

# KIC 009479661

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009479661-01	OBS	No	380.916432	152.008223	634.6	9.677	15.6	13.5	153.68	3280	513.28	2094.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009479661-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

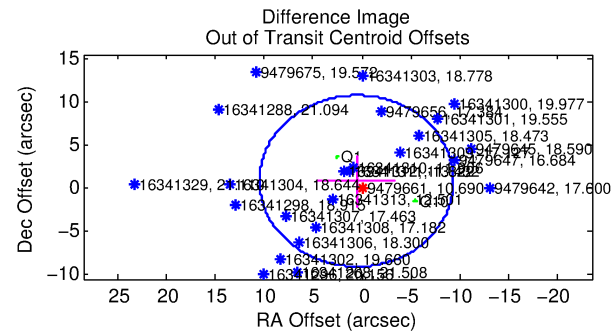
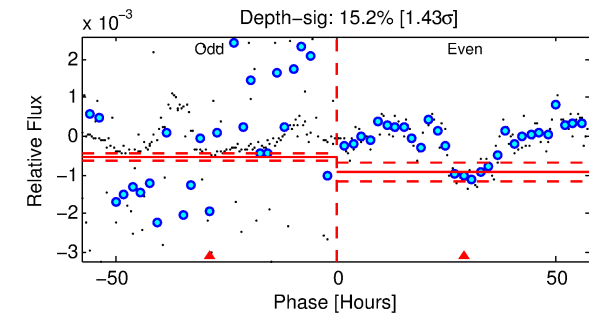
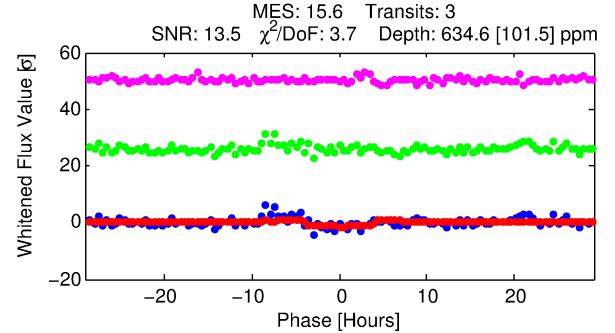
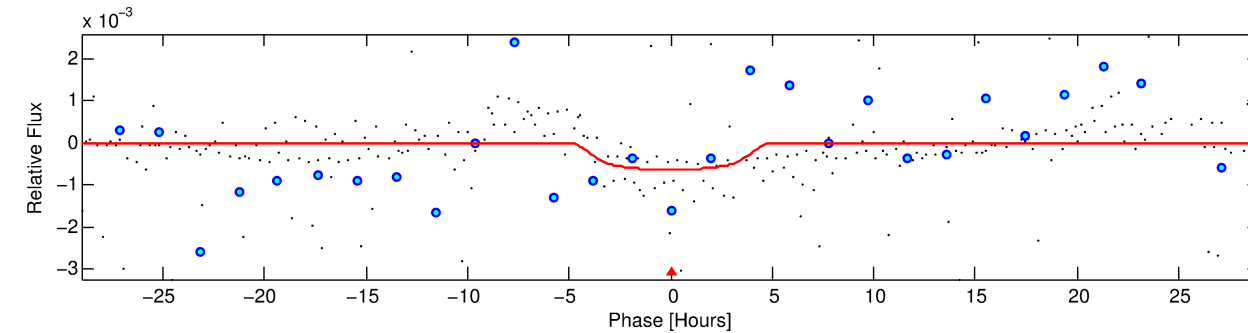
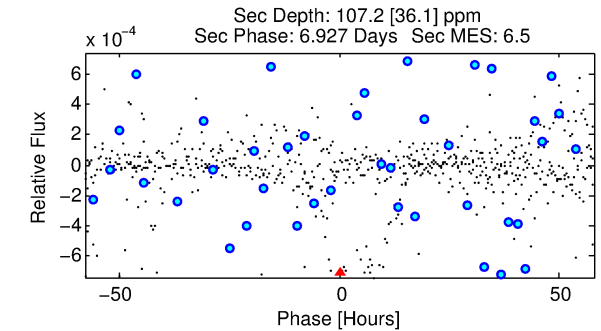
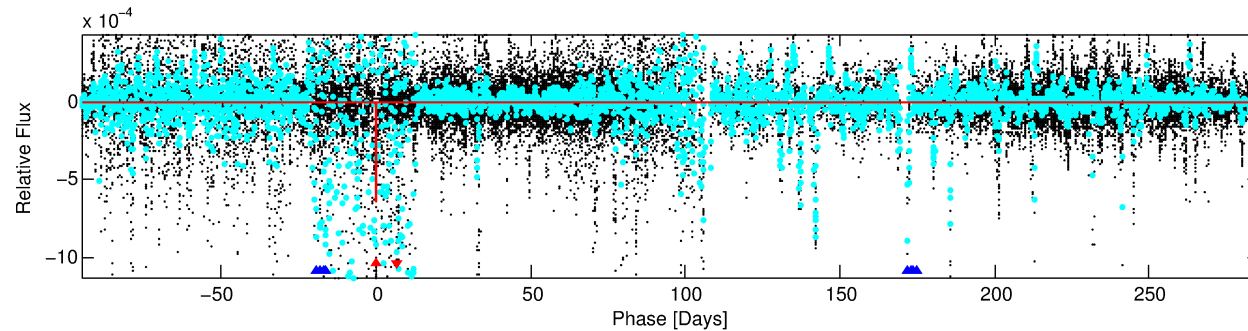
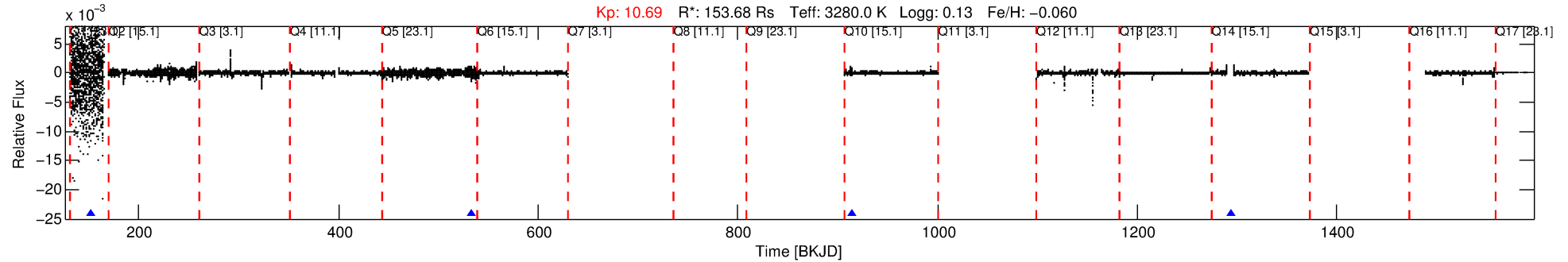
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009479661-01

No Significant Match Found

# DV One-Page Summary

KIC: 9479661 Candidate: 1 of 2 Period: 380.916 d



## DV Fit Results:

Period = 380.91643 [0.02924] d  
Epoch = 152.0082 [0.0556] BKJD  
Rp/R\* = 0.0306 [0.0050]  
a/R\* = 140.35 [56.99]  
b = 0.92 [0.07]  
Seff = 2094.21 [757.68]  
Teq = 1725 [156] K  
Rp = 513.28 [128.74] Re  
a = 1.0814 [0.2159] AU  
Ag = 0.26 [0.15] [-4.91 $\sigma$ ]  
Teffp = 1908 [233] K [0.65 $\sigma$ ]

