

# KIC 006356506

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006356506-01	OBS	8263.01	280.593606	307.972193	357.1	8.553	8.6	5.6	1.08	6292	2.29	2.14

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006356506-01	OBS	PC	0.29	0	0	0	0	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.

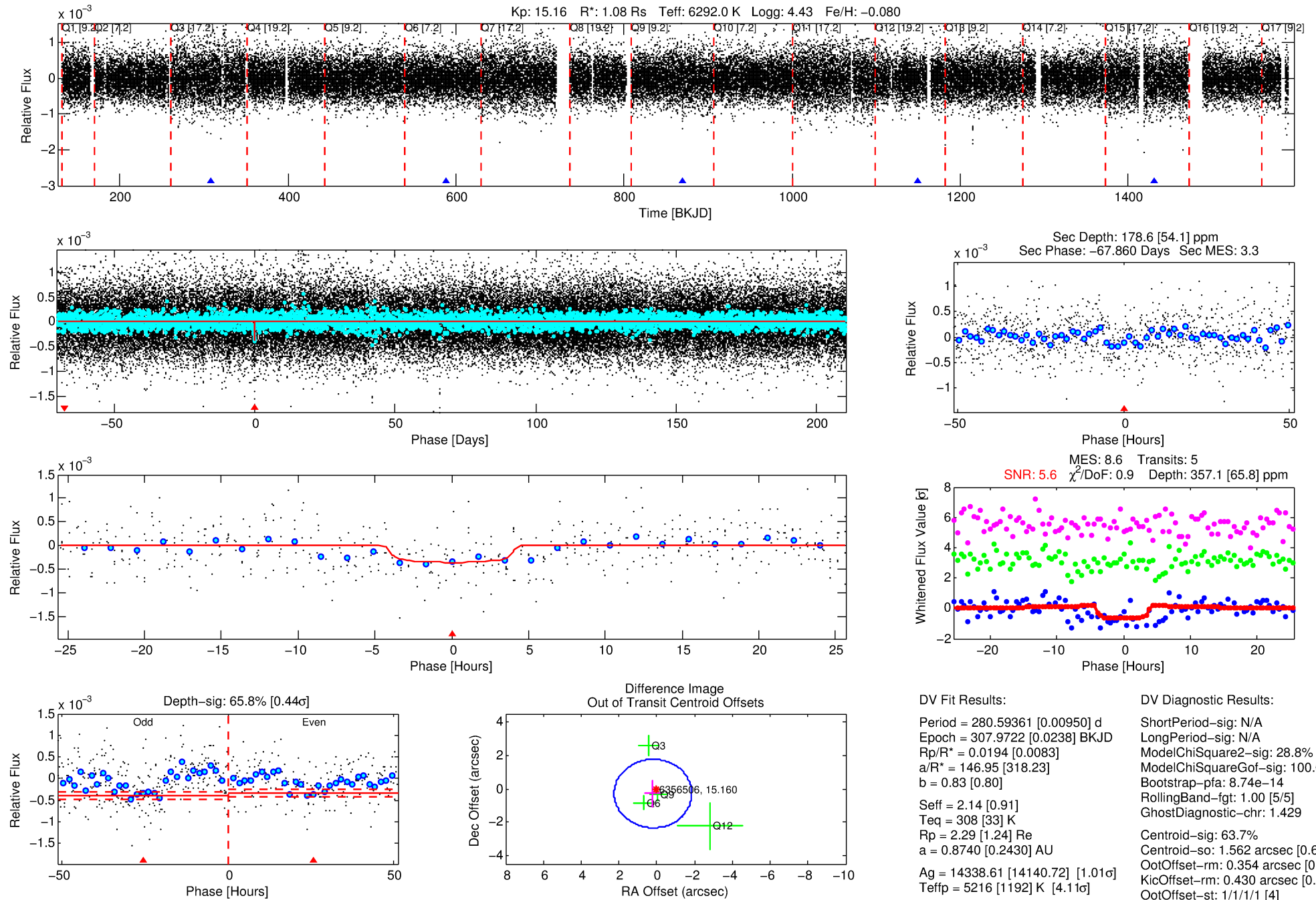
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006356506-01

No Significant Match Found

# DV One-Page Summary

KIC: 6356506 Candidate: 1 of 1 Period: 280.594 d



## DV Fit Results:

Period = 280.59361 [0.00950] d  
Epoch = 307.9722 [0.0238] BKJD  
Rp/R\* = 0.0194 [0.0083]  
a/R\* = 146.95 [318.23]  
b = 0.83 [0.80]  
Seff = 2.14 [0.91]  
Teq = 308 [33] K  
Rp = 2.29 [1.24] Re  
a = 0.8740 [0.2430] AU  
Ag = 14338.61 [14140.72] [1.01 $\sigma$ ]  
Teffp = 5216 [1192] K [4.11 $\sigma$ ]

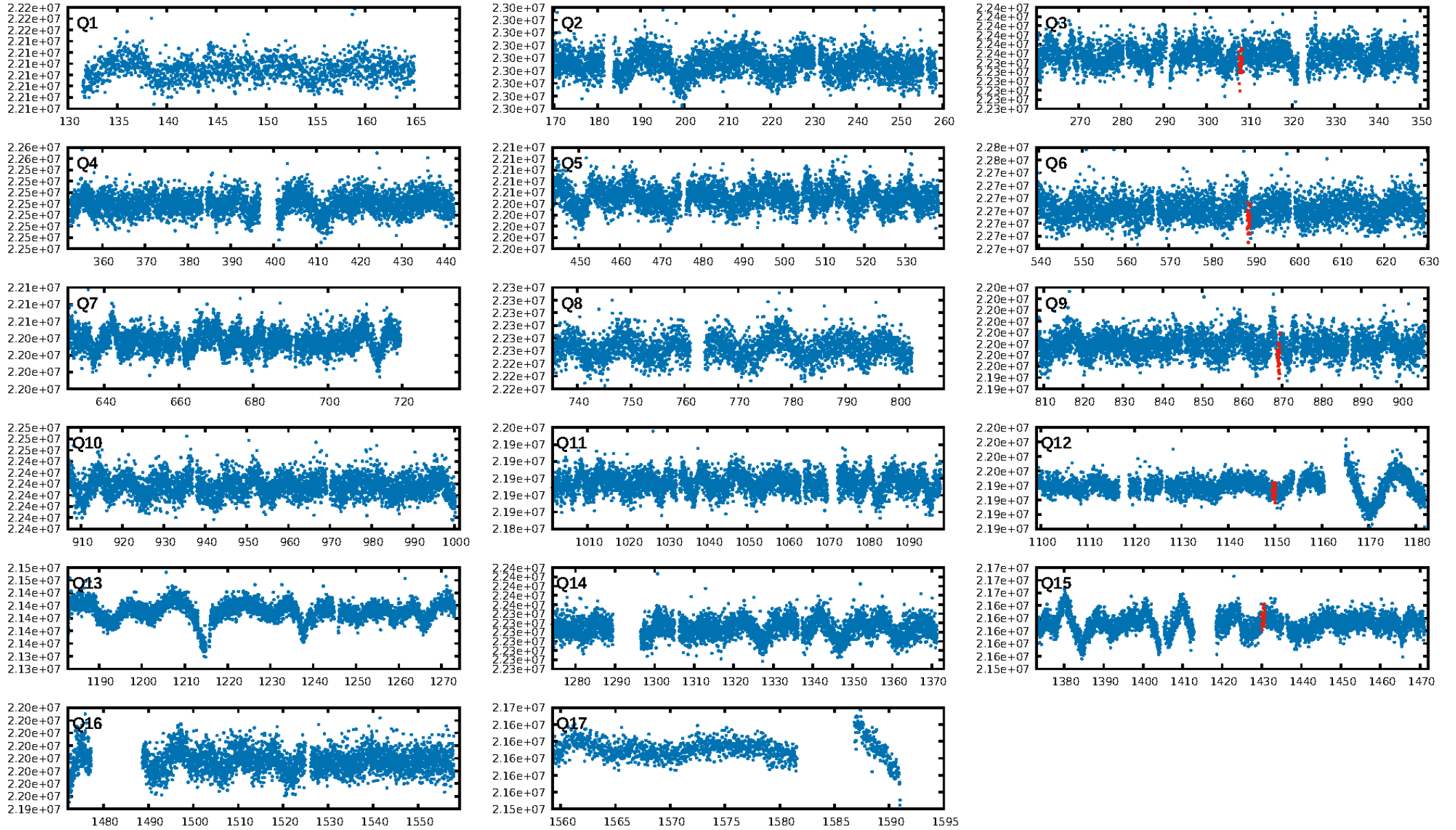
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 28.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.74e-14  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 1.429  
Centroid-sig: 63.7%  
Centroid-so: 1.562 arcsec [0.66 $\sigma$ ]  
OotOffset-rm: 0.354 arcsec [0.52 $\sigma$ ]  
KicOffset-rm: 0.430 arcsec [0.56 $\sigma$ ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 1.00 [5/5]

