

# KIC 003750350

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003750350-01	OBS	7665.01	319.301019	221.327181	160.4	6.661	7.4	7.3	1.01	6095	1.48	1.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003750350-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—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.

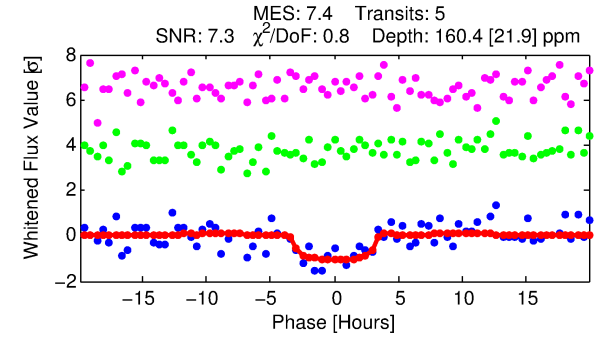
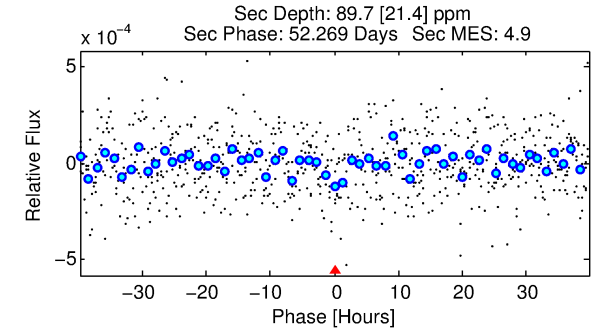
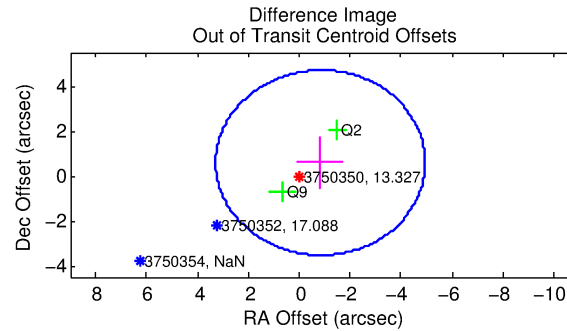
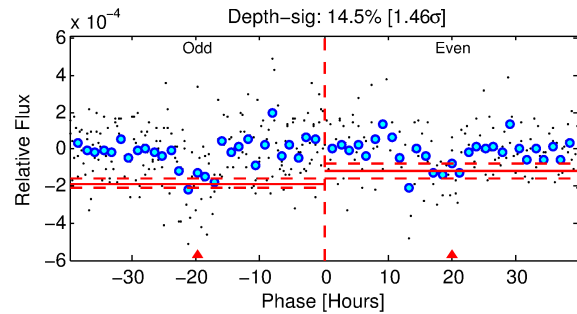
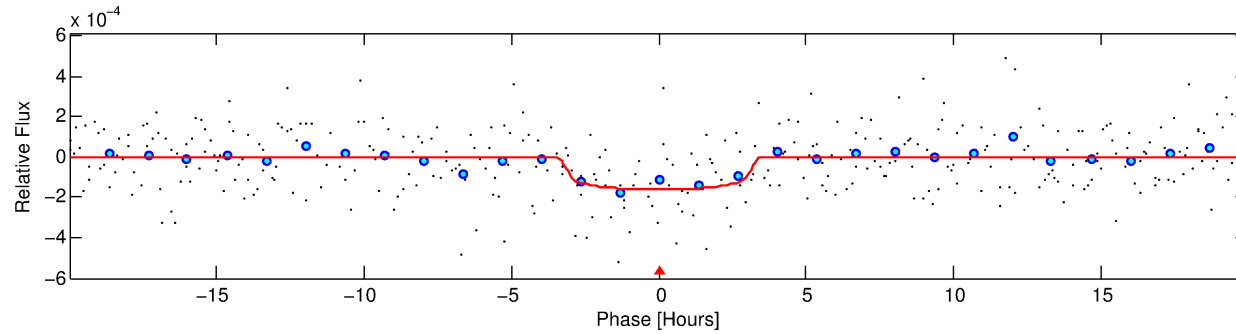
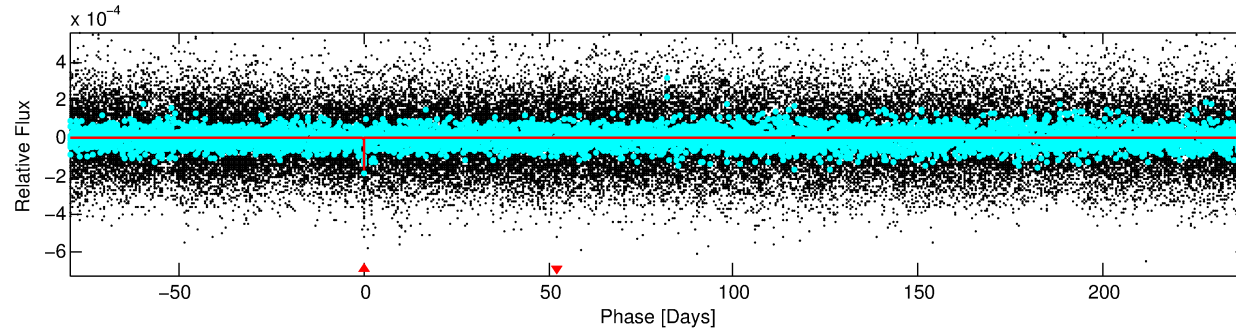
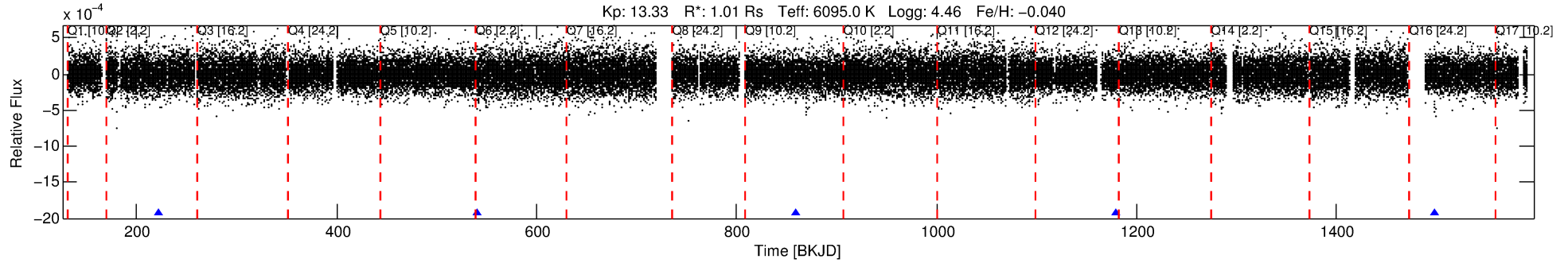
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003750350-01

No Significant Match Found

# DV One-Page Summary

KIC: 3750350 Candidate: 1 of 1 Period: 319.301 d



## DV Fit Results:

Period = 319.30102 [0.00675] d  
Epoch = 221.3272 [0.0151] BKJD  
Rp/R\* = 0.0133 [0.0099]  
a/R\* = 191.51 [723.88]  
b = 0.87 [1.09]  
Seff = 1.45 [0.63]  
Teq = 280 [30] K  
Rp = 1.48 [1.20] Re  
a = 0.9380 [0.2650] AU  
Ag = 19931.26 [31078.08] [0.64σ]  
Teffp = 5136 [1940] K [2.50σ]