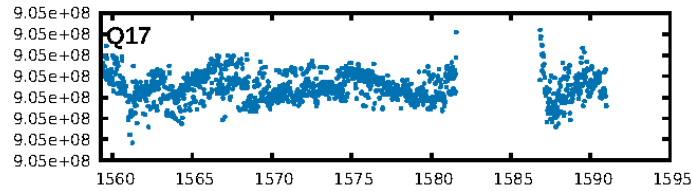
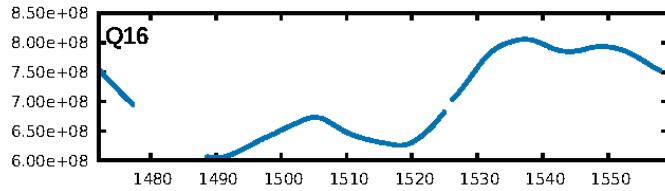
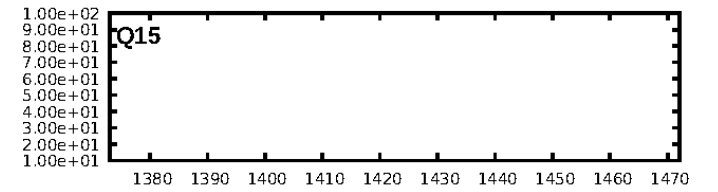
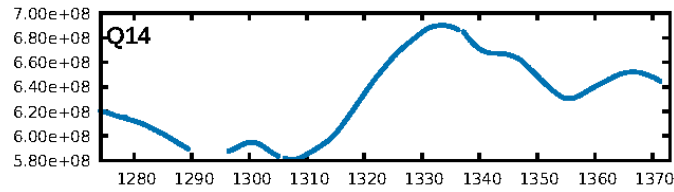
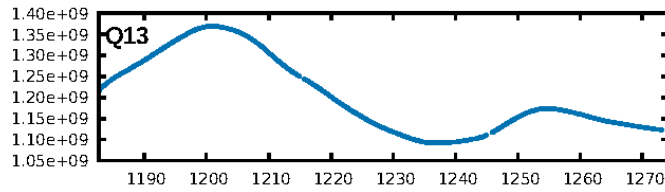
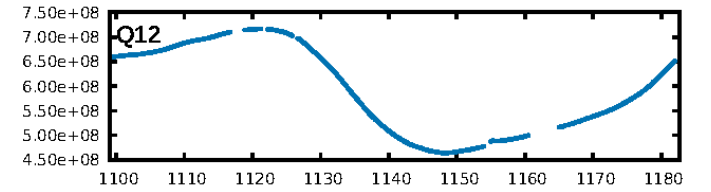
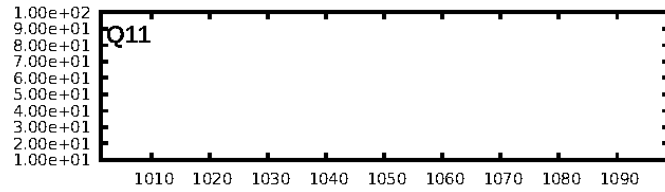
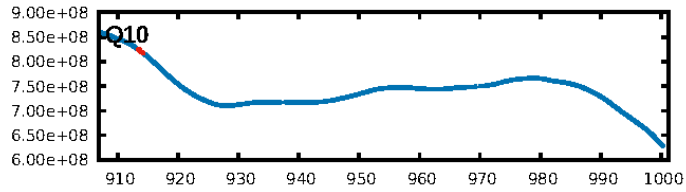
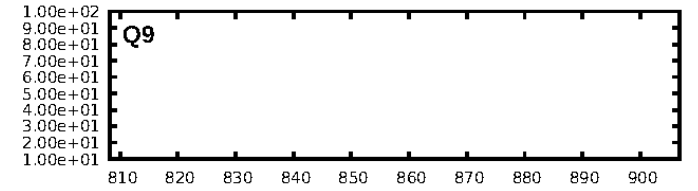
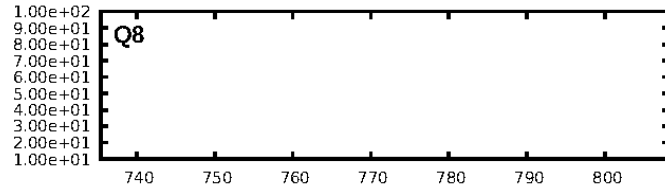
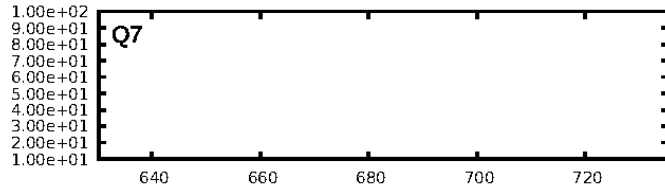
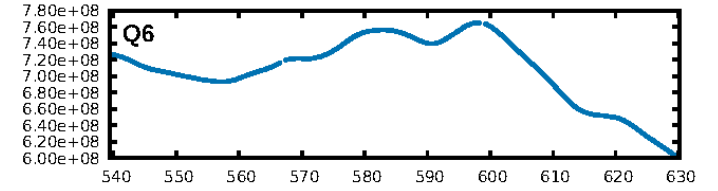
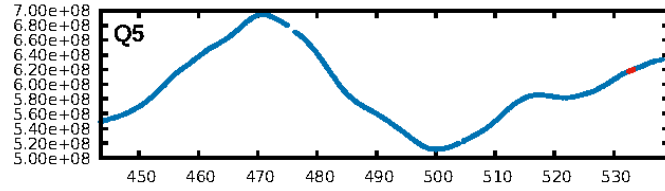
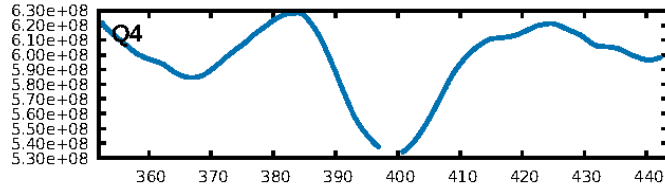
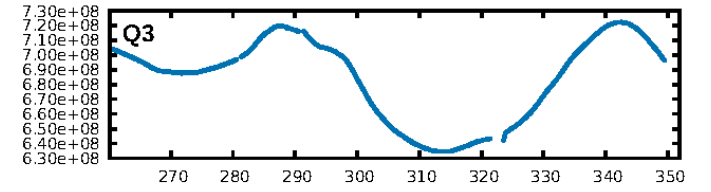
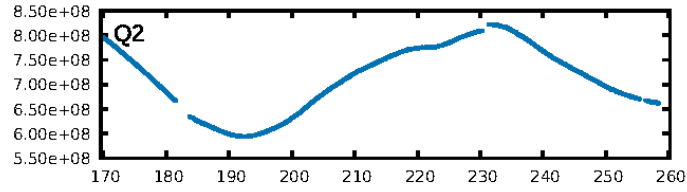
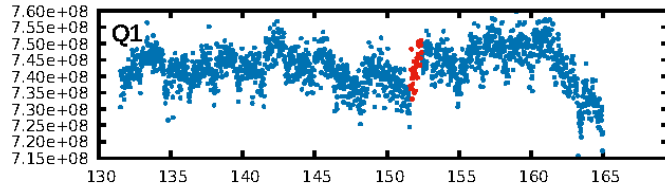
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [297.46 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.8%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 3.99e-10  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: 0.270 arcsec [0.37 $\sigma$ ]  
OotOffset-rm: 1.017 arcsec [0.31 $\sigma$ ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-rm: 0.025 arcsec [0.01 $\sigma$ ]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

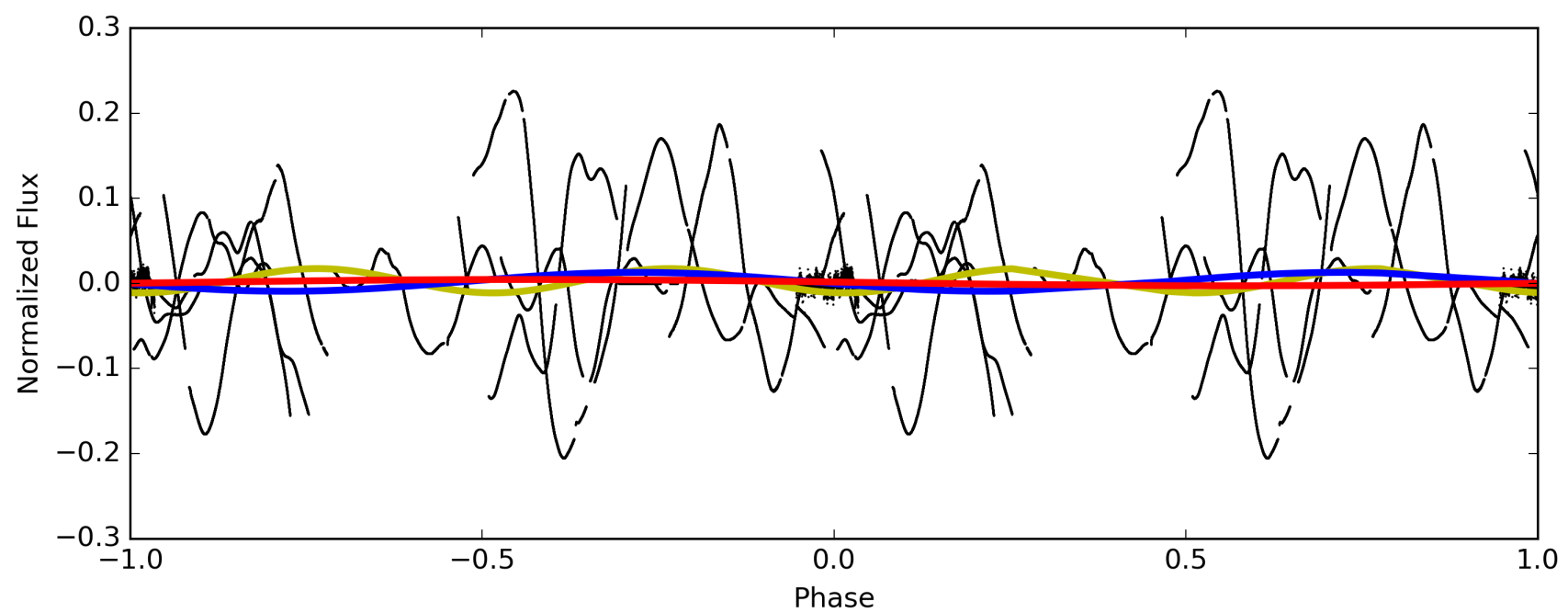
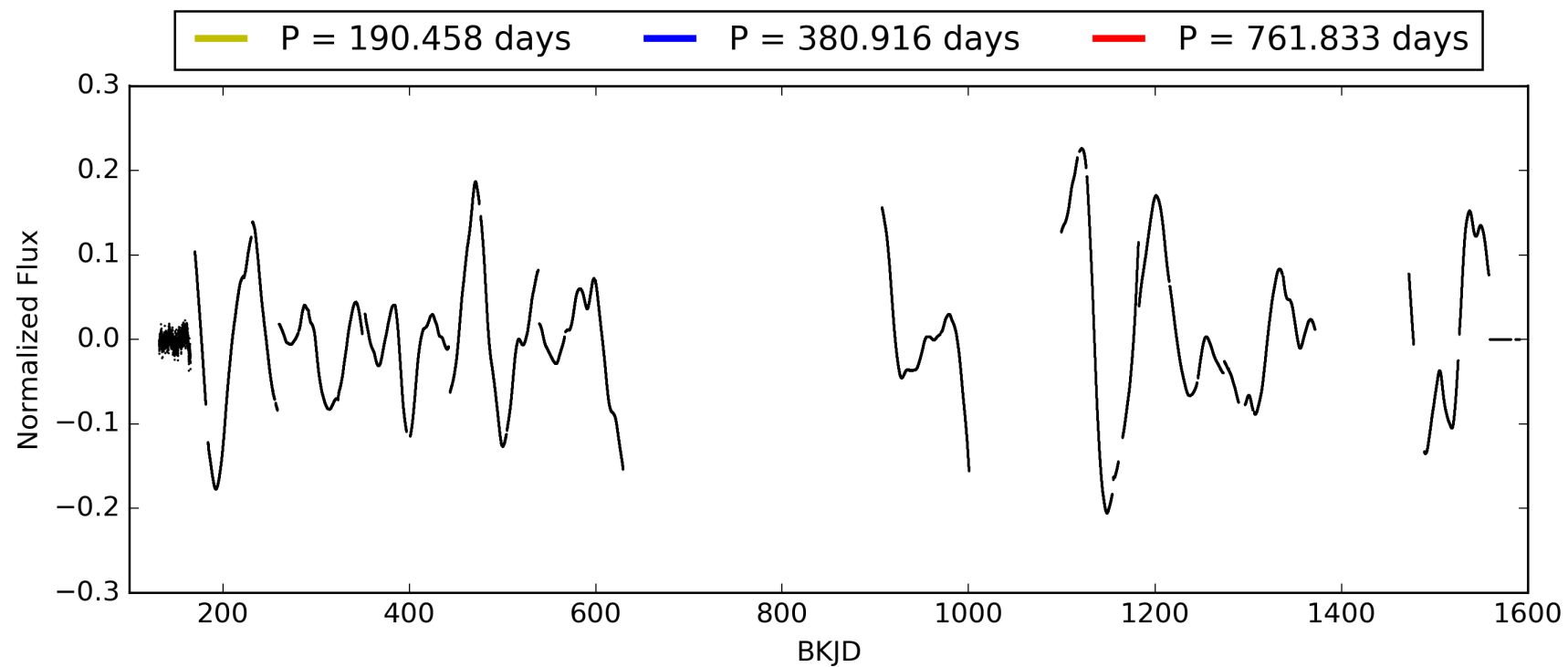
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:01:09 Z

