

# KIC 004477747

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004477747-01	OBS	No	1.035190	132.636079	3.0	9.258	9.1	1.9	1.67	6813	0.29	11561.62

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004477747-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—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.

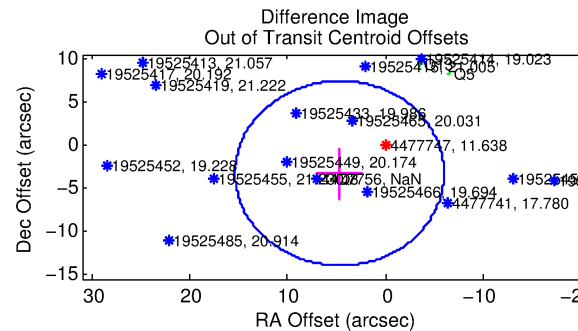
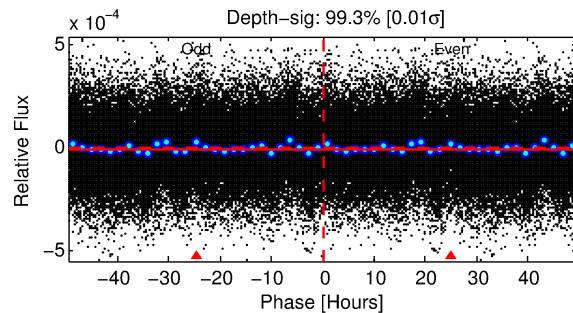
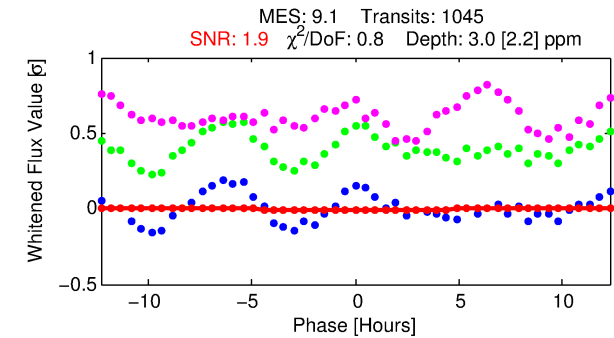
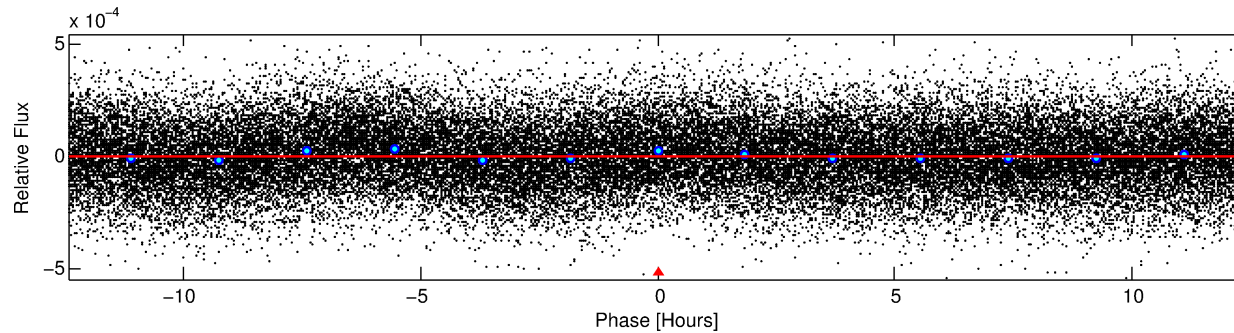
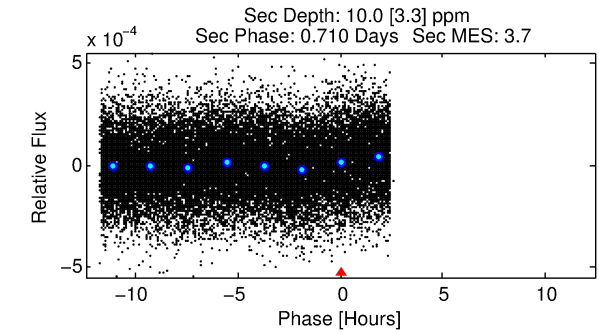
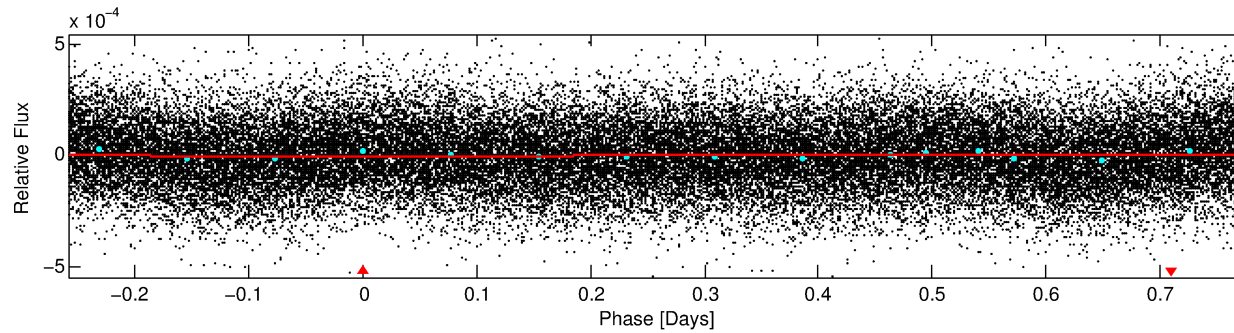
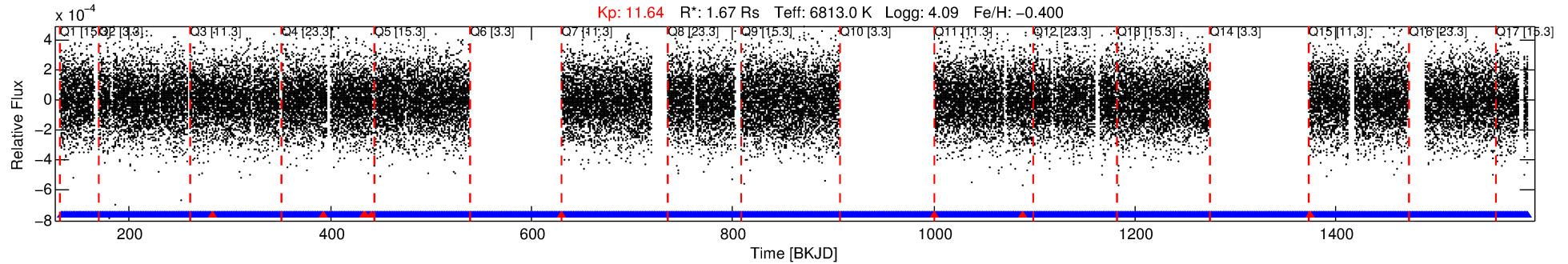
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004477747-01

No Significant Match Found

# DV One-Page Summary

KIC: 4477747 Candidate: 1 of 1 Period: 1.035 d



## DV Fit Results:

Period = 1.03519 [0.00012] d  
Epoch = 132.6361 [0.0307] BKJD  
Rp/R\* = 0.0016 [0.0069]  
a/R\* = 1.09 [4.02]  
b = 0.10 [241.26]  
Seff = 11561.62 [5271.20]  
Req = 2644 [301] K  
Rp = 0.29 [1.25] Re  
a = 0.0216 [0.0058] AU  
Ag = 30.16 [259.00] [0.11σ]  
Teffp = 9581 [20545] K [0.34σ]

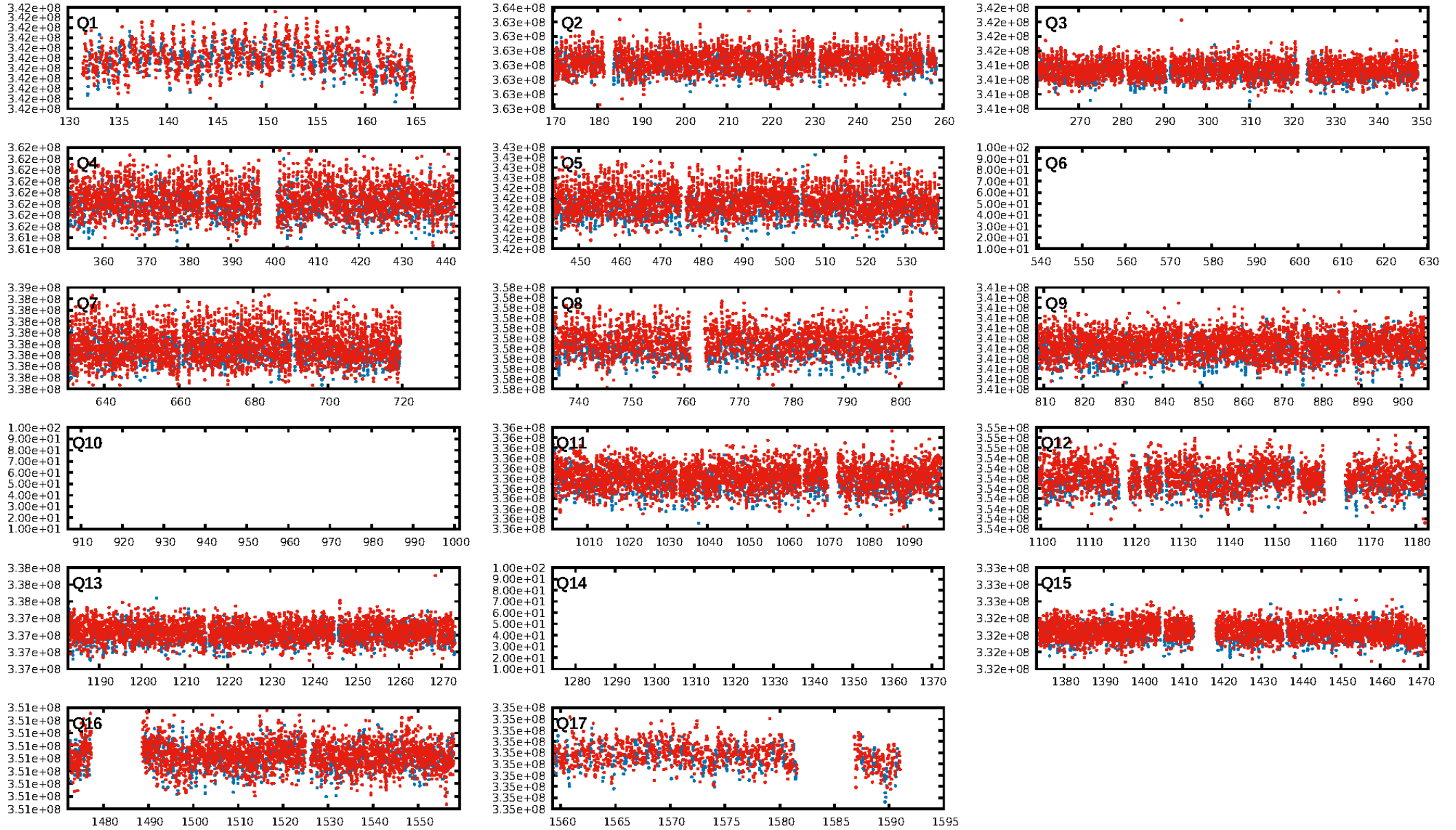
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [977/986]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 5.712 arcsec [1.60σ]  
KicOffset-rm: 5.733 arcsec [1.47σ]  
OotOffset-st: 0/2/0/2 [4]  
KicOffset-st: 0/2/0/2 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 1.00 [14/14]

