

# KIC 005357279

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005357279-01	OBS	No	546.849161	336.509577	243.3	9.821	8.9	8.1	0.74	5710	1.26	0.35

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005357279-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

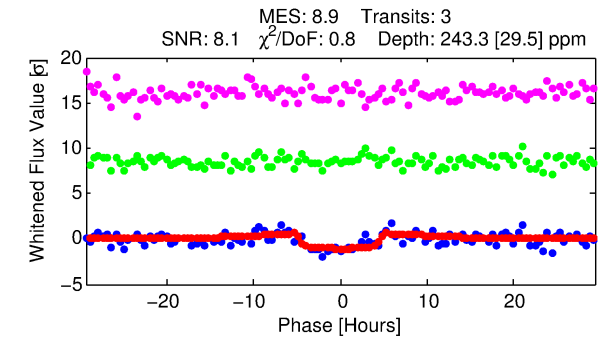
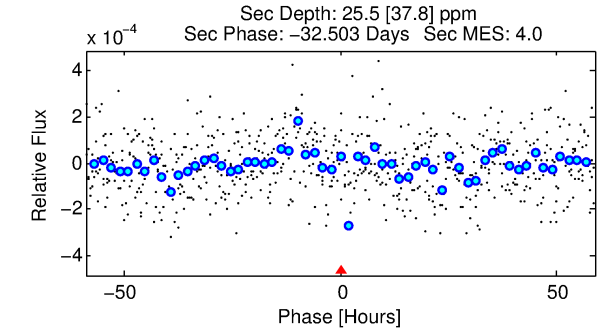
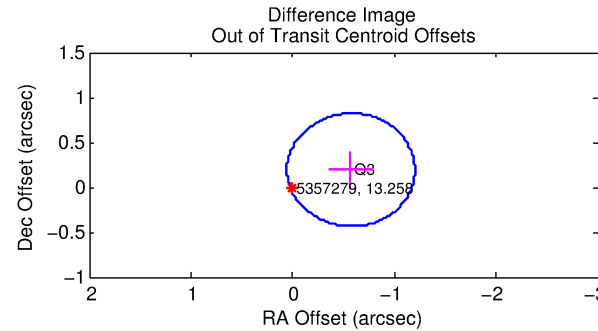
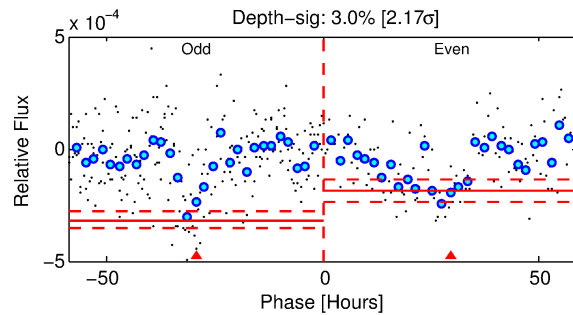
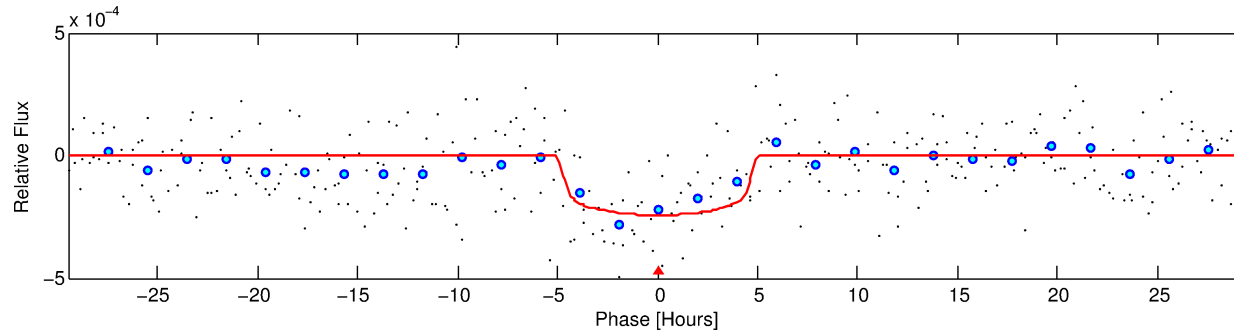
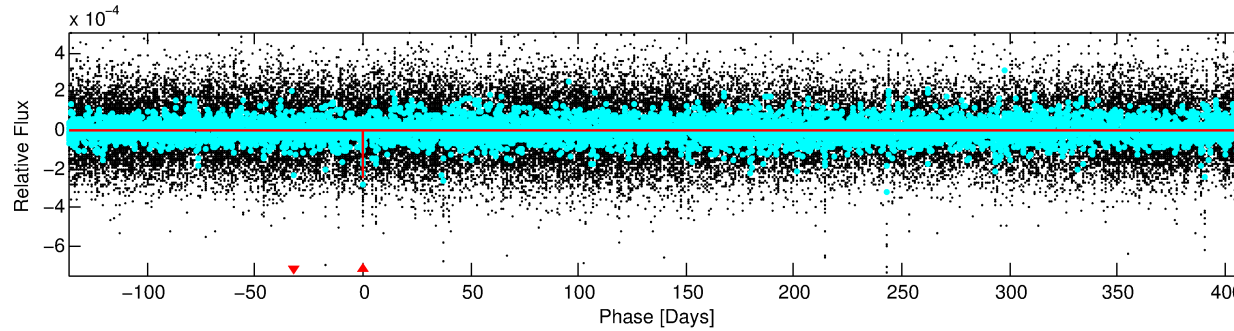
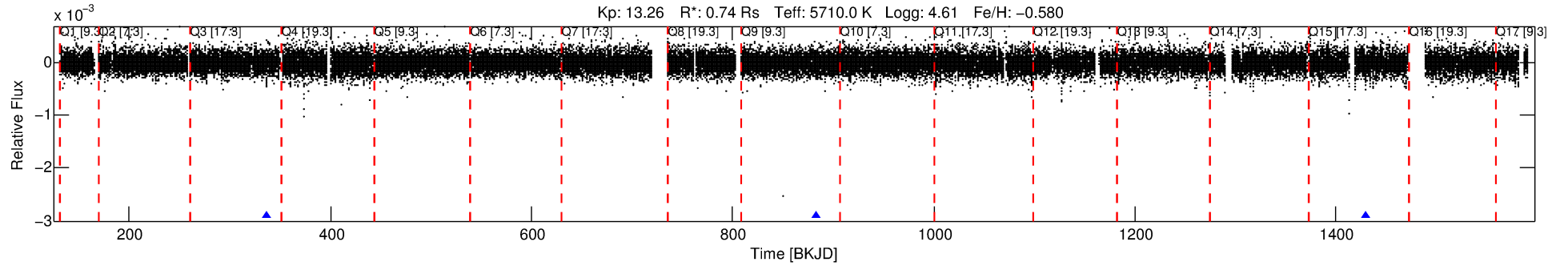
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005357279-01

No Significant Match Found

# DV One-Page Summary

KIC: 5357279 Candidate: 1 of 1 Period: 546.849 d



## DV Fit Results:

Period = 546.84916 [0.00955] d  
Epoch = 336.5096 [0.0108] BKJD  
Rp/R\* = 0.0156 [0.0085]  
a/R\* = 285.64 [743.81]  
b = 0.76 [1.45]  
Seff = 0.35 [0.09]  
Teq = 196 [13] K  
Rp = 1.26 [0.73] Re  
a = 1.2221 [0.2099] AU  
Ag = 13240.54 [24591.17] [0.54 $\sigma$ ]  
Teffp = 3251 [1499] K [2.04 $\sigma$ ]