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

# TCE 009479661-01, PDC Light Curves

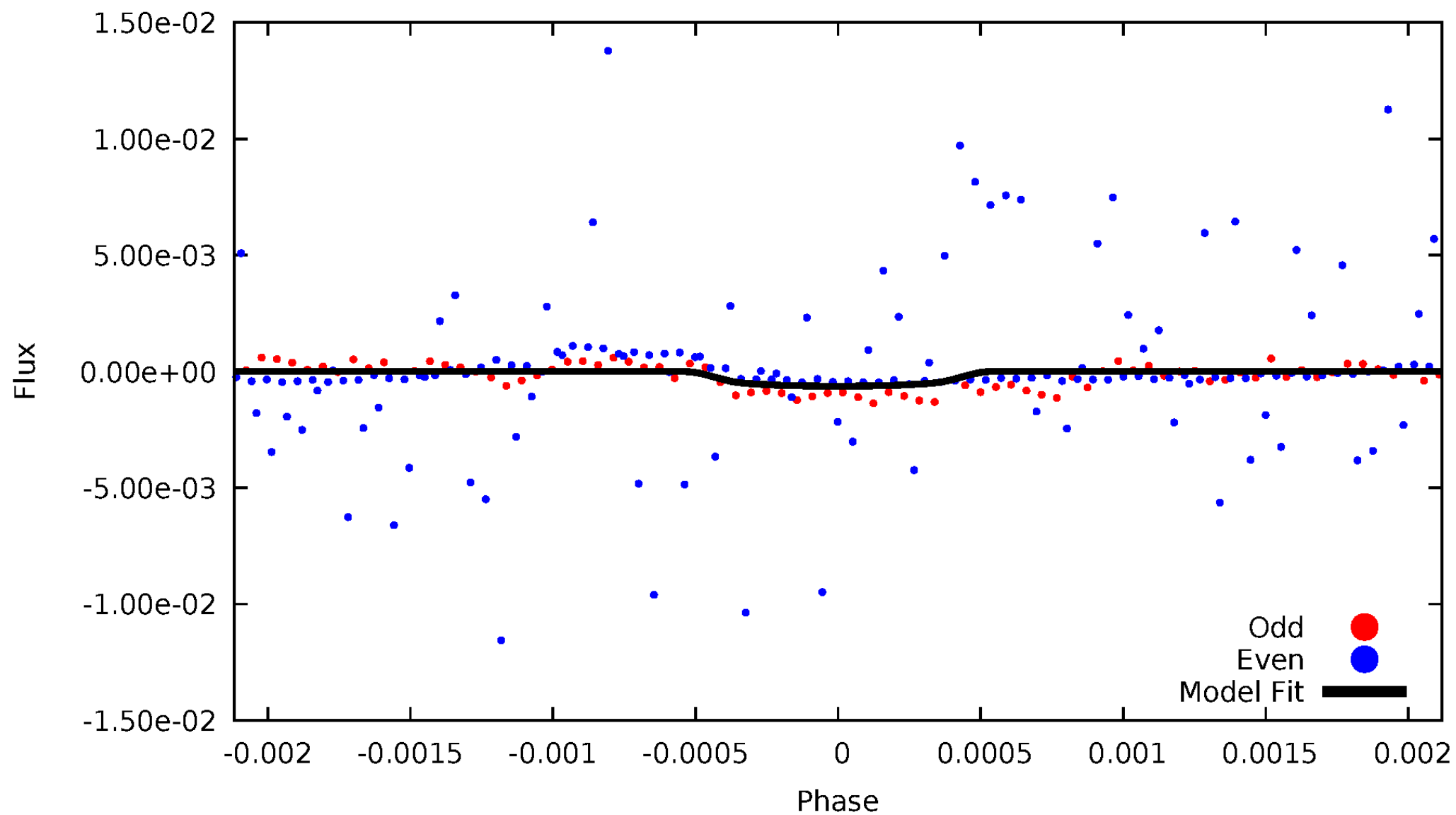


TCE 009479661-01



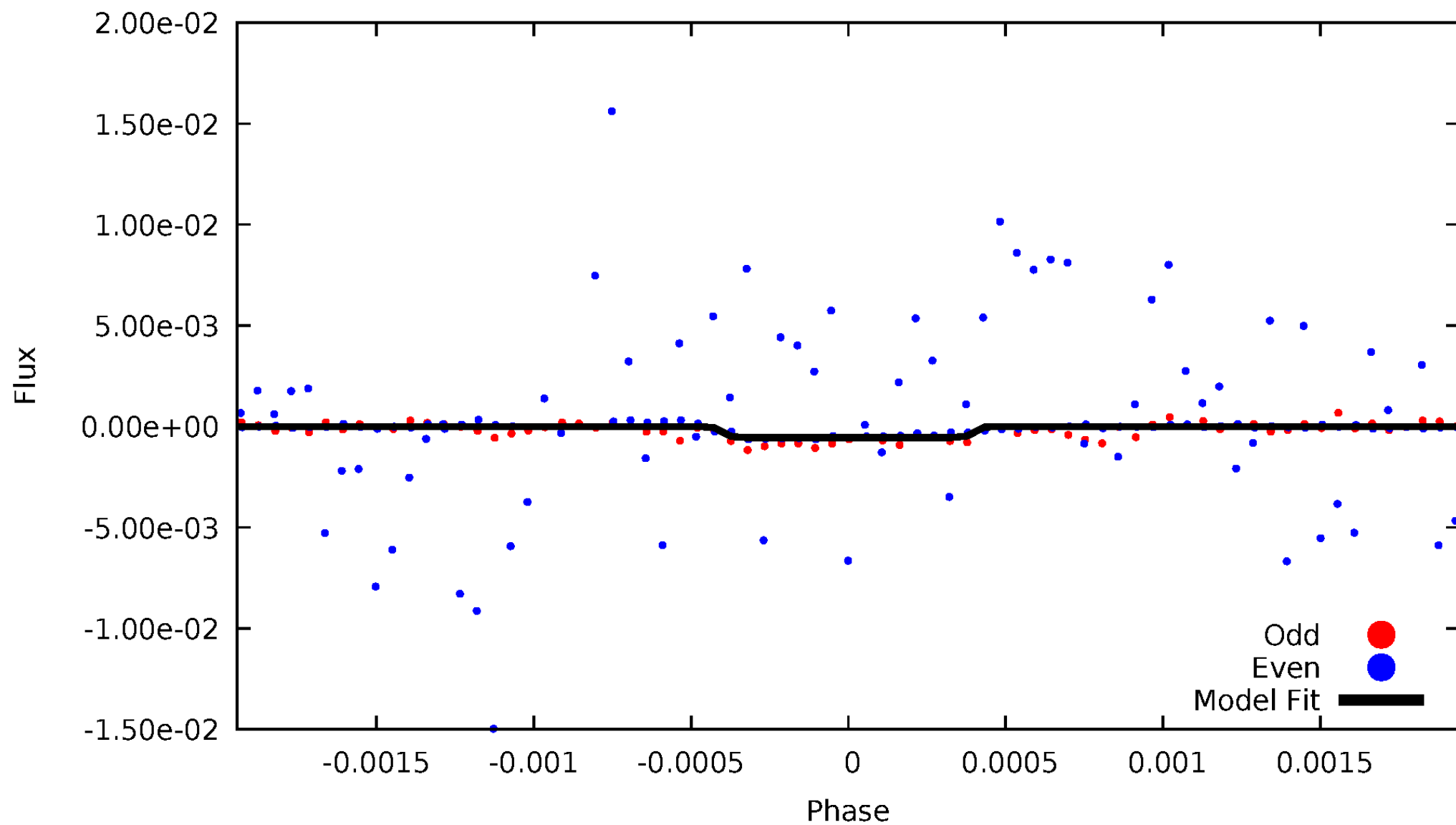
# DV Odd/Even

TCE 009479661-01

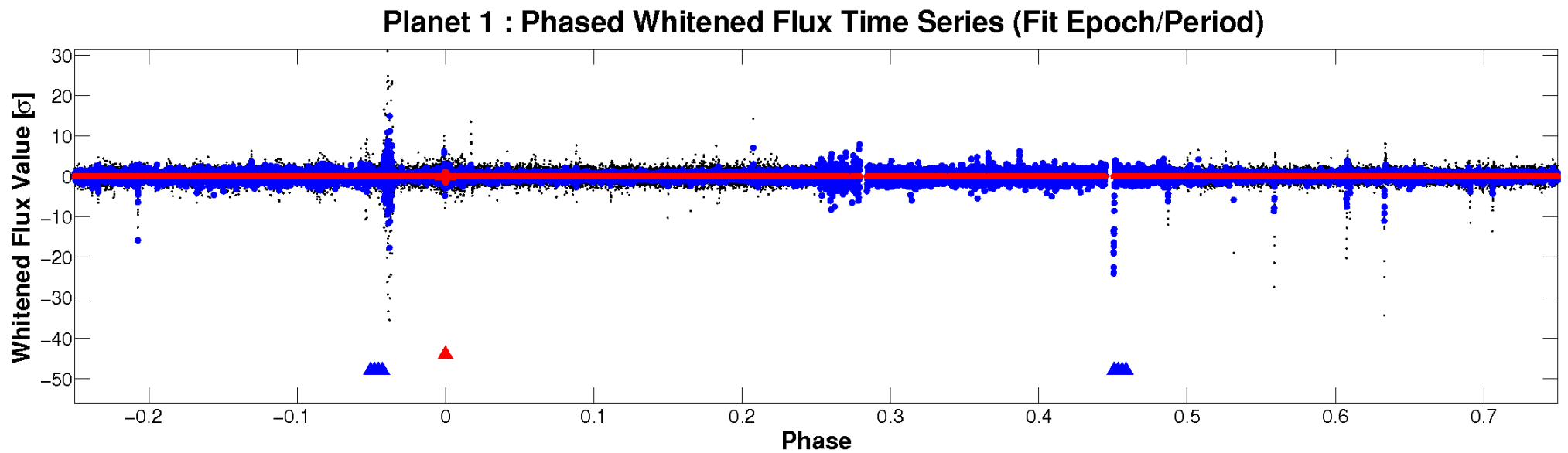