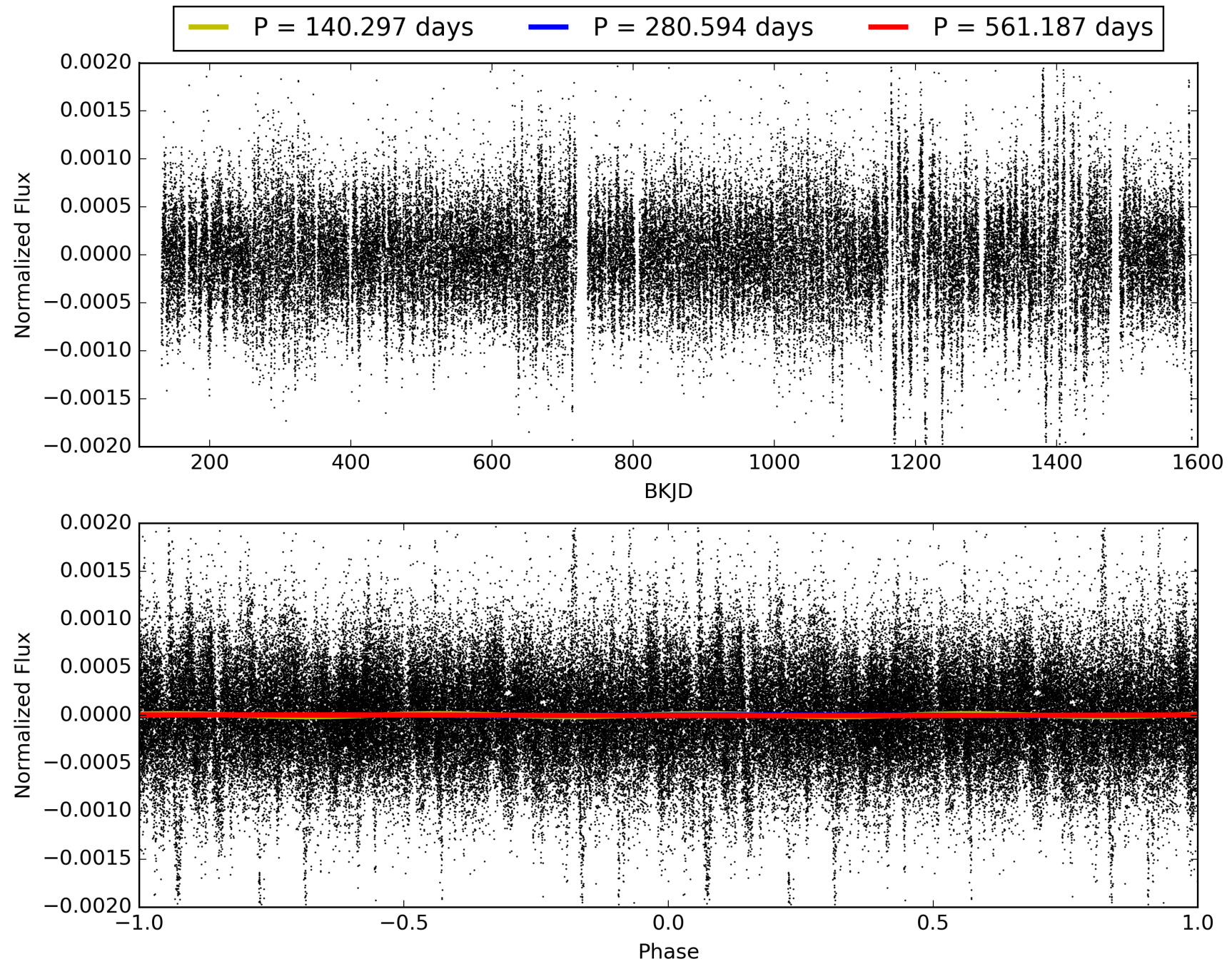
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:01:51 Z

