

# KIC 005687986

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005687986-01	OBS	7735.01	382.300605	356.732480	214.2	8.904	8.1	6.9	2.59	5993	4.04	6.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005687986-01	OBS	PC	0.32	0	0	0	0	NO_COMMENT

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

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

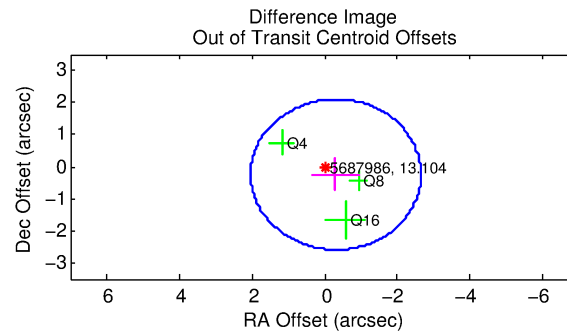
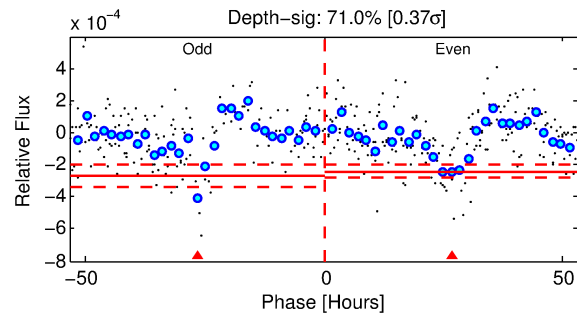
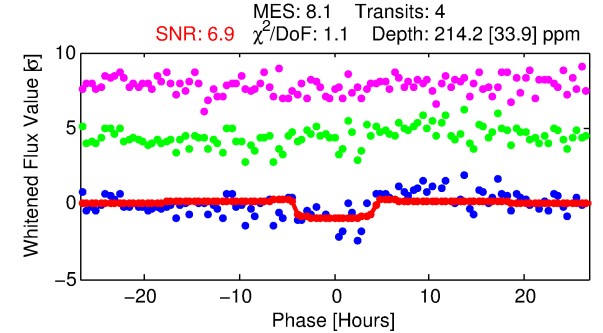
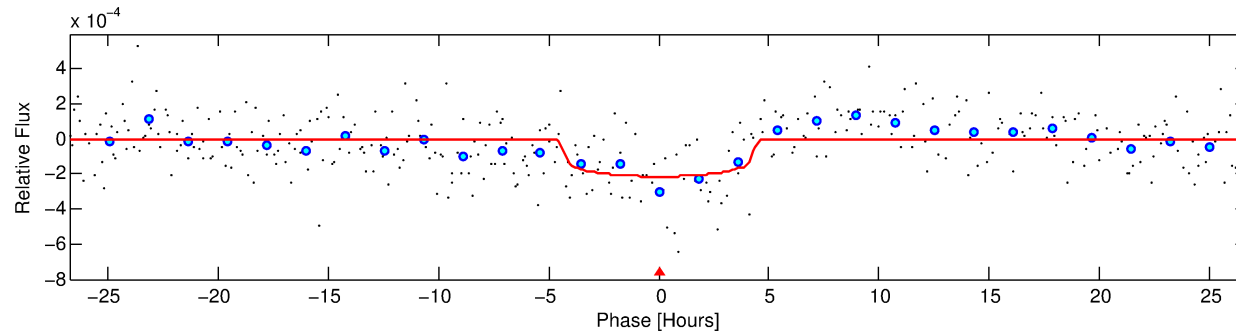
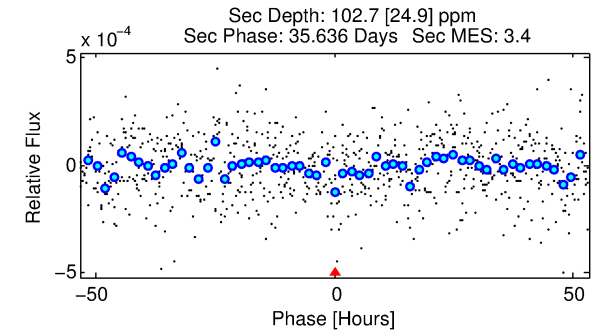
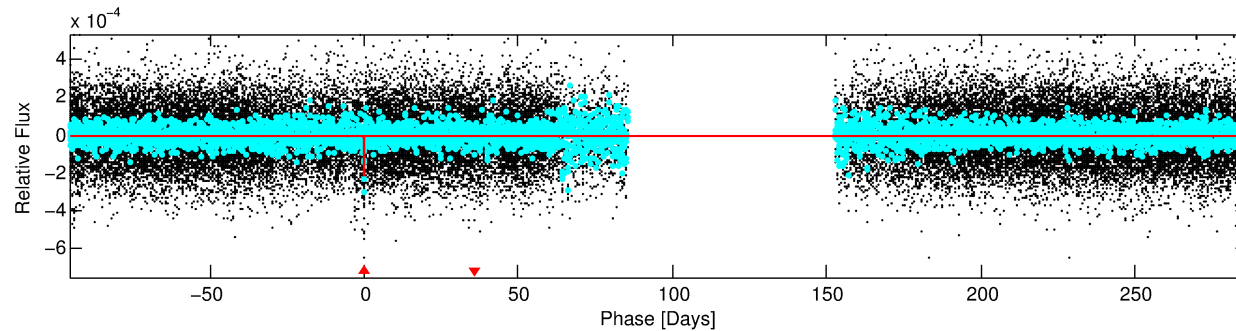
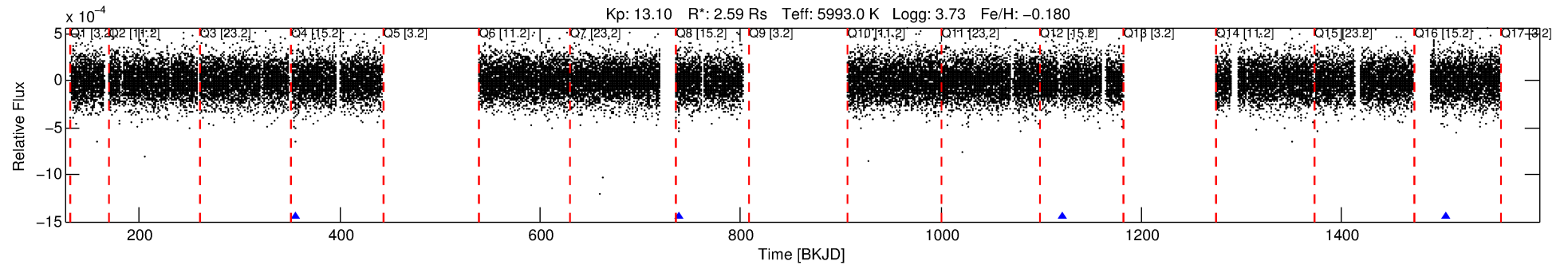
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005687986-01

No Significant Match Found

# DV One-Page Summary

KIC: 5687986 Candidate: 1 of 1 Period: 382.301 d



## DV Fit Results:

Period = 382.30061 [0.00684] d  
Epoch = 356.7325 [0.0139] BKJD  
Rp/R\* = 0.0143 [0.0120]  
a/R\* = 243.03 [1001.06]  
b = 0.69 [3.11]  
Seff = 6.05 [3.42]  
Teq = 400 [57] K  
Rp = 4.04 [3.70] Re  
a = 1.1320 [0.3944] AU  
Ag = 4431.01 [7899.03] [0.56σ]  
Teffp = 5045 [2143] K [2.17σ]

