

# KIC 004852297

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004852297-01	OBS	4695.01	3.289272	133.910725	137.2	1.280	9.5	9.7	1.07	6335	1.44	820.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004852297-01	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.

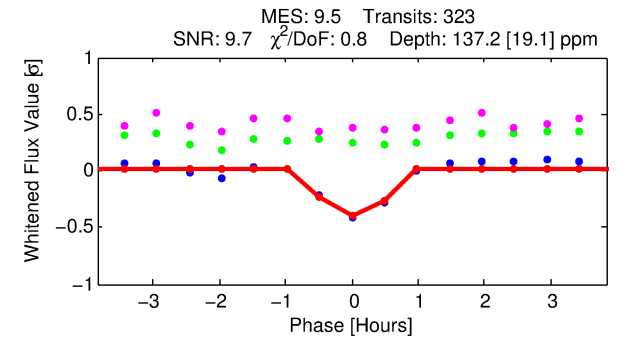
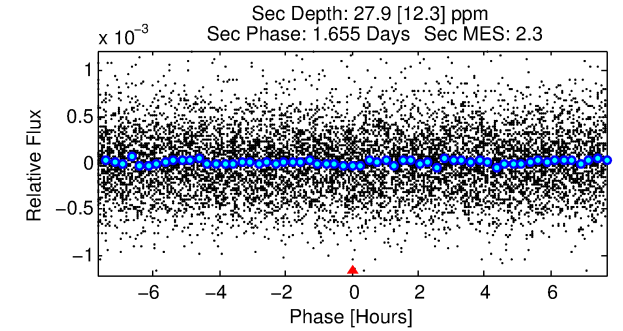
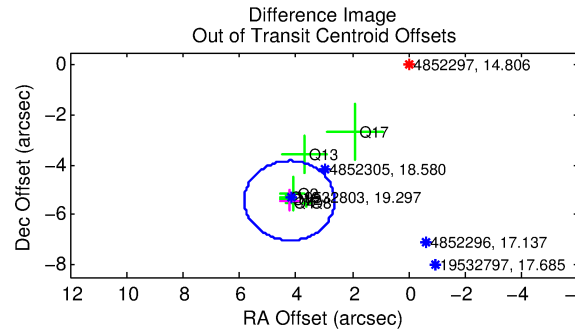
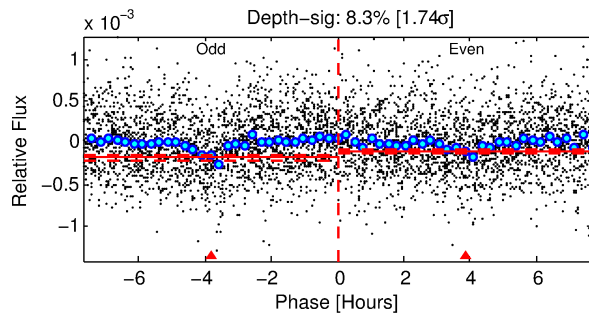
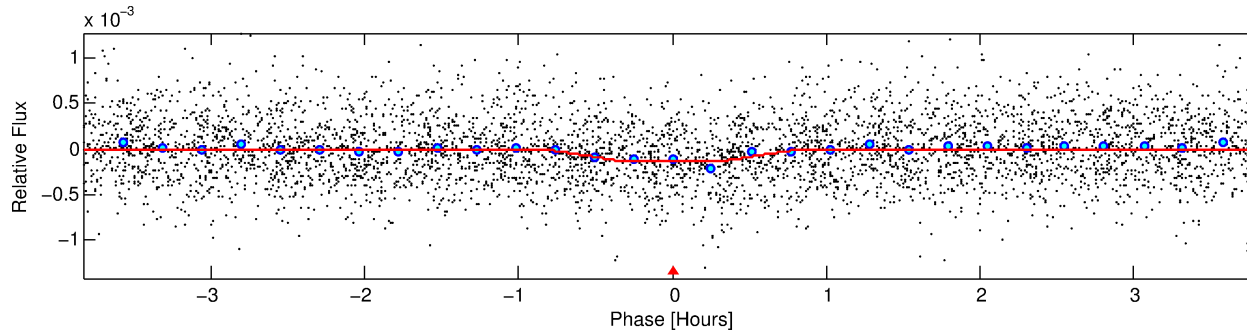
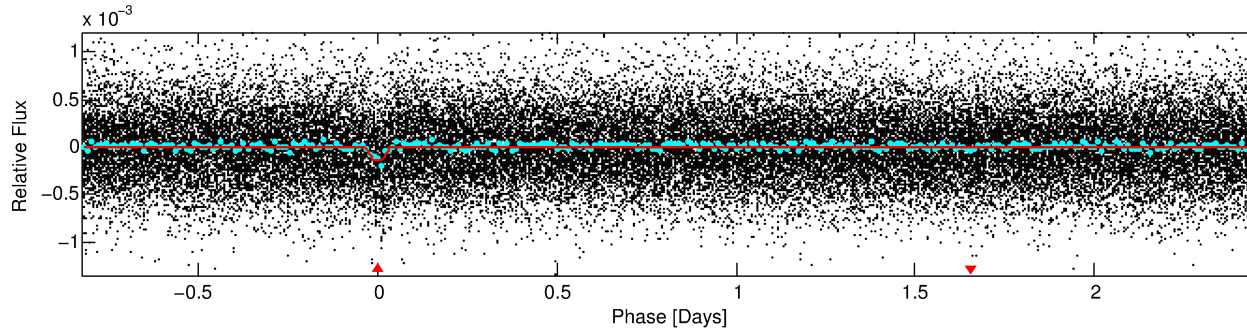
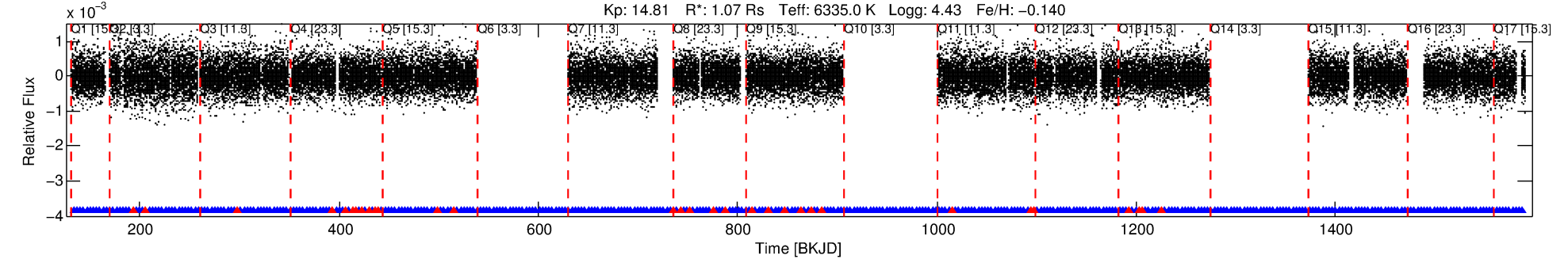
## Ephemeris Match Information For 004852297-01

No Significant Match Found

# DV One-Page Summary

KIC: 4852297 Candidate: 1 of 1 Period: 3.289 d  
KOI: K04695.01 Corr: 0.764

Kp: 14.81 R\*: 1.07 Rs Teff: 6335.0 K Logg: 4.43 Fe/H: -0.140



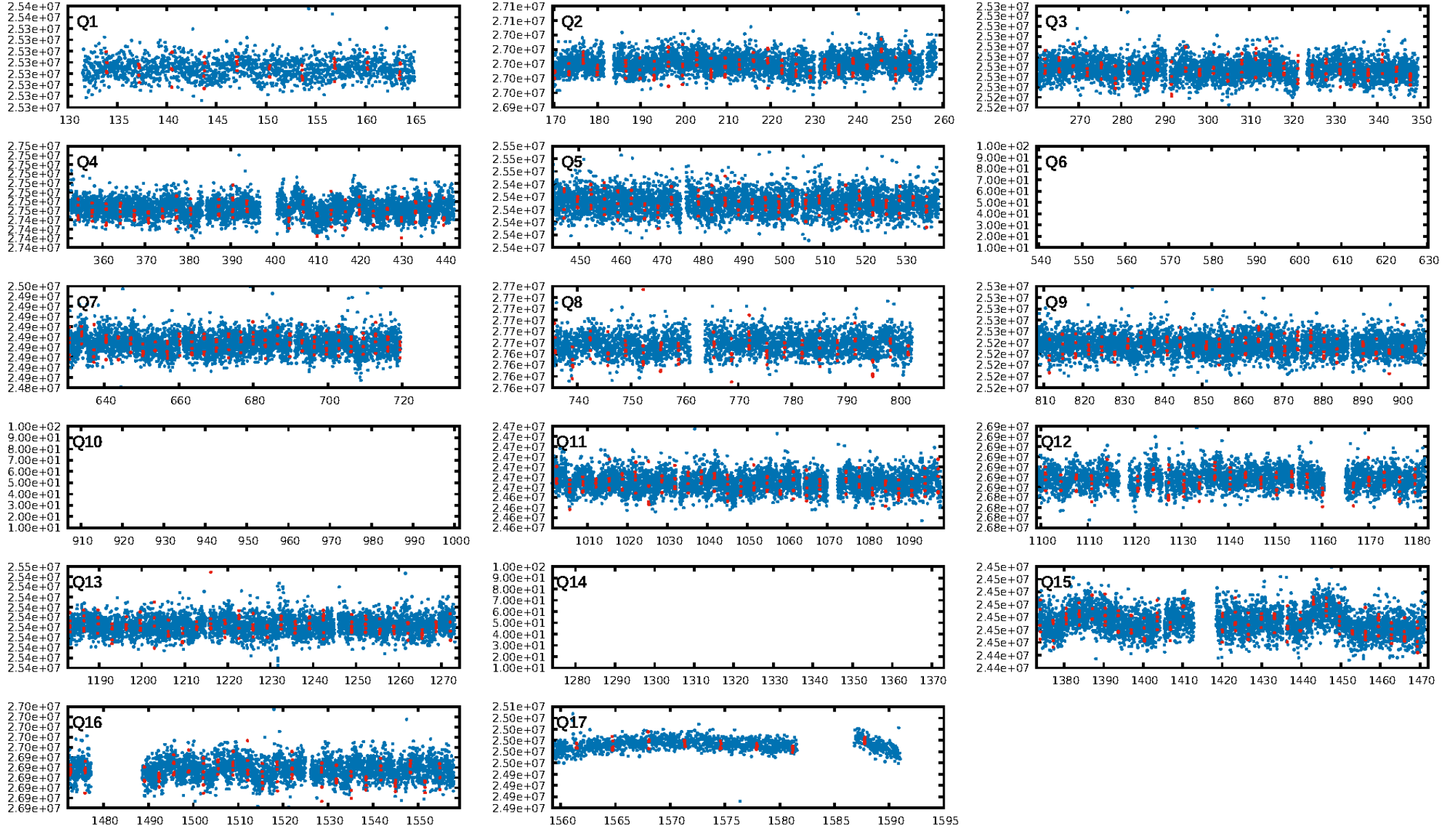
## DV Fit Results:

