

# KIC 006356841

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006356841-01	OBS	No	563.728545	293.993157	650.0	18.616	7.8	7.8	0.96	5996	2.87	0.58

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006356841-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_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.

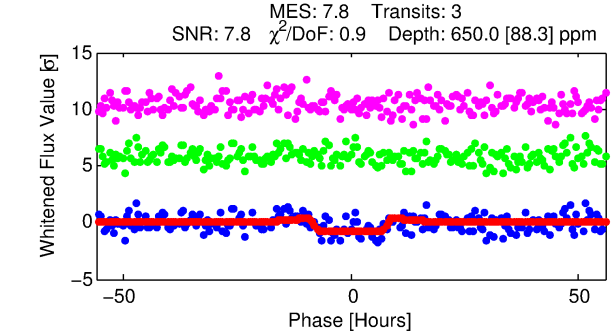
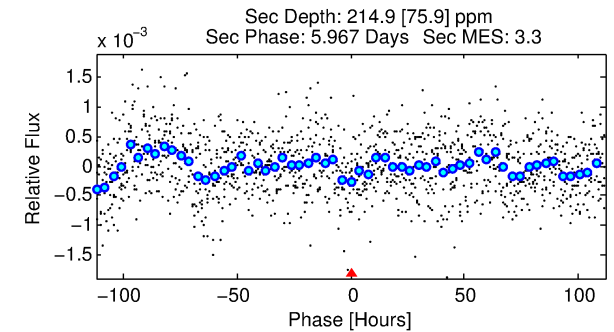
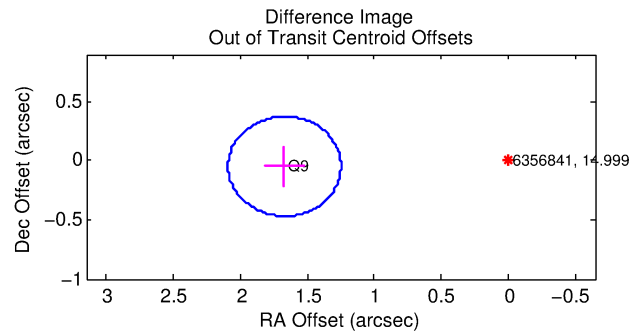
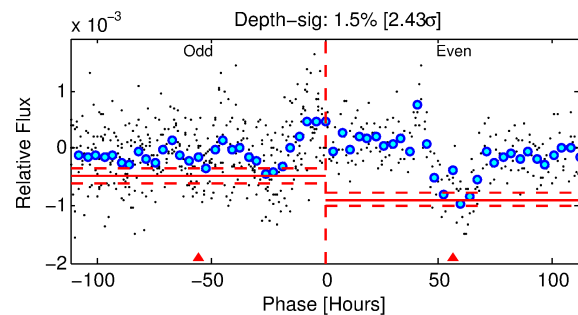
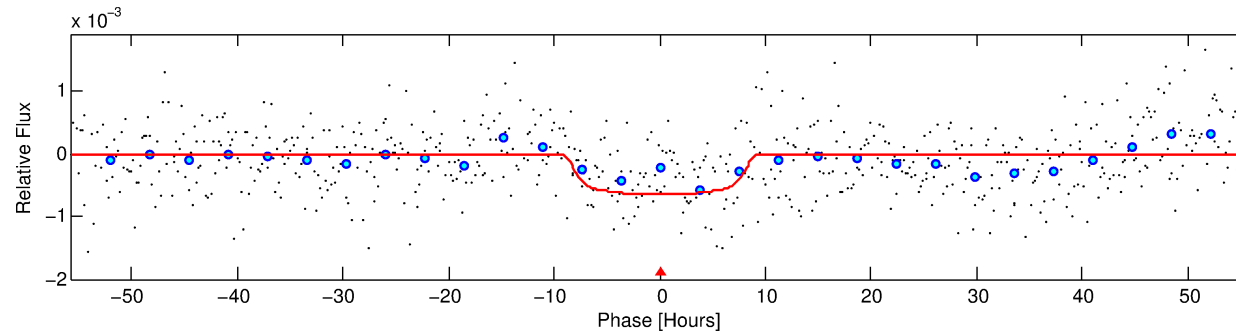
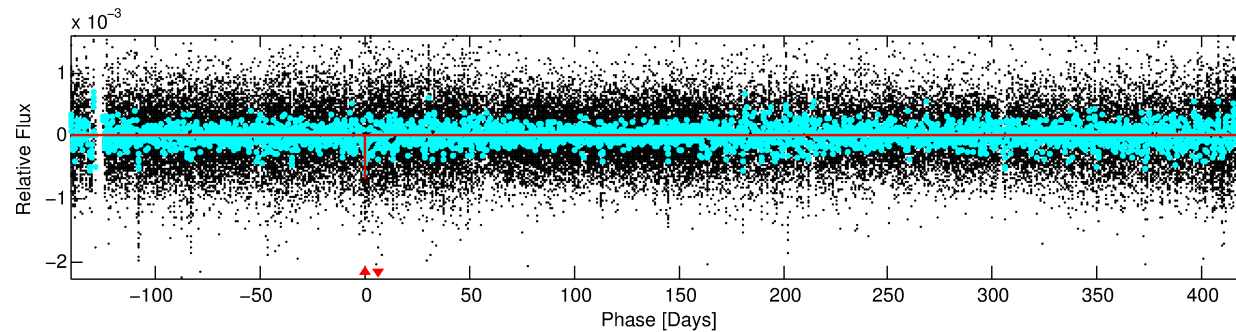
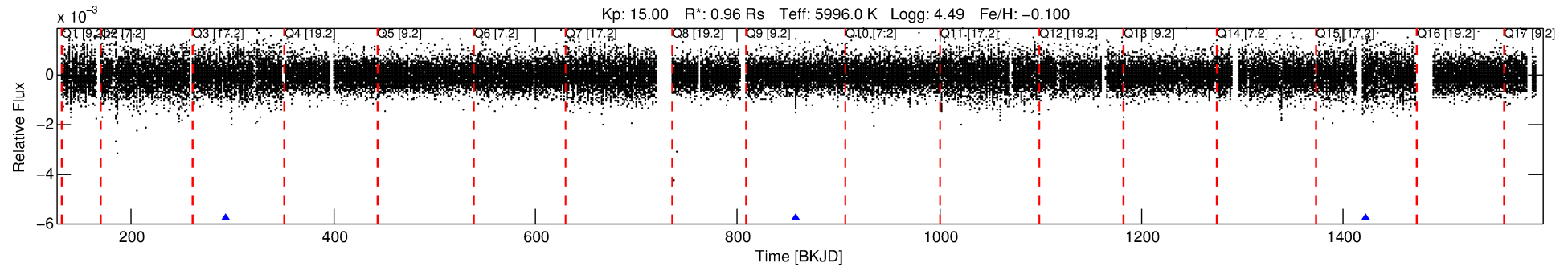
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006356841-01

No Significant Match Found

# DV One-Page Summary

KIC: 6356841 Candidate: 1 of 1 Period: 563.729 d



## DV Fit Results:

Period = 563.72855 [0.02275] d  
Epoch = 293.9932 [0.0263] BKJD  
Rp/R\* = 0.0275 [0.0030]  
a/R\* = 115.58 [43.42]  
b = 0.90 [0.08]  
Seff = 0.58 [0.24]  
Teq = 223 [23] K  
Rp = 2.87 [0.98] Re  
a = 1.3481 [0.3608] AU  
Ag = 26067.91 [14733.30] [1.77 $\sigma$ ]  
Teff = 4376 [478] K [8.69 $\sigma$ ]