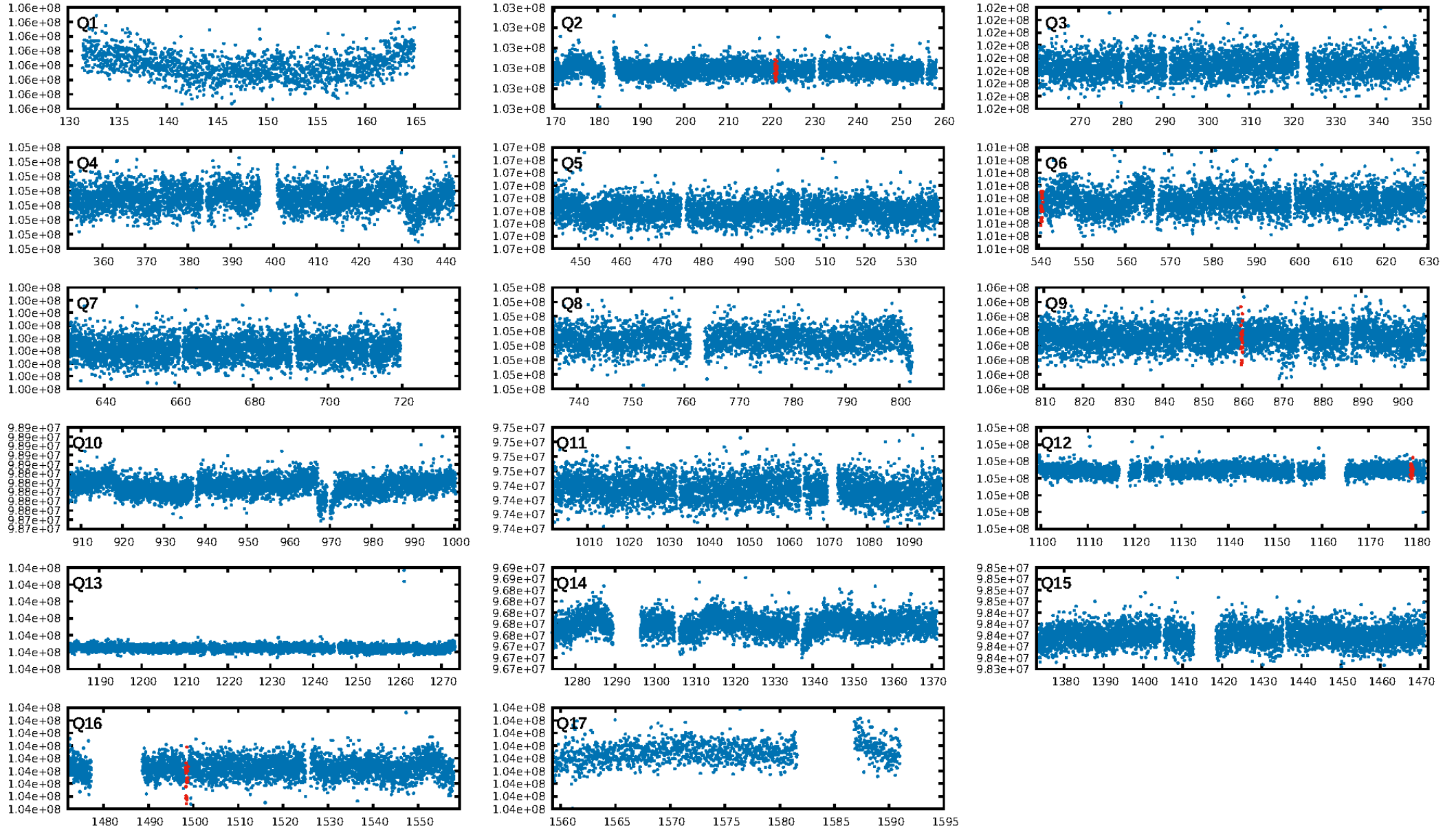
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 61.1%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 7.29e-12**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 2.638  
Centroid-sig: 22.4%  
Centroid-so: 1.856 arcsec [0.90σ]  
OotOffset-rm: 1.020 arcsec [0.74σ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-rm: 1.020 arcsec [0.73σ]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

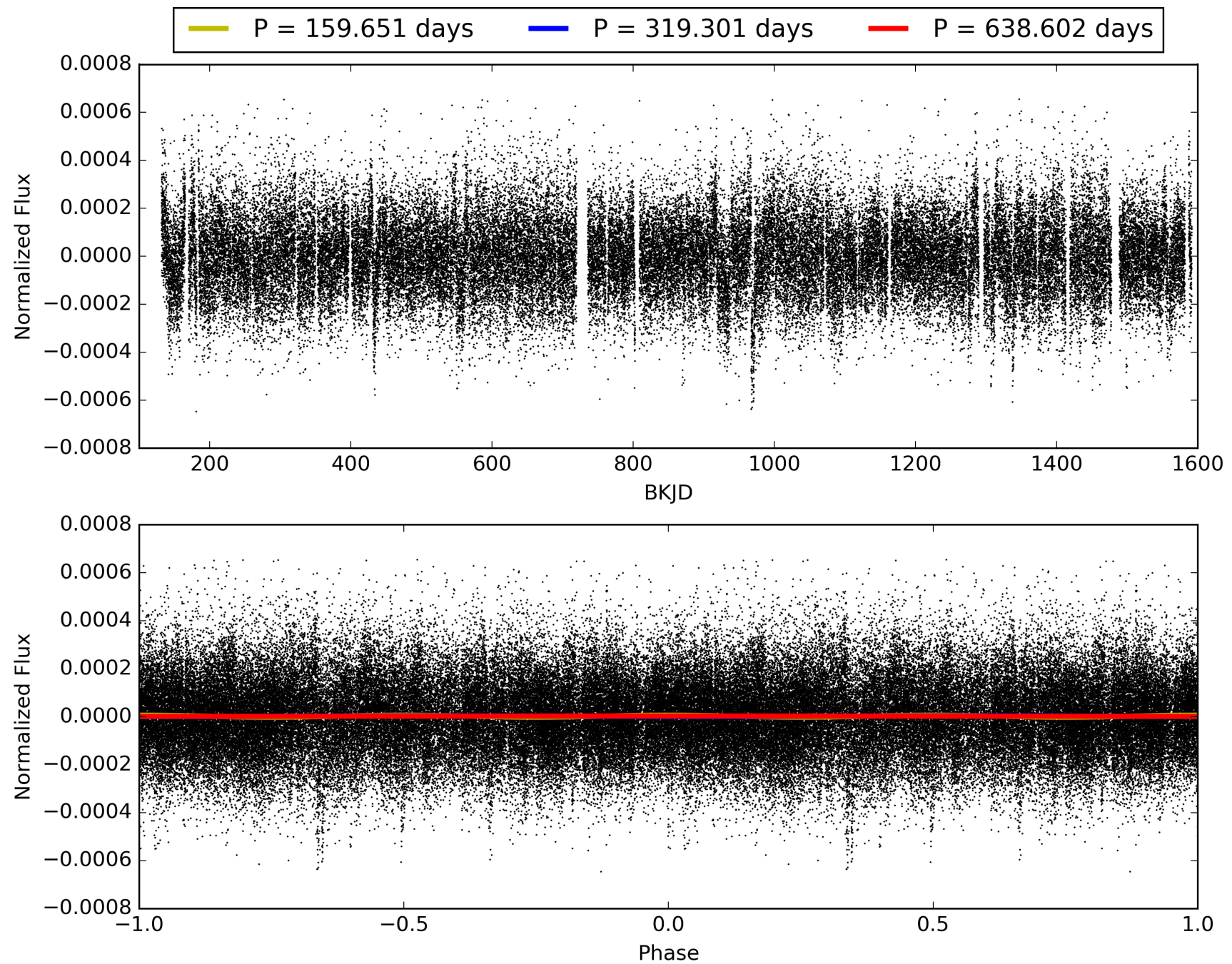
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:46:19 Z

