

# KIC 005287939

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005287939-01	OBS	No	203.283935	334.143754	1317.8	3.776	7.8	8.8	0.32	3515	1.20	0.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005287939-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—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.

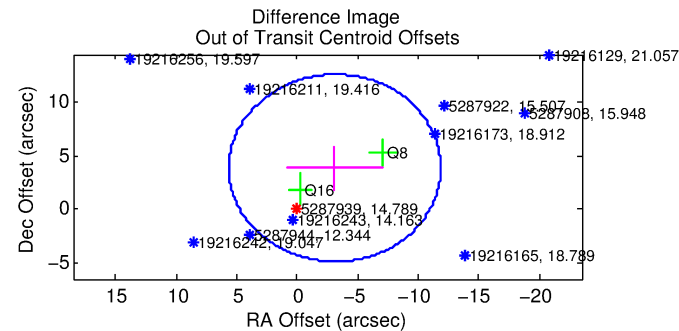
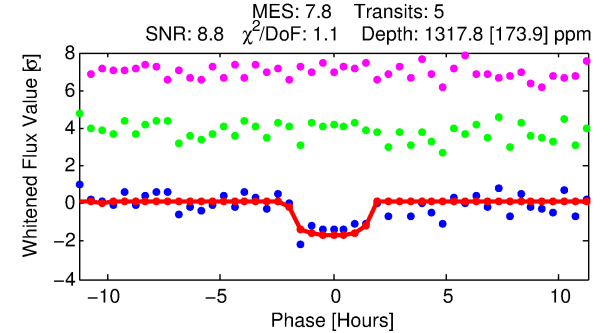
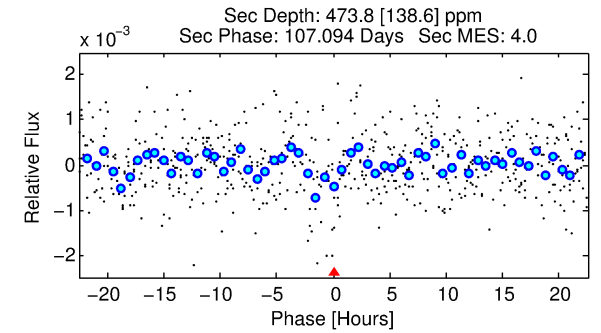
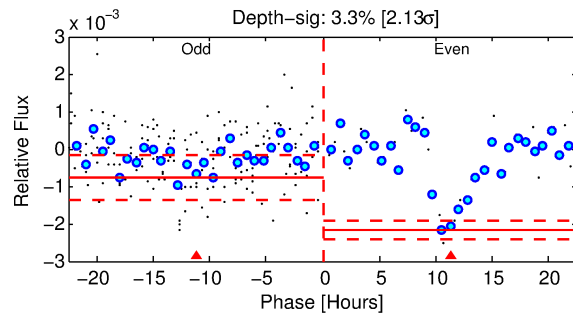
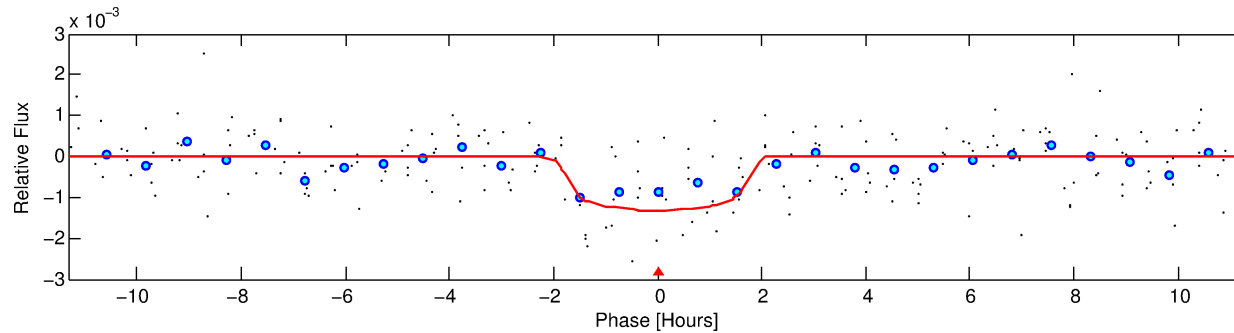
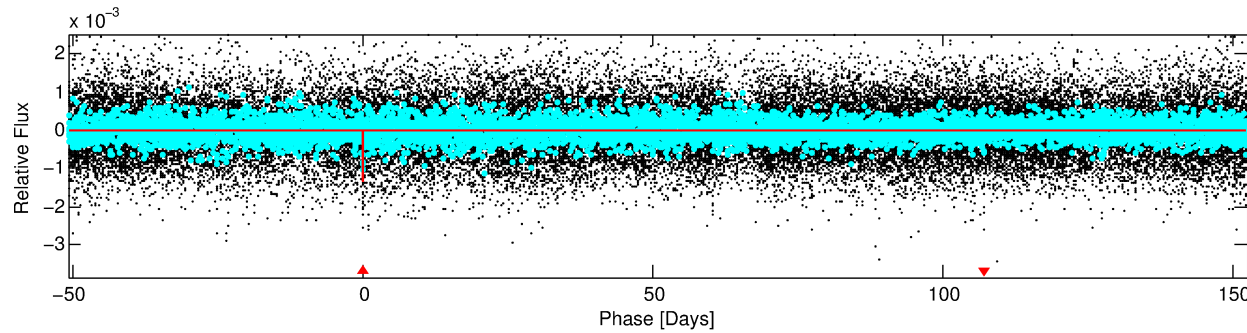
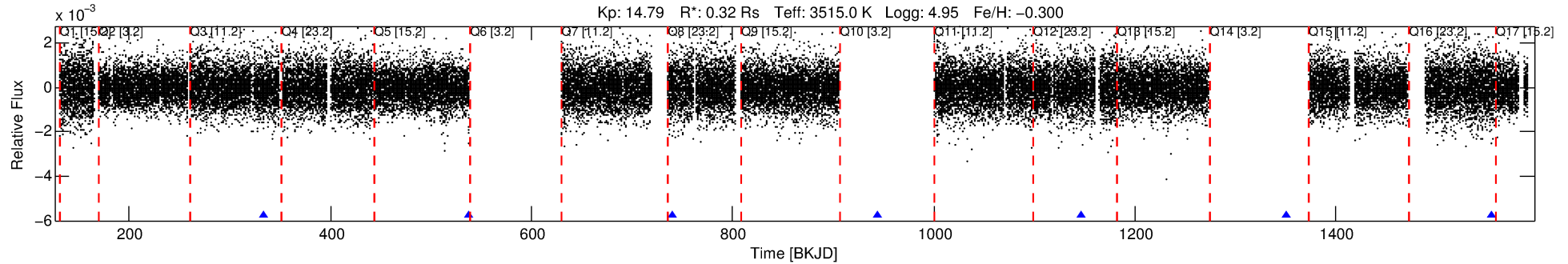
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005287939-01

No Significant Match Found

# DV One-Page Summary

KIC: 5287939 Candidate: 1 of 1 Period: 203.284 d



## DV Fit Results:

Period = 203.28394 [0.00283] d  
Epoch = 334.1438 [0.0078] BKJD  
Rp/R\* = 0.0344 [0.0403]  
a/R\* = 357.45 [1956.32]  
b = 0.56 [6.70]  
Seff = 0.06 [0.01]  
Teq = 128 [4] K  
Rp = 1.20 [1.41] Re  
a = 0.4676 [0.0394] AU  
Ag = 39546.53 [93440.77] [0.42σ]  
Teffp = 2797 [1651] K [1.62σ]