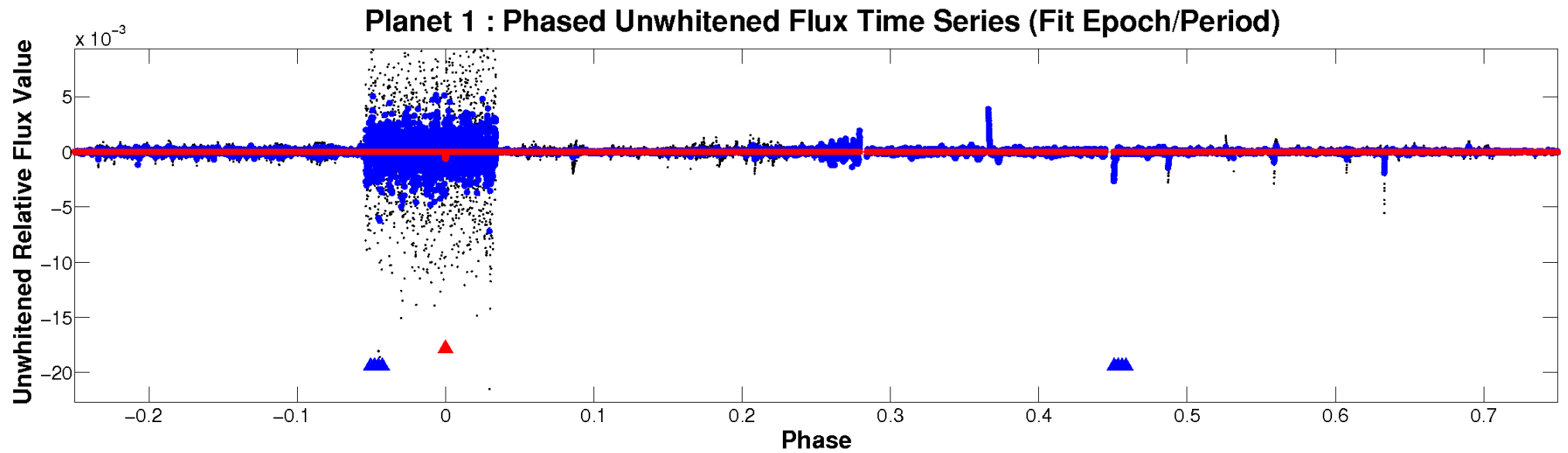


# ALT Odd/Even

TCE 009479661-01

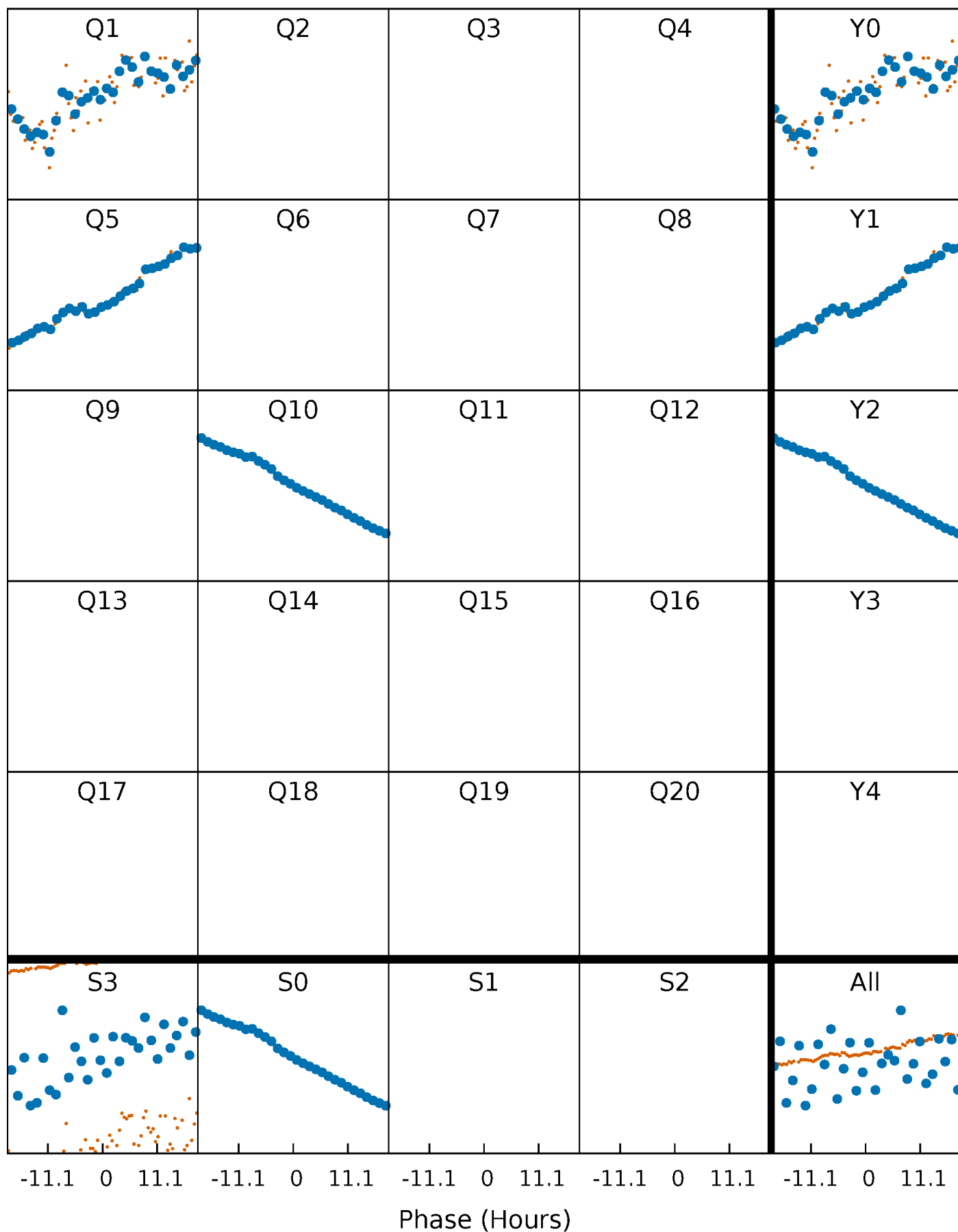


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

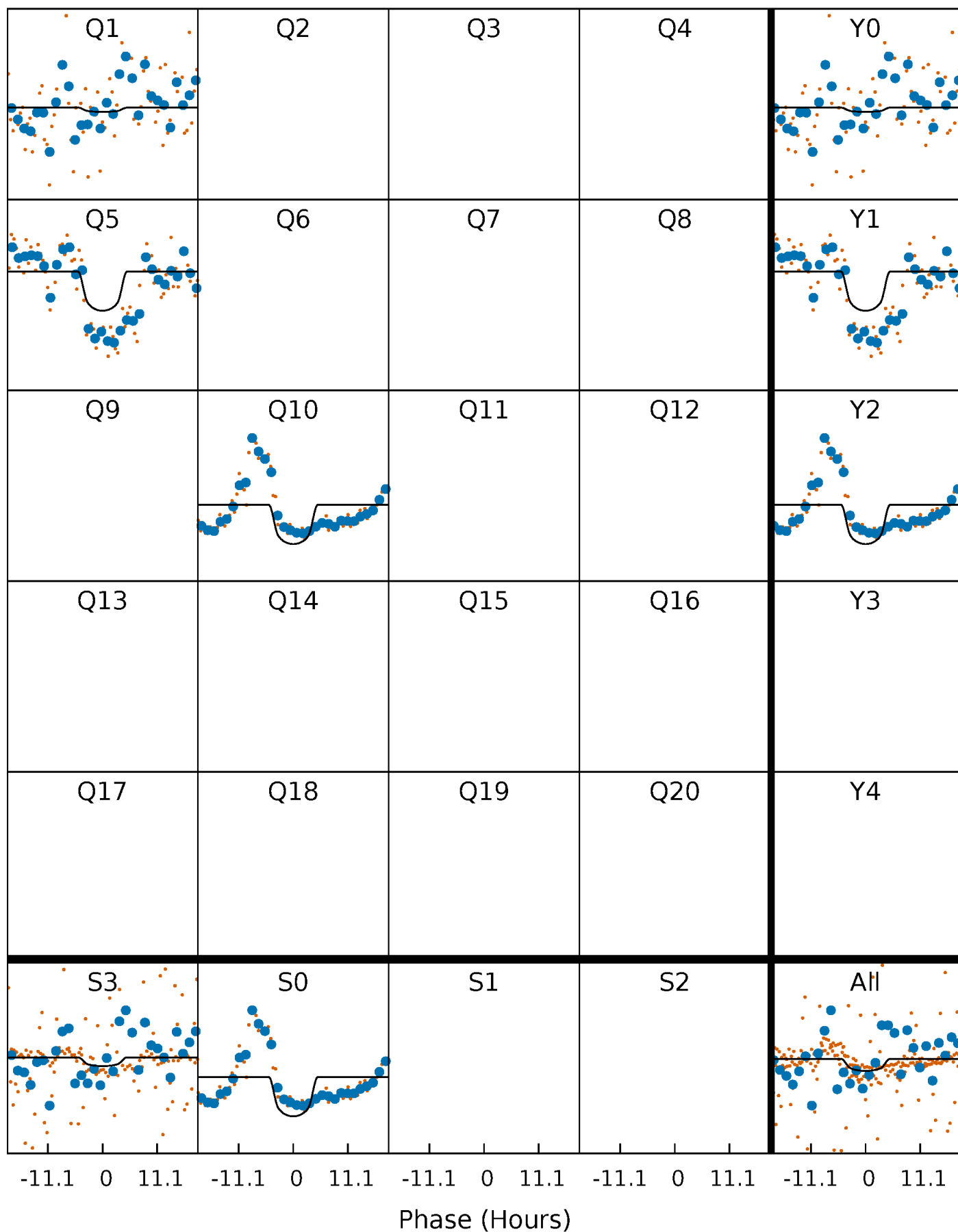
TCE 009479661-01 P=380.916432 Days  $T_0=152.008223$  (BKJD)