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

# TCE 003750350-01, PDC Light Curves

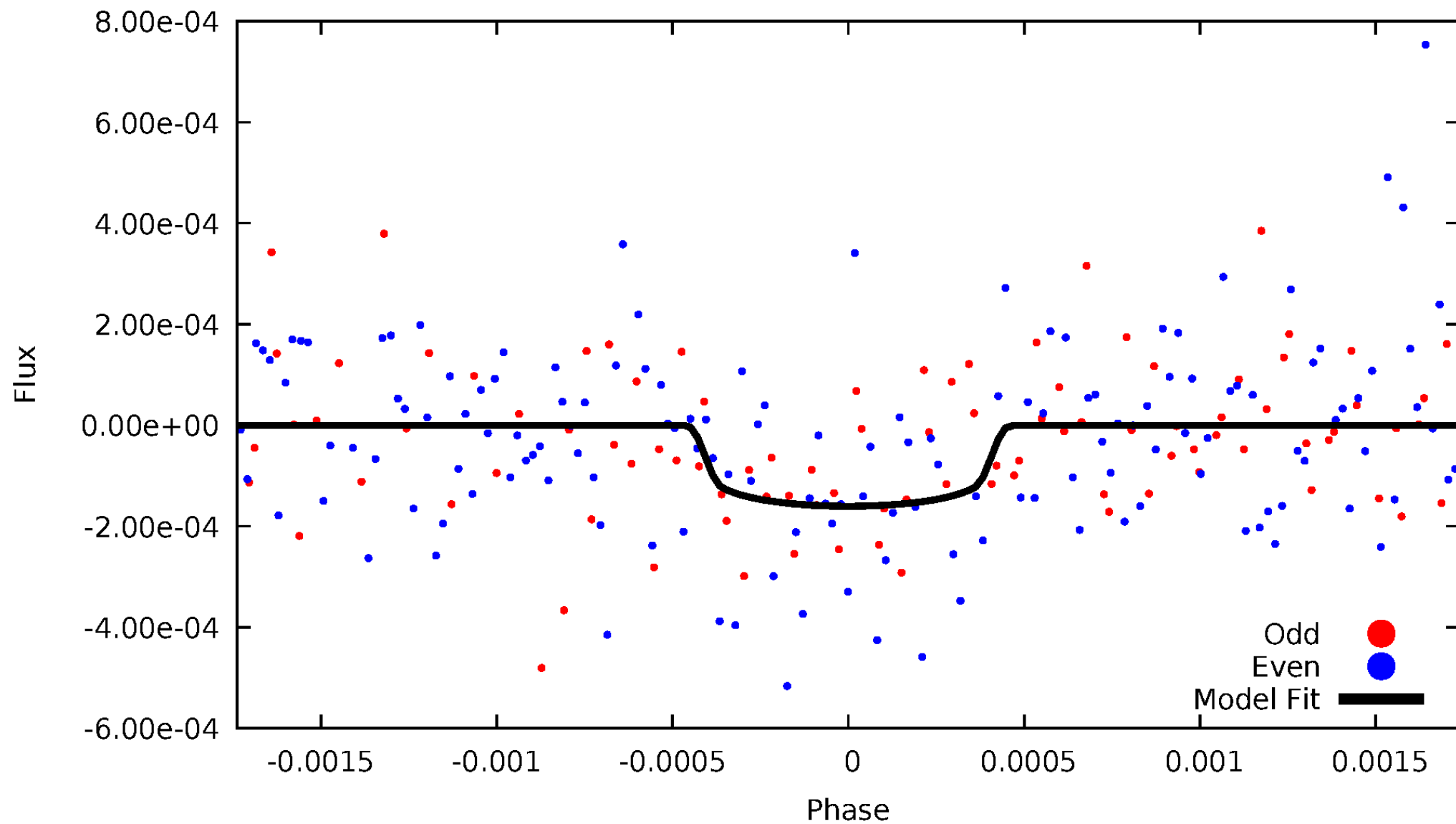


# TCE 003750350-01



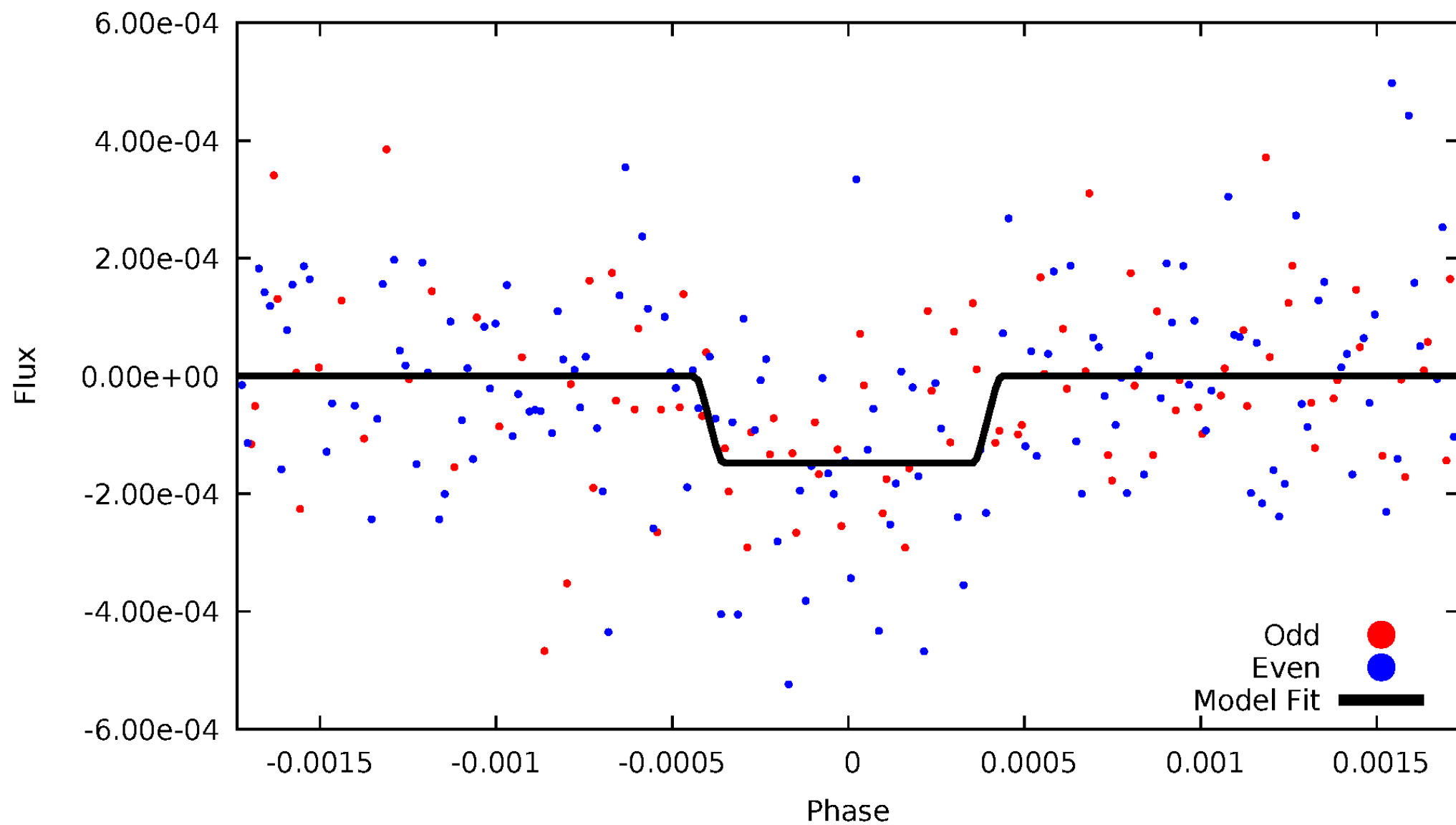
# DV Odd/Even

TCE 003750350-01



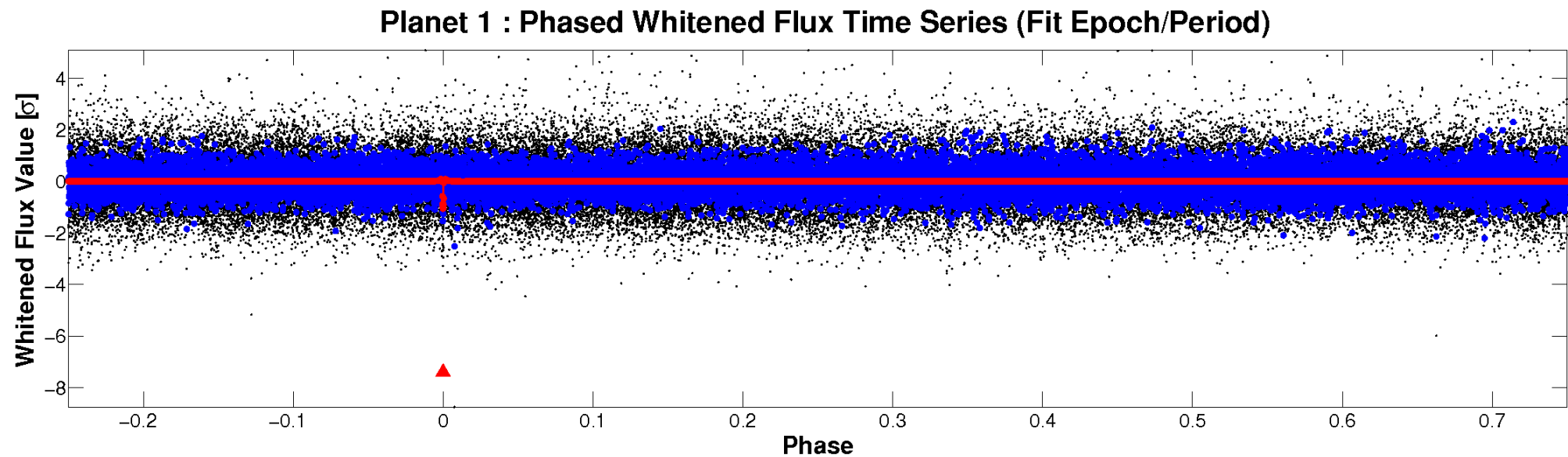
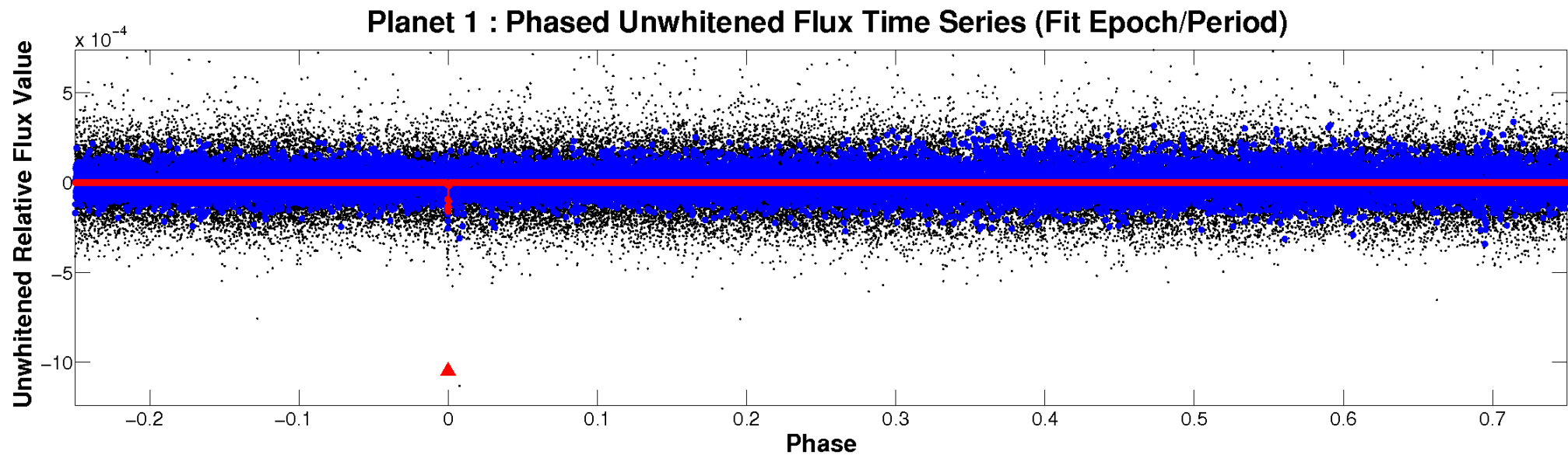
# ALT Odd/Even