Period = 3.28927 [0.00002] d  
Epoch = 133.9107 [0.0026] BKJD  
Rp/R\* = 0.0123 [0.0096]  
a/R\* = 10.30 [43.26]  
b = 0.87 [1.23]  
Seff = 820.12 [344.22]  
Teq = 1365 [143] K  
Rp = 1.44 [1.22] Re  
a = 0.0450 [0.0123] AU  
Ag = 14.90 [24.86] [0.56σ]  
Teffp = 4145 [1686] K [1.64σ]

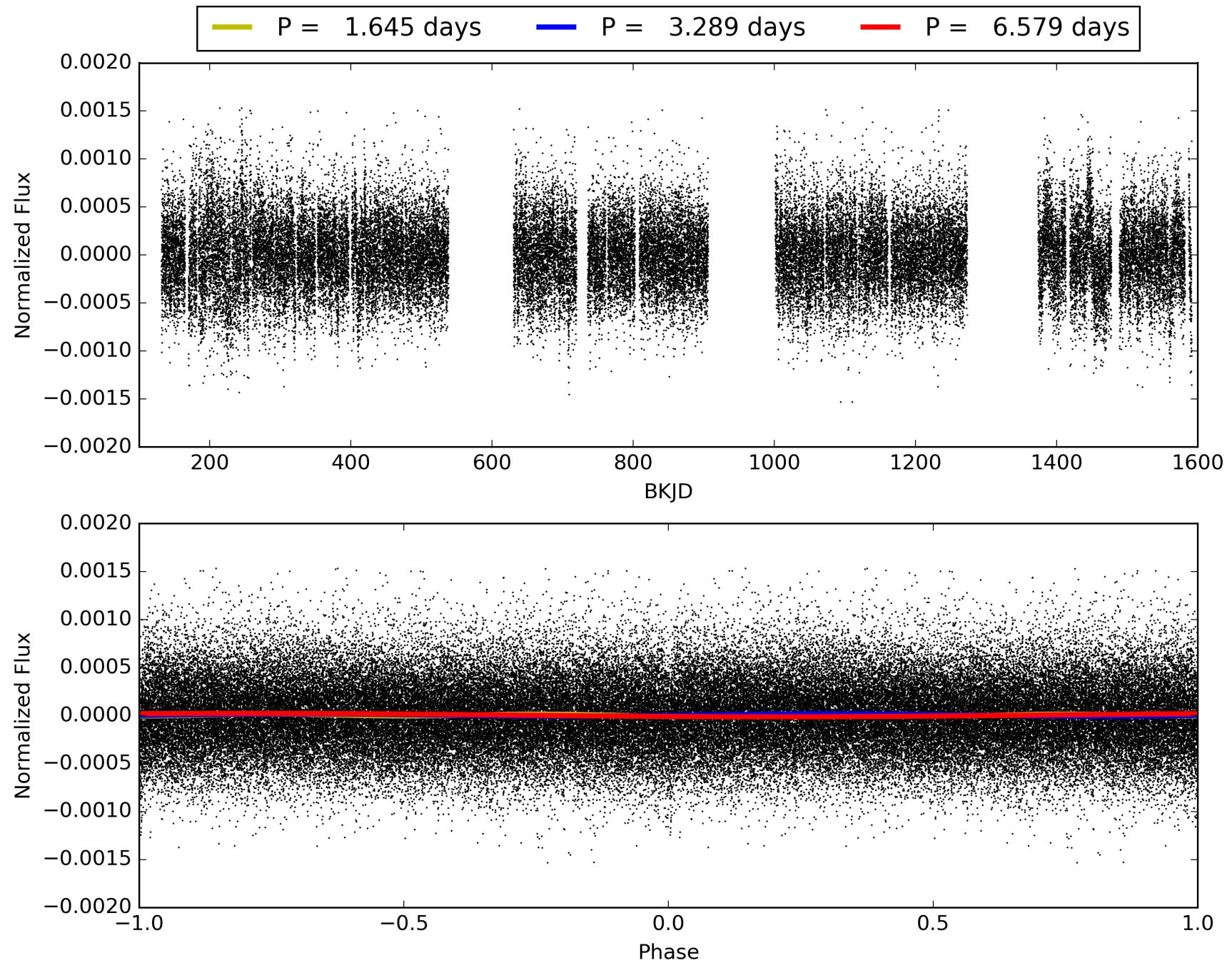
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.23e-21  
RollingBand-fgt: 0.90 [274/305]  
GhostDiagnostic-chr: -0.1755  
Centroid-sig: 0.0%  
Centroid-so: 14.865 arcsec [11.25σ]  
OotOffset-rm: 6.893 arcsec [12.99σ]  
KicOffset-rm: 6.703 arcsec [15.69σ]  
OotOffset-st: 1/0/4/2 [7]  
KicOffset-st: 1/0/4/2 [7]  
DiffImageQuality-fgm: 0.86 [6/7]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 004852297-01, PDC Light Curves

