

# KIC 008245197

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008245197-01	OBS	No	4.552800	132.303019	18.7	14.879	7.8	6.3	1.27	6607	0.61	836.36

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008245197-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

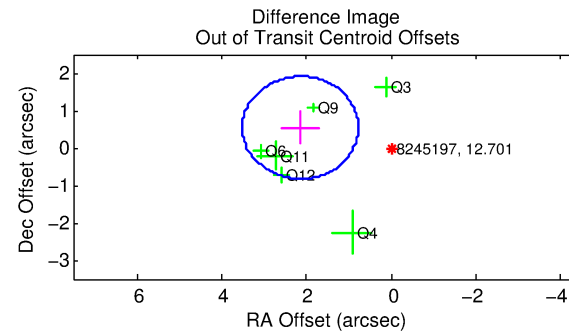
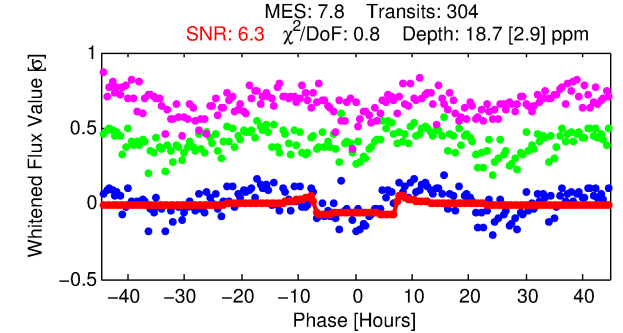
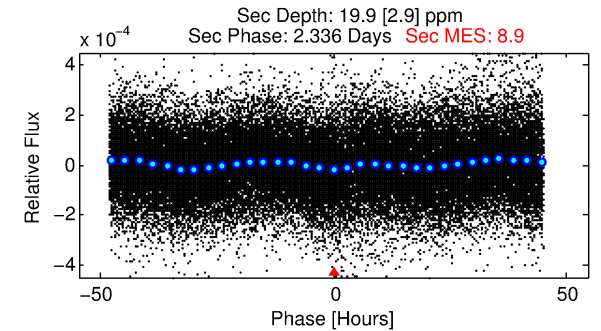
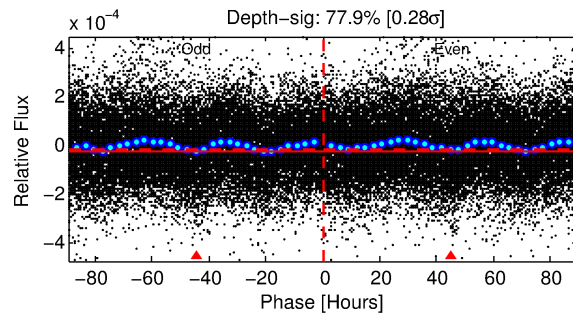
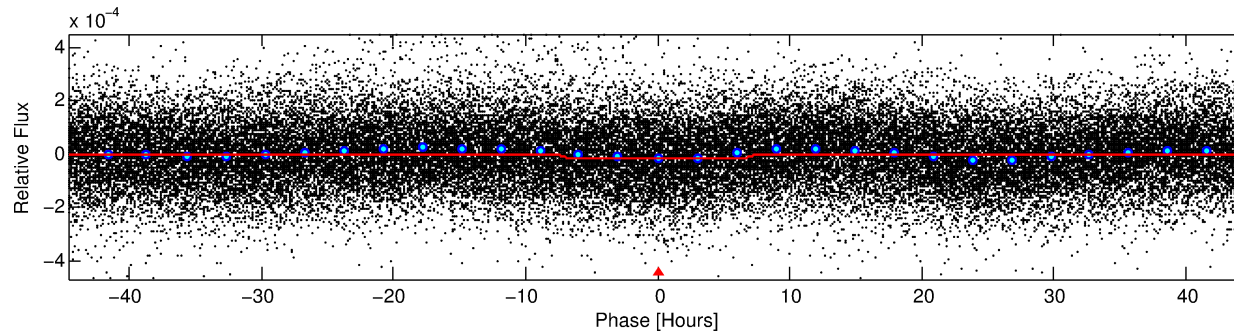
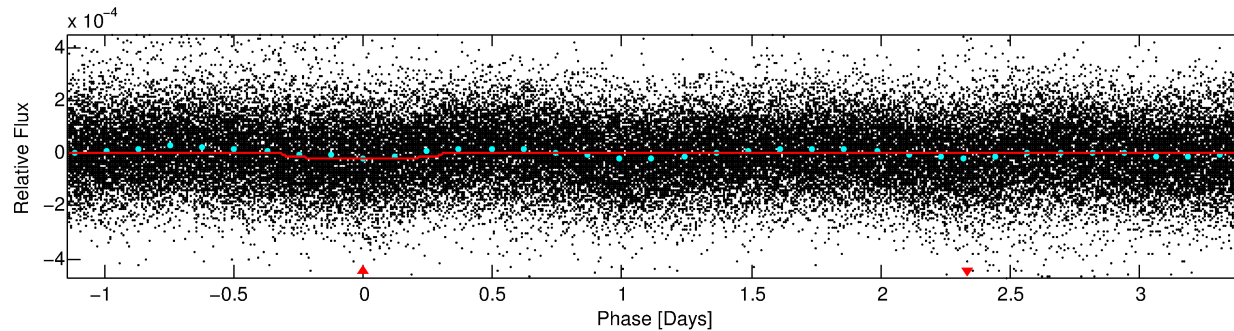
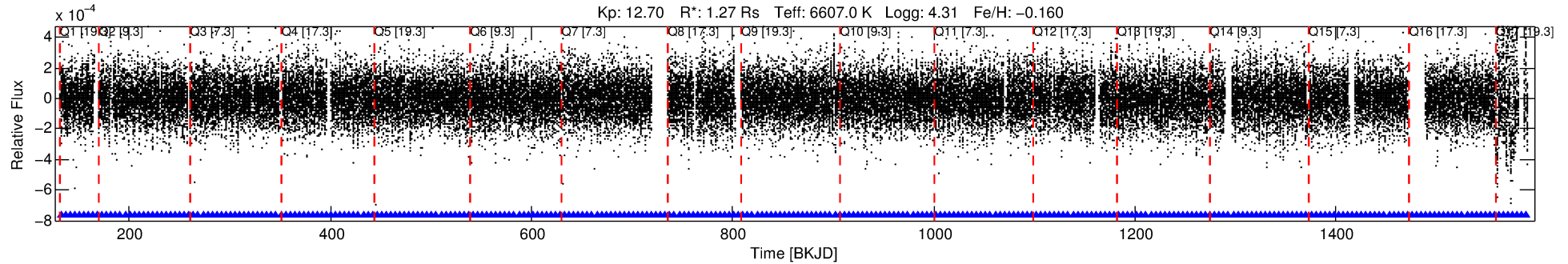
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008245197-01

No Significant Match Found

# DV One-Page Summary

KIC: 8245197 Candidate: 1 of 1 Period: 4.553 d



## DV Fit Results:

Period = 4.55280 [0.00007] d  
Epoch = 132.3030 [0.0098] BKJD  
Rp/R\* = 0.0044 [0.0008]  
a/R\* = 1.60 [0.92]  
b = 0.83 [0.36]  
Seff = 836.36 [245.02]  
Teq = 1371 [100] K  
Rp = 0.61 [0.18] Re  
a = 0.0572 [0.0107] AU  
Ag = 95.72 [45.80] [2.07 $\sigma$ ]  
Teffp = 6632 [688] K [7.57 $\sigma$ ]

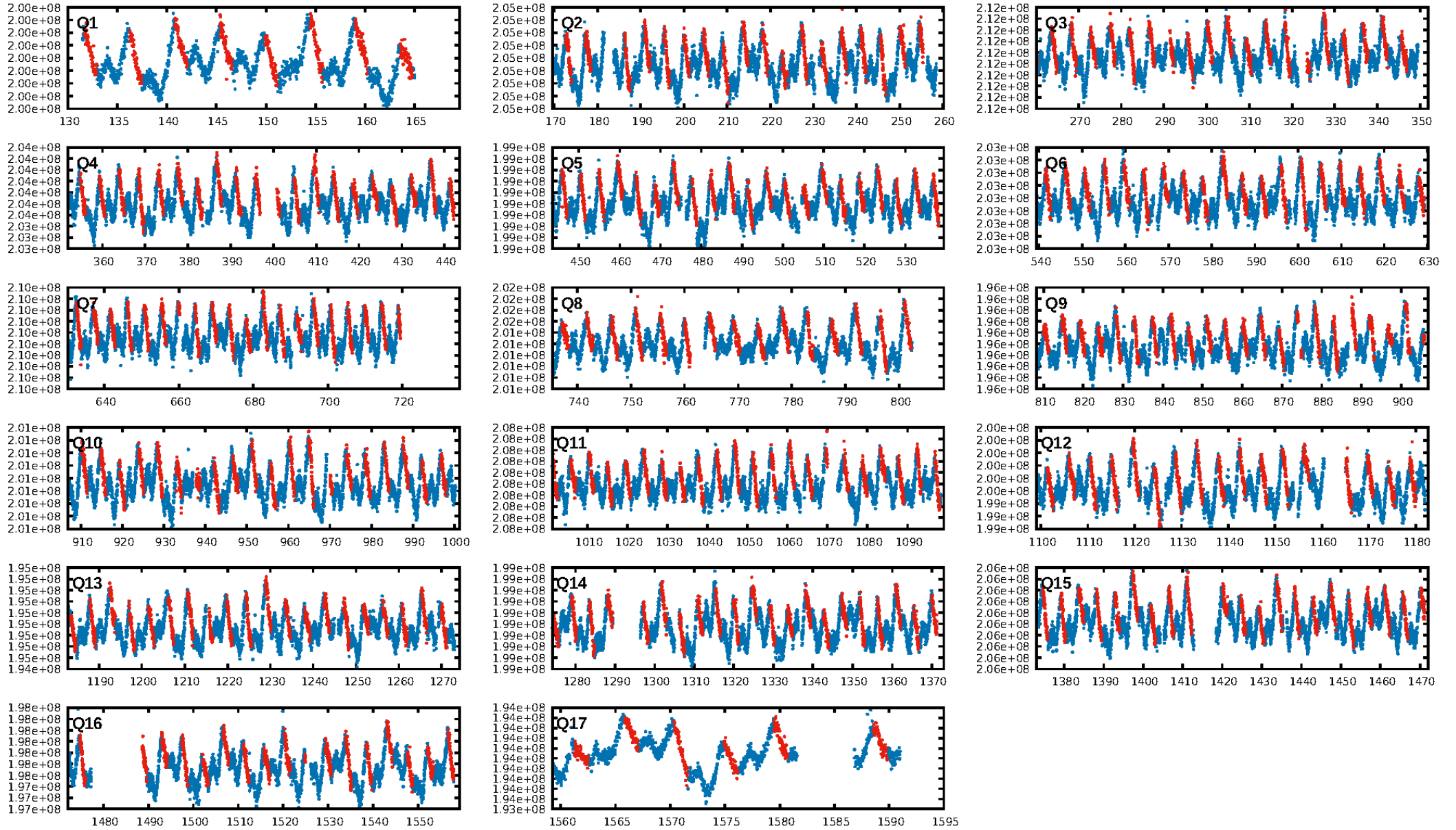
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.49e-11  
RollingBand-fgt: 1.00 [290/290]  
GhostDiagnostic-chr: -0.6229  
Centroid-sig: 89.7%  
Centroid-so: 0.244 arcsec [0.35 $\sigma$ ]  
OotOffset-rm: 2.211 arcsec [4.85 $\sigma$ ]  
KicOffset-rm: 2.204 arcsec [4.81 $\sigma$ ]  
OotOffset-st: 1/2/2/1 [6]  
KicOffset-st: 1/2/2/1 [6]  
DiffImageQuality-fgm: 0.00 [0/6]  
DiffImageOverlap-fno: 1.00 [17/17]