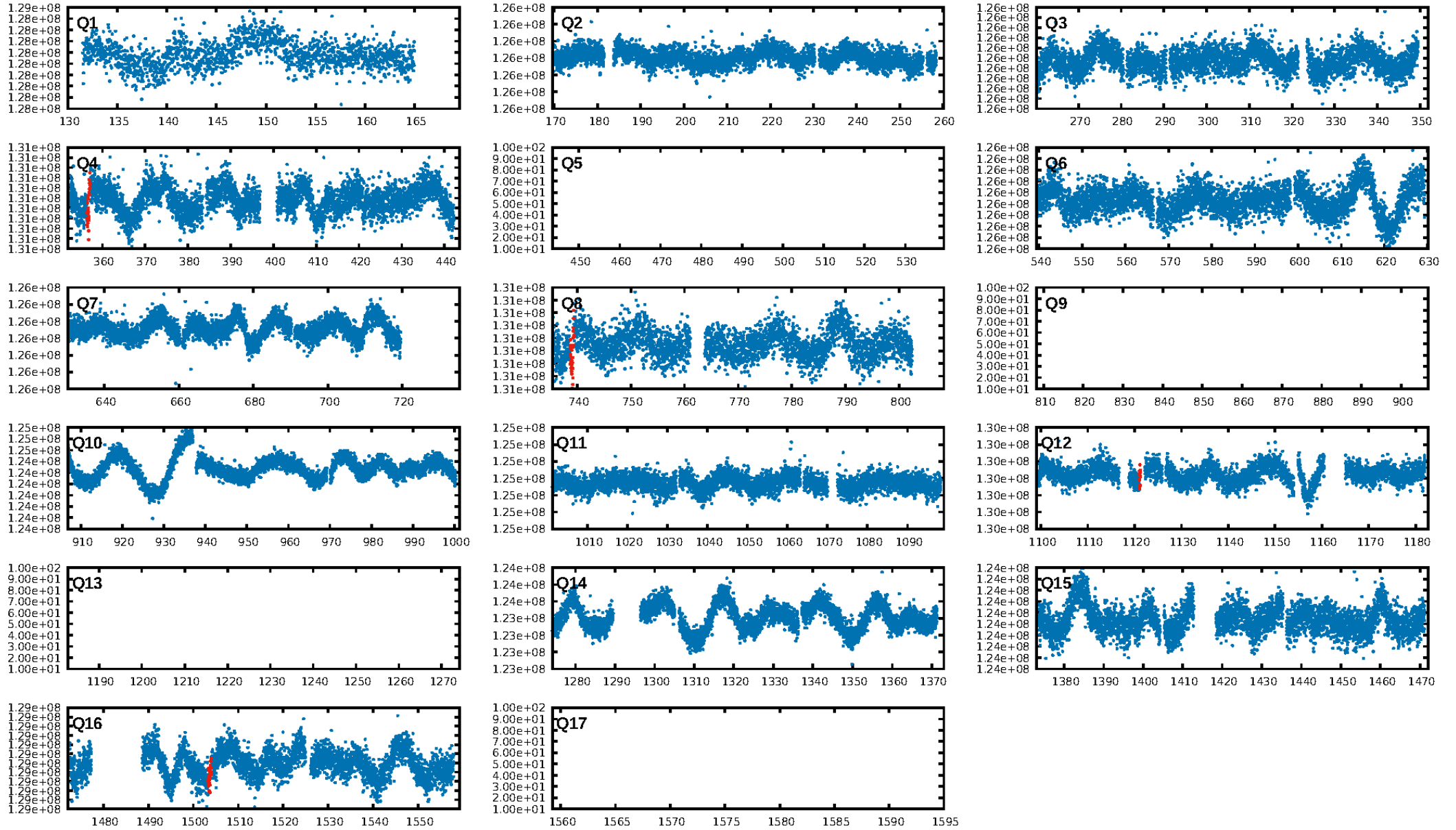
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 5.6%  
ModelChiSquareGof-sig: 97.8%  
Bootstrap-pfa: 5.28e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.168  
Centroid-sig: 0.1%  
Centroid-so: 2.365 arcsec [2.10σ]  
OotOffset-rm: 0.394 arcsec [0.50σ]  
KicOffset-rm: 0.355 arcsec [0.52σ]  
OotOffset-st: 0/0/3/0 [3]  
KicOffset-st: 0/0/3/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

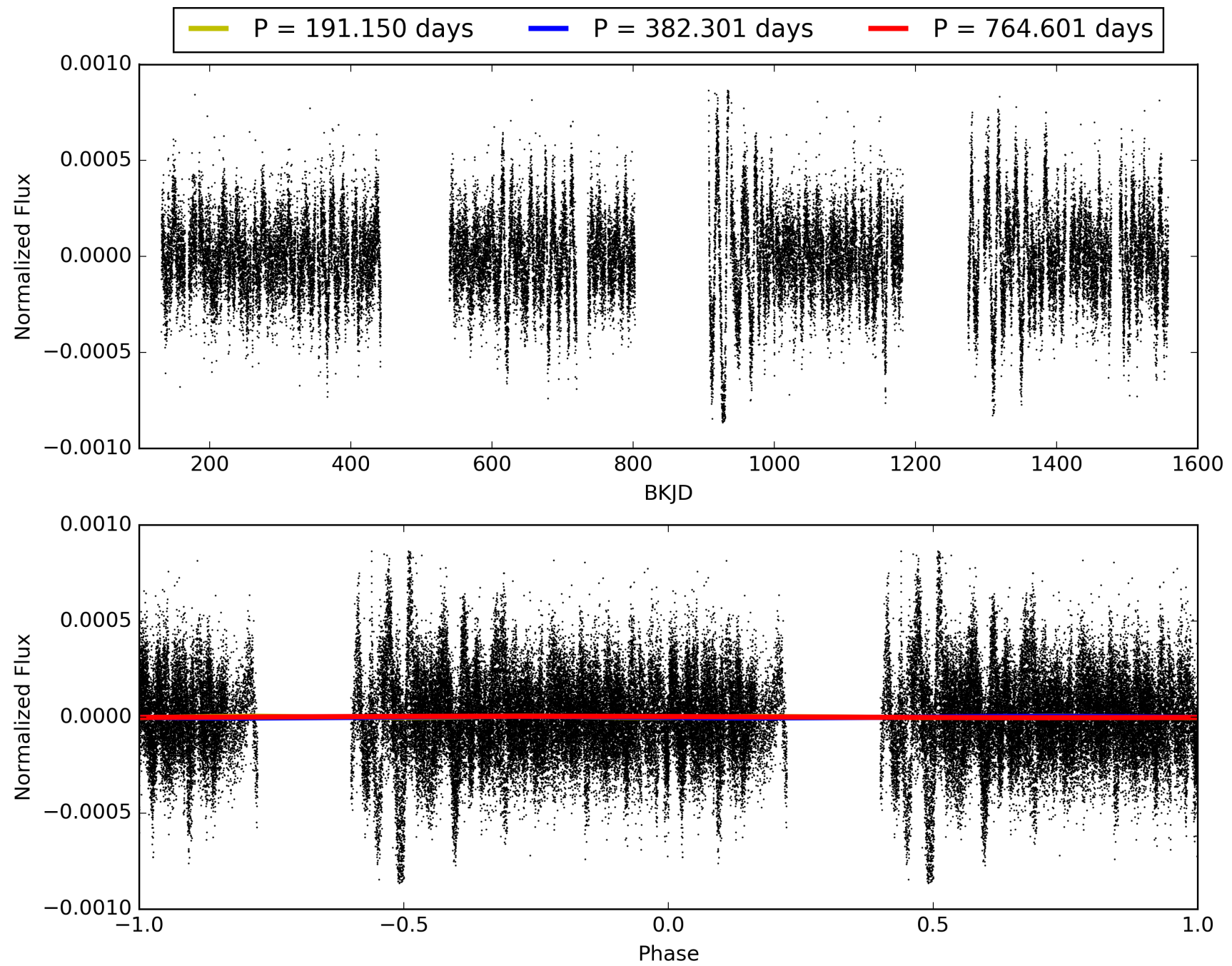
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:42:24 Z