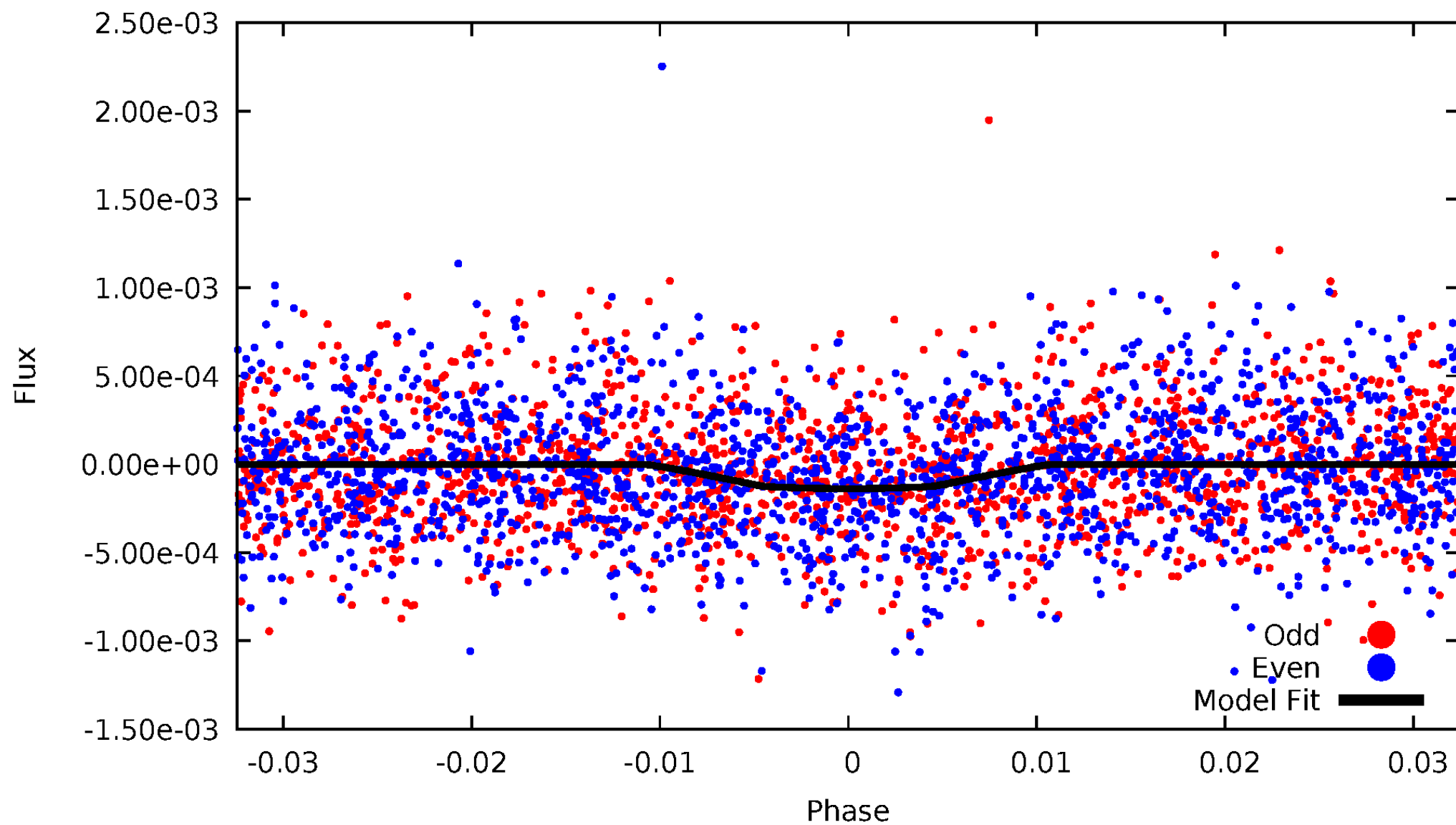


TCE 004852297-01



# DV Odd/Even

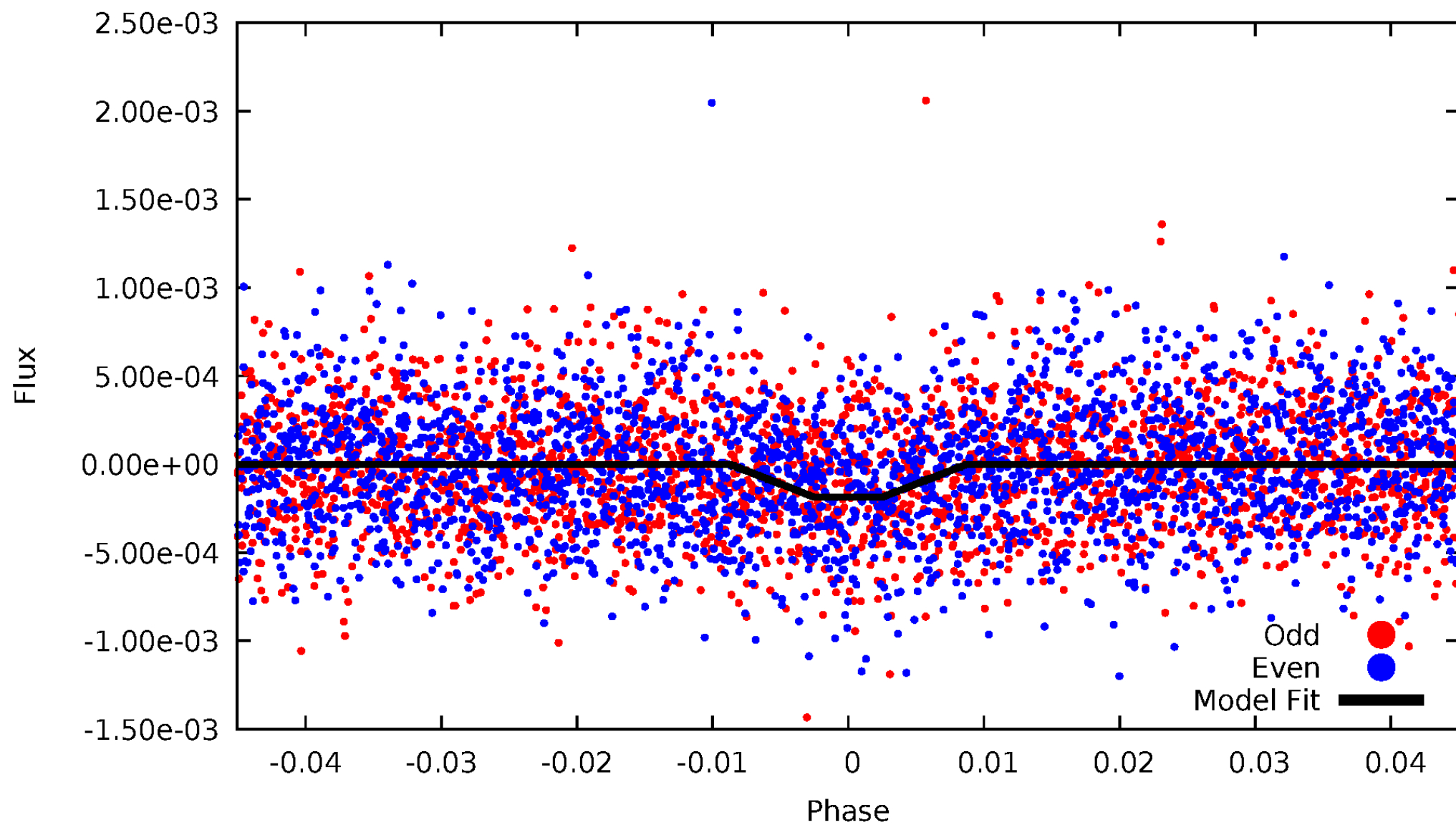
TCE 004852297-01





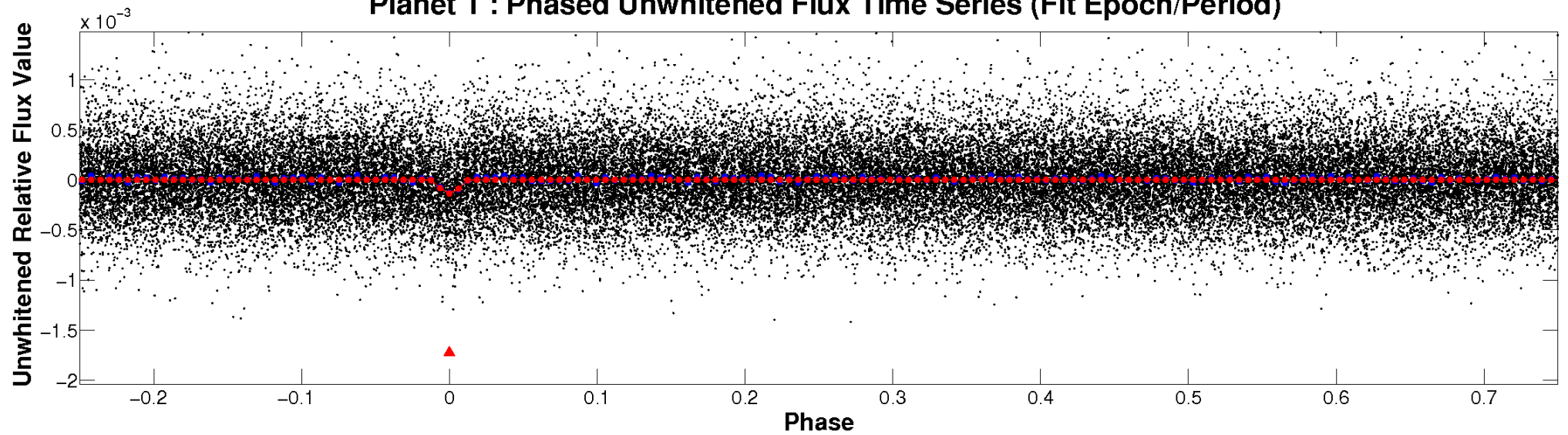
# ALT Odd/Even

TCE 004852297-01

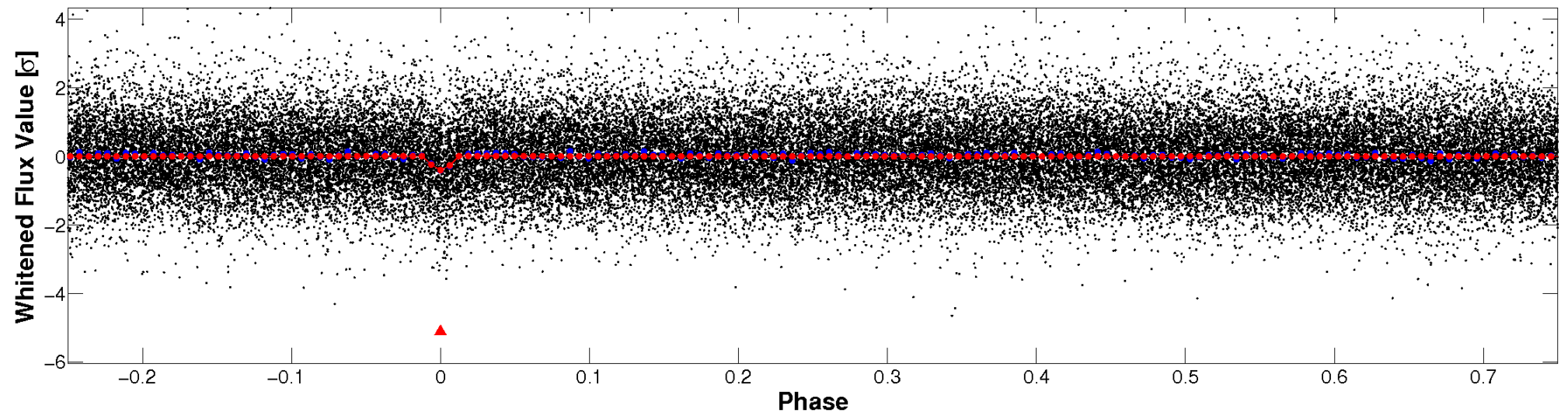


# Non-Whitened Vs. Whitened Light Curve

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

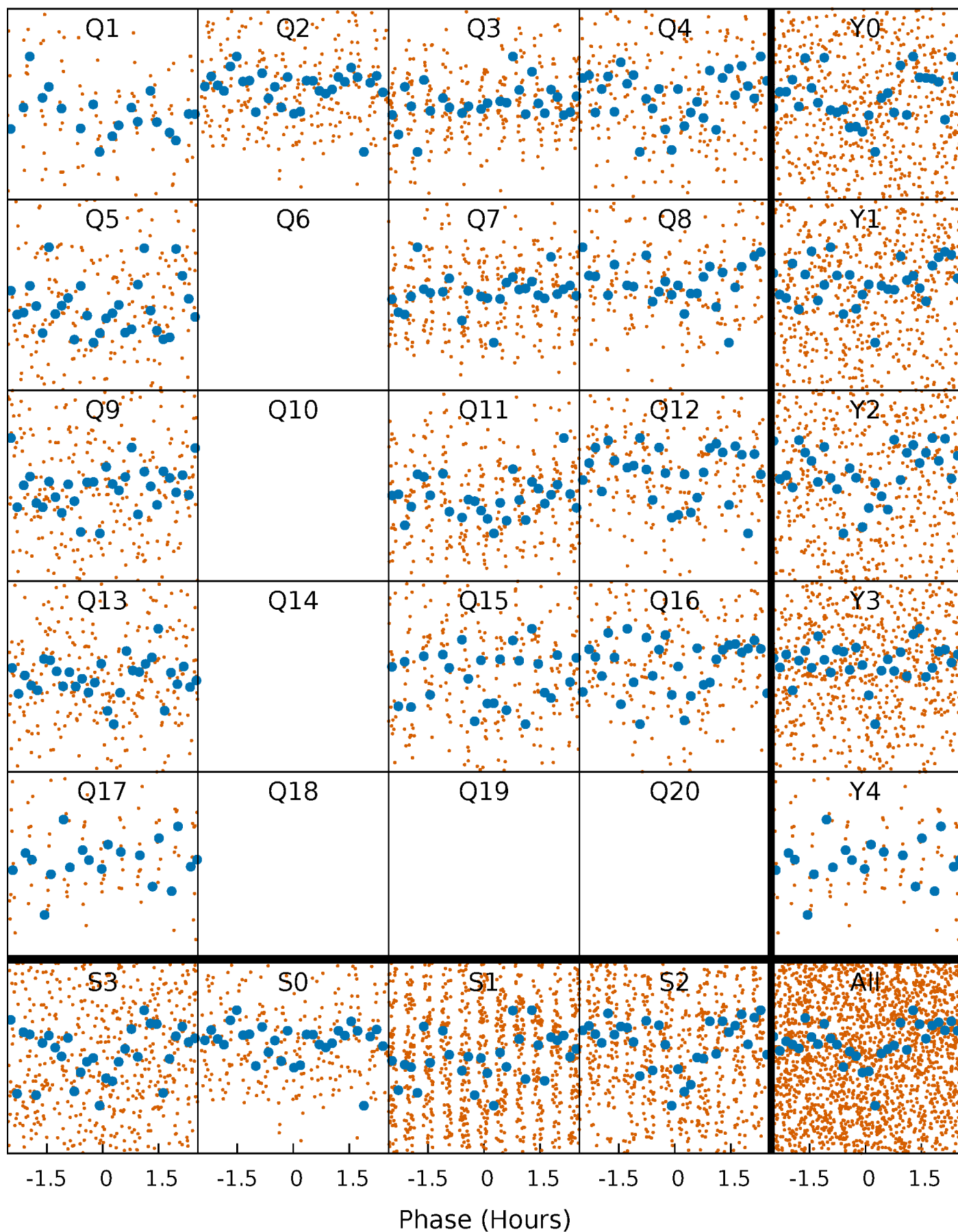


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

