

# KIC 011558911

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011558911-01	OBS	No	335.381963	161.467851	320.4	4.634	7.4	7.3	1.28	6252	2.56	2.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011558911-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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.

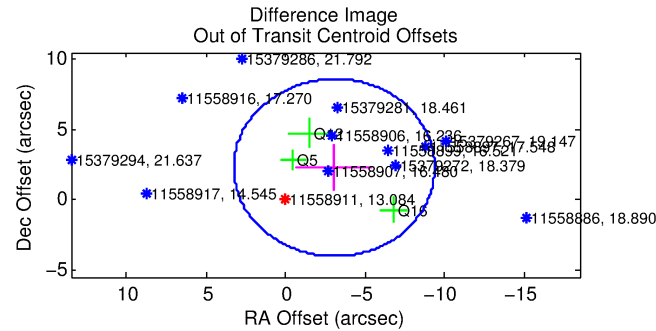
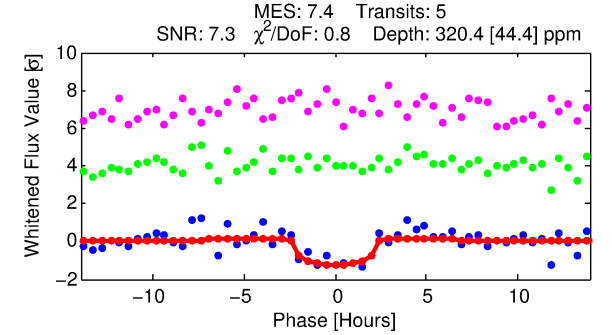
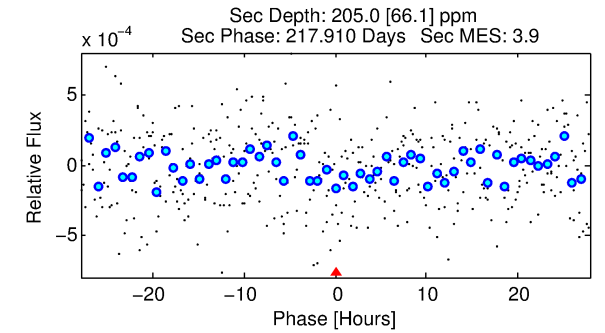
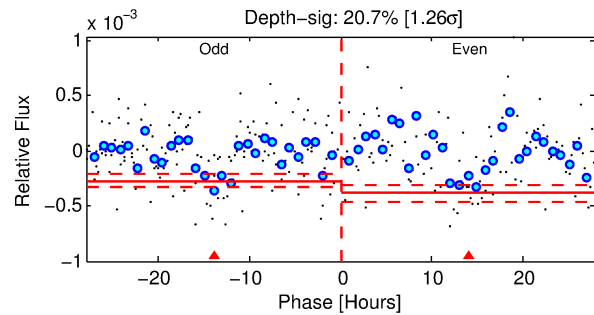
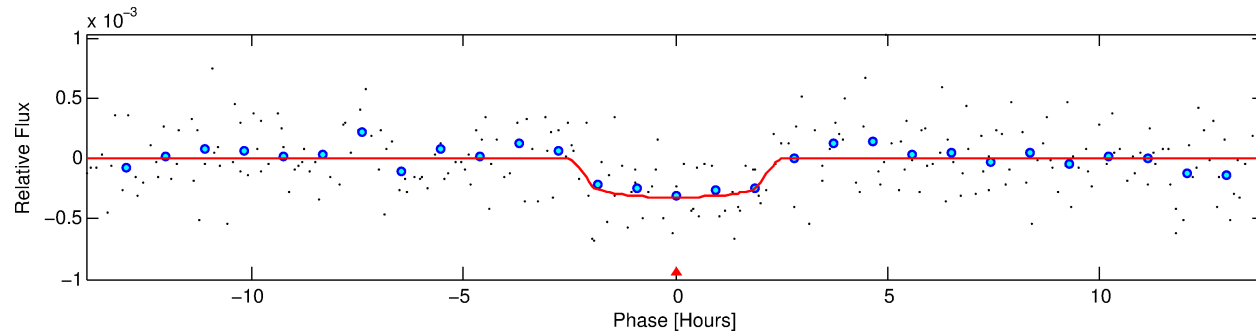
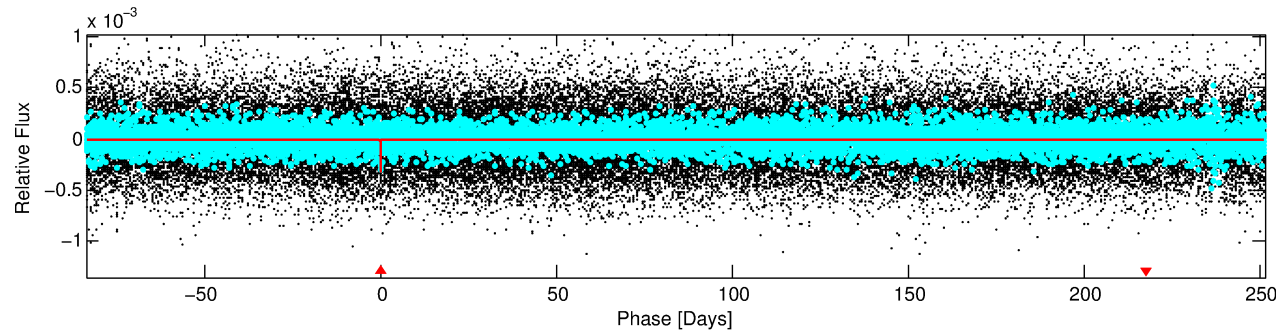
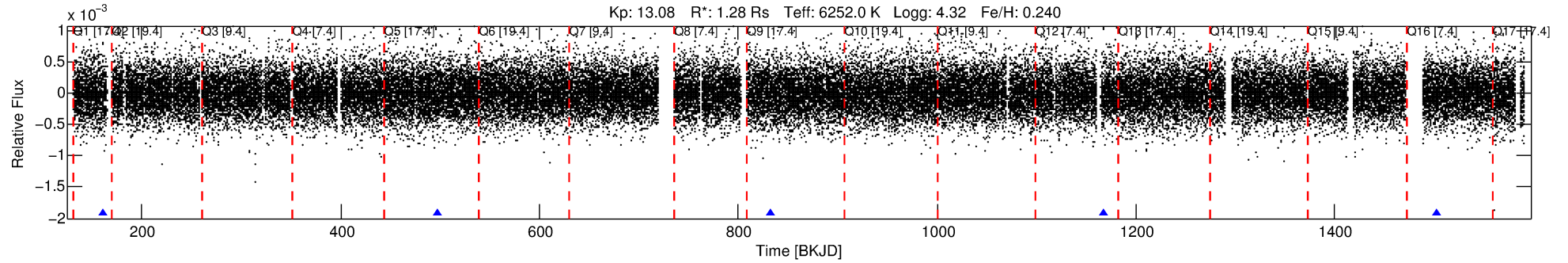
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011558911-01

No Significant Match Found

# DV One-Page Summary

KIC: 11558911 Candidate: 1 of 1 Period: 335.382 d



## DV Fit Results:

Period = 335.38196 [0.00505] d  
Epoch = 161.4679 [0.0128] BKJD  
Rp/R\* = 0.0183 [0.0150]  
a/R\* = 335.55 [1371.15]  
b = 0.82 [1.68]  
Seff = 2.17 [0.93]  
Teff = 309 [33] K  
Rp = 2.56 [2.27] Re  
a = 1.0170 [0.2846] AU  
Ag = 17860.78 [30648.12] [0.58 $\sigma$ ]  
Teffp = 5529 [2320] K [2.25 $\sigma$ ]