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

# TCE 005687986-01, PDC Light Curves

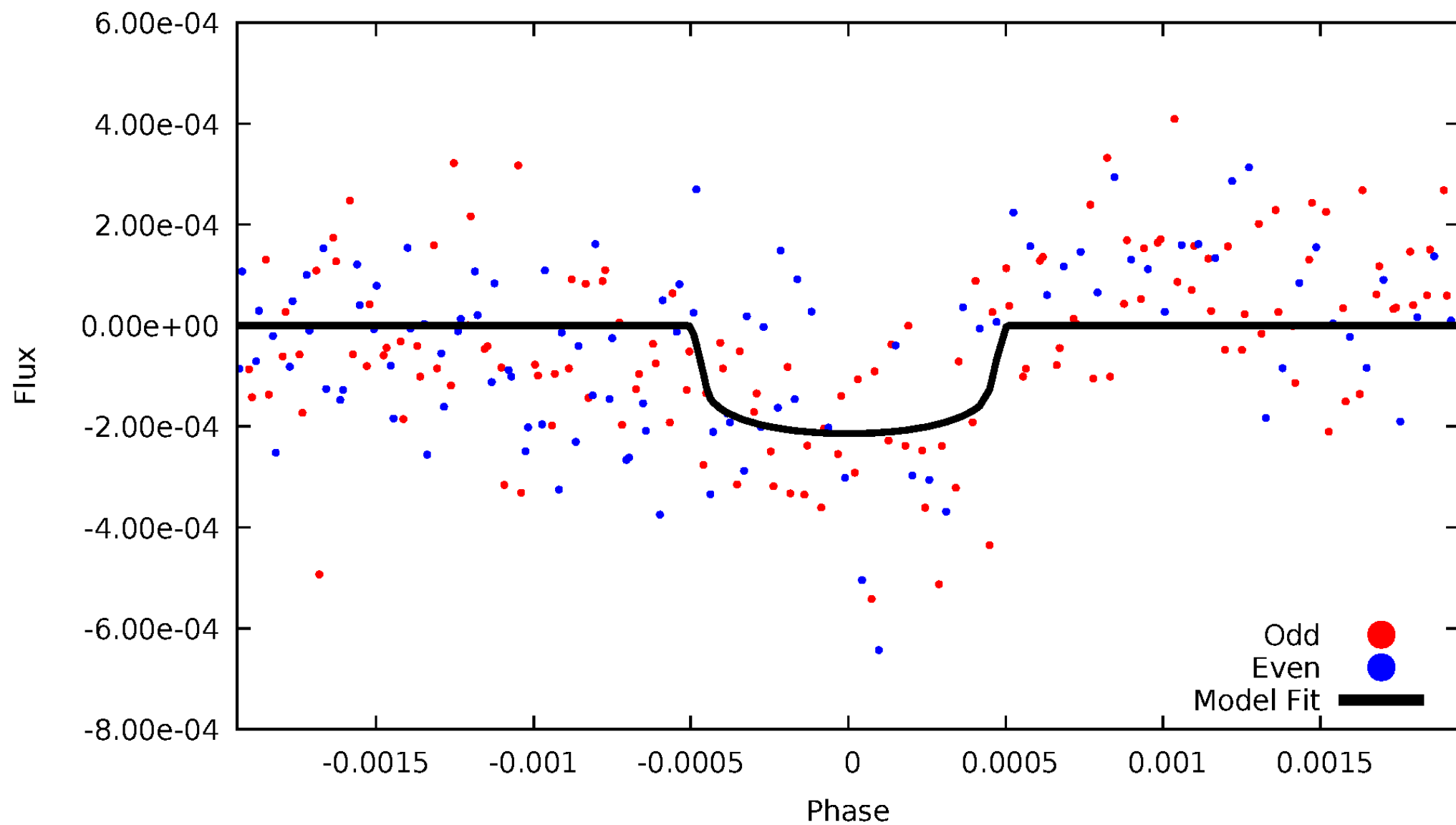


TCE 005687986-01



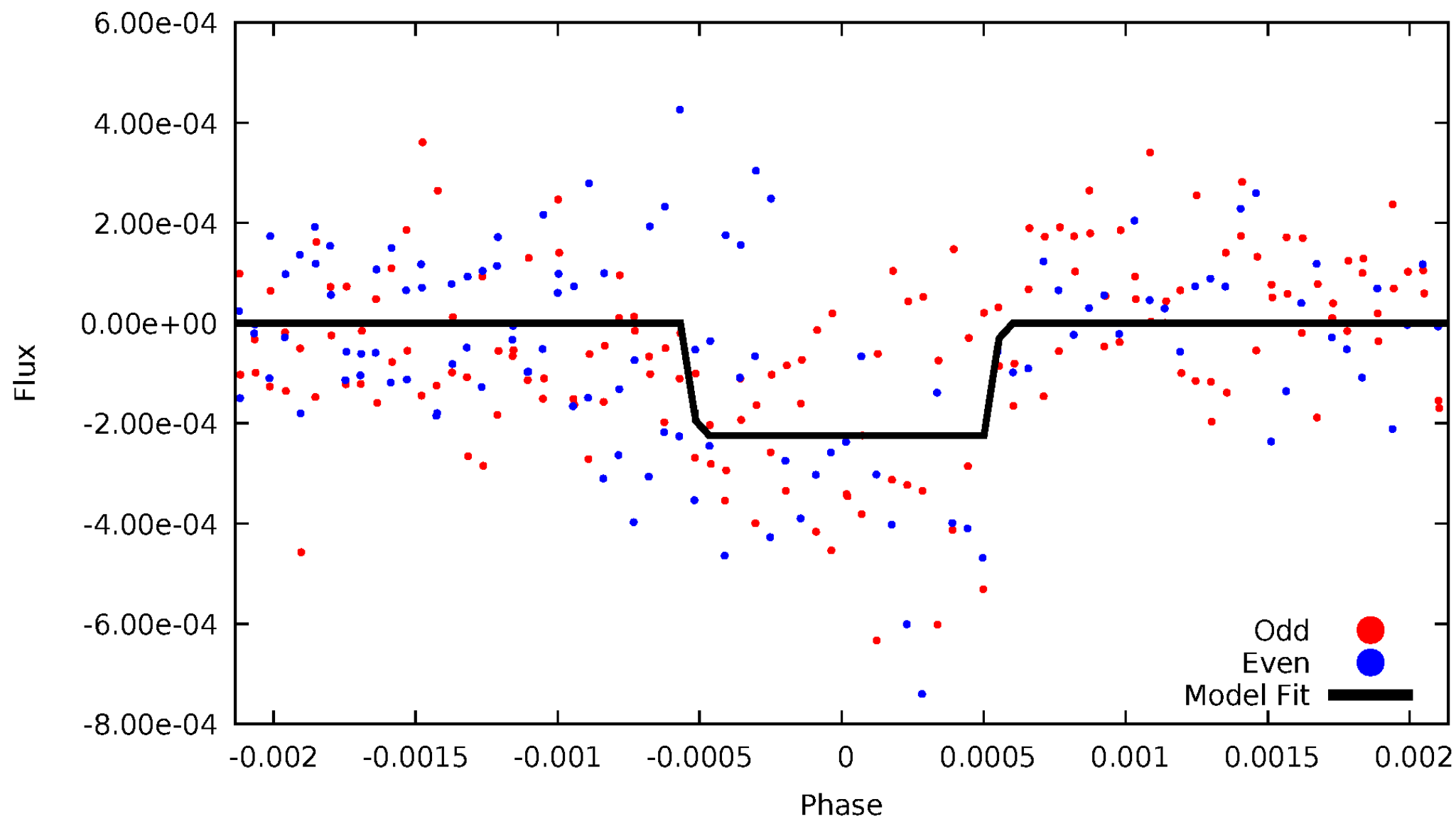
# DV Odd/Even

TCE 005687986-01

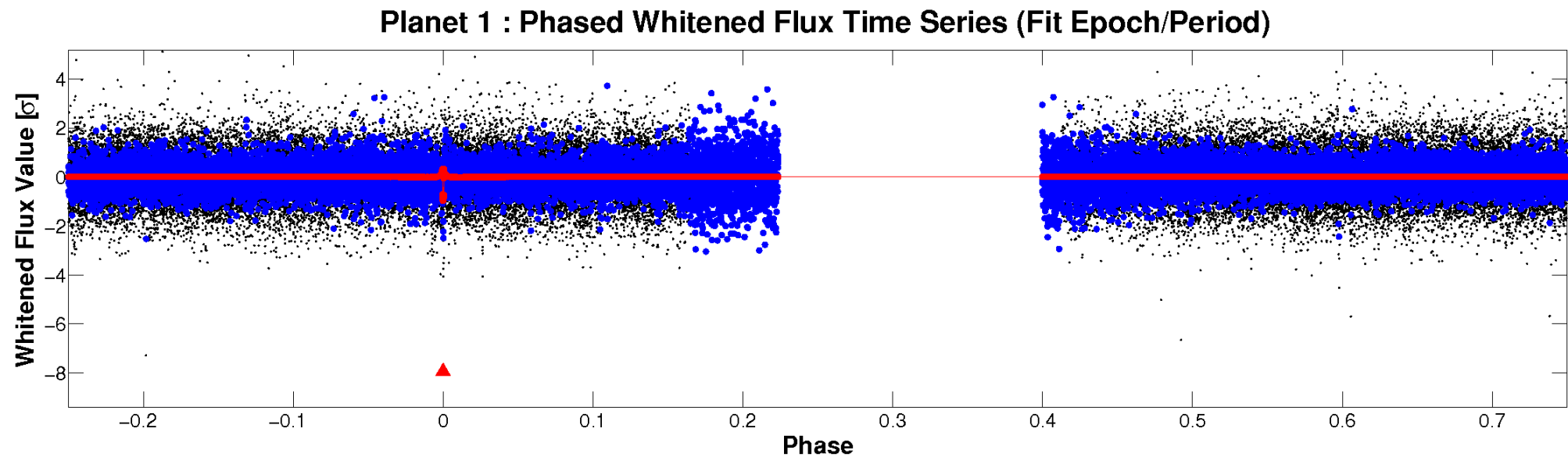
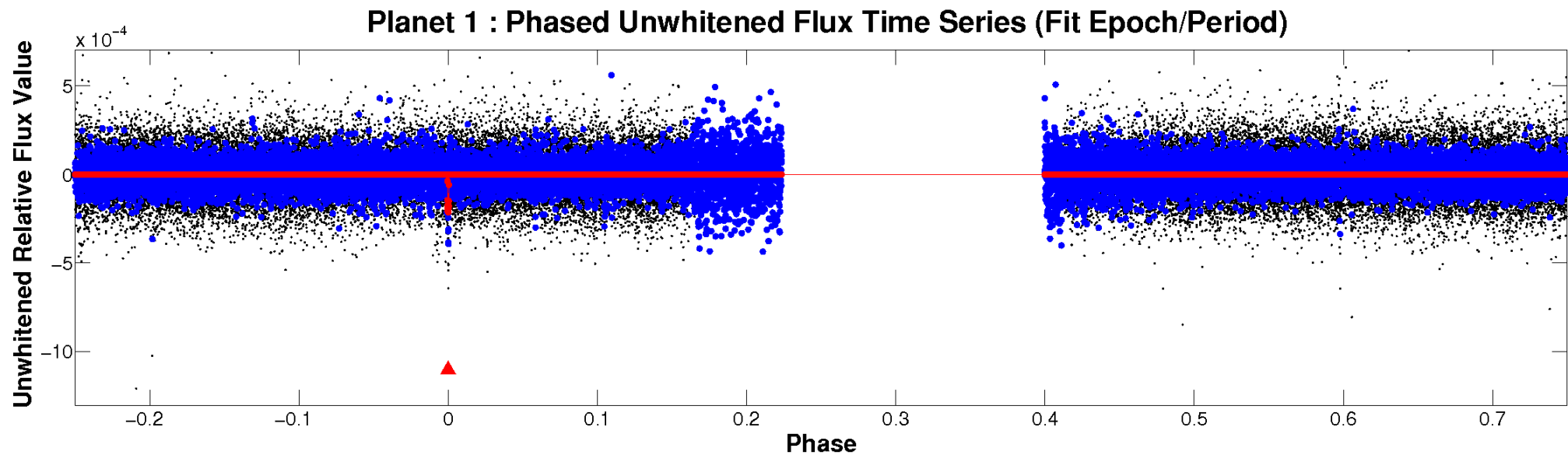


