

# KIC 006195437

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006195437-01	OBS	No	379.947092	284.465694	2072.9	30.380	7.8	8.7	1.15	6257	9.77	1.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006195437-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

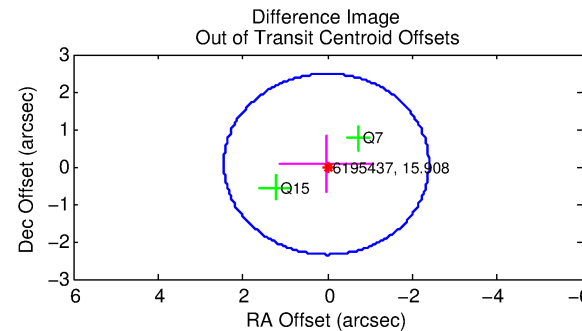
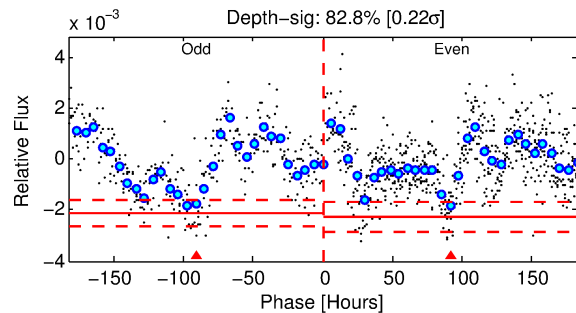
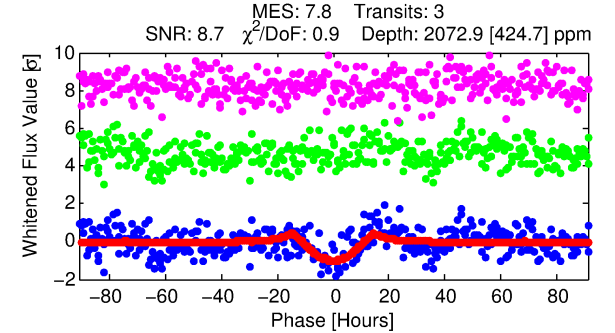
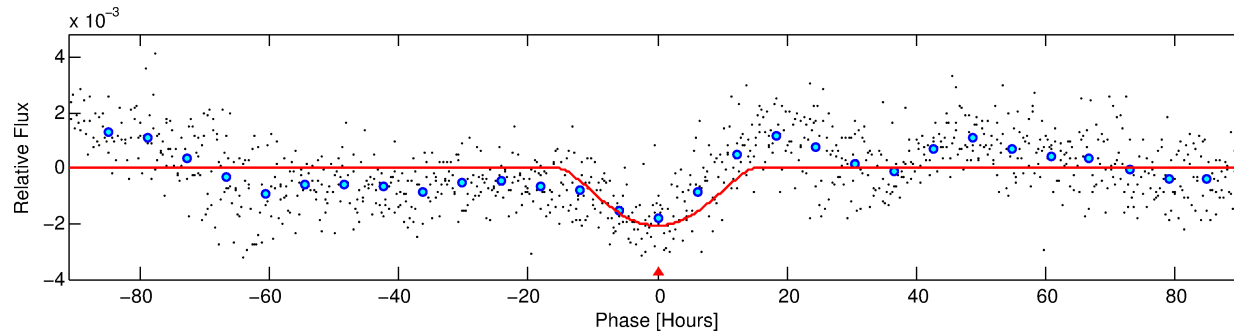
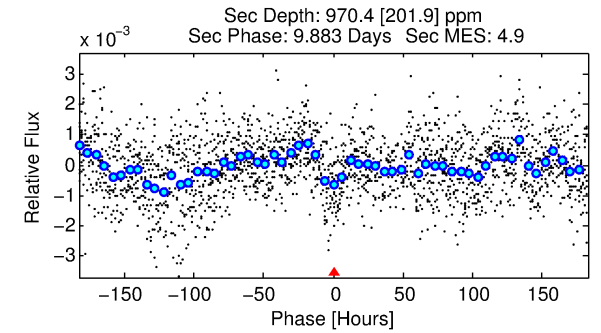
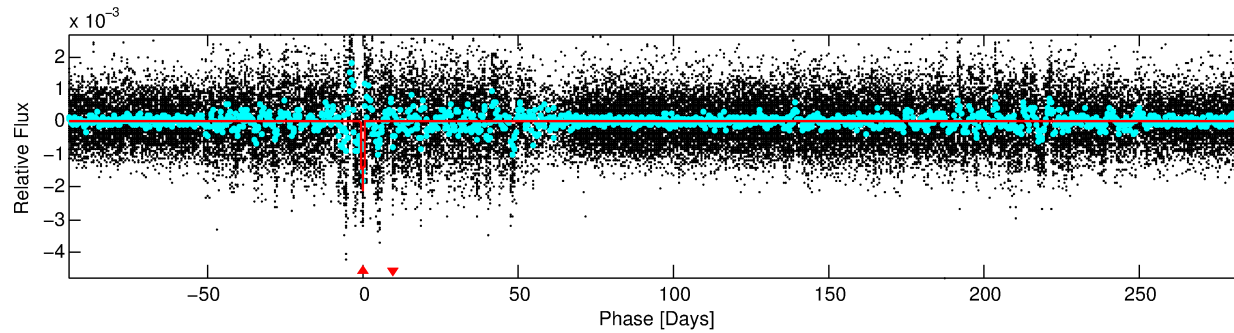
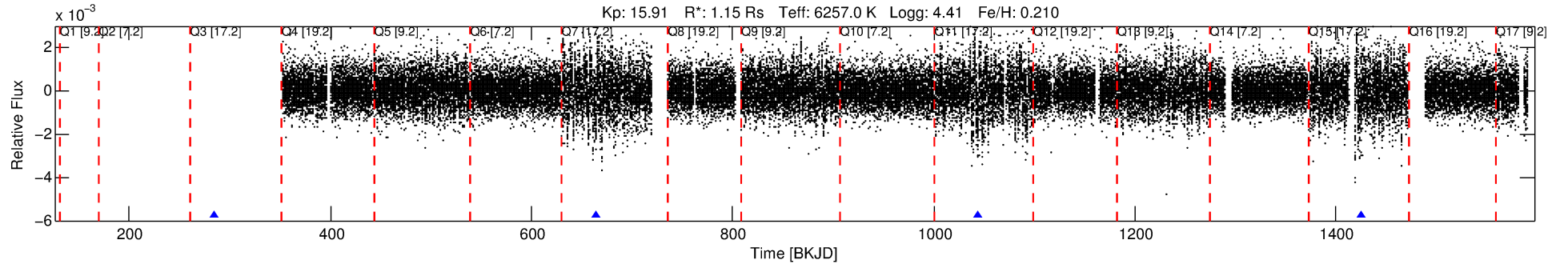
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006195437-01

No Significant Match Found

# DV One-Page Summary

KIC: 6195437 Candidate: 1 of 1 Period: 379.947 d



## DV Fit Results:

Period = 379.94709 [0.03969] d  
Epoch = 284.4657 [0.0862] BKJD  
Rp/R\* = 0.0781 [0.1745]  
a/R\* = 38.54 [18.61]  
b = 1.00 [0.24]  
Seff = 1.49 [0.59]  
Teq = 282 [28] K  
Rp = 9.77 [22.02] Re  
a = 1.1013 [0.2684] AU  
Ag = 6776.74 [30409.73] [0.22σ]  
Teffp = 3952 [4423] K [0.83σ]

