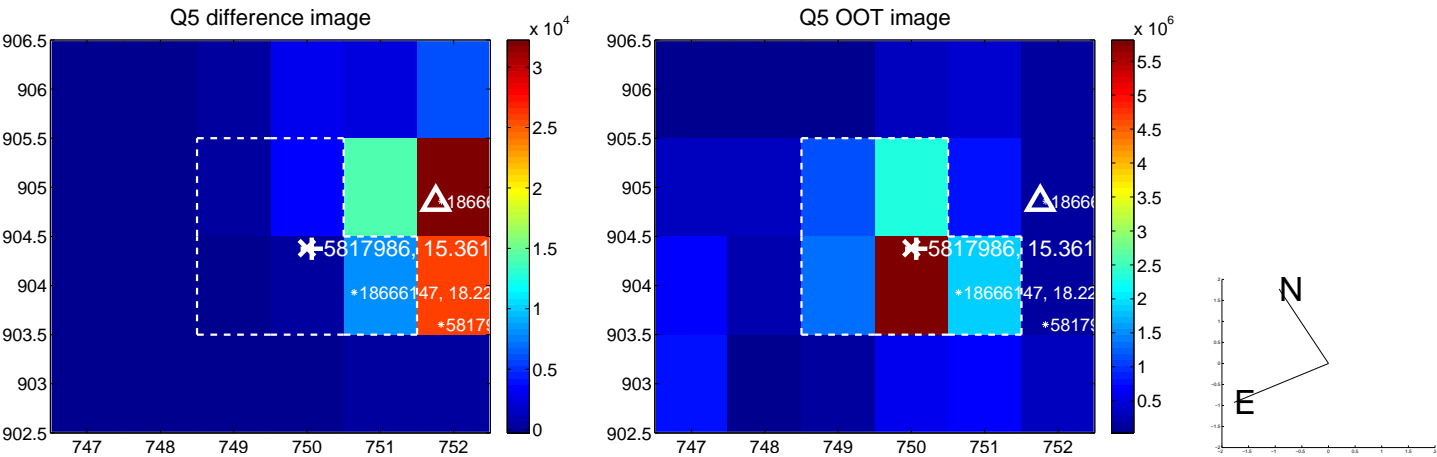


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