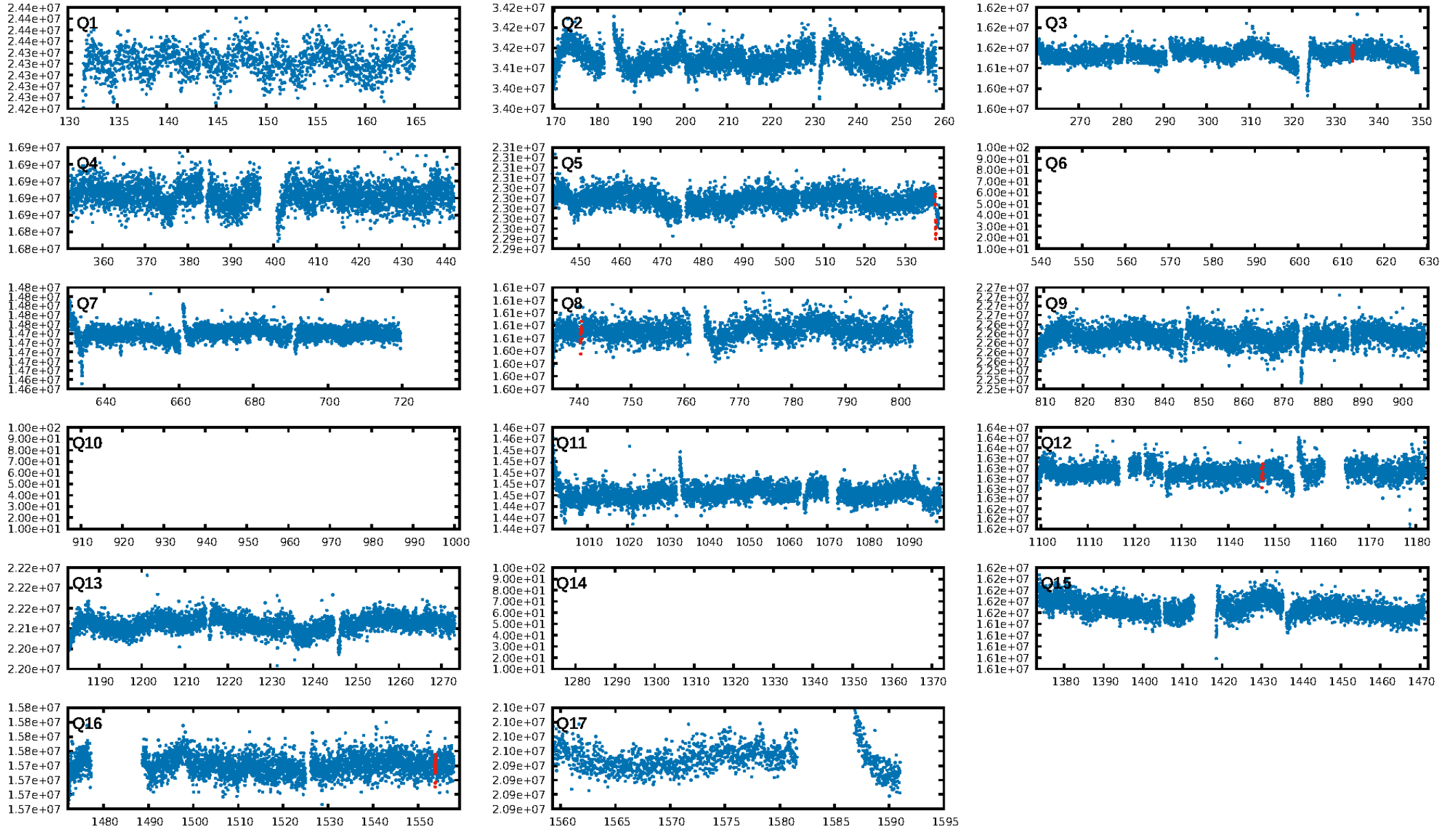
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 65.7%  
Bootstrap-pfa: 8.20e-13  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 0.85  
Centroid-sig: N/A  
Centroid-so: 3.329 arcsec [17.54σ]  
OotOffset-rm: 4.964 arcsec [1.70σ]  
KicOffset-rm: 1.058 arcsec [0.27σ]  
OotOffset-st: 0/0/2/0 [2]  
KicOffset-st: 0/0/2/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [5/5]

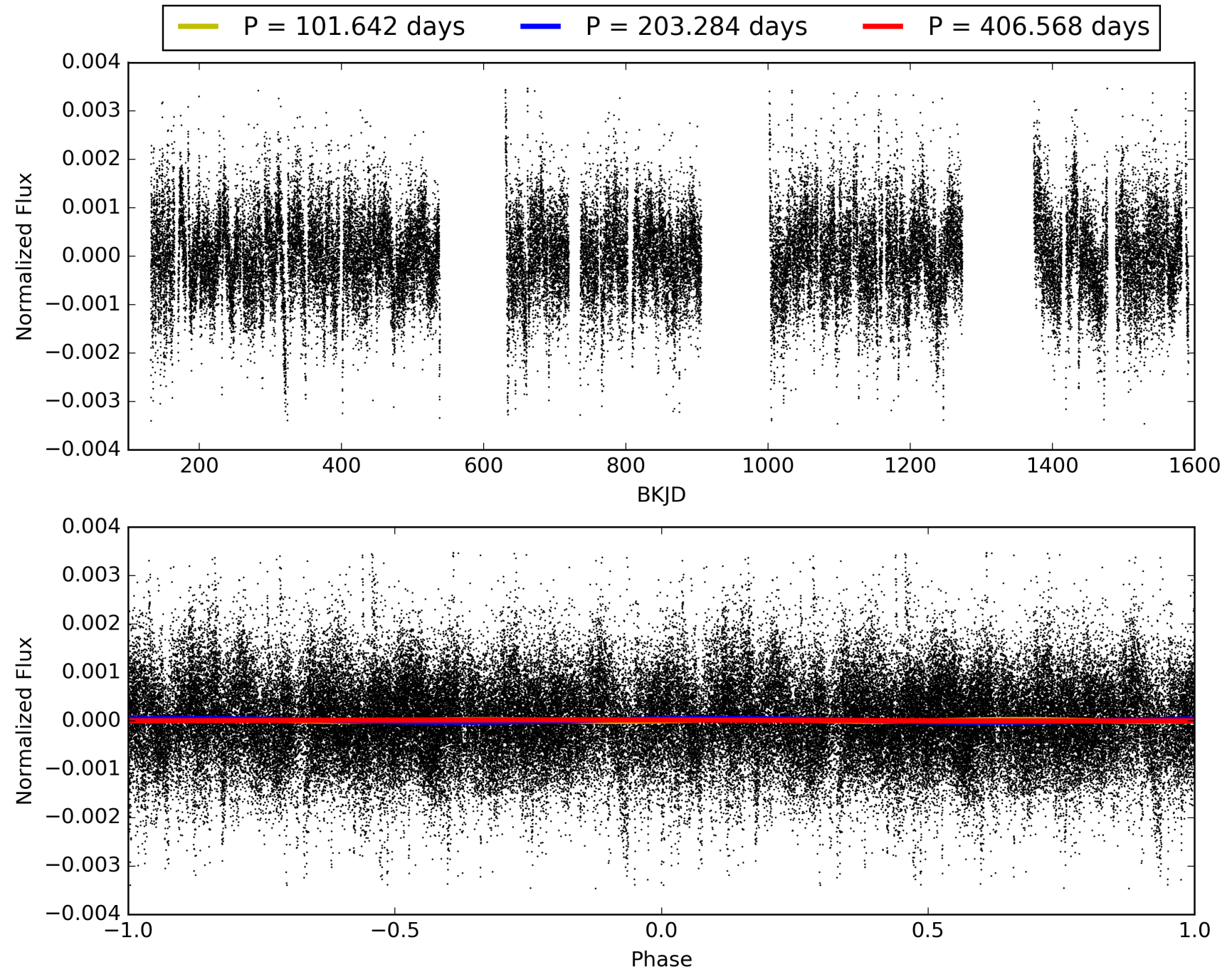
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:39:16 Z