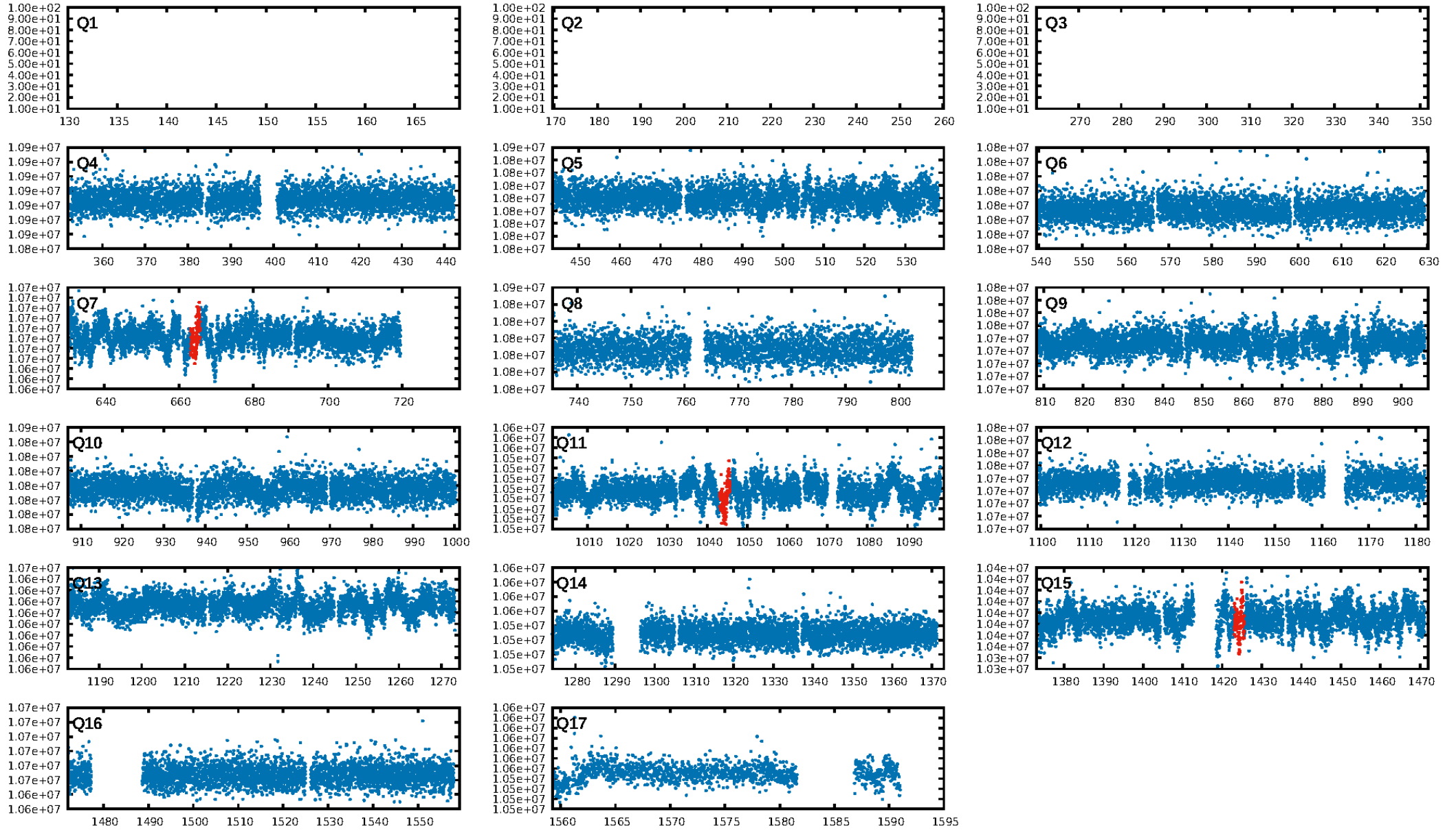
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 55.0%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.33e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.56  
Centroid-sig: 10.8%  
Centroid-so: 2.642 arcsec [1.30σ]  
OotOffset-rm: 0.071 arcsec [0.09σ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-rm: 0.231 arcsec [0.21σ]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

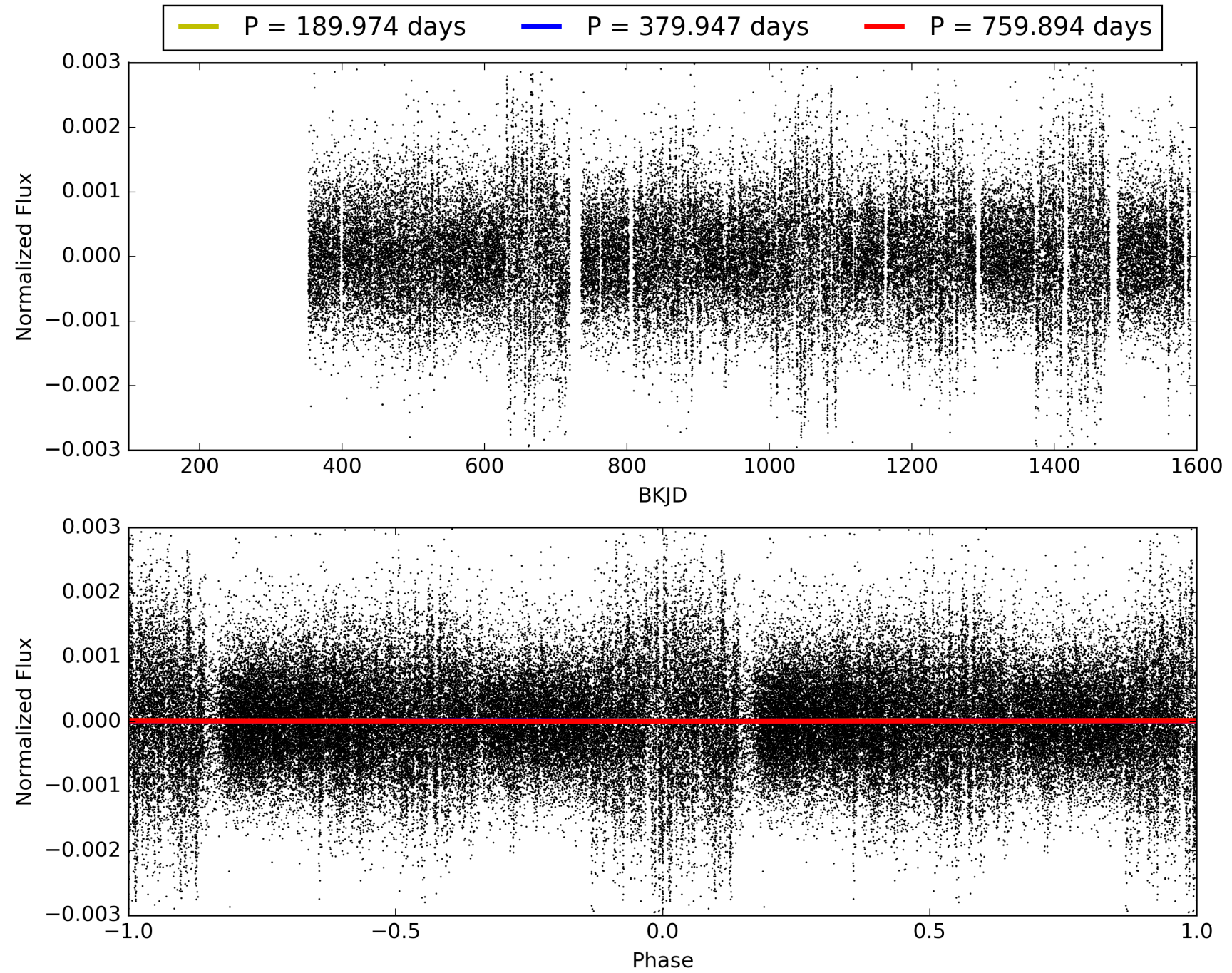
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:12:14 Z