TCE 003750350-01



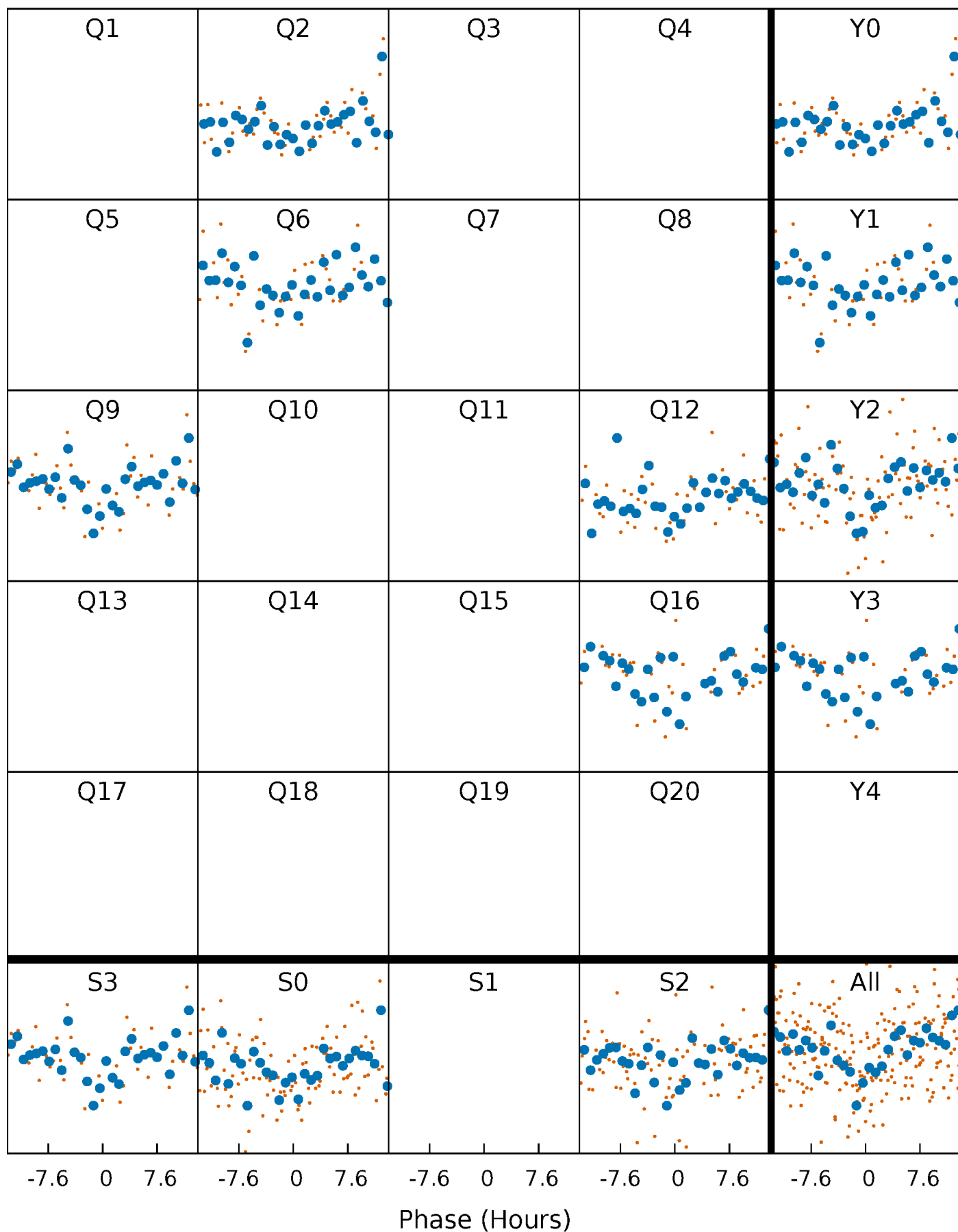


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

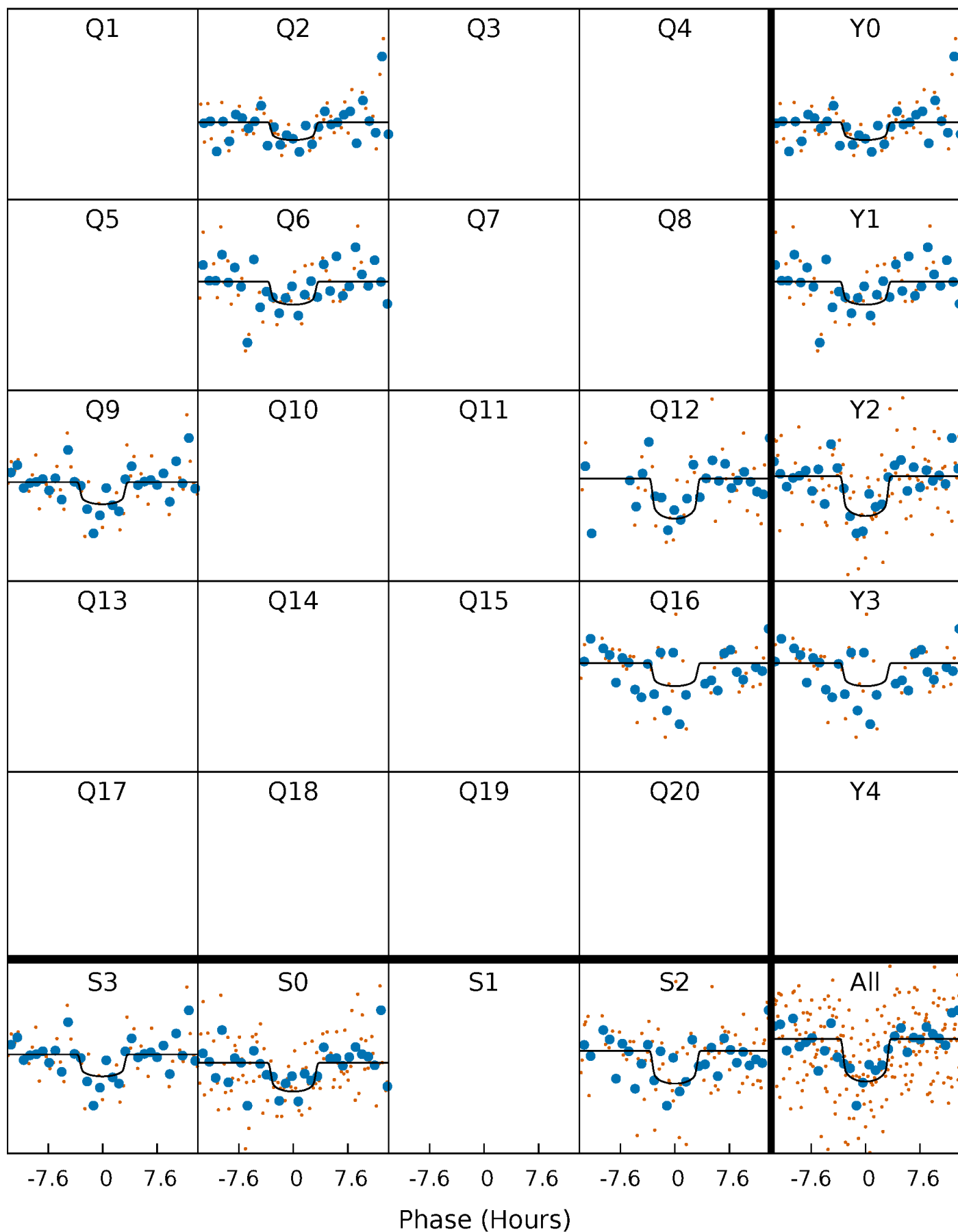
TCE 003750350-01 P=319.301019 Days  $T_0=221.327181$  (BKJD)





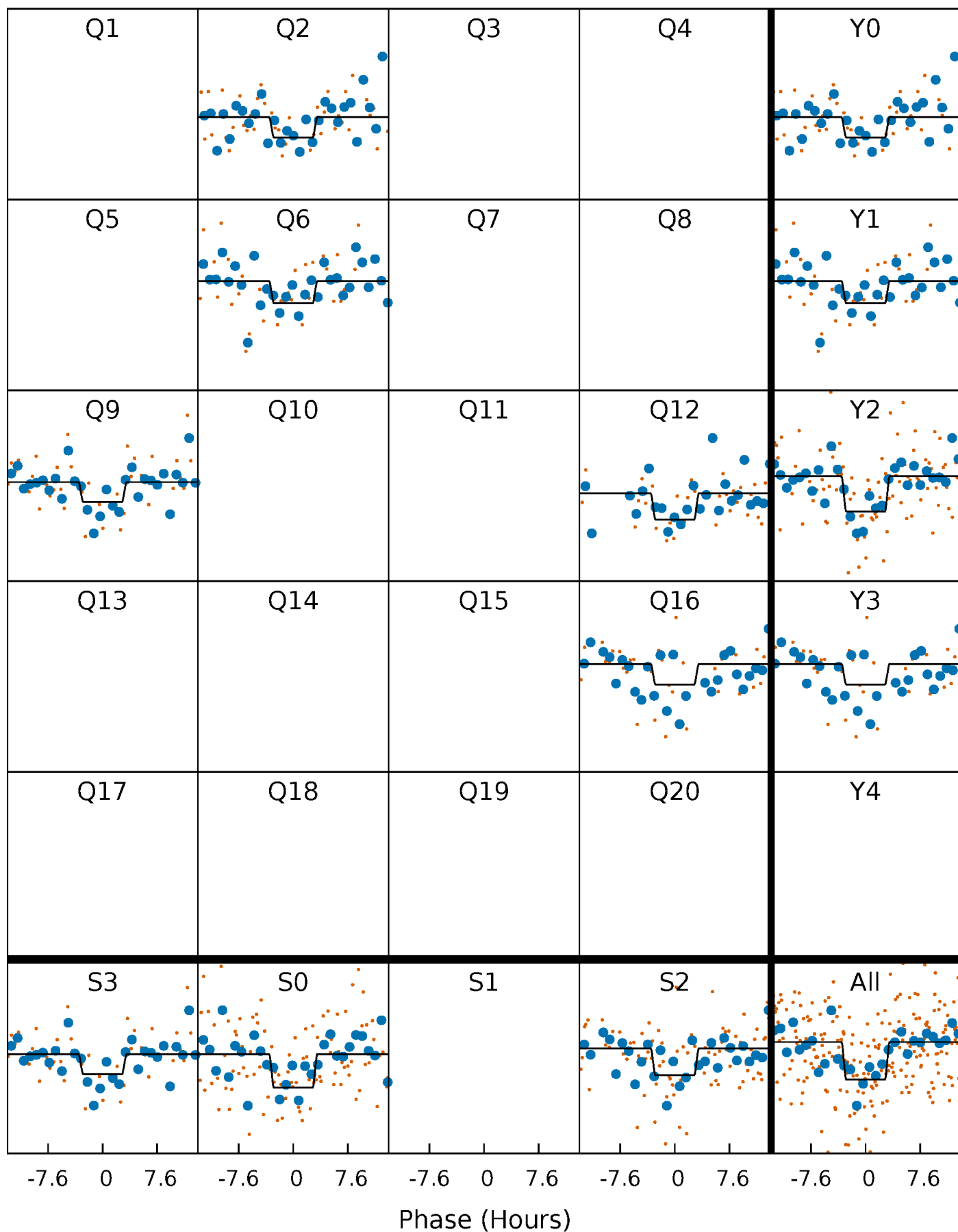