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

# TCE 005287939-01, PDC Light Curves

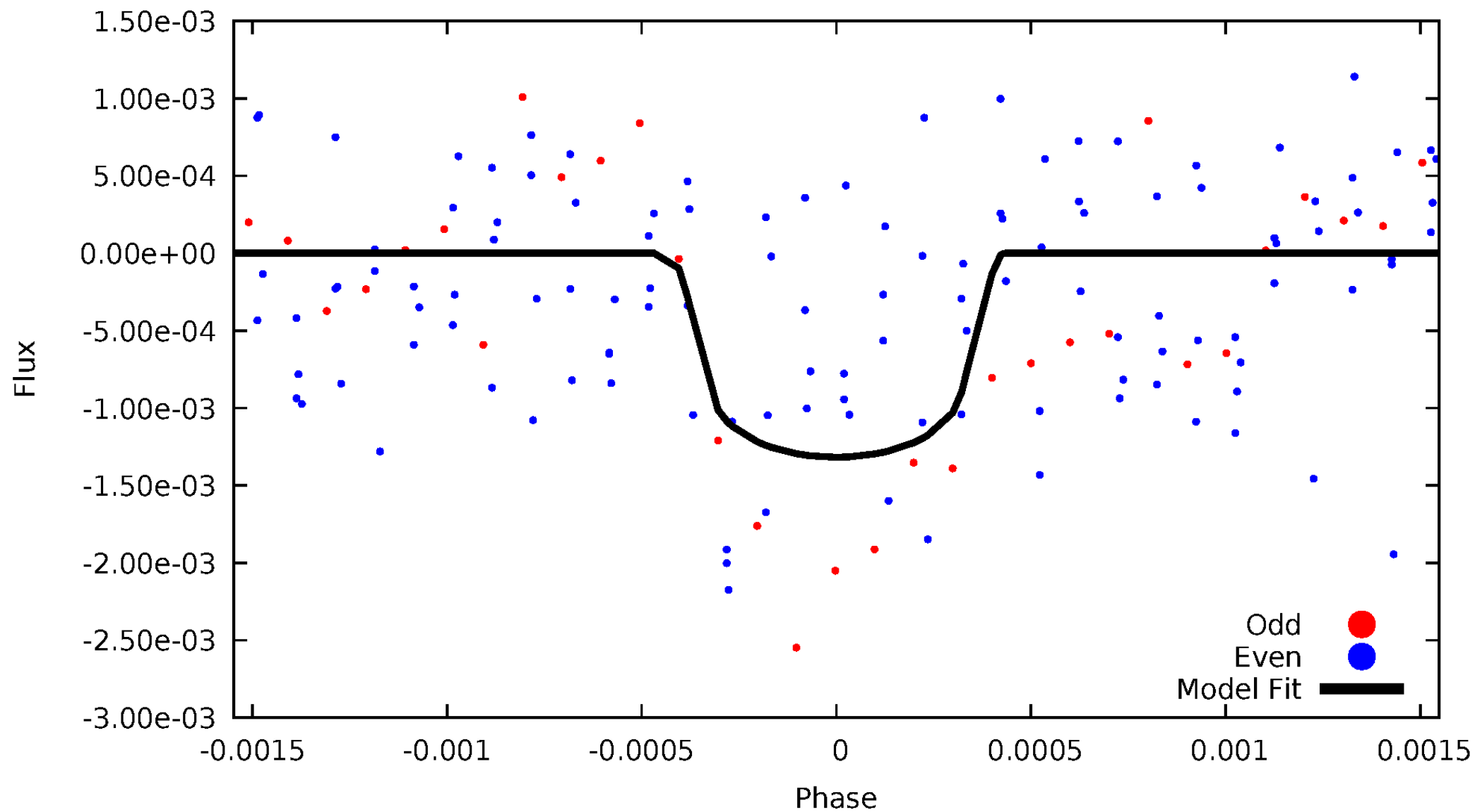


# TCE 005287939-01



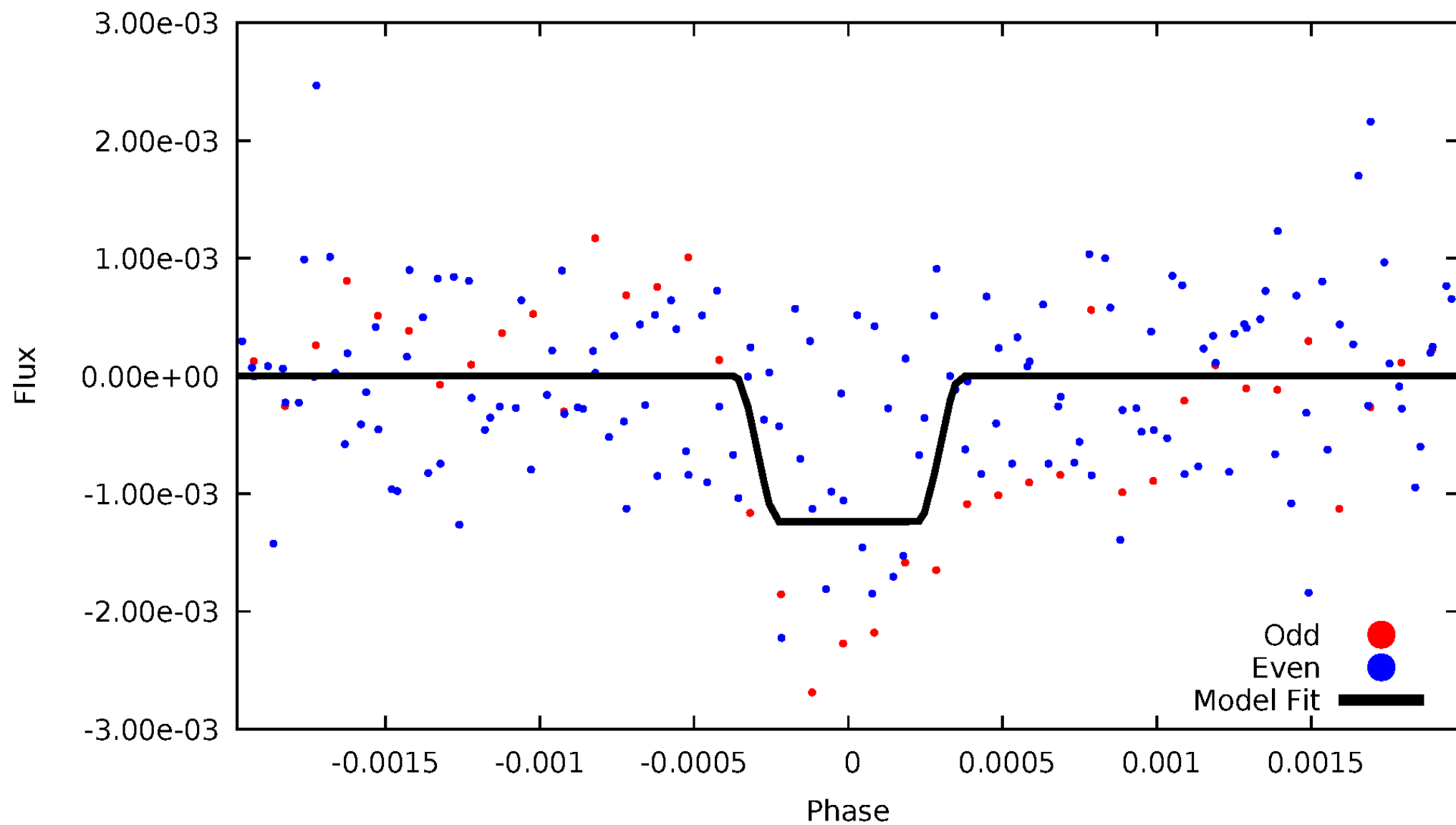
# DV Odd/Even

TCE 005287939-01



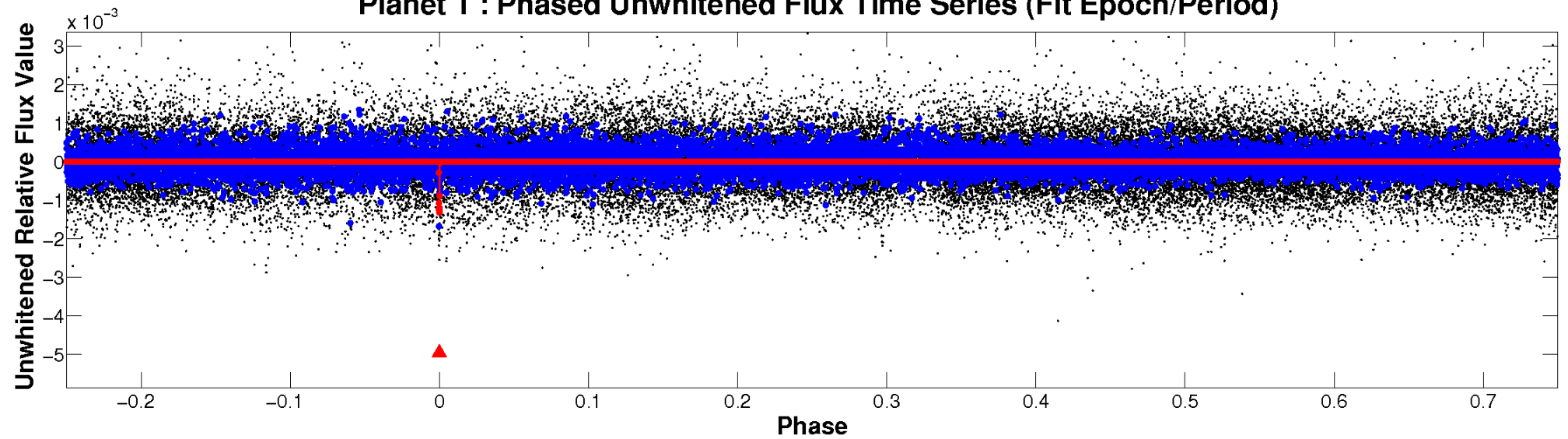
# ALT Odd/Even

TCE 005287939-01