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

# TCE 006195437-01, PDC Light Curves

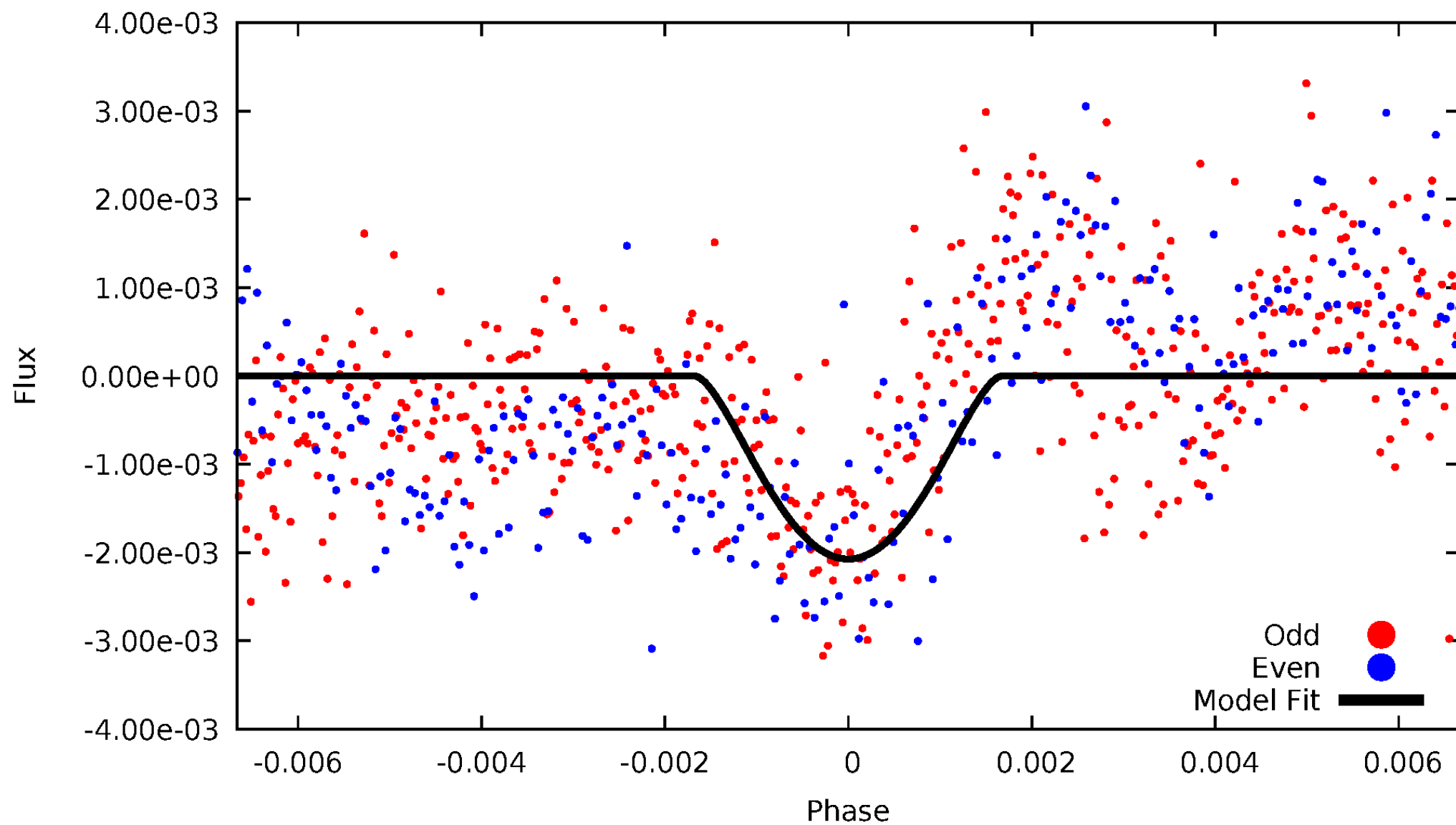


TCE 006195437-01



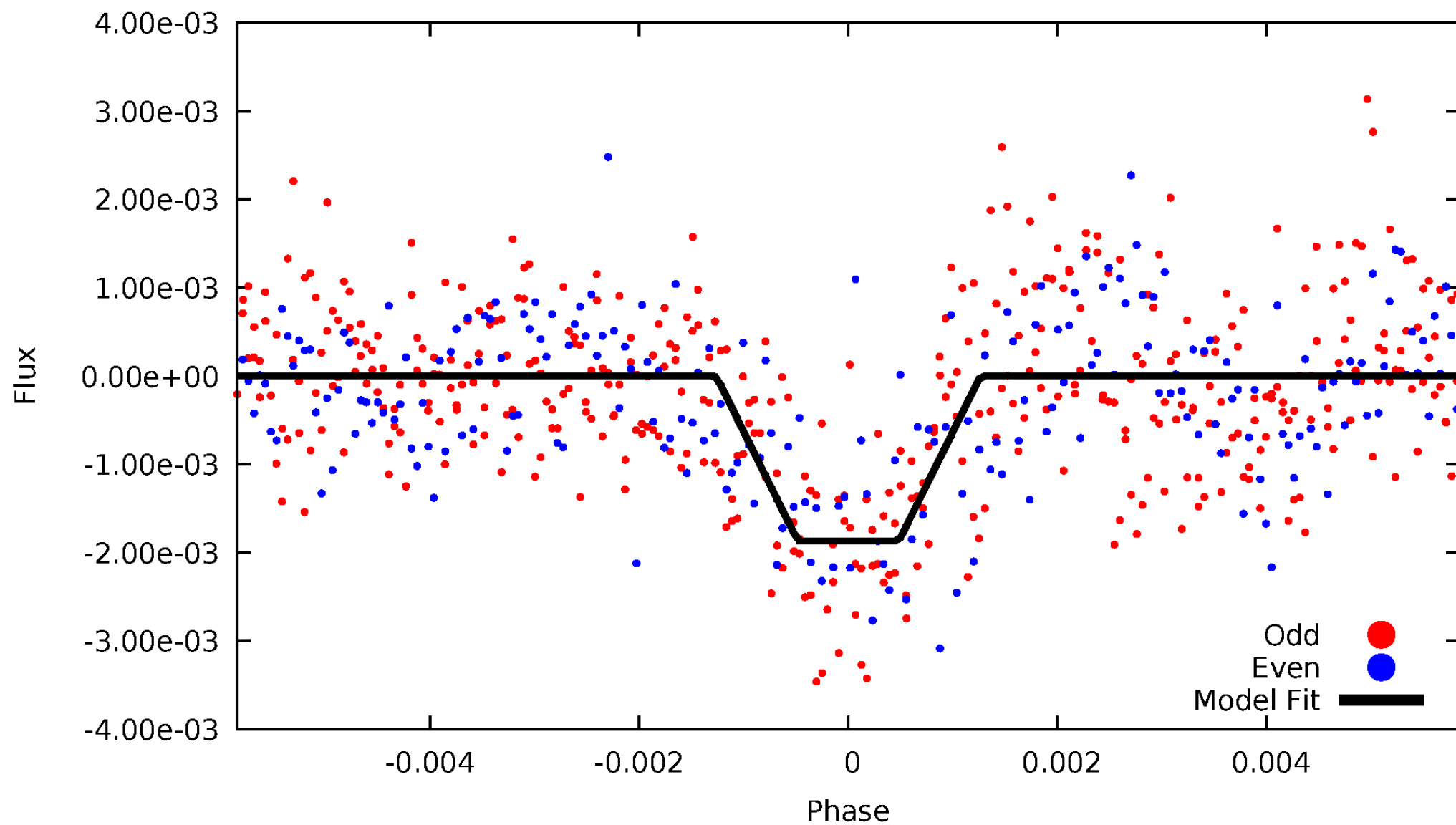
# DV Odd/Even

TCE 006195437-01



# ALT Odd/Even

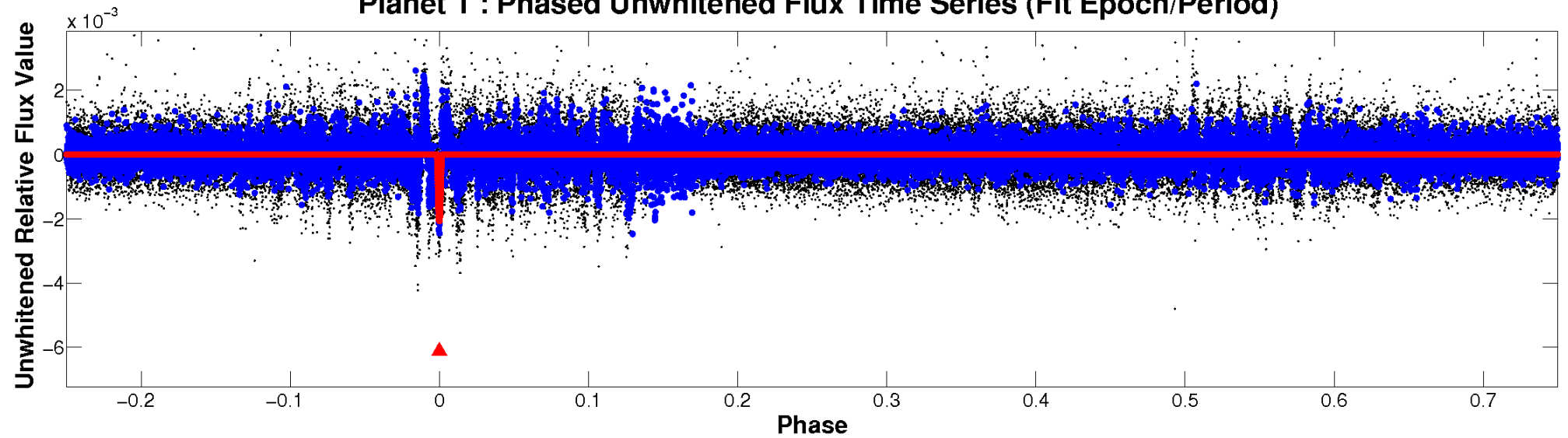
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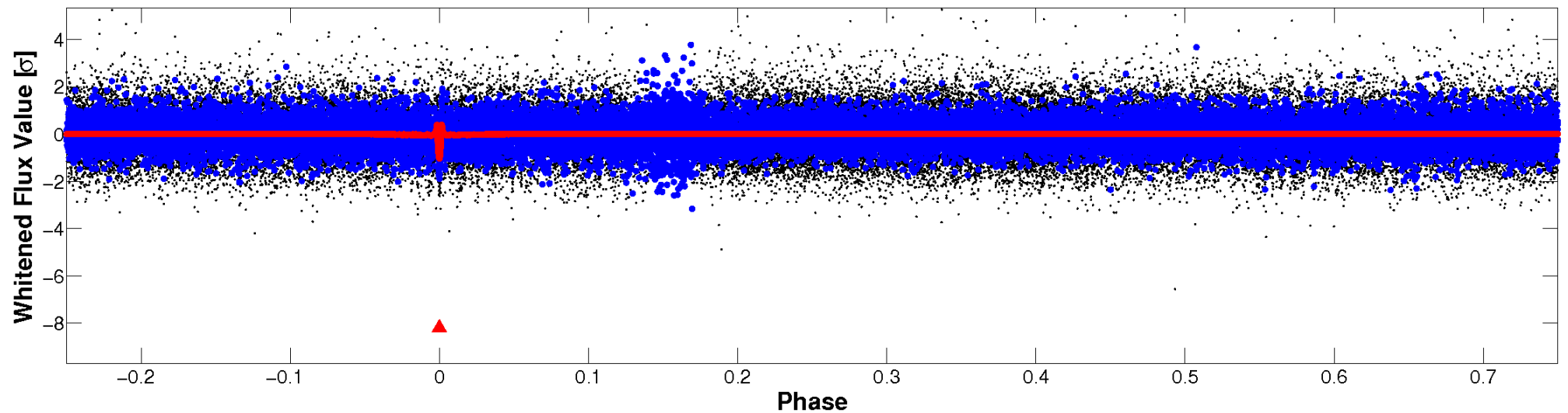