# DV Quarter-Phased Transit Curves

TCE 003750350-01 P=319.301019 Days  $T_0=221.327181$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

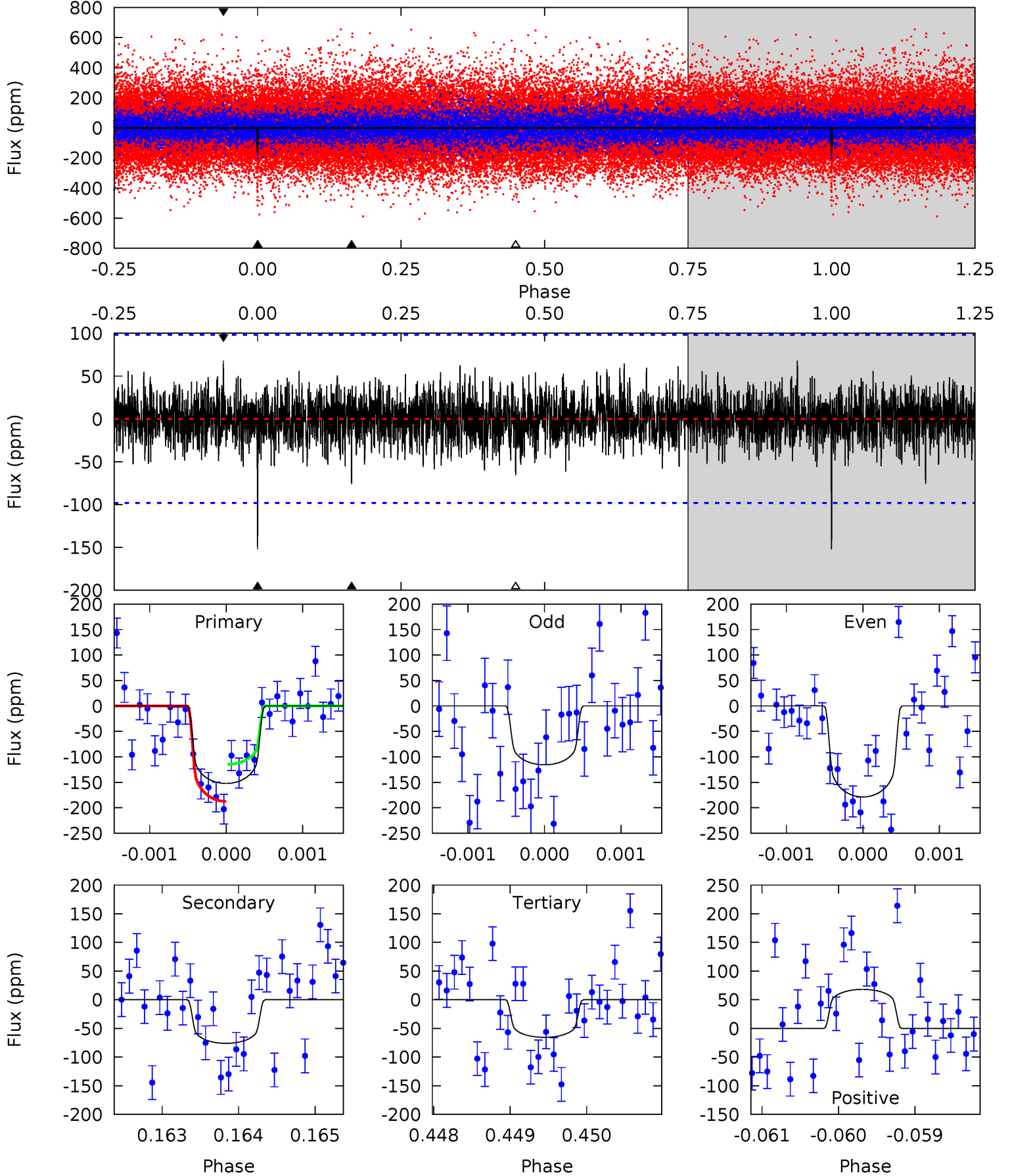
TCE 003750350-01 P=319.301620 Days  $T_0=221.323319$  (BKJD)