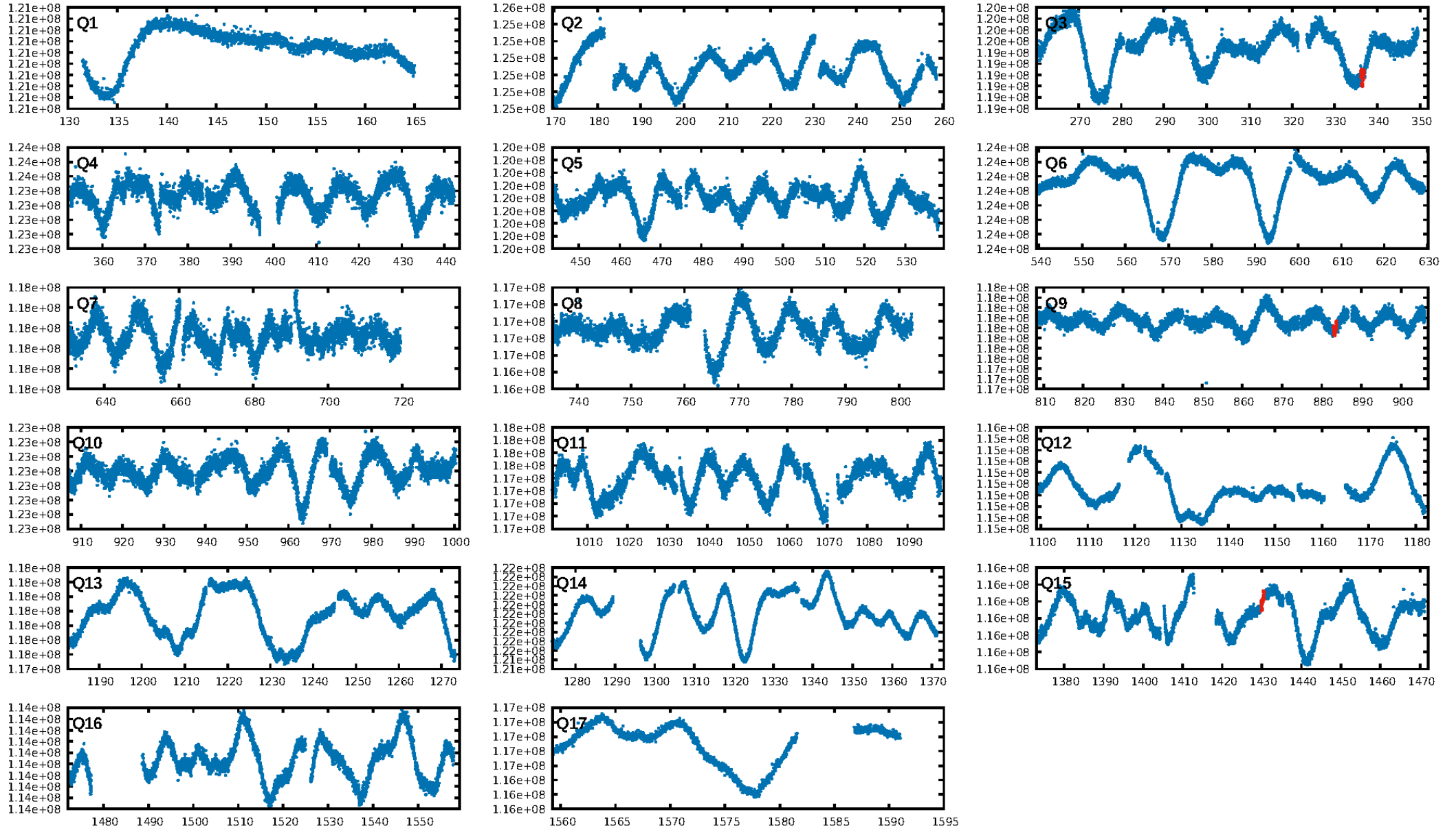
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.6%  
ModelChiSquareGof-sig: 99.6%  
Bootstrap-pfa: 4.38e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.313  
Centroid-sig: 11.3%  
Centroid-so: 1.125 arcsec [1.13 $\sigma$ ]  
OotOffset-rm: 0.604 arcsec [2.89 $\sigma$ ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-rm: 0.483 arcsec [2.30 $\sigma$ ]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

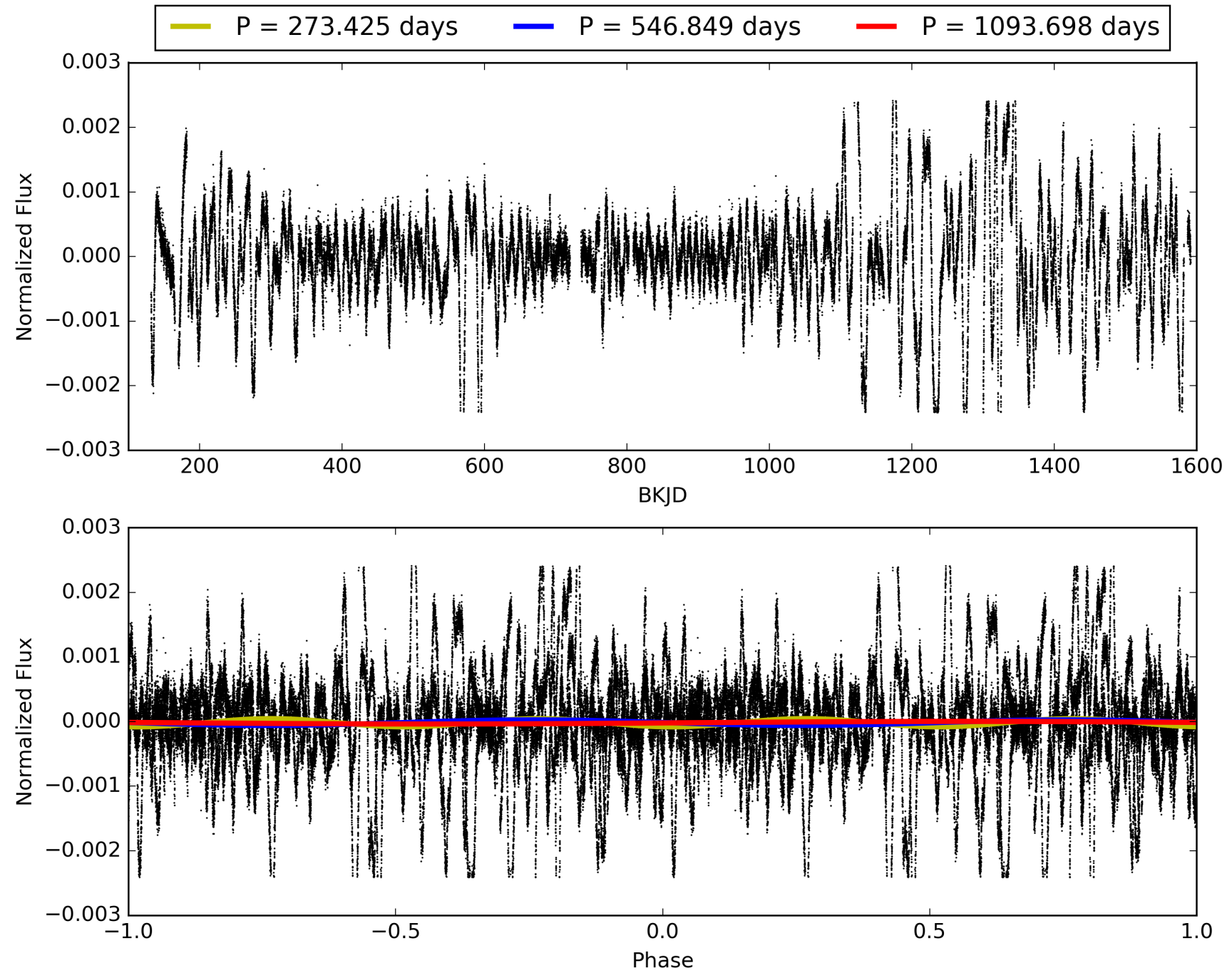
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:50 Z