# Non-Whitened Vs. Whitened Light Curve

**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

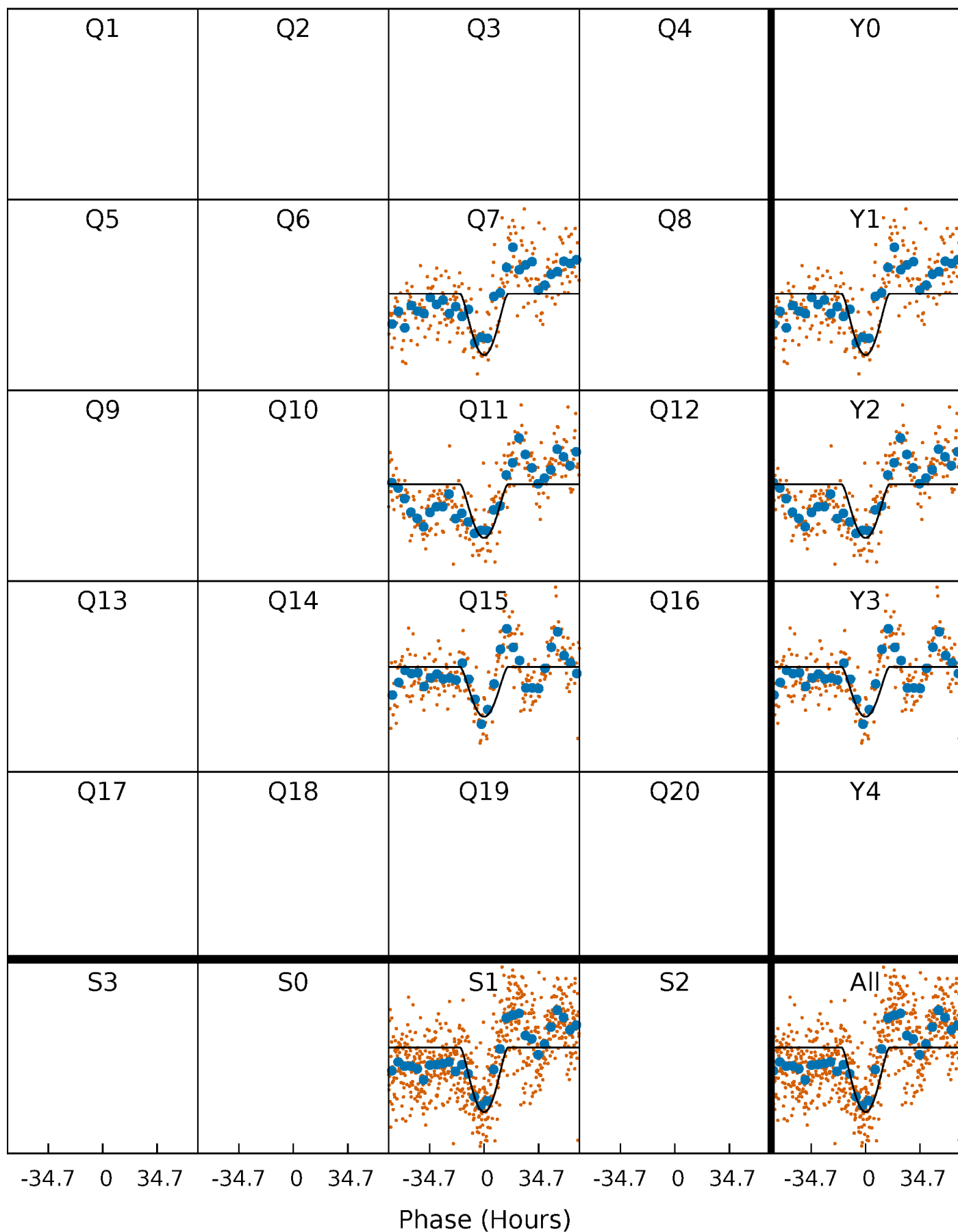
TCE 006195437-01 P=379.947092 Days  $T_0=284.465694$  (BKJD)





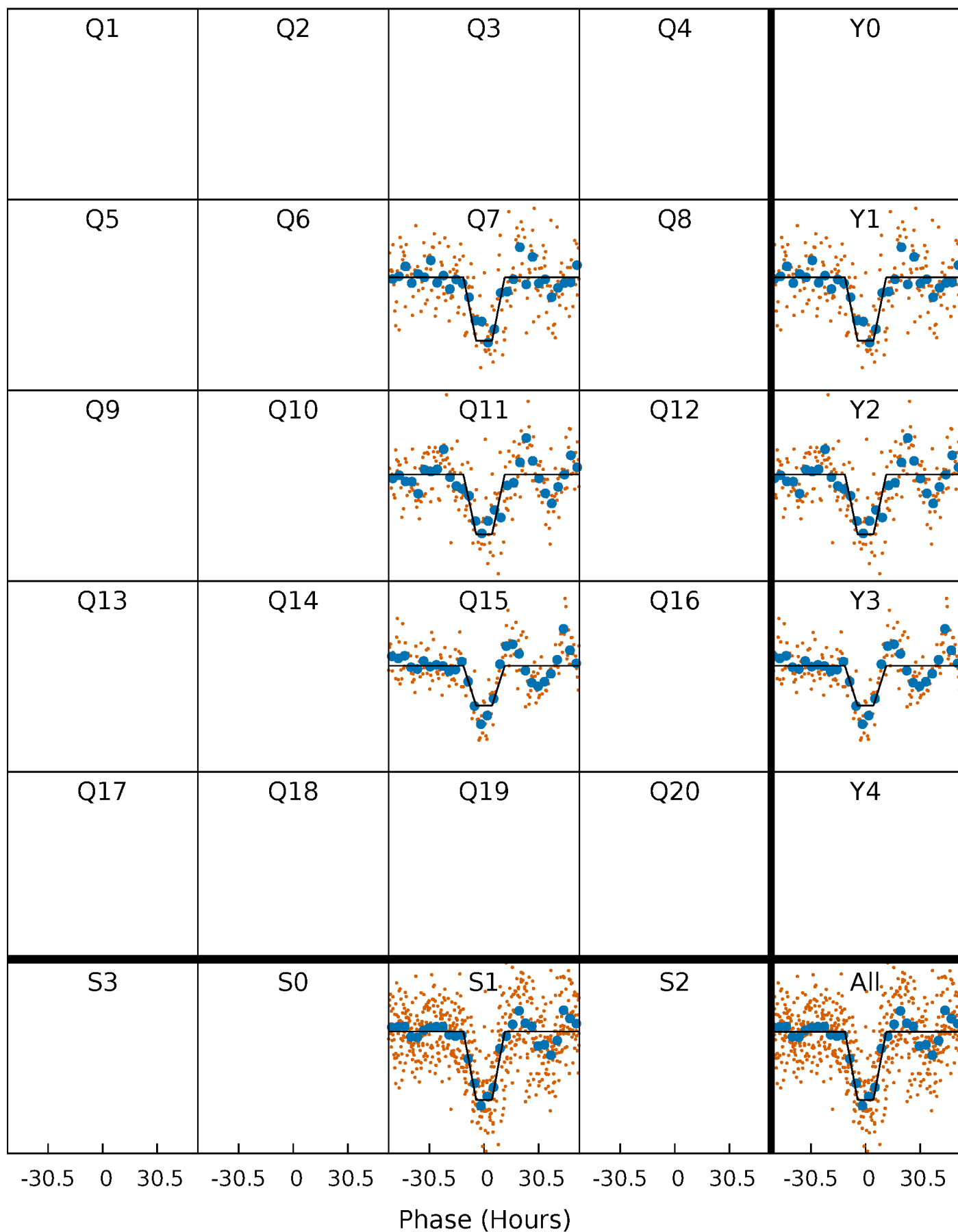
# DV Quarter-Phased Transit Curves

TCE 006195437-01 P=379.947092 Days  $T_0=284.465694$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