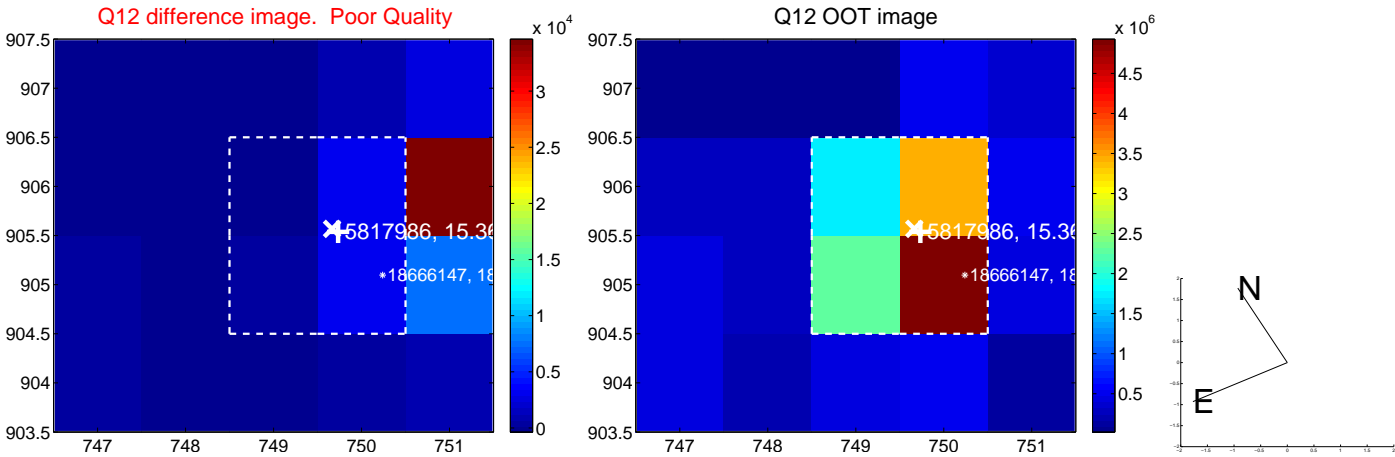
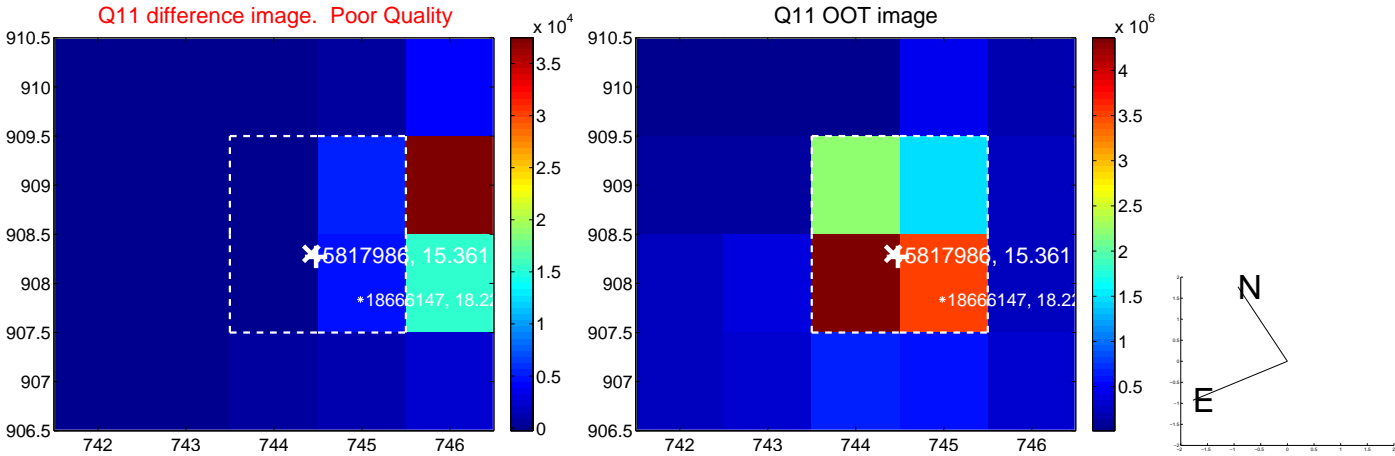
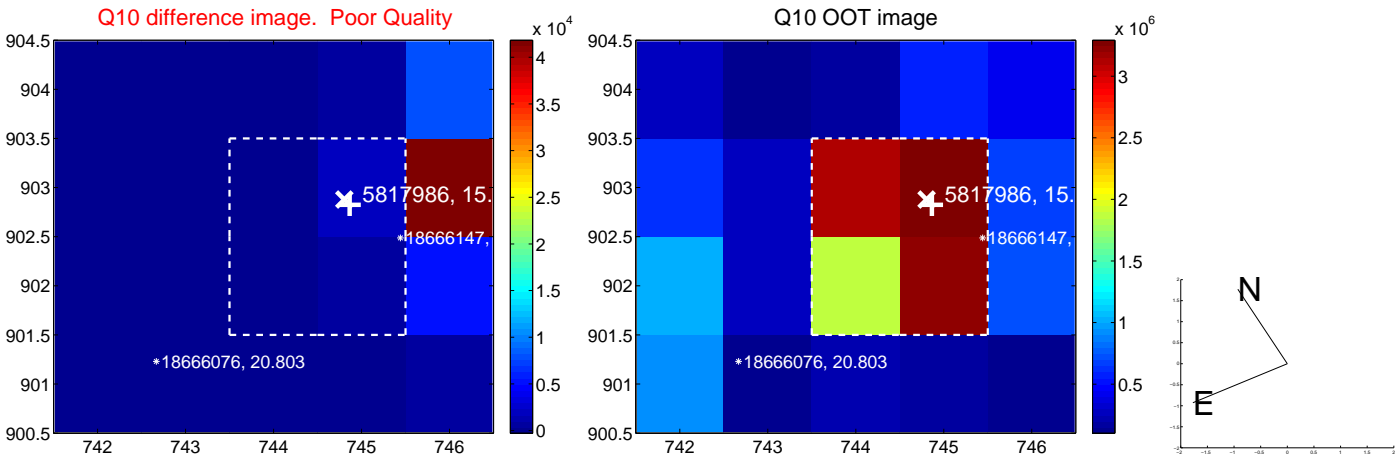