# DV Model-Shift Uniqueness Test

003750350-01, P = 319.301019 Days, E = 221.327181 Days

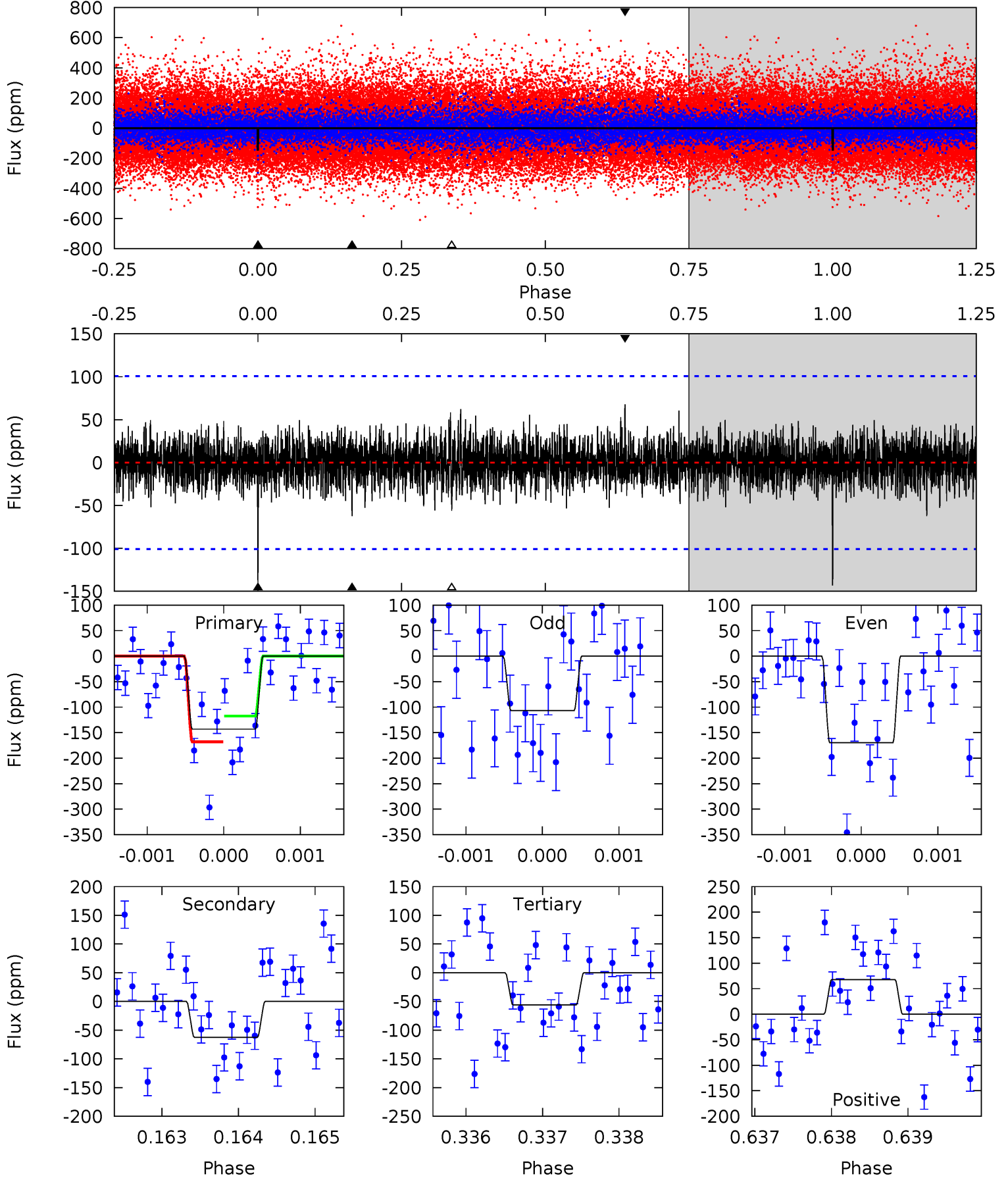
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.48	4.23	3.65	3.79	5.47	3.31	1.08	4.82	4.68	0.58	0.44	1.74	1.00	0.31	2.03



# Alt Model-Shift Uniqueness Test

003750350-01, P = 319.301620 Days, E = 221.323319 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
7.78	3.39	3.04	3.70	5.48	3.33	0.91	4.74	4.09	0.34	-0.31	1.72	1.14	0.32	1.38



### Stellar Parameters For KIC 003750350

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6095^{+171}_{-214}$	$4.459^{+0.056}_{-0.224}$	$-0.040^{+0.250}_{-0.350}$	$1.014^{+0.341}_{-0.114}$	$1.080^{+0.139}_{-0.153}$	$1.458^{+0.425}_{-0.776}$
	+3%/-4%	+1%/-5%	+625%/-875%	+34%/-11%	+13%/-14%	+29%/-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 003750350-01 / KOI 7665.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-76 \pm 18$	$1.68^{+1.09}_{-0.96}$	$401^{+29}_{-21}$	$4817^{+2334}_{-822}$	$12393^{+53687}_{-7957}$
Alt.	$-62 \pm 18$	$1.54^{+1.17}_{-0.83}$	$399^{+30}_{-20}$	$4786^{+2315}_{-905}$	$11966^{+49891}_{-8252}$

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

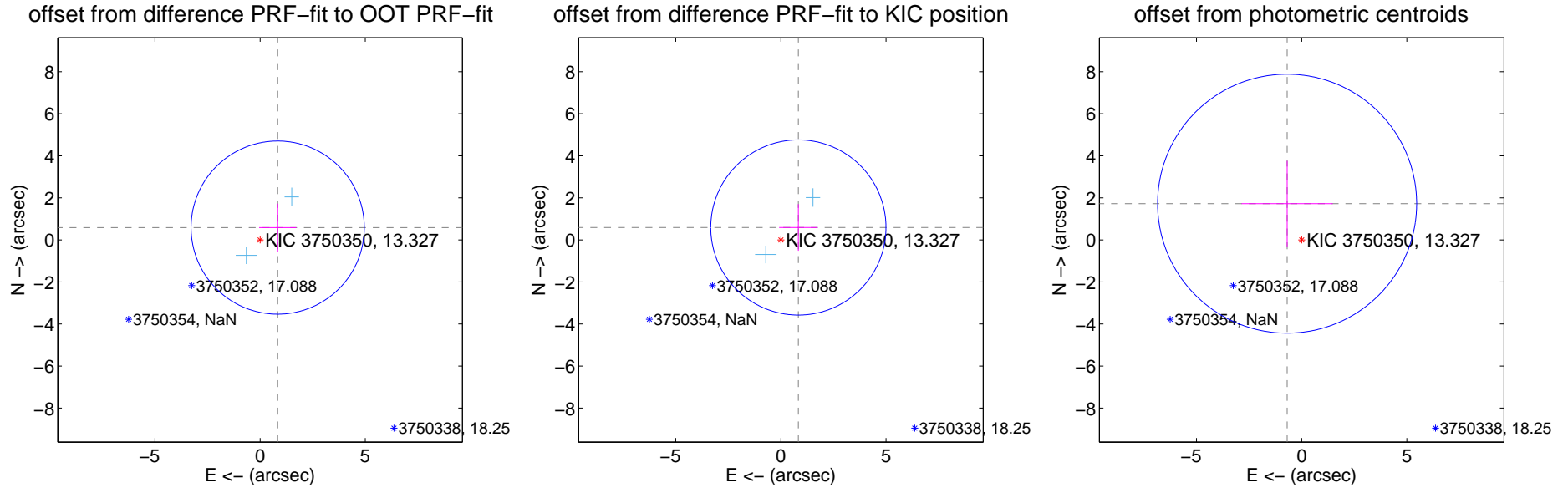
## DV Centroid Data

Supplemental centroid analysis for 003750350-01. Kepler magnitude: 13.33. Transit SNR 7.31