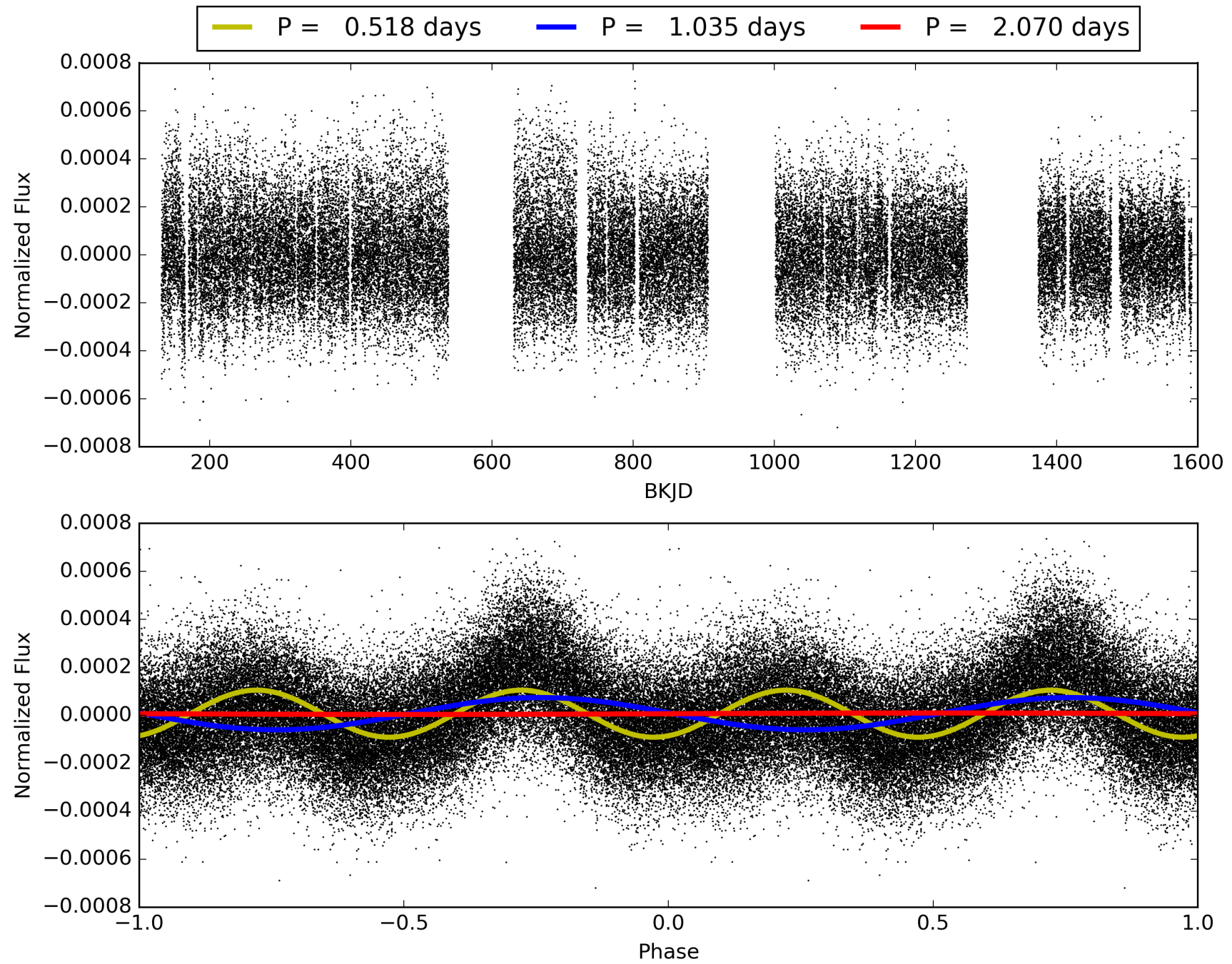
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:15:56 Z