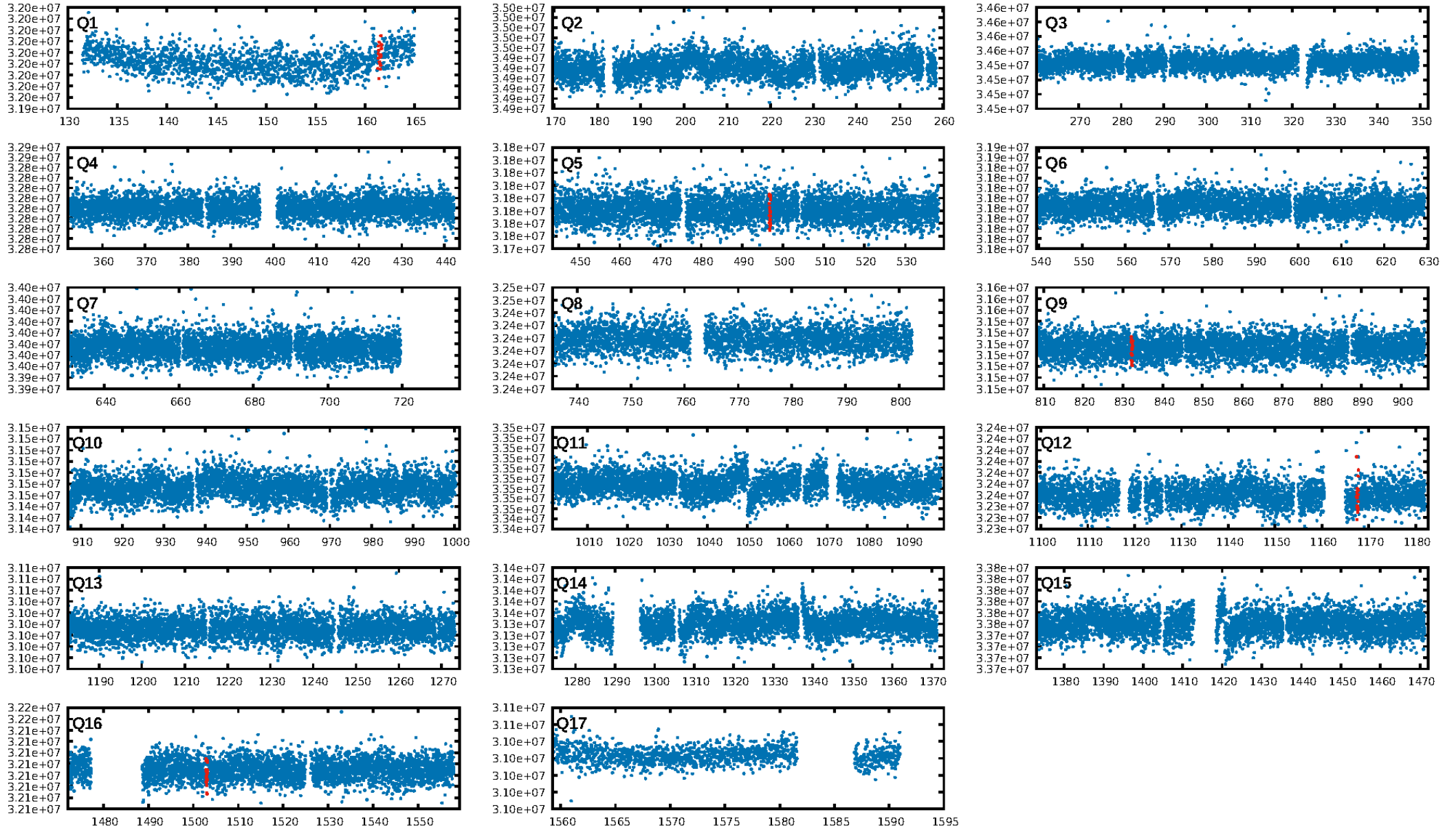
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 55.9%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: 5.32e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 3.215  
Centroid-sig: 1.8%  
Centroid-so: 4.069 arcsec [2.42 $\sigma$ ]  
OotOffset-rm: 3.817 arcsec [1.81 $\sigma$ ]  
KicOffset-rm: 3.293 arcsec [1.97 $\sigma$ ]  
OotOffset-st: 0/0/2/1 [3]  
KicOffset-st: 0/0/2/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [5/5]

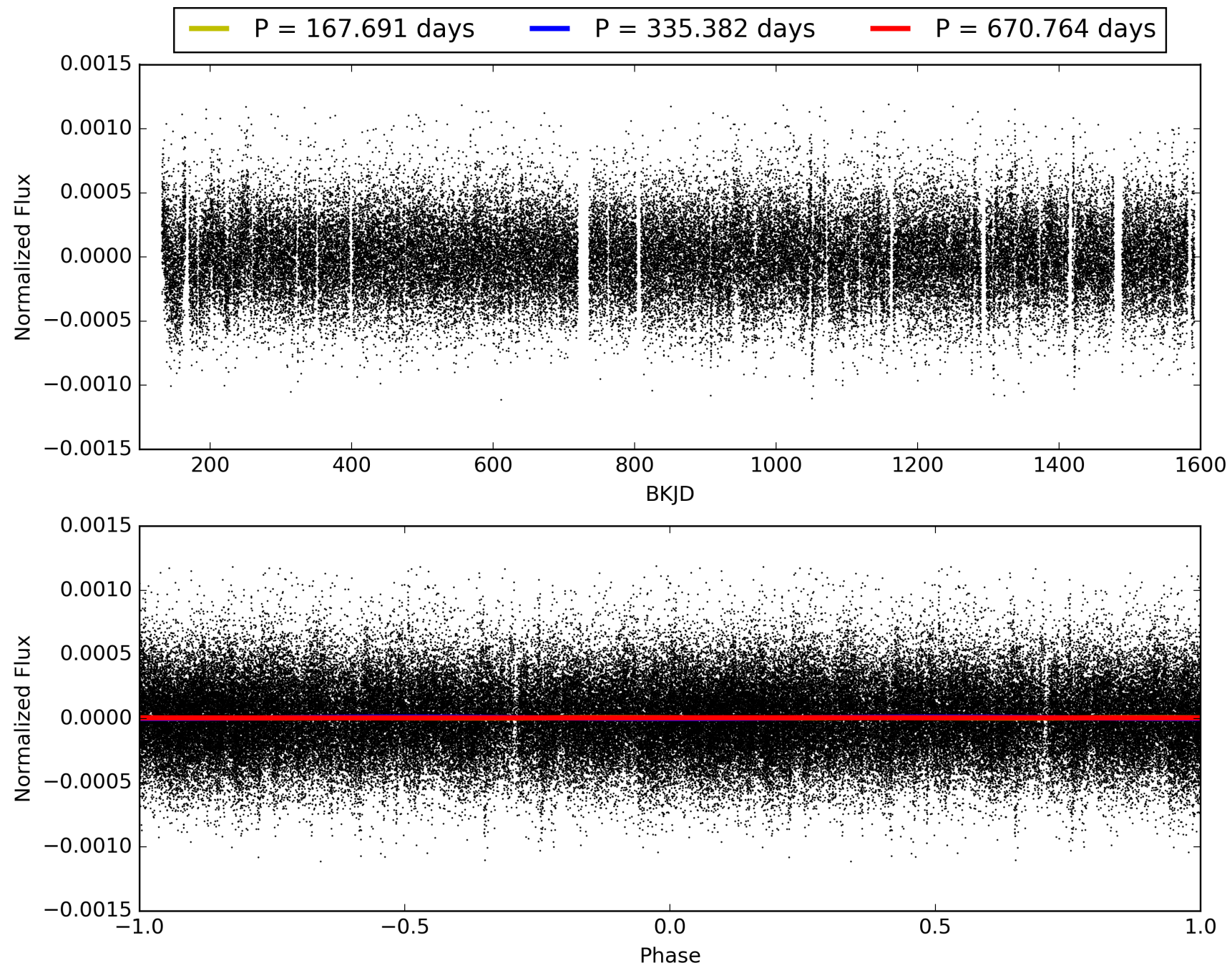
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:22:10 Z