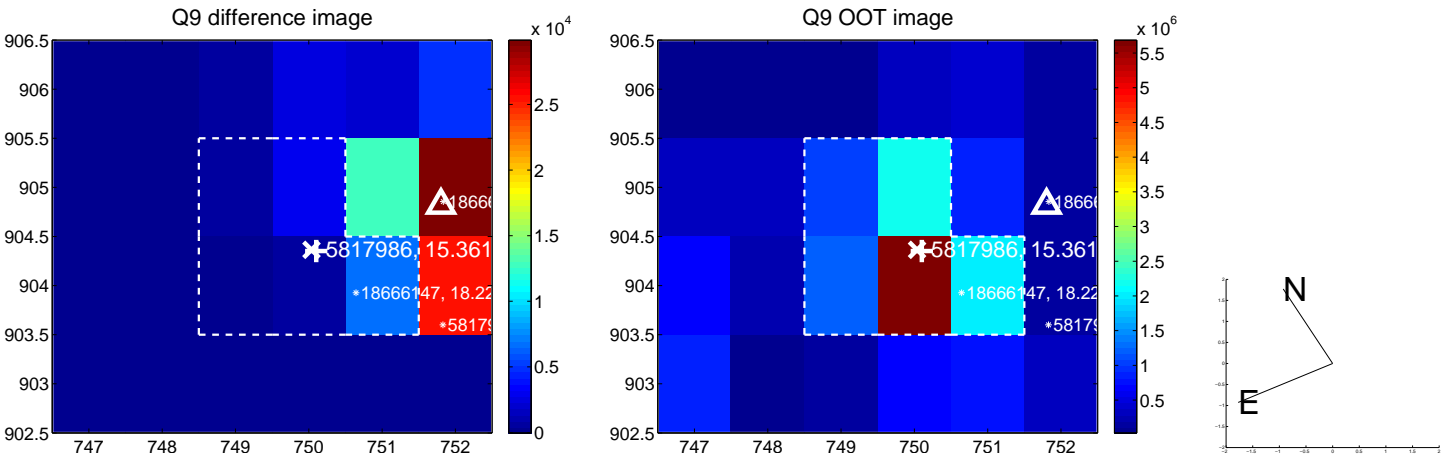


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