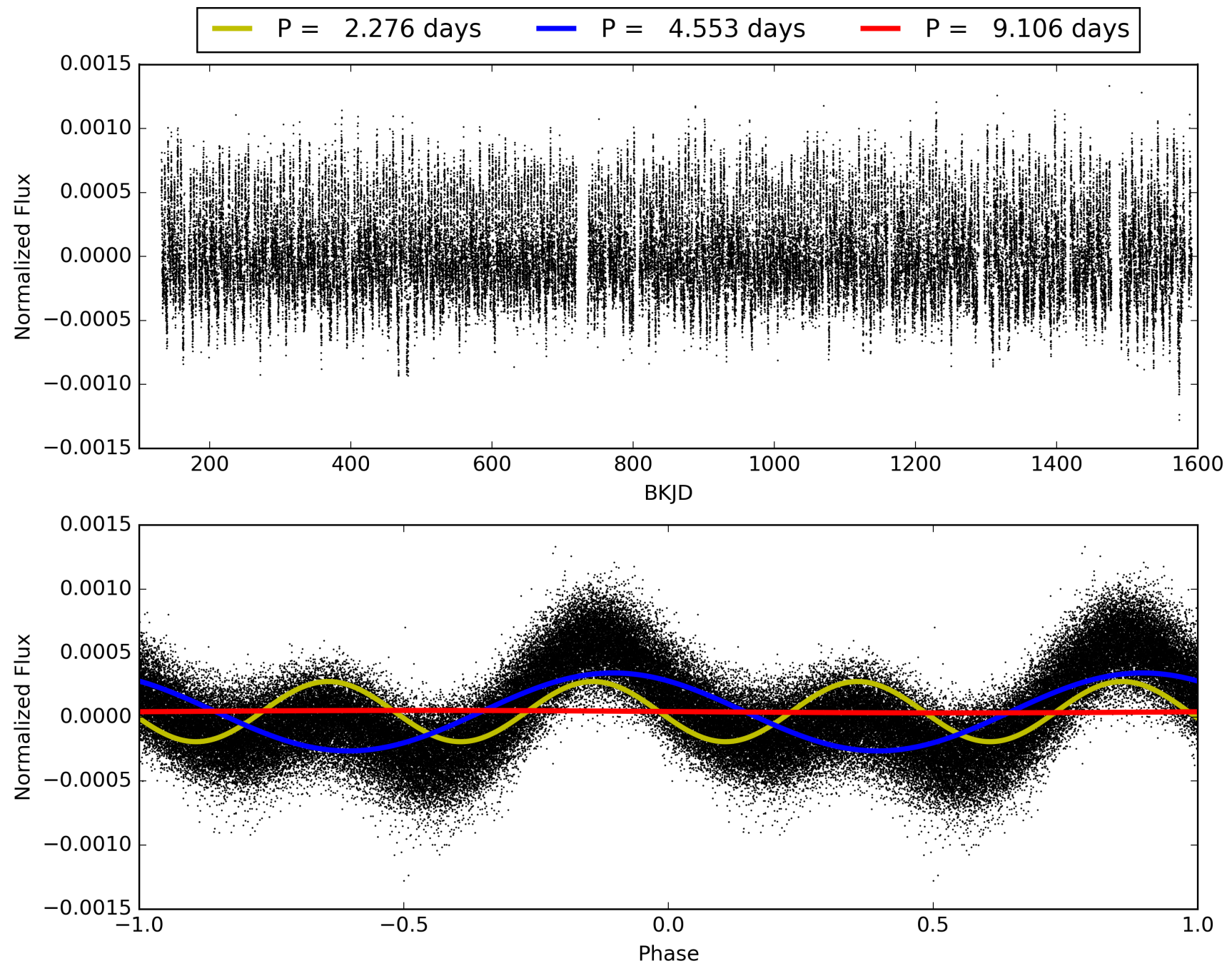
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:05:15 Z