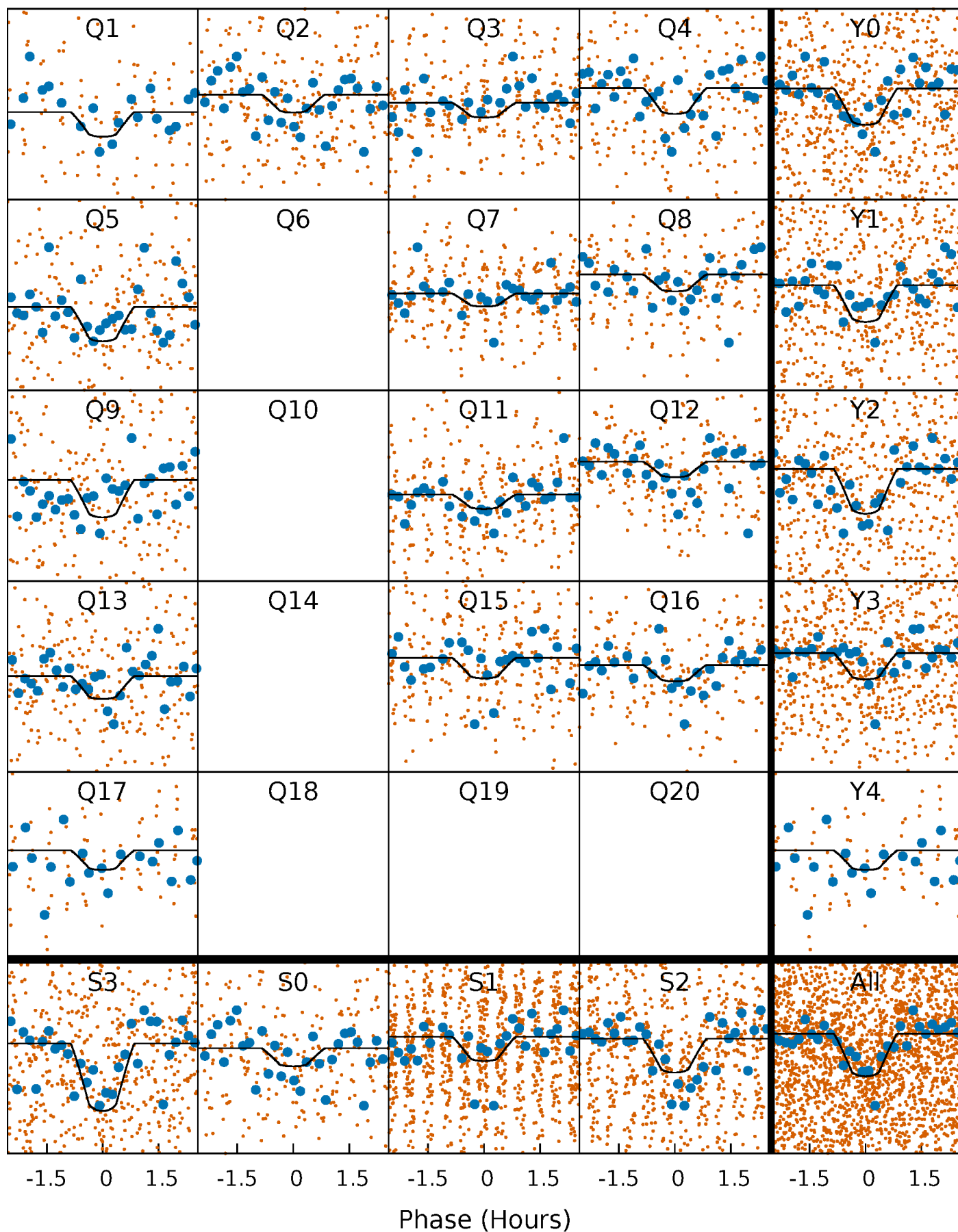
TCE 004852297-01   P= 3.289272 Days    $T_0=133.910725$  (BKJD)





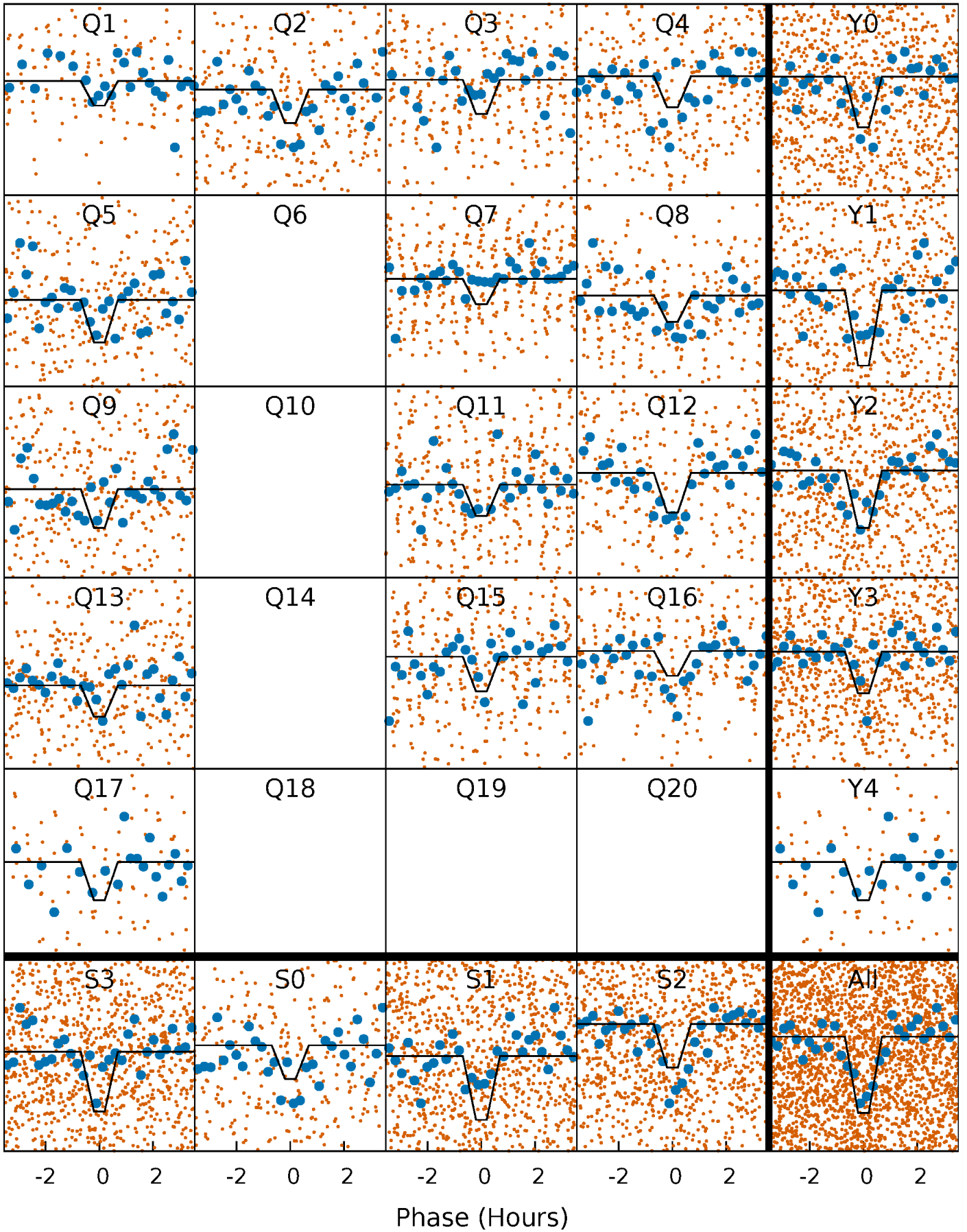
# DV Quarter-Phased Transit Curves

TCE 004852297-01   P= 3.289272 Days    $T_0=133.910725$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

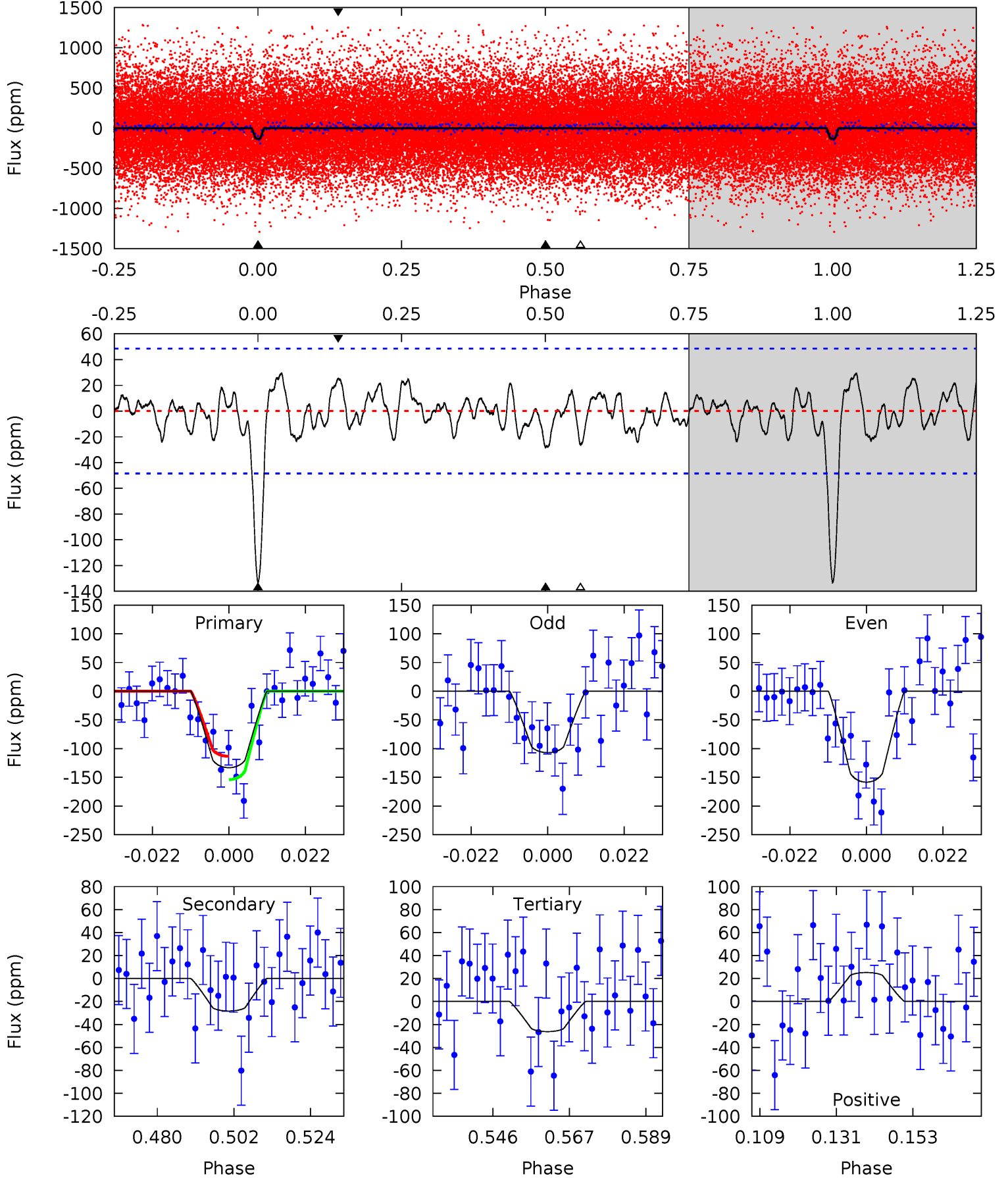
TCE 004852297-01   P= 3.289309 Days    $T_0=133.904412$  (BKJD)