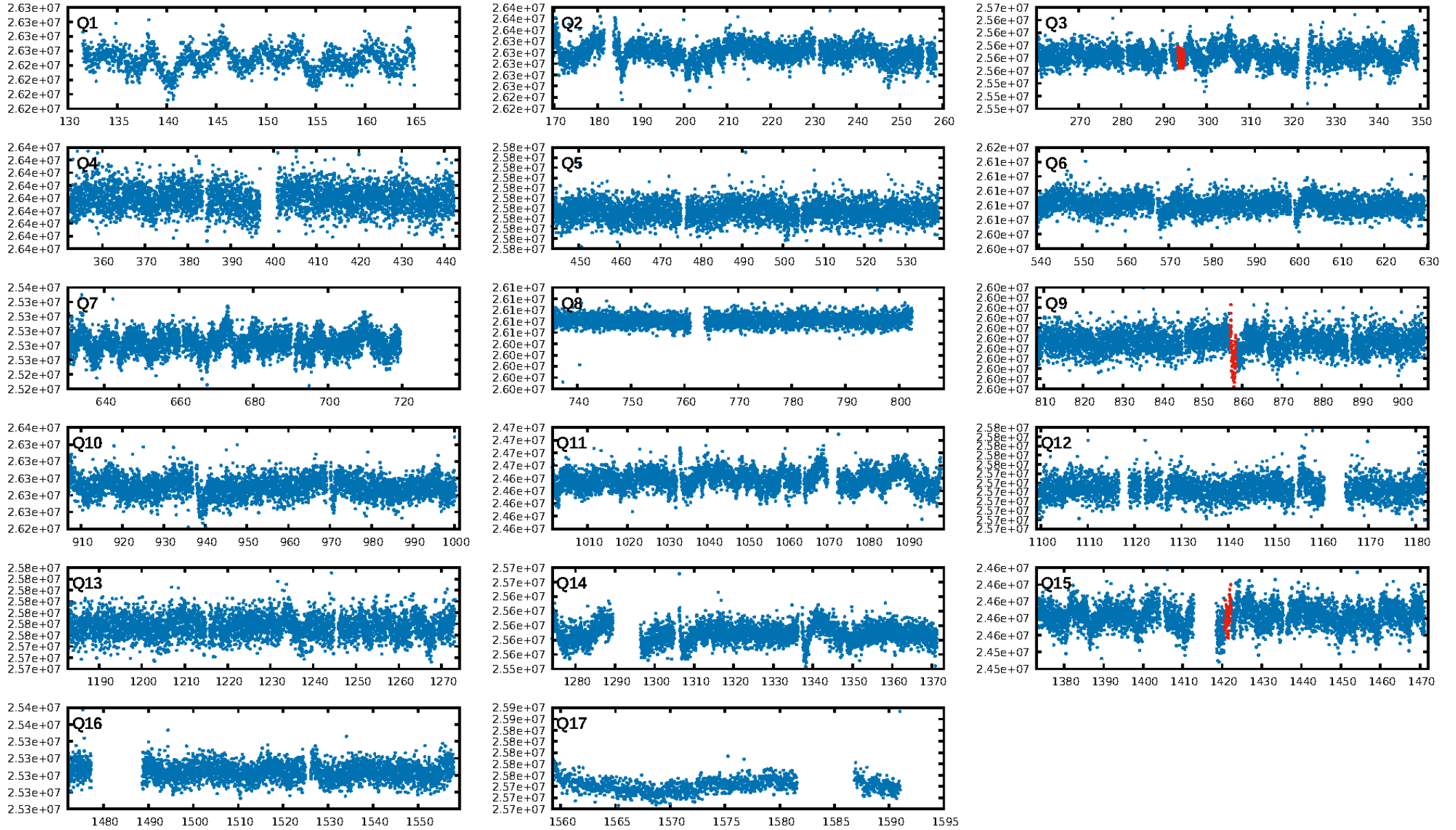
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 18.9%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 4.55e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -2.838  
Centroid-sig: 92.1%  
**Centroid-so: 3.123 arcsec [4.13 $\sigma$ ]**  
**OotOffset-rm: 1.670 arcsec [11.89 $\sigma$ ]**  
**KicOffset-rm: 1.567 arcsec [11.08 $\sigma$ ]**  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

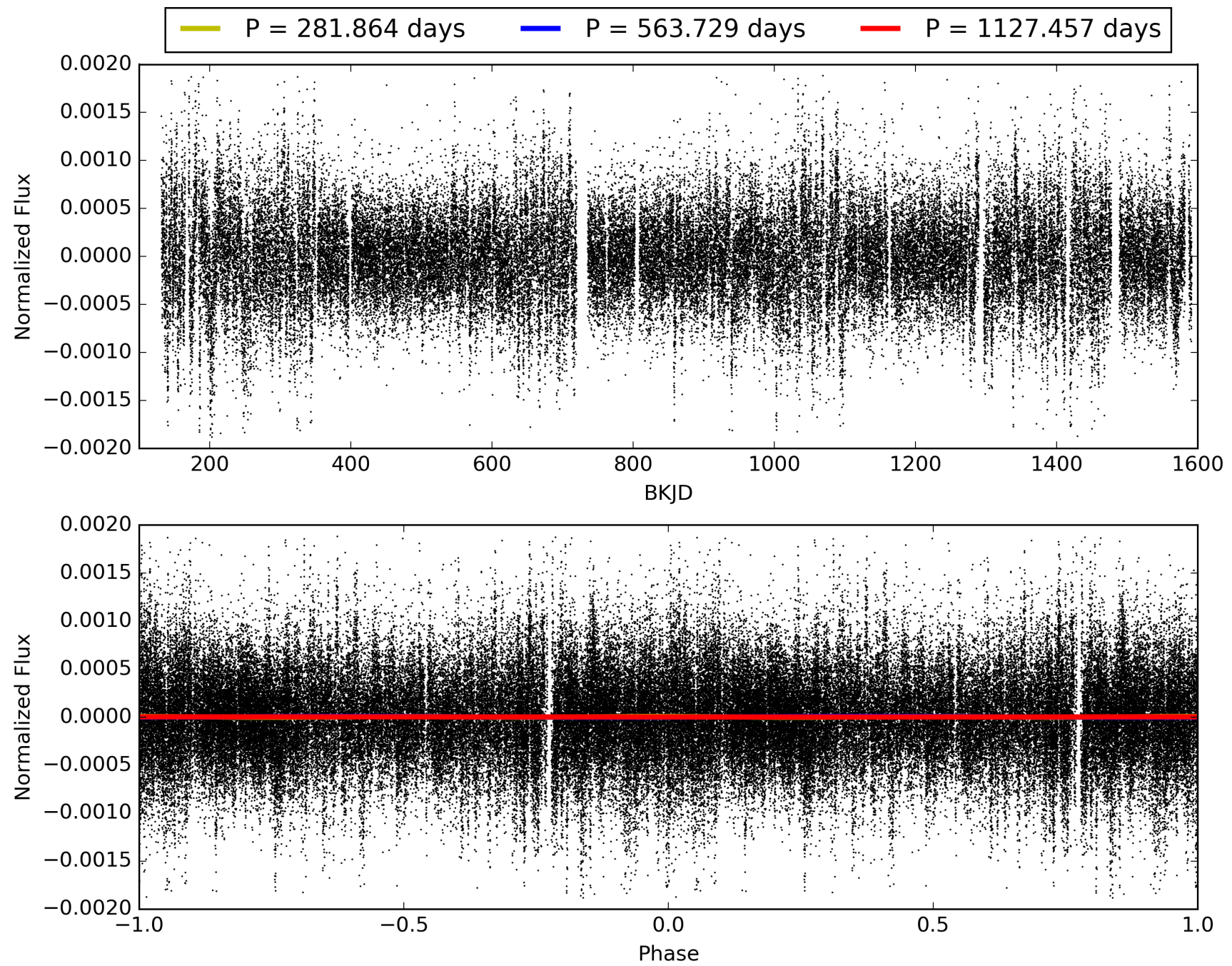
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:01:57 Z