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

# TCE 004477747-01, PDC Light Curves



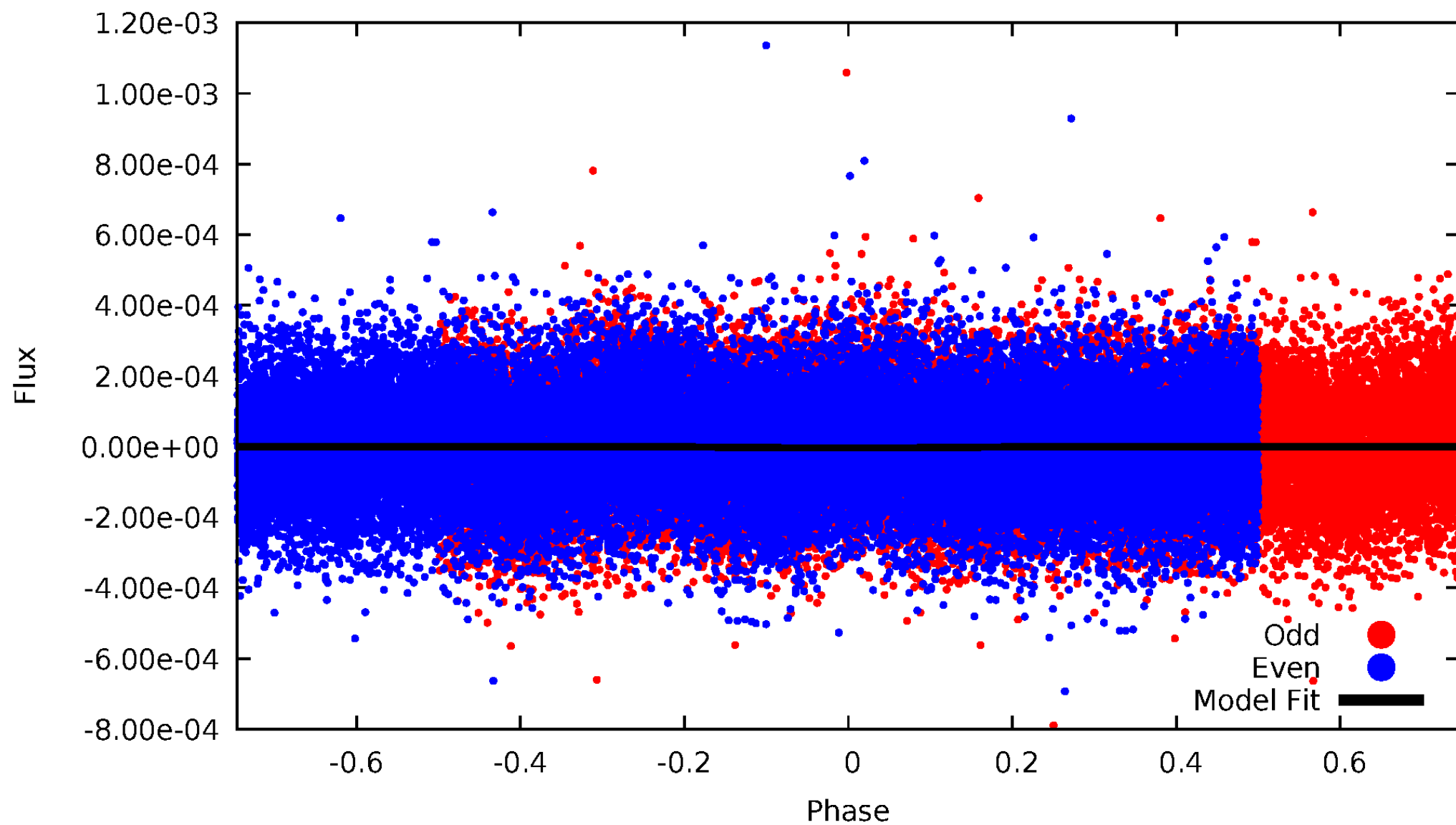
TCE 004477747-01





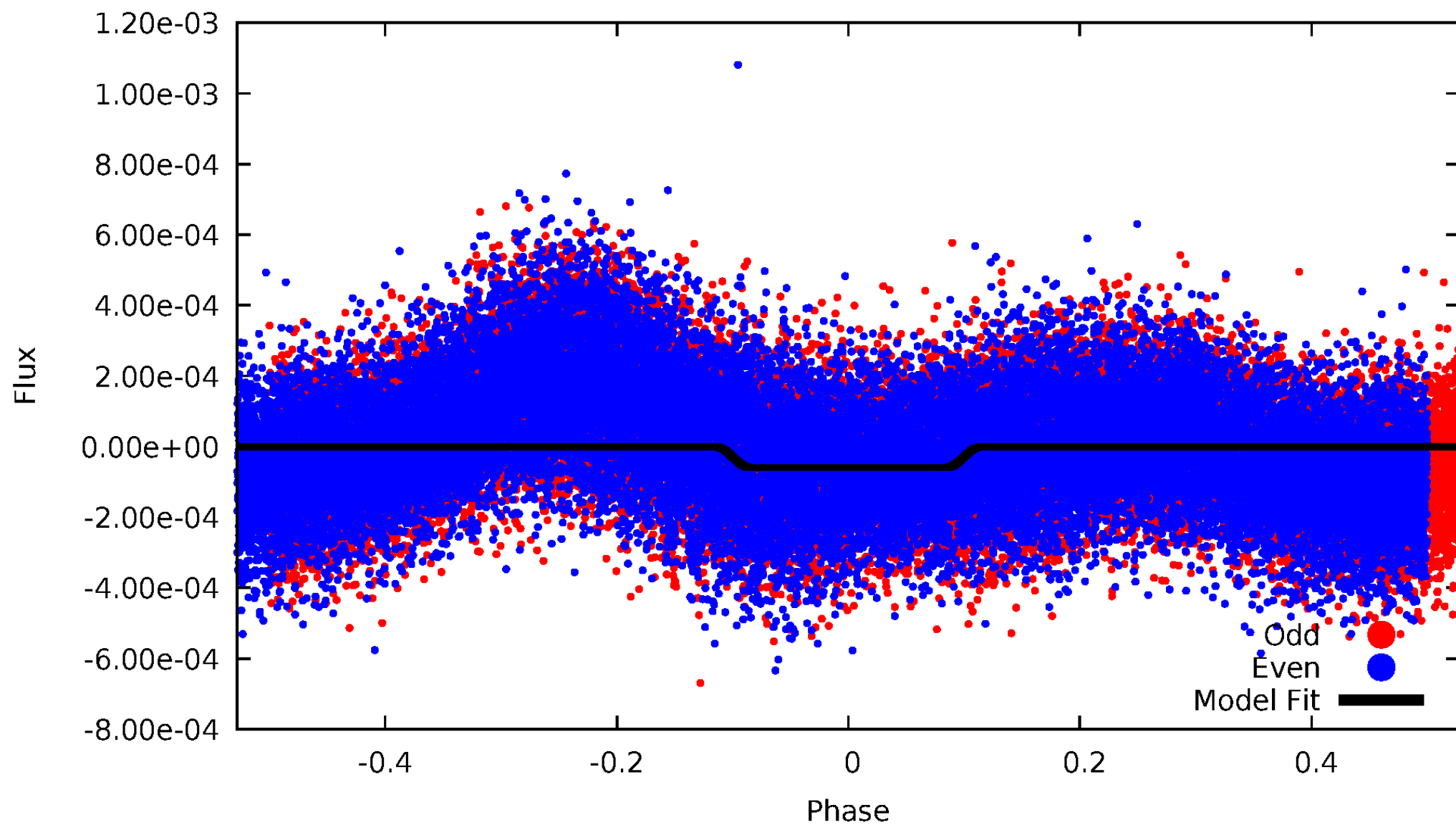
# DV Odd/Even

TCE 004477747-01



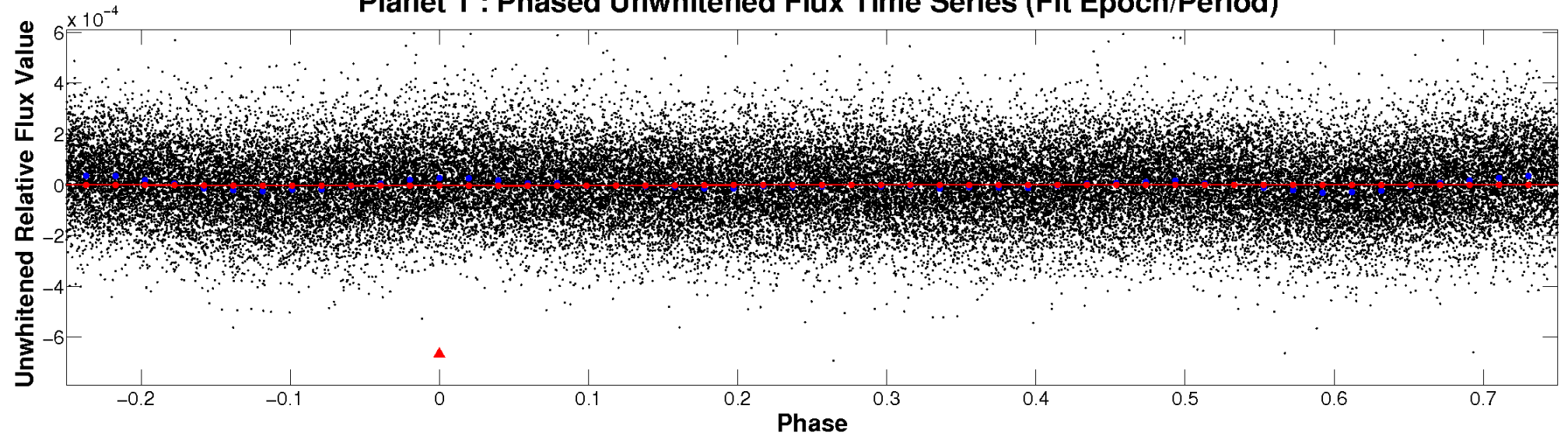
# ALT Odd/Even

TCE 004477747-01

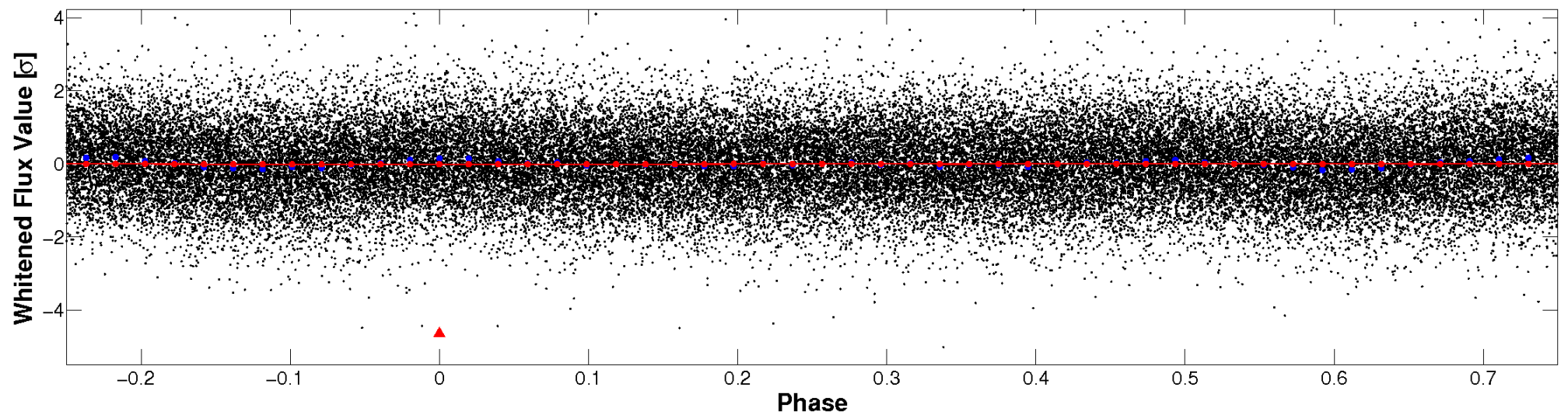


# Non-Whitened Vs. Whitened Light Curve

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