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

# TCE 006356506-01, PDC Light Curves

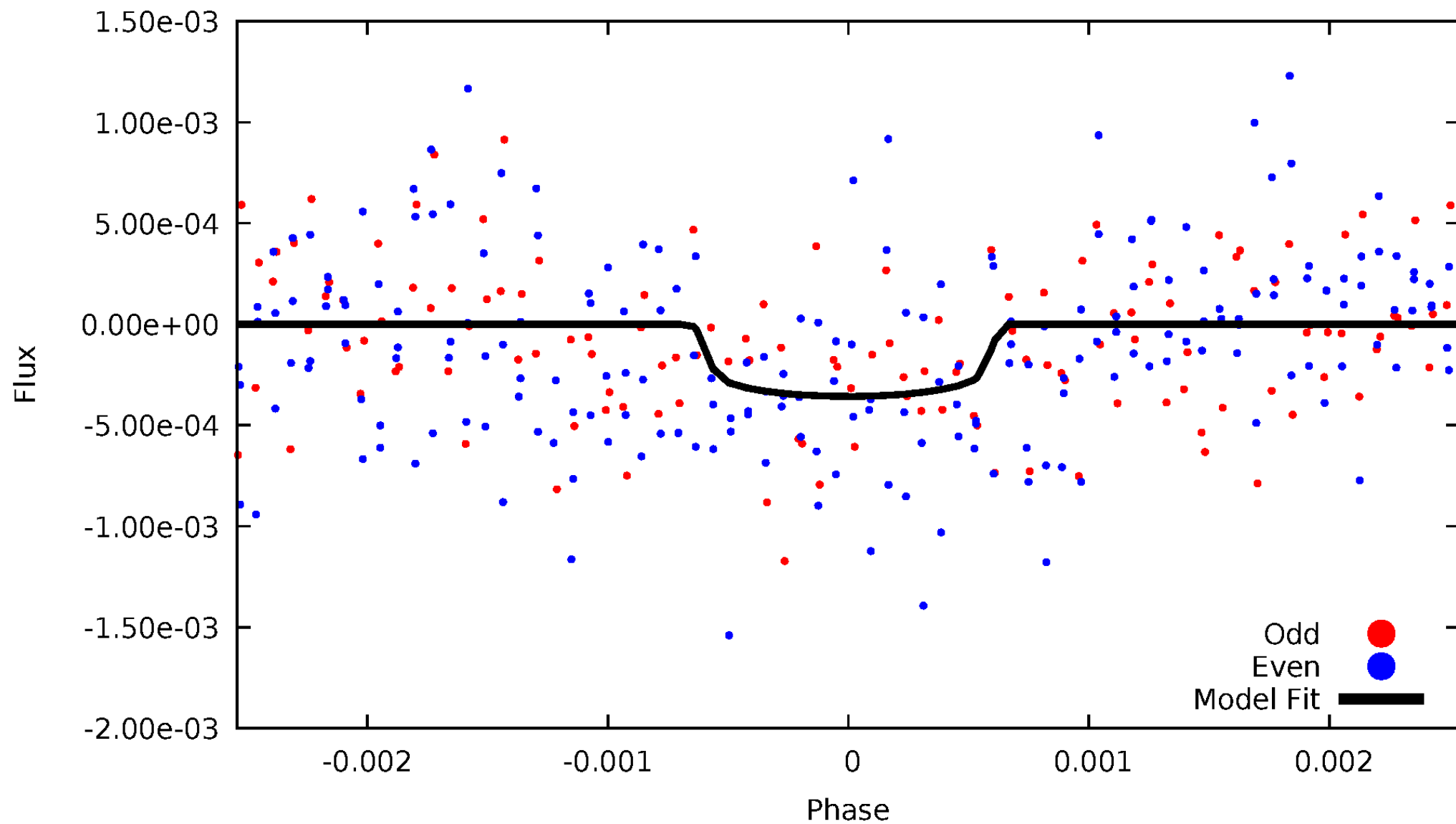


TCE 006356506-01



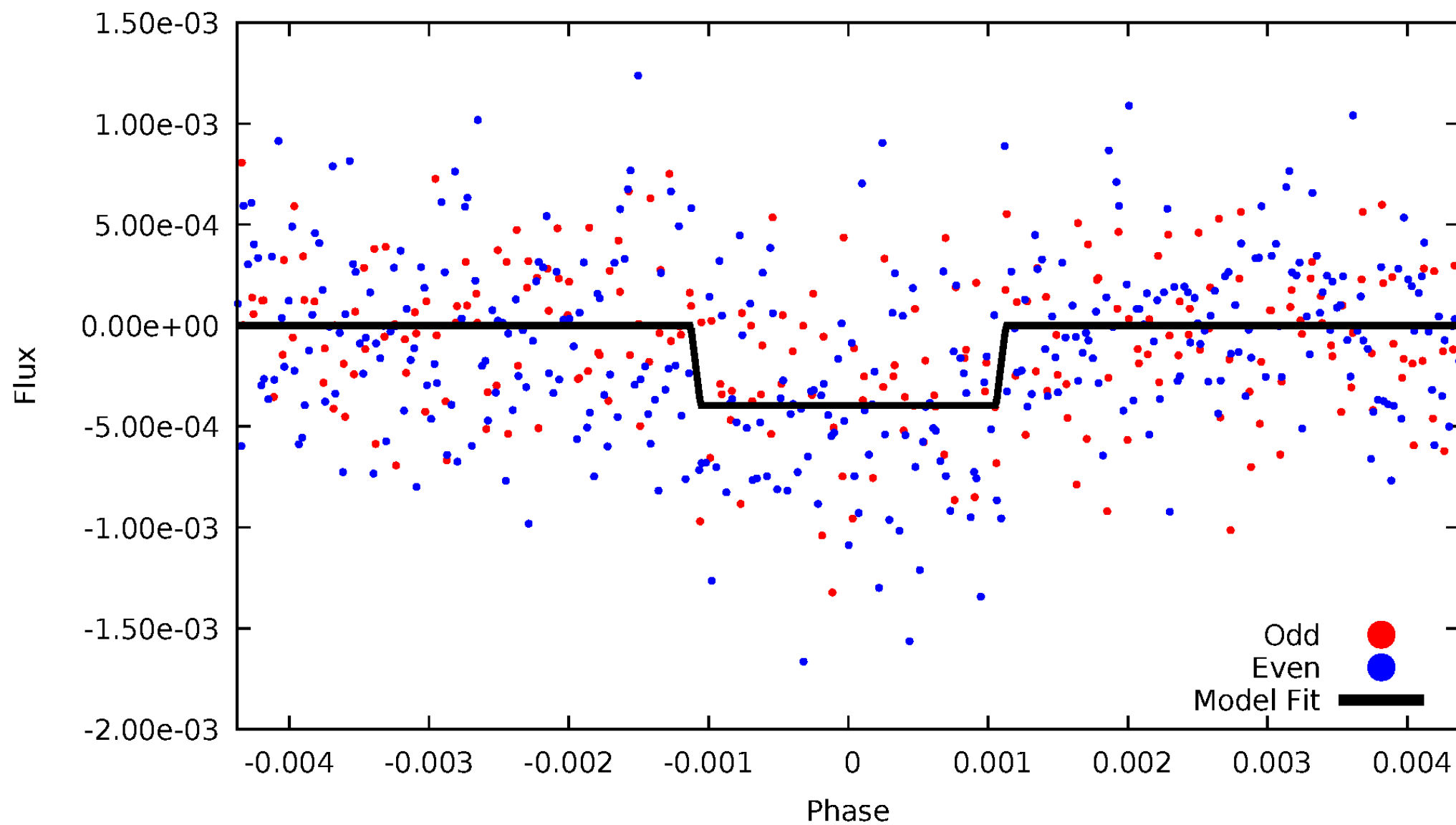
# DV Odd/Even

TCE 006356506-01



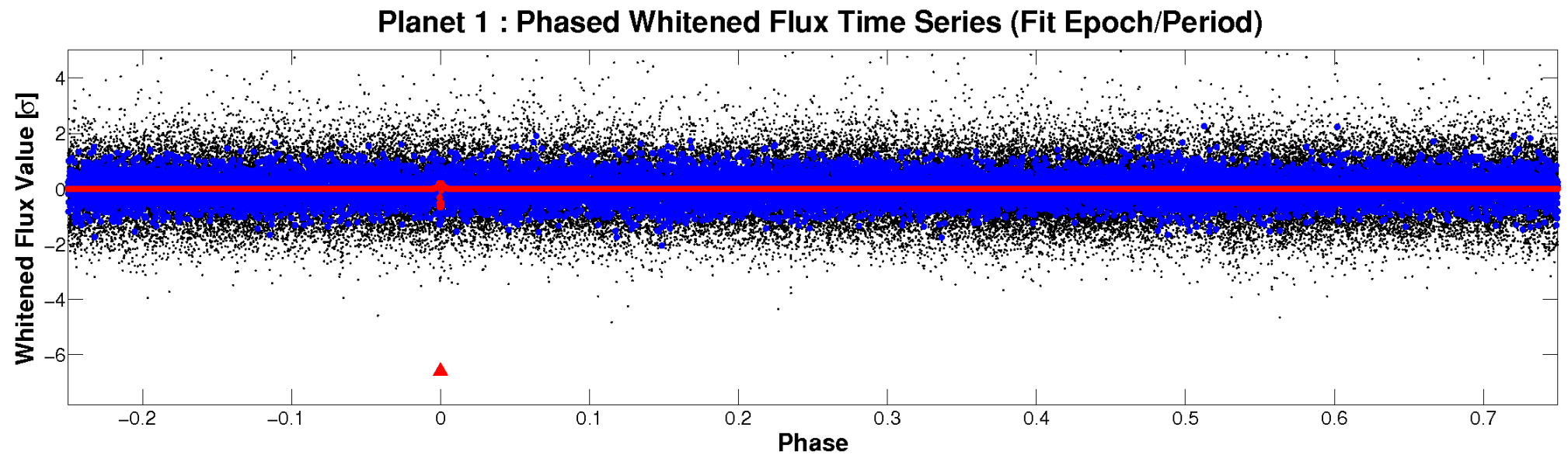
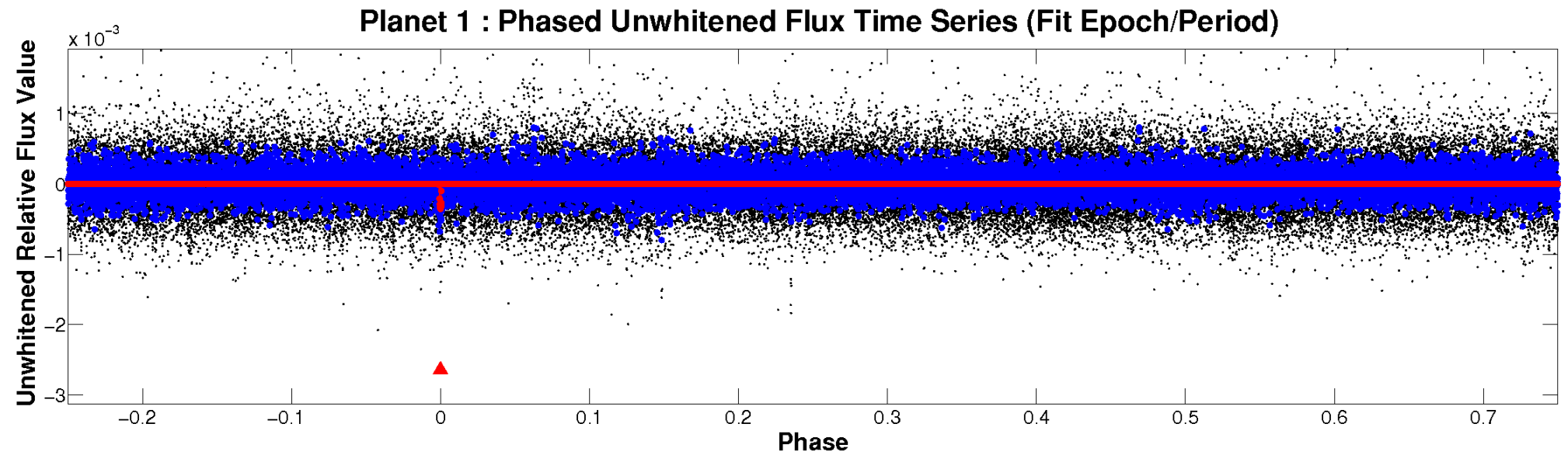
# ALT Odd/Even