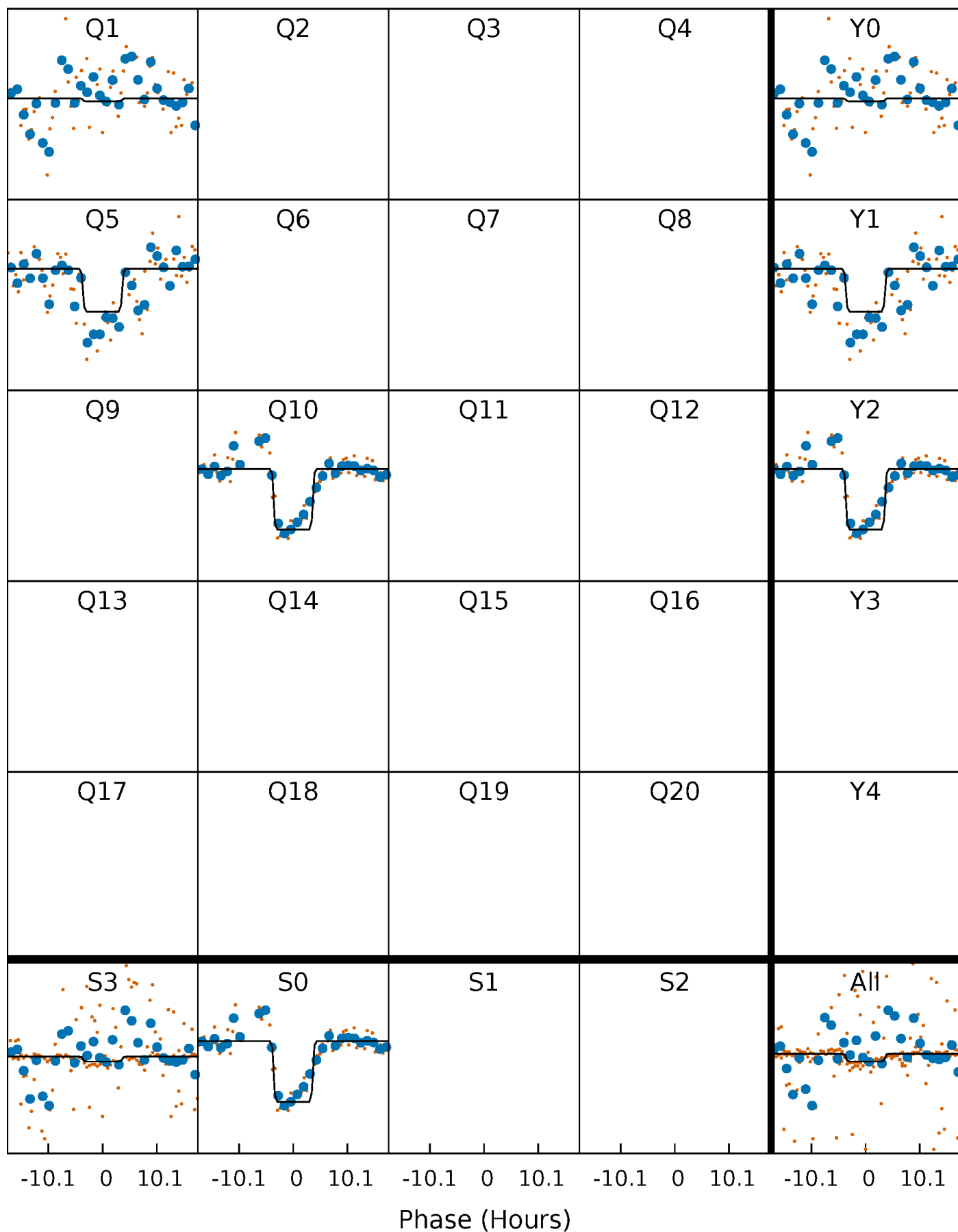
# DV Quarter-Phased Transit Curves

TCE 009479661-01 P=380.916432 Days  $T_0=152.008223$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

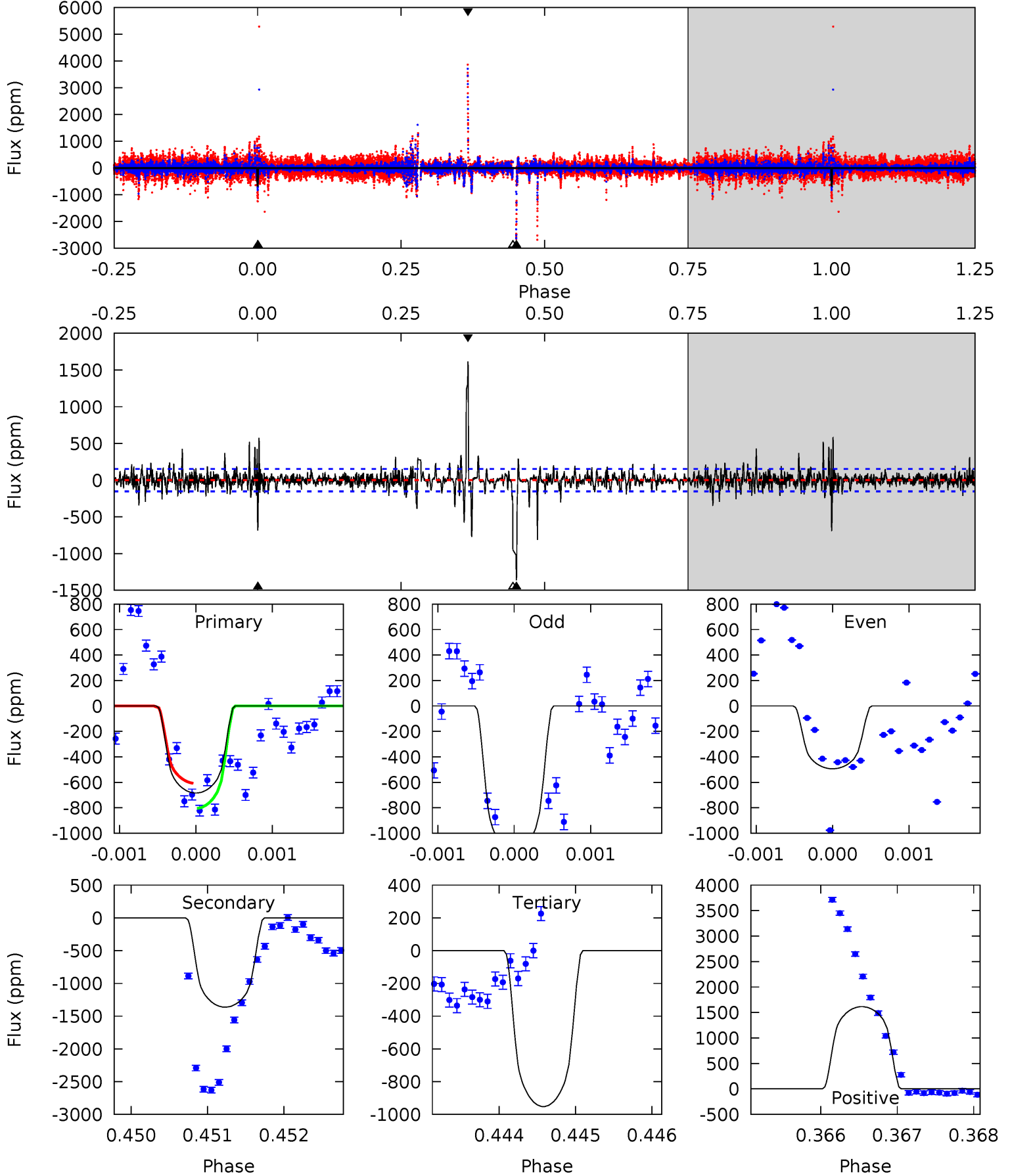
TCE 009479661-01     $P=380.922425$  Days     $T_0=151.987489$  (BKJD)