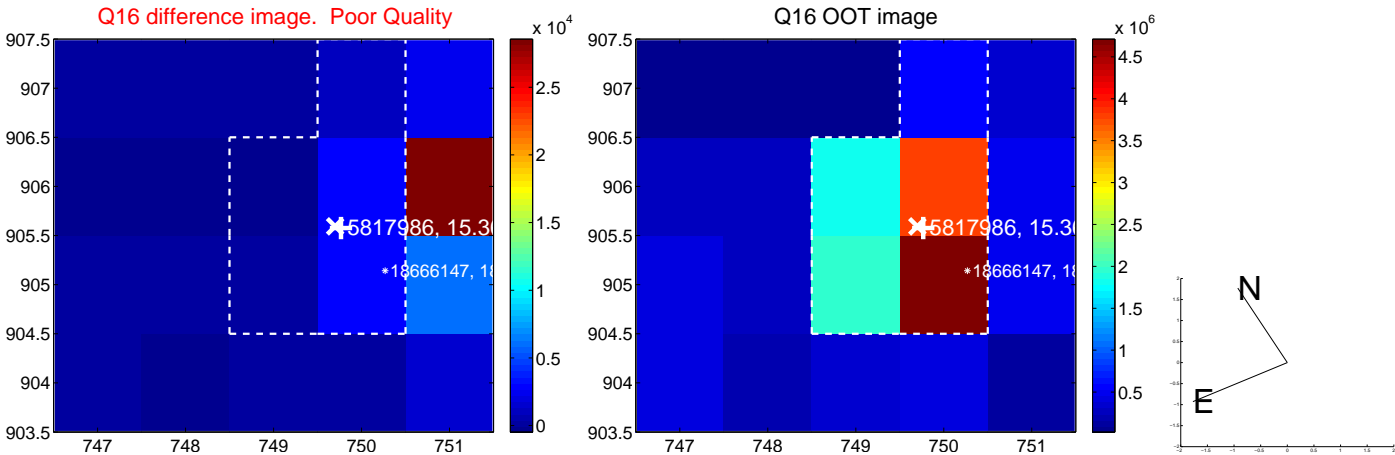
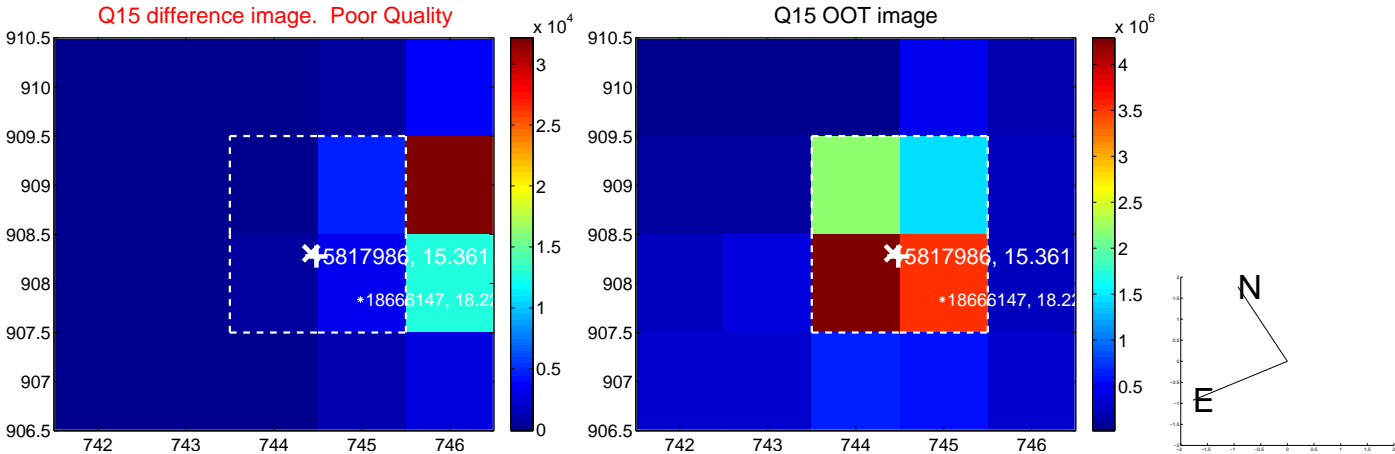