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

# TCE 005357279-01, PDC Light Curves

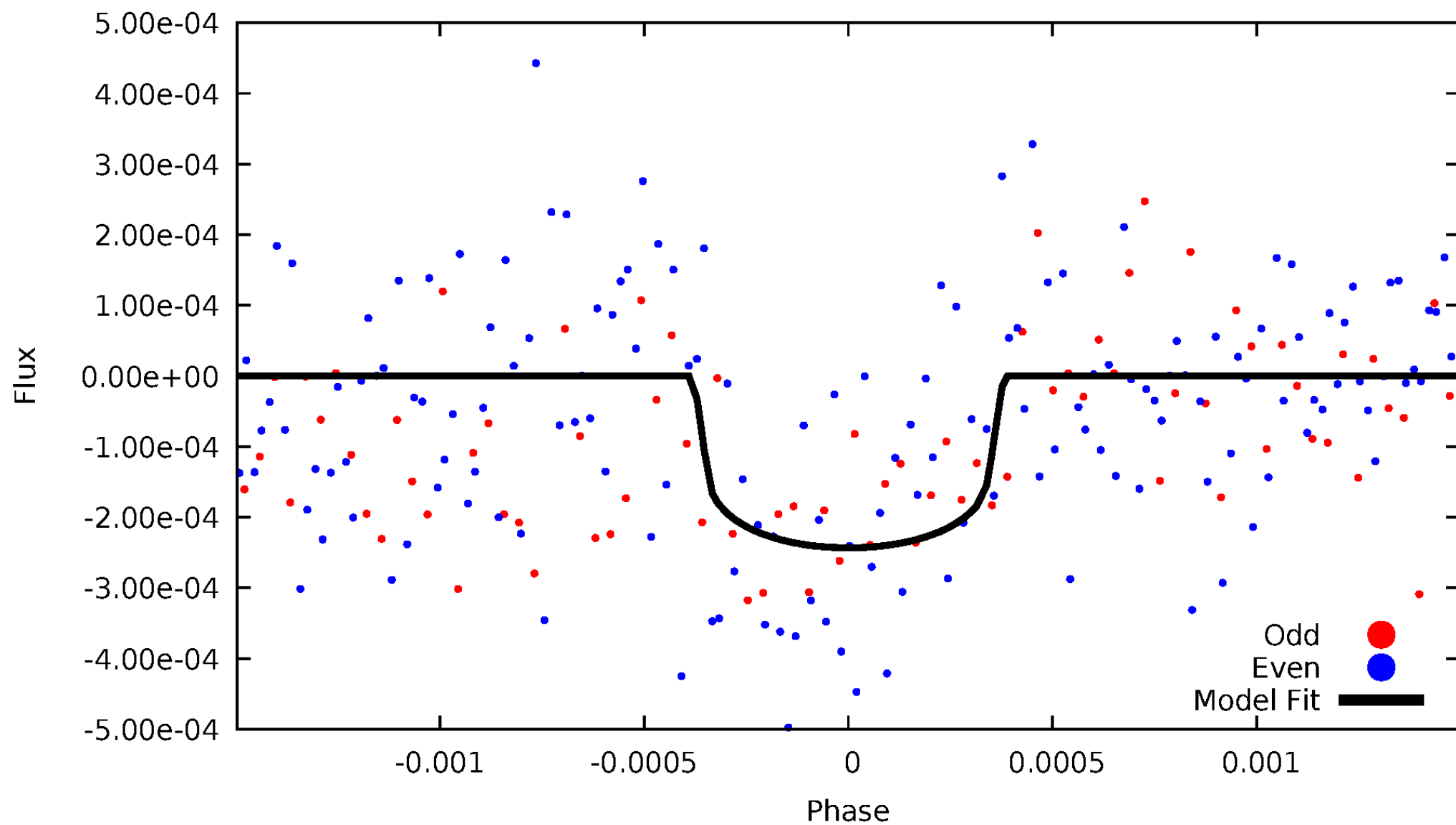


TCE 005357279-01



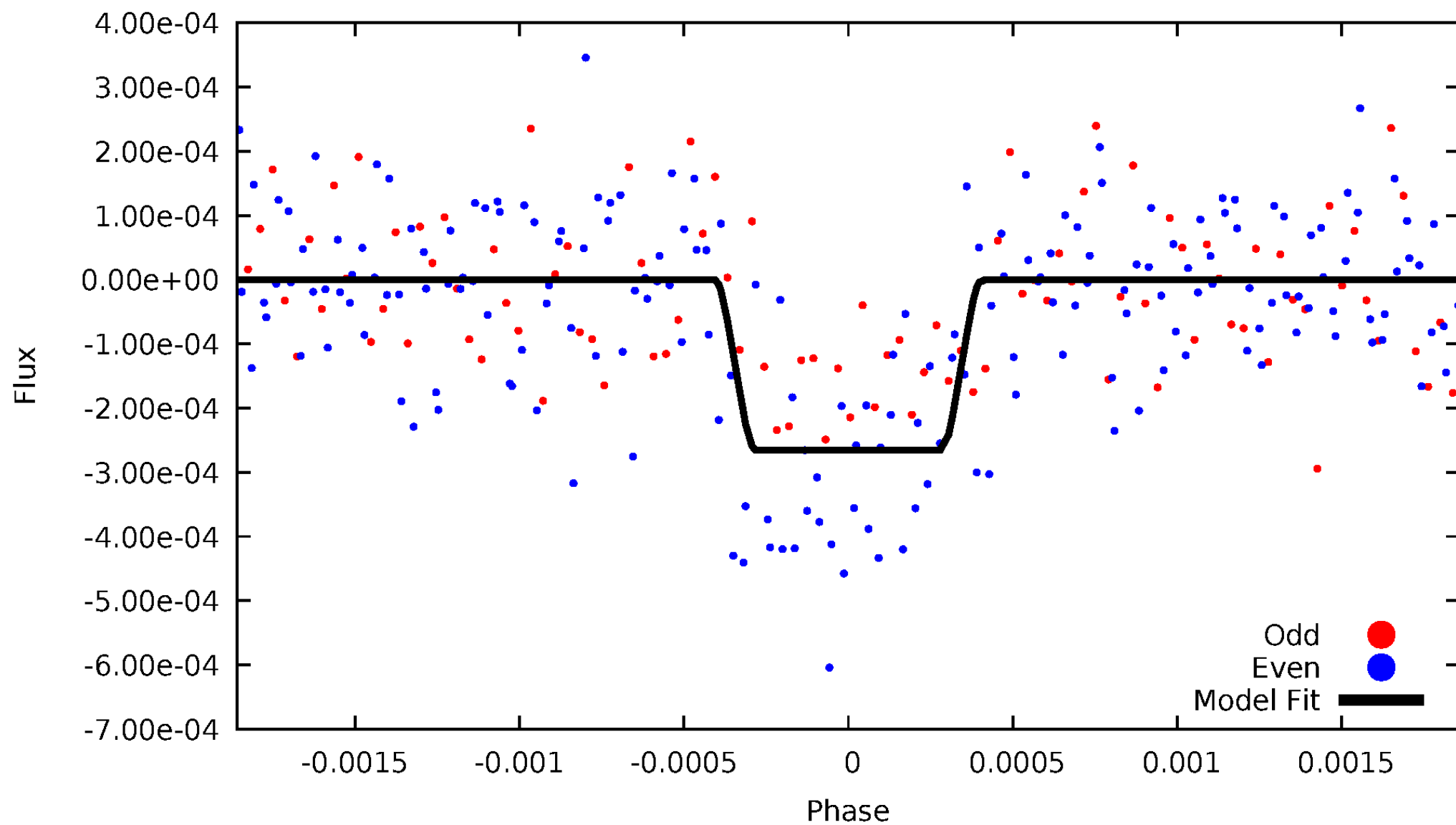
# DV Odd/Even

TCE 005357279-01



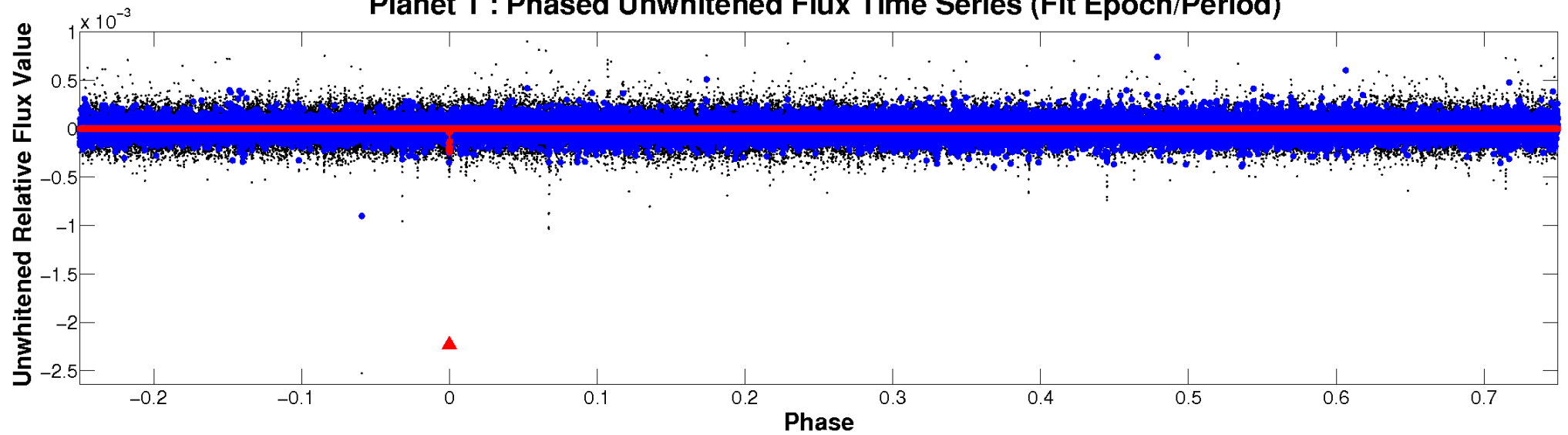
# ALT Odd/Even

TCE 005357279-01