# DV Model-Shift Uniqueness Test

004852297-01, P = 3.289272 Days, E = 130.621453 Days

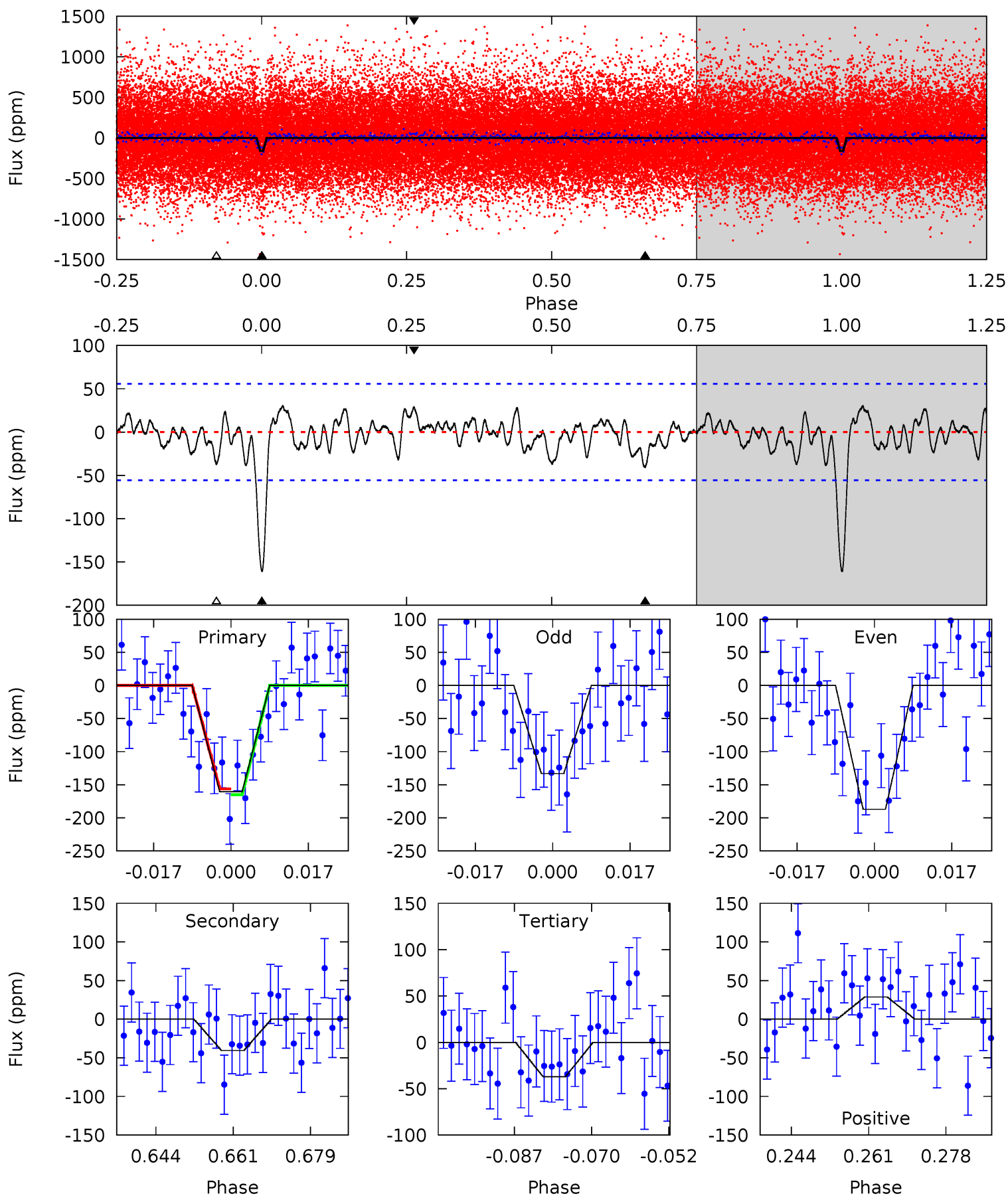
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	2.84	2.64	2.53	4.87	2.29	1.17	10.7	10.8	0.21	0.32	2.59	1.06	0.18	2.04



# Alt Model-Shift Uniqueness Test

004852297-01, P = 3.289309 Days, E = 130.615103 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
14.2	3.58	3.27	2.54	4.92	2.38	1.22	10.9	11.7	0.30	1.03	2.39	1.03	0.16	0.39



### Stellar Parameters For KIC 004852297

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6335^{+175}_{-219}$	$4.427^{+0.067}_{-0.216}$	$-0.140^{+0.250}_{-0.300}$	$1.072^{+0.349}_{-0.116}$	$1.120^{+0.164}_{-0.148}$	$1.280^{+0.374}_{-0.684}$
	+3%/-3%	+2%/-5%	+179%/-214%	+33%/-11%	+15%/-13%	+29%/-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 004852297-01 / KOI 4695.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-28 \pm 10$	$1.69^{+1.13}_{-0.96}$	$1936^{+152}_{-97}$	$4162^{+1865}_{-774}$	$11^{+49}_{-7}$
Alt.	$-40 \pm 11$	$1.89^{+1.15}_{-1.01}$	$1942^{+149}_{-100}$	$4279^{+1734}_{-723}$	$12^{+48}_{-8}$

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



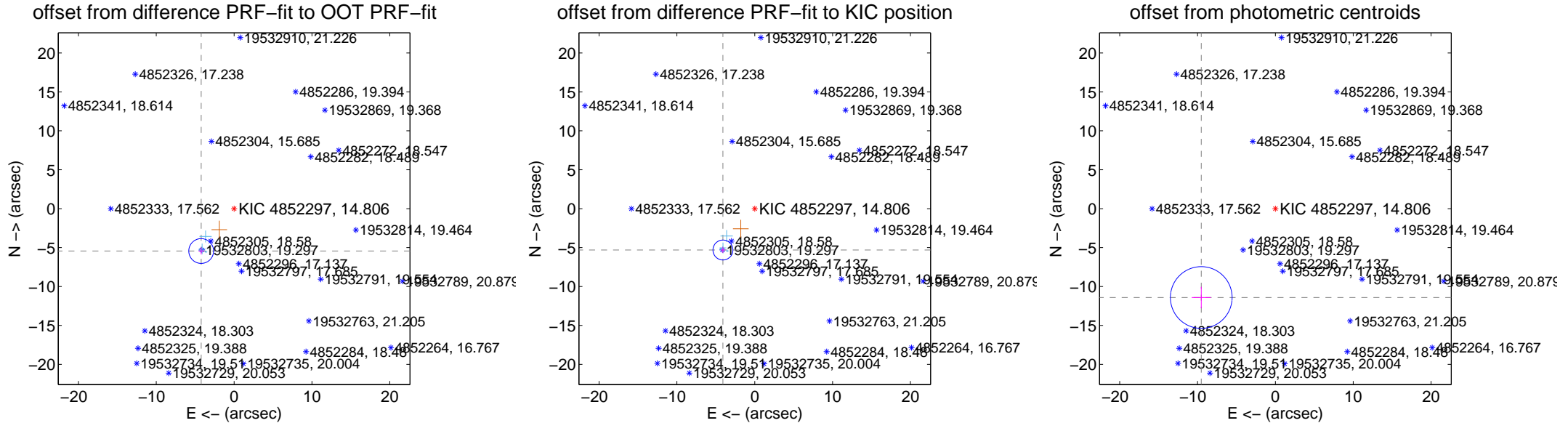
## DV Centroid Data

Supplemental centroid analysis for 004852297-01. Kepler magnitude: 14.81. Transit SNR 9.66

There are 6 quarters with good PRF difference image offsets

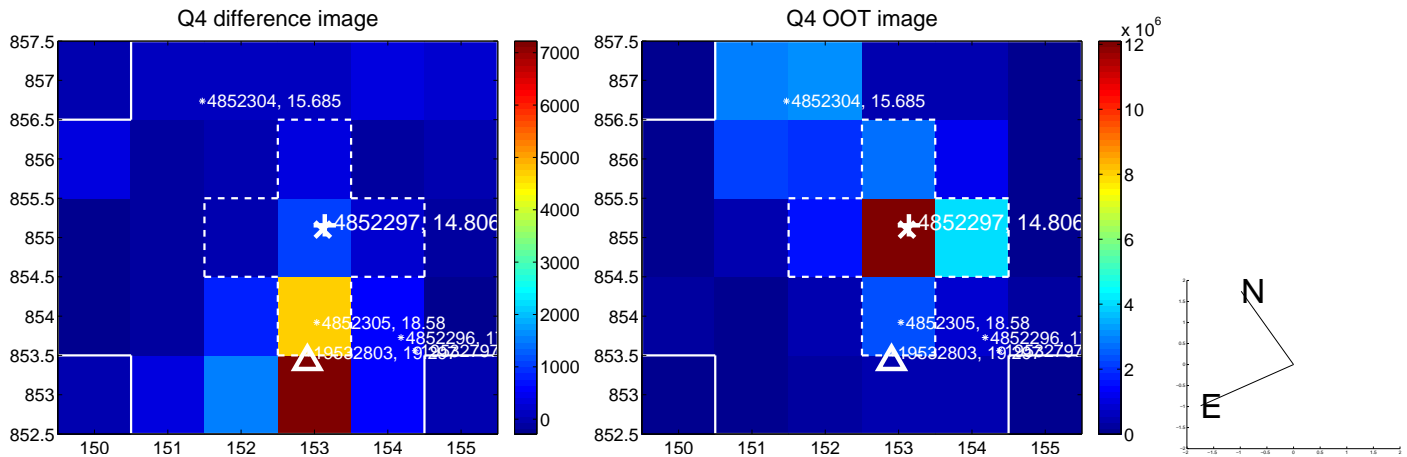
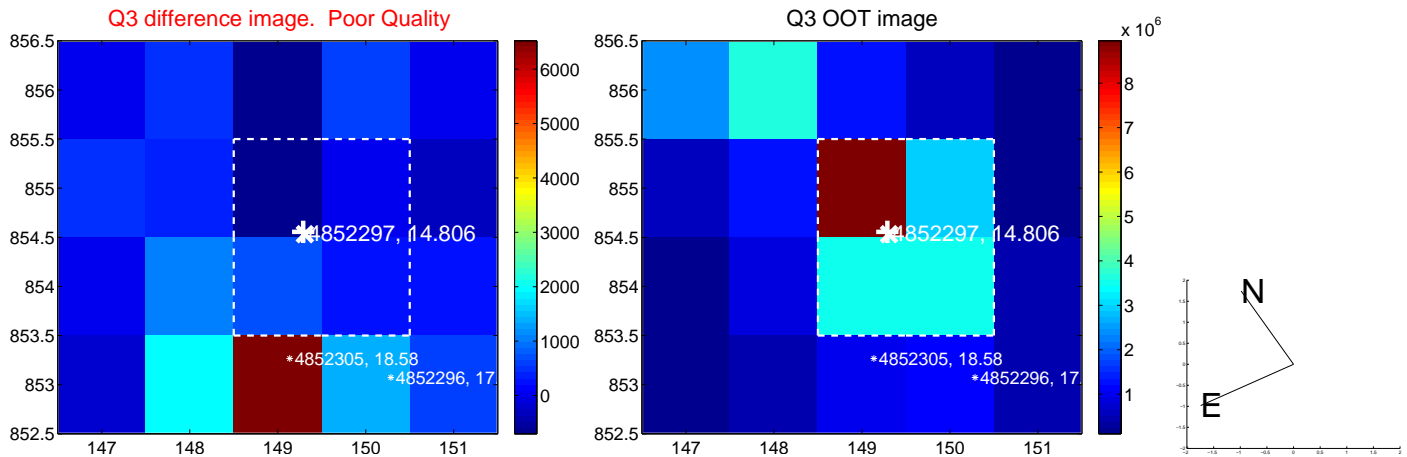
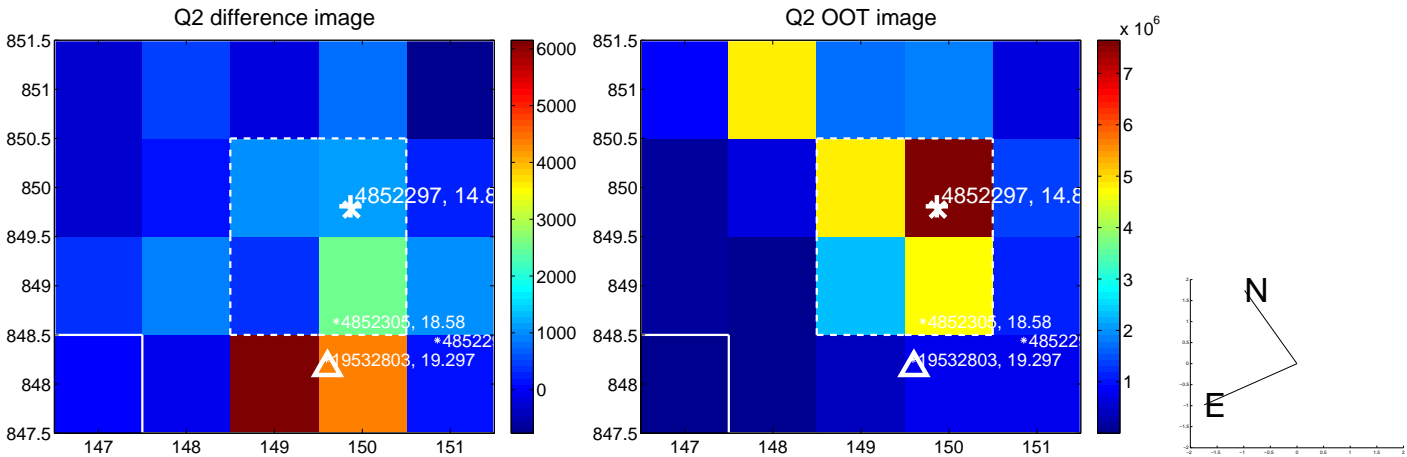
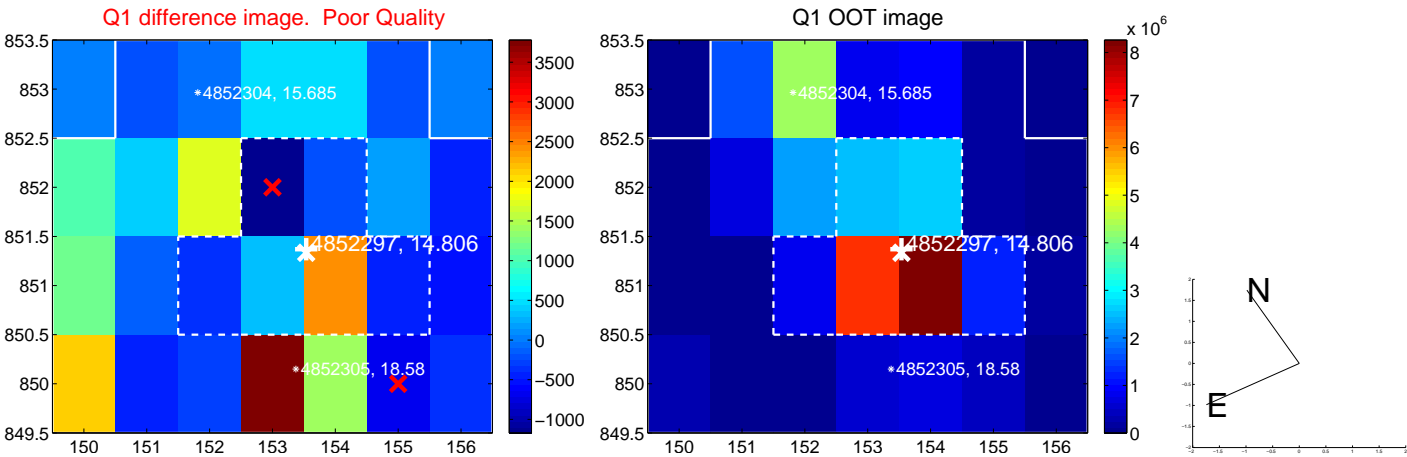
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>6.893 <math>\pm</math> 0.531</b>	<b>12.99</b>	4.232 $\pm$ 0.337	-5.440 $\pm$ 0.432
PRF-fit source offset from KIC position	<b>6.703 <math>\pm</math> 0.427</b>	<b>15.69</b>	4.087 $\pm$ 0.269	-5.312 $\pm$ 0.363
photometric centroid source offset	<b>14.87 <math>\pm</math> 1.32</b>	<b>11.25</b>	9.52 $\pm$ 1.23	-11.41 $\pm$ 1.38