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

# TCE 006356841-01, PDC Light Curves

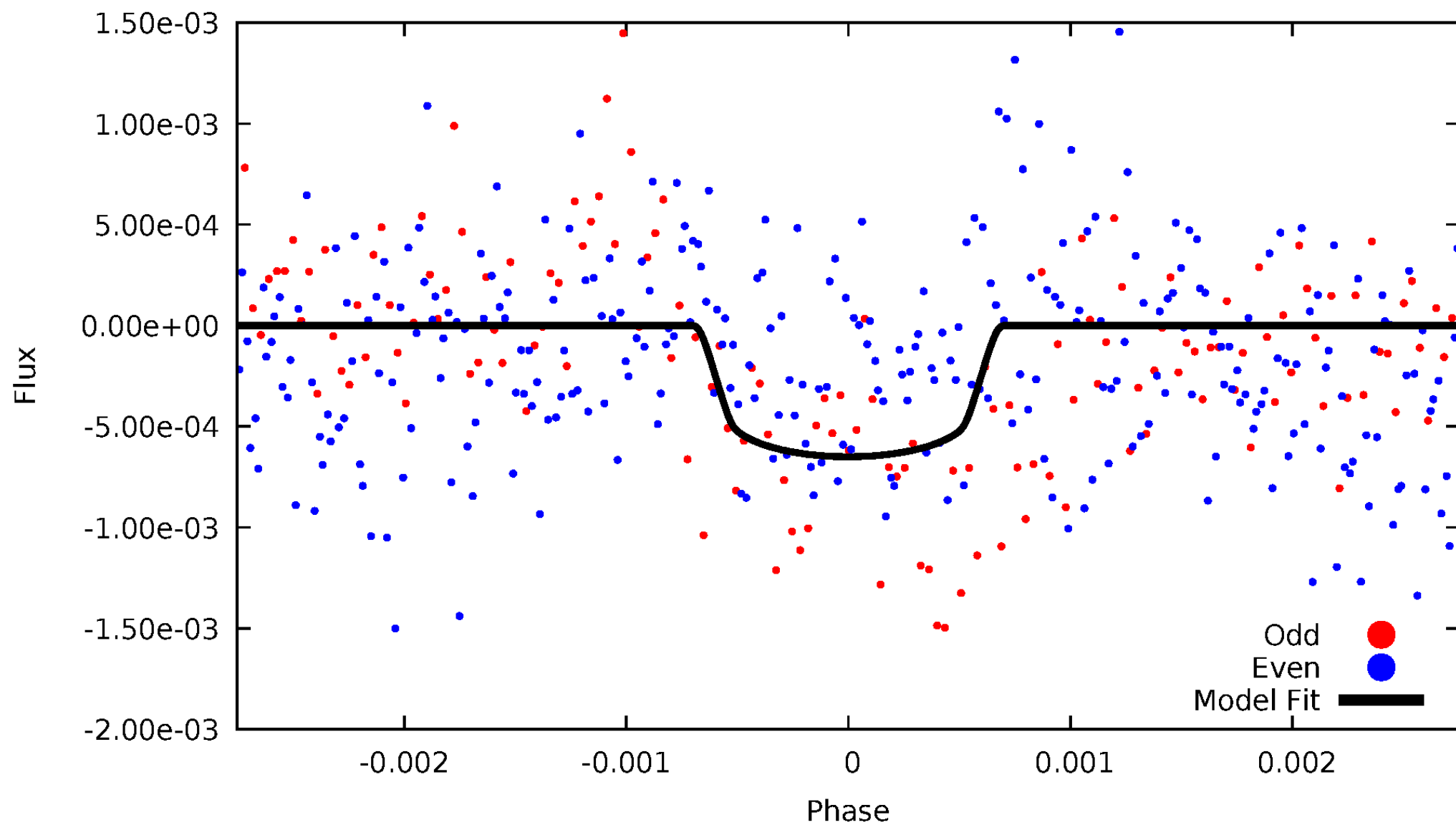


TCE 006356841-01



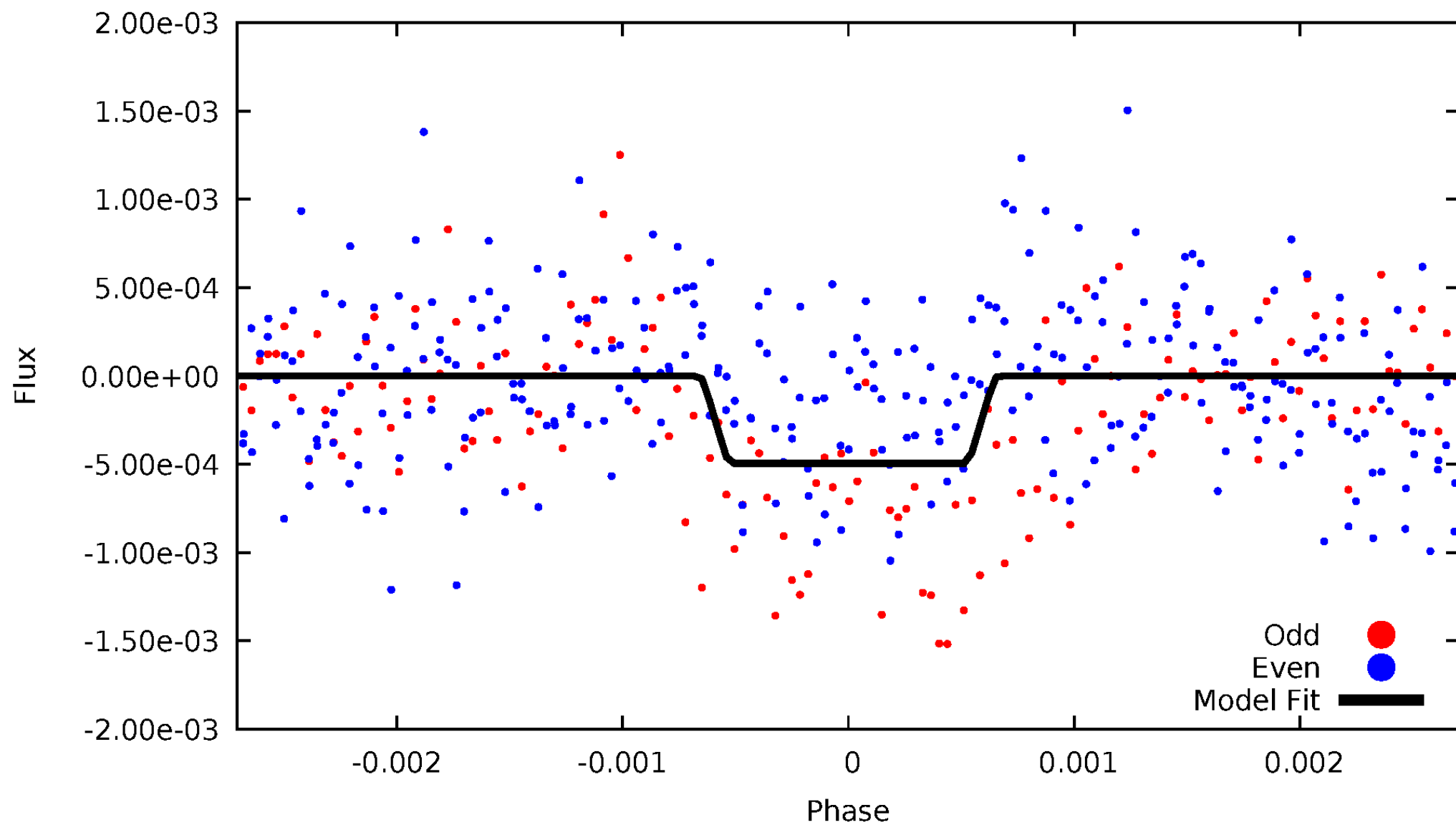