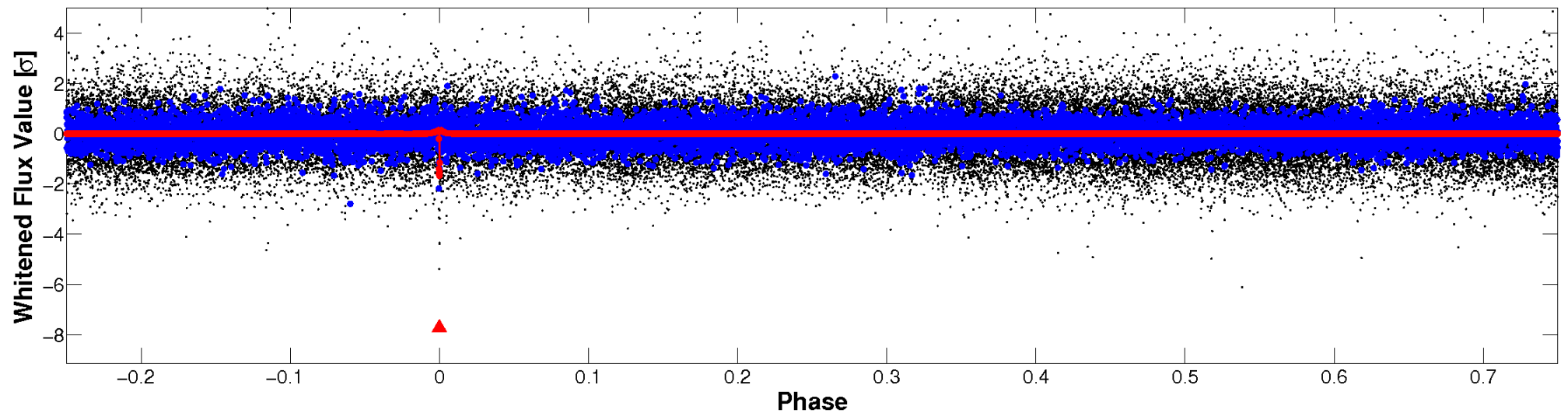


# Non-Whitened Vs. Whitened Light Curve

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



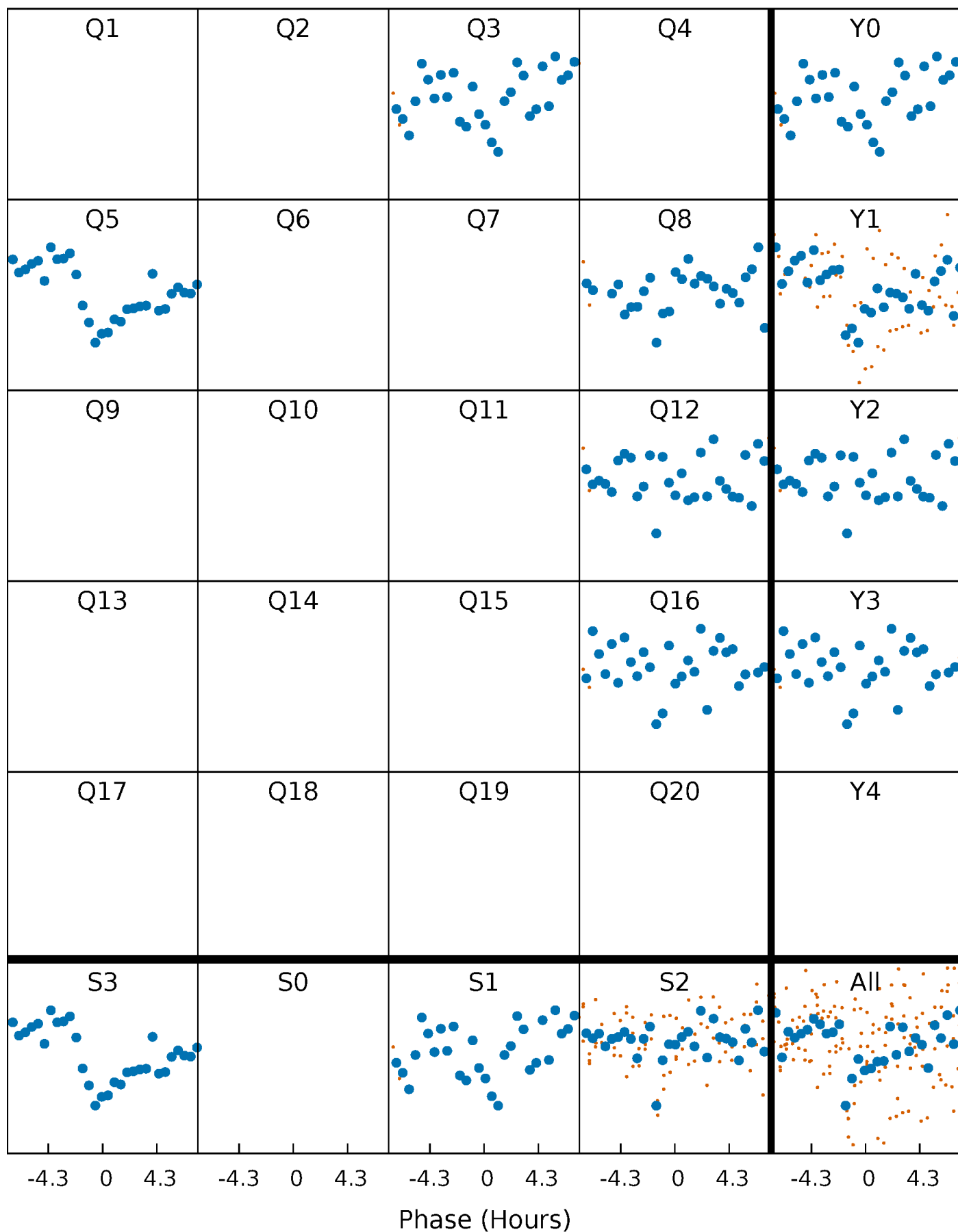
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

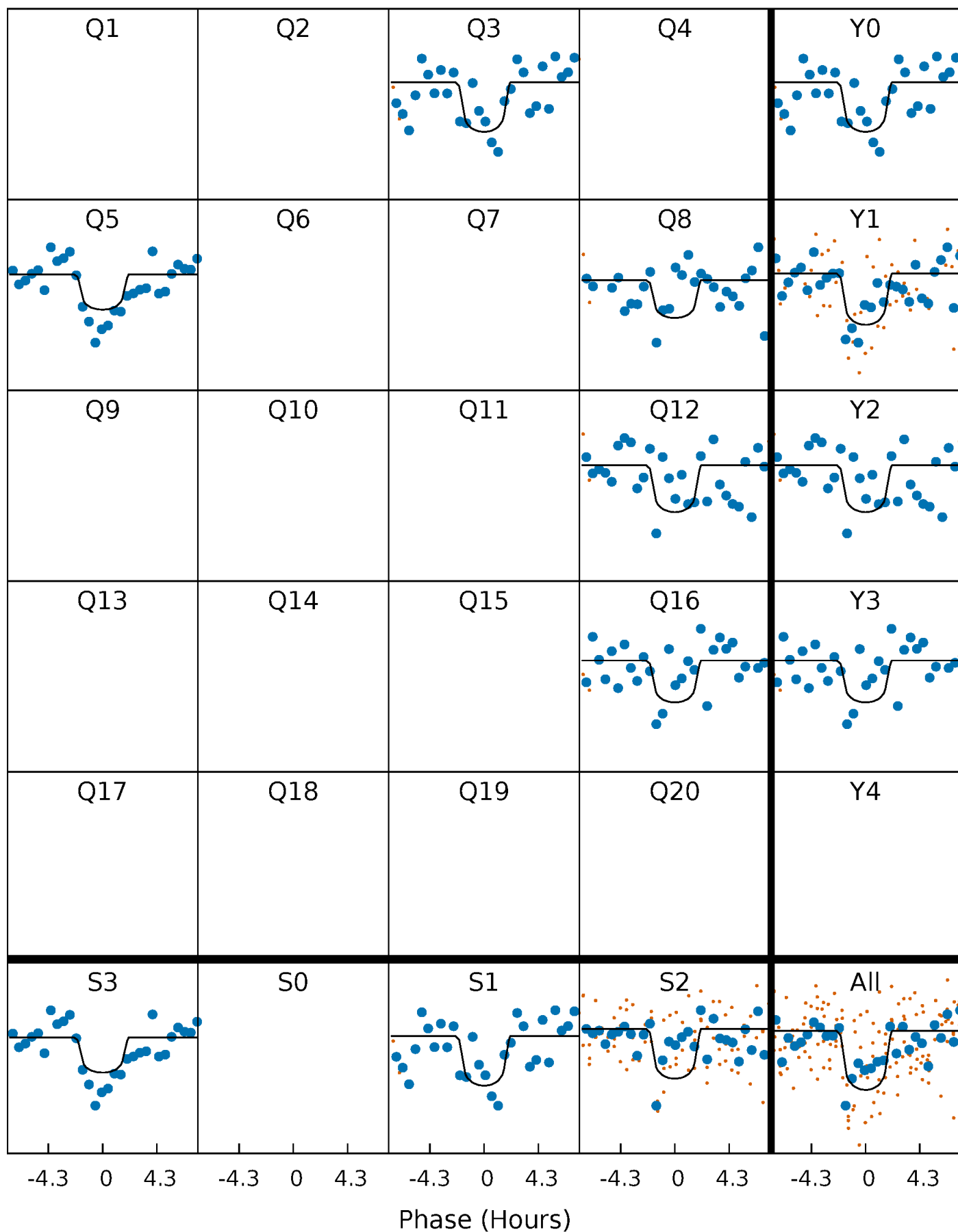
TCE 005287939-01 P=203.283935 Days  $T_0=334.143754$  (BKJD)