There are 2 quarters with good PRF difference image offsets

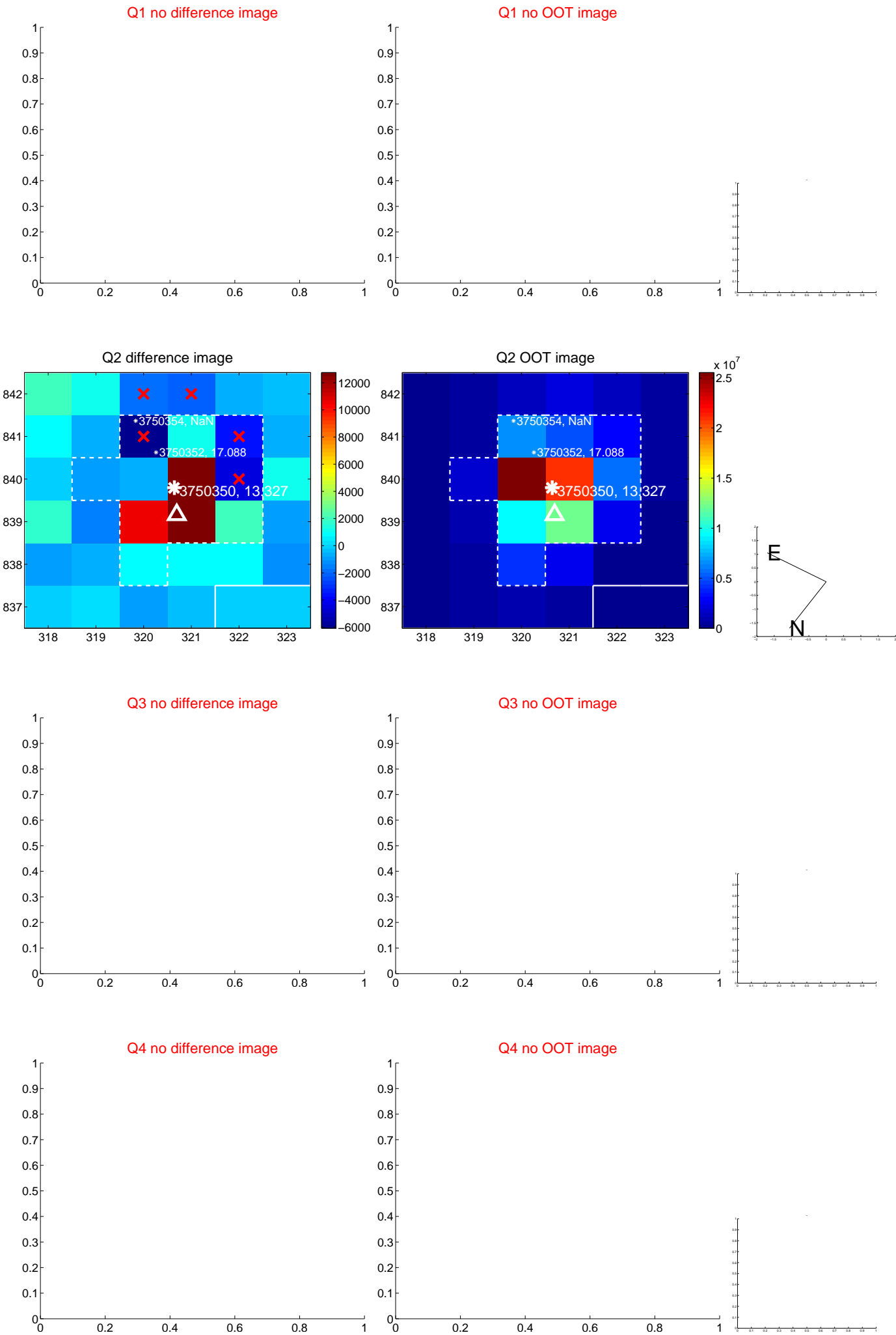
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.020 \pm 1.373$	0.74	$-0.836 \pm 0.882$	$0.585 \pm 1.136$
PRF-fit source offset from KIC position	$1.020 \pm 1.389$	0.73	$-0.832 \pm 0.917$	$0.591 \pm 1.109$
photometric centroid source offset	$1.86 \pm 2.05$	0.90	$0.69 \pm 2.17$	$1.72 \pm 2.03$



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.