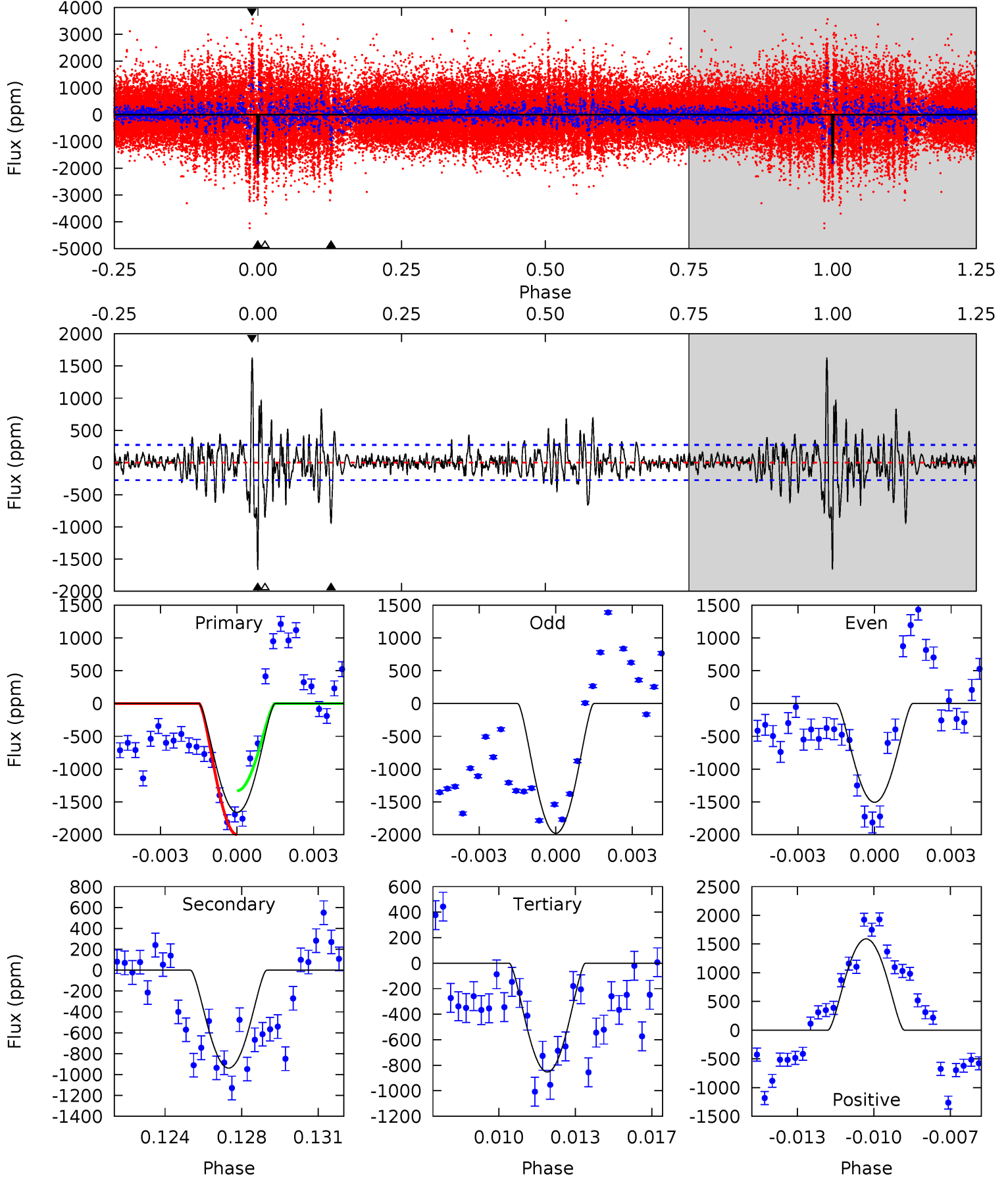
TCE 006195437-01 P=380.002915 Days  $T_0=284.309763$  (BKJD)



# DV Model-Shift Uniqueness Test

006195437-01, P = 379.947092 Days, E = 284.465694 Days

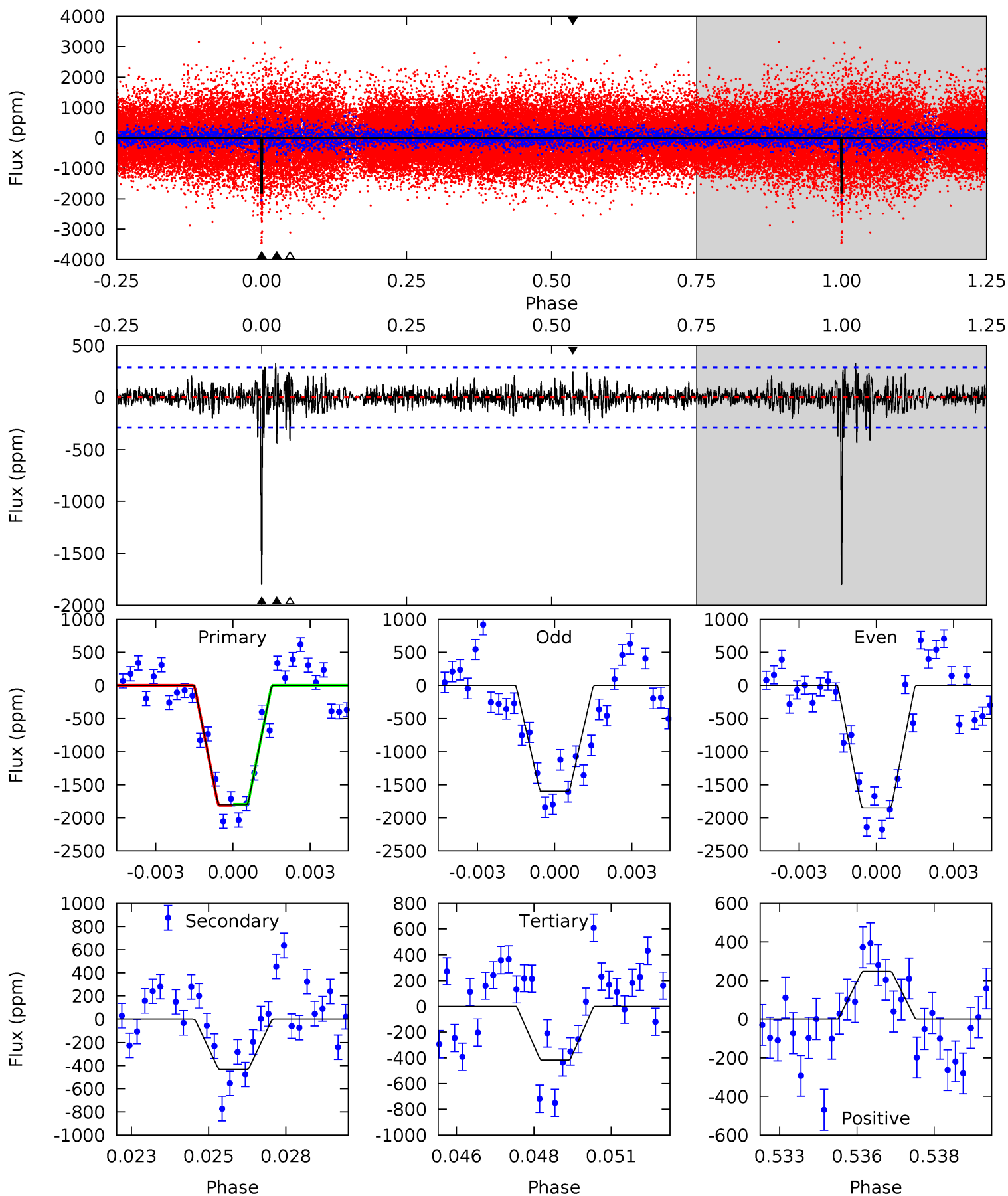
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	18.0	16.3	30.4	5.23	2.93	3.89	15.5	1.35	1.65	-12.5	4.31	1.01	0.49	6.37



# Alt Model-Shift Uniqueness Test

006195437-01, P = 380.002915 Days, E = 284.309763 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
32.7	7.86	7.55	4.48	5.28	3.02	1.24	25.1	28.2	0.31	3.38	2.16	1.10	0.15	0.15