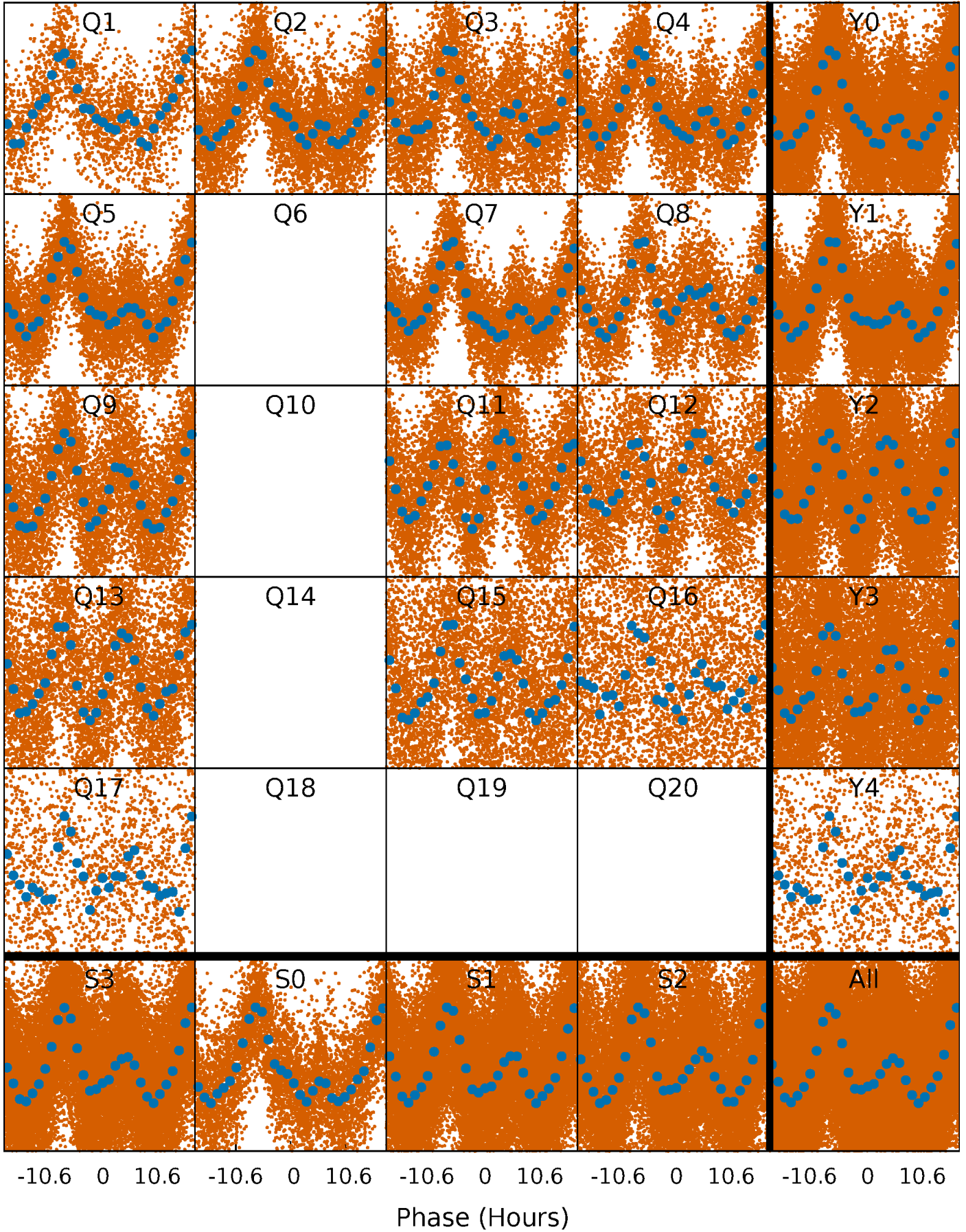


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

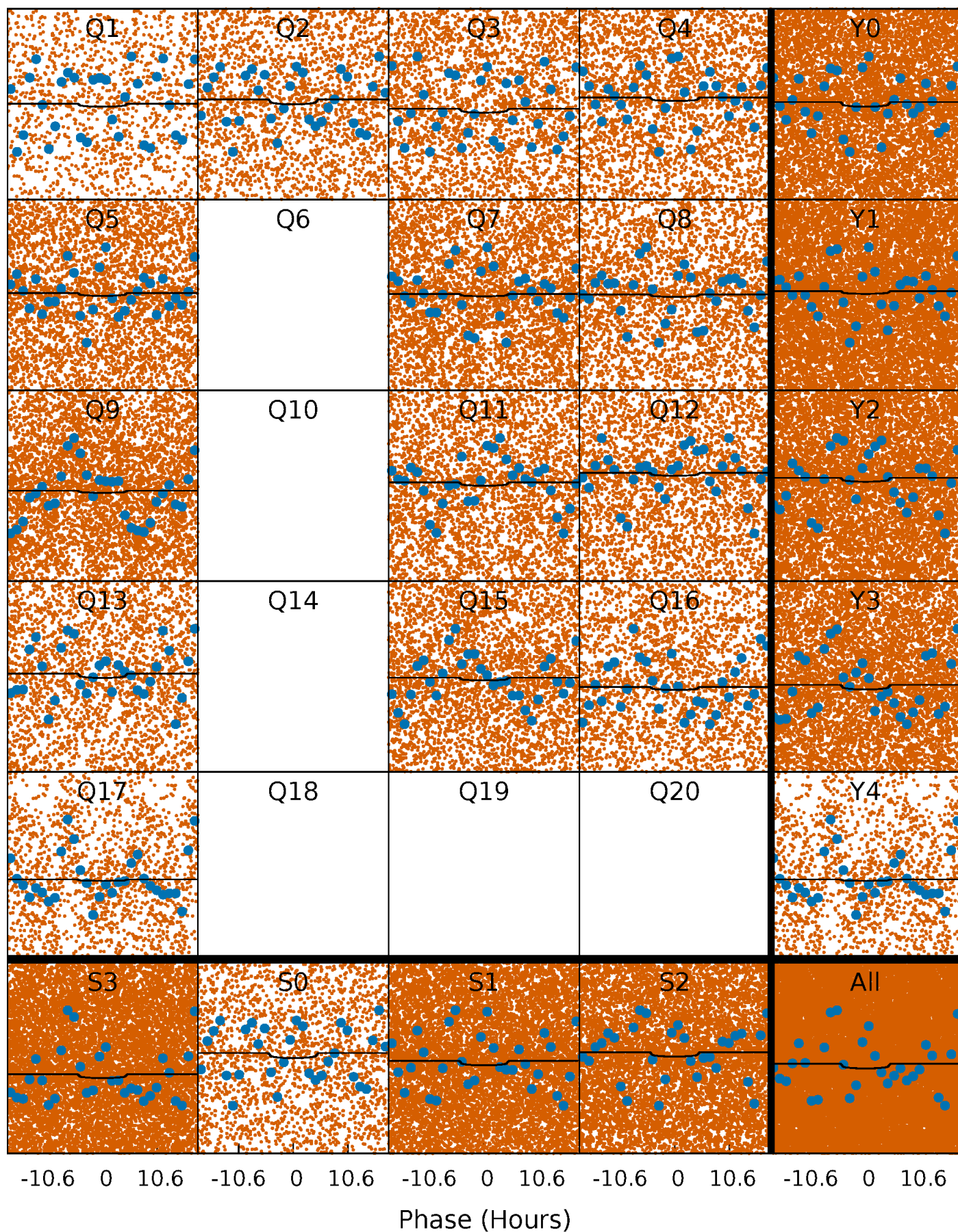
TCE 004477747-01   P= 1.035190 Days    $T_0=132.636079$  (BKJD)





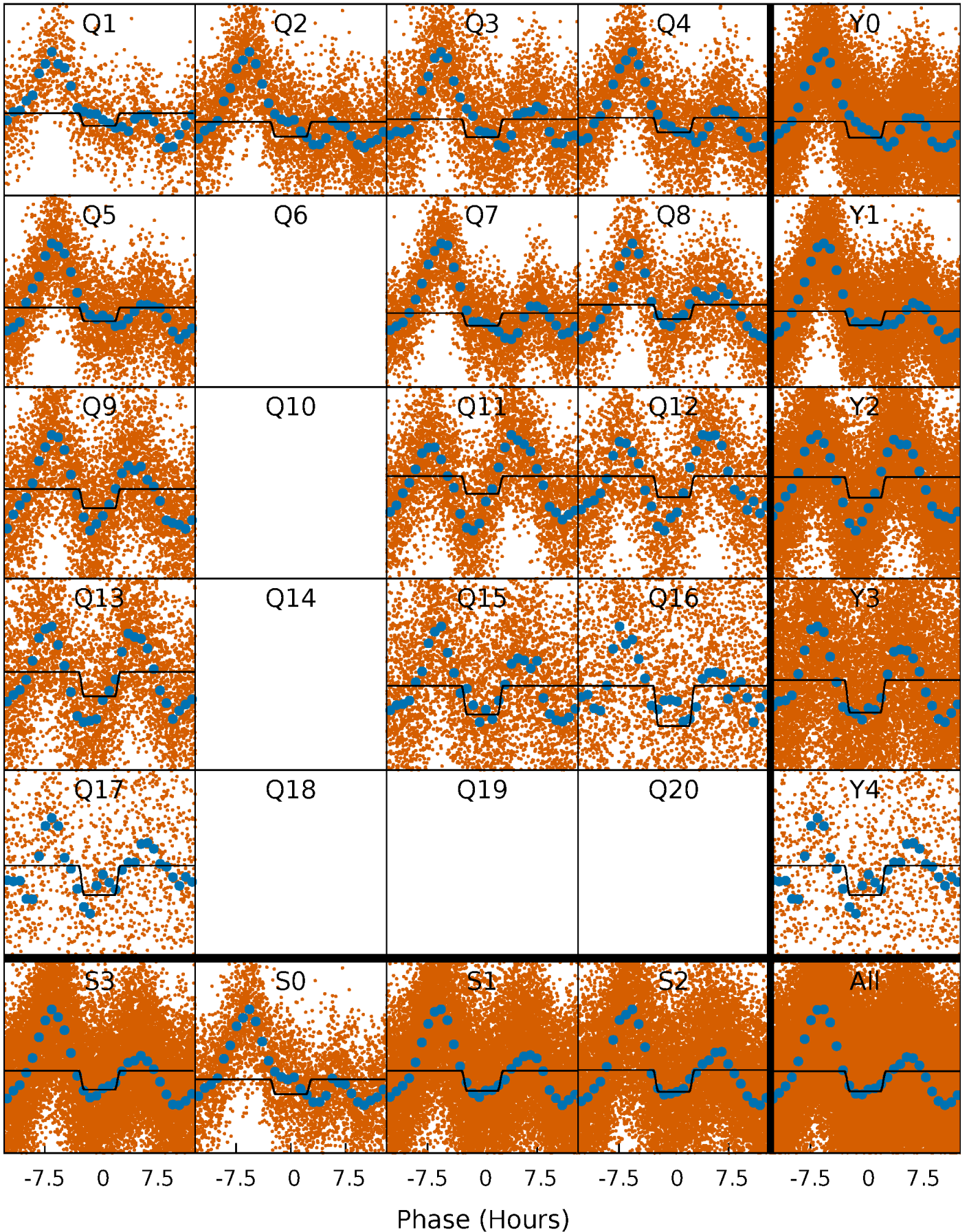
# DV Quarter-Phased Transit Curves

TCE 004477747-01 P= 1.035190 Days  $T_0=132.636079$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