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

# TCE 011558911-01, PDC Light Curves

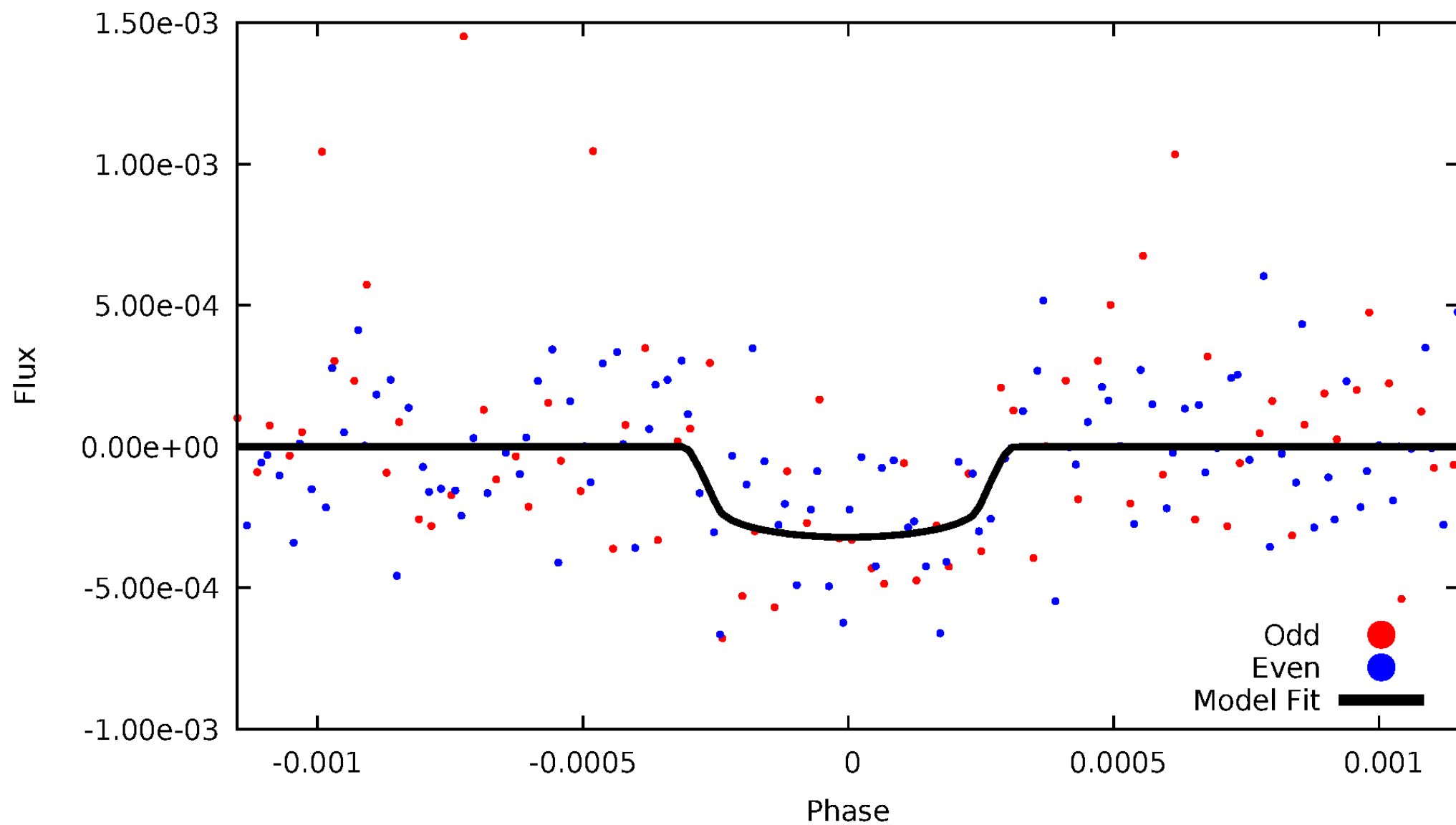


# TCE 011558911-01



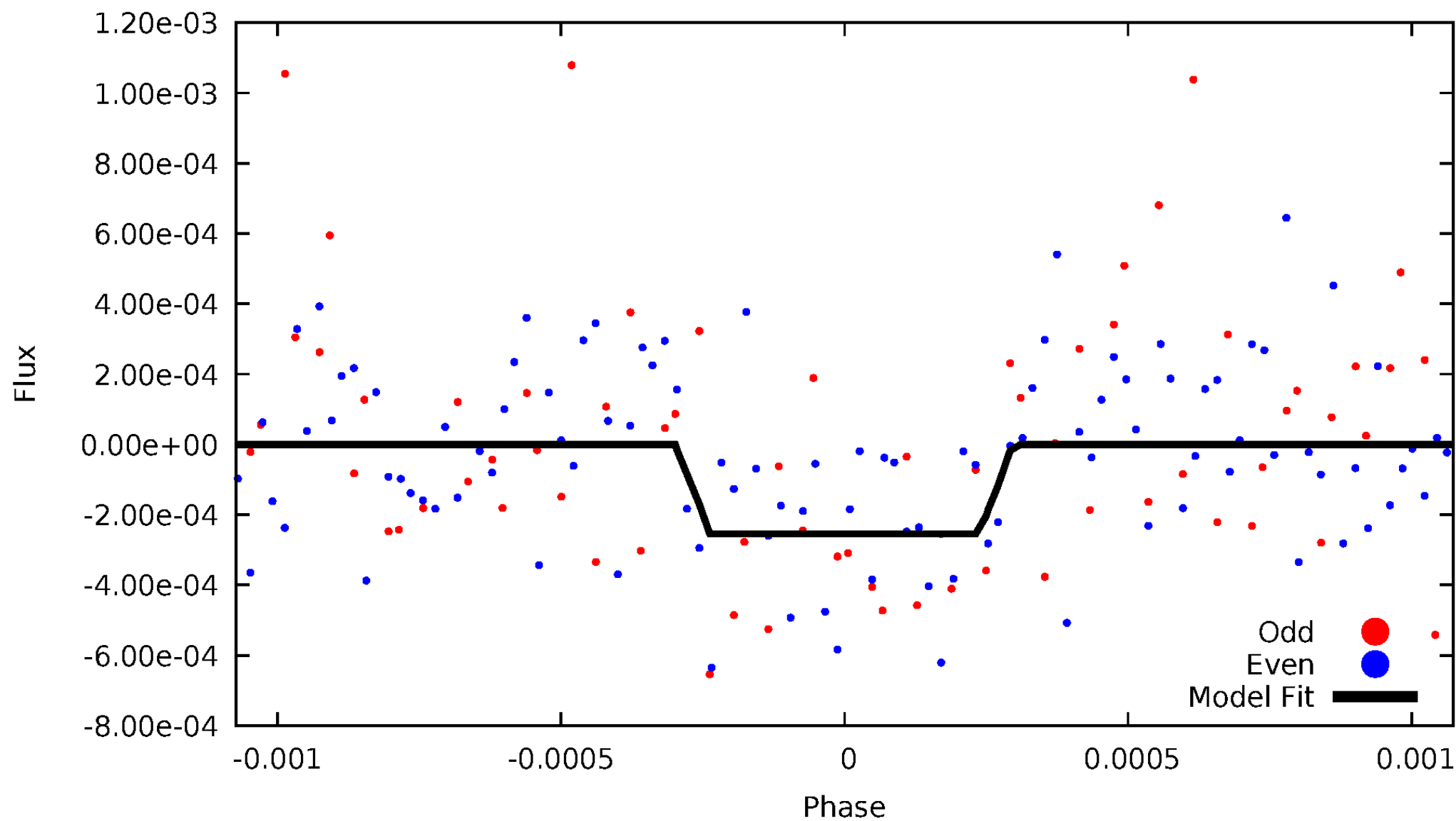
# DV Odd/Even

TCE 011558911-01



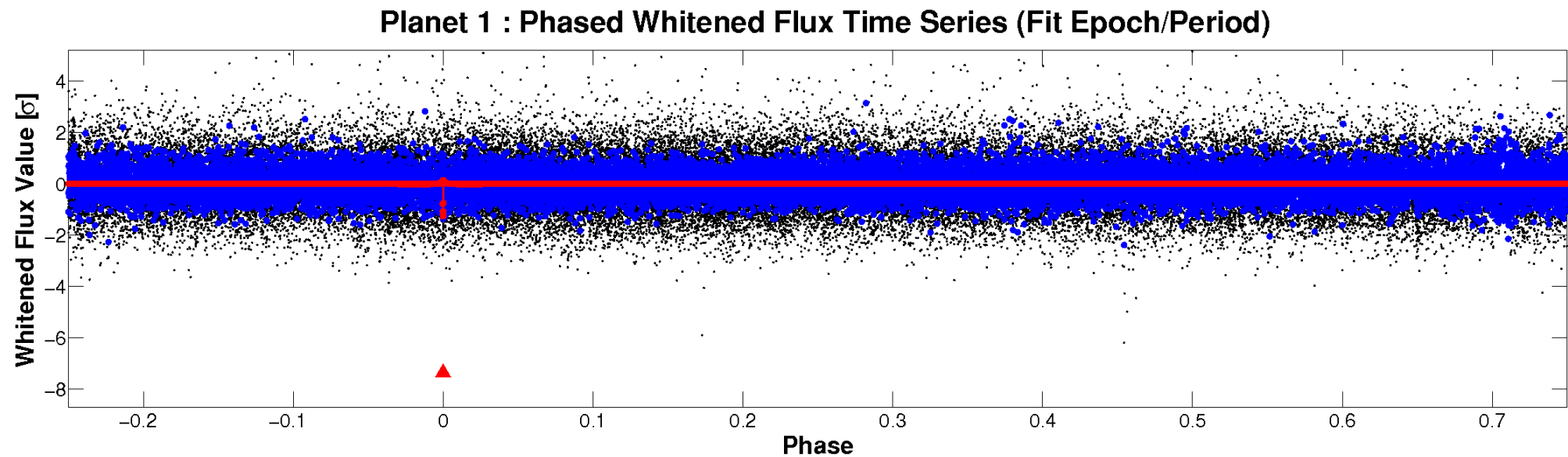
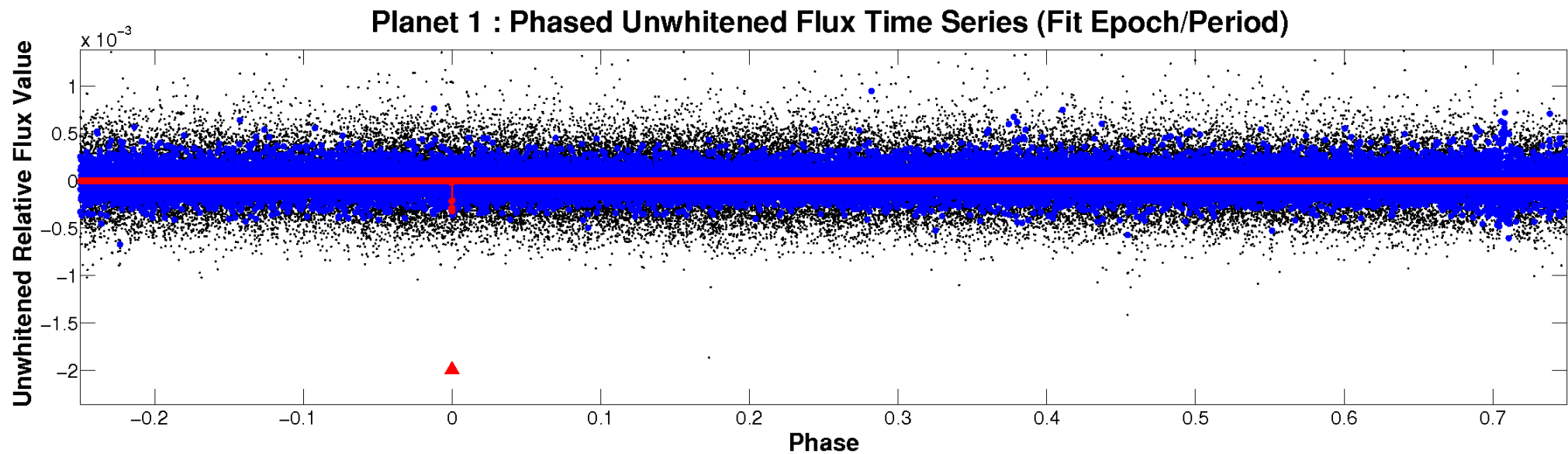
# ALT Odd/Even