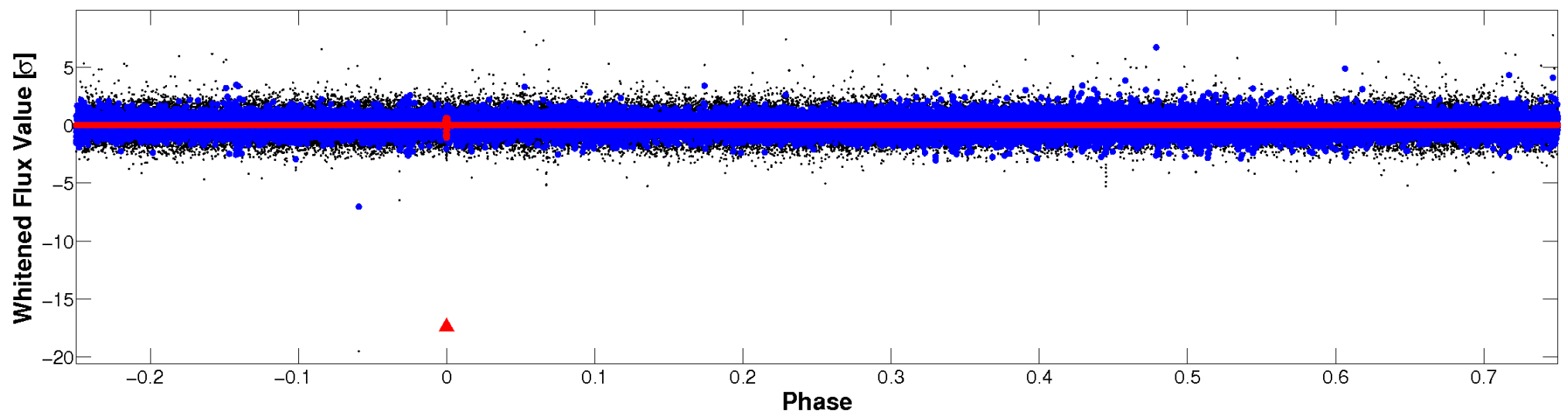


# Non-Whitened Vs. Whitened Light Curve

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

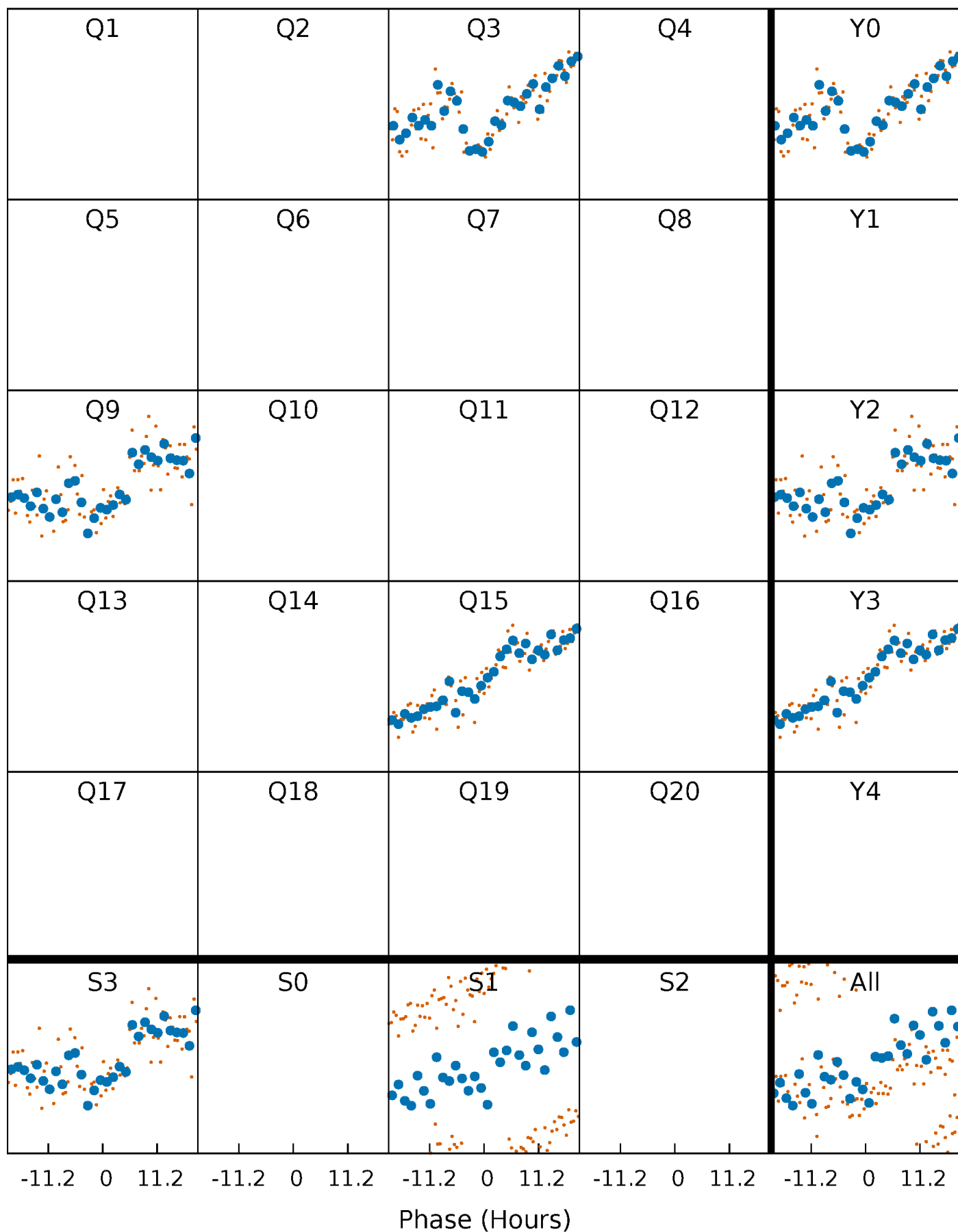


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

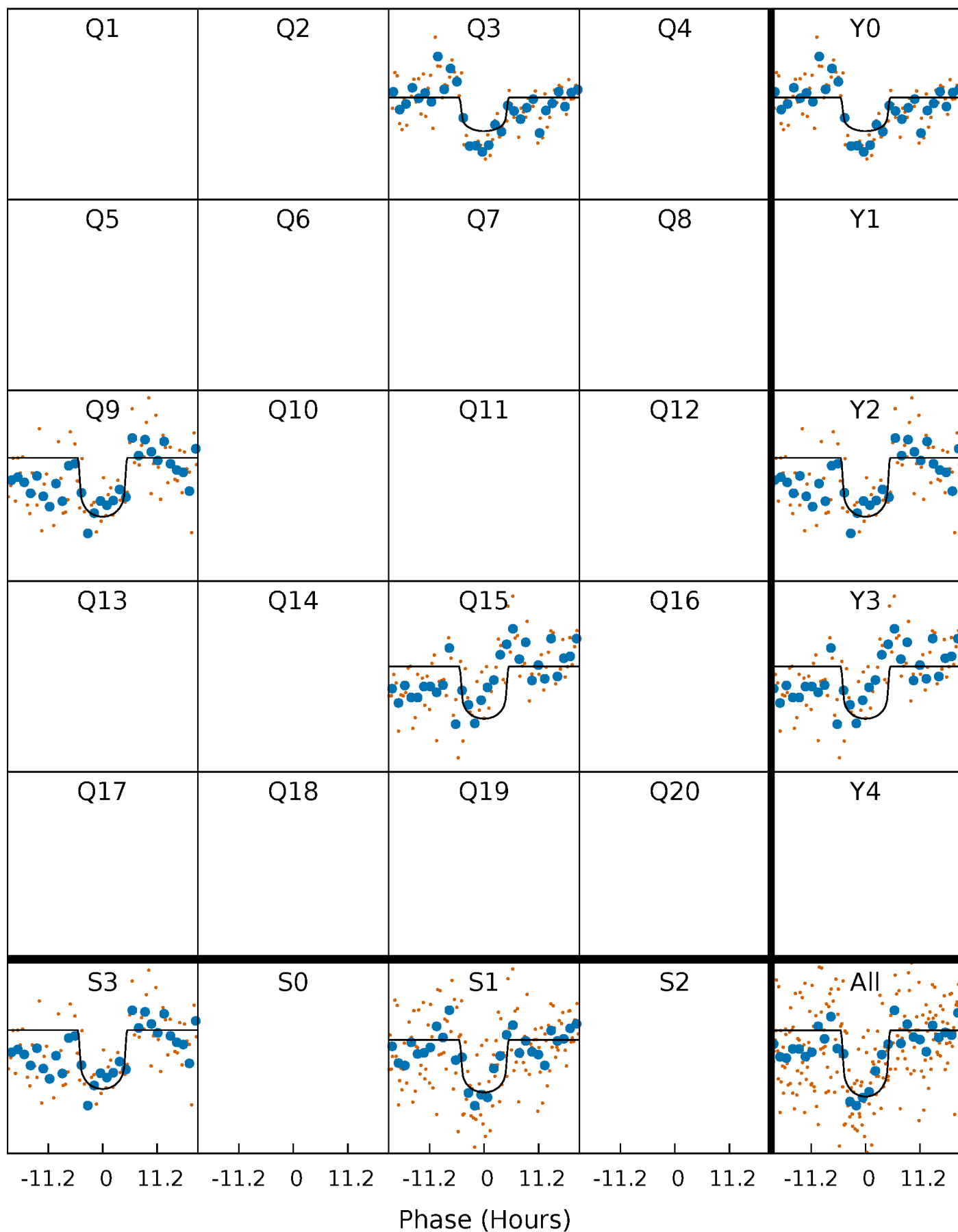
TCE 005357279-01 P=546.849161 Days  $T_0=336.509577$  (BKJD)