# DV Odd/Even

TCE 006356841-01



# ALT Odd/Even

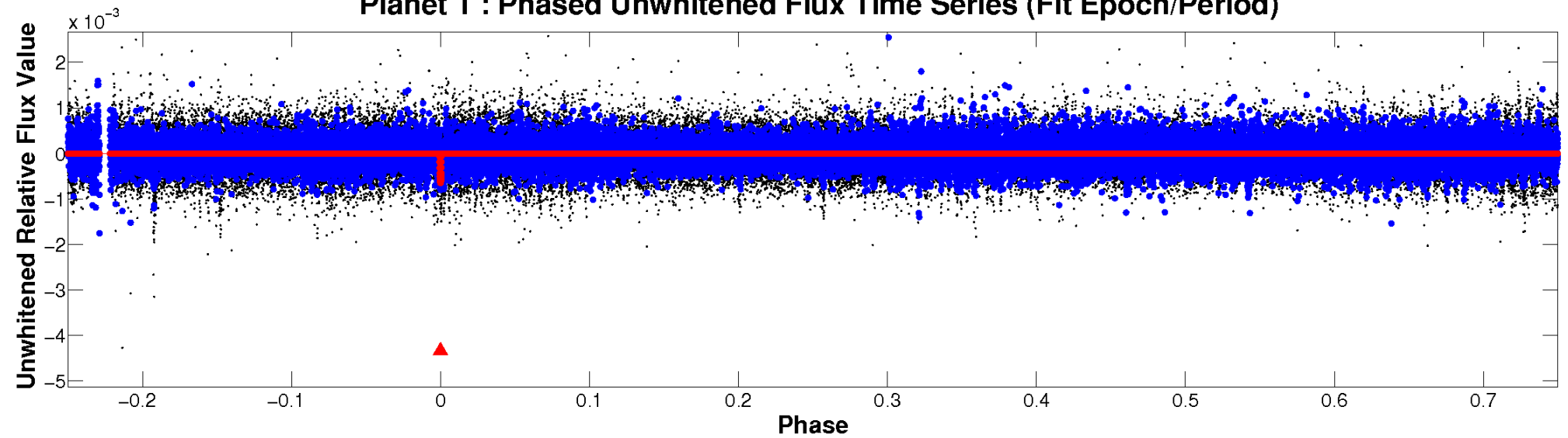
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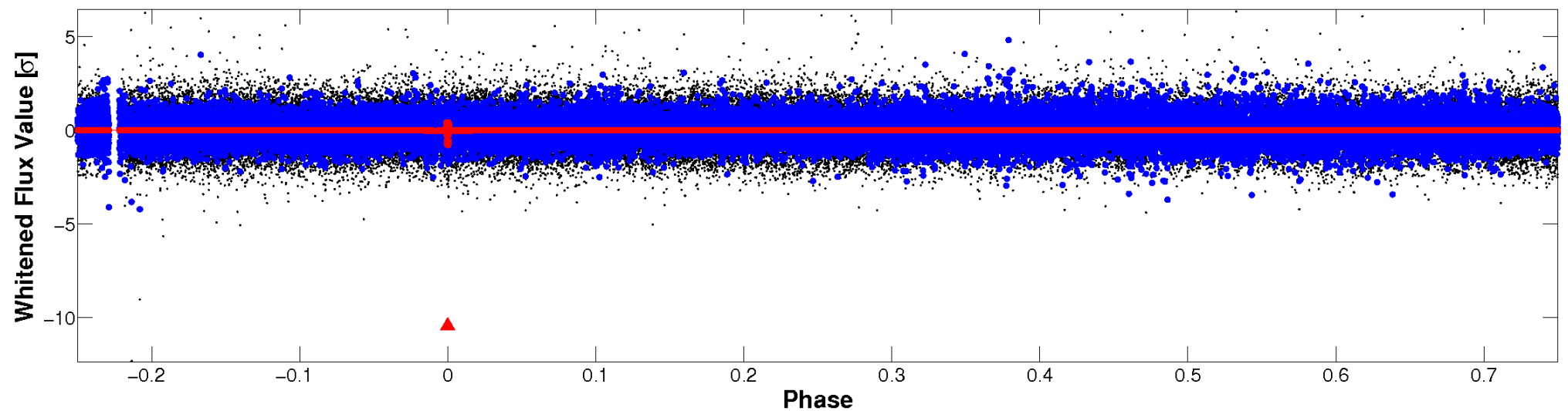