TCE 006356506-01



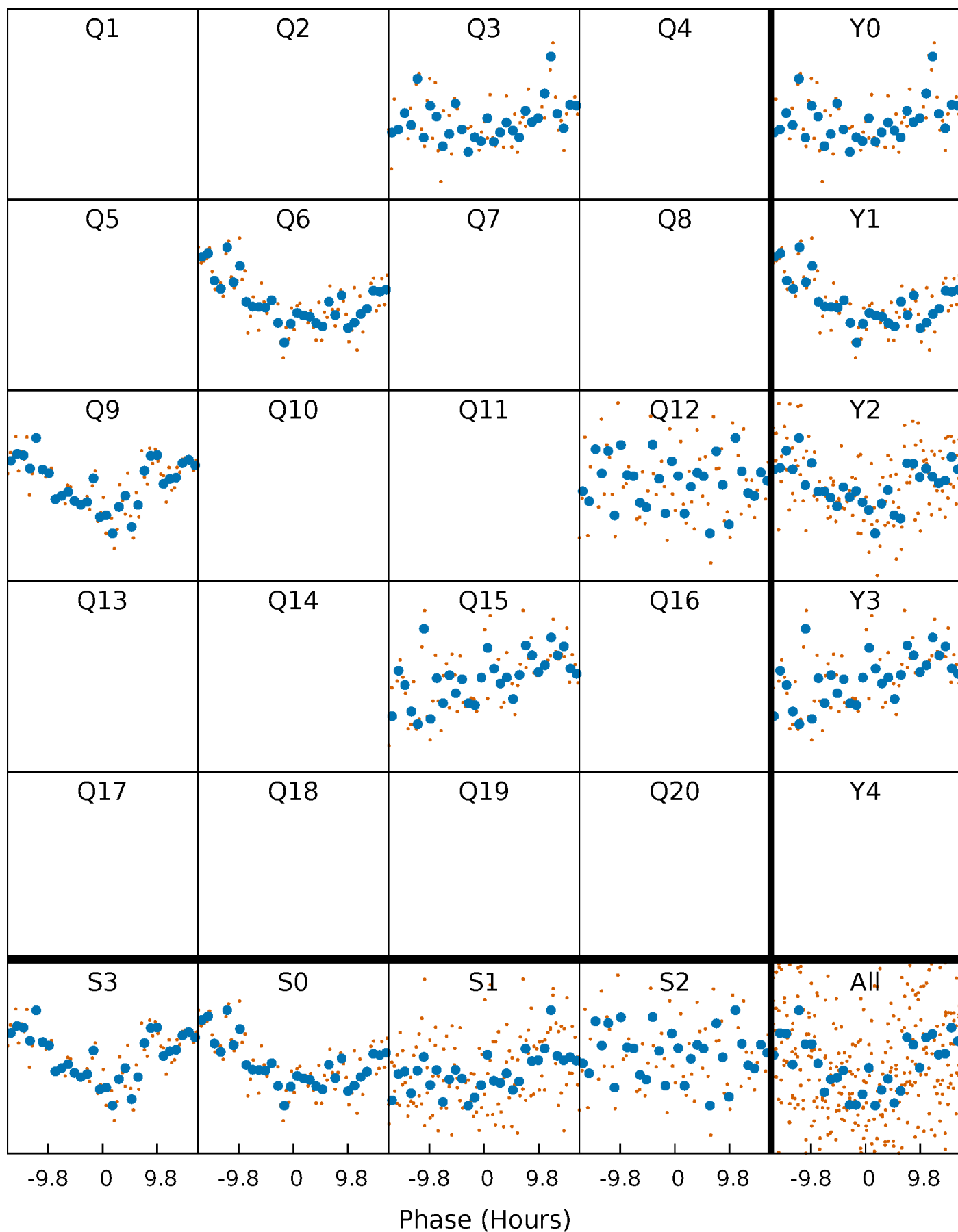


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

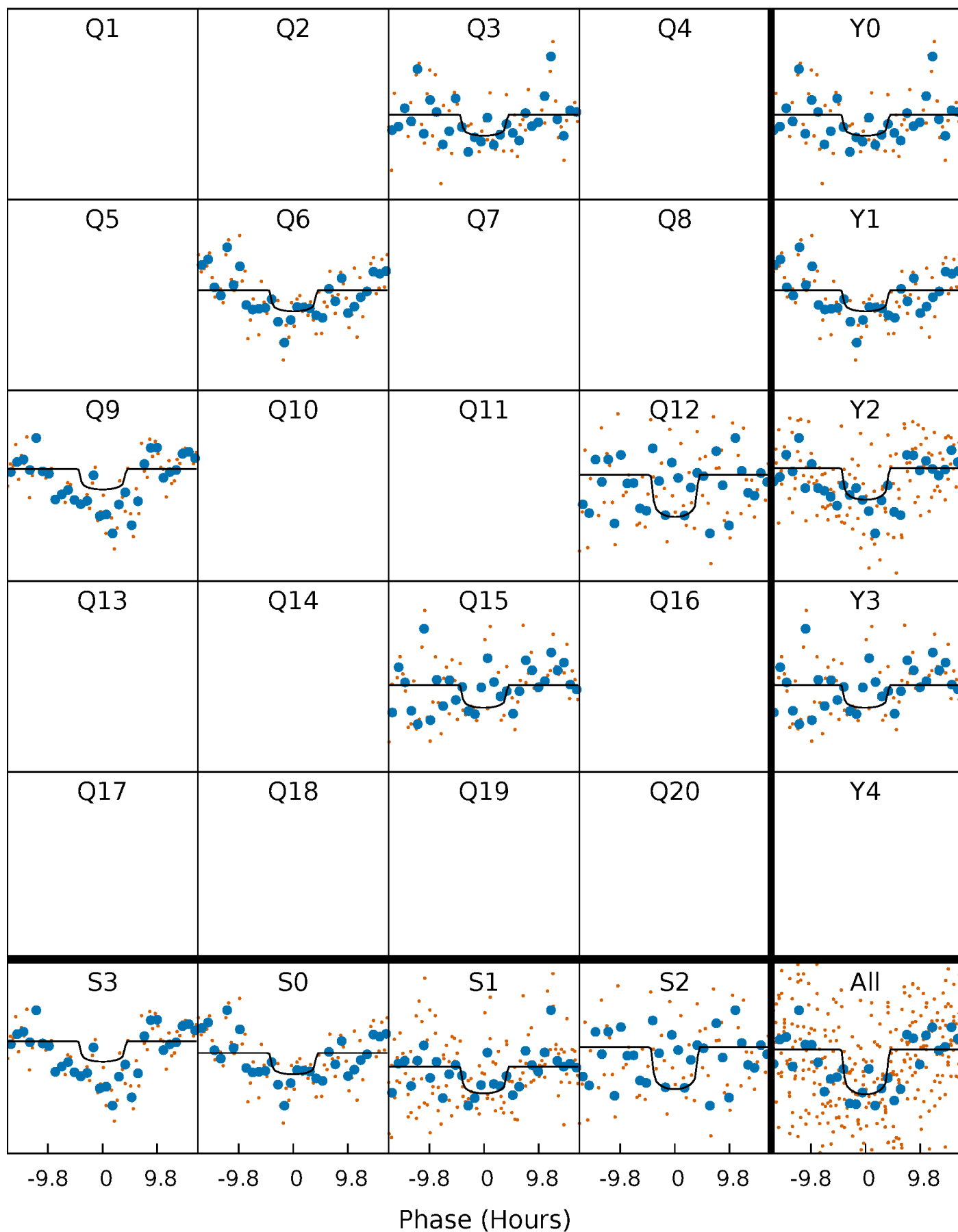
TCE 006356506-01 P=280.593606 Days  $T_0=307.972193$  (BKJD)