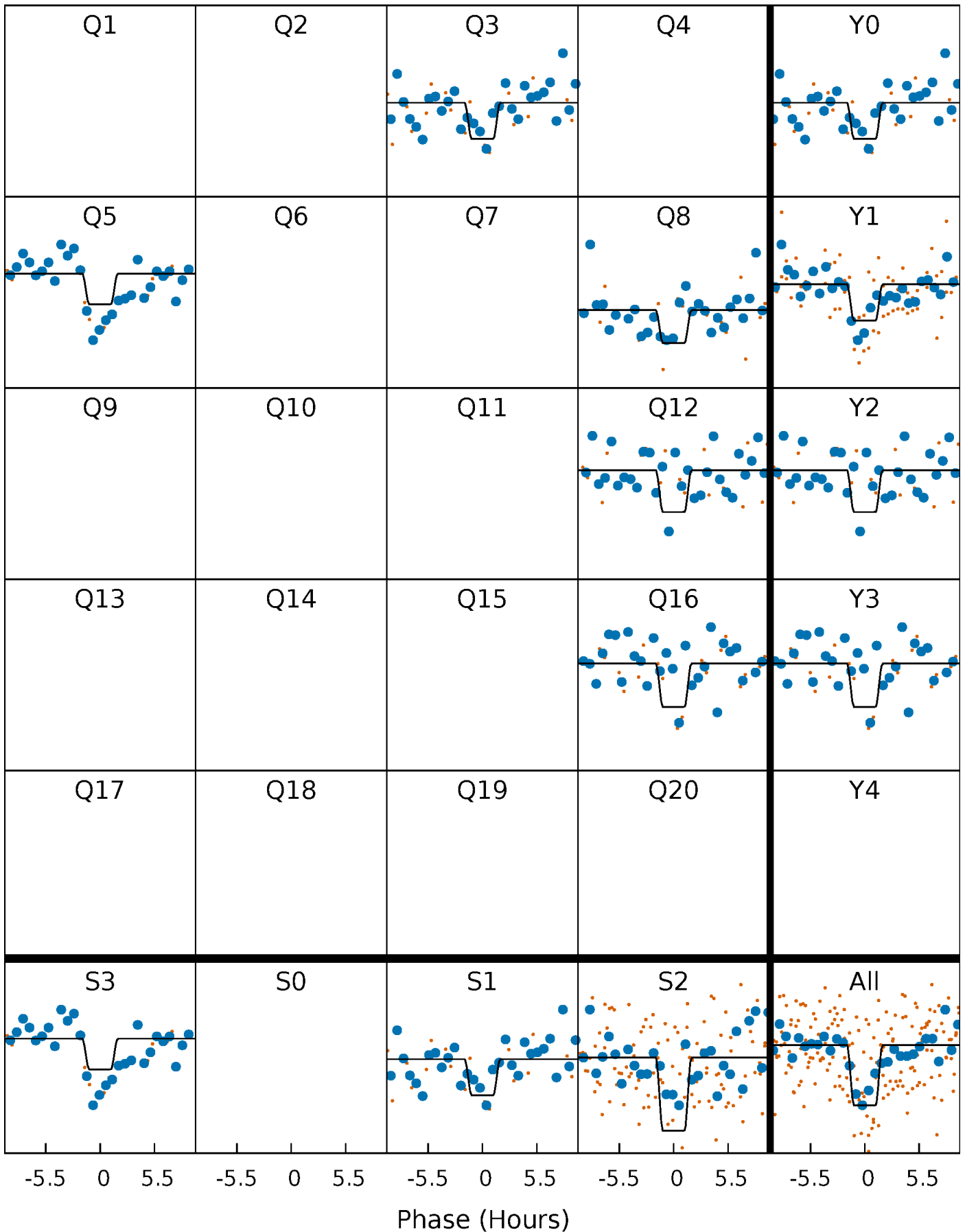
# DV Quarter-Phased Transit Curves

TCE 005287939-01 P=203.283935 Days  $T_0=334.143754$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

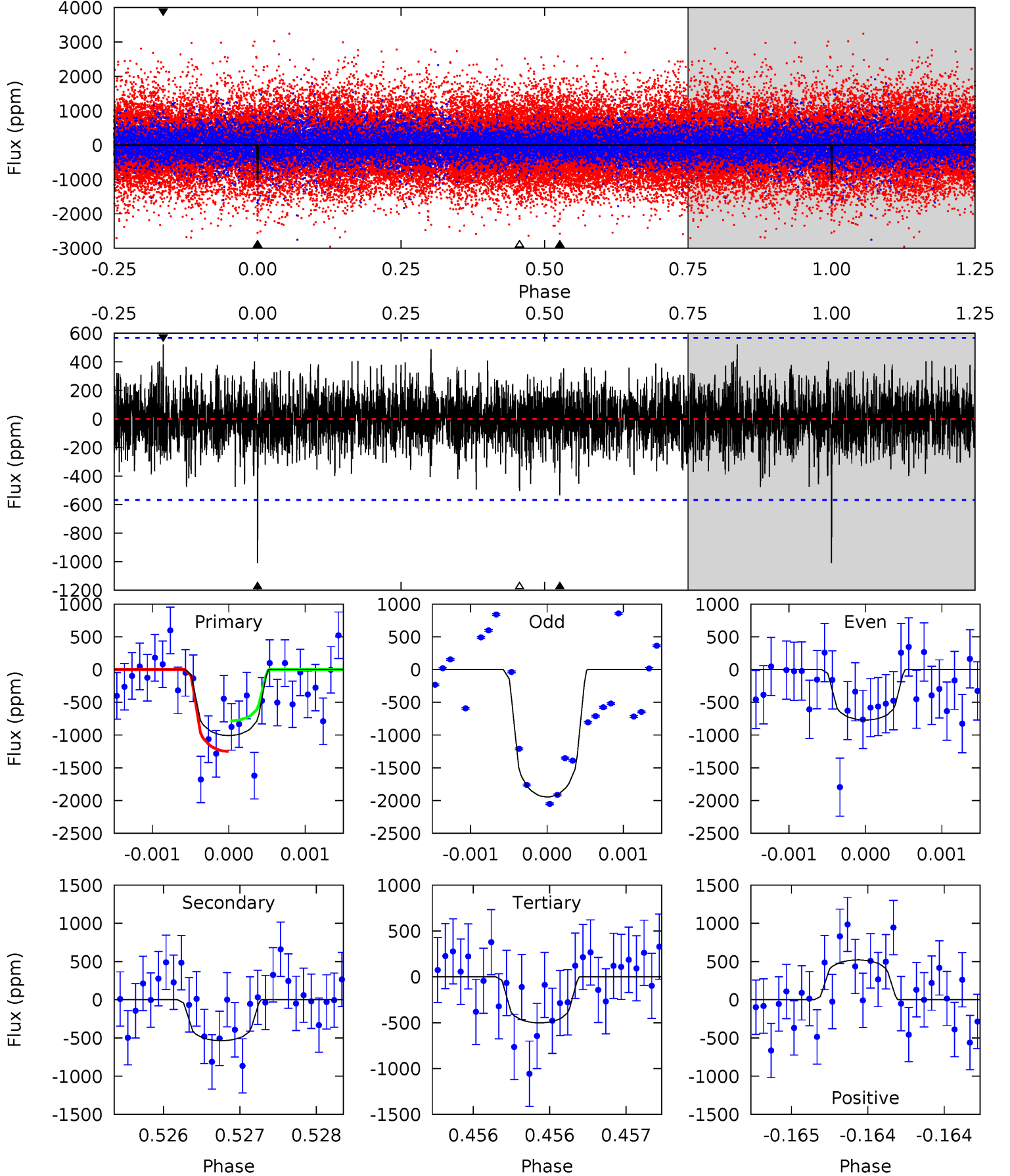
TCE 005287939-01 P=203.268773 Days  $T_0=334.161801$  (BKJD)



# DV Model-Shift Uniqueness Test

005287939-01, P = 203.283935 Days, E = 130.859819 Days

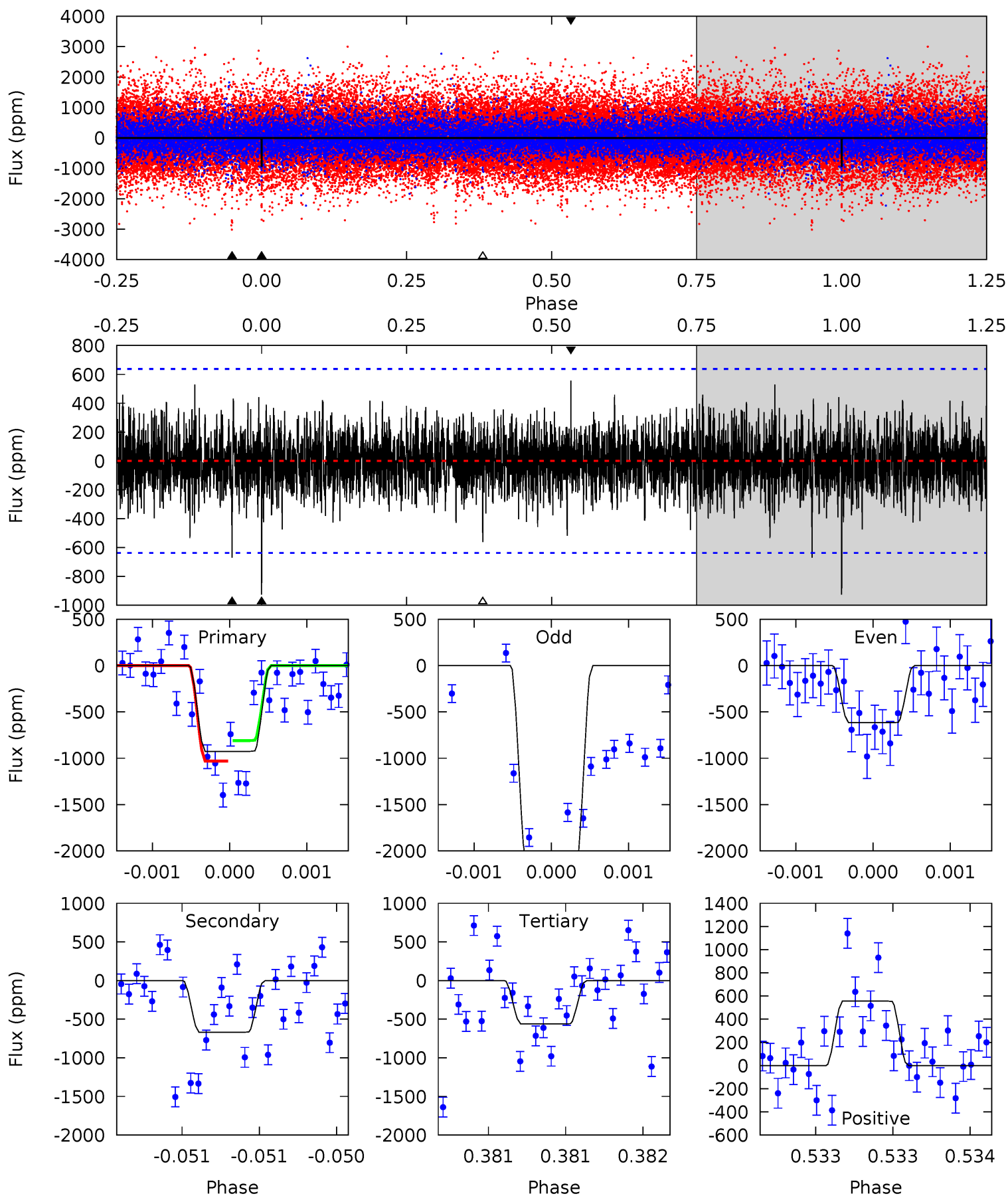
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	5.17	4.86	5.04	5.49	3.35	1.29	4.88	4.70	0.32	0.13	4.58	1.30	0.34	2.25