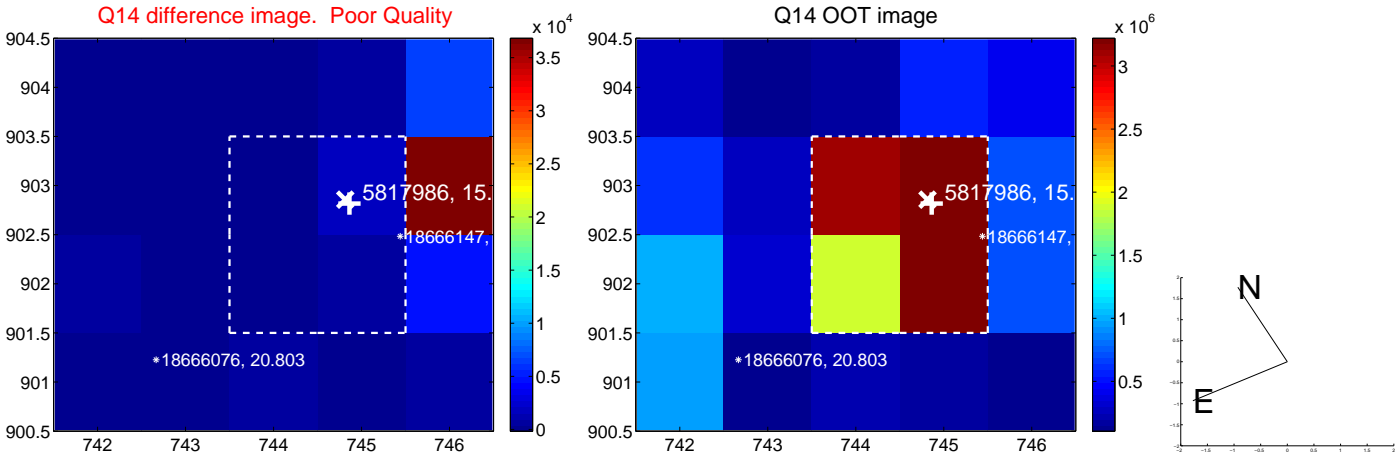
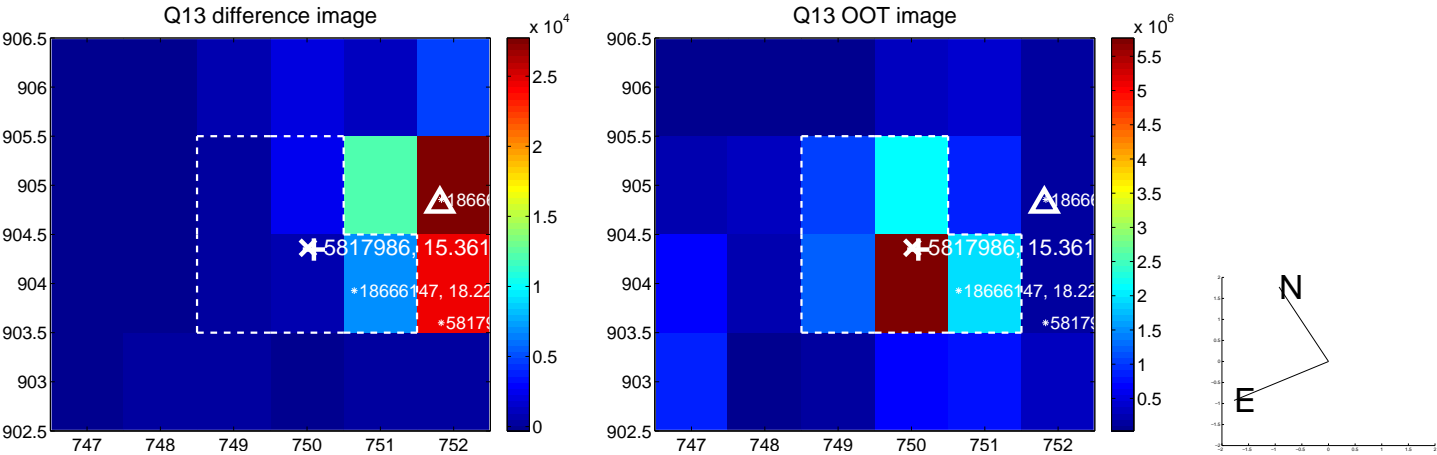




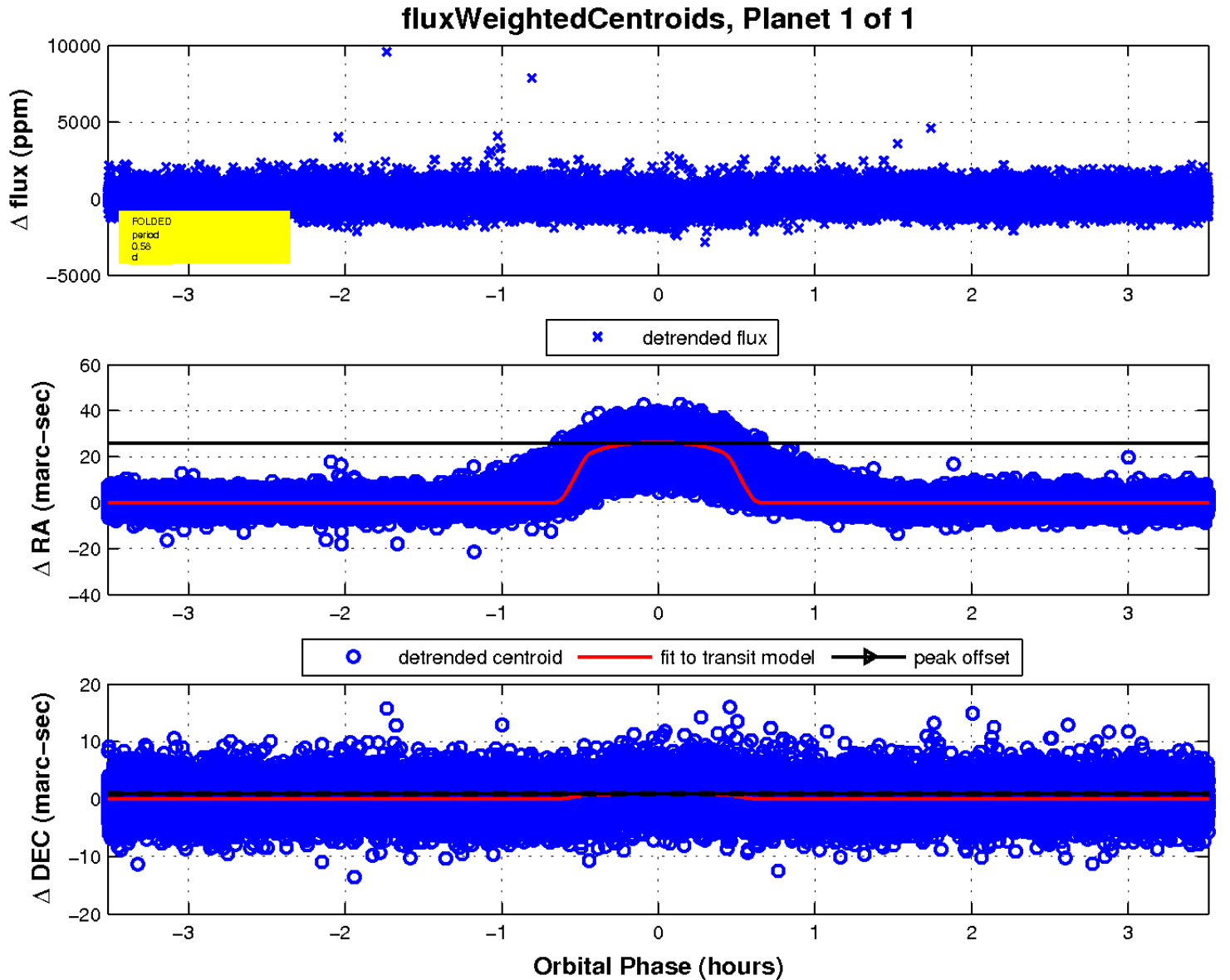