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

# TCE 008245197-01, PDC Light Curves

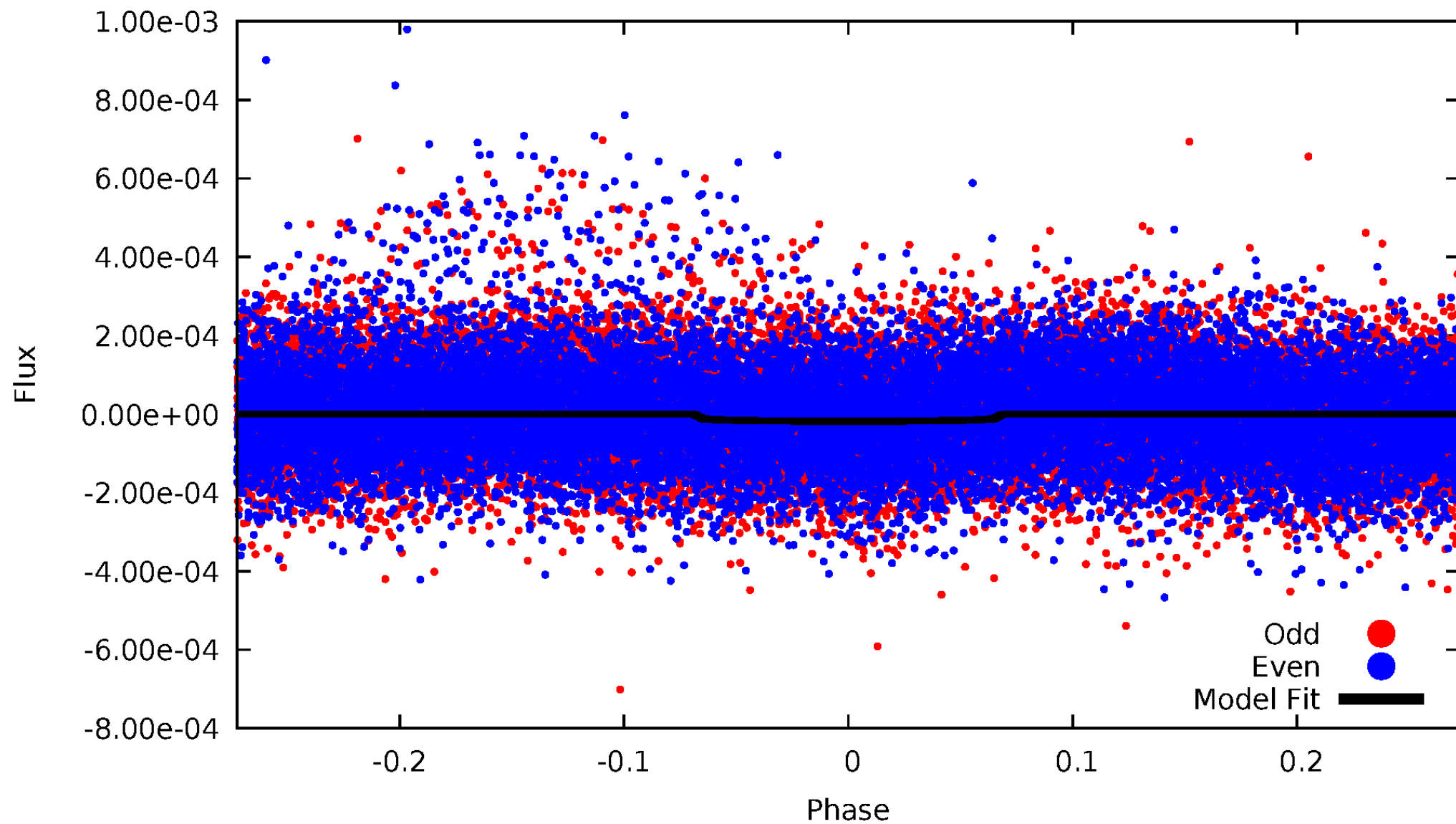


TCE 008245197-01



# DV Odd/Even

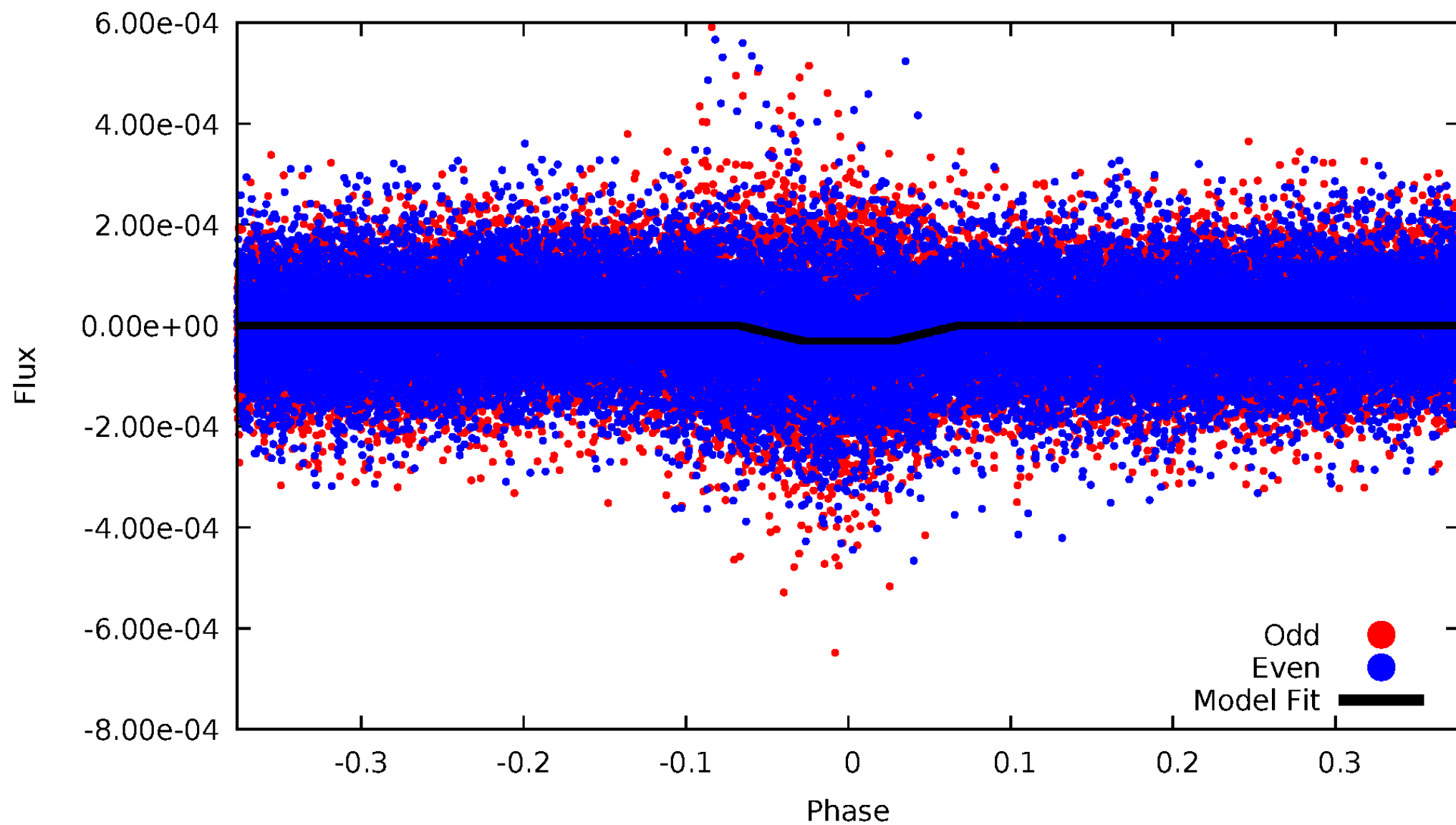
TCE 008245197-01





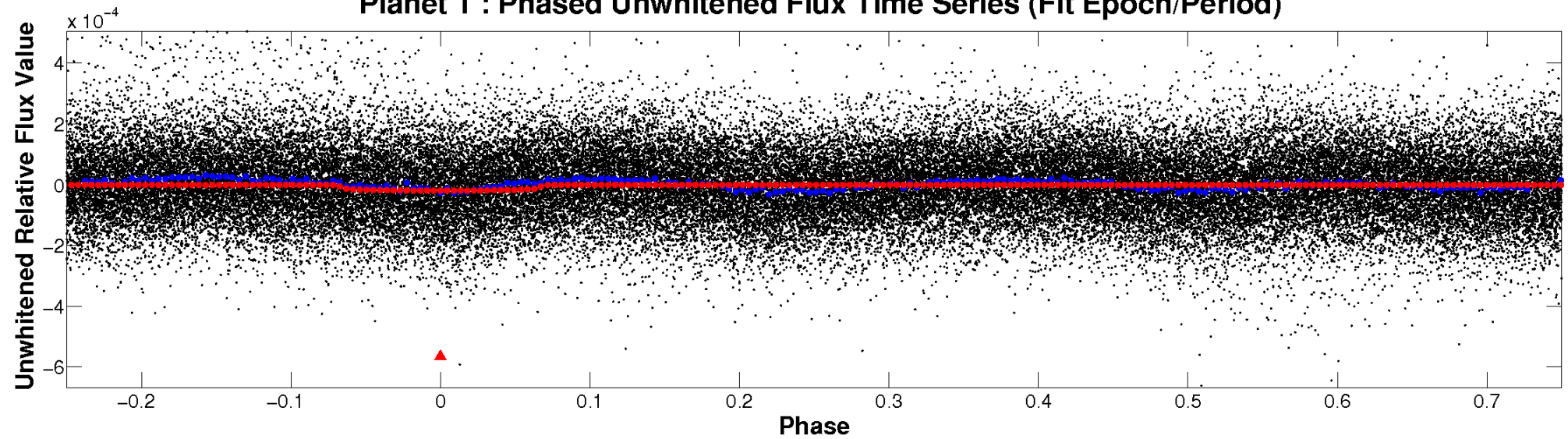
# ALT Odd/Even

TCE 008245197-01

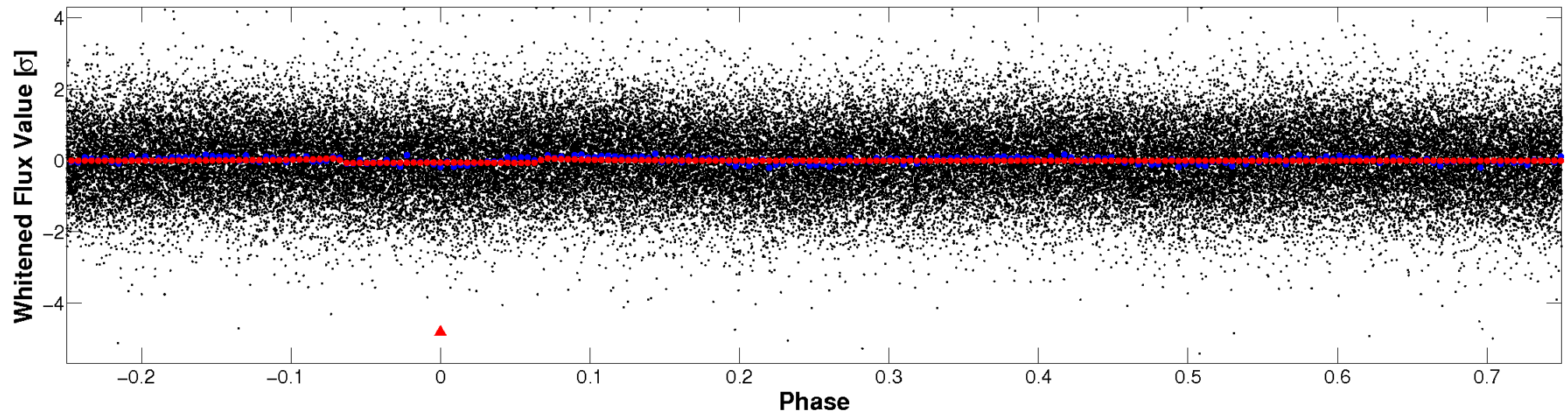


# Non-Whitened Vs. Whitened Light Curve

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

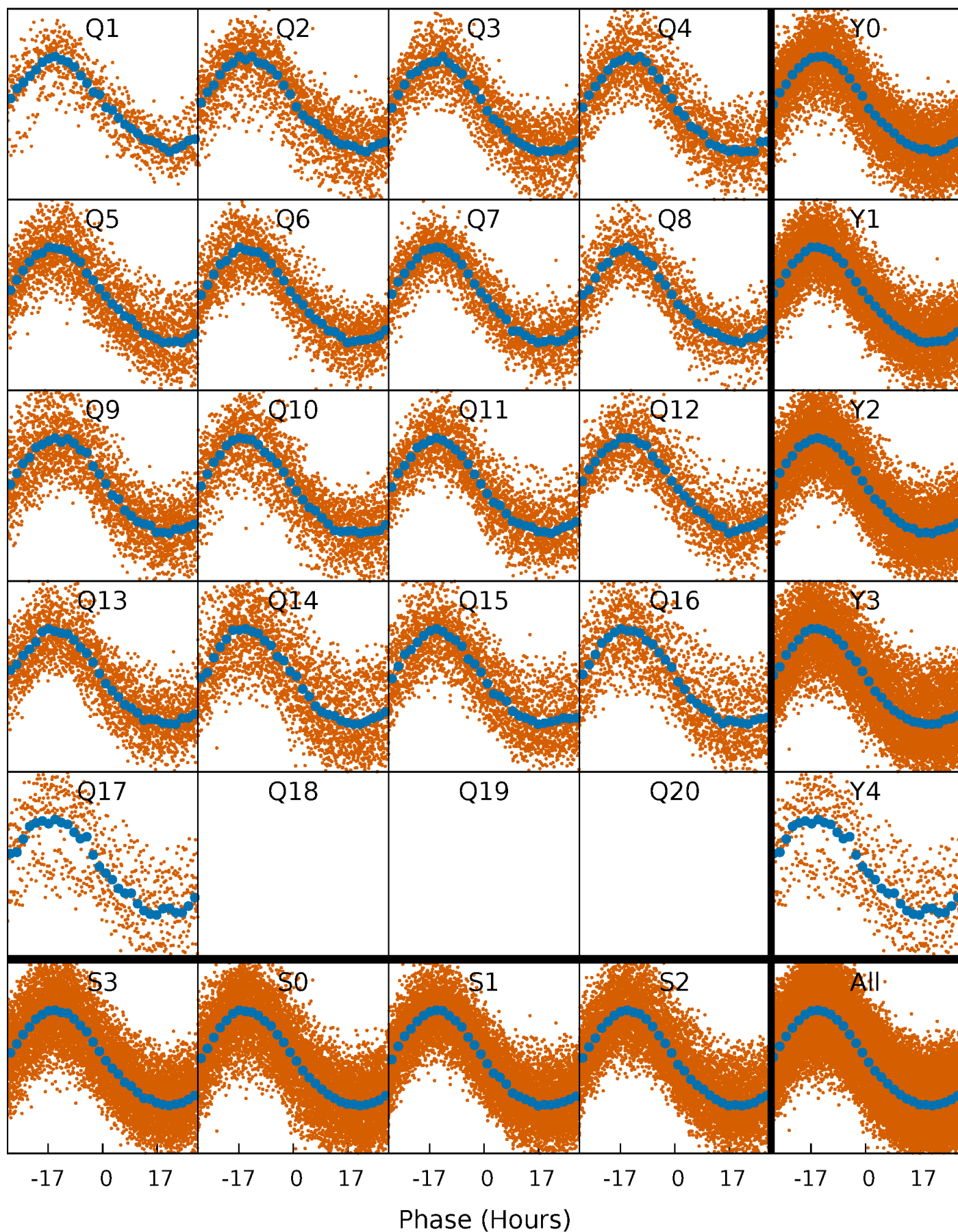


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

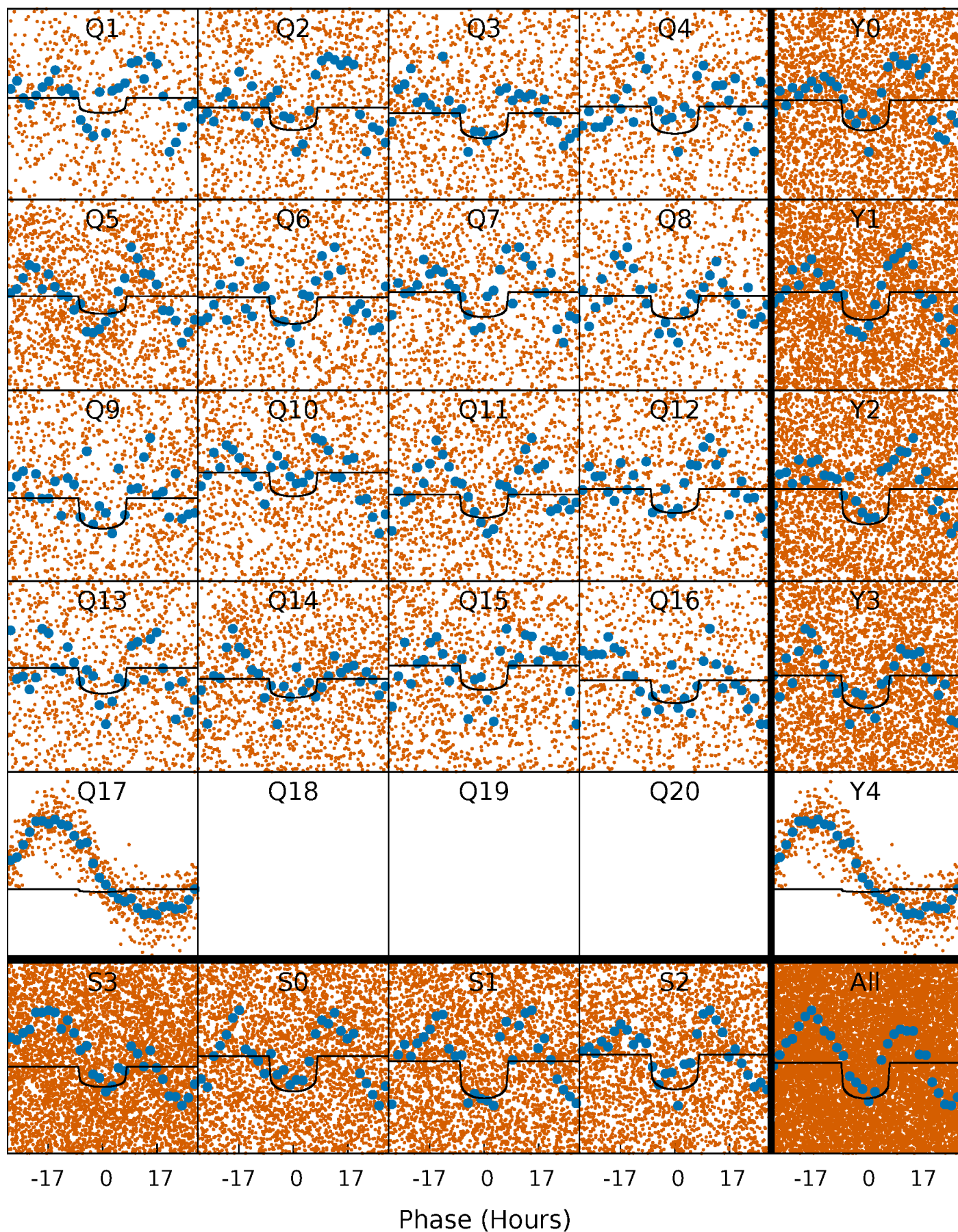
TCE 008245197-01   P= 4.552800 Days    $T_0=132.303019$  (BKJD)