# Alt Model-Shift Uniqueness Test

005287939-01, P = 203.268773 Days, E = 130.893028 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
8.01	5.79	4.85	4.81	5.51	3.39	1.20	3.15	3.20	0.94	0.98	5.60	1.55	0.38	0.95



### Stellar Parameters For KIC 005287939

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3515^{+47}_{-47}$	$4.946^{+0.044}_{-0.040}$	$-0.300^{+0.100}_{-0.100}$	$0.320^{+0.034}_{-0.037}$	$0.328^{+0.040}_{-0.044}$	$14.070^{+3.626}_{-2.410}$
	+1%/-1%	+1%/-1%	+33%/-33%	+11%/-12%	+12%/-13%	+26%/-17%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 005287939-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-535 \pm 103$	$1.58^{+1.33}_{-0.96}$	$179^{+4}_{-4}$	$2877^{+957}_{-408}$	$24845^{+137364}_{-17257}$
Alt.	$-669 \pm 116$	$1.60^{+1.26}_{-1.05}$	$179^{+4}_{-4}$	$2947^{+1170}_{-414}$	$31391^{+222979}_{-21950}$

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

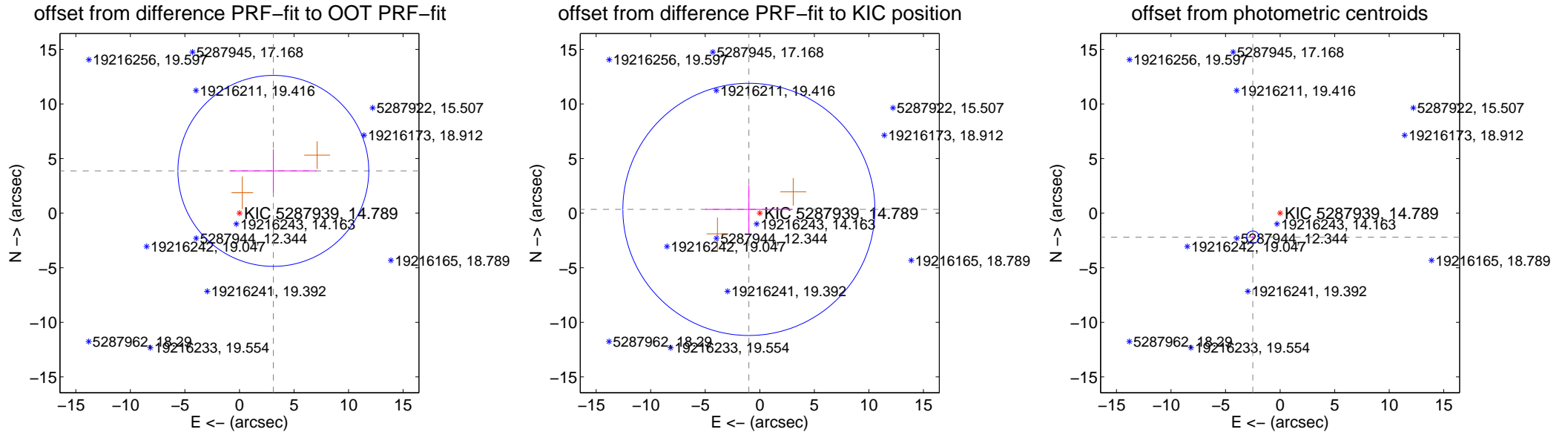
## DV Centroid Data

Supplemental centroid analysis for 005287939-01. Kepler magnitude: 14.79. Transit SNR 8.83

There are 0 quarters with good PRF difference image offsets

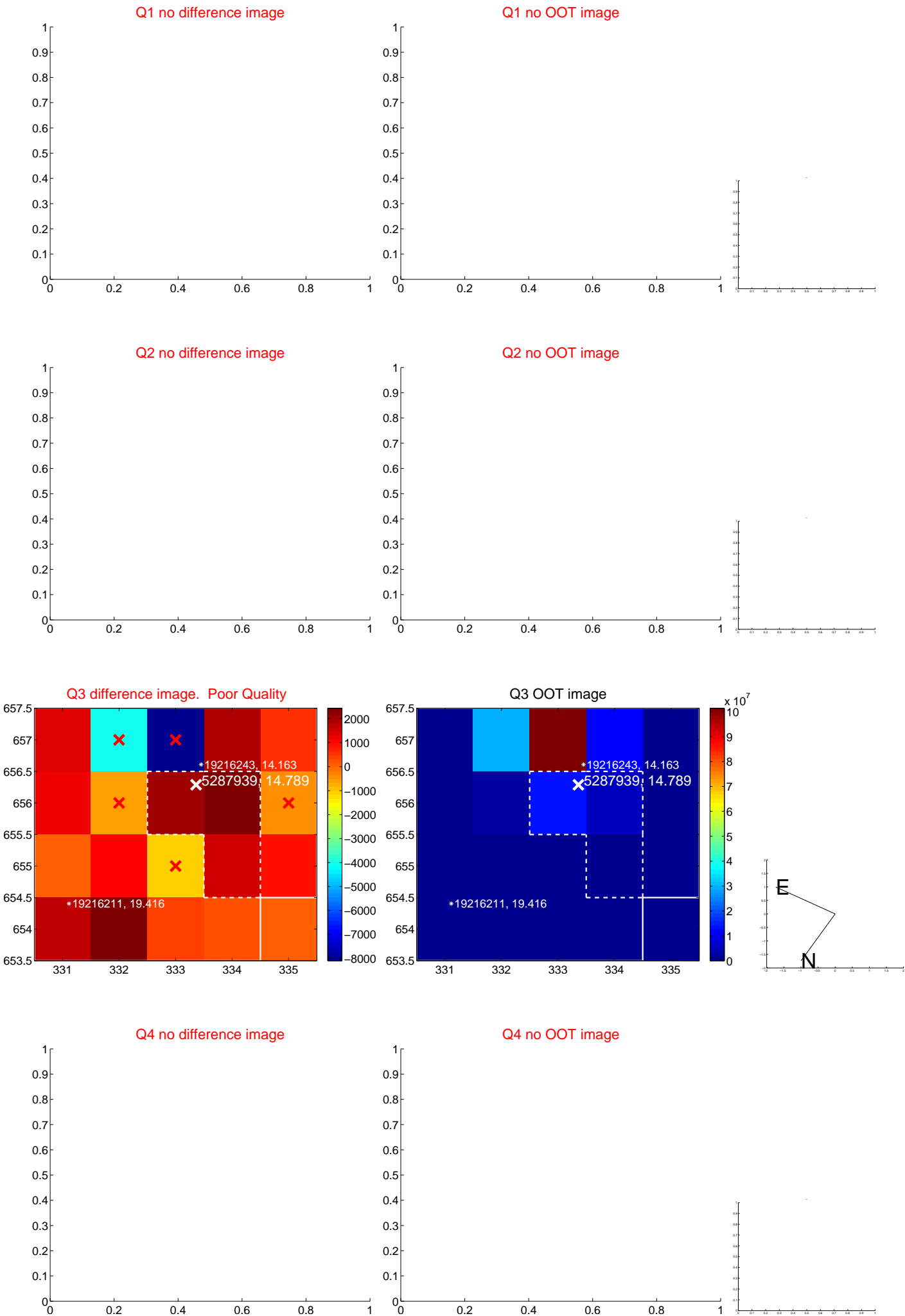
The OOT PRF centroid is offset from the target star catalog position by about 5.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.964 \pm 2.916$	1.70	$-3.104 \pm 3.949$	$3.874 \pm 1.988$
PRF-fit source offset from KIC position	$1.058 \pm 3.851$	0.27	$1.001 \pm 4.001$	$0.345 \pm 2.221$
photometric centroid source offset	$3.33 \pm 0.19$	17.54	$2.50 \pm 0.21$	$-2.20 \pm 0.16$