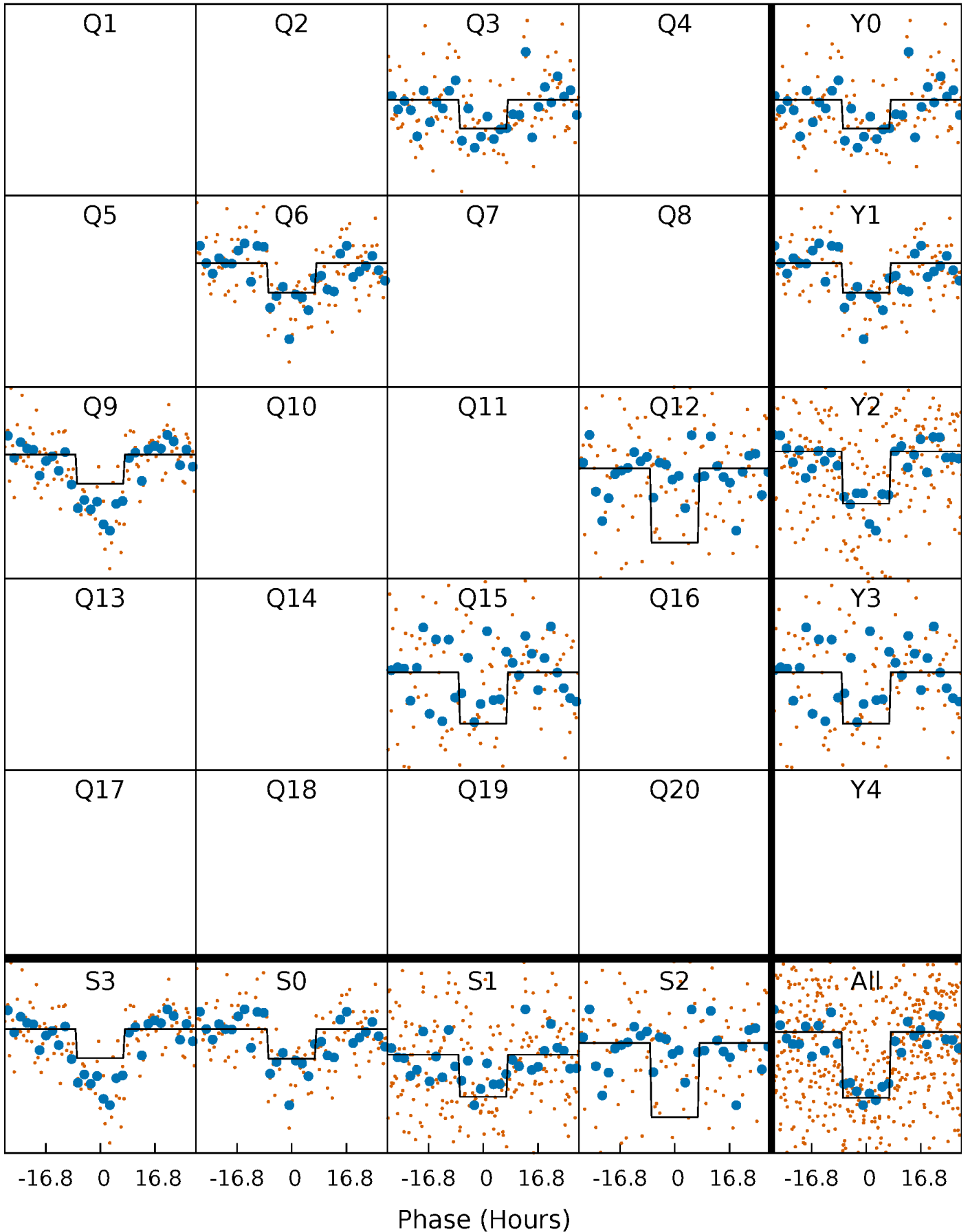
# DV Quarter-Phased Transit Curves

TCE 006356506-01 P=280.593606 Days  $T_0=307.972193$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

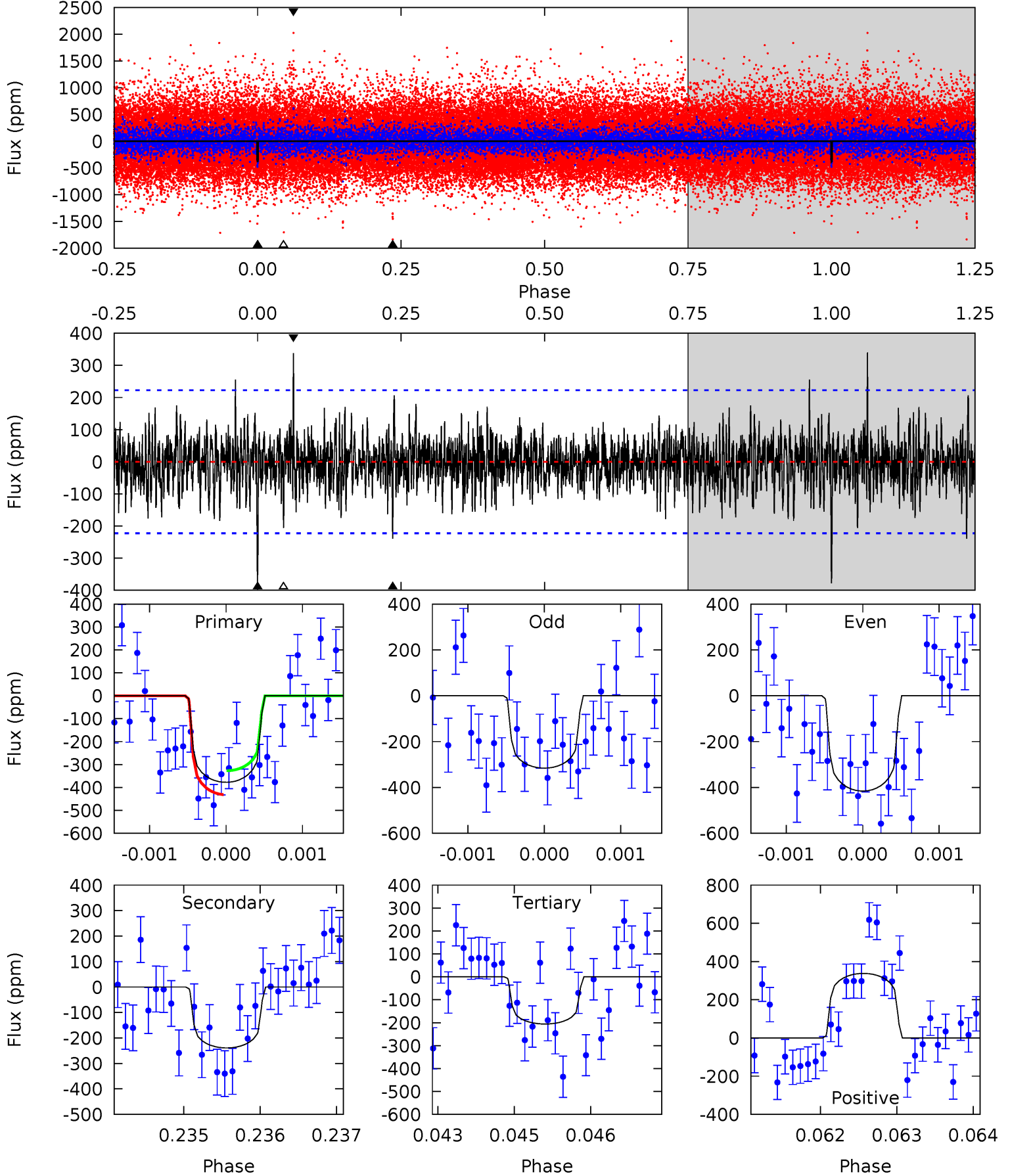
TCE 006356506-01 P=280.600457 Days  $T_0=307.923157$  (BKJD)