# ALT Odd/Even

TCE 005687986-01

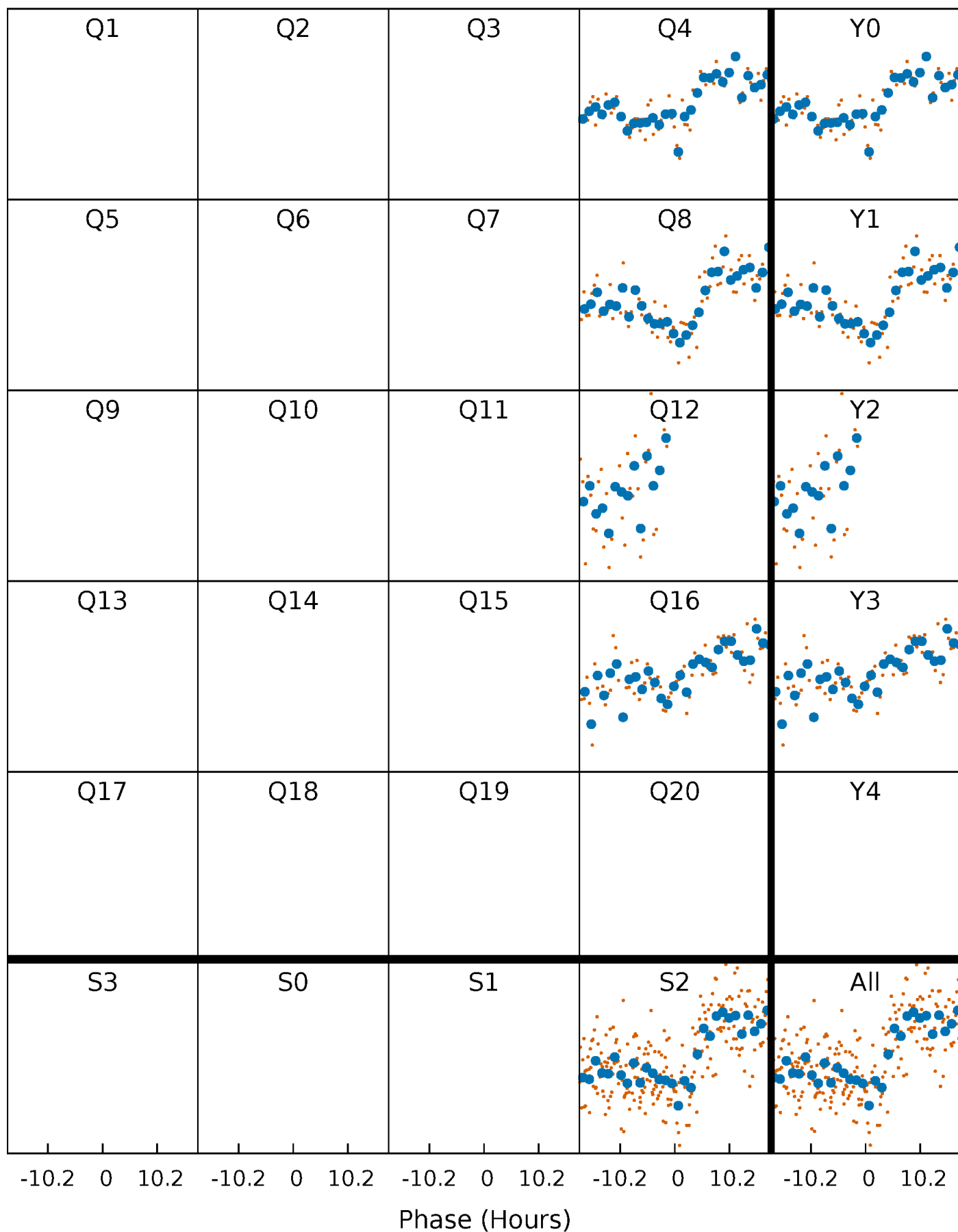


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

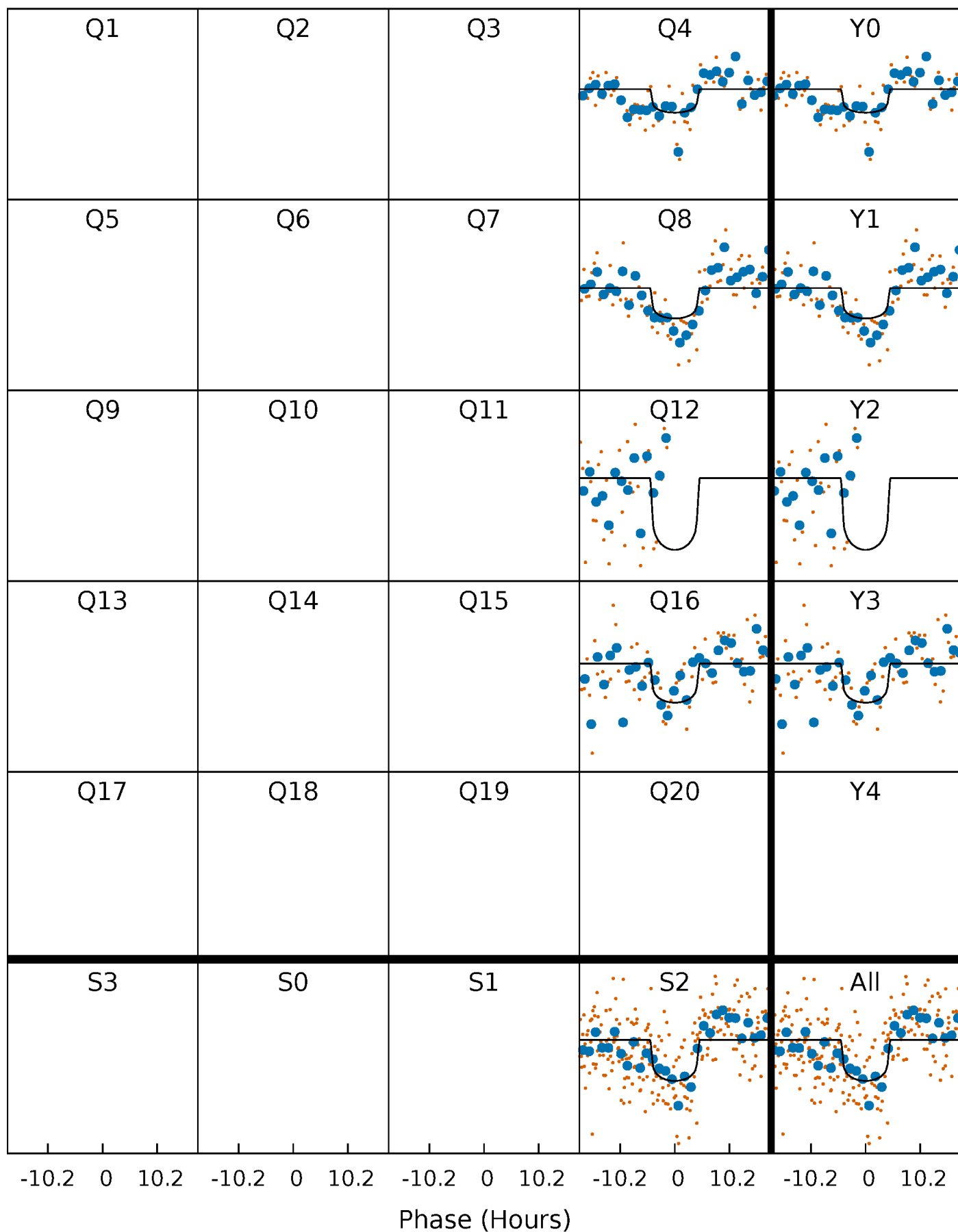
TCE 005687986-01     $P=382.300605$  Days     $T_0=356.732480$  (BKJD)