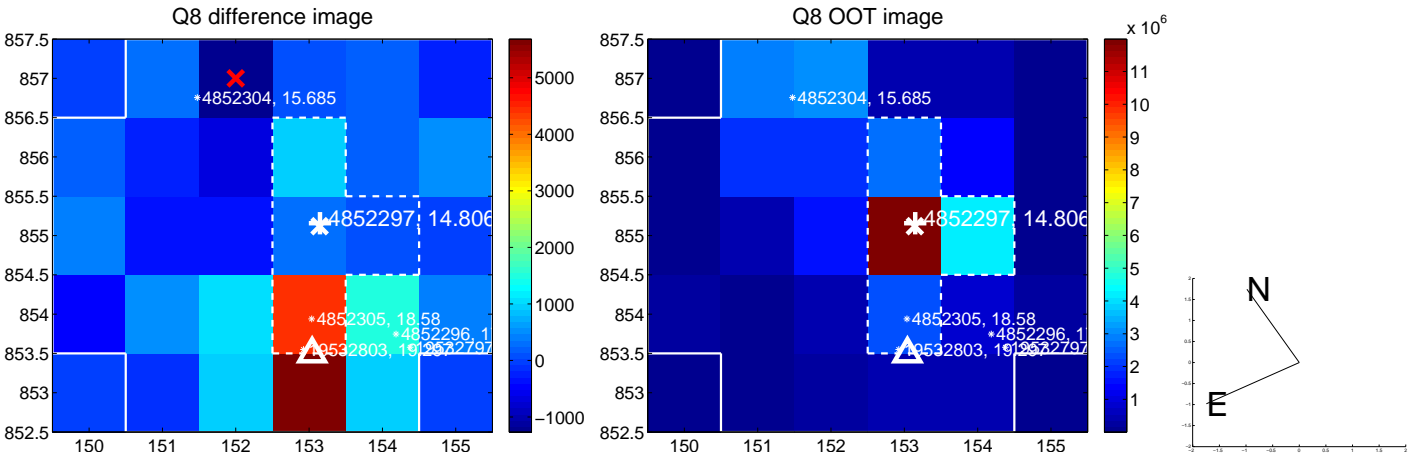
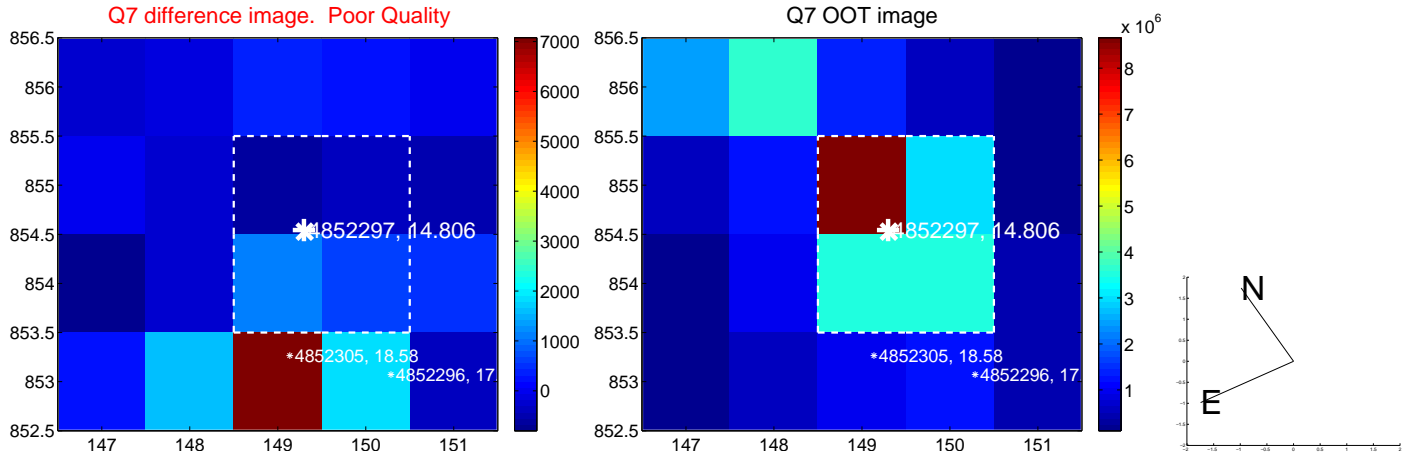
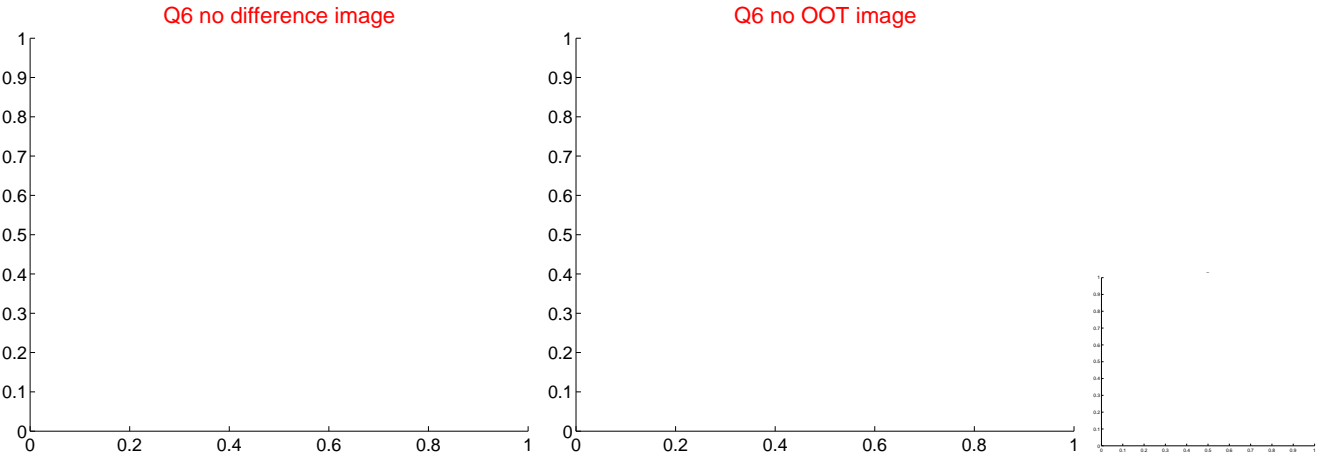
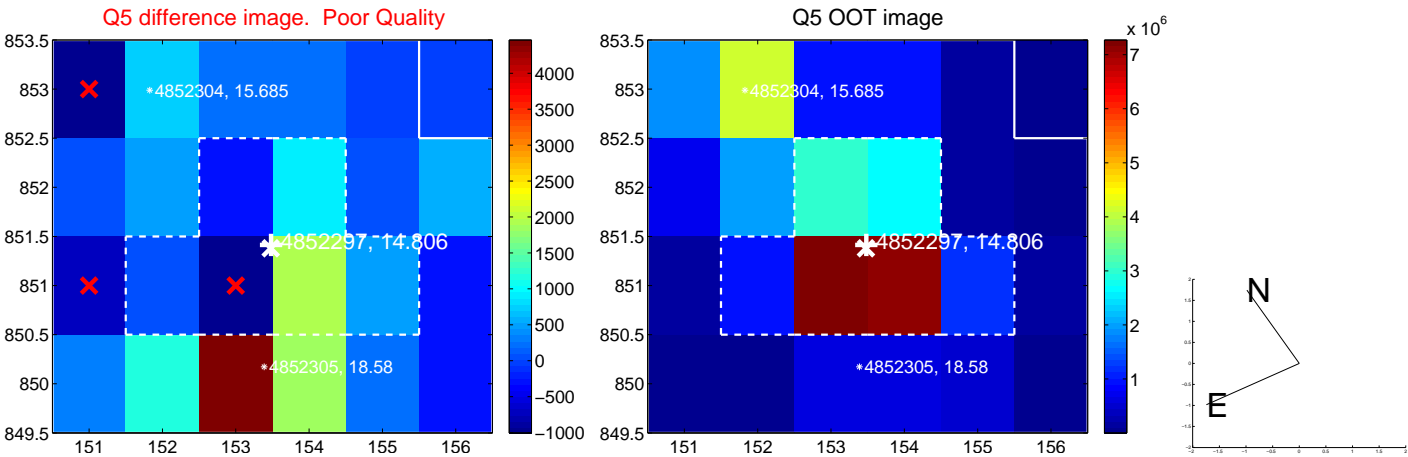