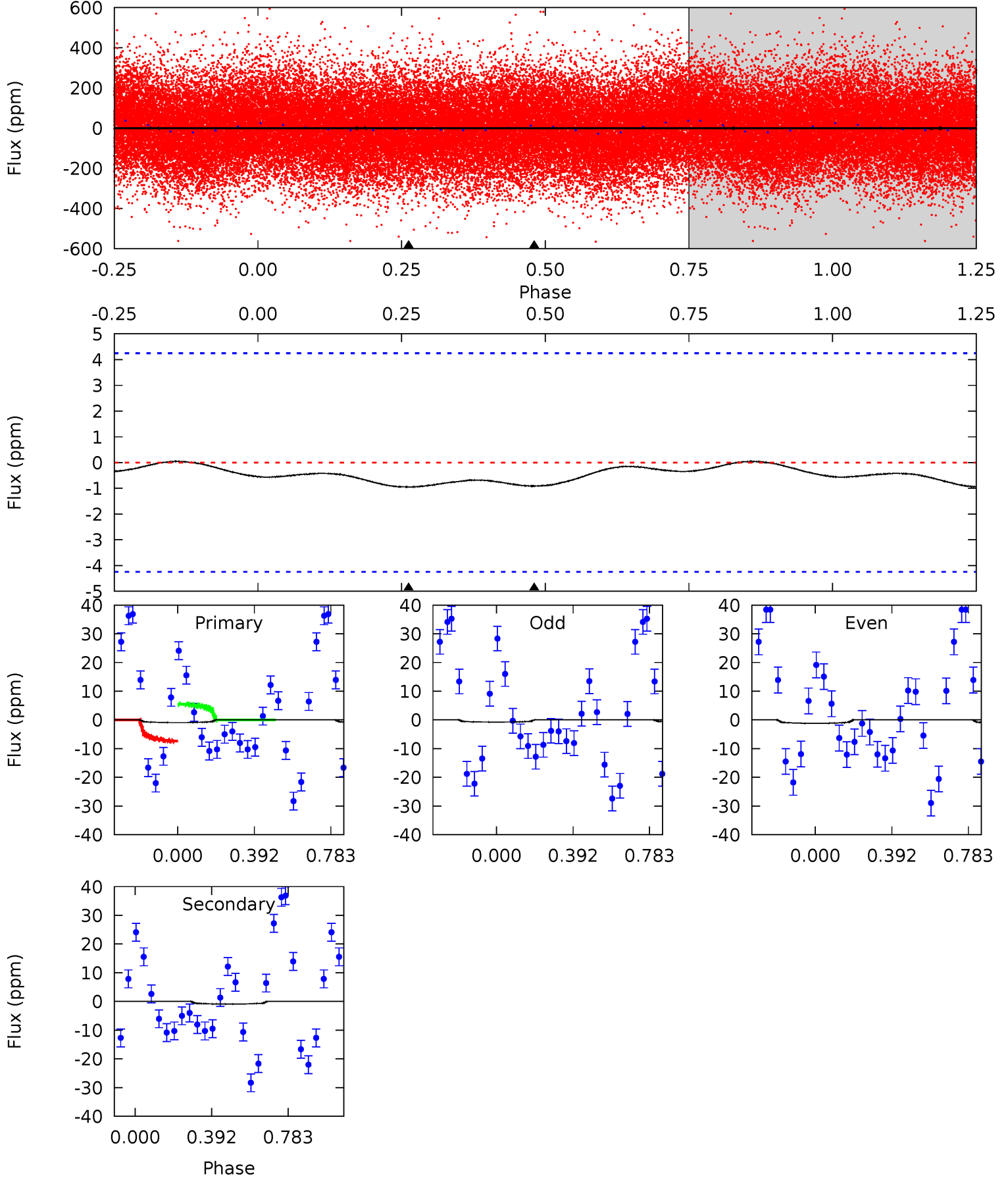
TCE 004477747-01 P= 1.035207 Days  $T_0=132.609397$  (BKJD)



# DV Model-Shift Uniqueness Test

004477747-01, P = 1.035190 Days, E = 130.565699 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
0.95	0.92	0	0	4.27	0.86	0.06	0.95	0.95	0.92	0.92	0.22	0.93	0.04	0.98

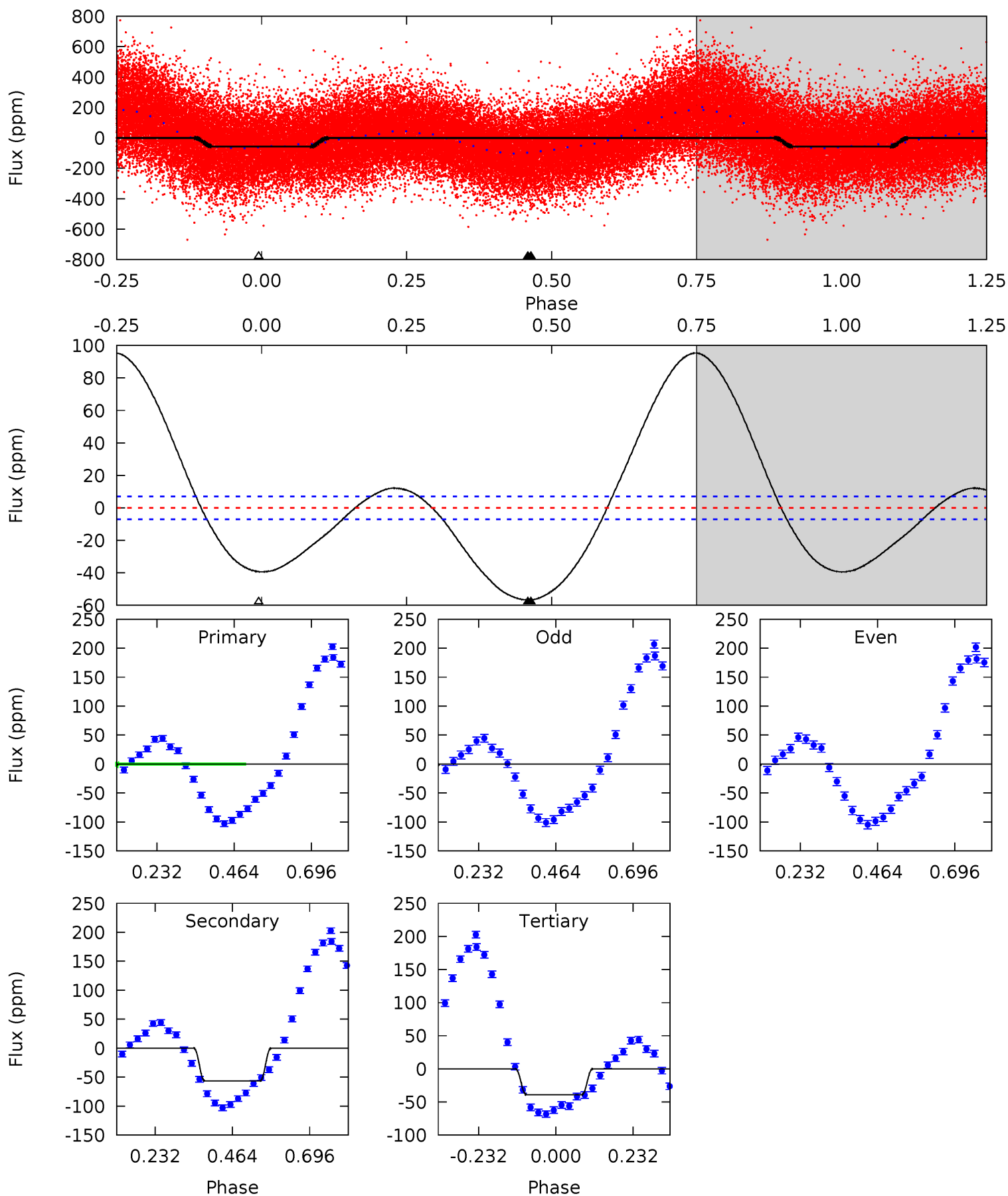




# Alt Model-Shift Uniqueness Test

004477747-01, P = 1.035207 Days, E = 130.538983 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
35.3	35.2	24.4	0	4.38	1.20	28.8	10.9	35.3	10.8	35.2	0.73	1.00	0.63	4.30





### Stellar Parameters For KIC 004477747

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6813^{+214}_{-285}$	$4.089^{+0.246}_{-0.164}$	$-0.400^{+0.250}_{-0.300}$	$1.668^{+0.483}_{-0.483}$	$1.247^{+0.170}_{-0.208}$	$0.378^{+0.587}_{-0.177}$
	+3%/-4%	+6%/-4%	+62%/-75%	+29%/-29%	+14%/-17%	+155%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 004477747-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1 \pm 1$	$0.86^{+0.95}_{-0.57}$	$3637^{+312}_{-292}$	$-2755^{+7535}_{-814}$	$0.233^{+2.048}_{-0.241}$
Alt.	$-57 \pm 2$	$1.58^{+1.18}_{-0.96}$	$3657^{+280}_{-290}$	$6131^{+5040}_{-1444}$	$5.745^{+33.201}_{-3.836}$

$T_{max}$  = 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

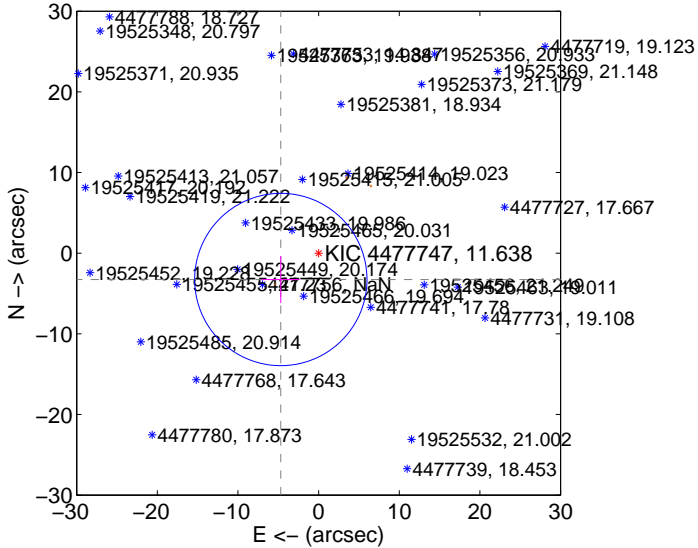
Supplemental centroid analysis for 004477747-01. **Kepler magnitude: 11.64.** Transit SNR 1.89