TCE 011558911-01



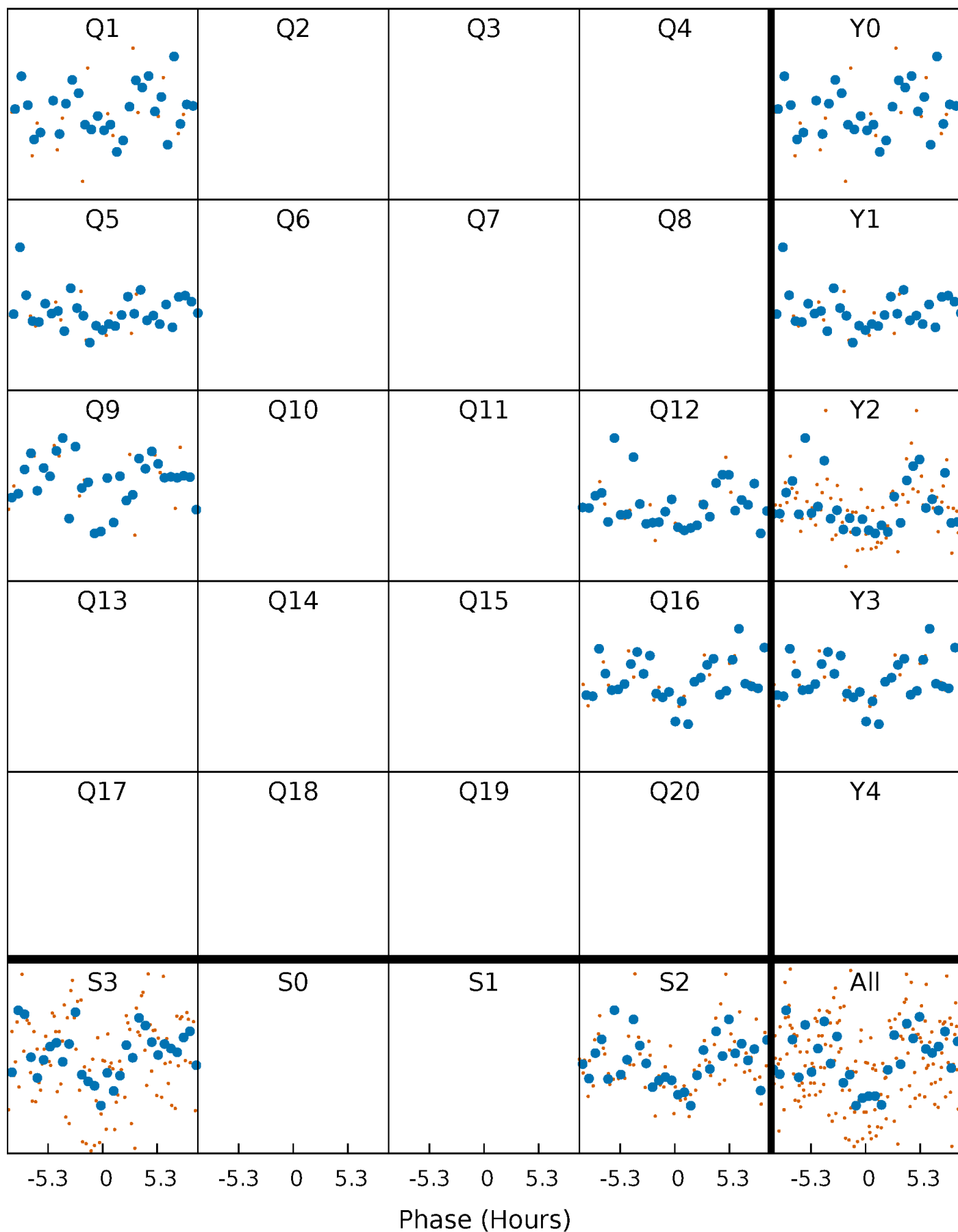


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

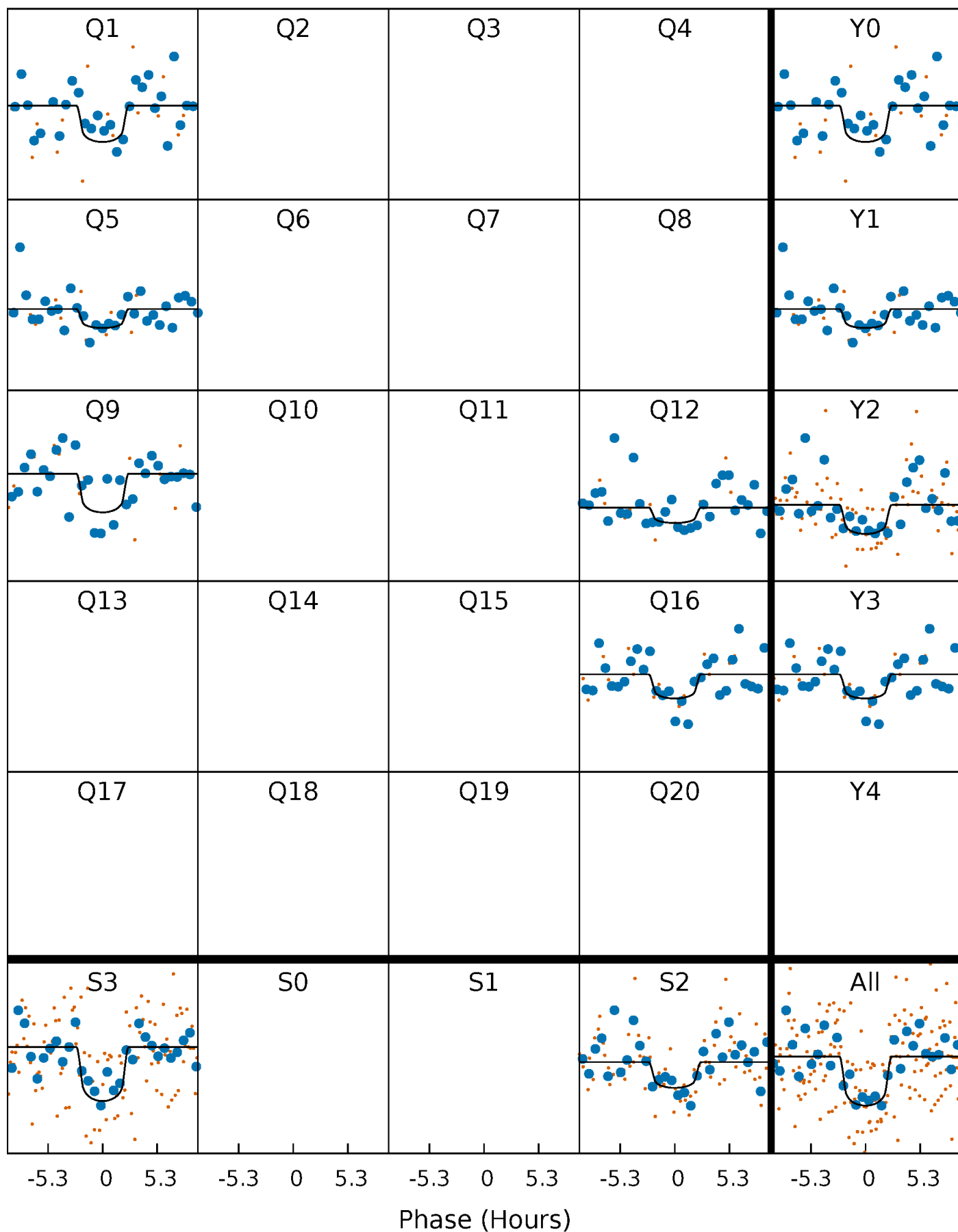
TCE 011558911-01 P=335.381963 Days  $T_0=161.467851$  (BKJD)





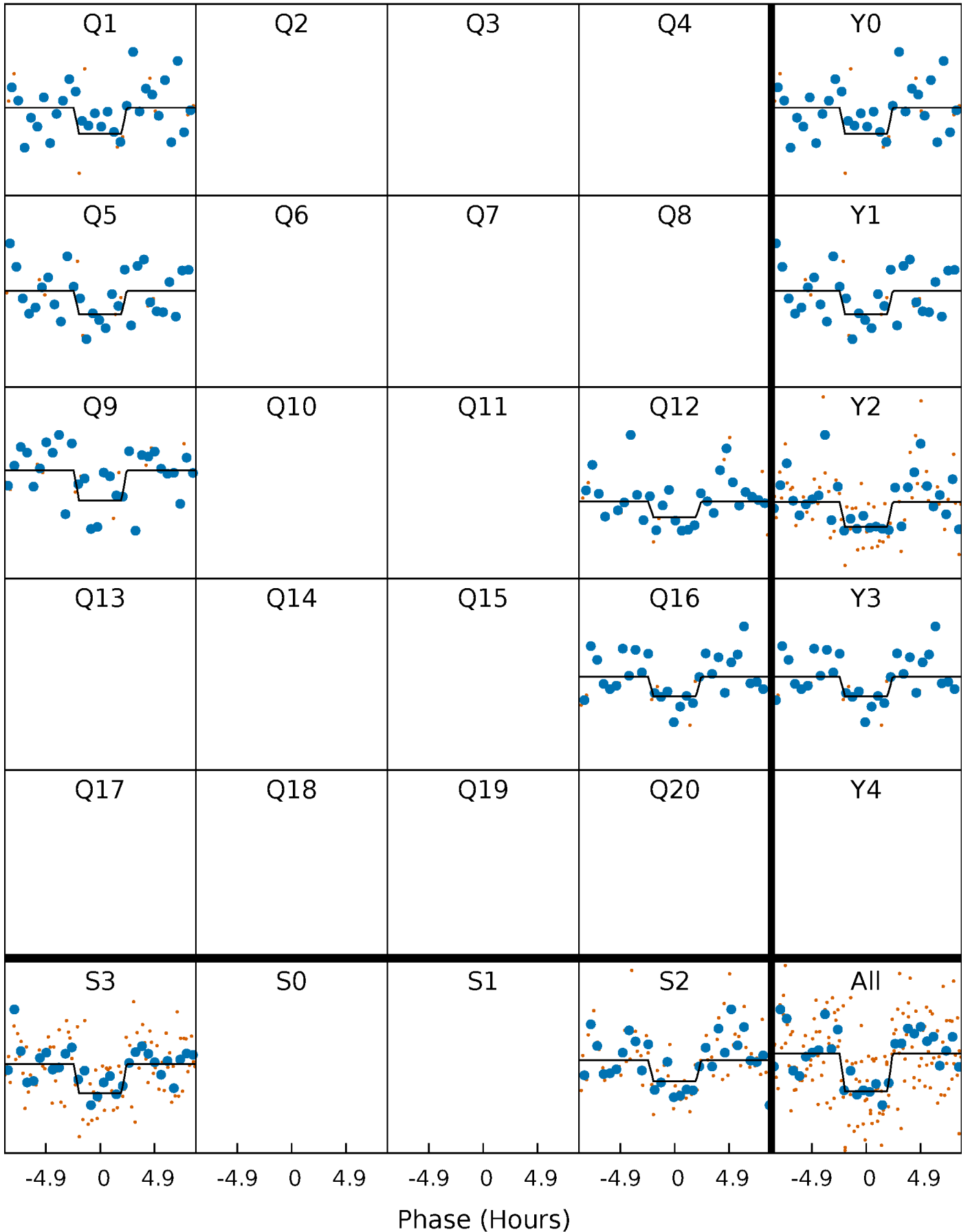
# DV Quarter-Phased Transit Curves

TCE 011558911-01 P=335.381963 Days  $T_0=161.467851$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