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

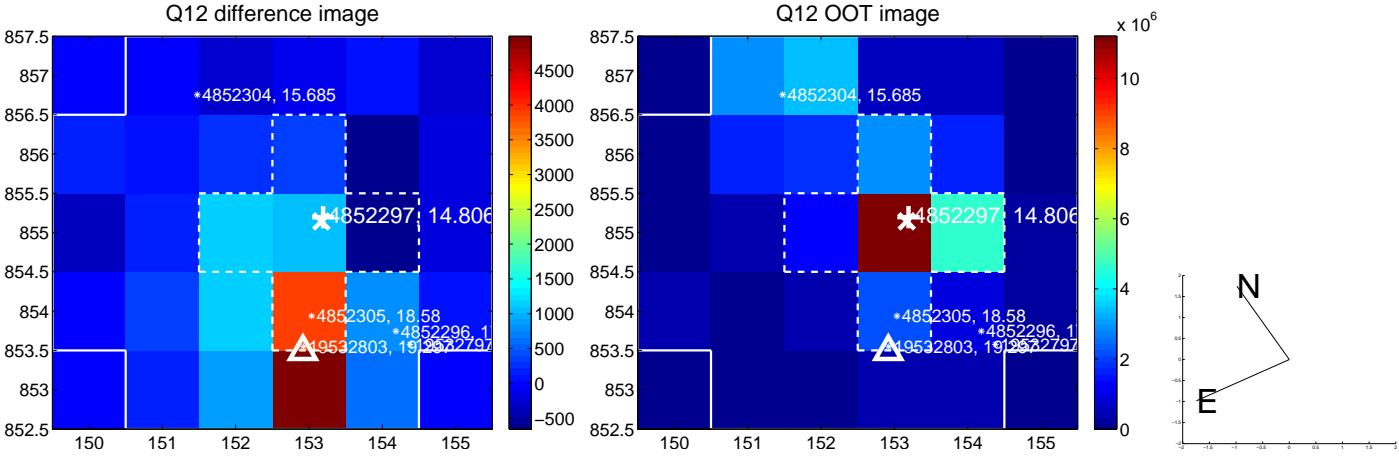
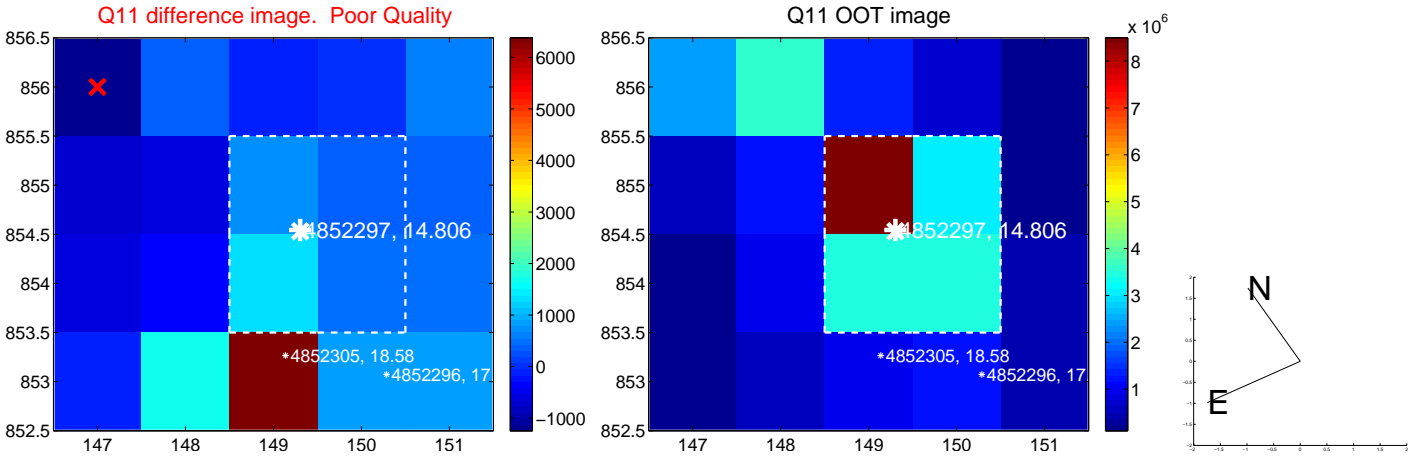
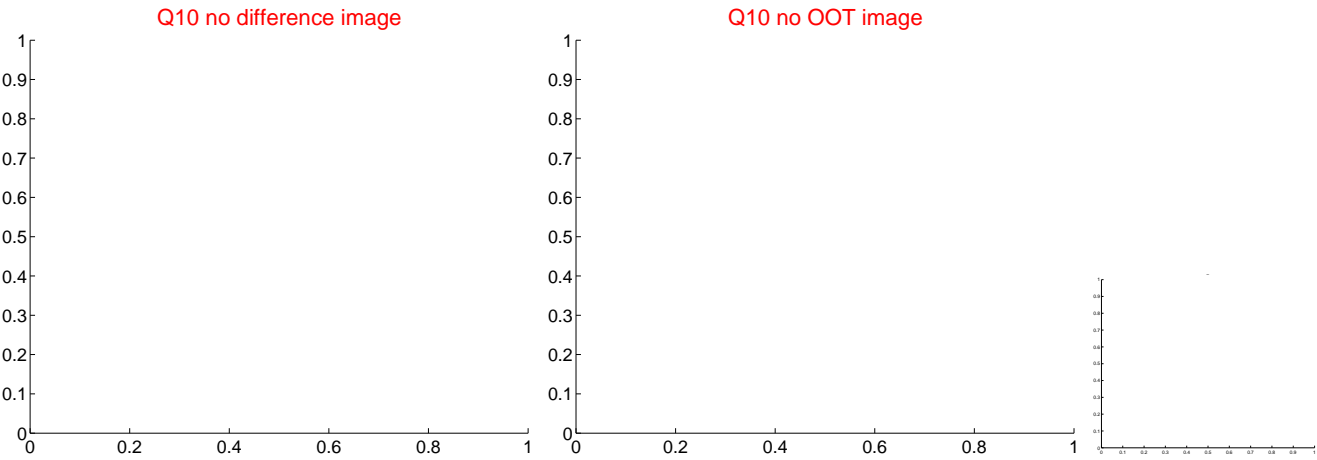
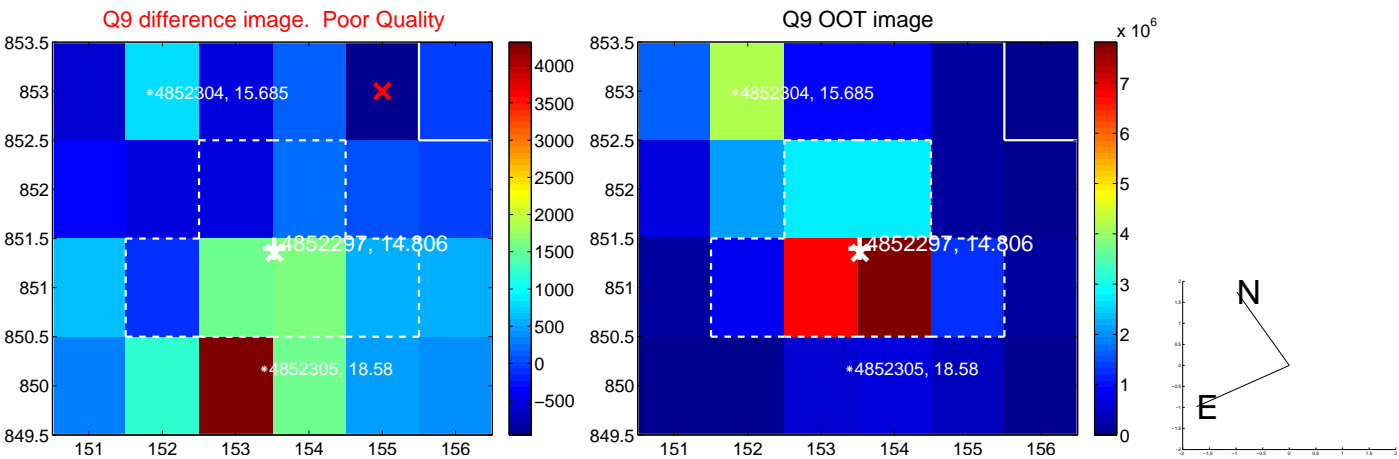
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