# DV Quarter-Phased Transit Curves

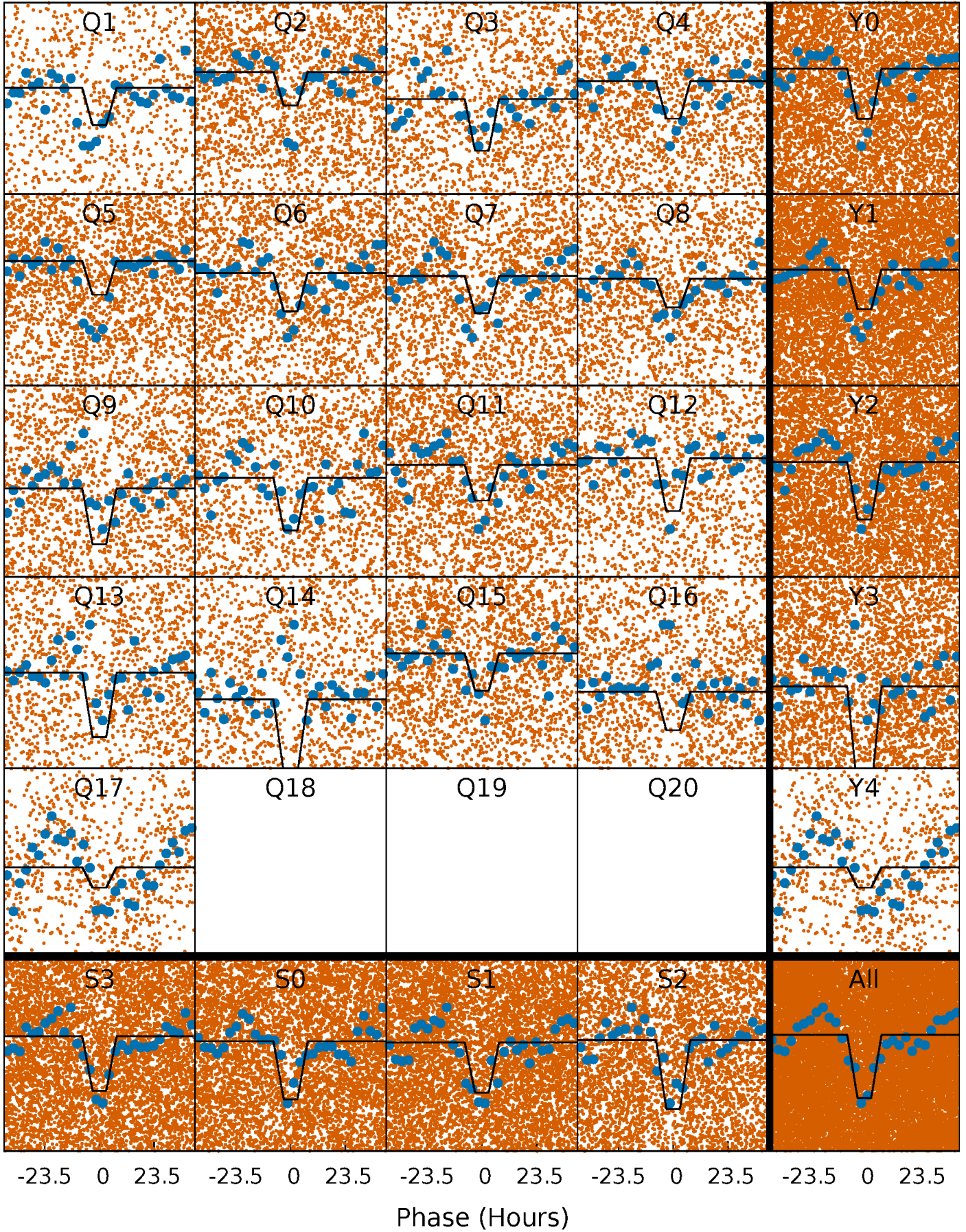
TCE 008245197-01   P= 4.552800 Days    $T_0=132.303019$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

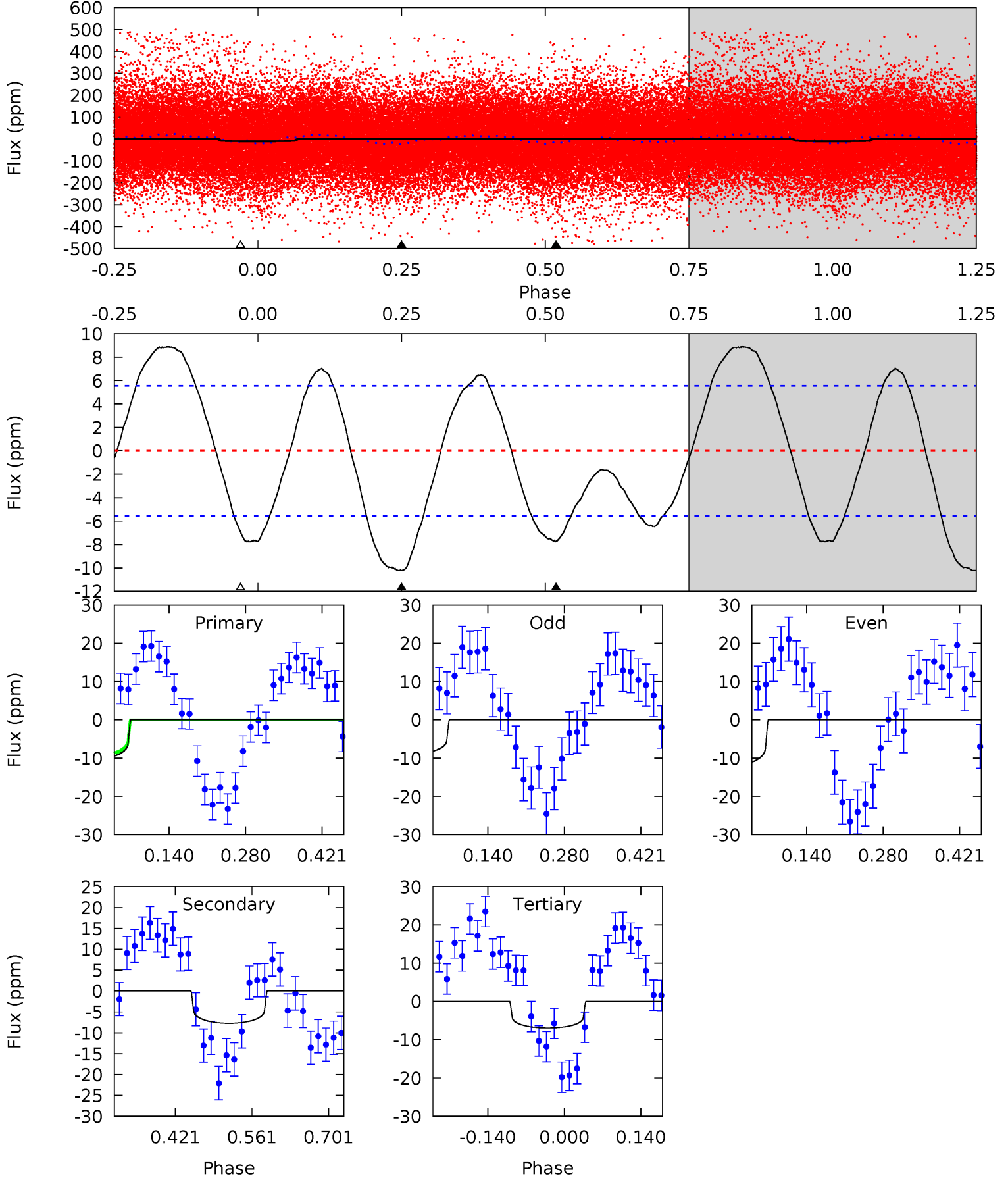
TCE 008245197-01 P= 4.552625 Days  $T_0=132.400016$  (BKJD)



# DV Model-Shift Uniqueness Test

008245197-01, P = 4.552800 Days, E = 127.750219 Days

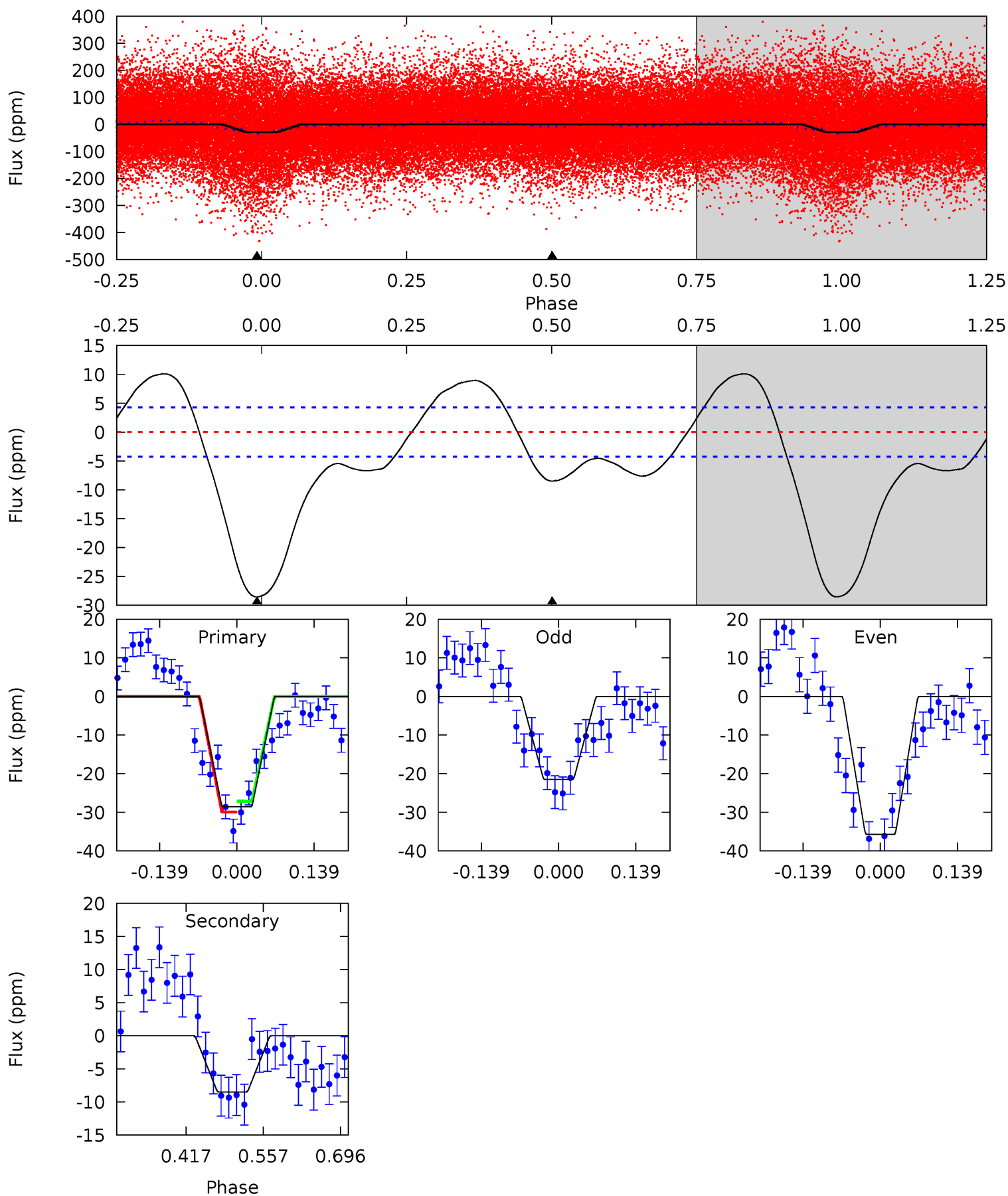
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.26	6.25	5.60	0	4.49	1.48	4.62	2.65	8.26	0.65	6.25	1.27	0.79	0.47	0.78