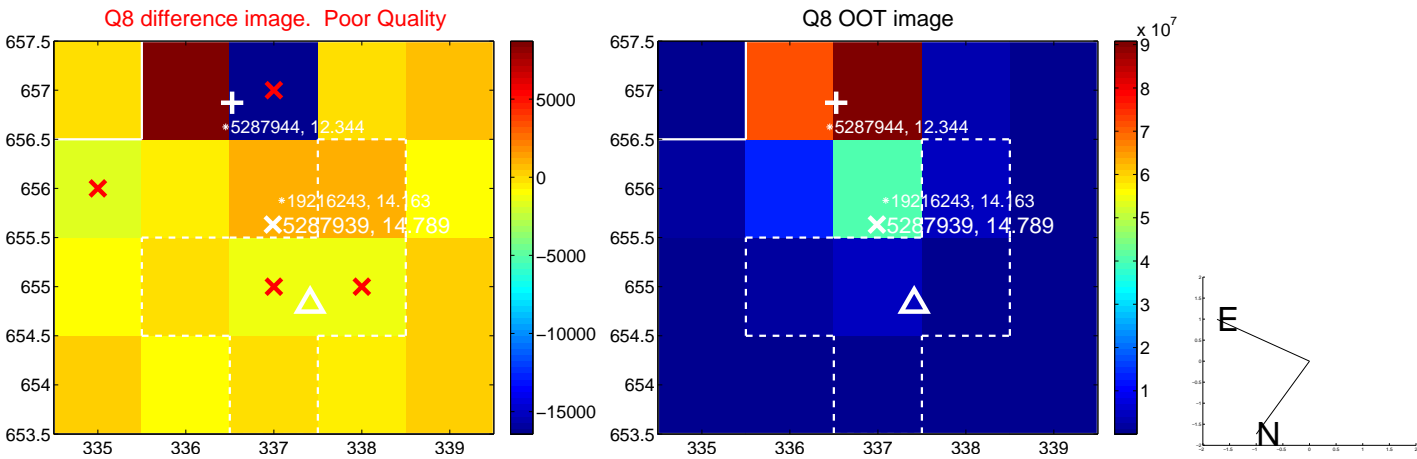
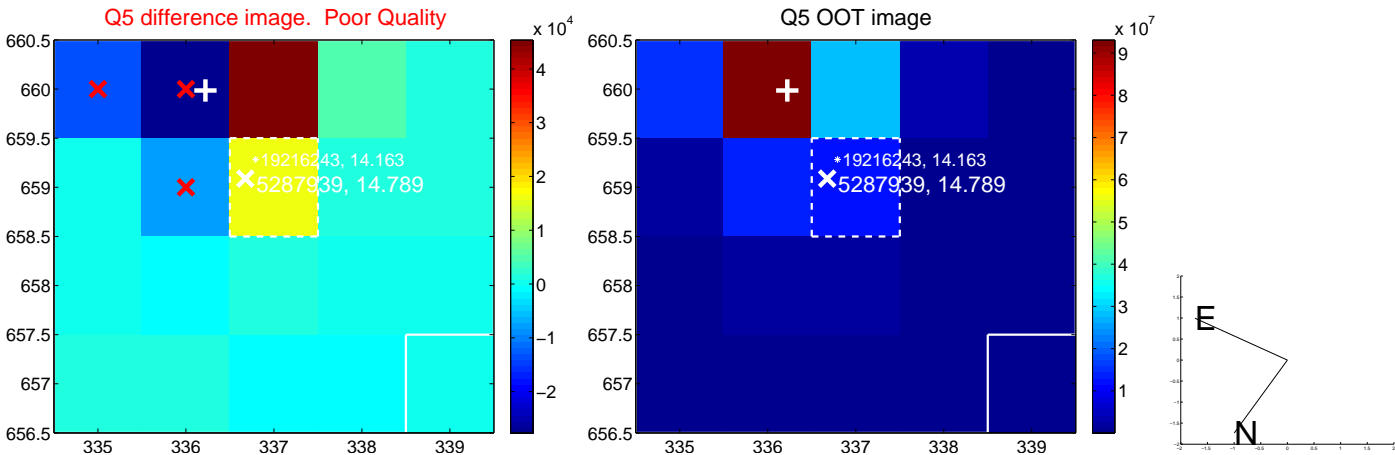
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