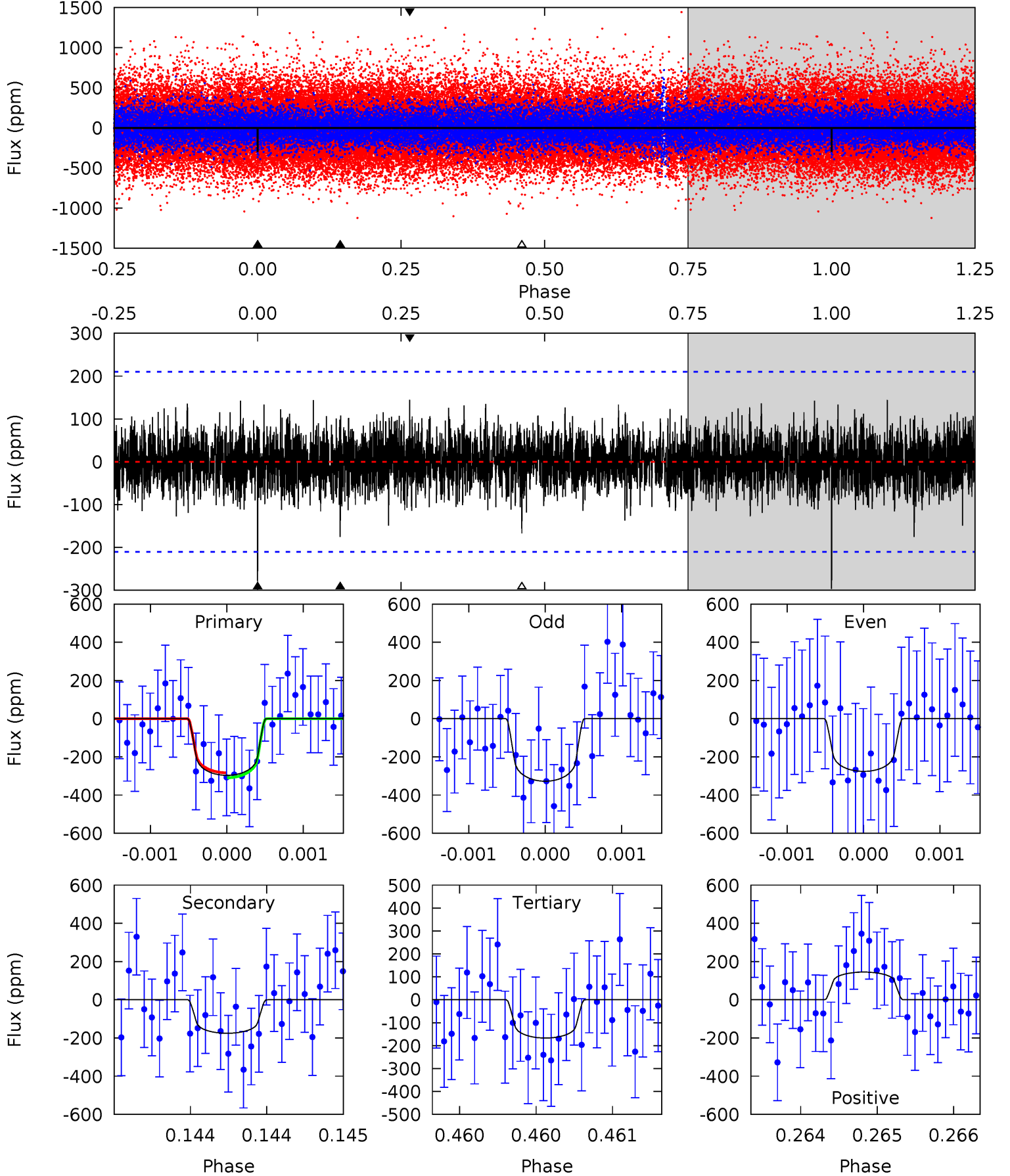
TCE 011558911-01 P=335.382832 Days  $T_0=161.465444$  (BKJD)



# DV Model-Shift Uniqueness Test

011558911-01, P = 335.381963 Days, E = 161.467851 Days

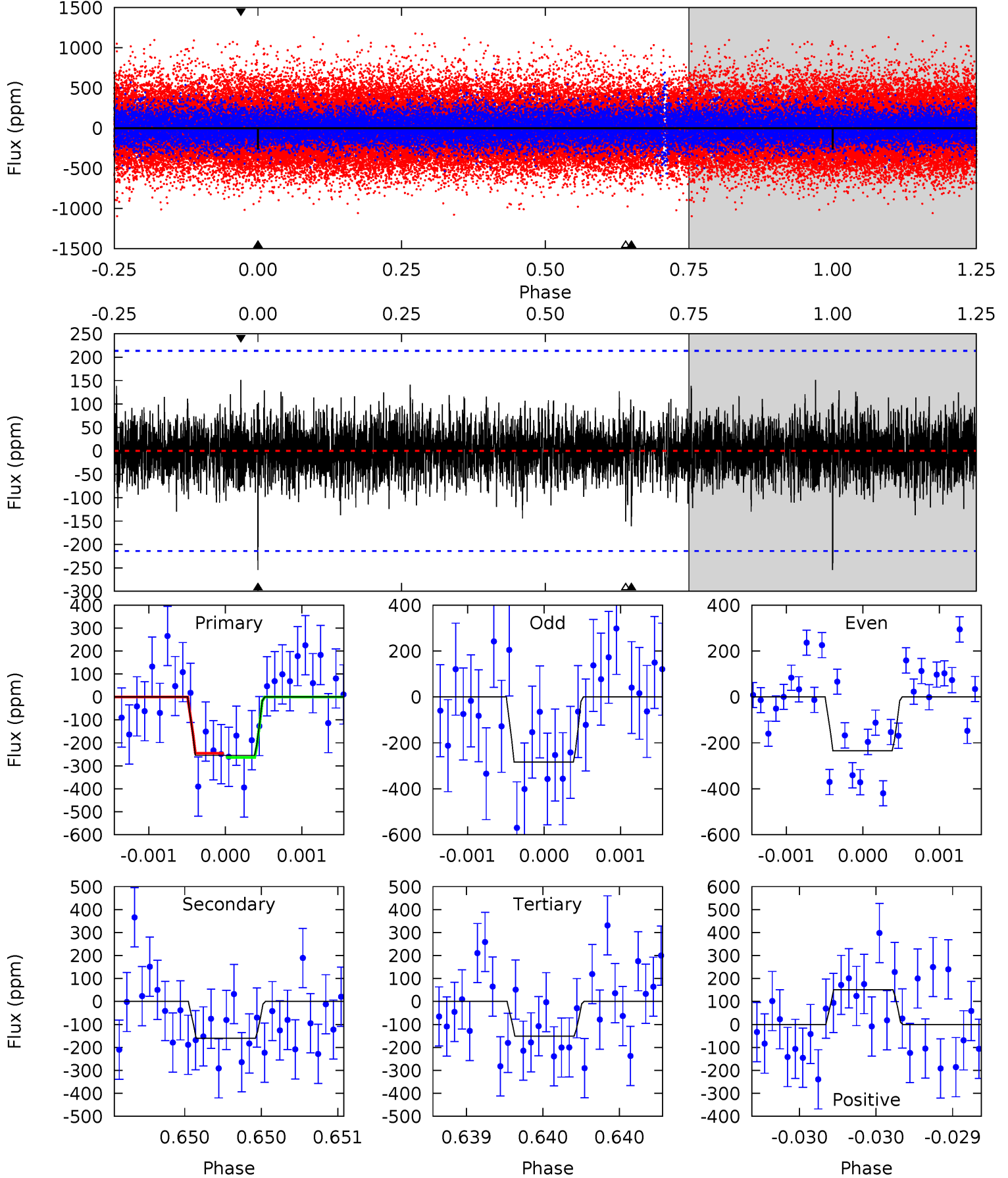
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	4.62	4.40	3.81	5.54	3.43	1.09	3.41	4.00	0.22	0.81	0.67	0.97	0.33	0.34



# Alt Model-Shift Uniqueness Test

011558911-01, P = 335.382832 Days, E = 161.465444 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
6.59	4.16	3.90	3.93	5.54	3.43	0.99	2.69	2.66	0.26	0.23	0.63	1.02	0.37	0.24



### Stellar Parameters For KIC 011558911

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6252^{+177}_{-265}$	$4.320^{+0.090}_{-0.210}$	$0.240^{+0.150}_{-0.350}$	$1.279^{+0.439}_{-0.188}$	$1.252^{+0.163}_{-0.182}$	$0.842^{+0.409}_{-0.434}$
	+3%/-4%	+2%/-5%	+62%/-146%	+34%/-15%	+13%/-15%	+49%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 011558911-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-175 \pm 38$	$2.88^{+1.92}_{-1.66}$	$435^{+35}_{-24}$	$5115^{+2737}_{-985}$	$11793^{+54852}_{-7753}$
Alt.	$-161 \pm 39$	$2.72^{+2.14}_{-1.63}$	$438^{+38}_{-26}$	$5162^{+2979}_{-1032}$	$12380^{+56566}_{-8644}$