# DV Model-Shift Uniqueness Test

006356506-01, P = 280.593606 Days, E = 27.378587 Days

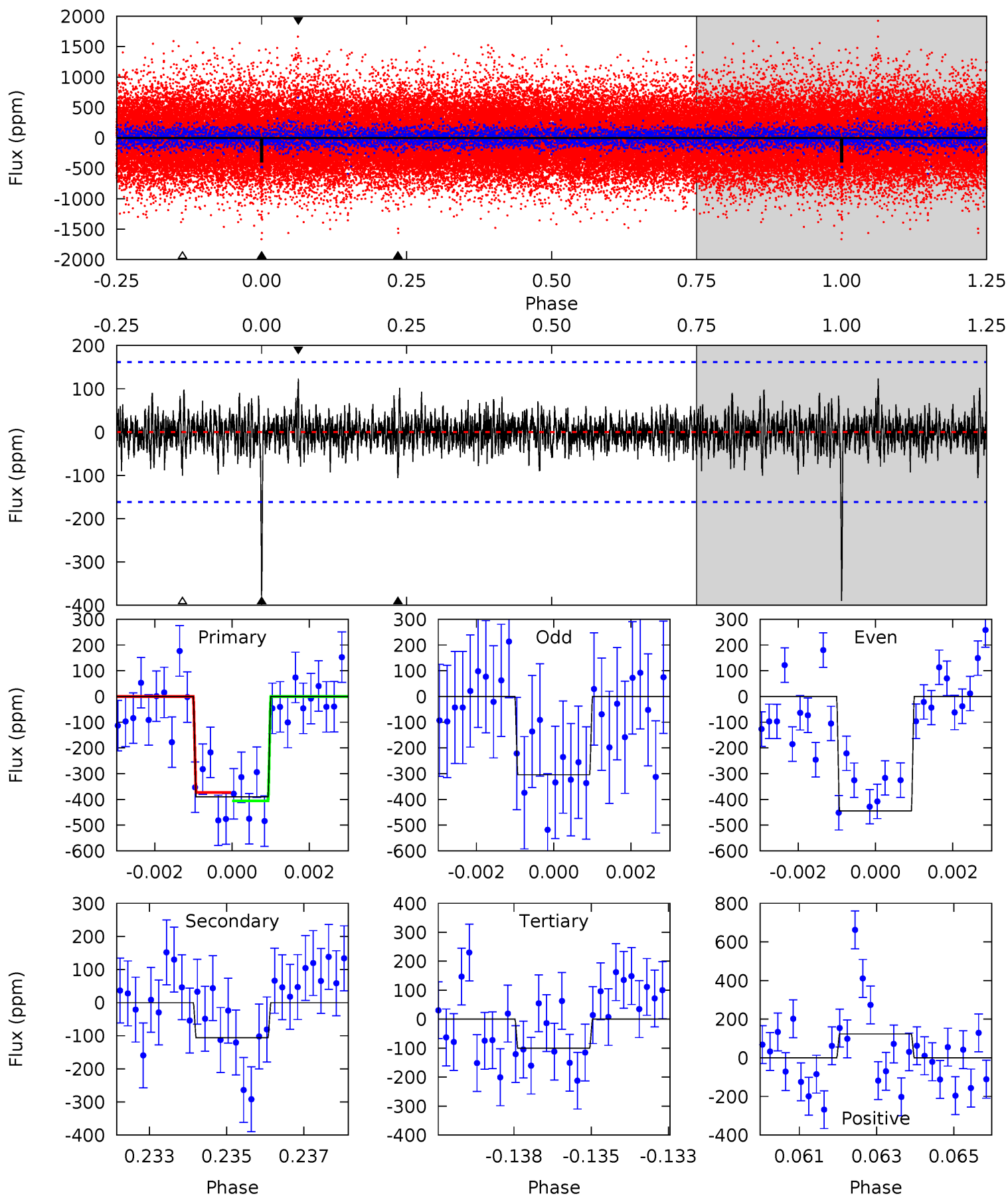
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	5.80	4.99	8.20	5.40	3.21	1.41	4.17	0.96	0.81	-2.40	1.17	0.93	0.47	1.27



# Alt Model-Shift Uniqueness Test

006356506-01,  $P = 280.600457$  Days,  $E = 27.322700$  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
12.8	3.48	3.29	4.05	5.30	3.05	0.90	9.50	8.74	0.19	-0.57	2.24	0.89	0.24	0.54



### Stellar Parameters For KIC 006356506

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6292^{+174}_{-240}$	$4.426^{+0.054}_{-0.216}$	$-0.080^{+0.250}_{-0.300}$	$1.078^{+0.361}_{-0.120}$	$1.129^{+0.156}_{-0.156}$	$1.269^{+0.358}_{-0.661}$
	+3%/-4%	+1%/-5%	+312%/-375%	+33%/-11%	+14%/-14%	+28%/-52%
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 006356506-01 / KOI 8263.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-239 \pm 41$	$2.40^{+1.28}_{-0.98}$	$441^{+36}_{-24}$	$5632^{+1788}_{-875}$	$16829^{+33809}_{-9354}$
Alt.	$-106 \pm 30$	$2.44^{+1.13}_{-0.97}$	$440^{+32}_{-22}$	$4642^{+1242}_{-655}$	$7183^{+14009}_{-4217}$

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

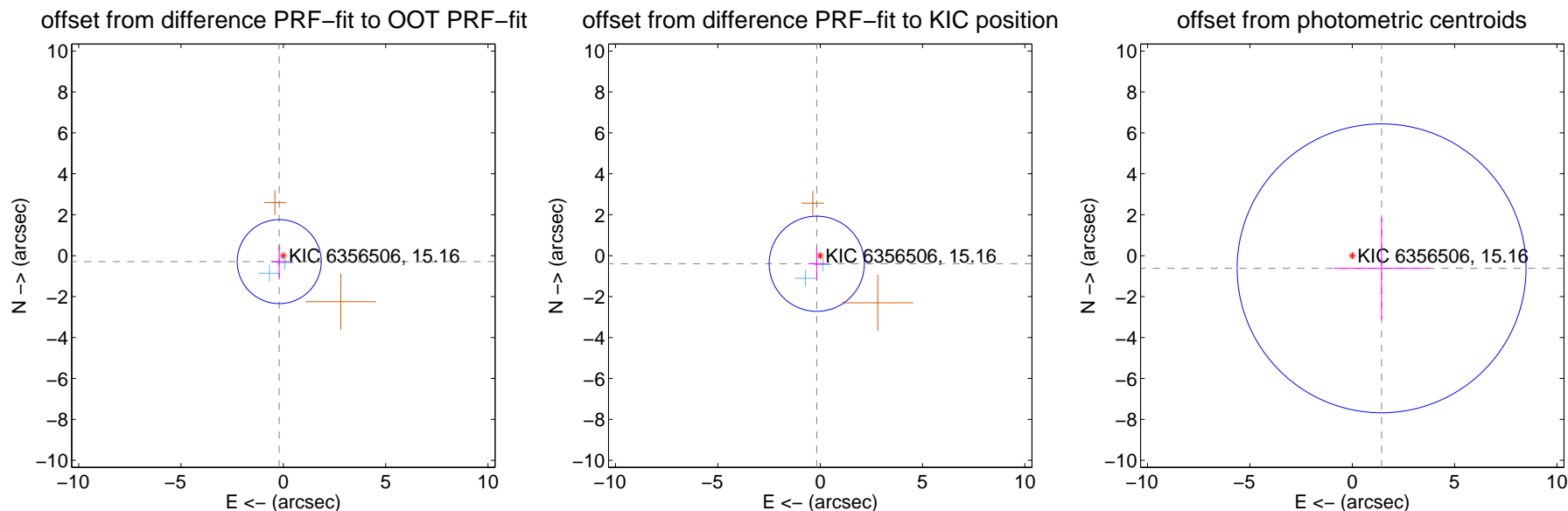
## DV Centroid Data

Supplemental centroid analysis for 006356506-01. Kepler magnitude: 15.16. Transit SNR 5.62

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.354 \pm 0.684$	0.52	$0.202 \pm 0.386$	$-0.291 \pm 0.789$
PRF-fit source offset from KIC position	$0.430 \pm 0.775$	0.56	$0.169 \pm 0.395$	$-0.396 \pm 0.825$
photometric centroid source offset	$1.56 \pm 2.35$	0.66	$-1.43 \pm 2.33$	$-0.62 \pm 2.49$



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

Q1 no difference image



Q1 no OOT image



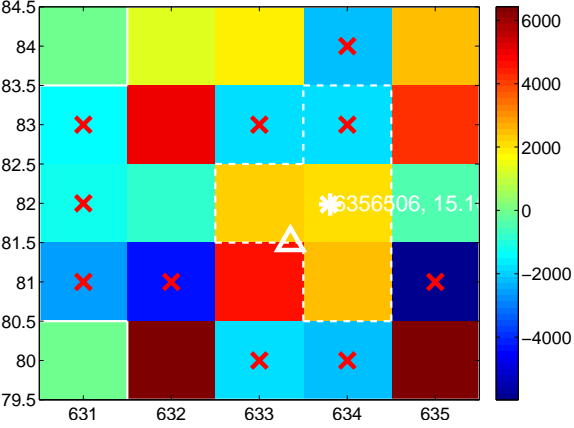
Q2 no difference image



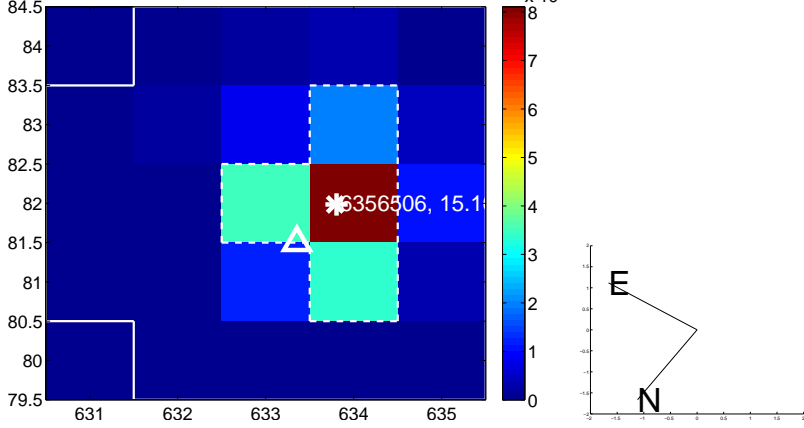
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