# Alt Model-Shift Uniqueness Test

008245197-01, P = 4.552625 Days, E = 127.847391 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
30.1	8.94	0	0	4.50	1.48	6.74	30.1	30.1	8.94	8.94	7.49	1.34	0.26	1.43





### Stellar Parameters For KIC 008245197

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6607^{+149}_{-199}$	$4.314^{+0.077}_{-0.143}$	$-0.160^{+0.250}_{-0.300}$	$1.267^{+0.289}_{-0.156}$	$1.212^{+0.142}_{-0.158}$	$0.840^{+0.328}_{-0.327}$
	+2%/-3%	+2%/-3%	+156%/-188%	+23%/-12%	+12%/-13%	+39%/-39%
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 008245197-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-8 \pm 1$	$0.63^{+0.14}_{-0.13}$	$1935^{+104}_{-84}$	$5237^{+573}_{-436}$	$34^{+21}_{-12}$
Alt.	$-8 \pm 1$	$0.77^{+0.16}_{-0.12}$	$1931^{+104}_{-80}$	$4876^{+397}_{-313}$	$25^{+12}_{-8}$

$T_{max}$  = 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

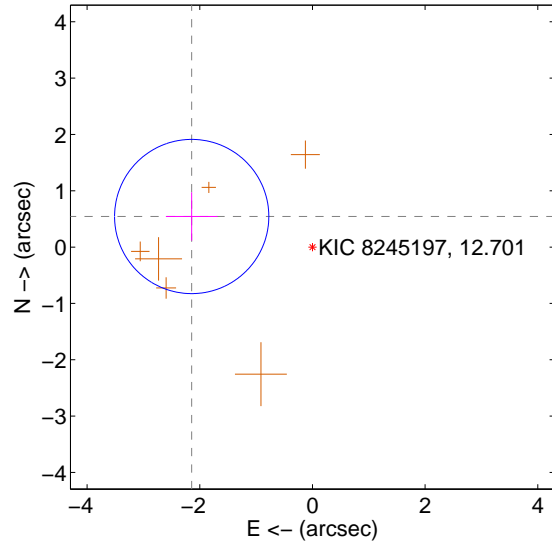
Supplemental centroid analysis for 008245197-01. Kepler magnitude: 12.70. Transit SNR 6.30

There are 0 quarters with good PRF difference image offsets

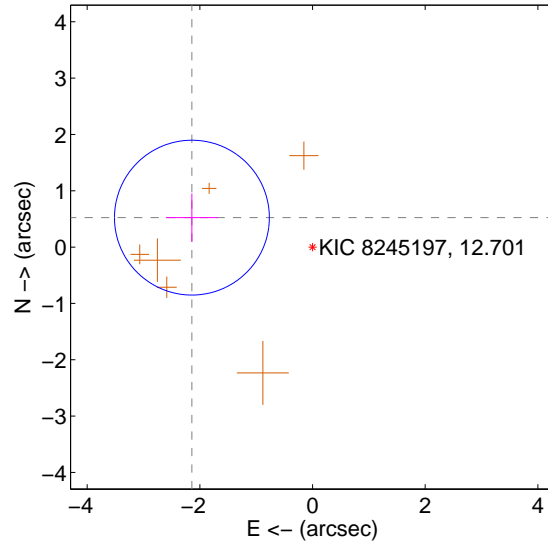
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.211 \pm 0.456$	4.85	$2.144 \pm 0.458$	$0.543 \pm 0.429$
PRF-fit source offset from KIC position	$2.204 \pm 0.458$	4.81	$2.141 \pm 0.460$	$0.523 \pm 0.428$
photometric centroid source offset	$0.24 \pm 0.69$	0.35	$0.22 \pm 0.66$	$-0.11 \pm 0.80$

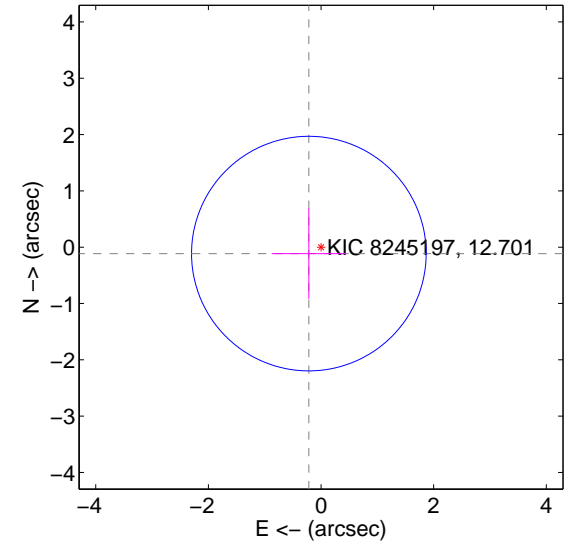
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

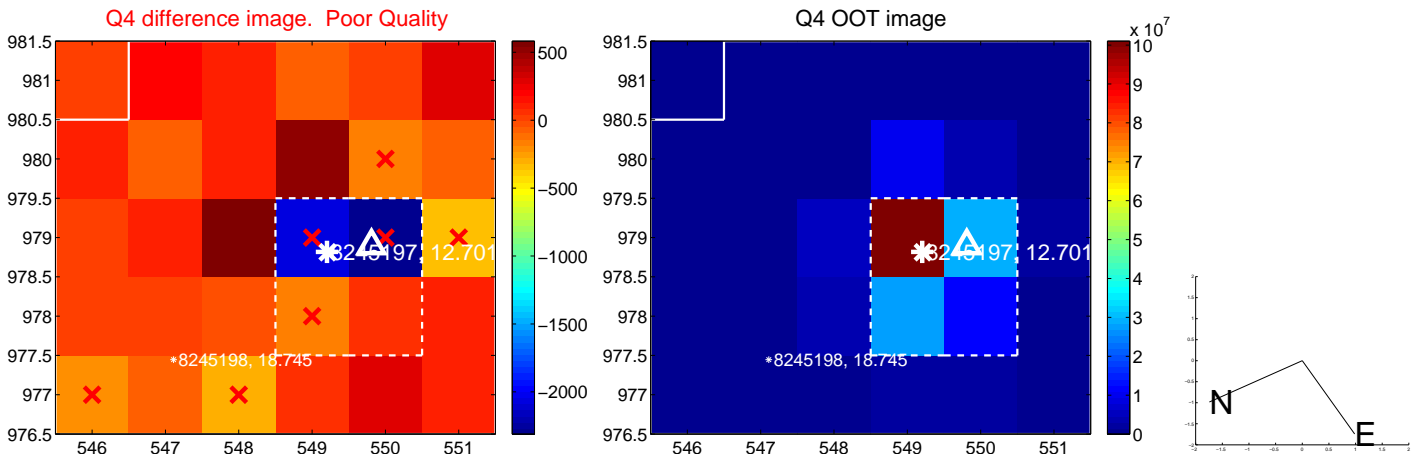
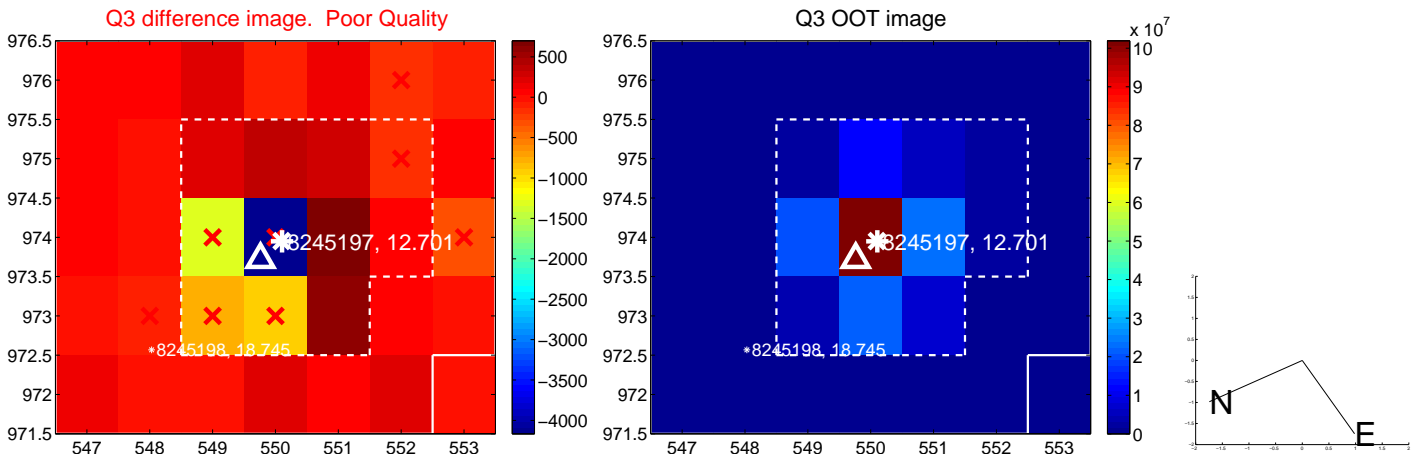
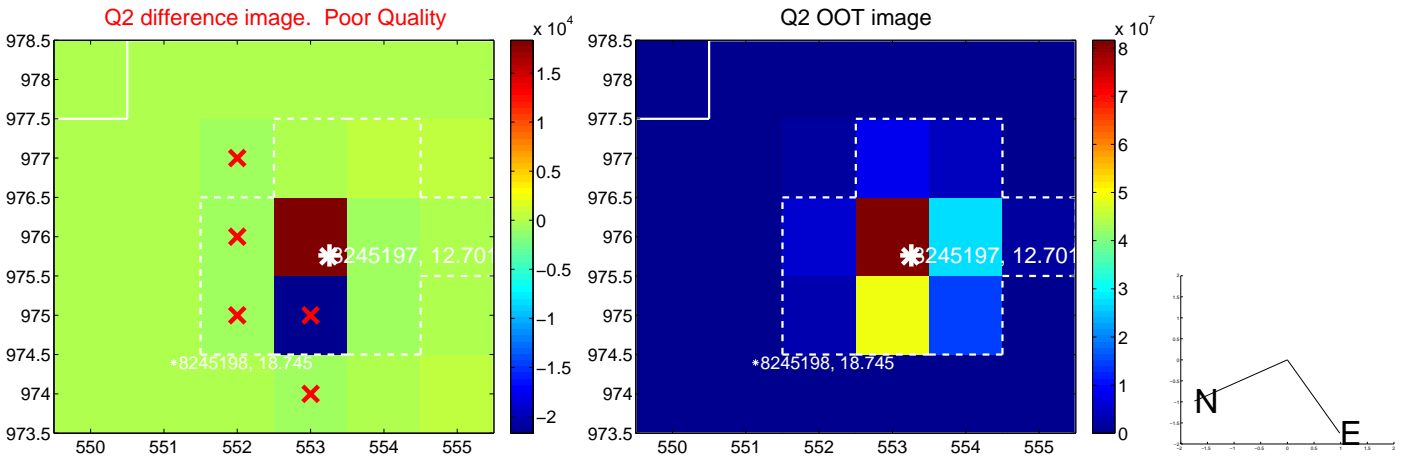
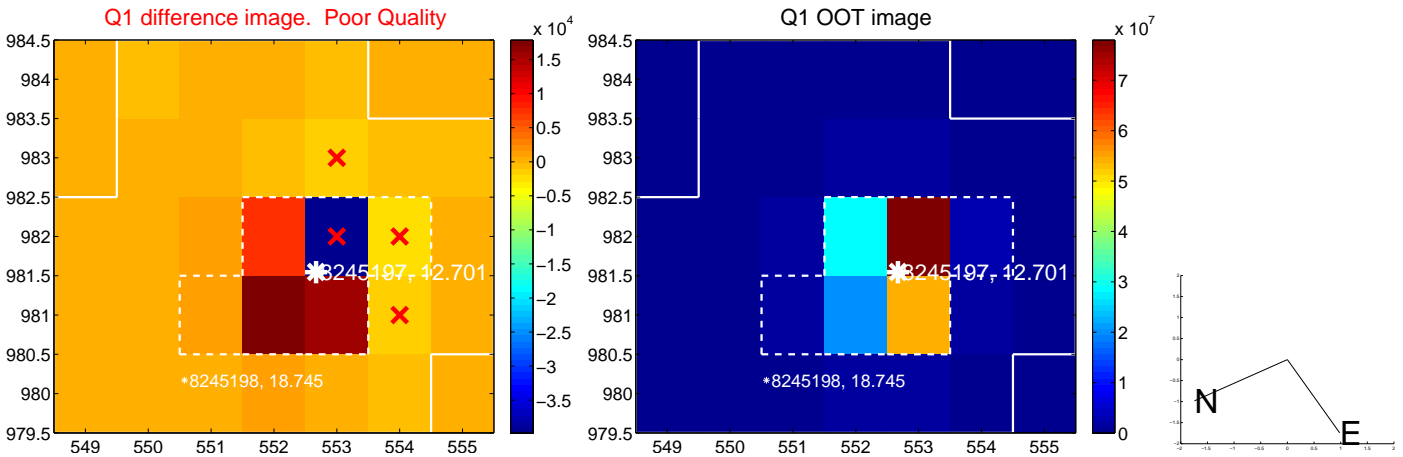