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

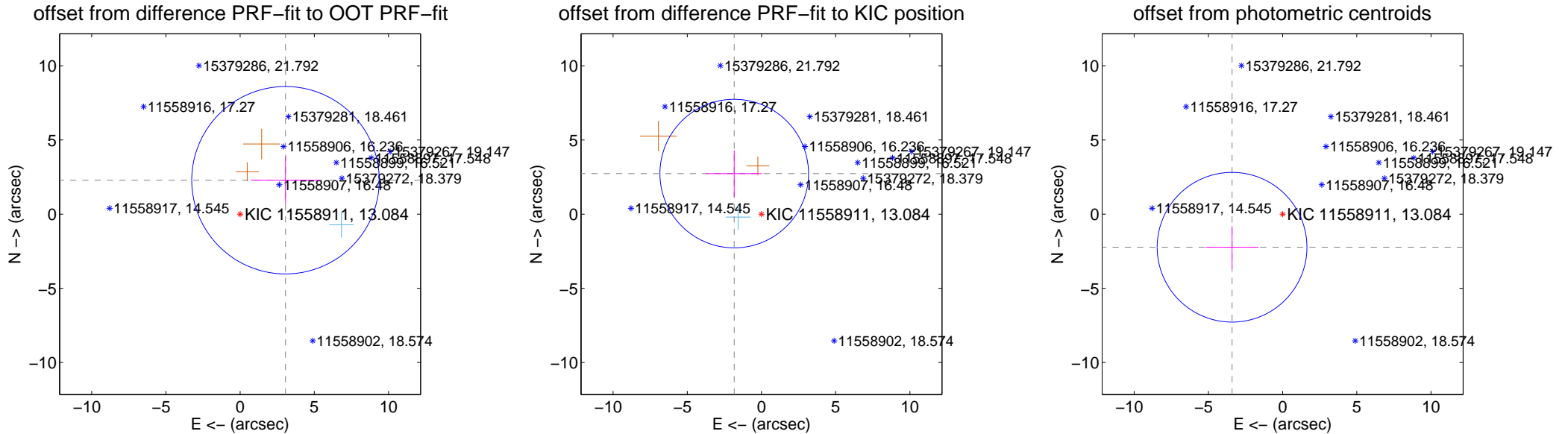
## DV Centroid Data

Supplemental centroid analysis for 011558911-01. Kepler magnitude: 13.08. Transit SNR 7.26

There are 1 quarters with good PRF difference image offsets

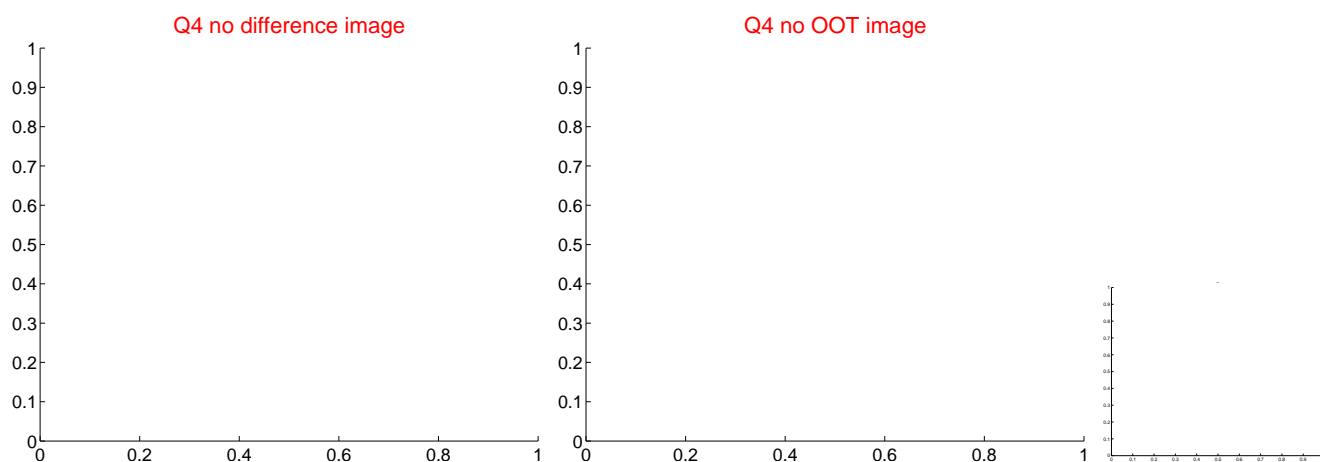
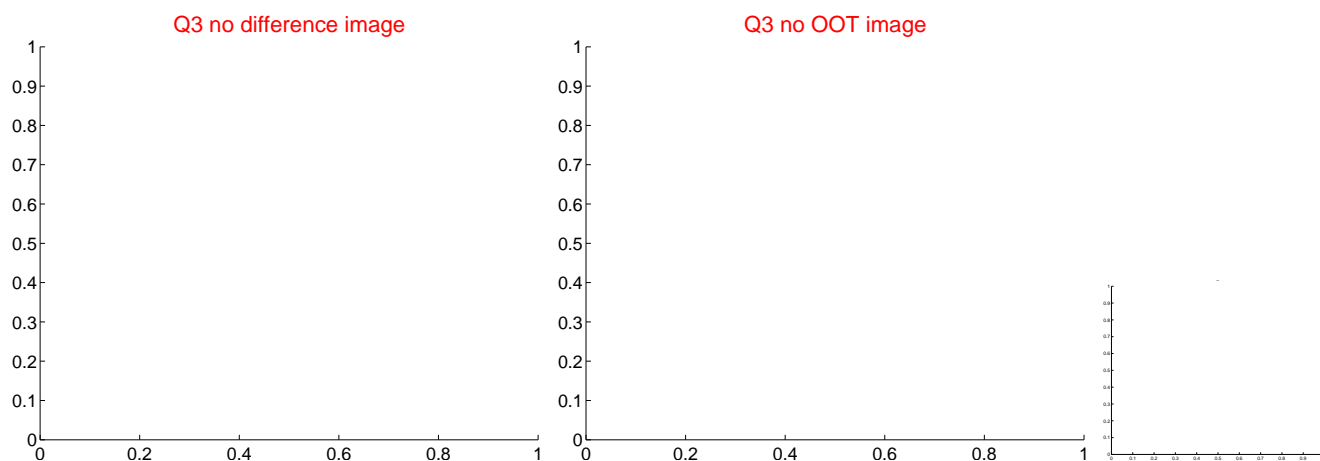
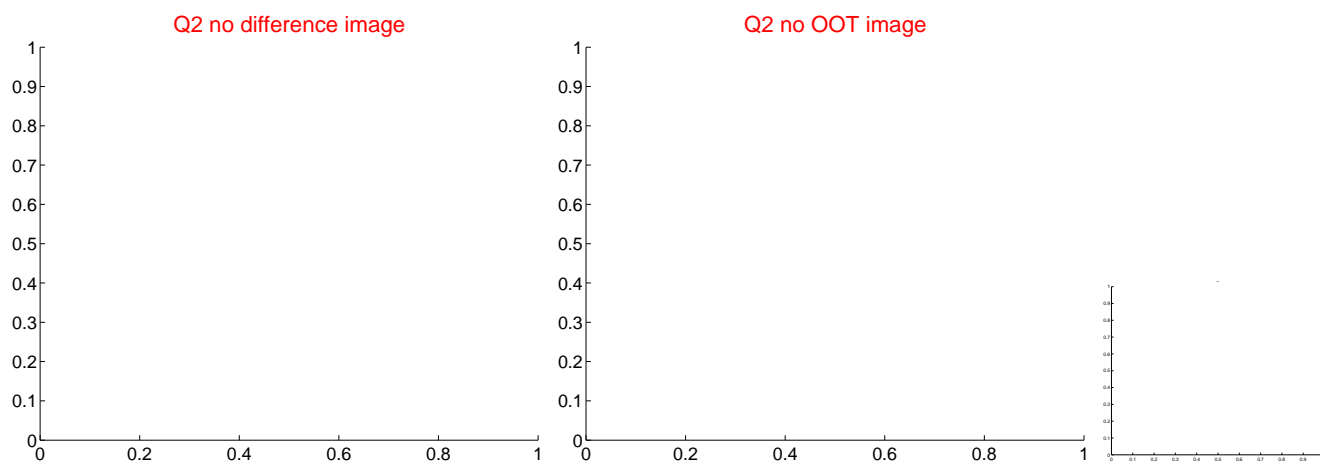
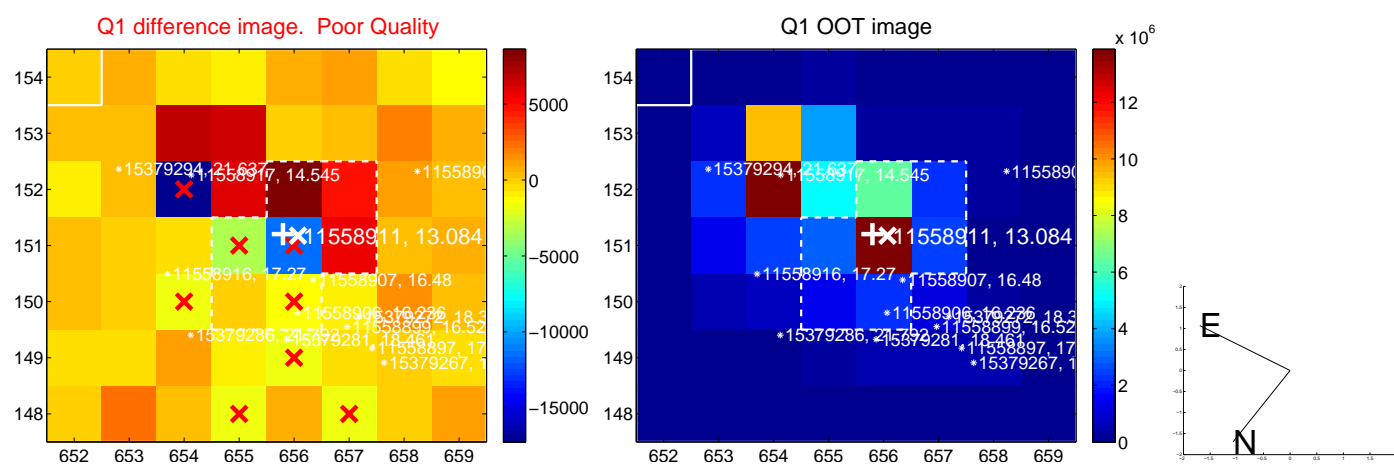
The OOT PRF centroid is offset from the target star catalog position by about 8.41 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.817 \pm 2.105$	1.81	$-3.057 \pm 2.342$	$2.285 \pm 1.594$
PRF-fit source offset from KIC position	$3.293 \pm 1.668$	1.97	$1.836 \pm 1.881$	$2.733 \pm 1.563$
photometric centroid source offset	$4.07 \pm 1.68$	2.42	$3.40 \pm 1.78$	$-2.23 \pm 1.42$