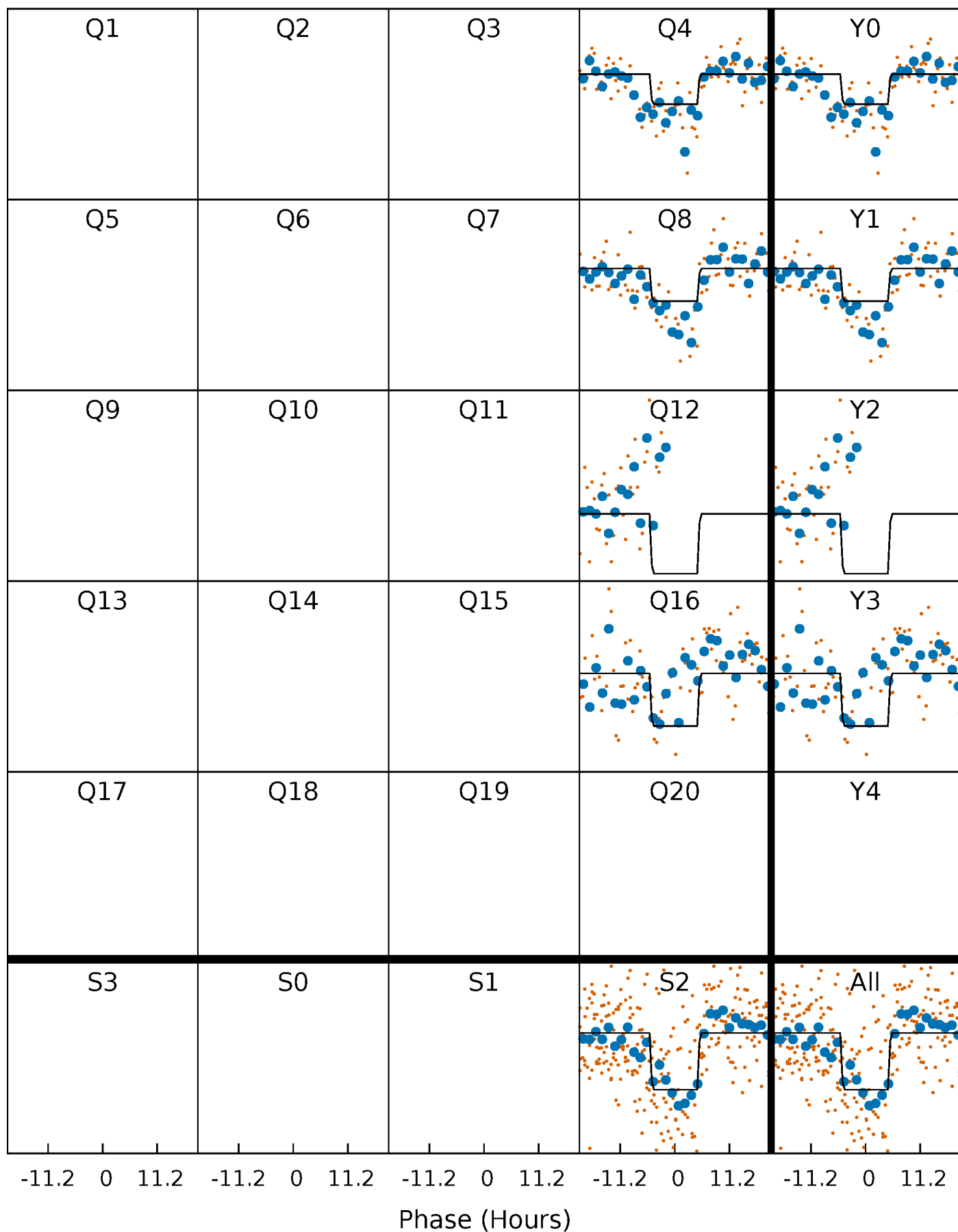
# DV Quarter-Phased Transit Curves

TCE 005687986-01 P=382.300605 Days  $T_0=356.732480$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

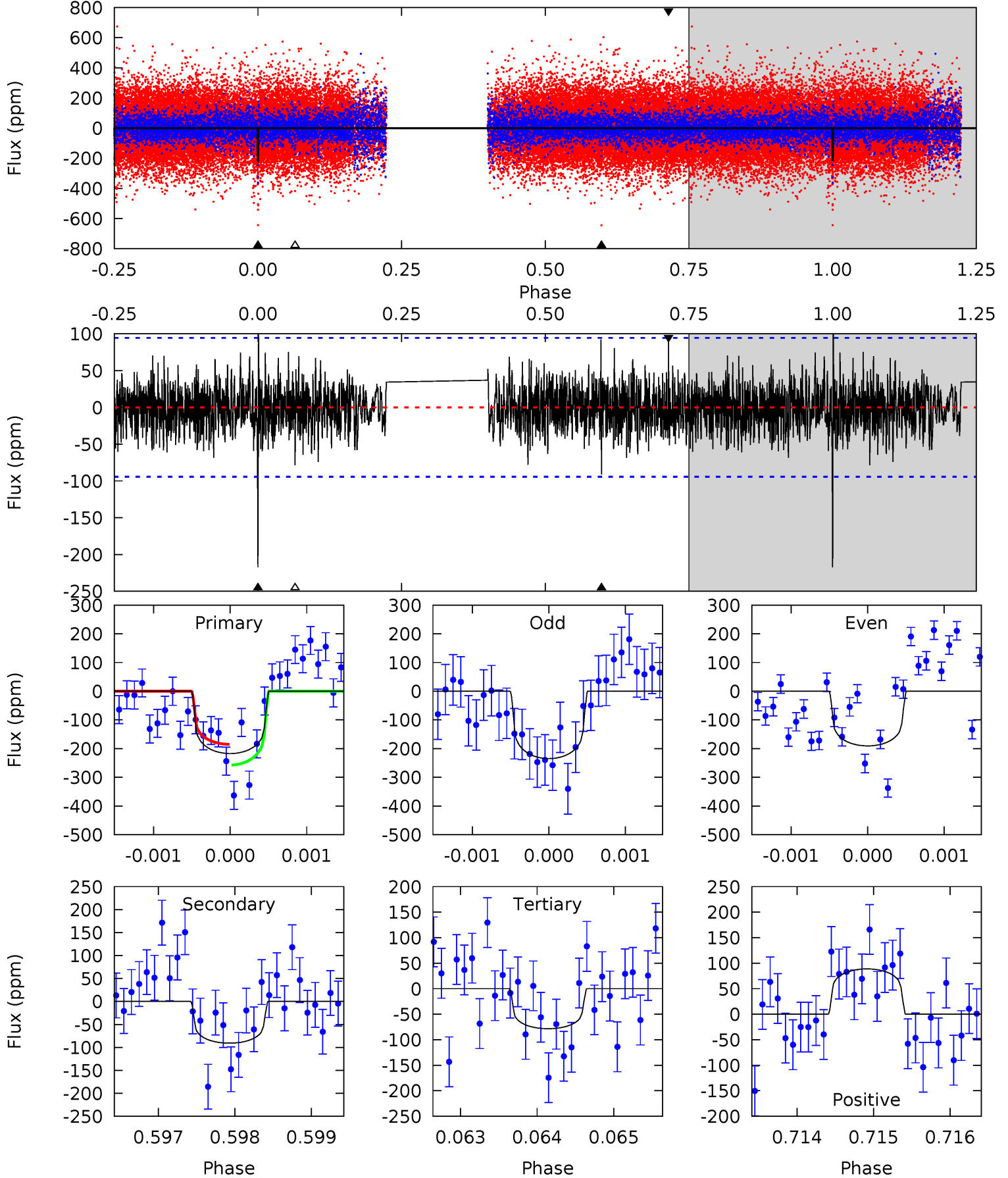
TCE 005687986-01 P=382.352775 Days  $T_0=356.661352$  (BKJD)