### Stellar Parameters For KIC 006195437

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6257^{+174}_{-282}$	$4.410^{+0.048}_{-0.192}$	$0.210^{+0.200}_{-0.300}$	$1.147^{+0.334}_{-0.119}$	$1.233^{+0.143}_{-0.158}$	$1.152^{+0.301}_{-0.581}$
	+3%/-5%	+1%/-4%	+95%/-143%	+29%/-10%	+12%/-13%	+26%/-50%
Source	KIC0	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 006195437-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-939 \pm 52$	$20.97^{+18.85}_{-14.22}$	$402^{+26}_{-21}$	$3342^{+1512}_{-592}$	$1450^{+11347}_{-1062}$
Alt.	$-434 \pm 55$	$18.36^{+17.93}_{-13.06}$	$401^{+25}_{-21}$	$3047^{+1483}_{-523}$	$827^{+9217}_{-618}$

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

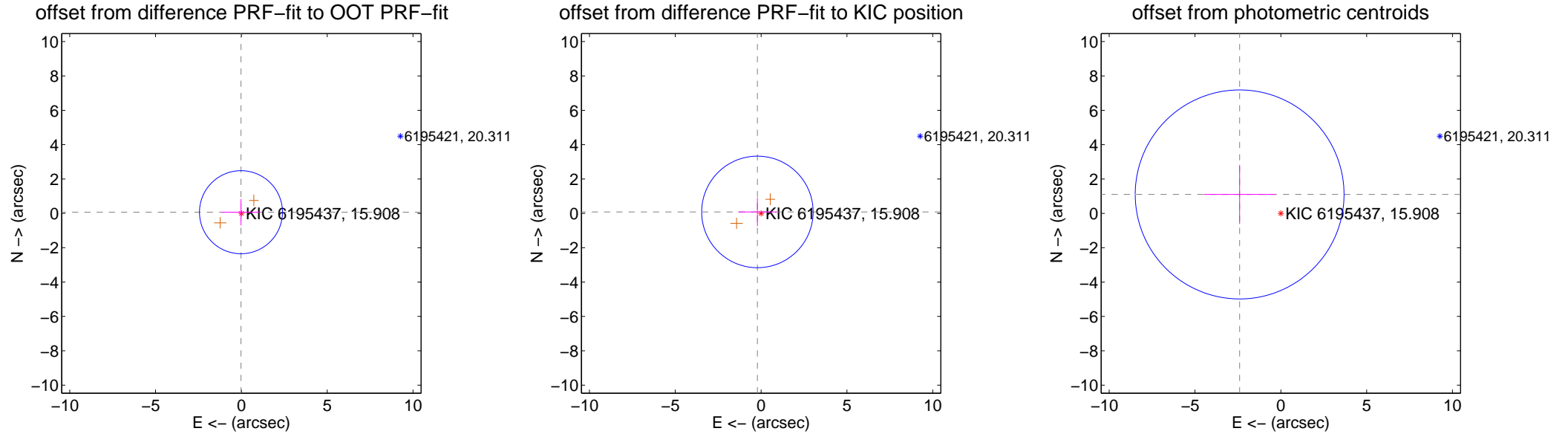
## DV Centroid Data

Supplemental centroid analysis for 006195437-01. Kepler magnitude: 15.91. Transit SNR 8.71

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.071 \pm 0.806$	0.09	$0.023 \pm 1.117$	$0.067 \pm 0.763$
PRF-fit source offset from KIC position	$0.231 \pm 1.083$	0.21	$0.216 \pm 1.116$	$0.083 \pm 0.822$
photometric centroid source offset	$2.64 \pm 2.03$	1.30	$2.40 \pm 2.09$	$1.10 \pm 1.72$



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

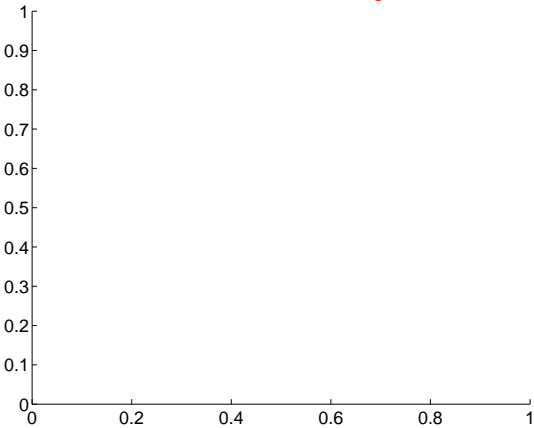
Q5 no difference image



Q5 no OOT image



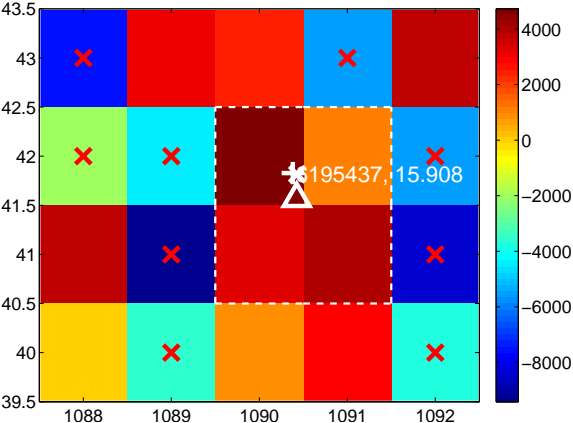
Q6 no difference image



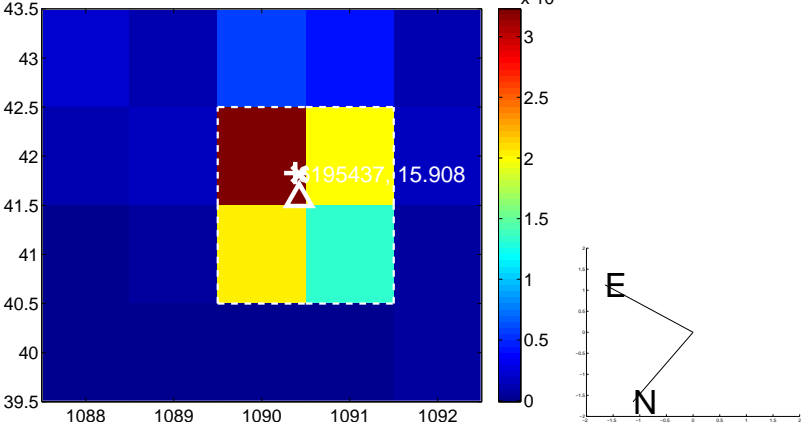
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image