# Non-Whitened Vs. Whitened Light Curve

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

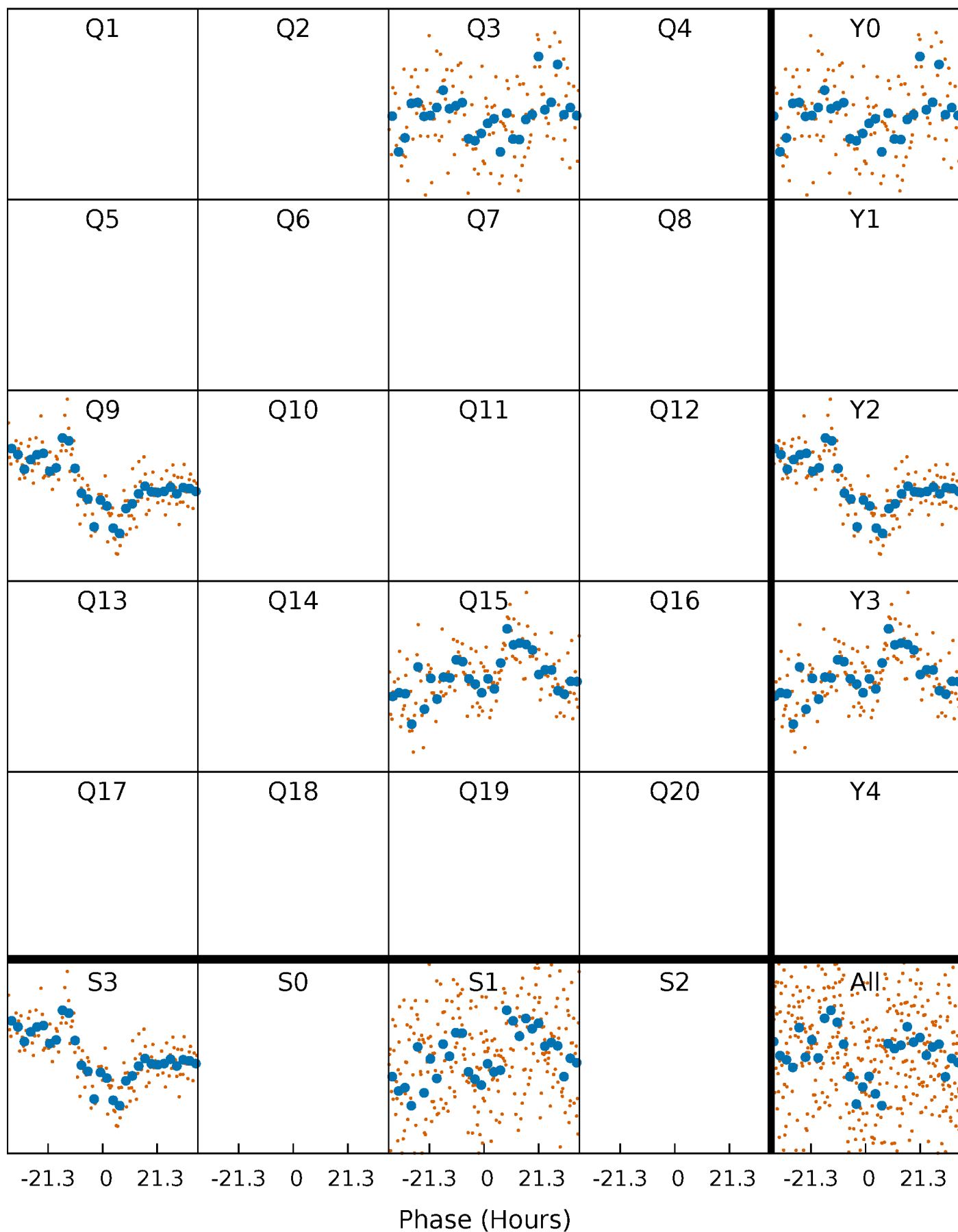


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

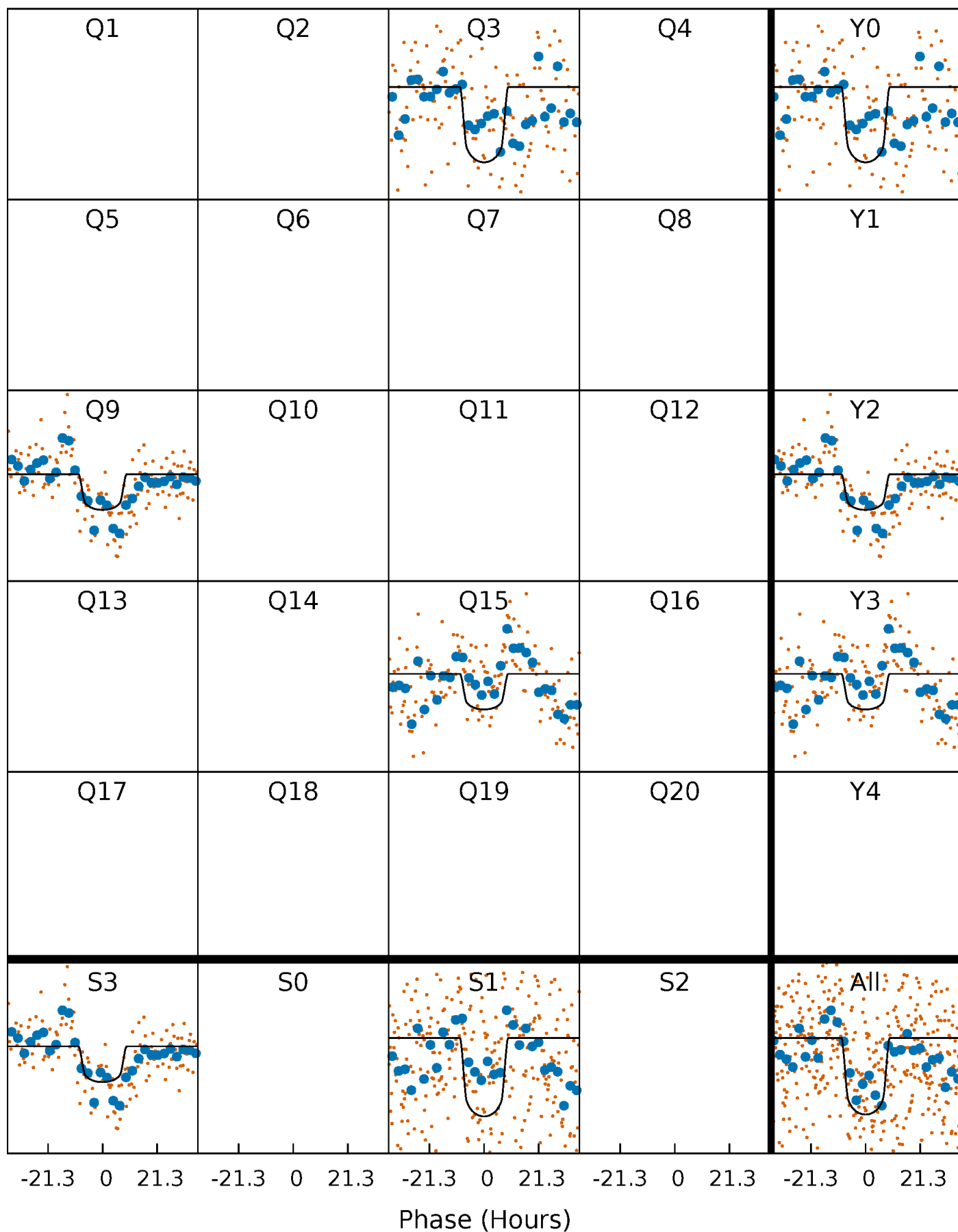
TCE 006356841-01 P=563.728545 Days  $T_0=293.993157$  (BKJD)





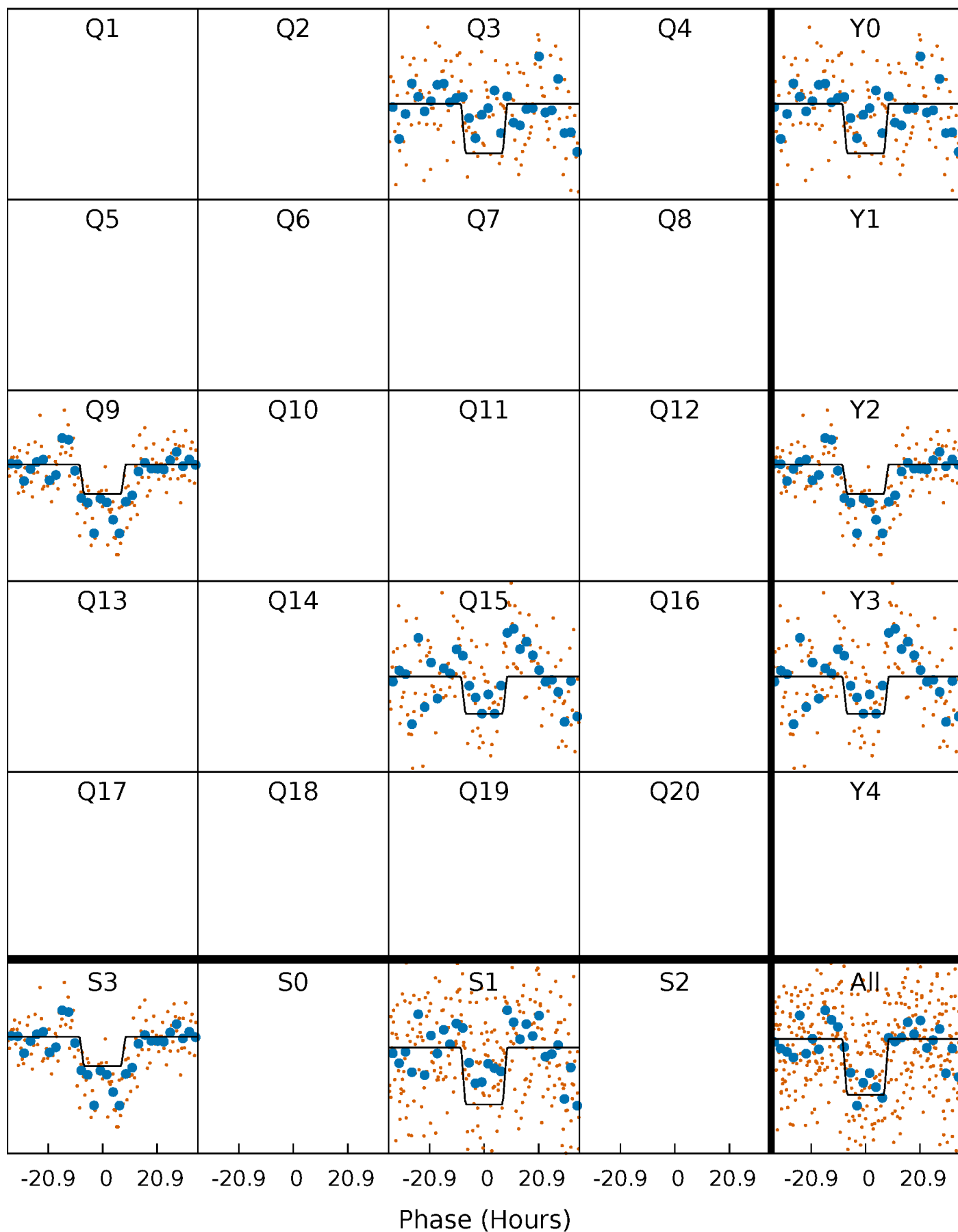
# DV Quarter-Phased Transit Curves

TCE 006356841-01     $P=563.728545$  Days     $T_0=293.993157$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