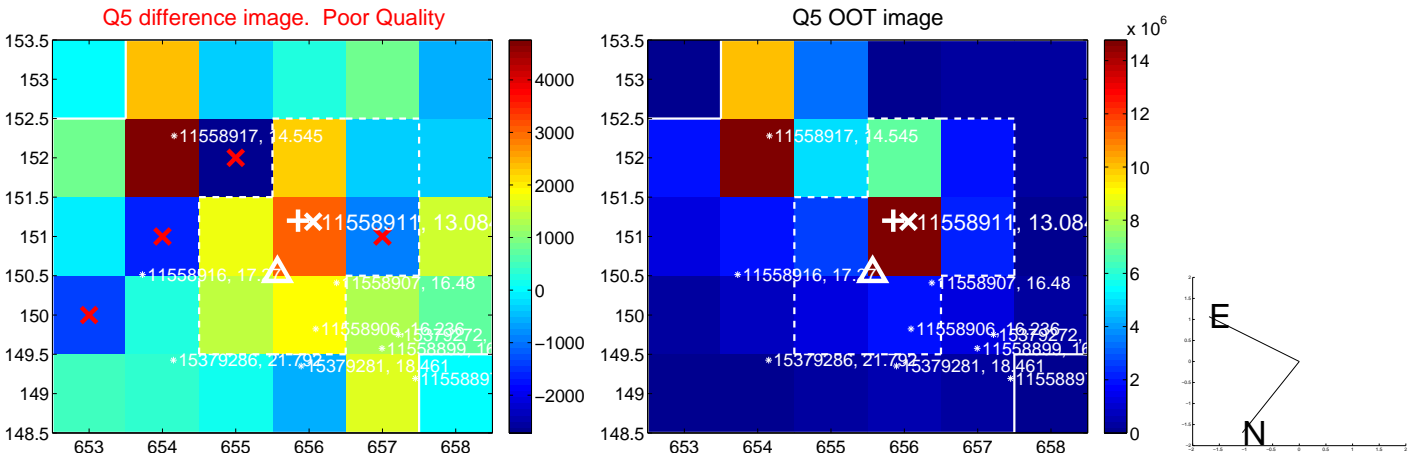
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

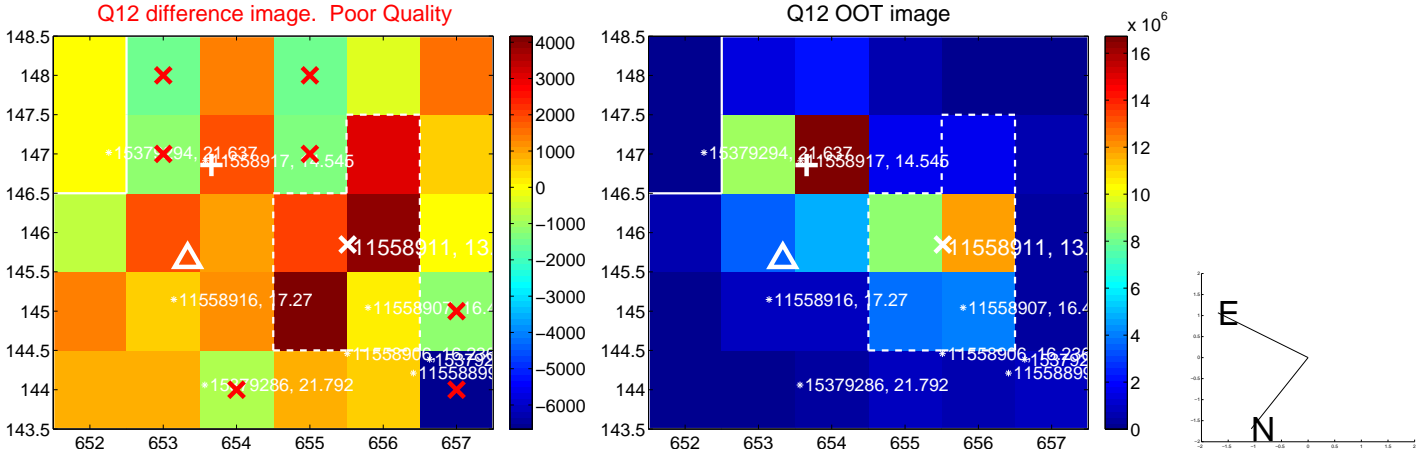
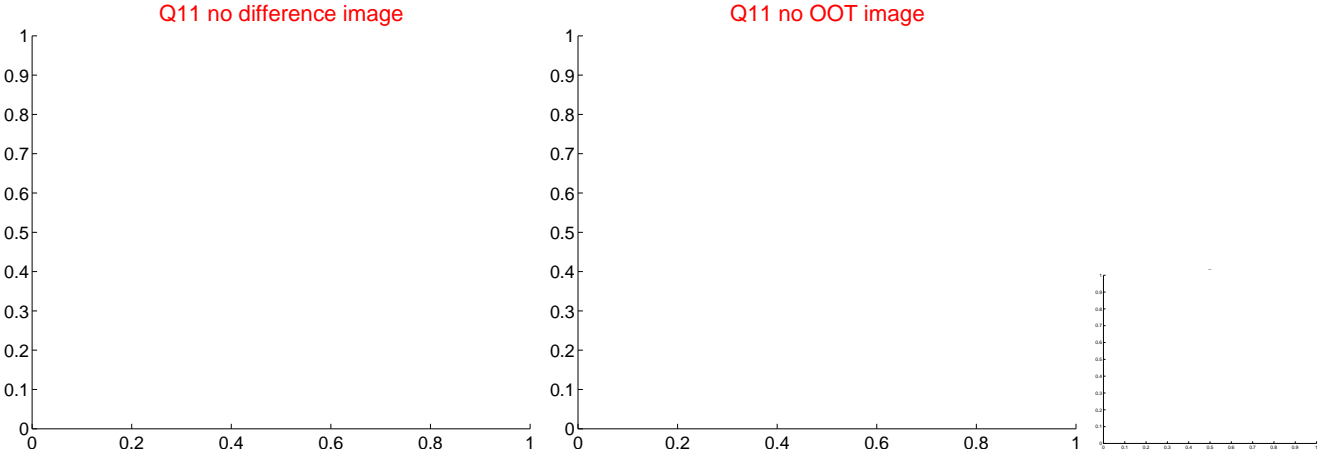
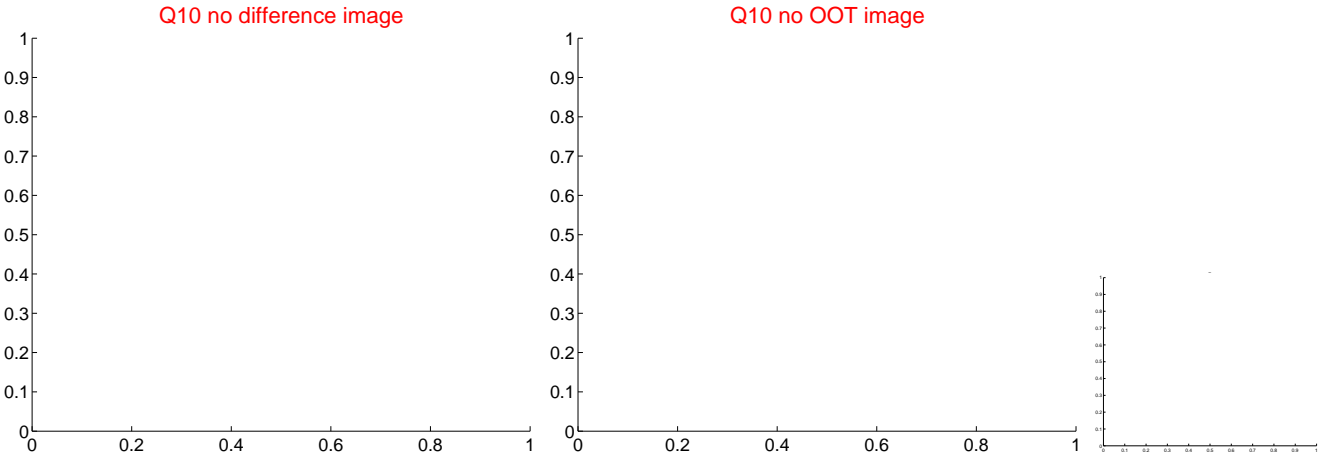
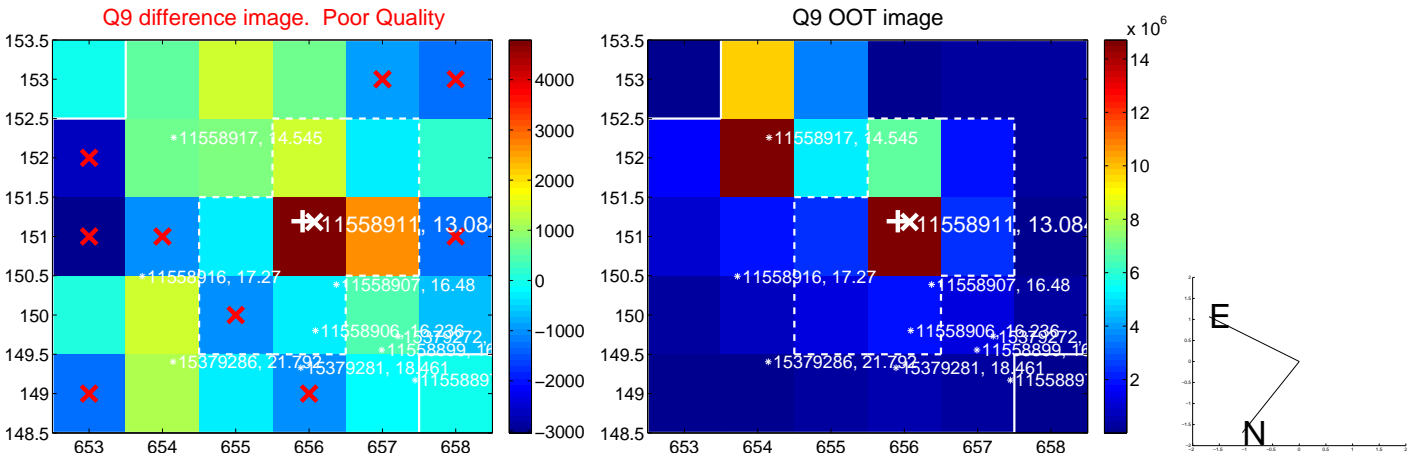