offset from photometric centroids

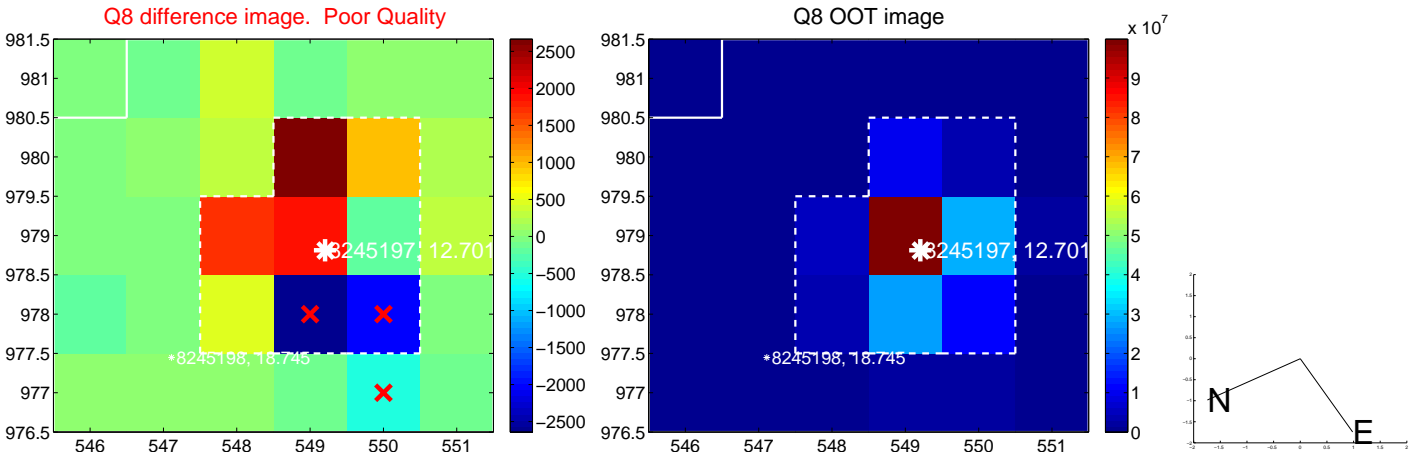
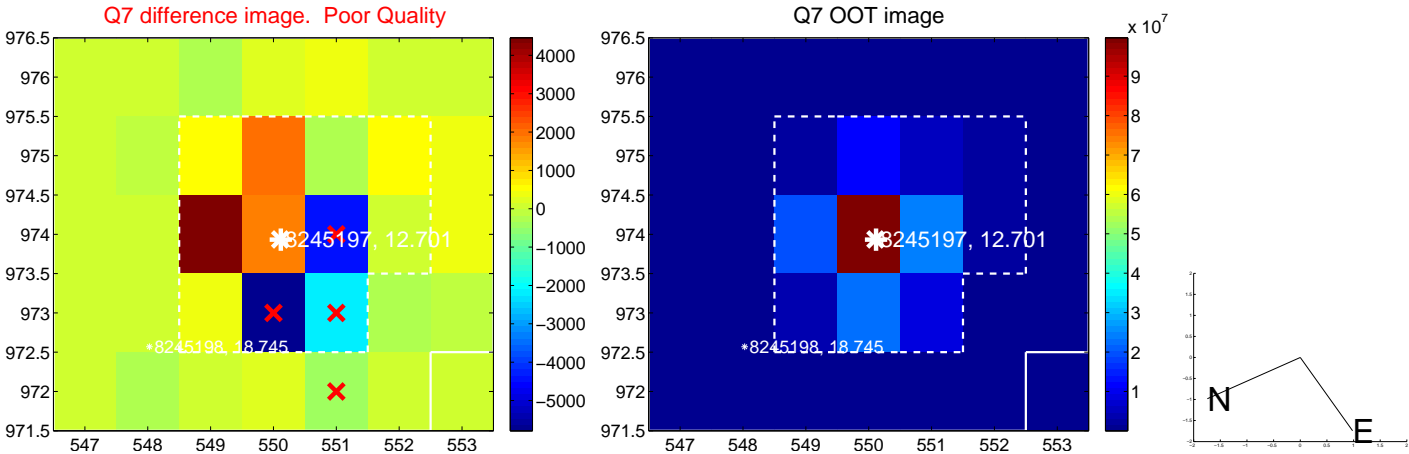
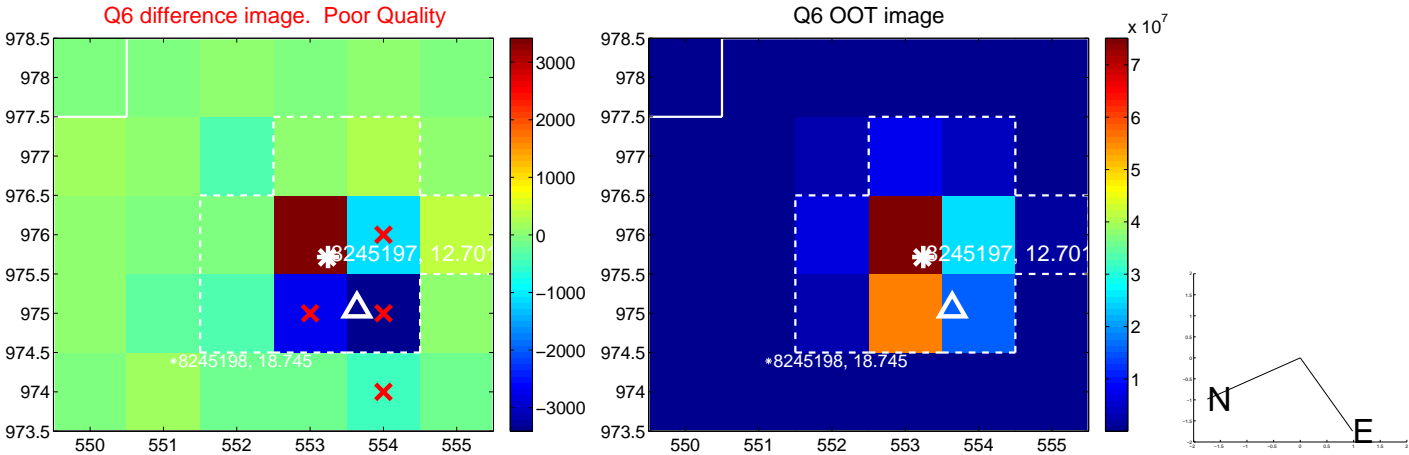
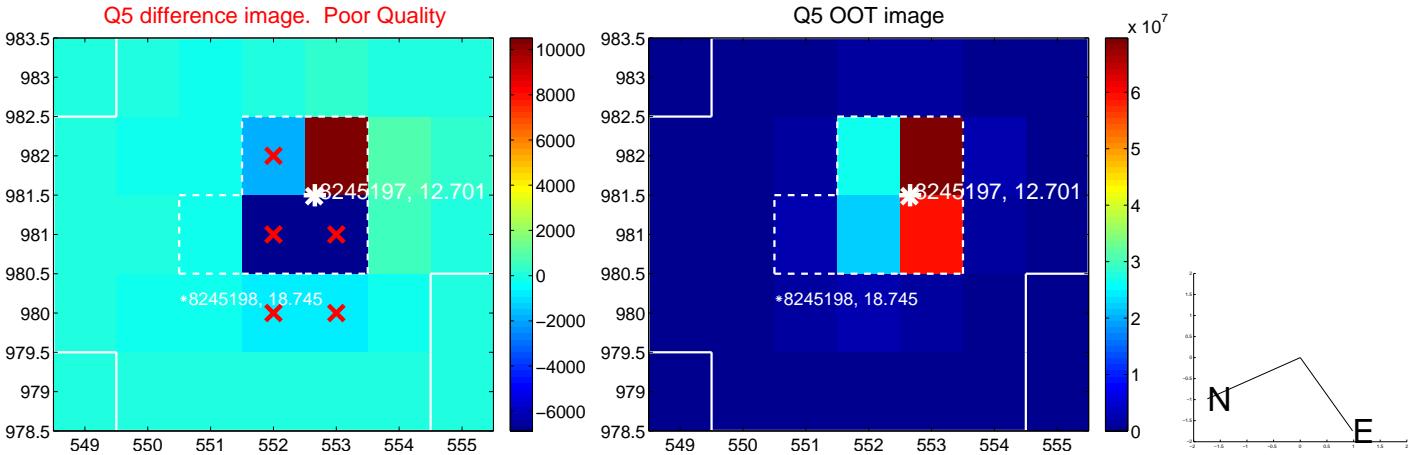