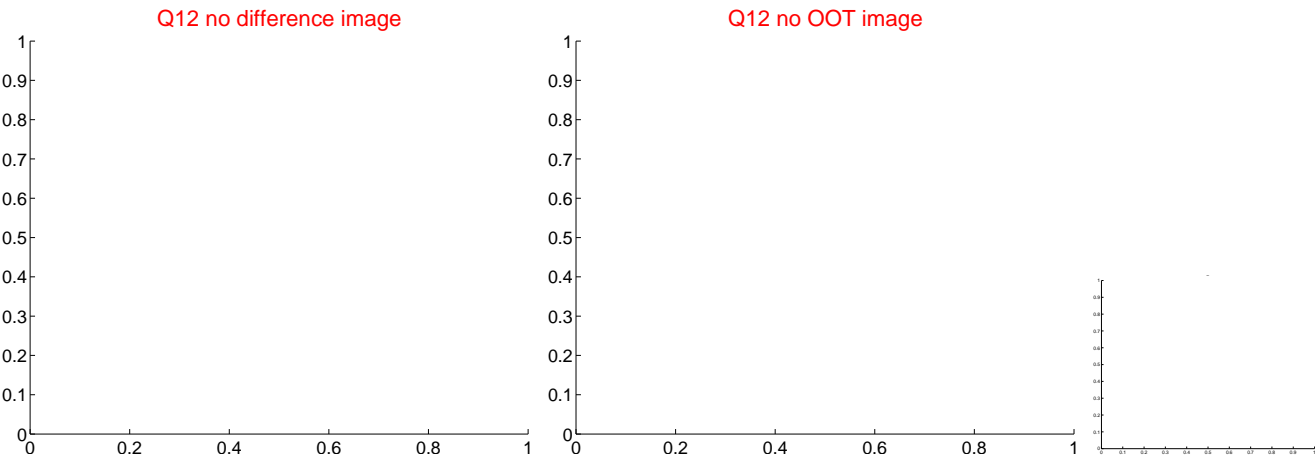
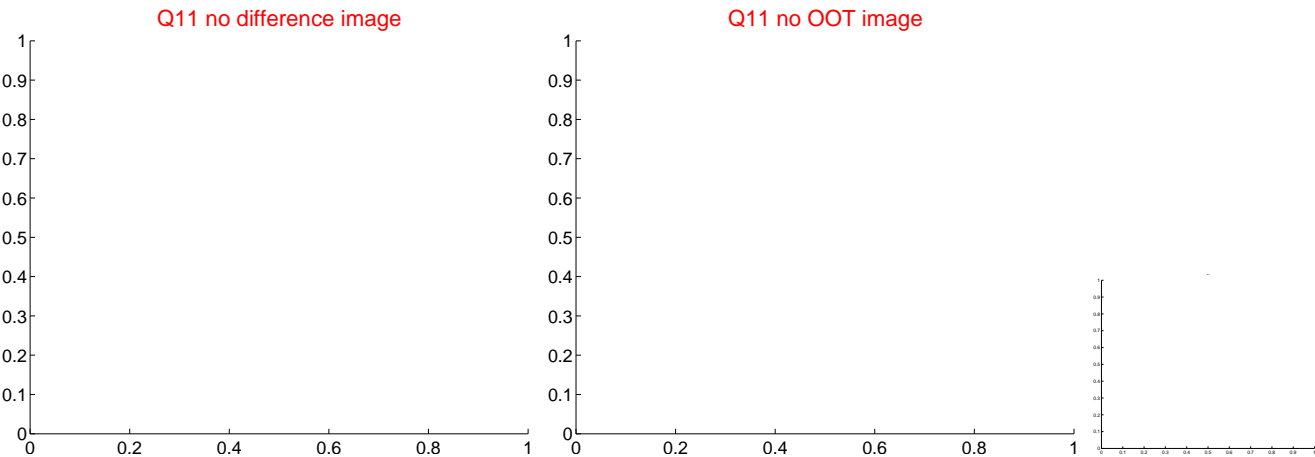
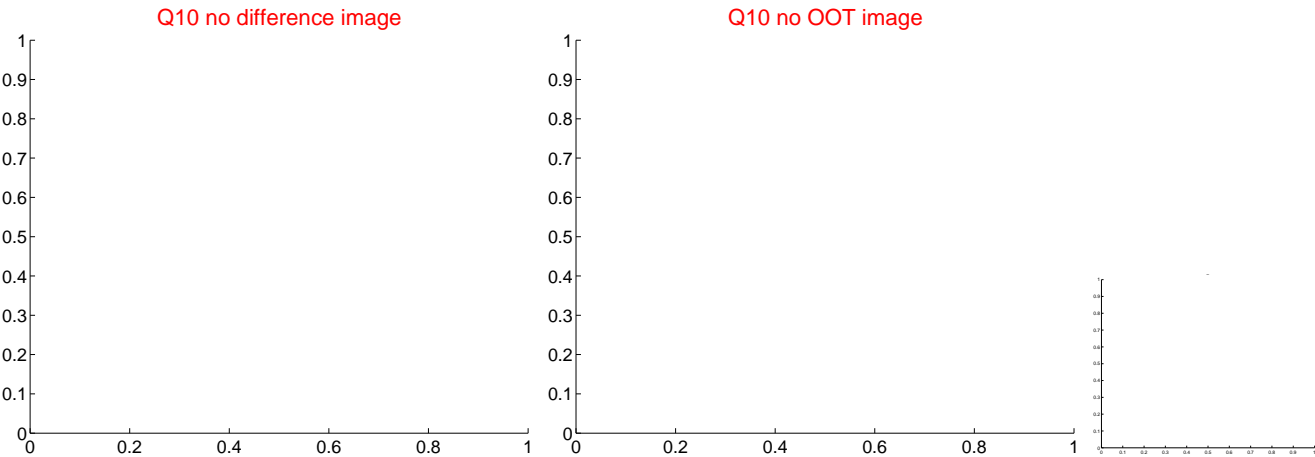
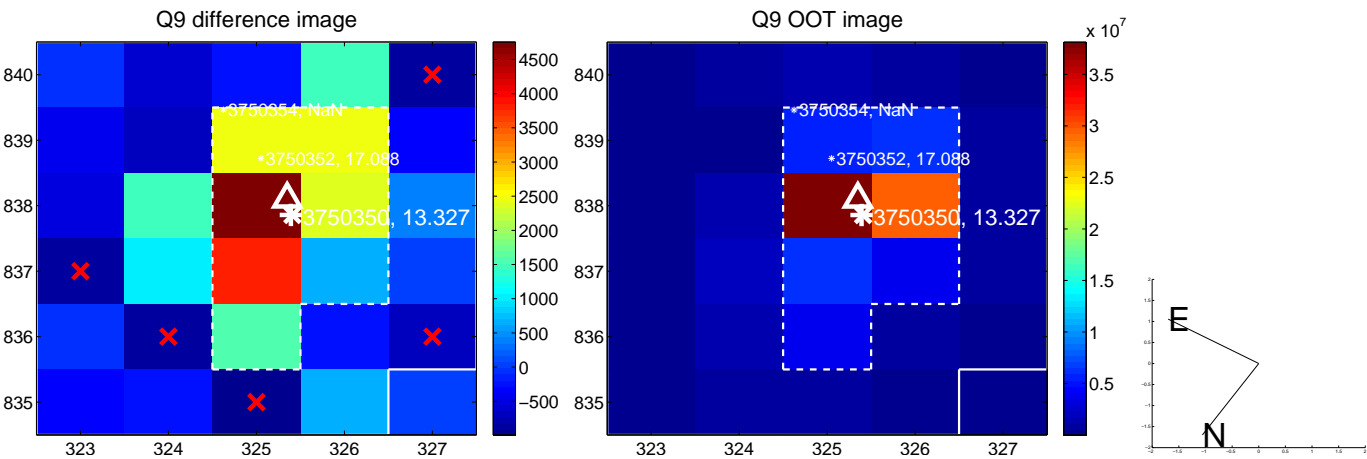




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



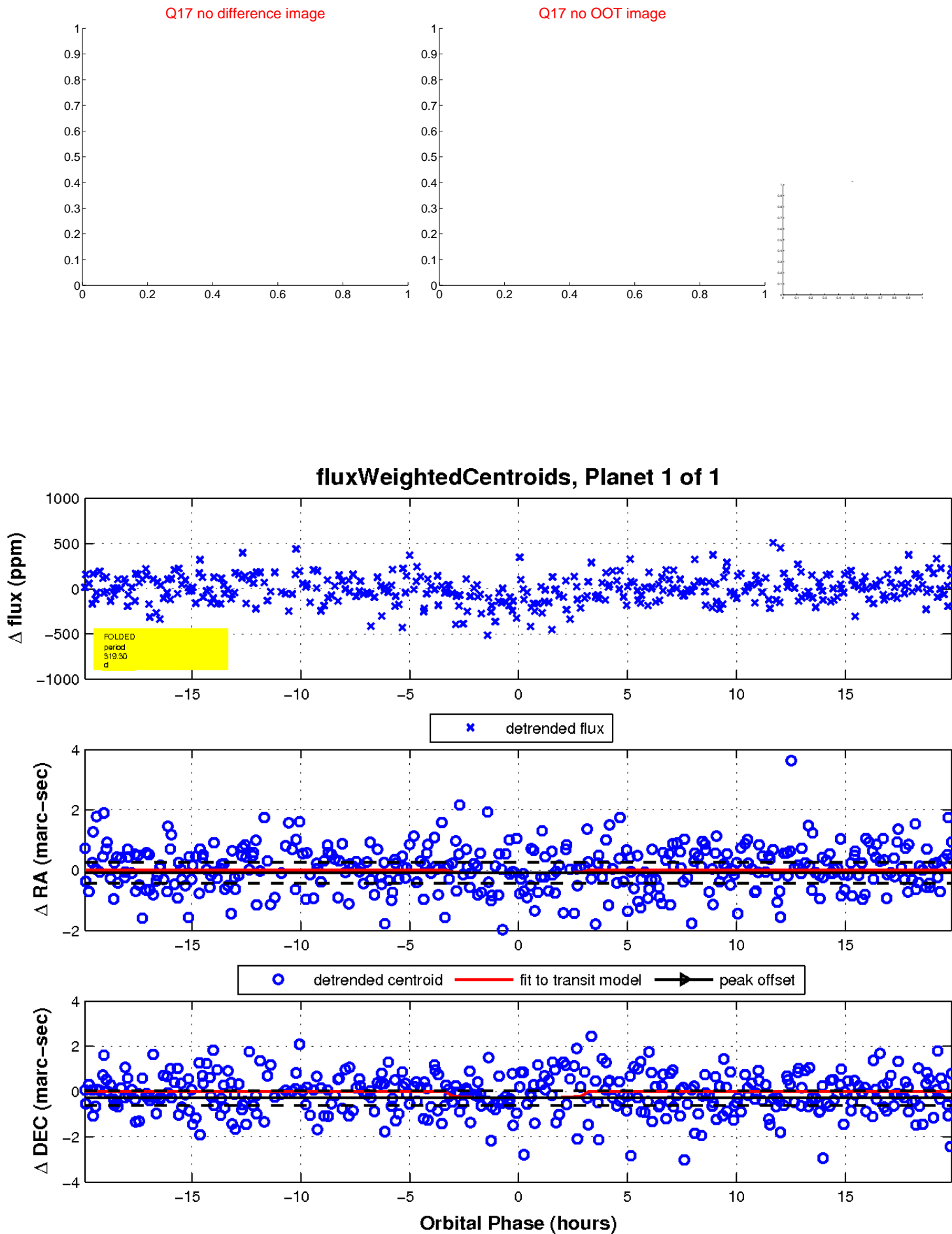
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UKIRT Image

Declination