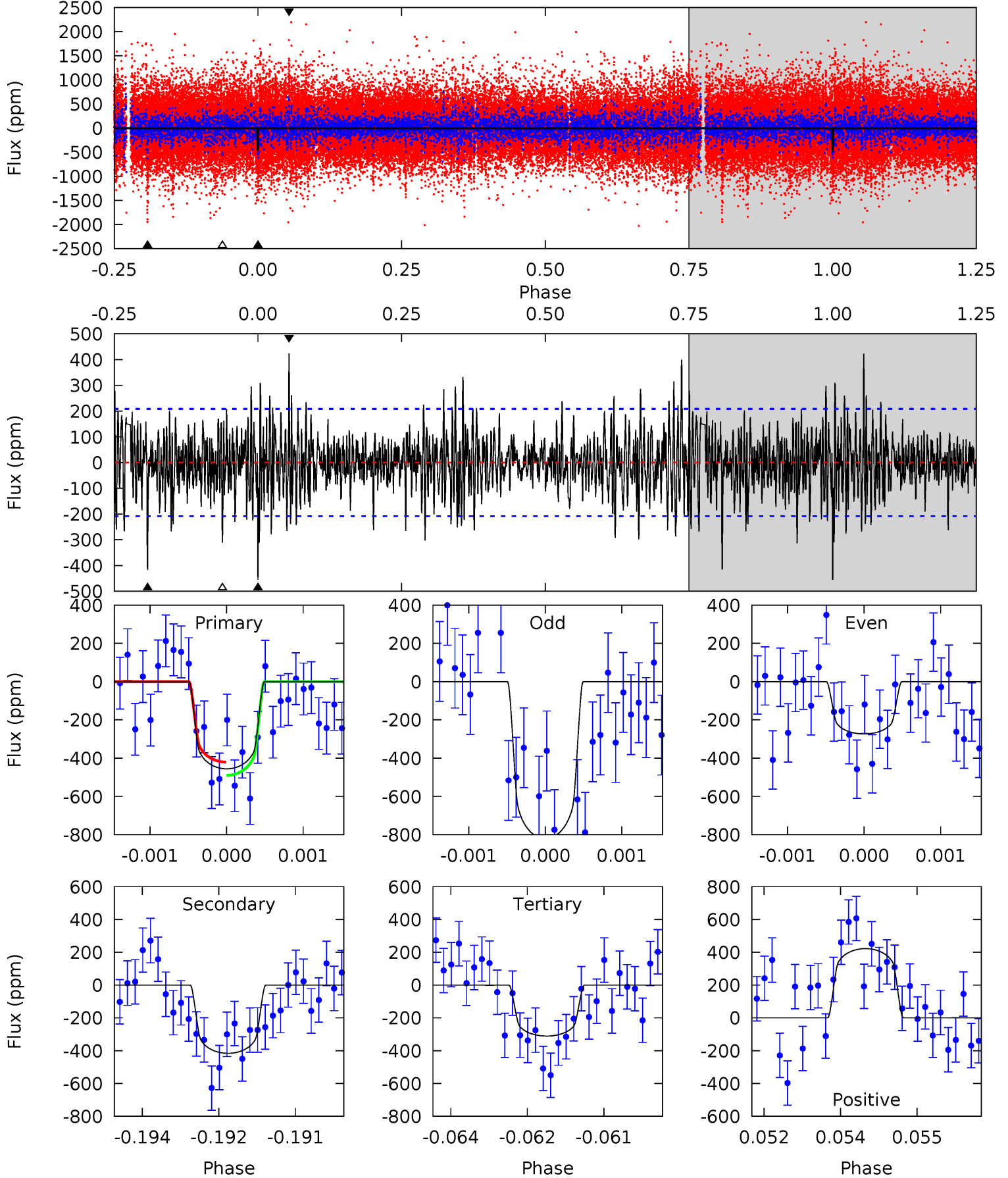
TCE 006356841-01 P=563.721053 Days  $T_0=293.998990$  (BKJD)



# DV Model-Shift Uniqueness Test

006356841-01, P = 563.728545 Days, E = 293.993157 Days

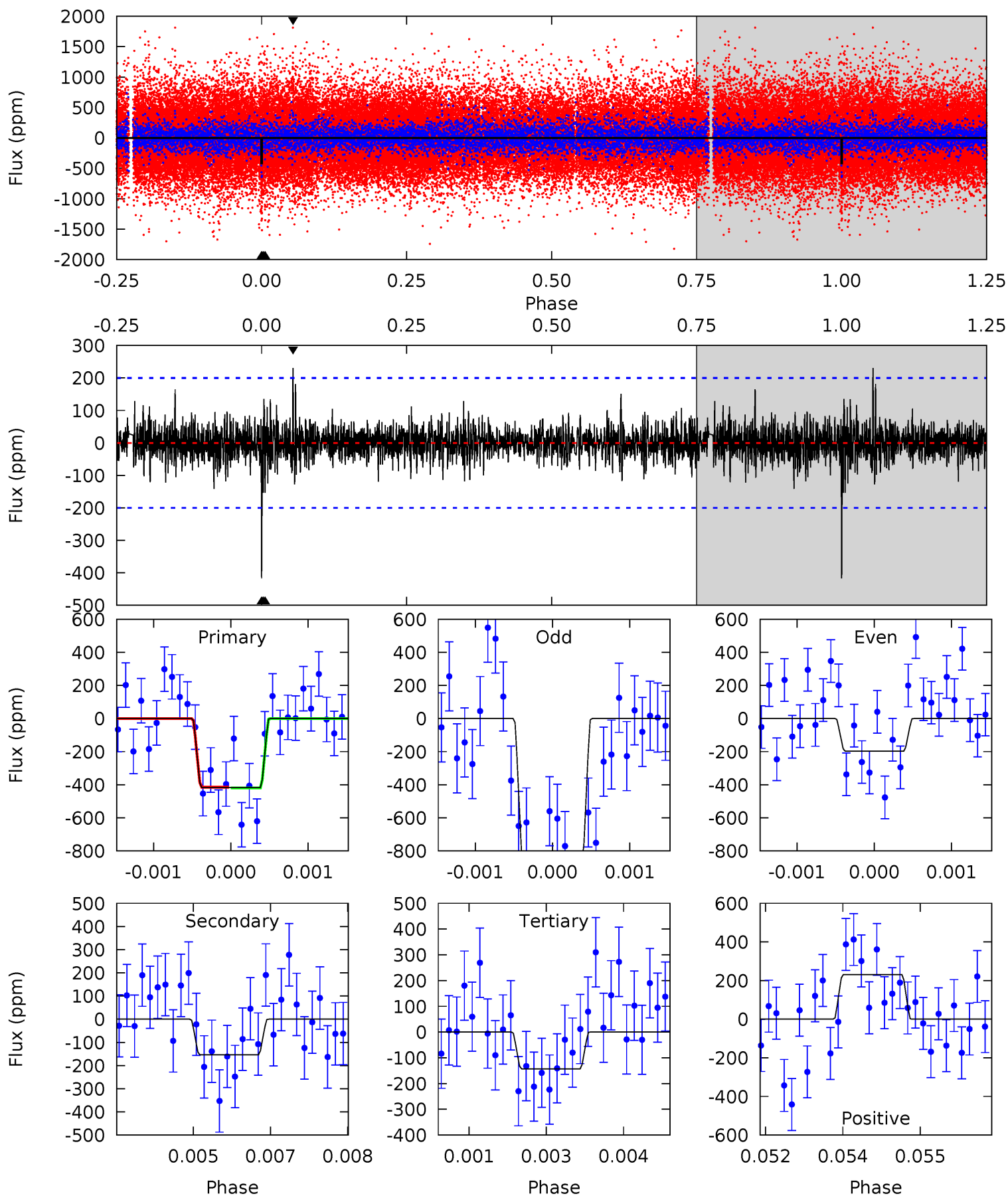
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	10.8	8.04	10.9	5.39	3.19	2.46	3.74	0.87	2.72	-0.15	6.70	1.26	0.48	0.90



# Alt Model-Shift Uniqueness Test

006356841-01, P = 563.721053 Days, E = 293.998990 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
11.3	4.15	3.86	6.24	5.40	3.21	1.02	7.42	5.04	0.29	-2.09	8.46	1.62	0.36	0.05



### Stellar Parameters For KIC 006356841

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5996^{+167}_{-208}$	$4.489^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.300}$	$0.956^{+0.308}_{-0.103}$	$1.027^{+0.128}_{-0.142}$	$1.657^{+0.467}_{-0.872}$
	+3%/-3%	+1%/-5%	+250%/-300%	+32%/-11%	+12%/-14%	+28%/-53%
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 006356841-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-416 \pm 39$	$2.98^{+0.56}_{-0.42}$	$318^{+23}_{-15}$	$5211^{+333}_{-282}$	$44819^{+15535}_{-11755}$
Alt.	$-154 \pm 37$	$2.38^{+0.48}_{-0.36}$	$316^{+23}_{-14}$	$4611^{+397}_{-356}$	$25534^{+13806}_{-9263}$