# DV Model-Shift Uniqueness Test

005687986-01, P = 382.300605 Days, E = 356.732480 Days

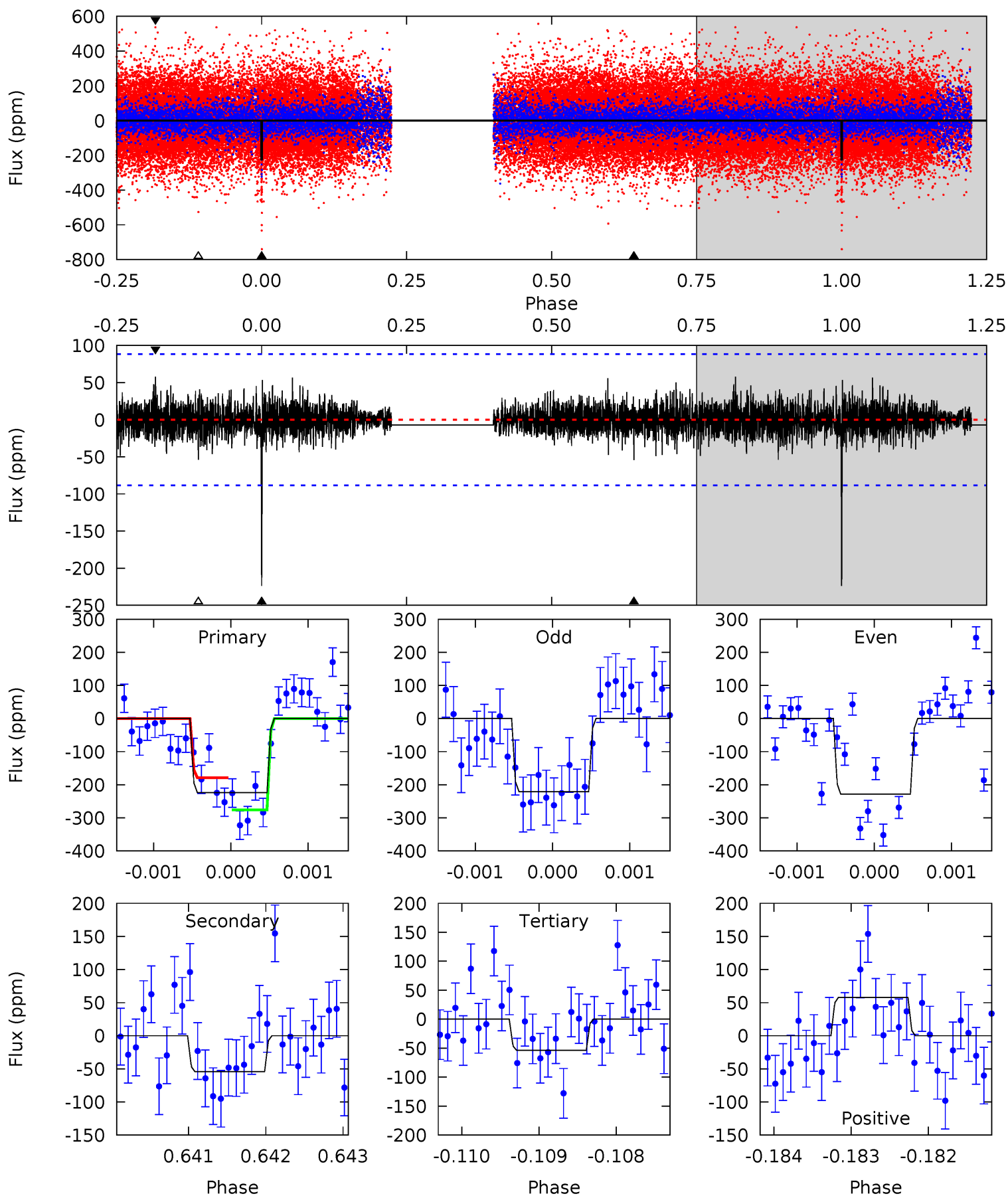
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	5.24	4.53	5.13	5.45	3.29	1.39	8.02	7.42	0.72	0.12	1.26	0.89	0.31	2.06



# Alt Model-Shift Uniqueness Test

005687986-01, P = 382.352775 Days, E = 356.661352 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
13.8	3.35	3.32	3.56	5.44	3.27	0.87	10.5	10.2	0.03	-0.21	0.24	0.76	0.21	2.99



### Stellar Parameters For KIC 005687986

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5993^{+178}_{-178}$	$3.733^{+0.323}_{-0.108}$	$-0.180^{+0.350}_{-0.300}$	$2.590^{+0.439}_{-0.951}$	$1.323^{+0.204}_{-0.332}$	$0.107^{+0.264}_{-0.037}$
	+3%/-3%	+9%/-3%	+194%/-167%	+17%/-37%	+15%/-25%	+246%/-34%
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 005687986-01 / KOI 7735.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-91 \pm 17$	$4.27^{+3.17}_{-2.56}$	$550^{+37}_{-52}$	$4770^{+2570}_{-908}$	$3553^{+19745}_{-2440}$
Alt.	$-54 \pm 16$	$4.37^{+3.24}_{-2.68}$	$548^{+37}_{-49}$	$4221^{+2073}_{-731}$	$1944^{+10585}_{-1312}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

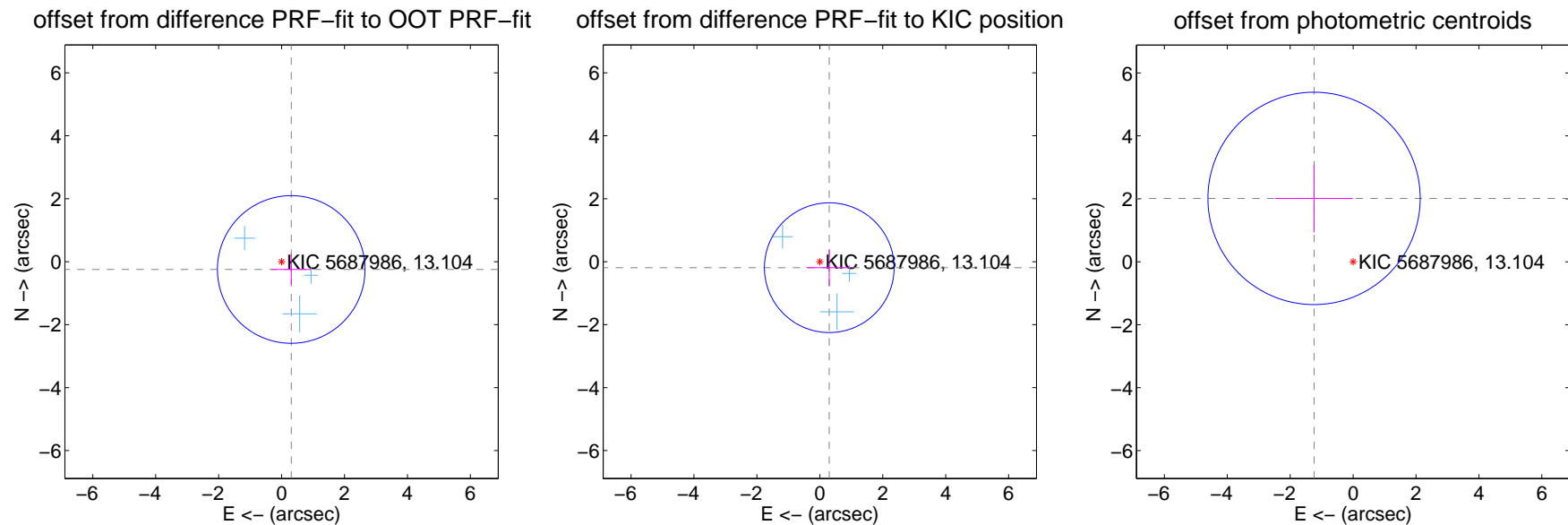
## DV Centroid Data

Supplemental centroid analysis for 005687986-01. Kepler magnitude: 13.10. Transit SNR 6.89