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

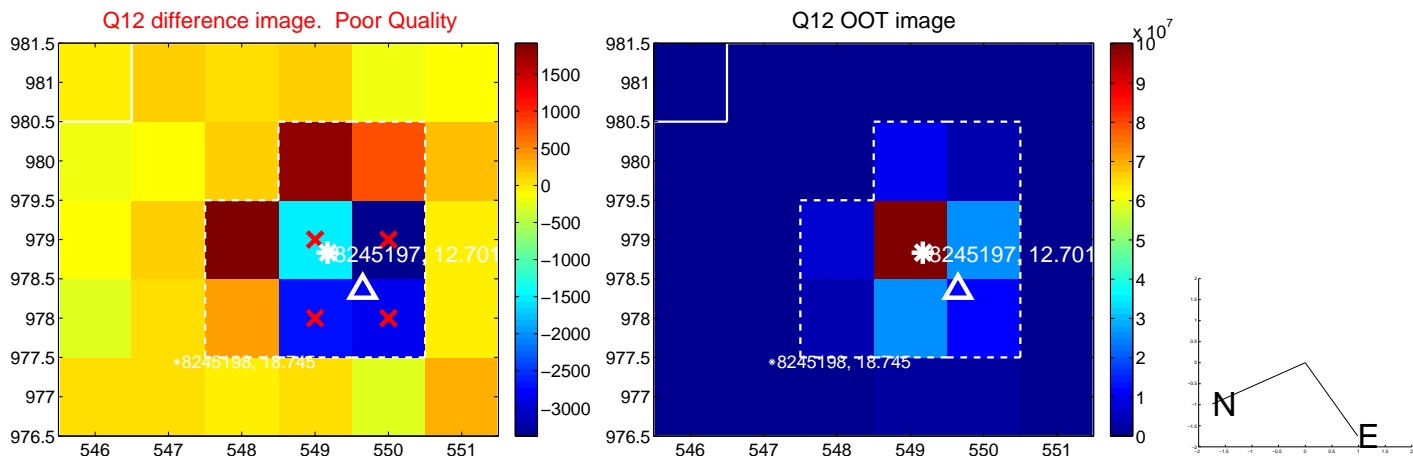
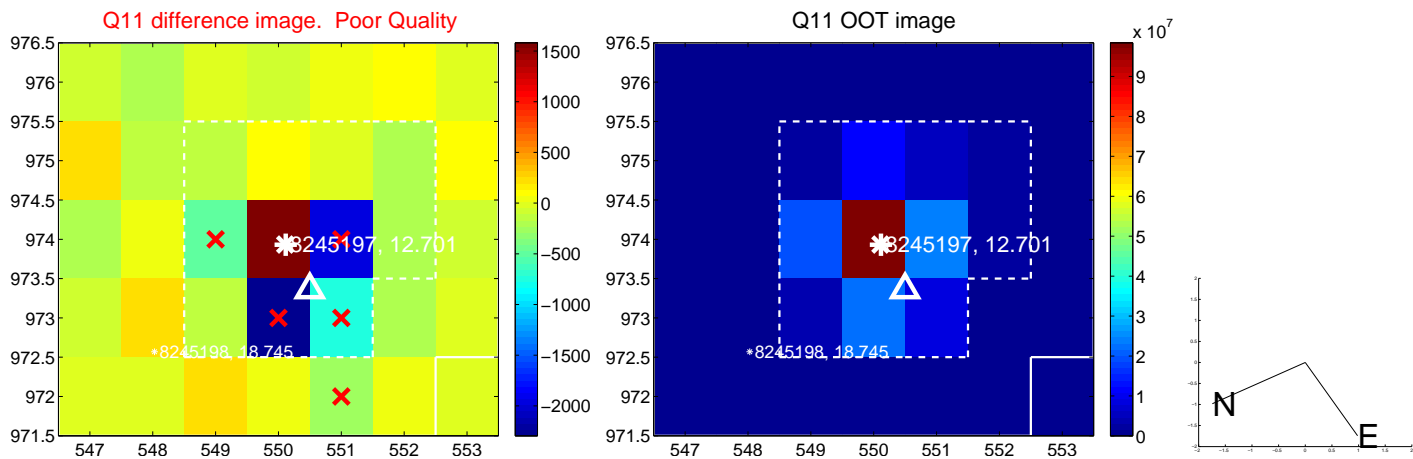
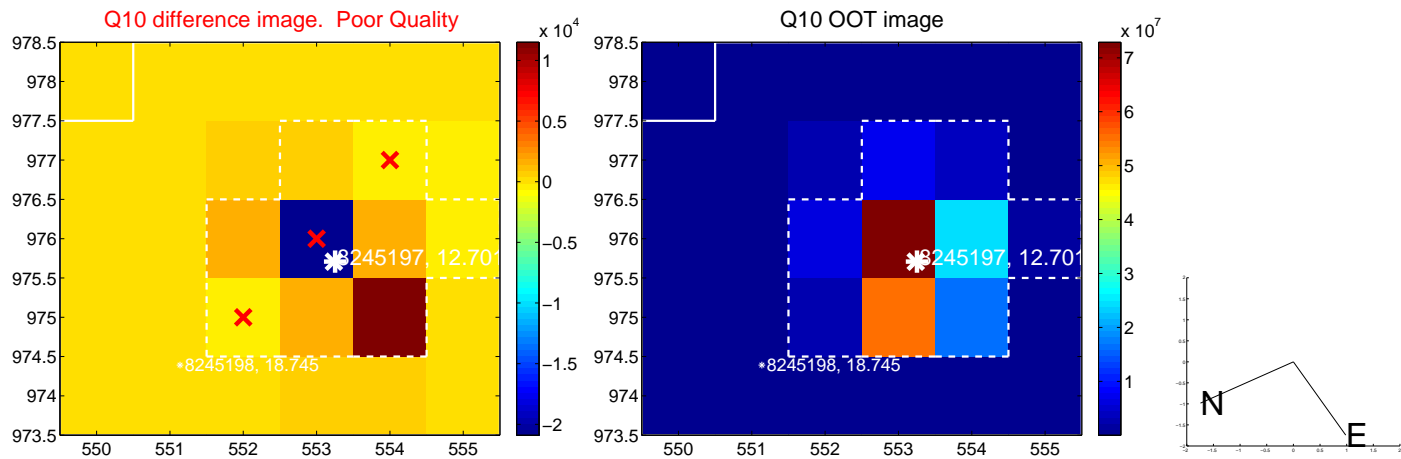
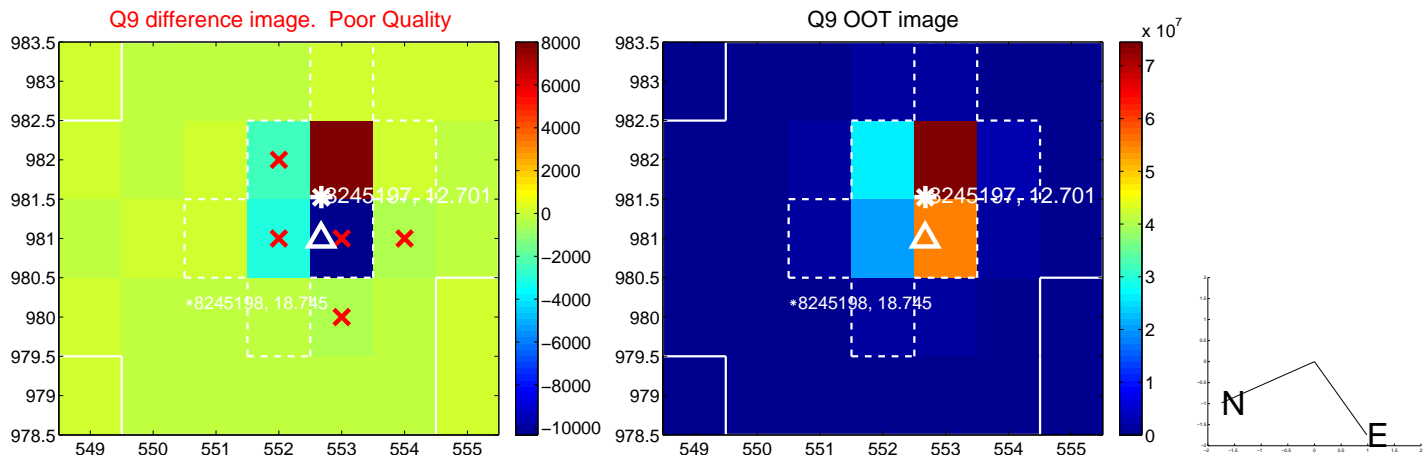