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

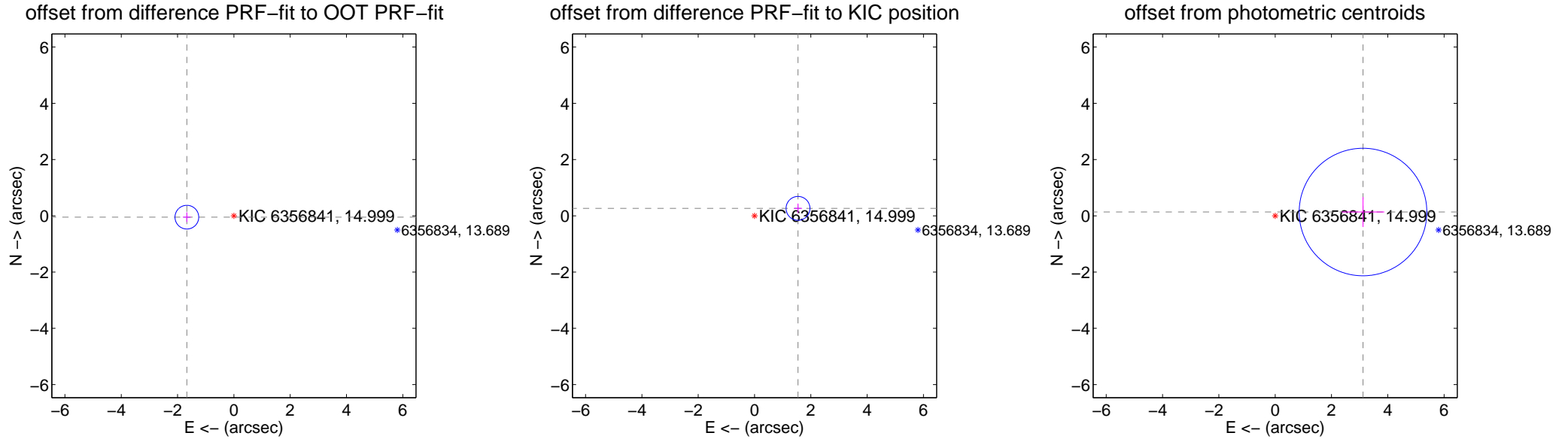
## DV Centroid Data

Supplemental centroid analysis for 006356841-01. Kepler magnitude: 15.00. Transit SNR 7.84

There are 1 quarters with good PRF difference image offsets

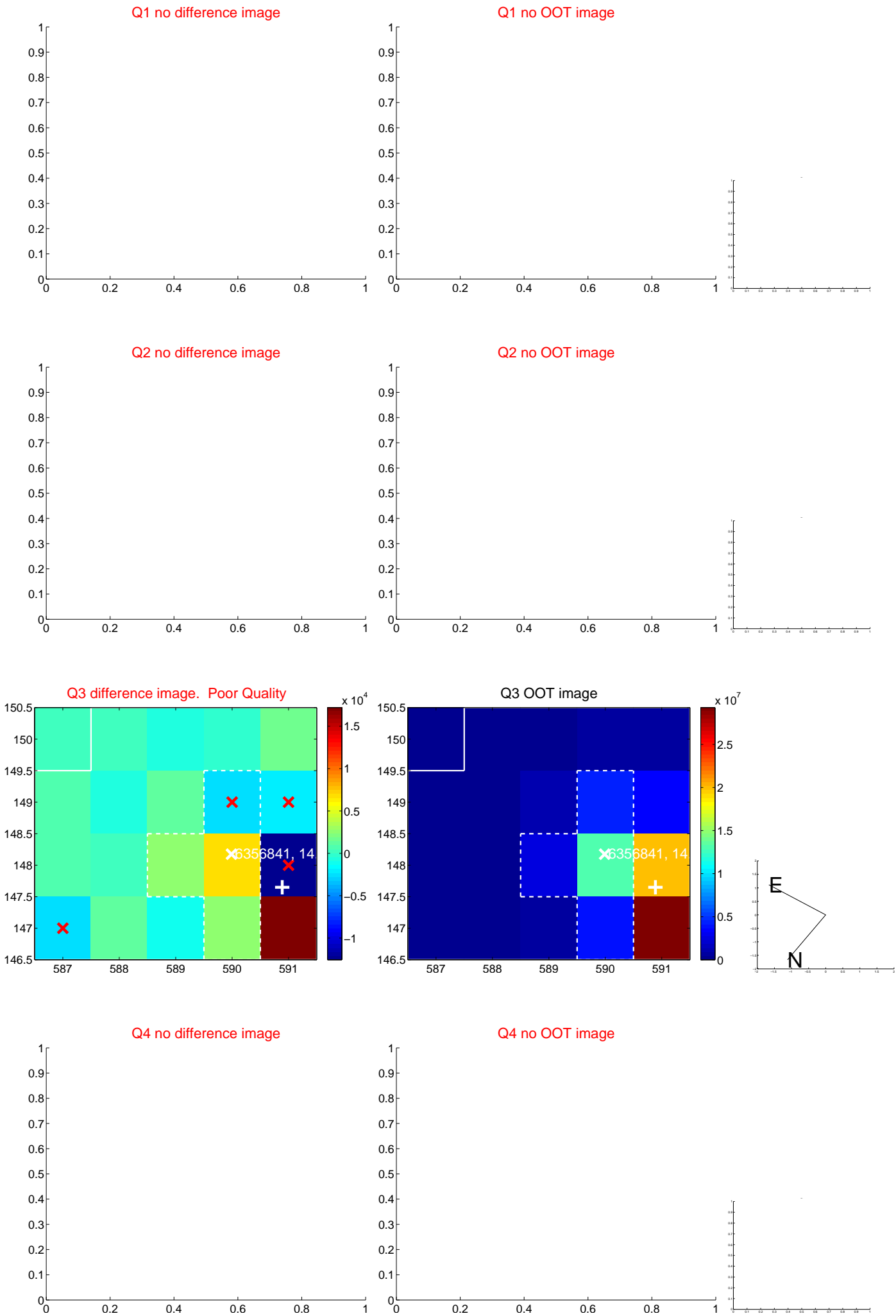
The OOT PRF centroid is offset from the target star catalog position by about 3.23 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.670 \pm 0.140$	11.89	$1.670 \pm 0.140$	$-0.048 \pm 0.171$
PRF-fit source offset from KIC position	$1.567 \pm 0.141$	11.08	$-1.544 \pm 0.140$	$0.265 \pm 0.171$
photometric centroid source offset	$3.12 \pm 0.76$	4.13	$-3.12 \pm 0.76$	$0.13 \pm 0.53$



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.