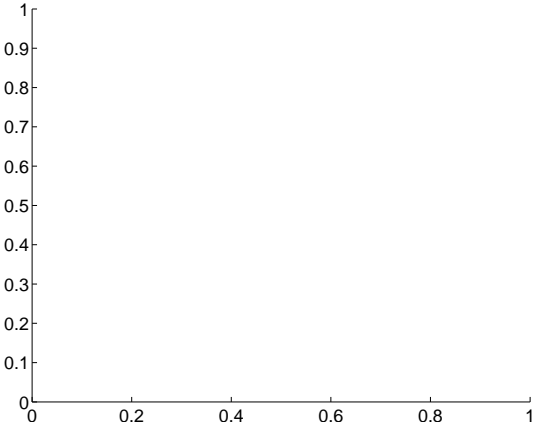


Q8 no OOT image

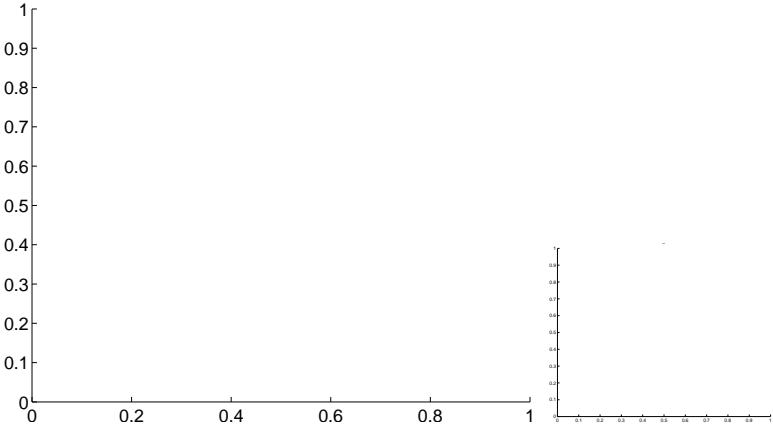


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

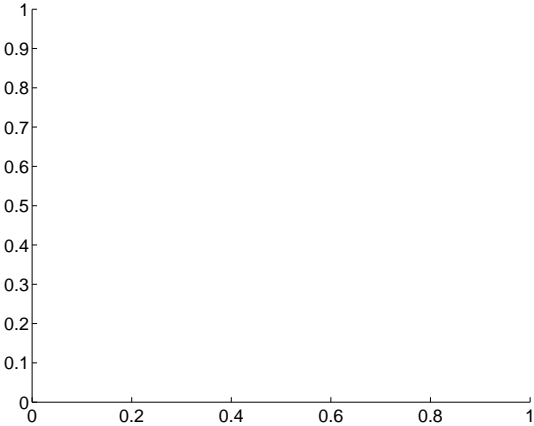
Q9 no difference image



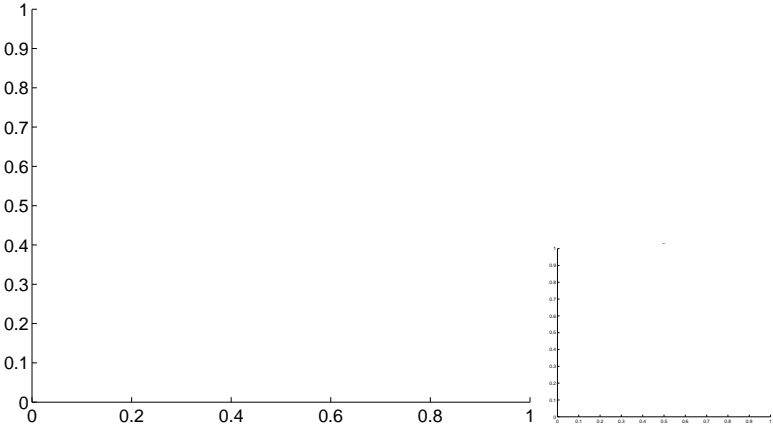
Q9 no OOT image



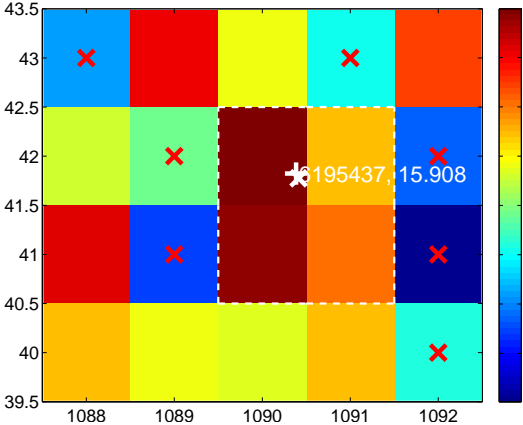
Q10 no difference image



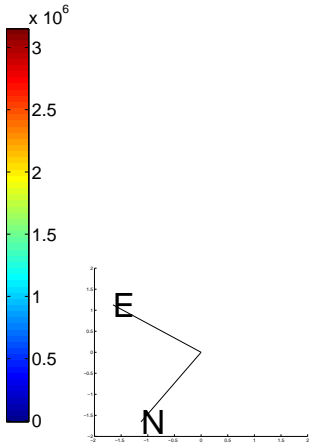
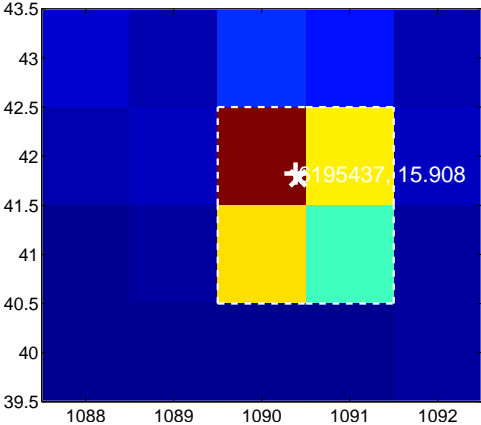
Q10 no OOT image