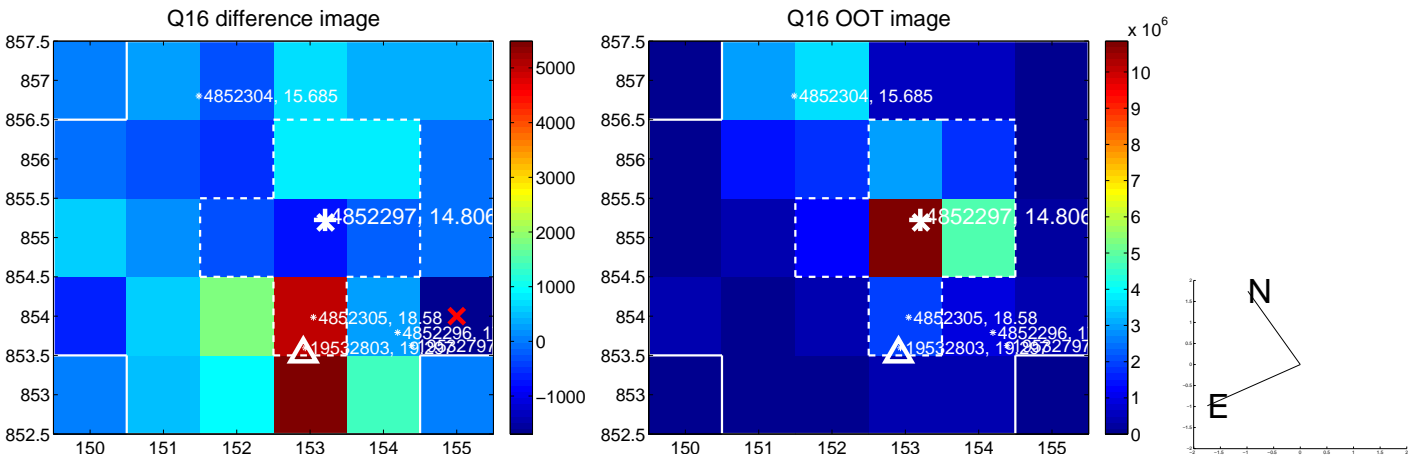
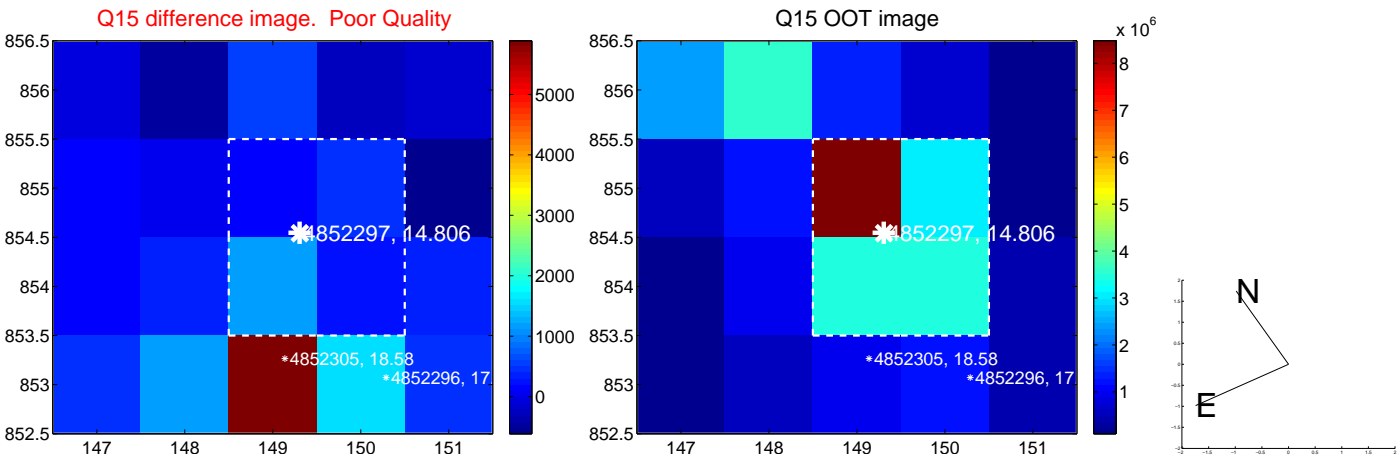
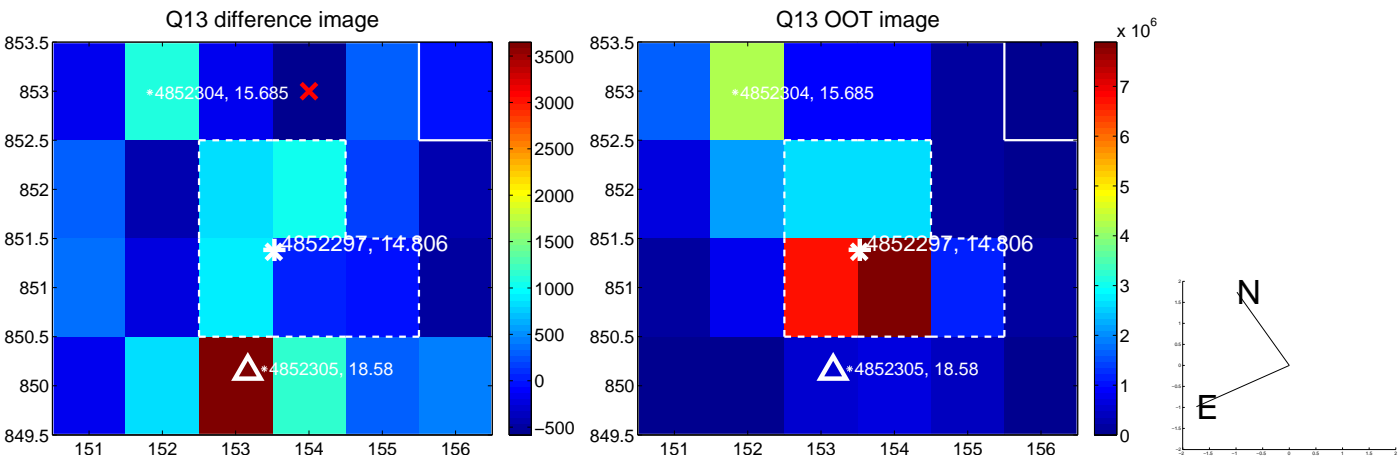
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

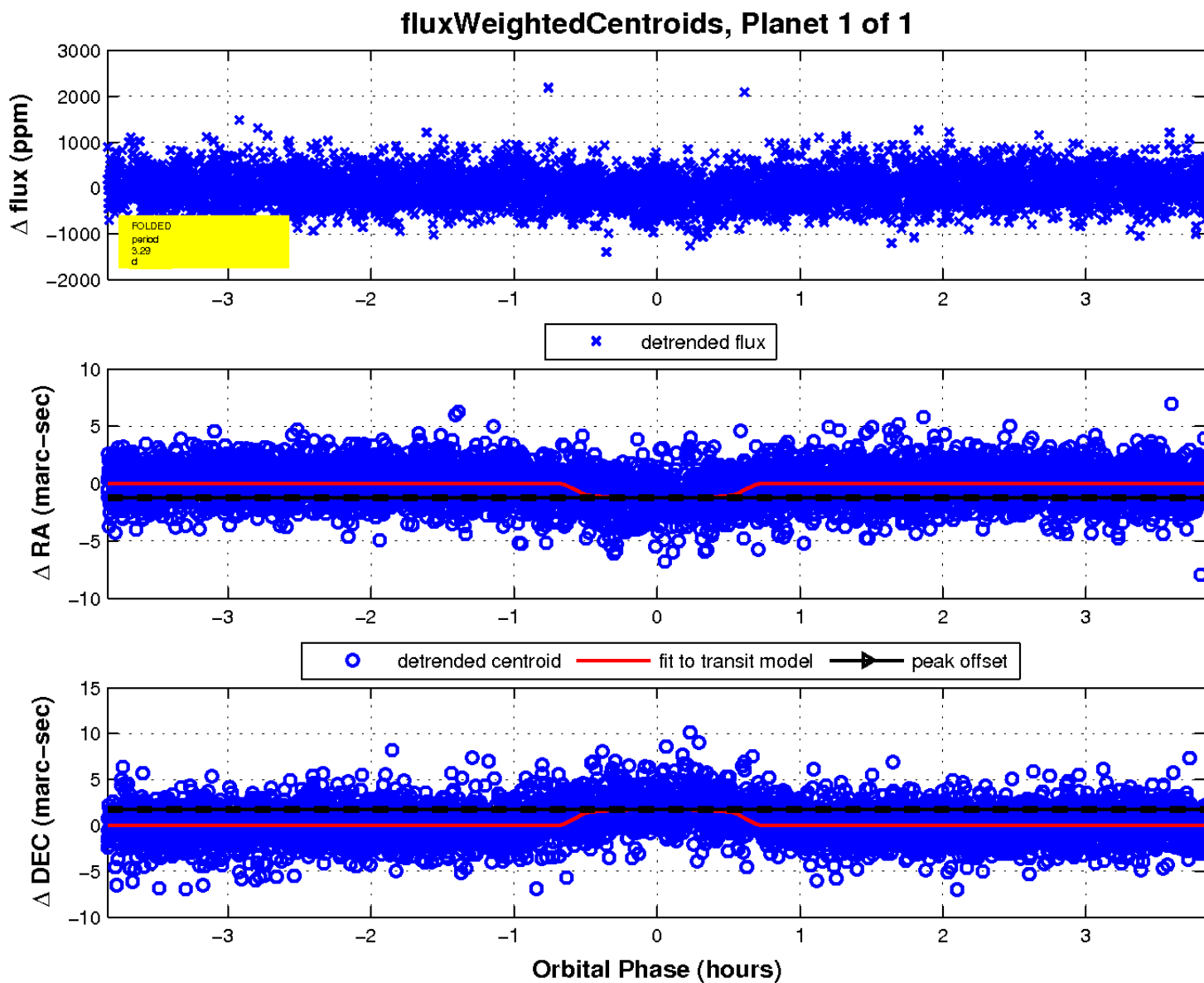
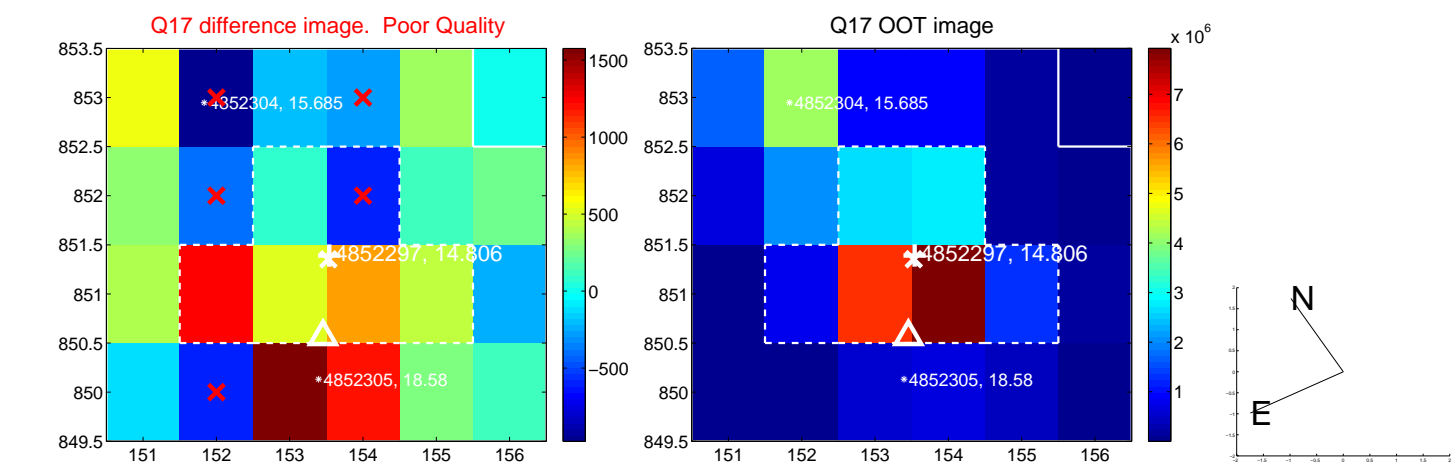


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



# UKIRT Image

Declination