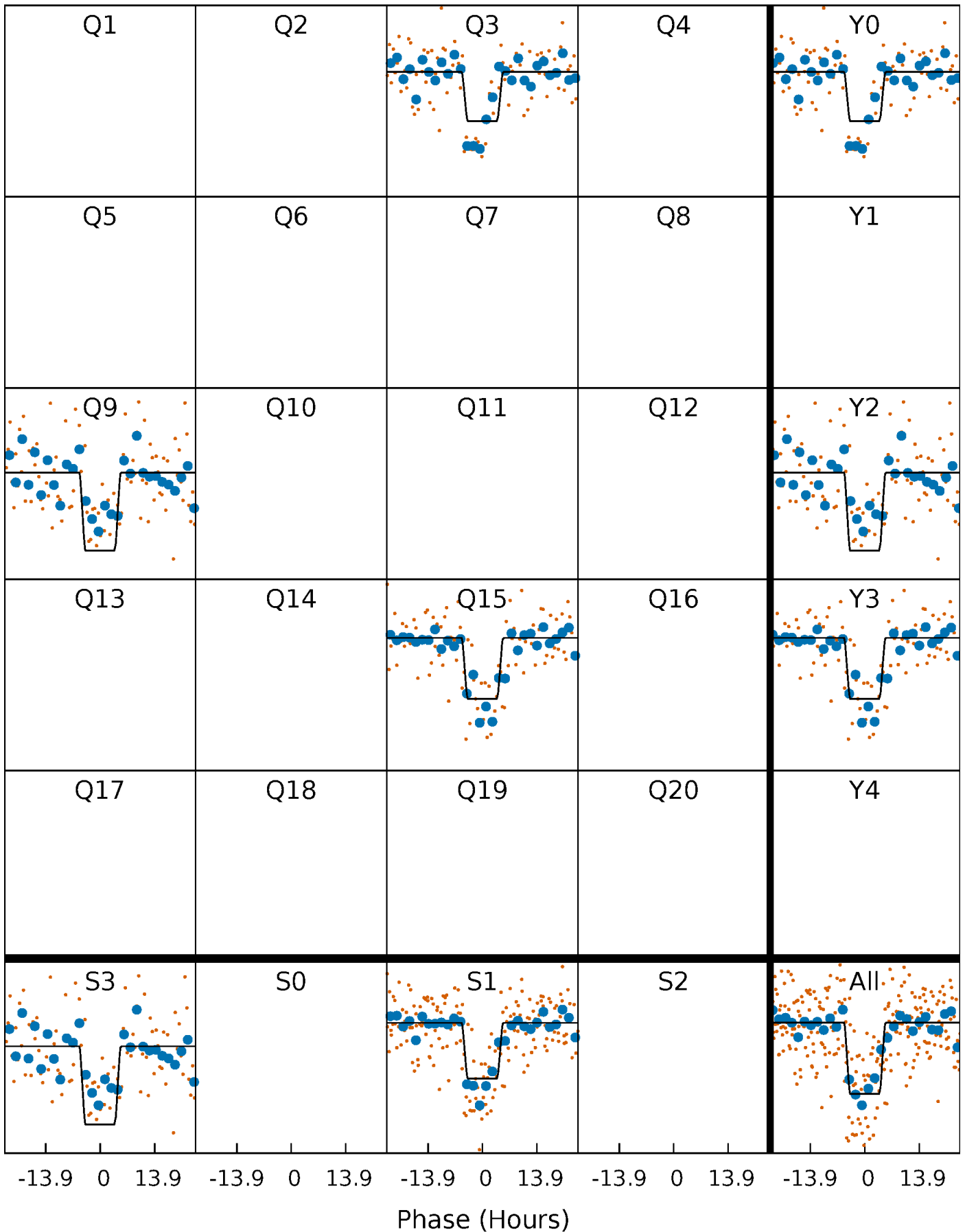
# DV Quarter-Phased Transit Curves

TCE 005357279-01 P=546.849161 Days  $T_0=336.509577$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

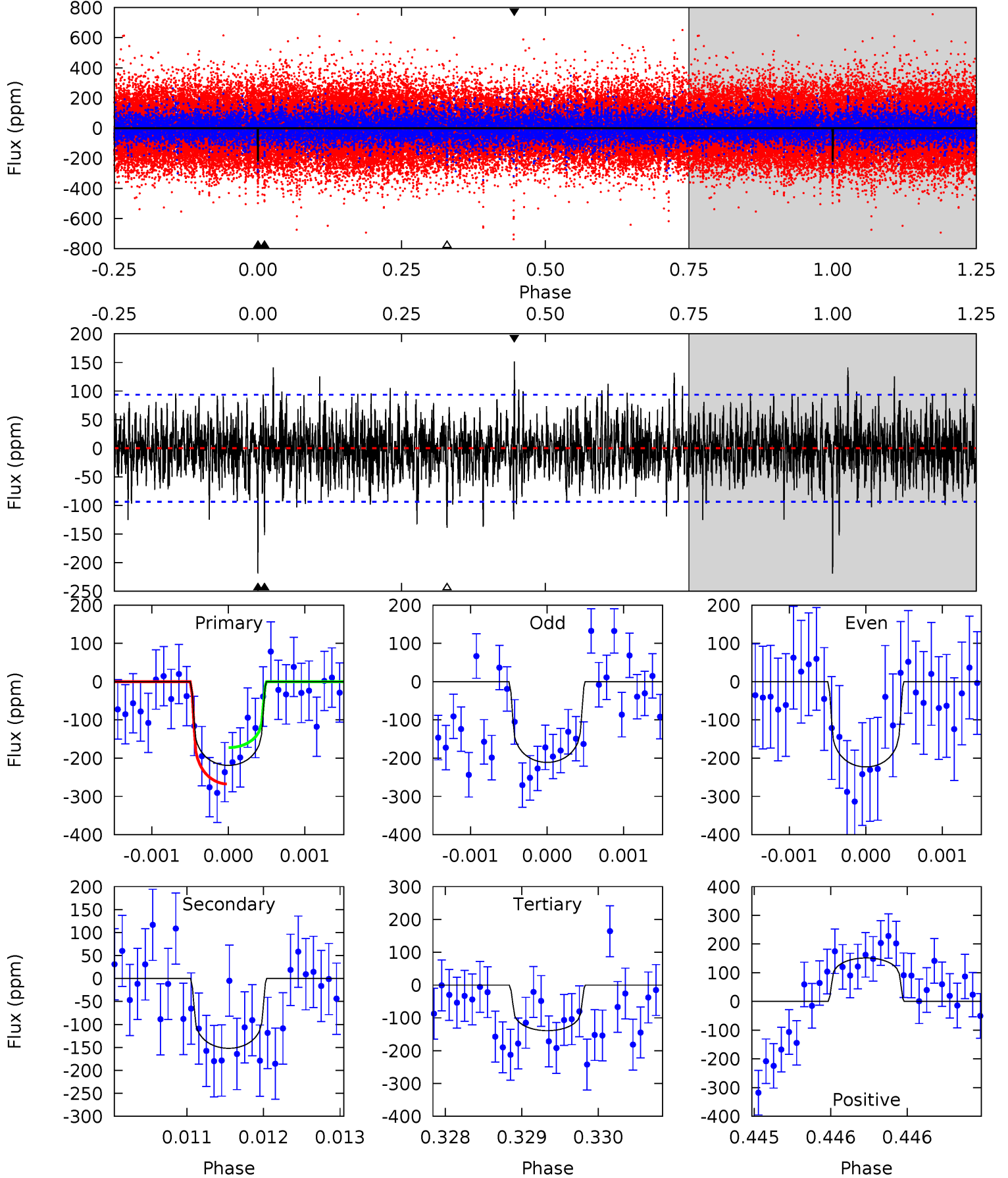
TCE 005357279-01 P=546.815688 Days  $T_0=336.527895$  (BKJD)