# DV Model-Shift Uniqueness Test

009479661-01, P = 380.916432 Days, E = 152.008223 Days

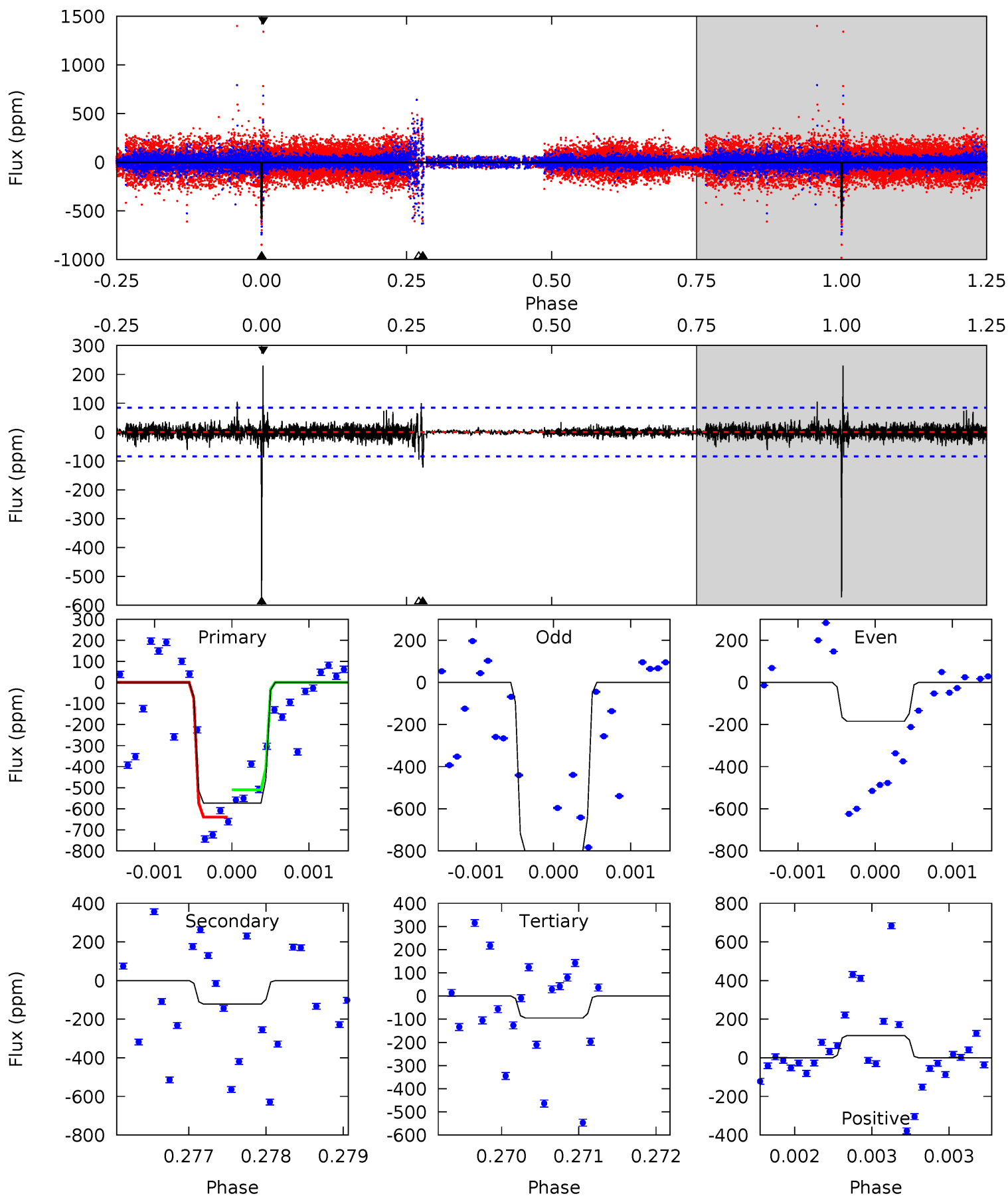
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	48.7	34.0	57.7	5.44	3.27	3.16	-9.58	-33.3	14.7	-9.01	5.70	1.07	0.54	0



# Alt Model-Shift Uniqueness Test

009479661-01, P = 380.922425 Days, E = 151.987489 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
37.2	7.95	6.17	7.50	5.48	3.33	0.78	31.0	29.7	1.78	0.45	4.66	-0.14	0.29	0



### Stellar Parameters For KIC 009479661

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3280^{+117}_{-88}$	$0.130^{+0.200}_{-0.050}$	$-0.060^{+0.250}_{-0.150}$	$153.676^{+9.192}_{-29.414}$	$1.160^{+0.189}_{-0.155}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+154%/-38%	+417%/-250%	+6%/-19%	+16%/-13%	+96%/-15%
Source	KIC0	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 009479661-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1363 \pm 28$	$491.82^{+92.95}_{-88.96}$	$2379^{+108}_{-126}$	$3452^{+275}_{-204}$	$3.739^{+1.793}_{-1.114}$
Alt.	$-122 \pm 15$	$376.39^{+93.26}_{-85.80}$	$2368^{+109}_{-130}$	$2419^{+284}_{-363}$	$0.565^{+0.380}_{-0.207}$

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

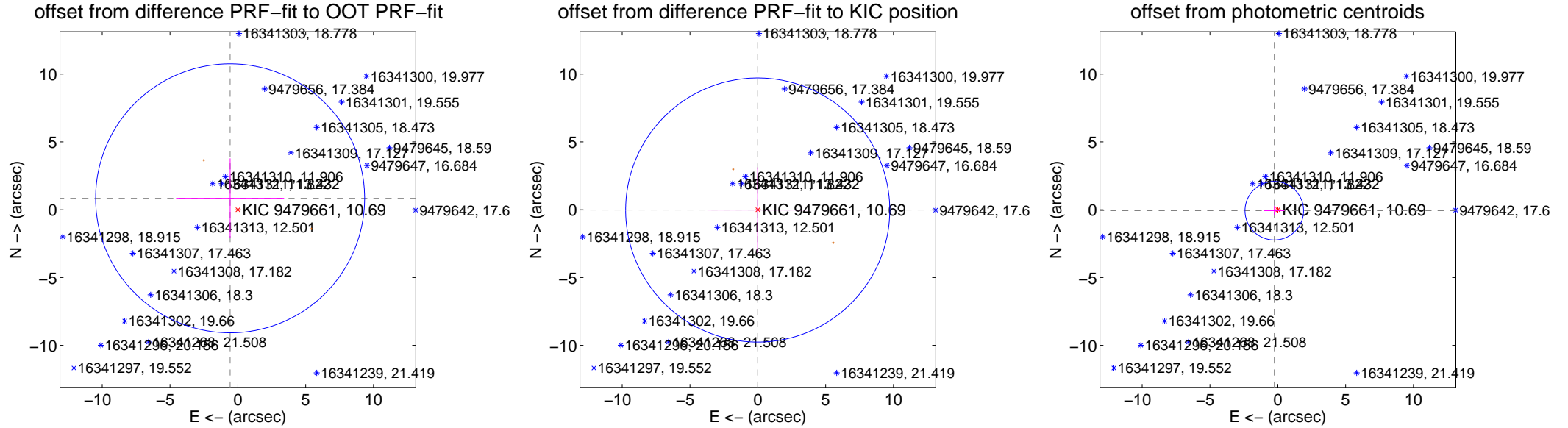
## DV Centroid Data

Supplemental centroid analysis for 009479661-01. **Kepler magnitude: 10.69.** Transit SNR 13.51