**There are 0 quarters with good PRF difference image offsets**

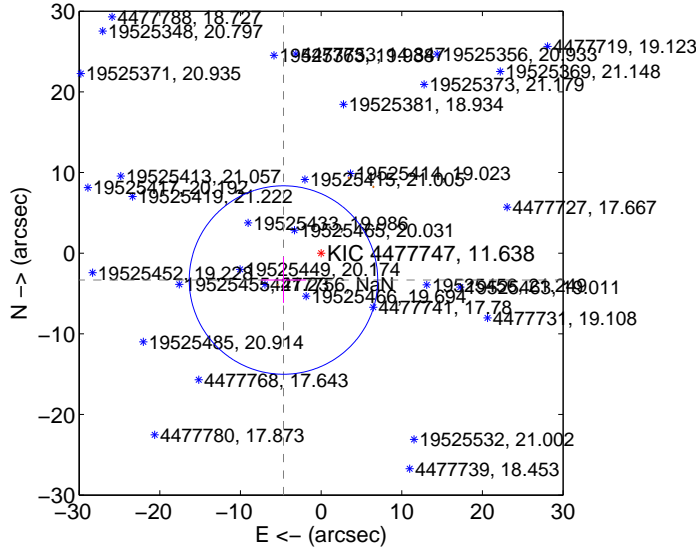
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.712 \pm 3.561$	1.60	$4.686 \pm 2.357$	$-3.266 \pm 2.919$
PRF-fit source offset from KIC position	$5.733 \pm 3.895$	1.47	$4.665 \pm 2.793$	$-3.331 \pm 2.840$
photometric centroid source offset	—	—	—	—

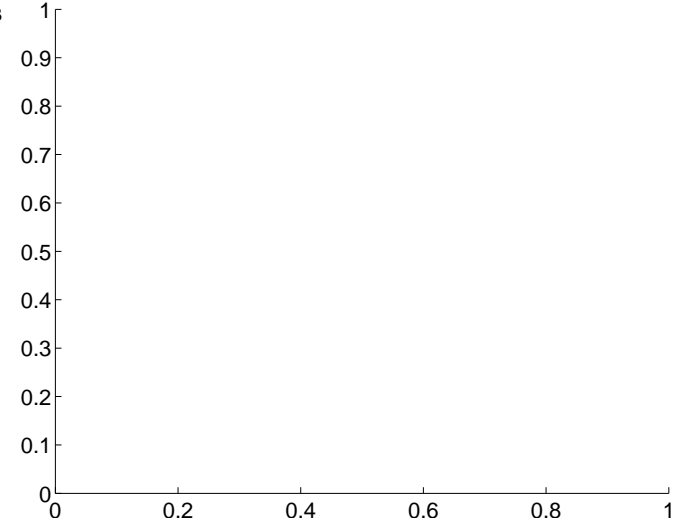
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