# DV Model-Shift Uniqueness Test

005357279-01, P = 546.849161 Days, E = 336.509577 Days

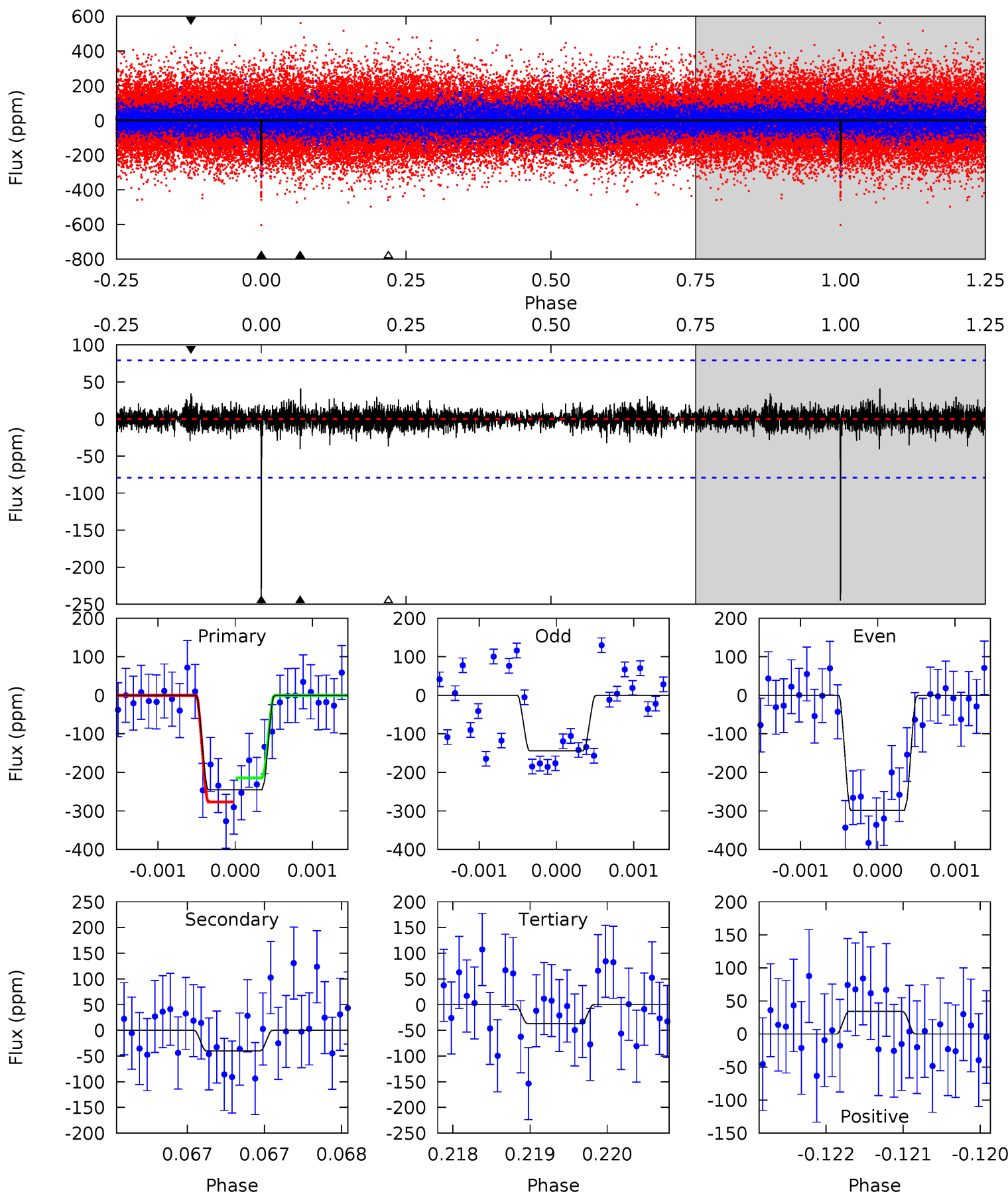
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	8.93	8.17	8.90	5.49	3.36	2.08	4.70	3.96	0.77	0.03	0.34	1.05	0.41	2.80



# Alt Model-Shift Uniqueness Test

005357279-01, P = 546.815688 Days, E = 336.527895 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
17.0	2.80	2.57	2.38	5.49	3.35	0.54	14.4	14.6	0.23	0.42	5.01	0.85	0.14	2.16



### Stellar Parameters For KIC 005357279

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5710^{+154}_{-154}$	$4.610^{+0.036}_{-0.135}$	$-0.580^{+0.300}_{-0.300}$	$0.740^{+0.152}_{-0.054}$	$0.828^{+0.072}_{-0.088}$	$2.878^{+0.498}_{-1.147}$
	+3%/-3%	+1%/-3%	+52%/-52%	+21%/-7%	+9%/-11%	+17%/-40%
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 005357279-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-152 \pm 17$	$1.36^{+0.73}_{-0.68}$	$278^{+15}_{-11}$	$5063^{+2098}_{-792}$	$67808^{+202183}_{-39069}$
Alt.	$-40 \pm 14$	$1.39^{+0.75}_{-0.70}$	$278^{+14}_{-11}$	$3848^{+1273}_{-538}$	$16667^{+55852}_{-10550}$

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

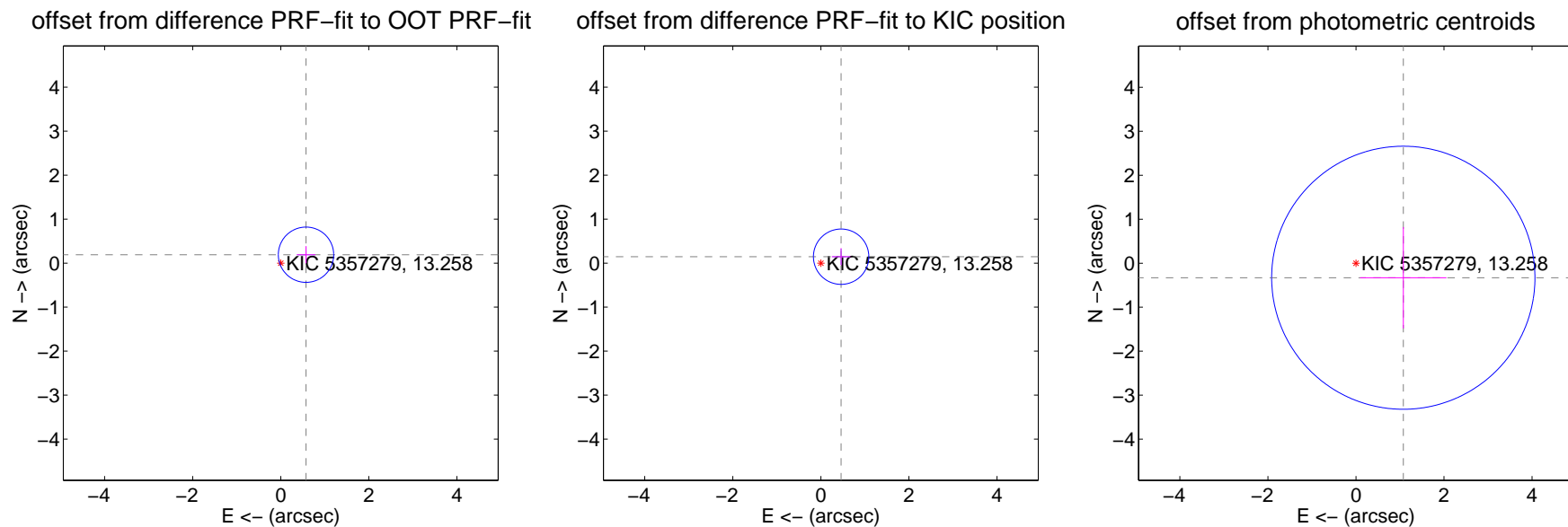
## DV Centroid Data

Supplemental centroid analysis for 005357279-01. Kepler magnitude: 13.26. Transit SNR 8.13