Q9 no difference image



Q9 no OOT image



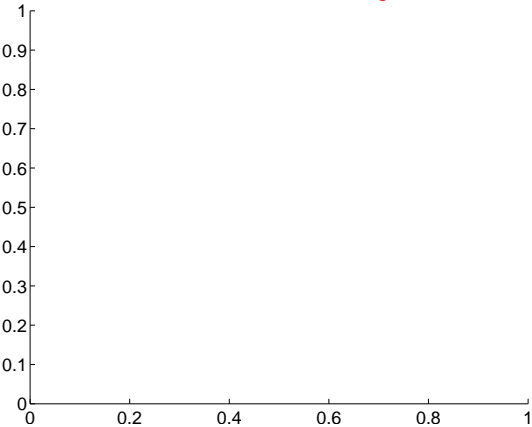
Q10 no difference image



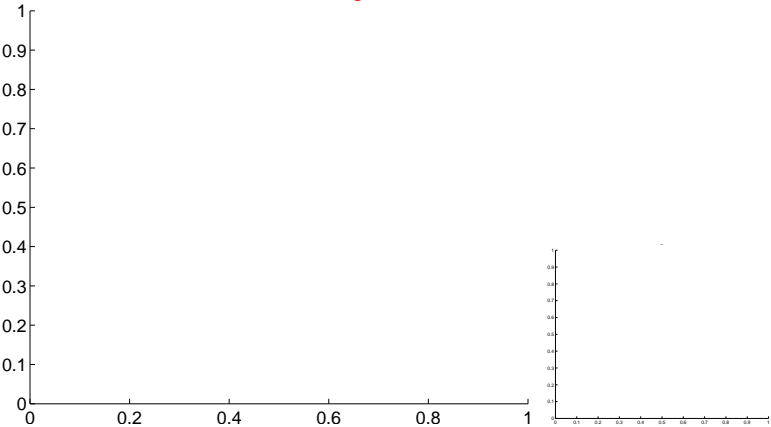
Q10 no OOT image



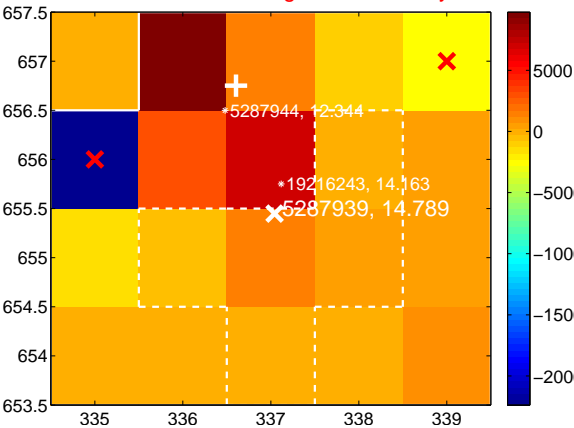
Q11 no difference image



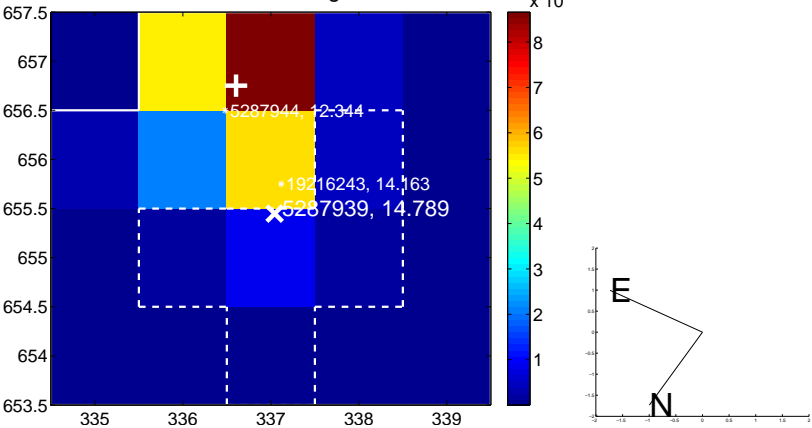
Q11 no OOT image



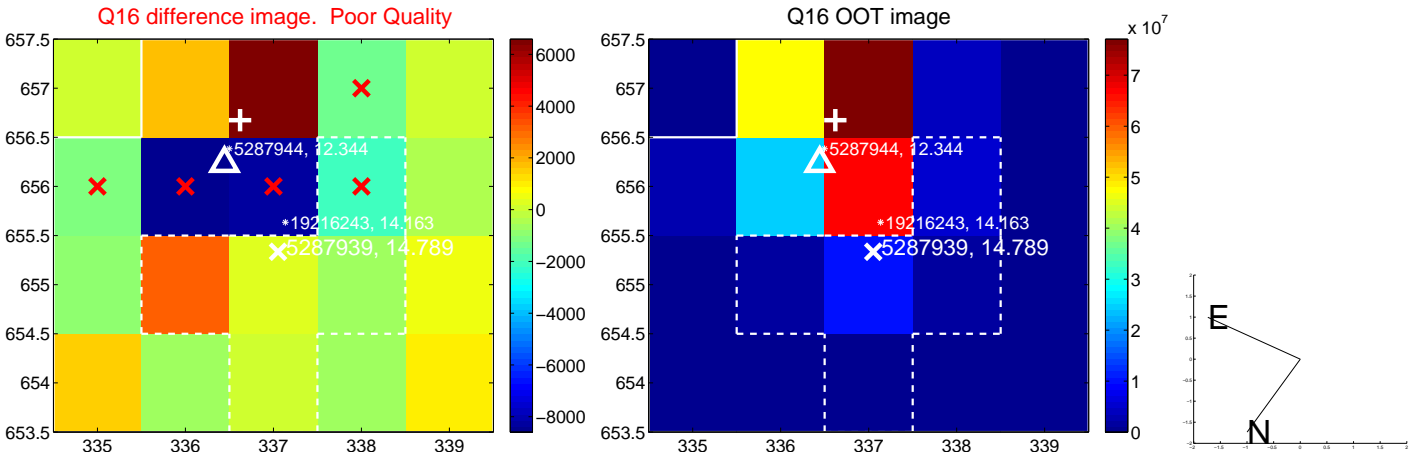
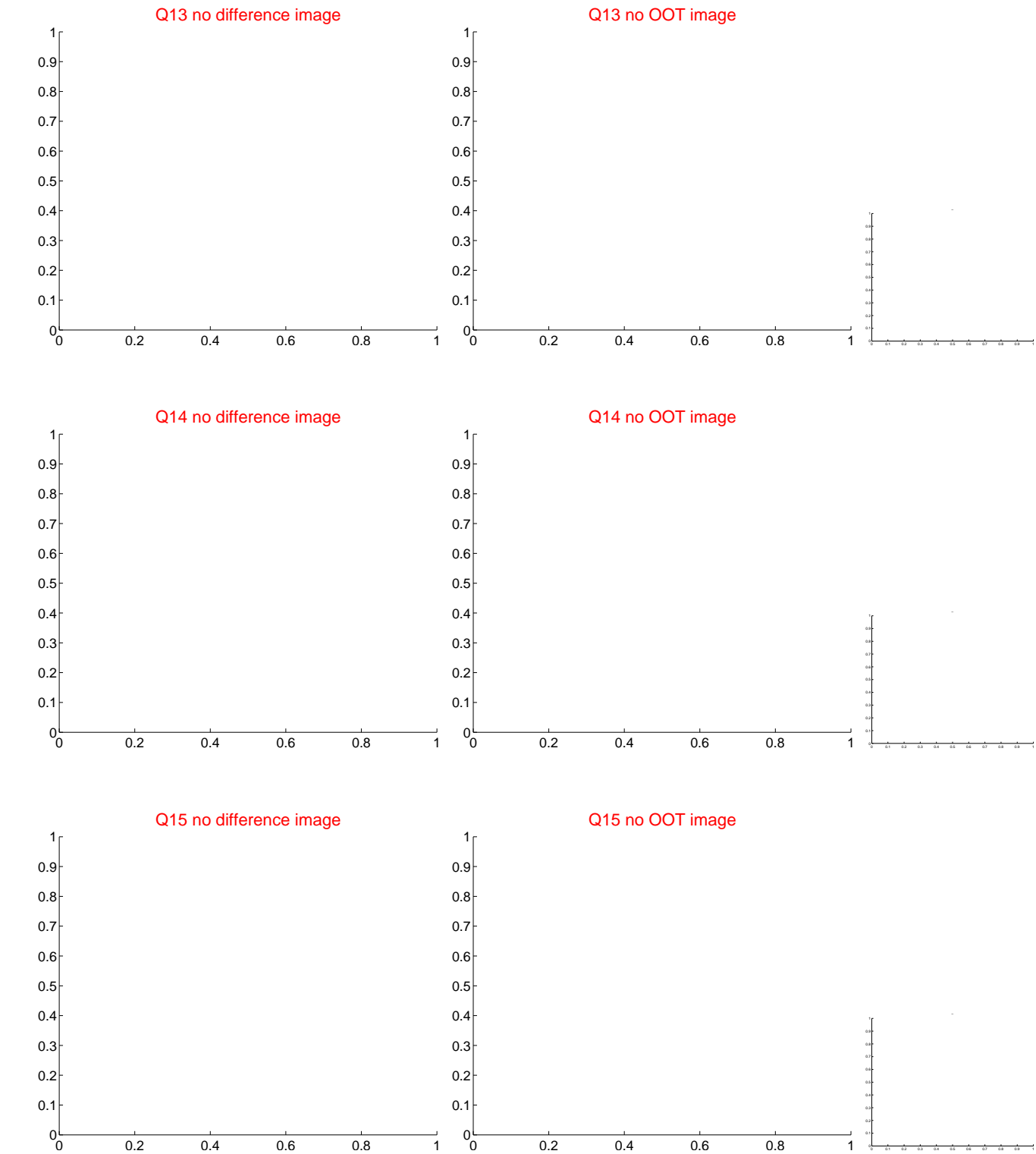
Q12 difference image. Poor Quality



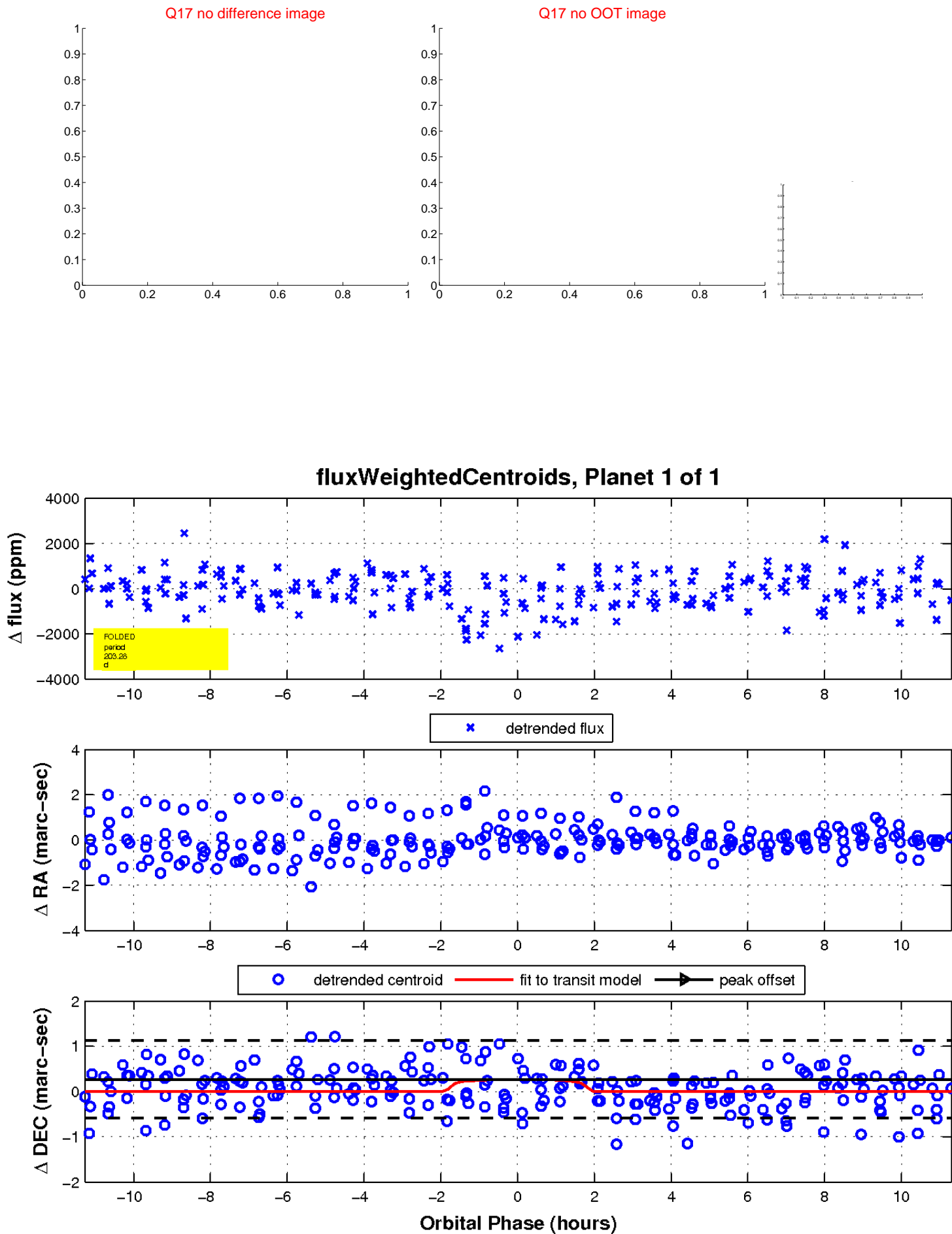
Q12 OOT image



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.



UKIRT Image