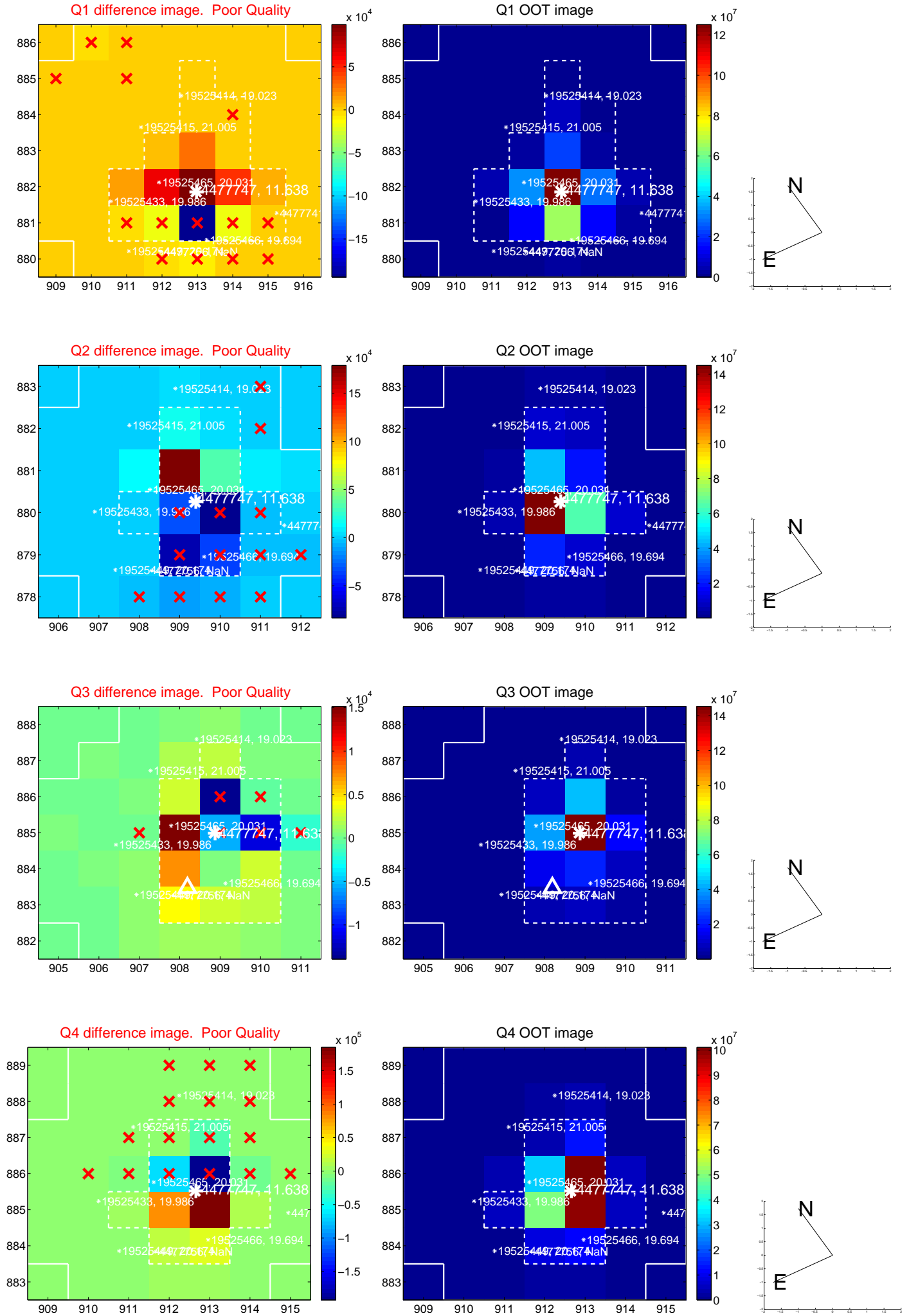


There are no photometric centroids

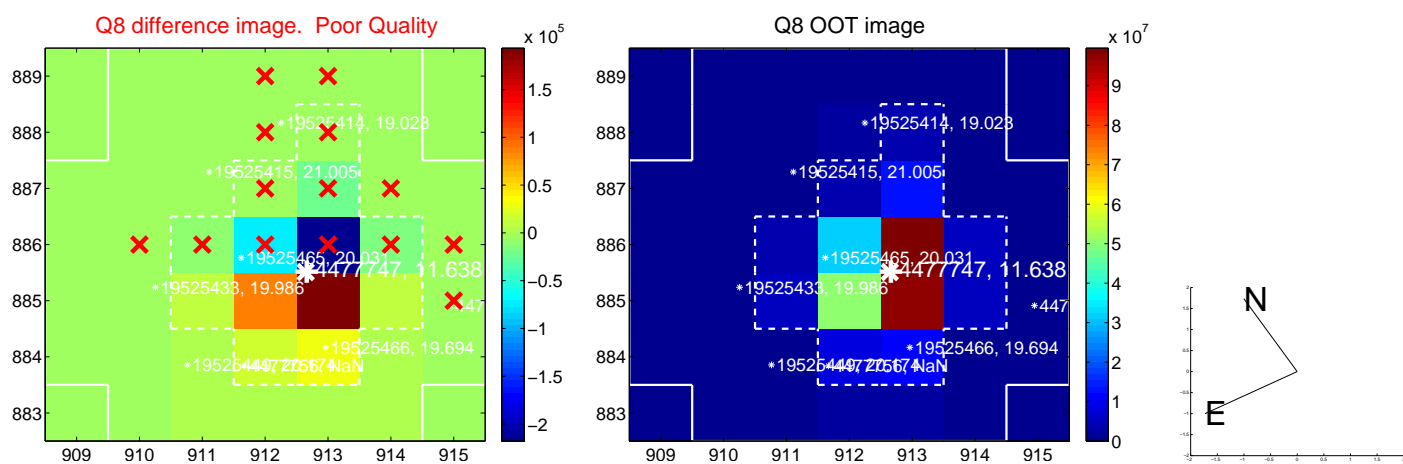
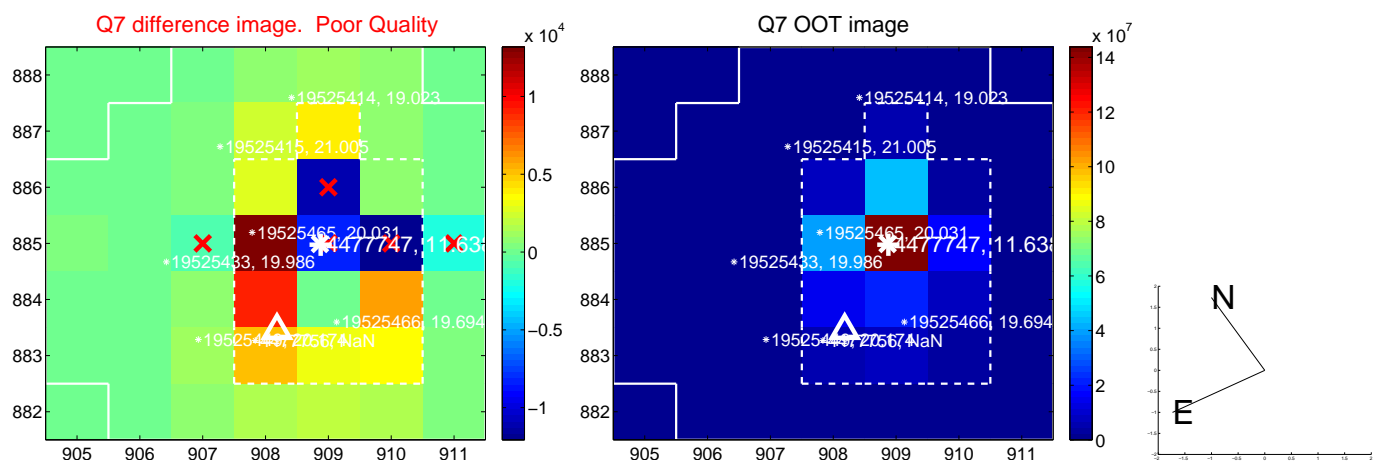
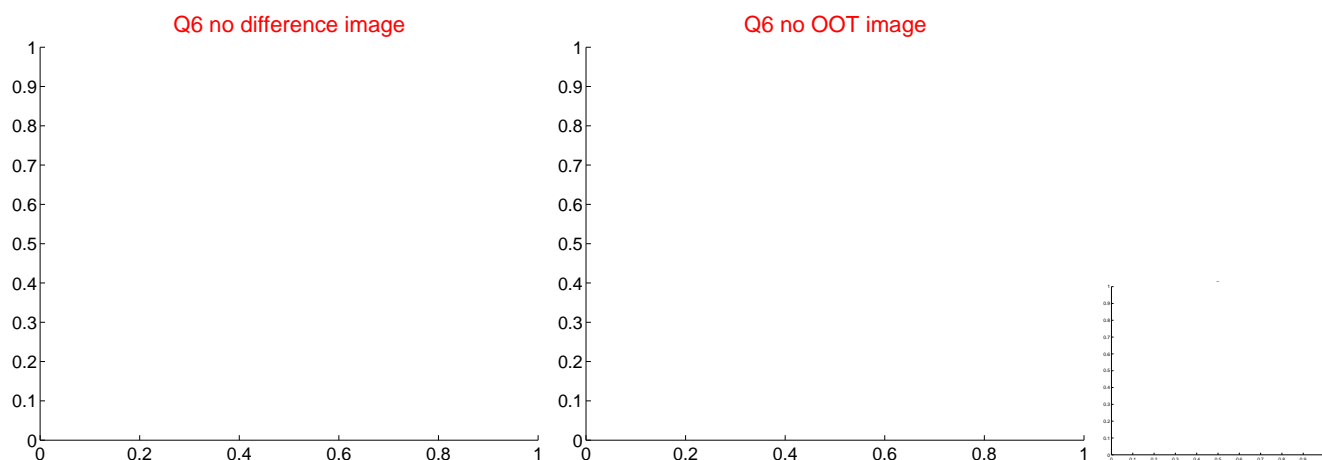
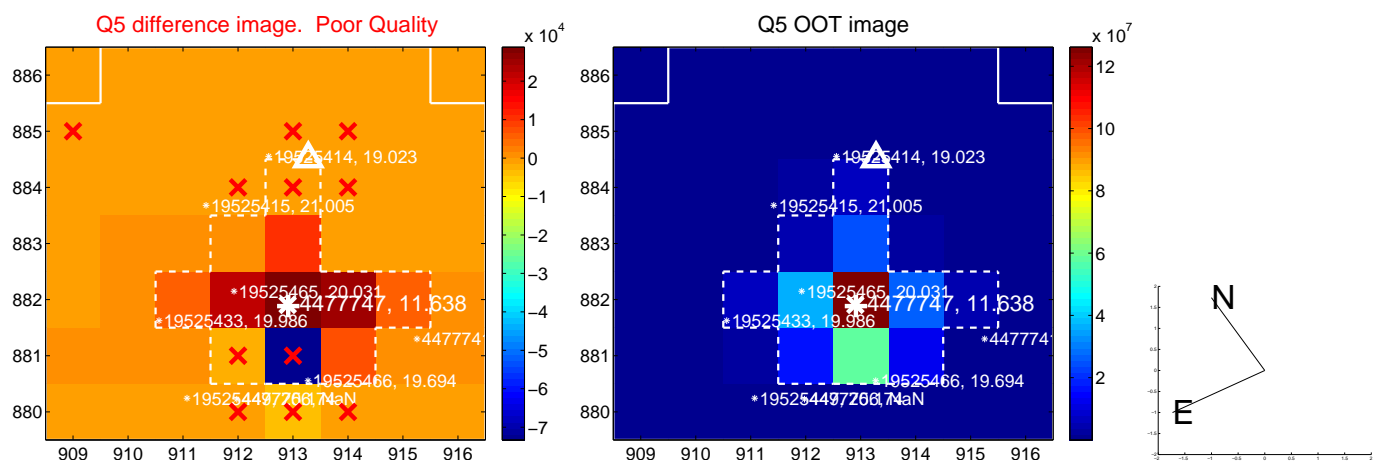


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

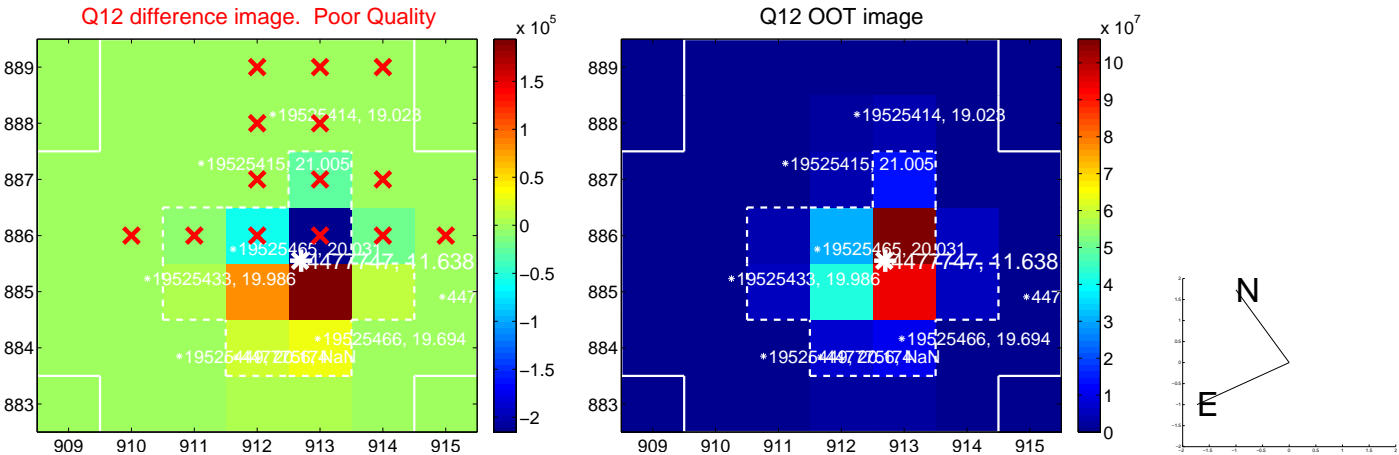
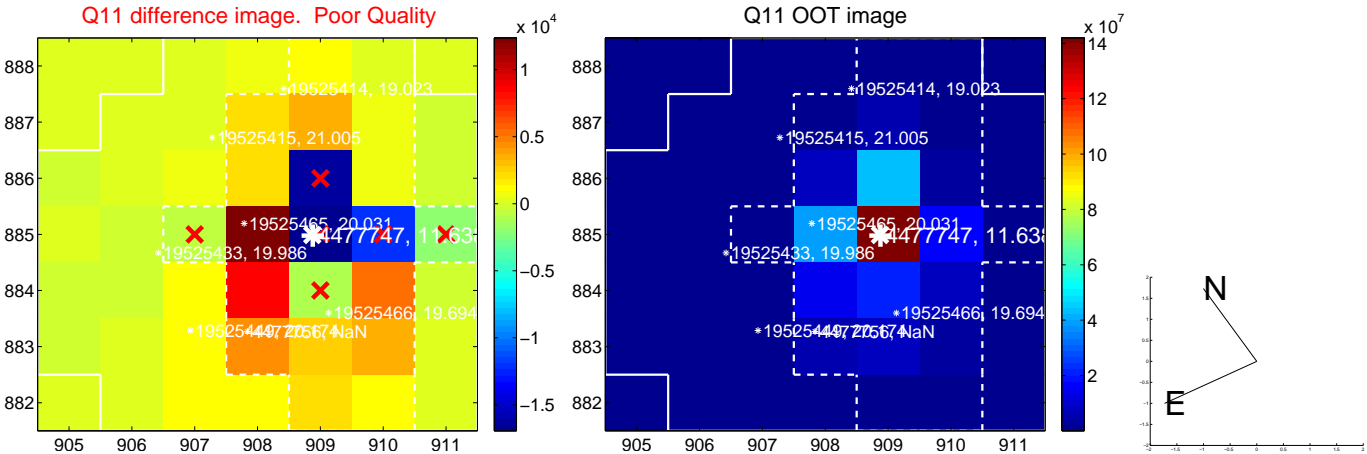
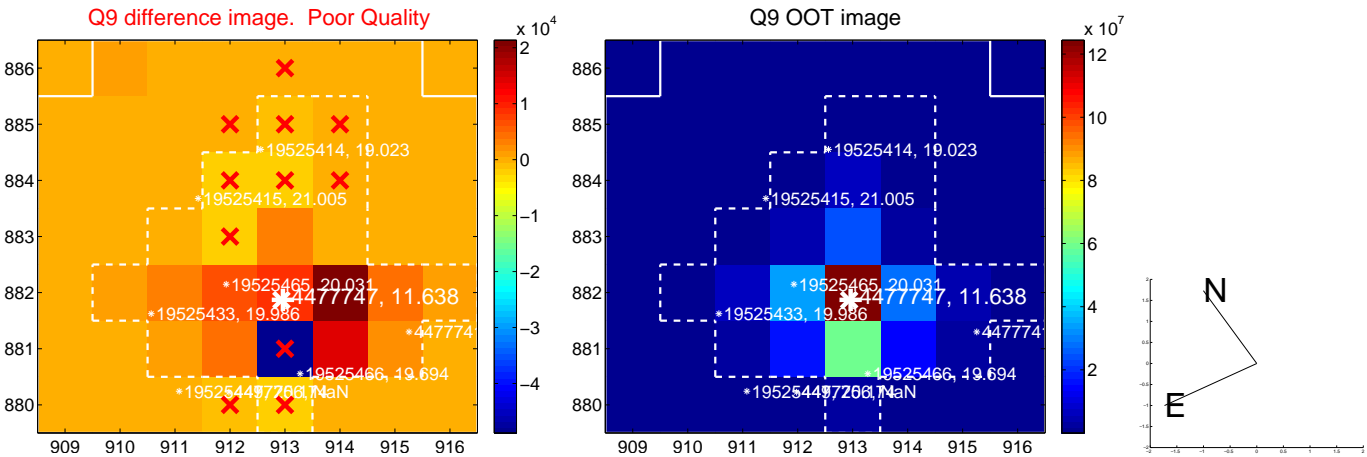