There are 1 quarters with good PRF difference image offsets

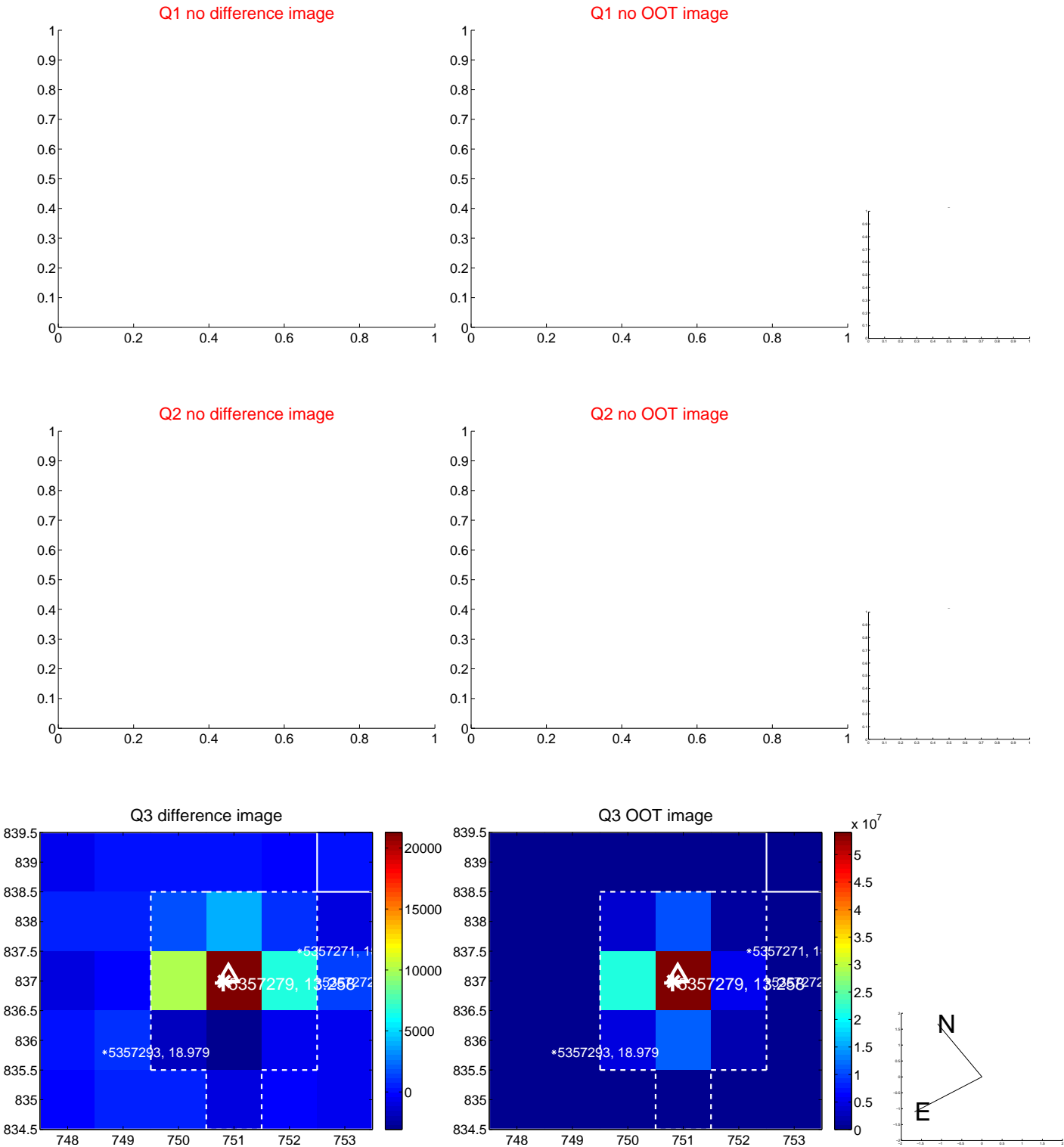
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.604 \pm 0.209$	2.89	$-0.573 \pm 0.211$	$0.192 \pm 0.194$
PRF-fit source offset from KIC position	$0.483 \pm 0.210$	2.30	$-0.460 \pm 0.211$	$0.146 \pm 0.194$
photometric centroid source offset	$1.12 \pm 1.00$	1.13	$-1.08 \pm 0.98$	$-0.33 \pm 1.15$



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.

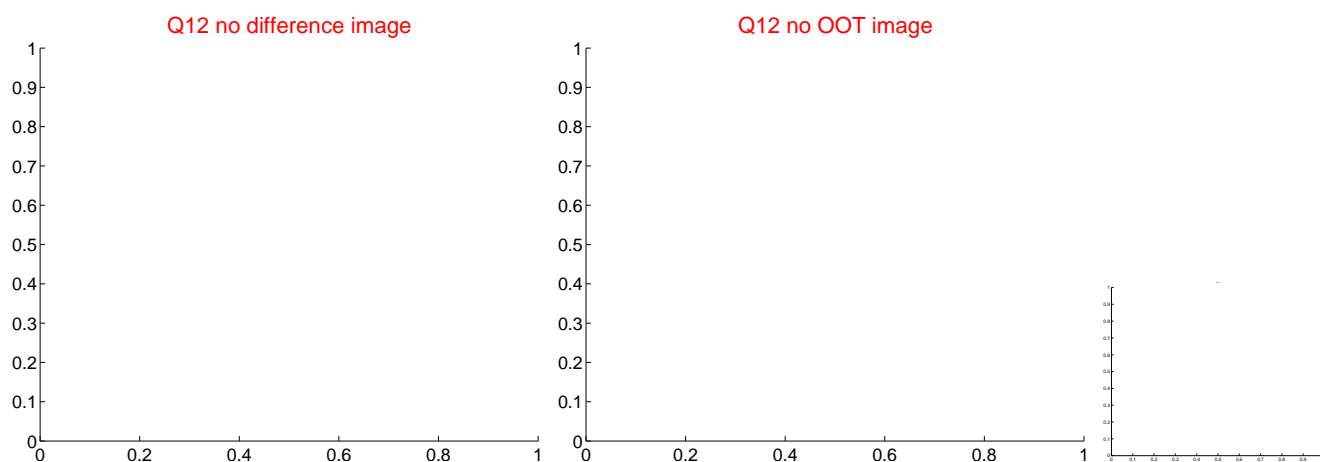
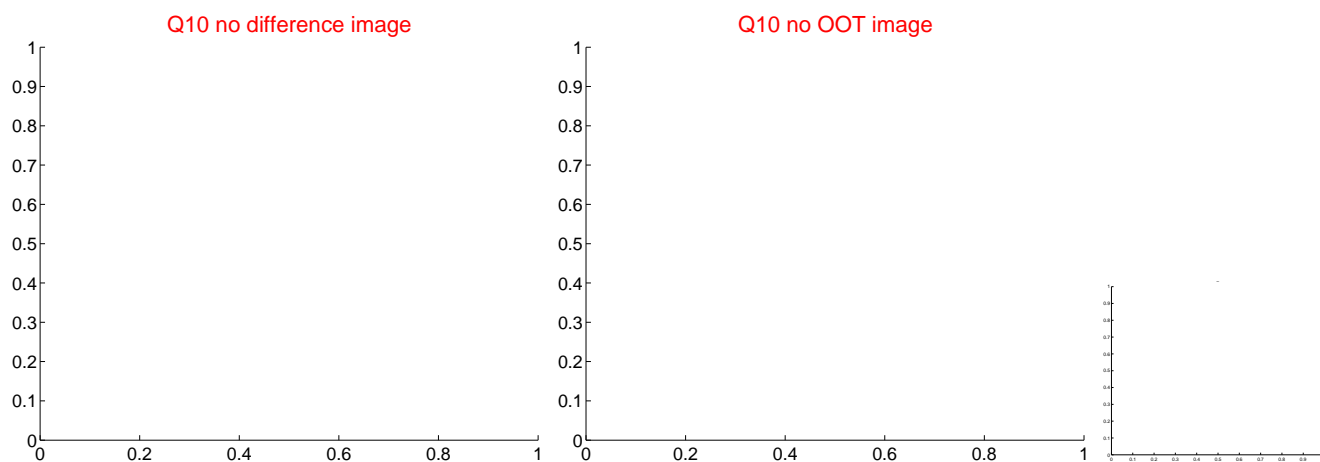
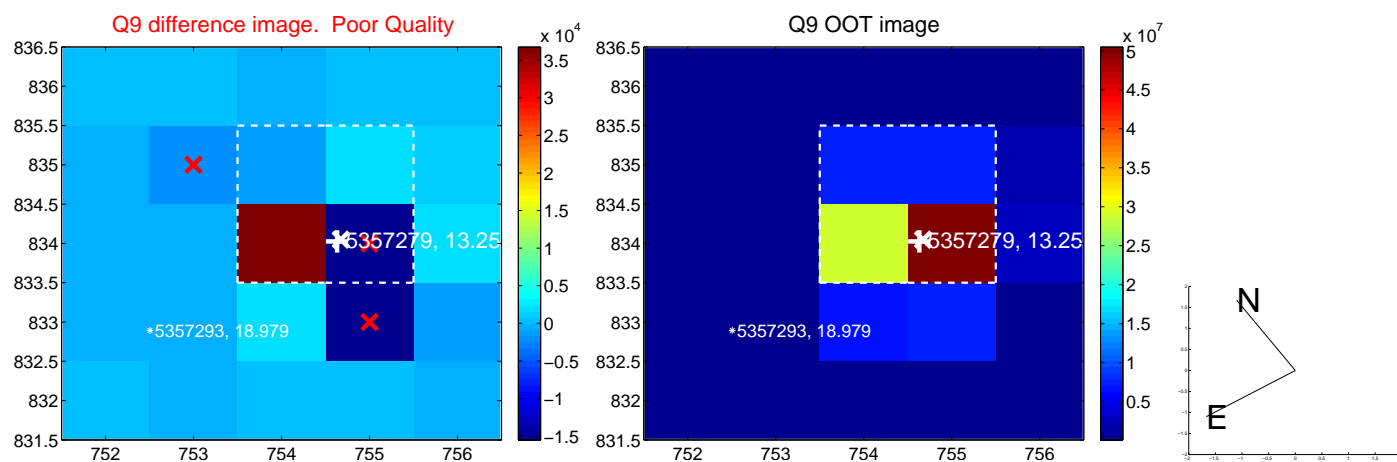