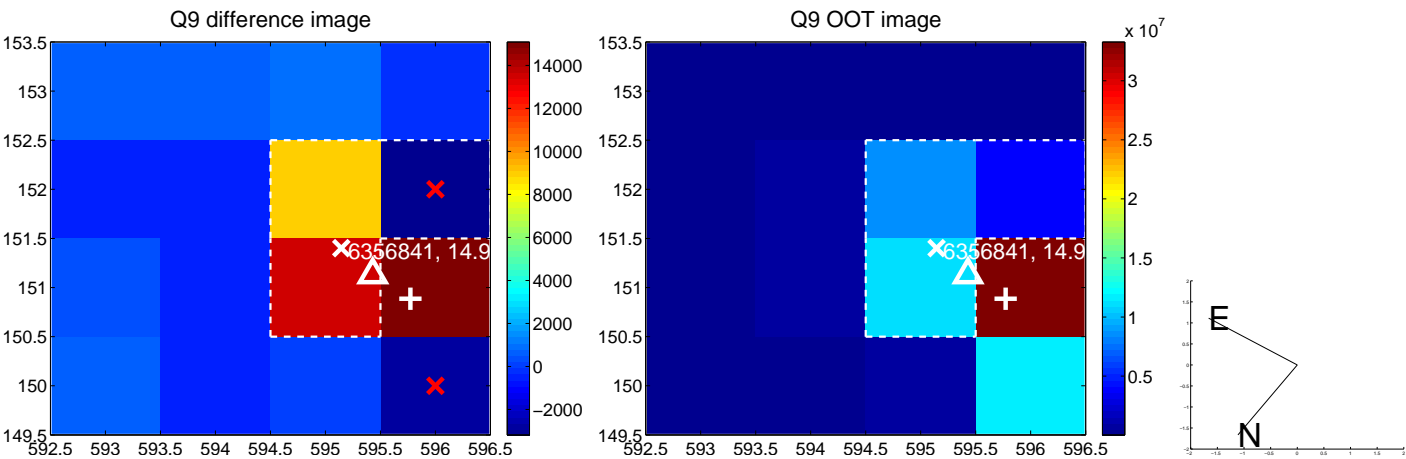




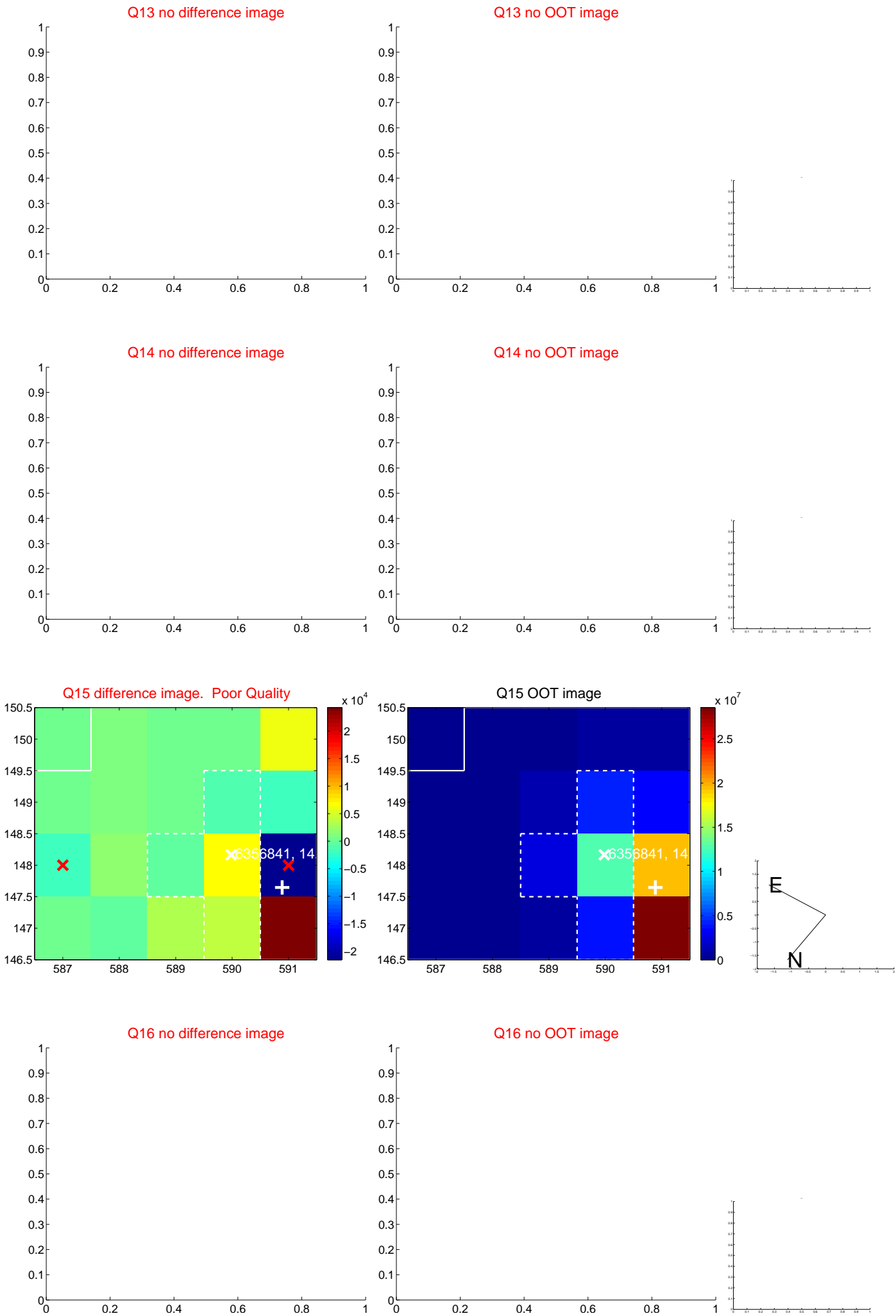
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



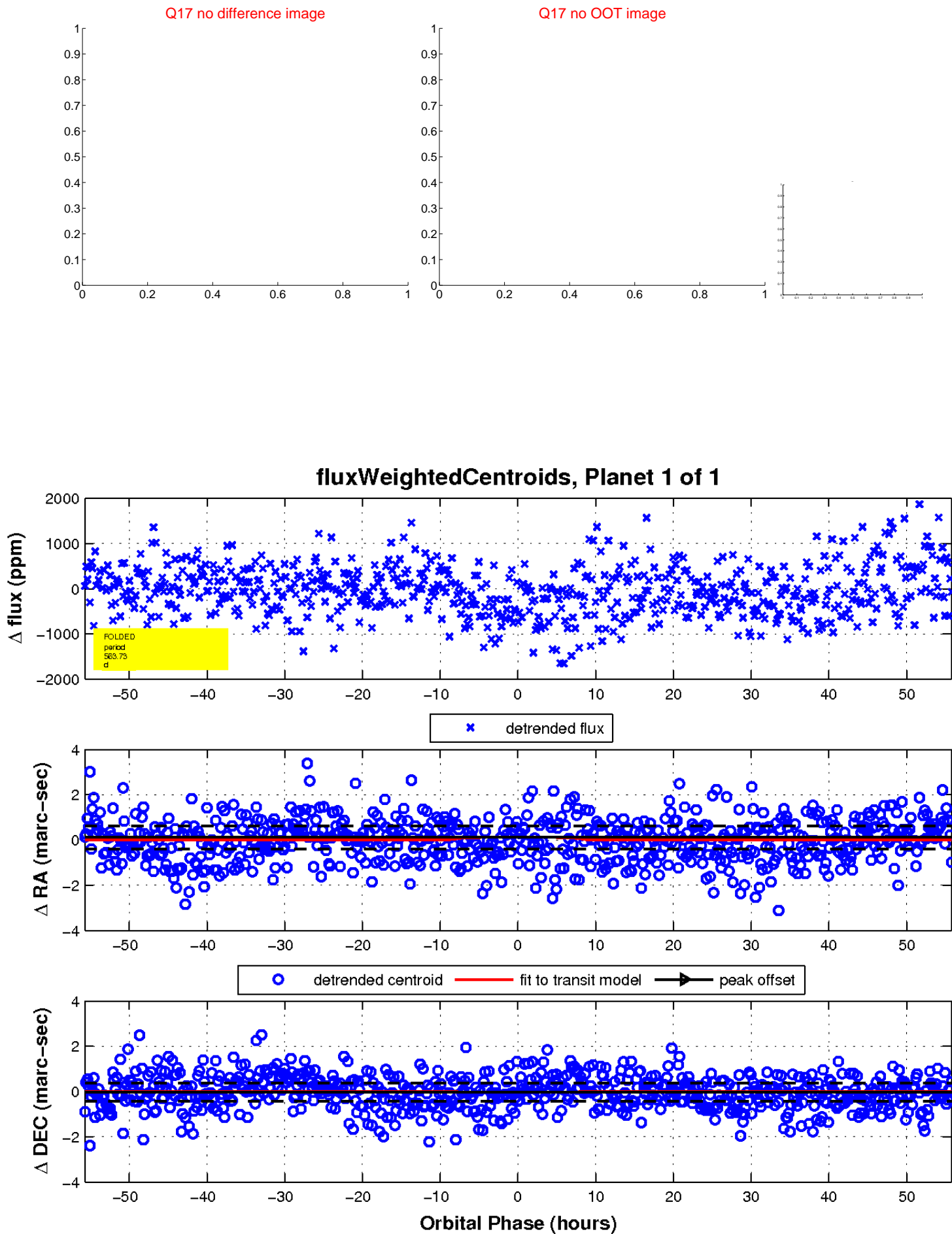
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