**There are 0 quarters with good PRF difference image offsets**

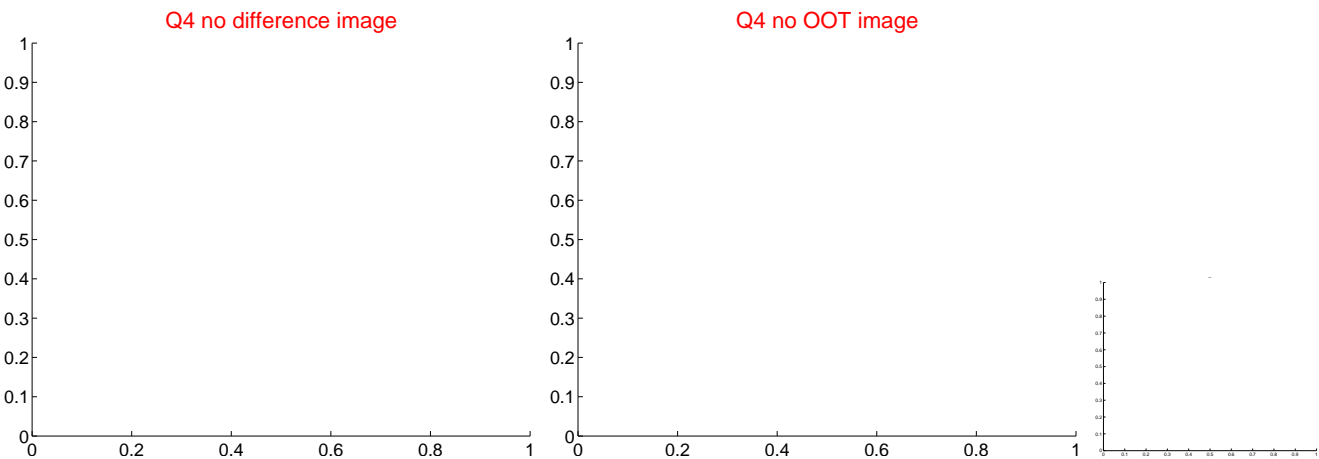
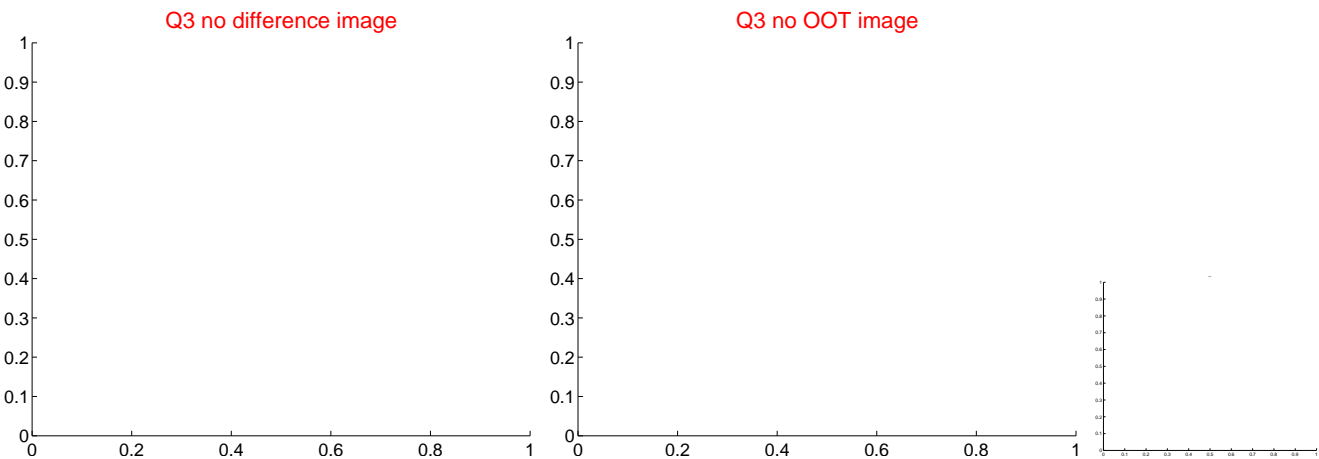
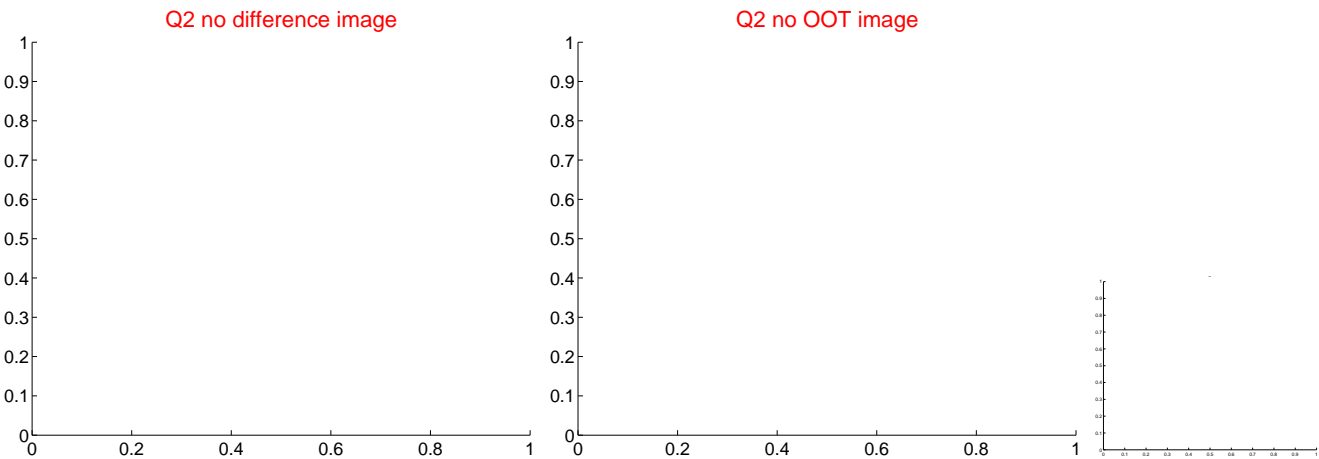
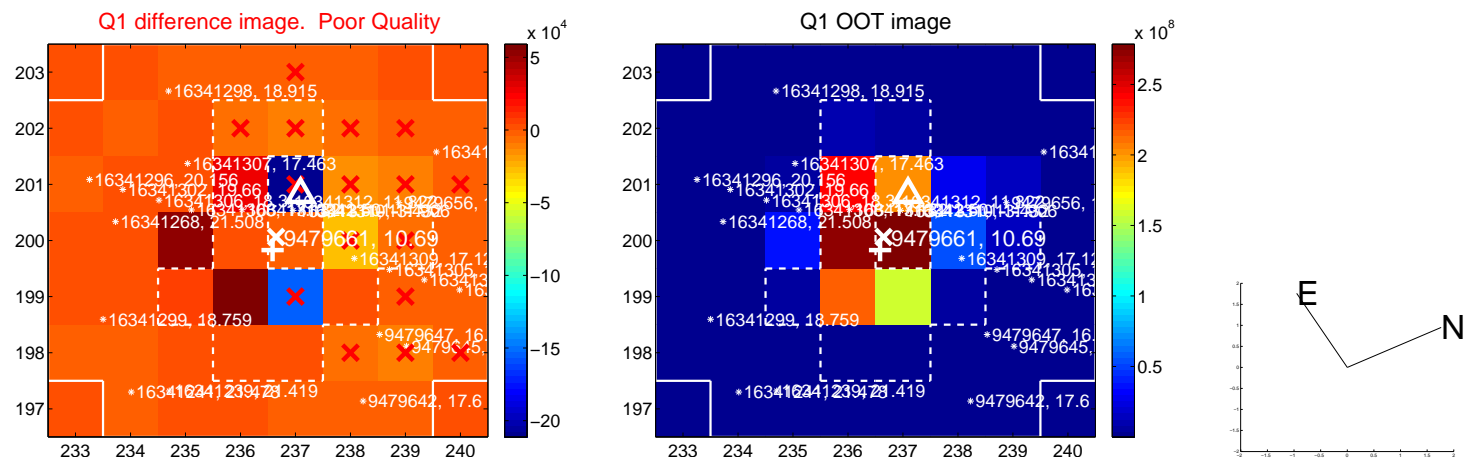
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.017 \pm 3.305$	0.31	$0.571 \pm 3.984$	$0.841 \pm 2.941$
PRF-fit source offset from KIC position	$0.025 \pm 3.245$	0.01	$0.010 \pm 3.711$	$-0.023 \pm 3.152$
photometric centroid source offset	$0.27 \pm 0.72$	0.37	$0.26 \pm 0.74$	$-0.07 \pm 0.35$

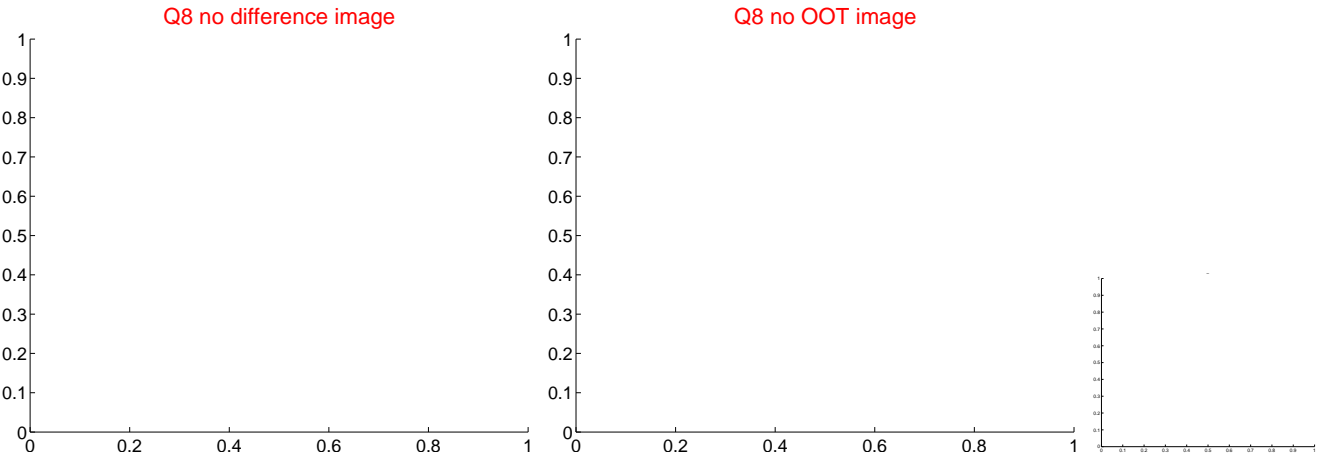
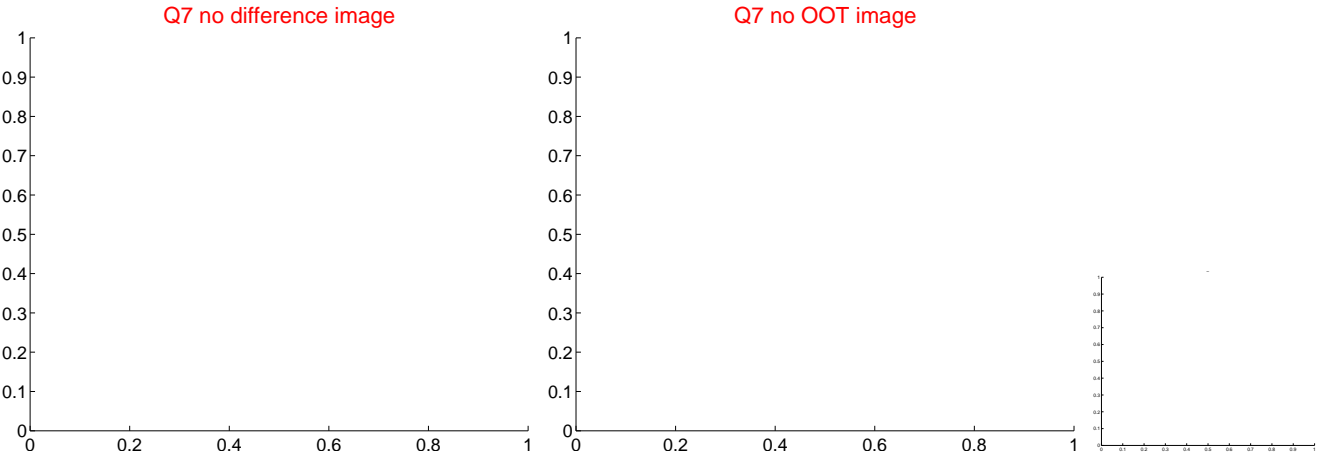
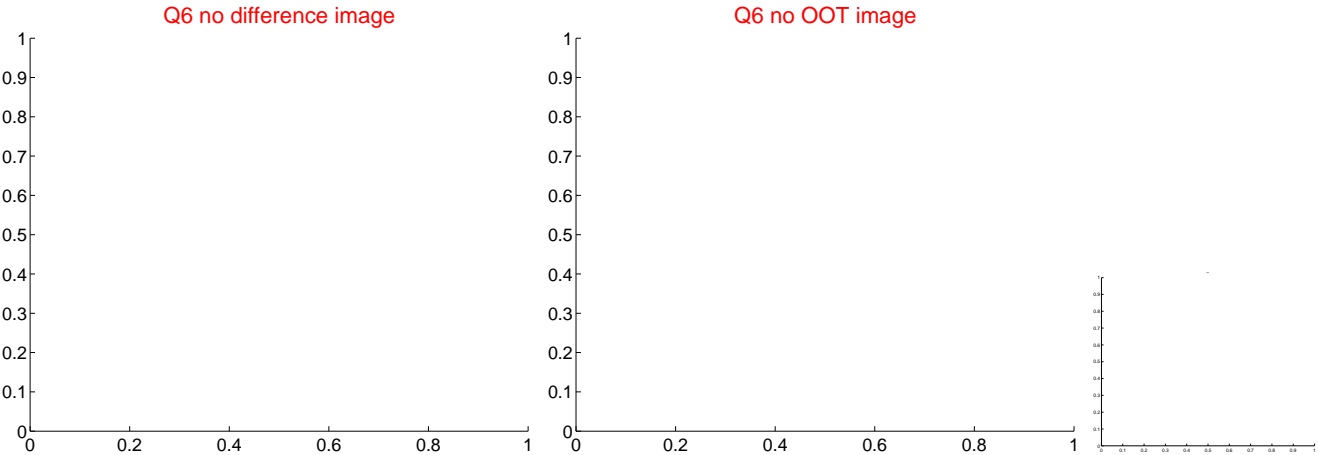
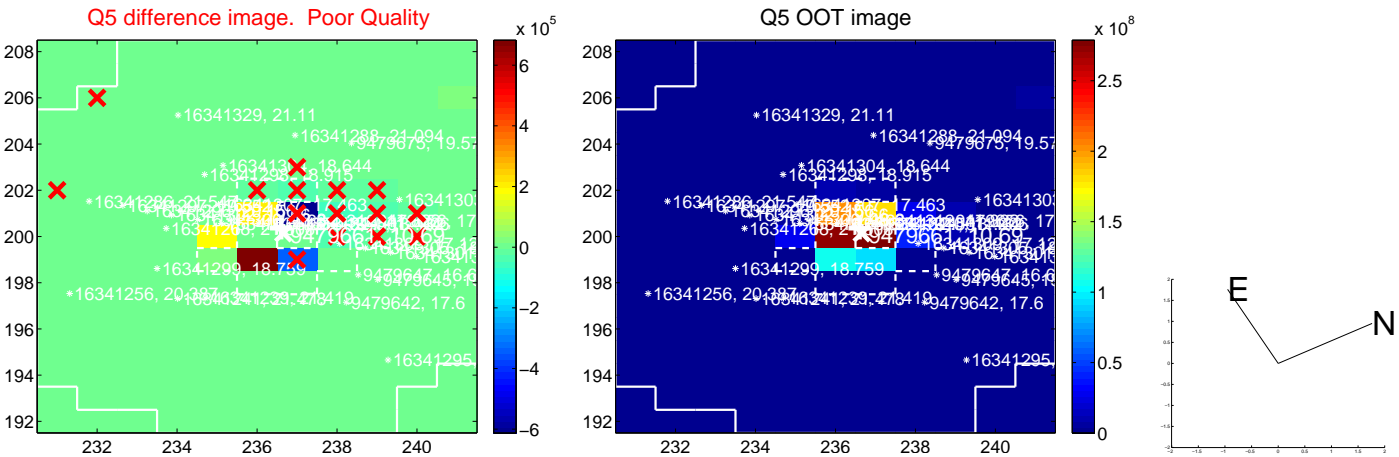