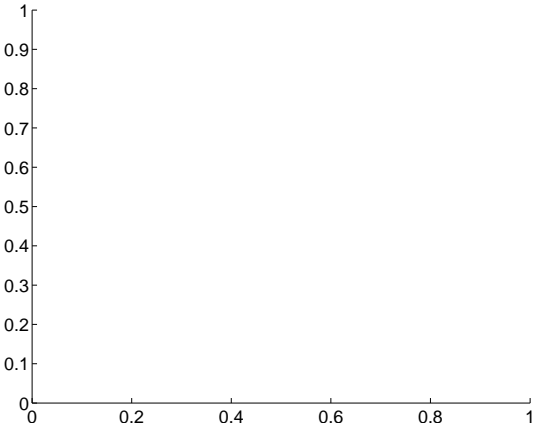
Q11 difference image. Poor Quality



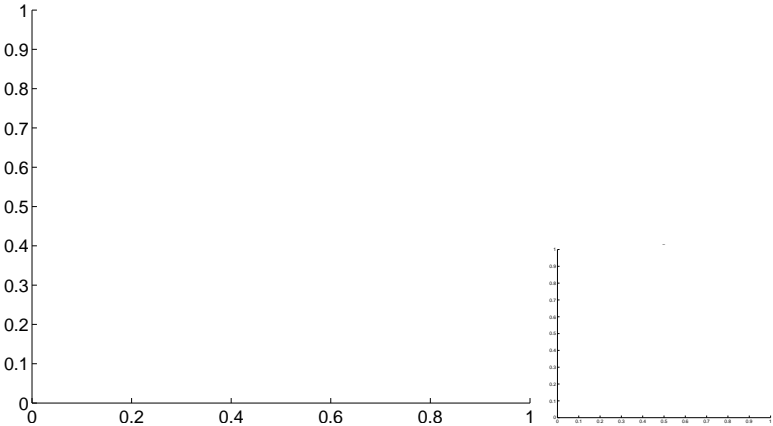
Q11 OOT image



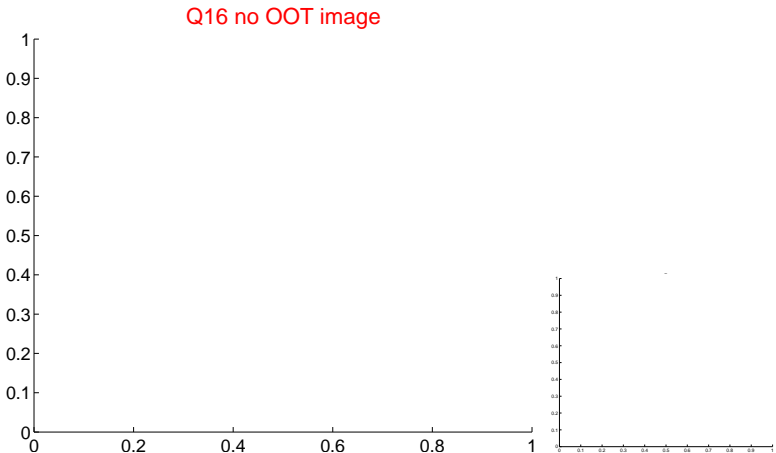
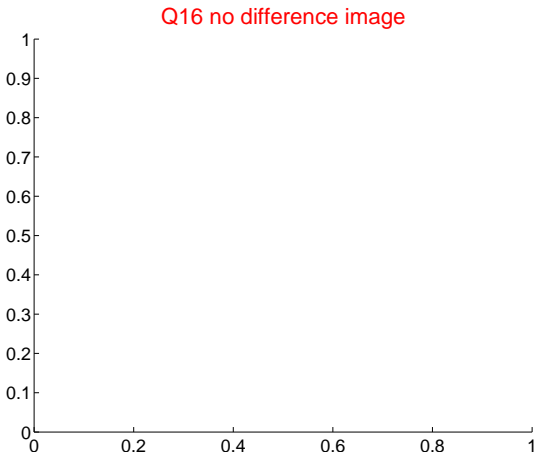
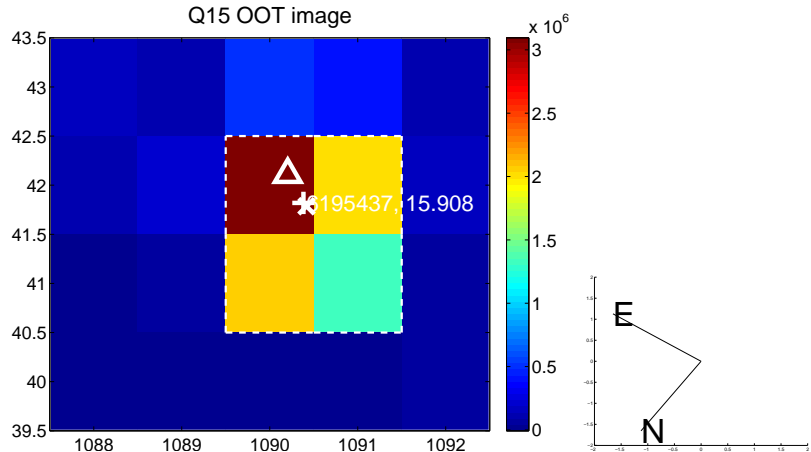
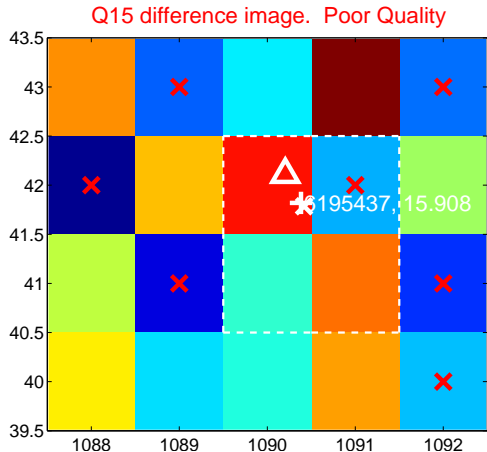
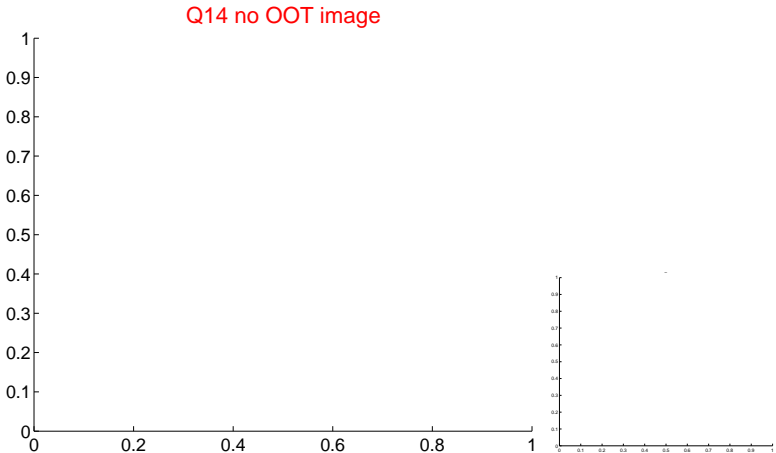
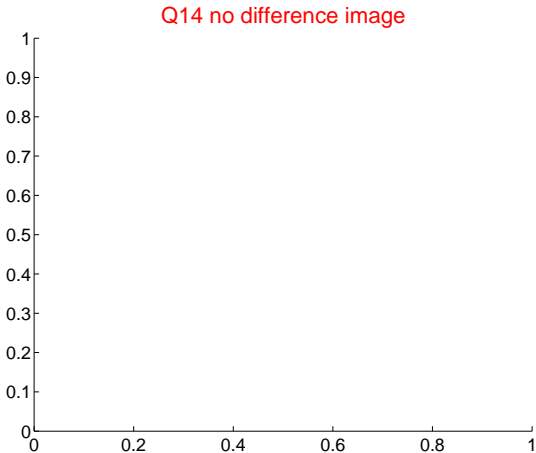
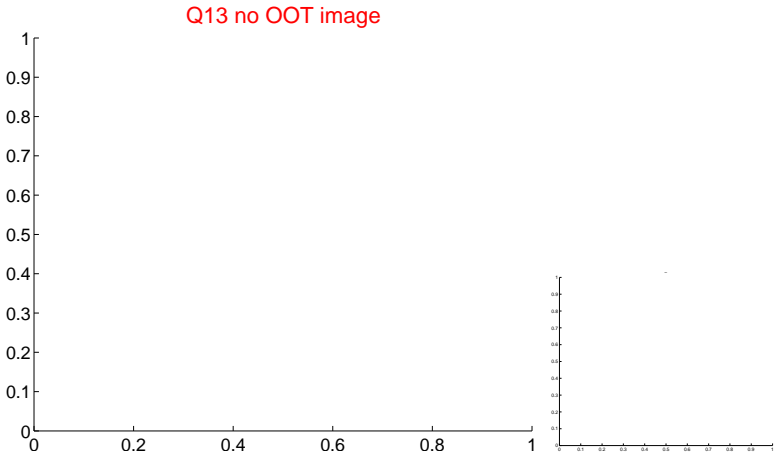
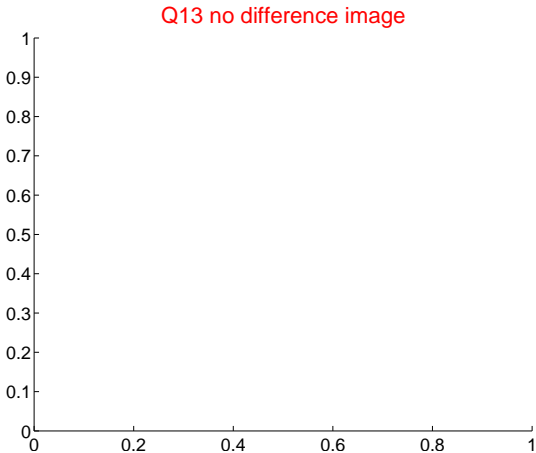
Q12 no difference image



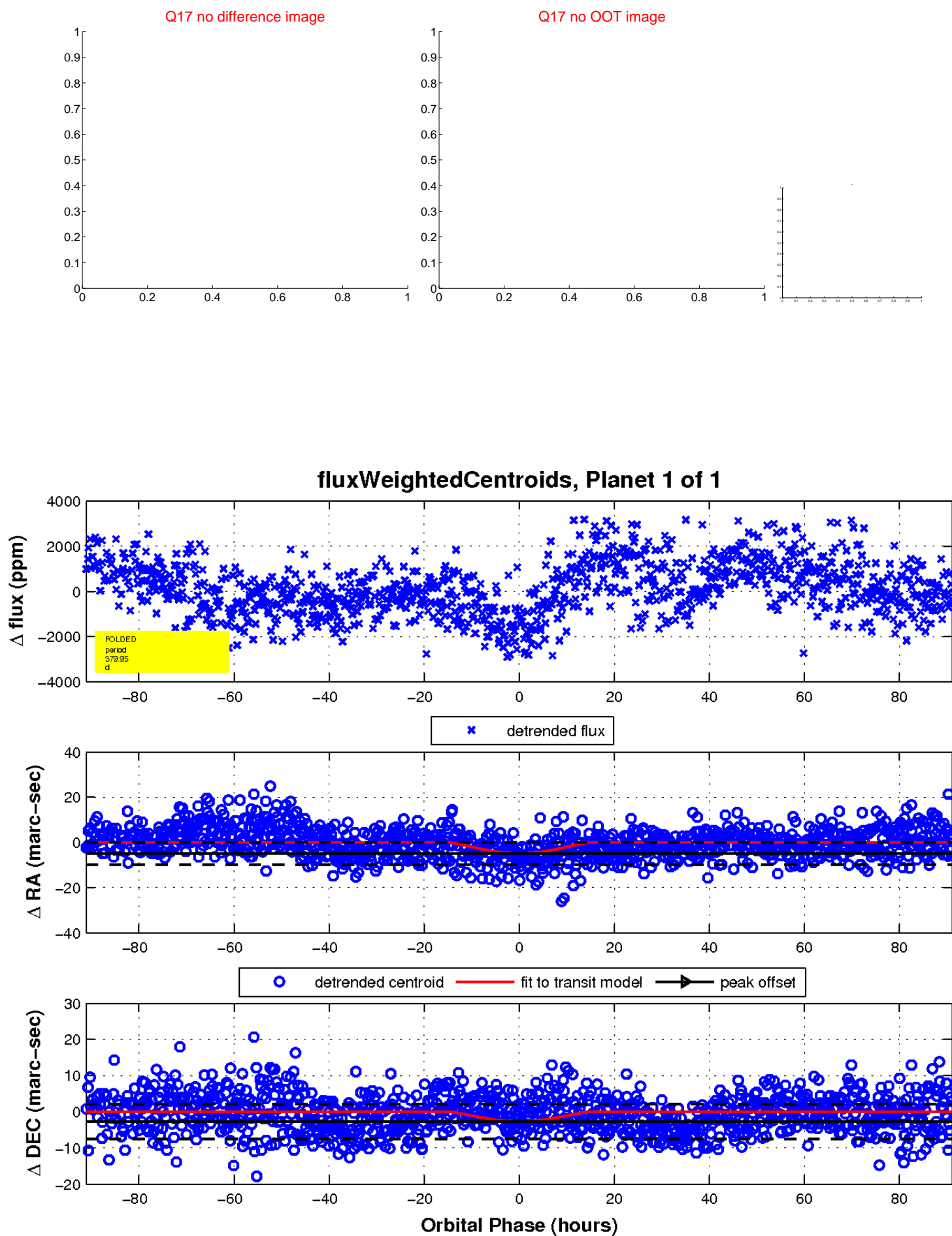
Q12 no OOT image



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