There are 3 quarters with good PRF difference image offsets

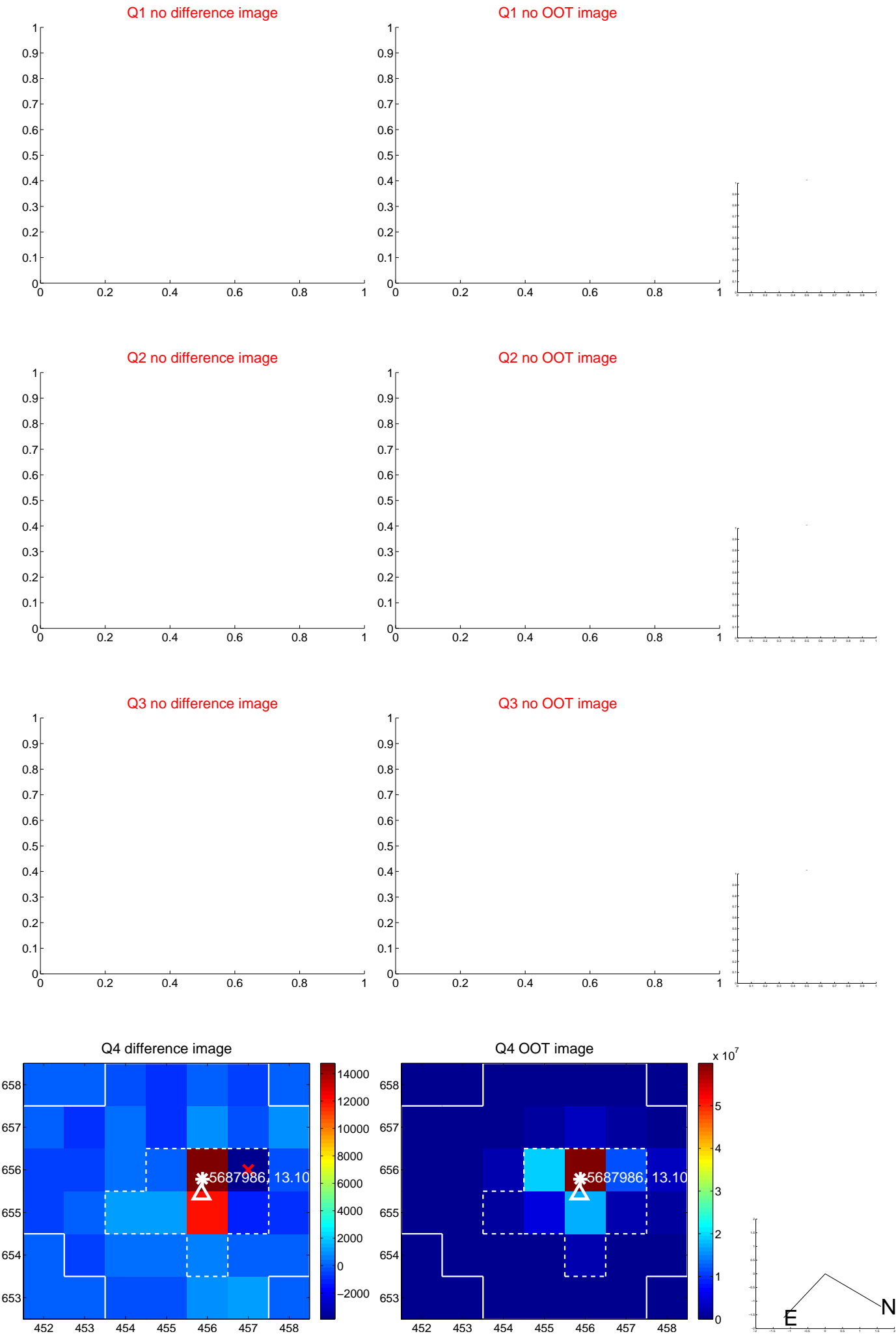
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.394 \pm 0.782$	0.50	$-0.307 \pm 0.629$	$-0.247 \pm 0.492$
PRF-fit source offset from KIC position	$0.355 \pm 0.687$	0.52	$-0.300 \pm 0.725$	$-0.190 \pm 0.581$
photometric centroid source offset	$2.37 \pm 1.12$	2.10	$1.24 \pm 1.24$	$2.01 \pm 1.08$