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

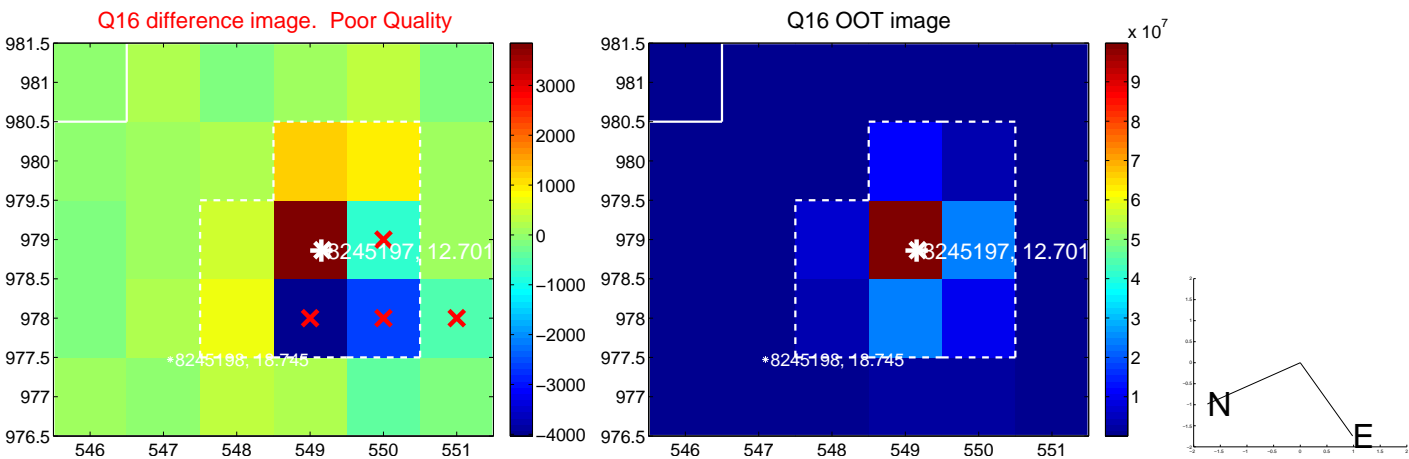
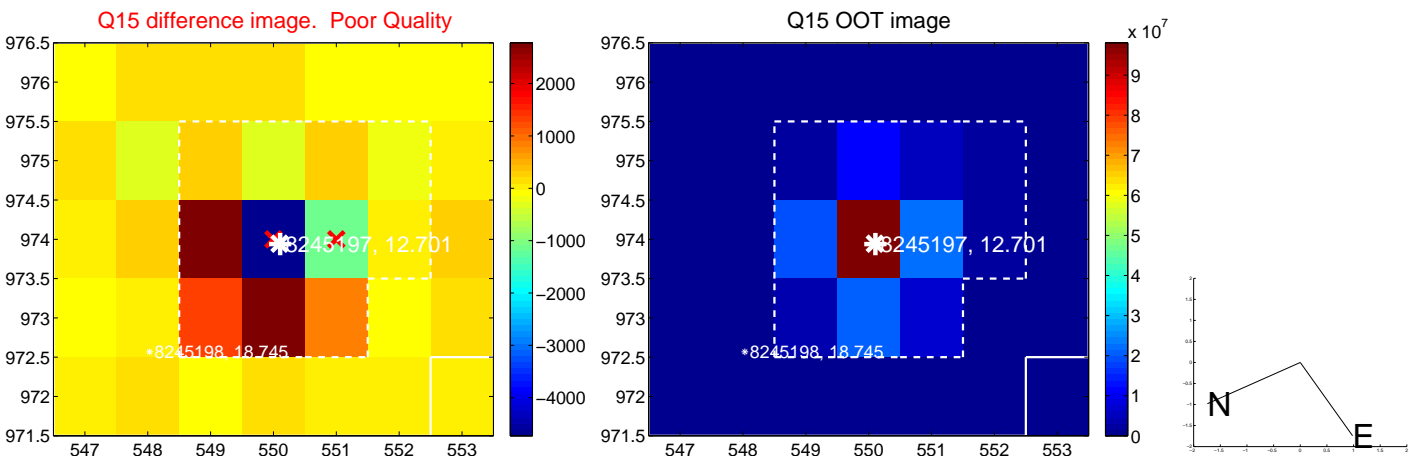
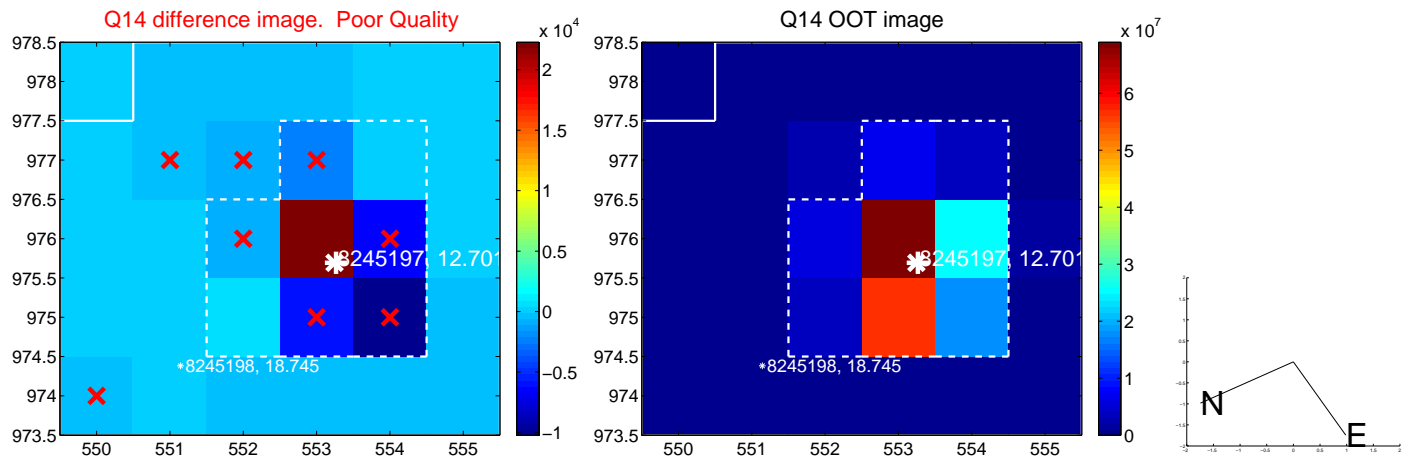
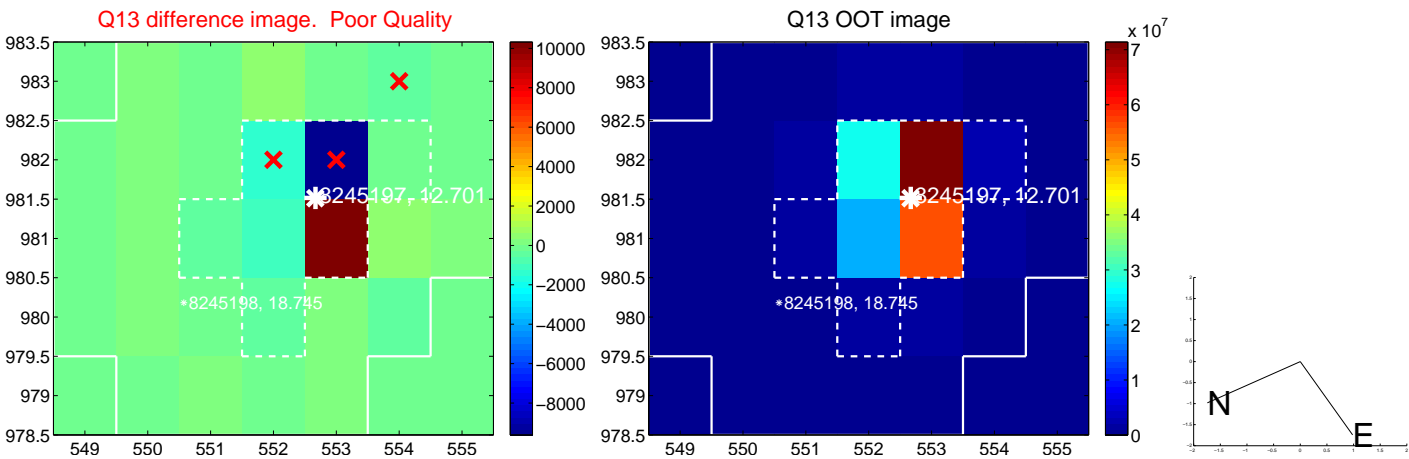




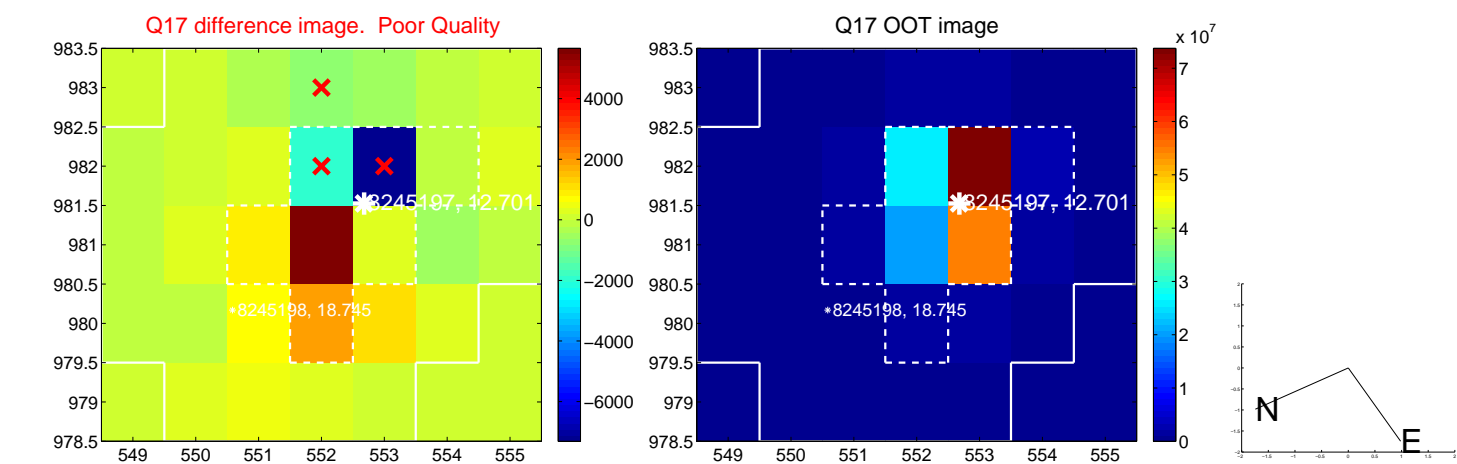
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



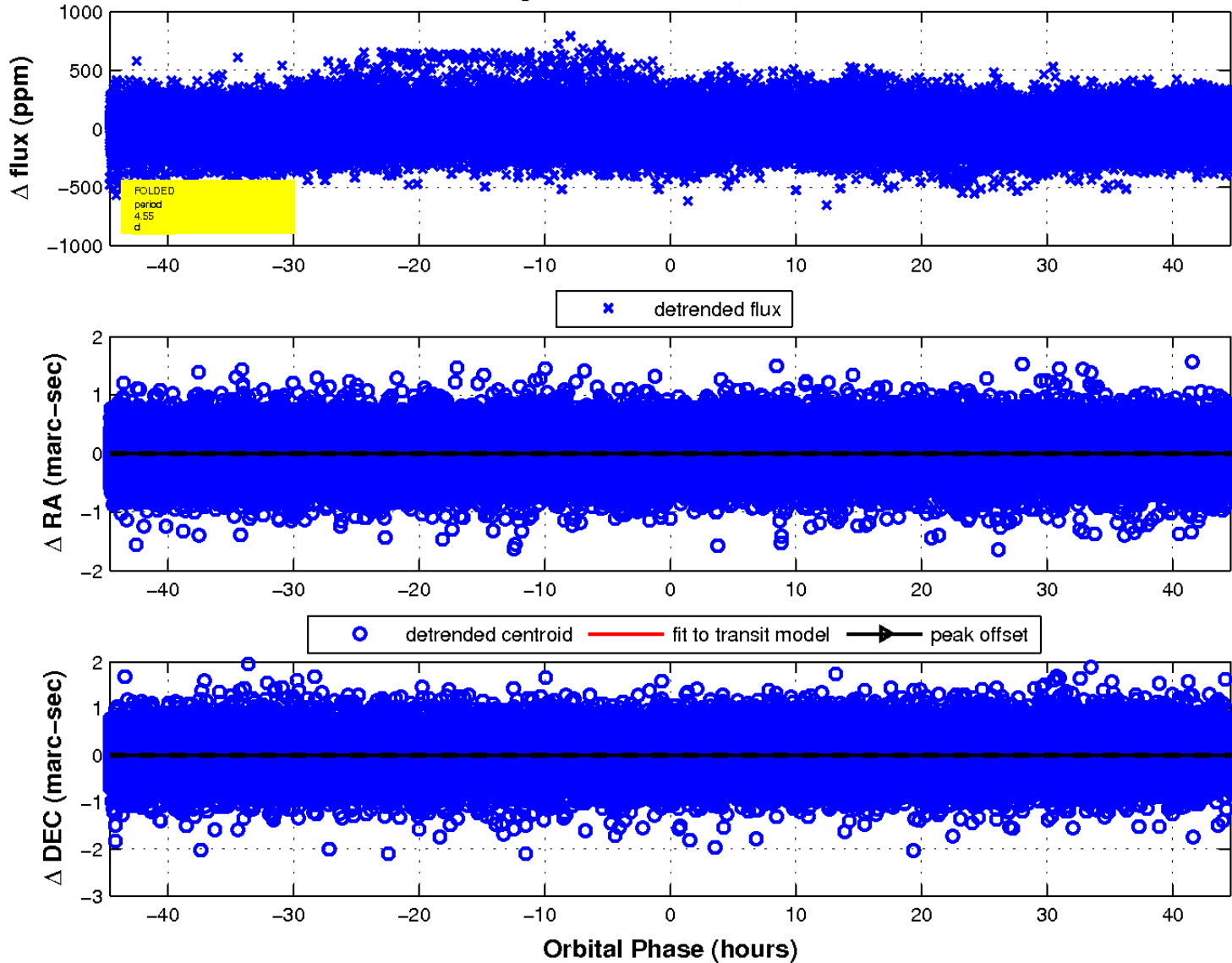
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