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

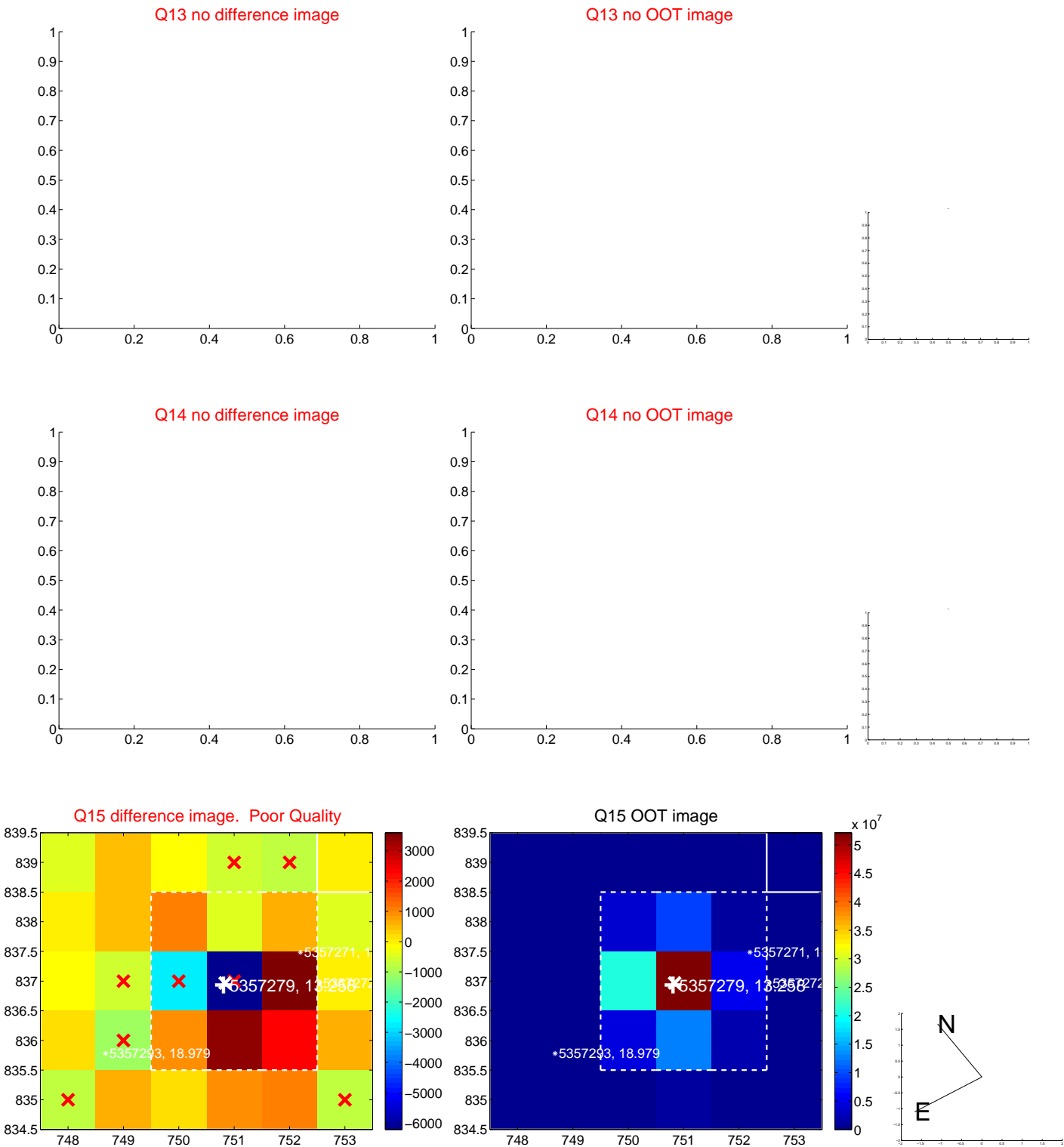




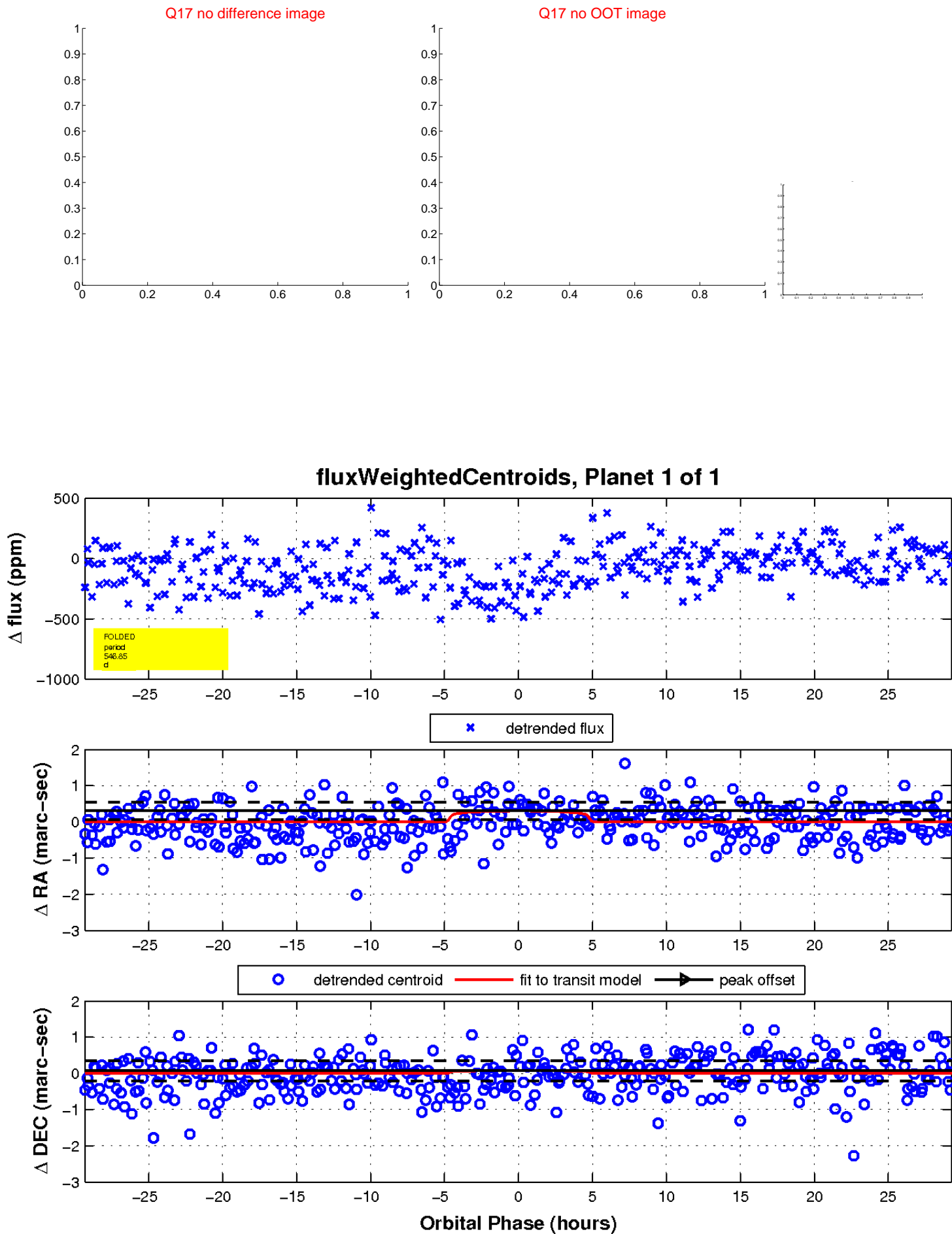
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

Declination