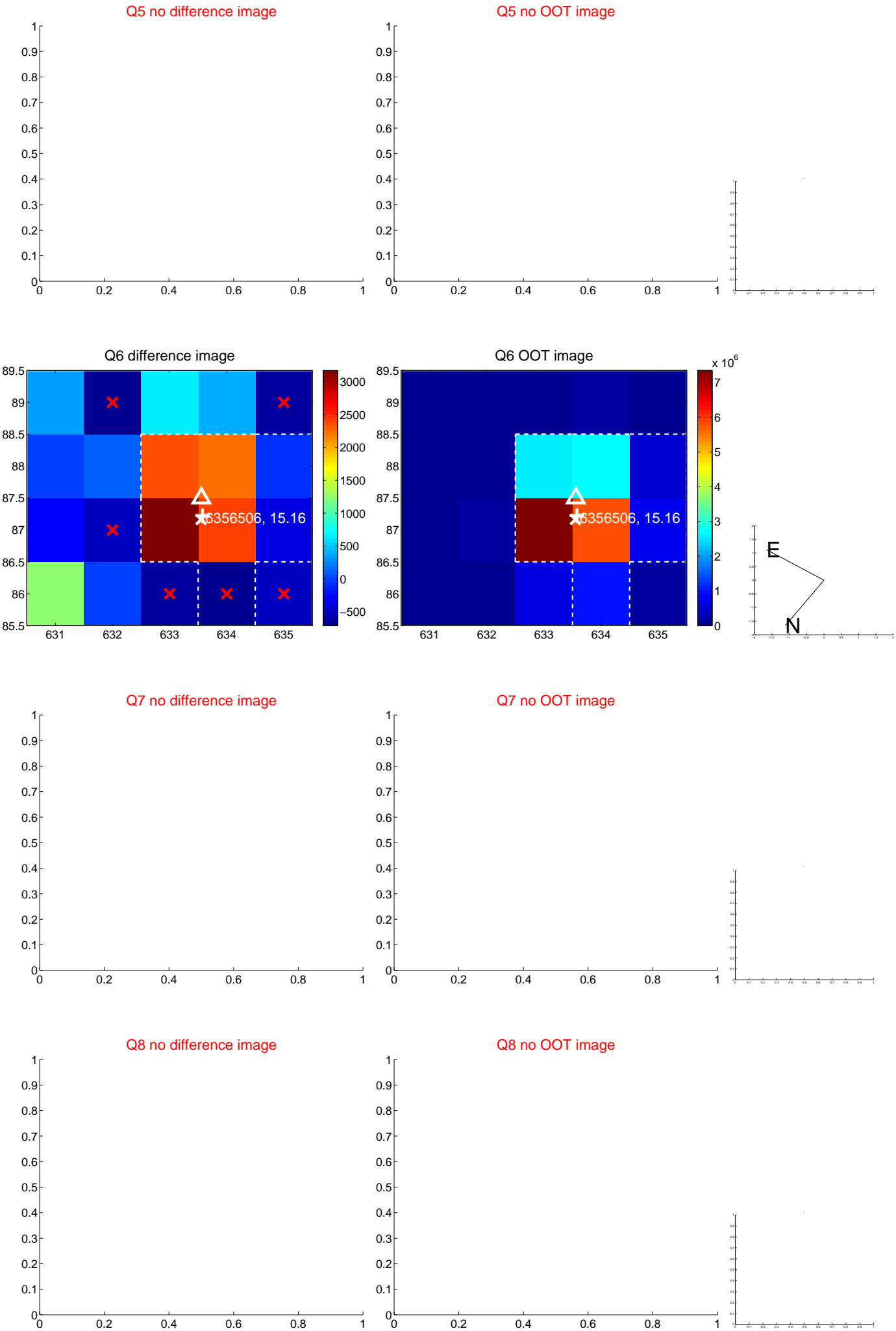
Q4 no difference image



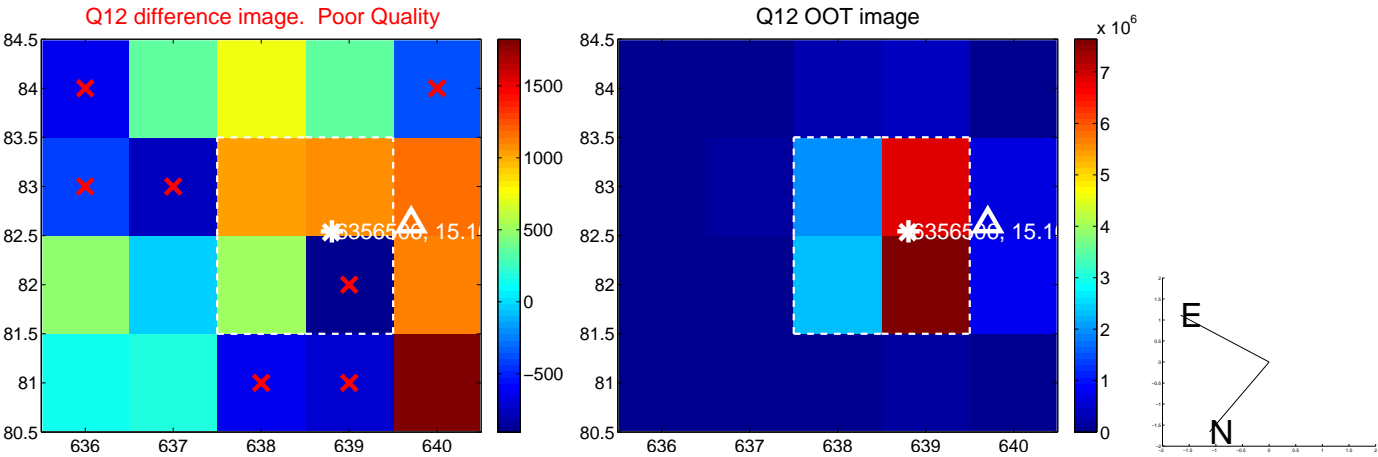
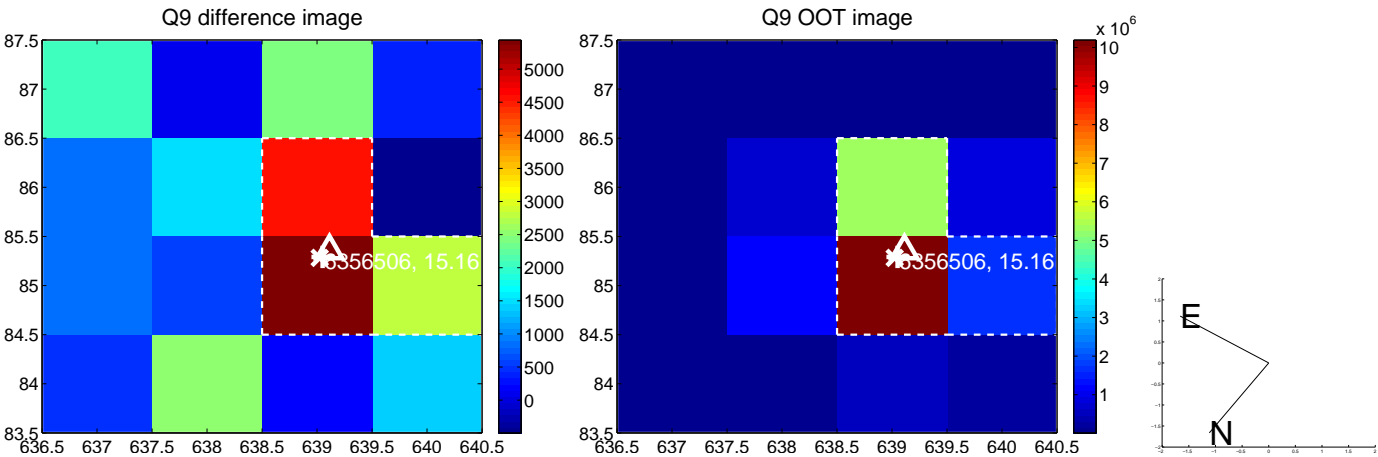
Q4 no OOT image