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

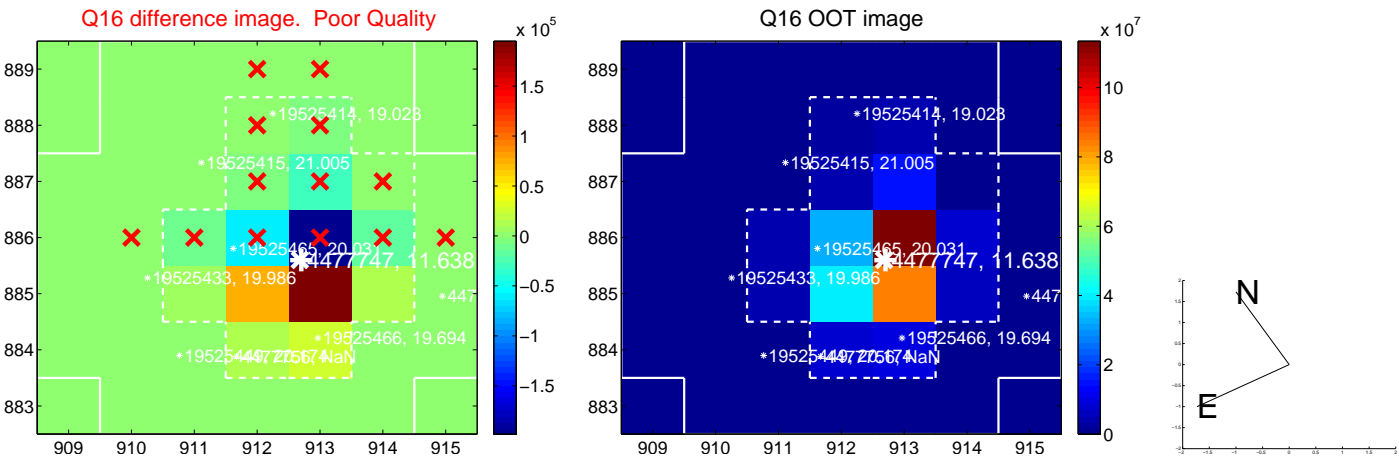
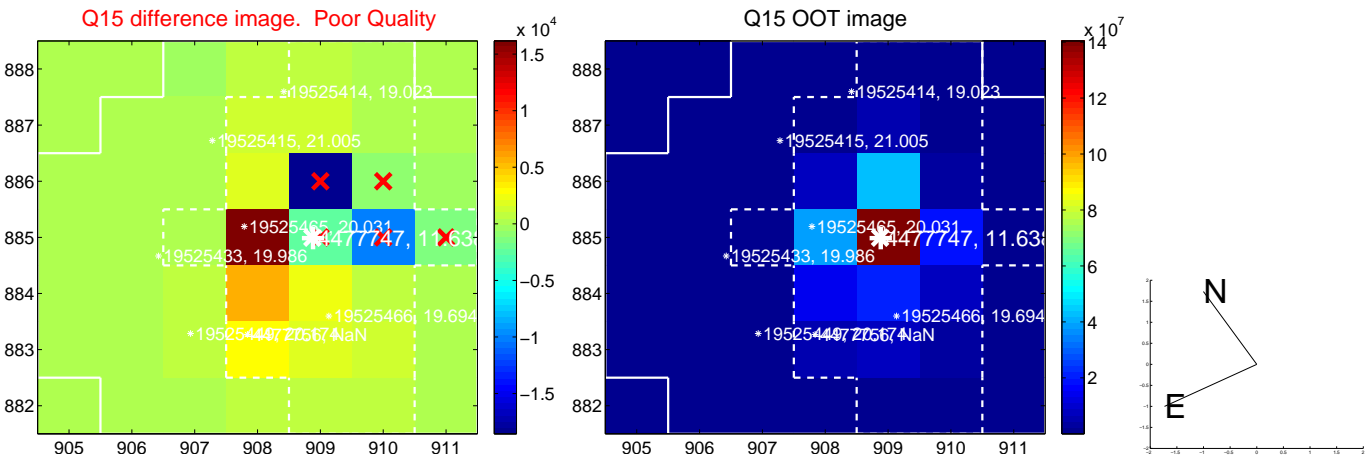
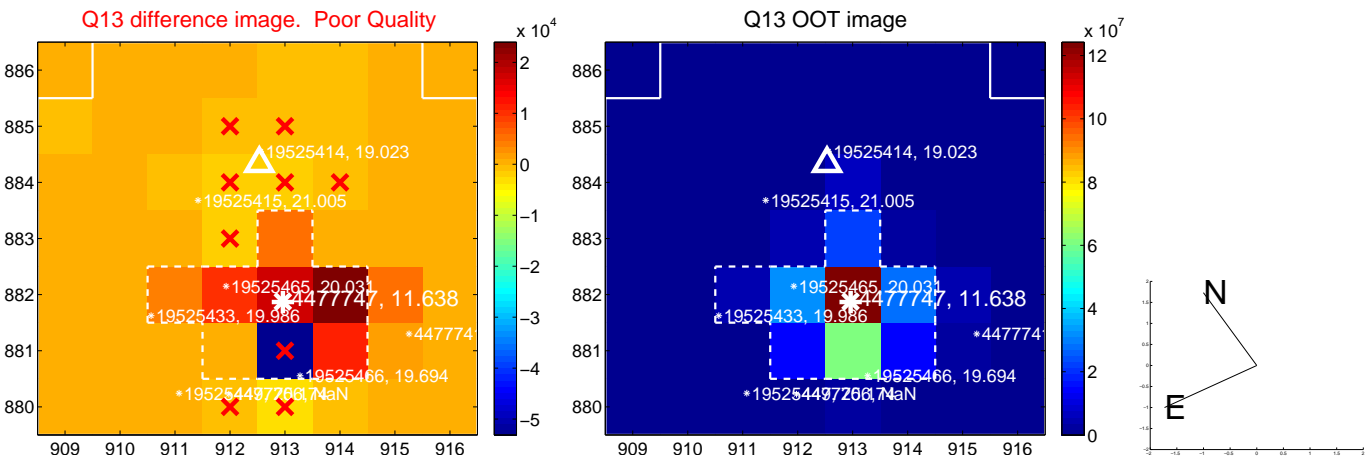




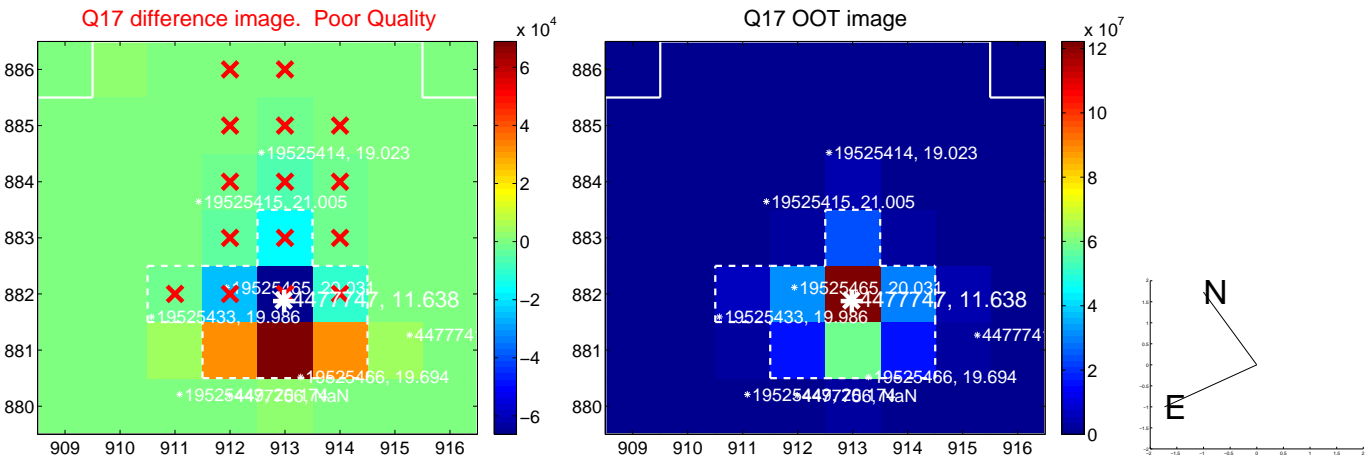
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