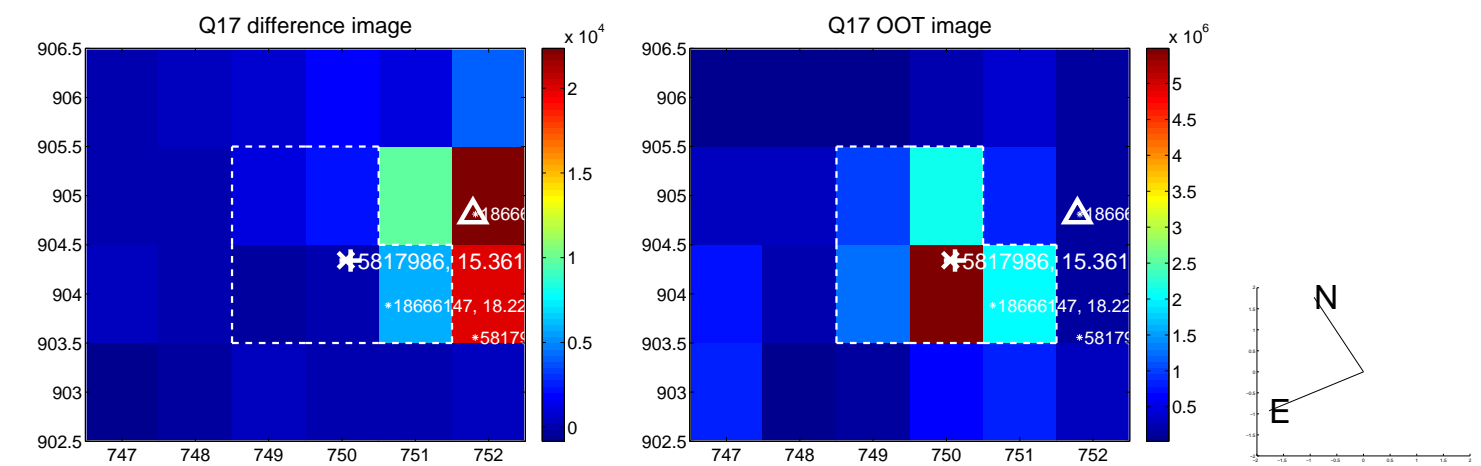
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