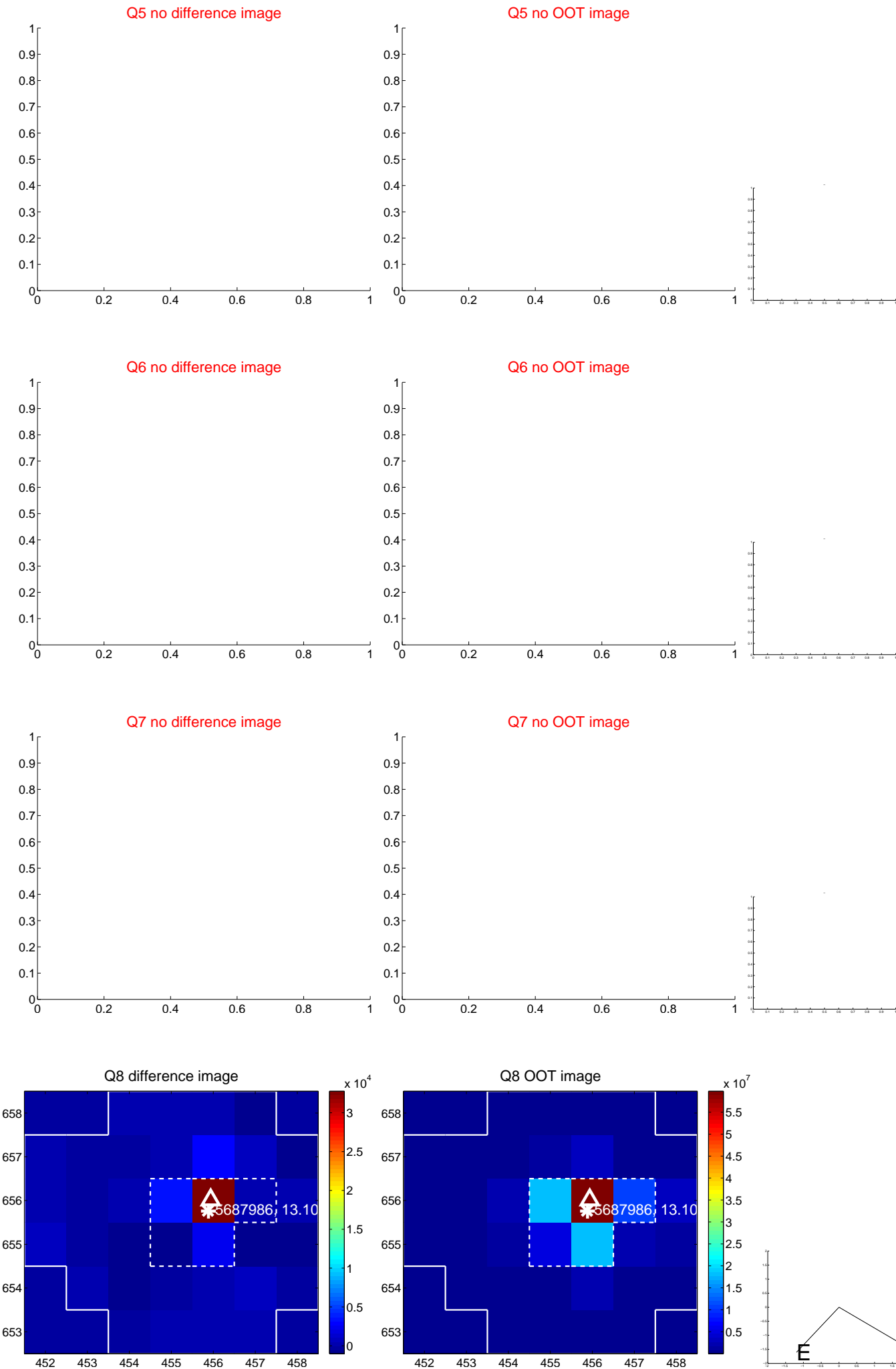


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



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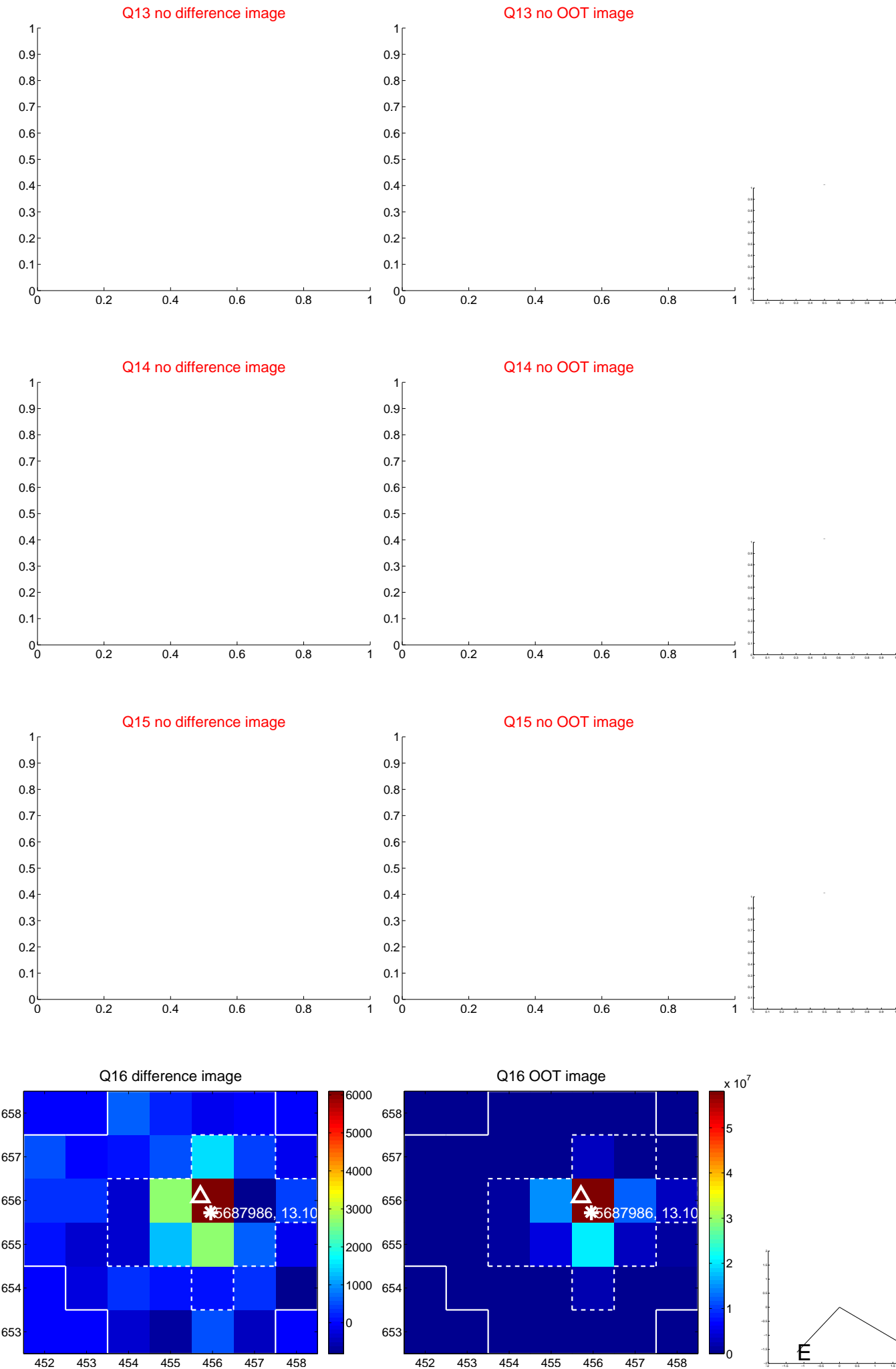




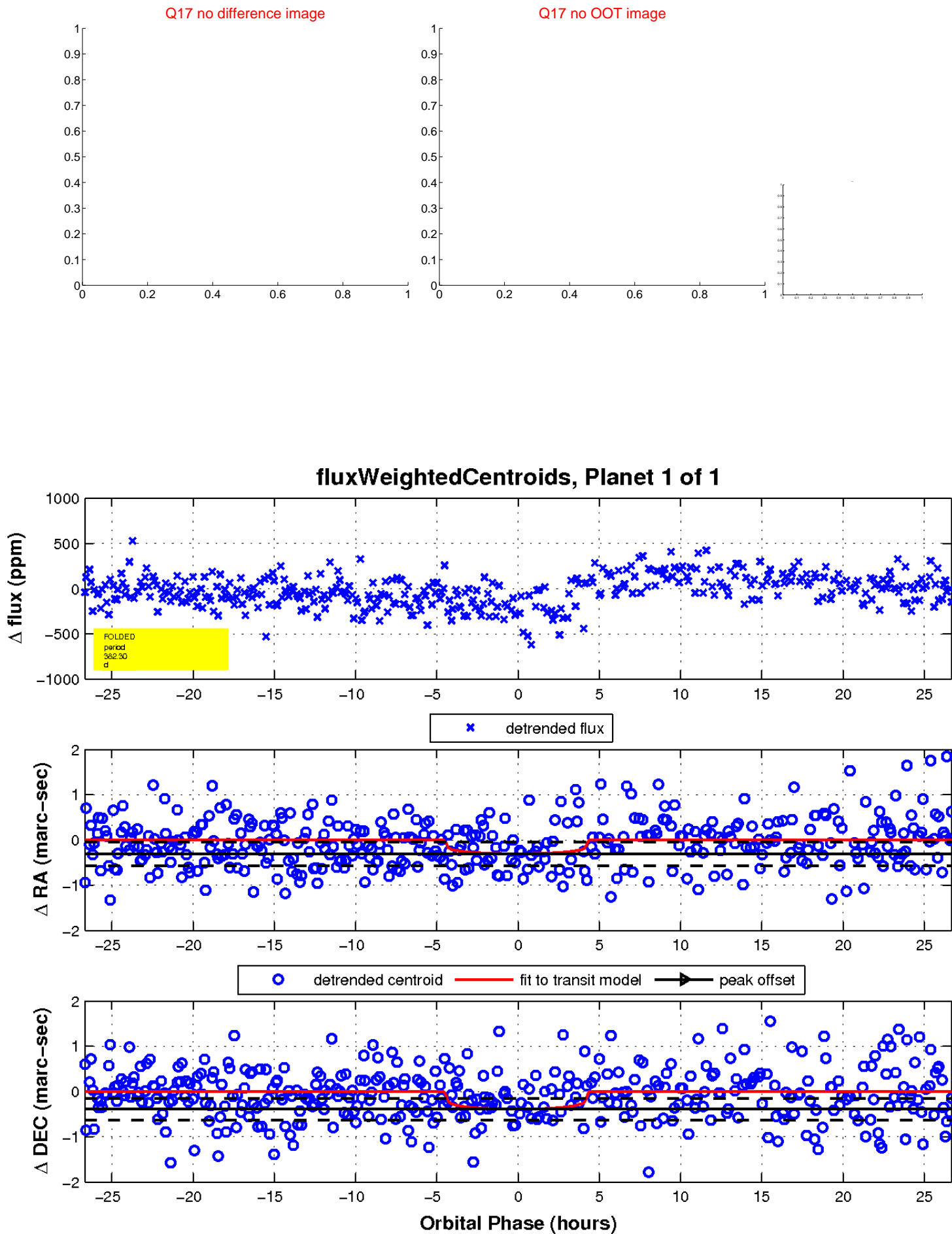
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