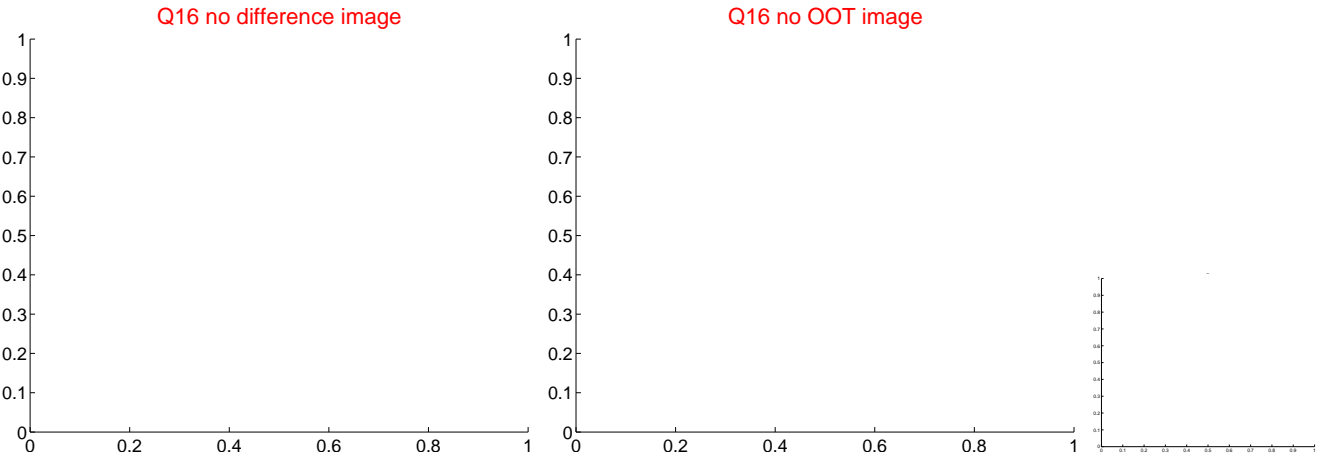
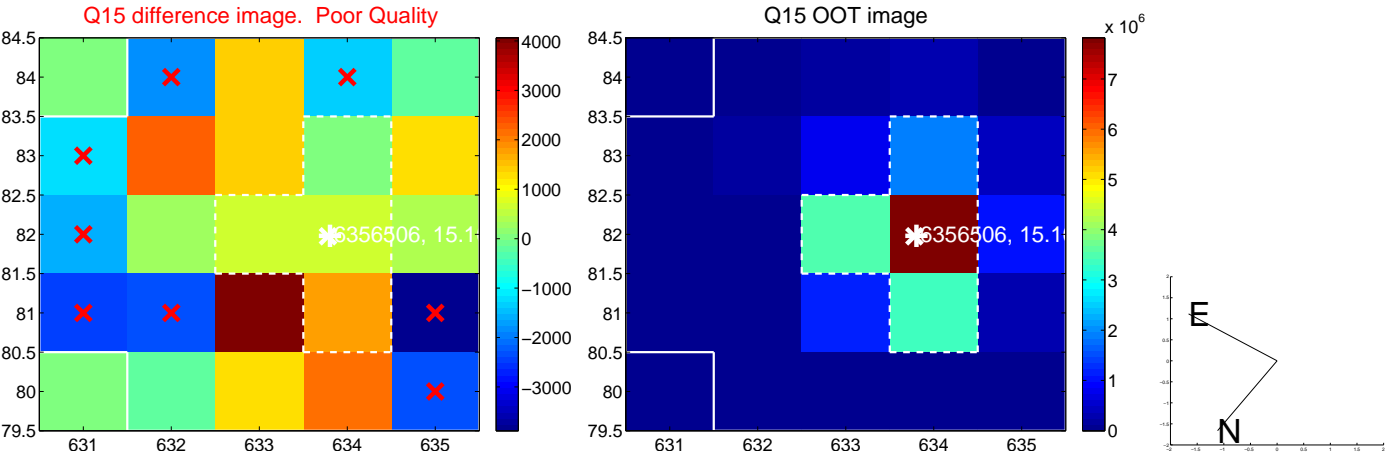
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



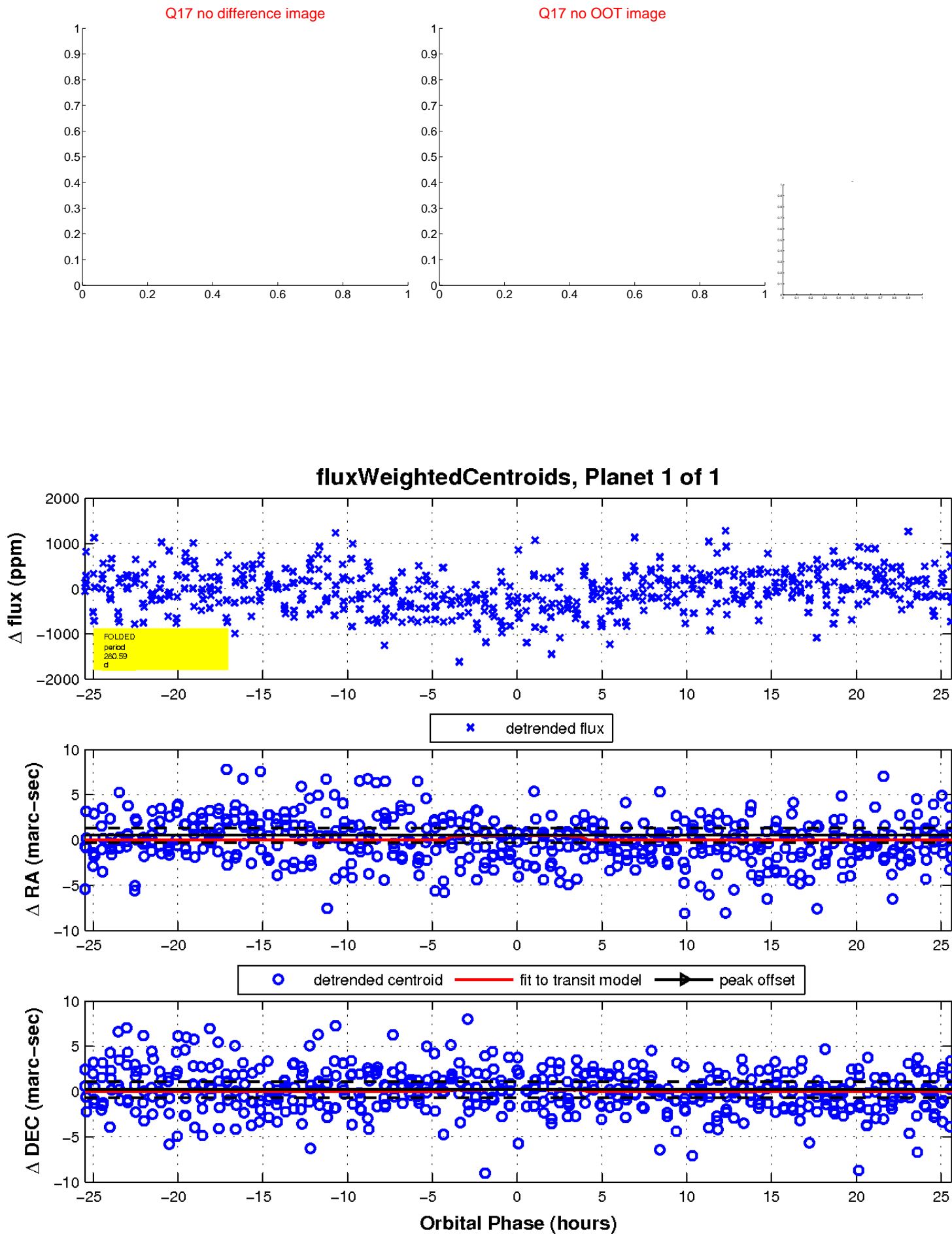
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



white ×: 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.



Declination