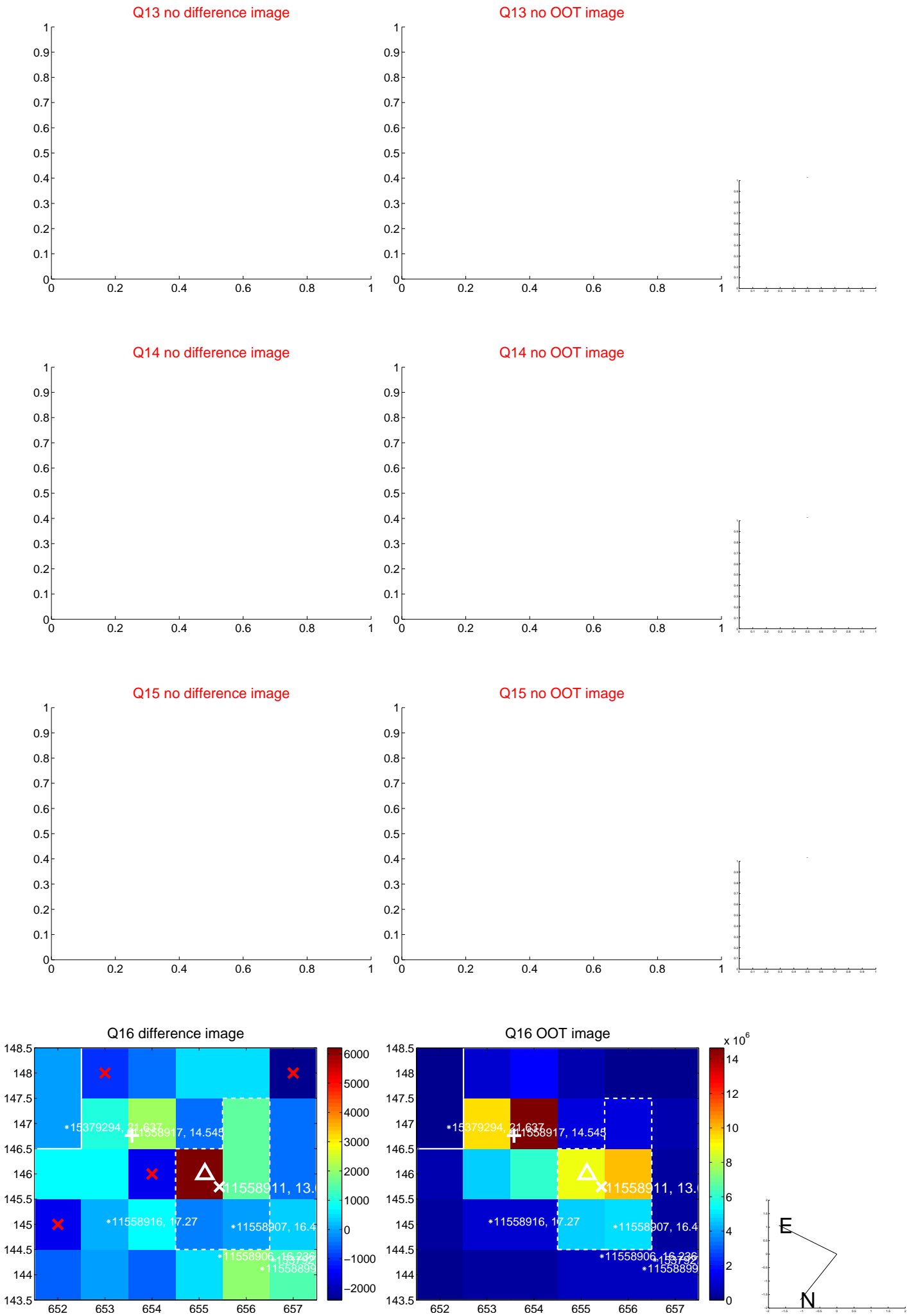
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



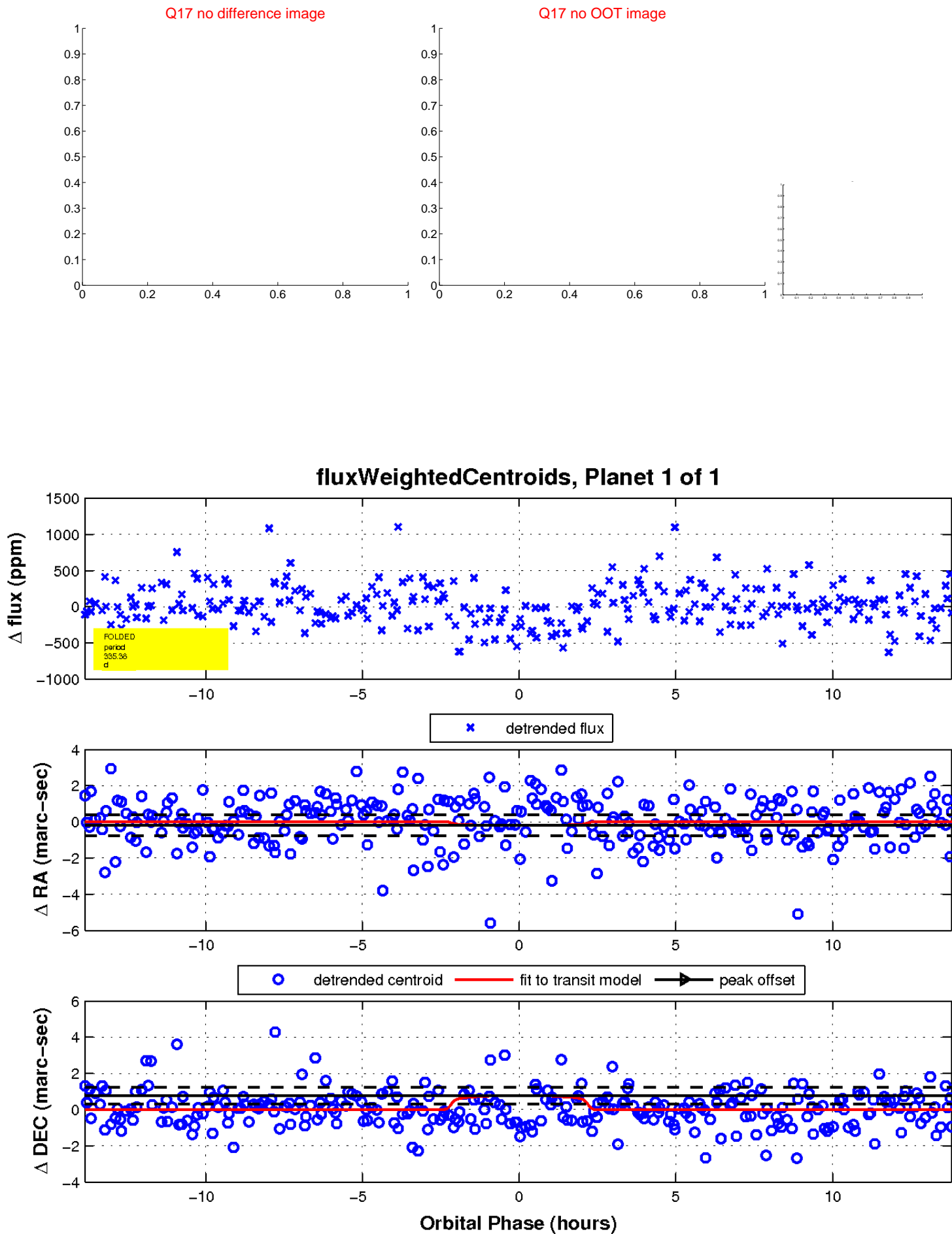
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