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

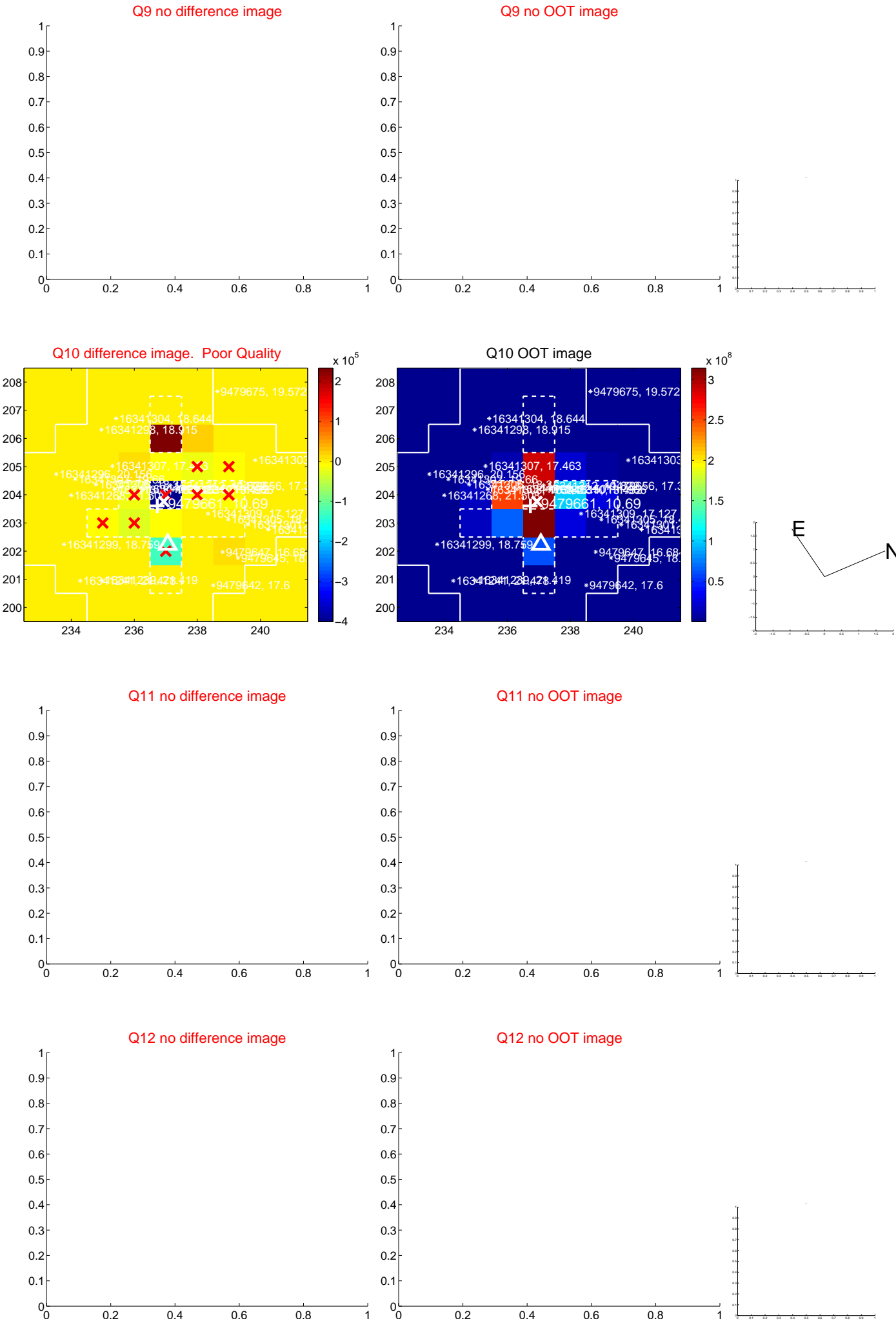


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





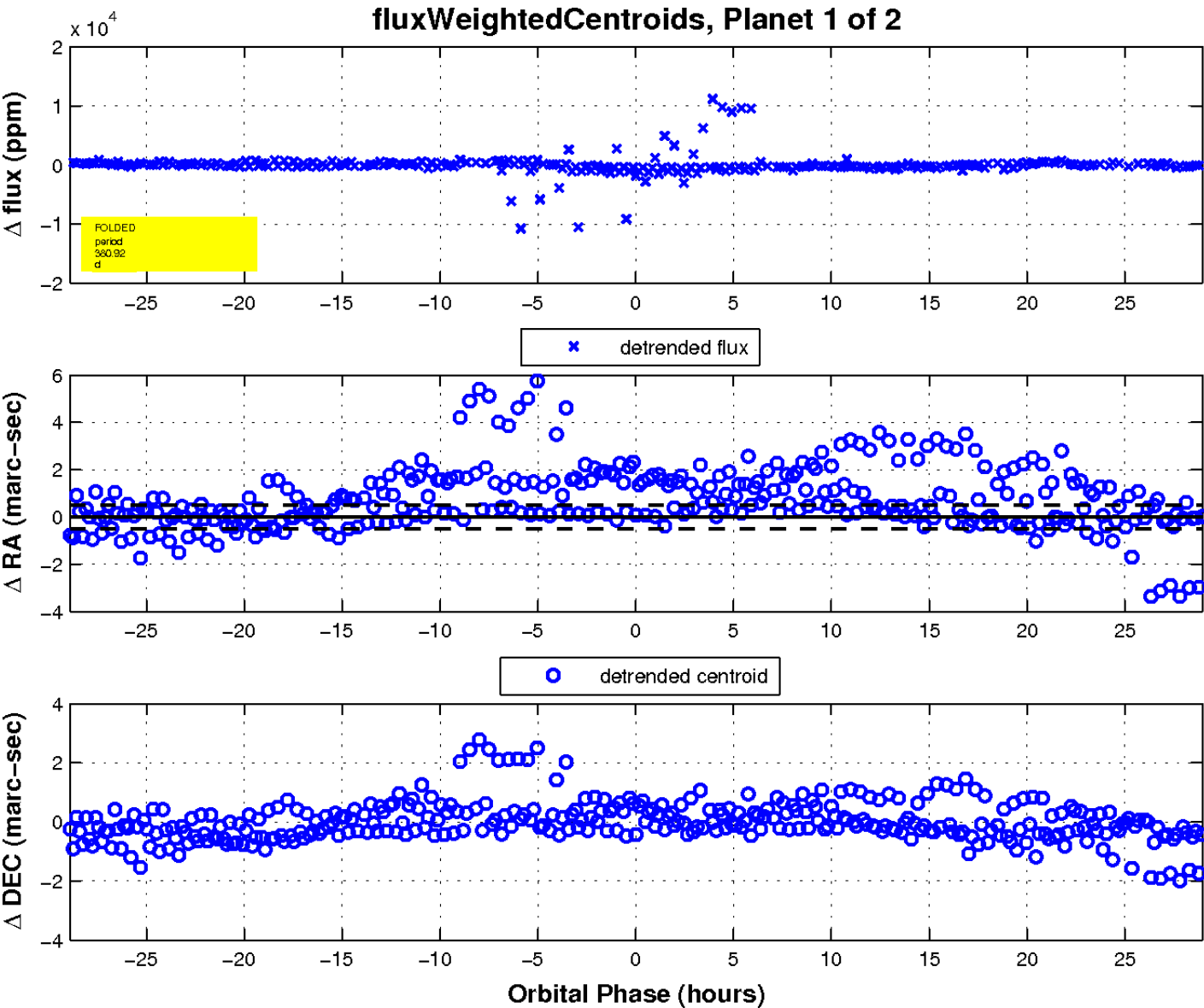
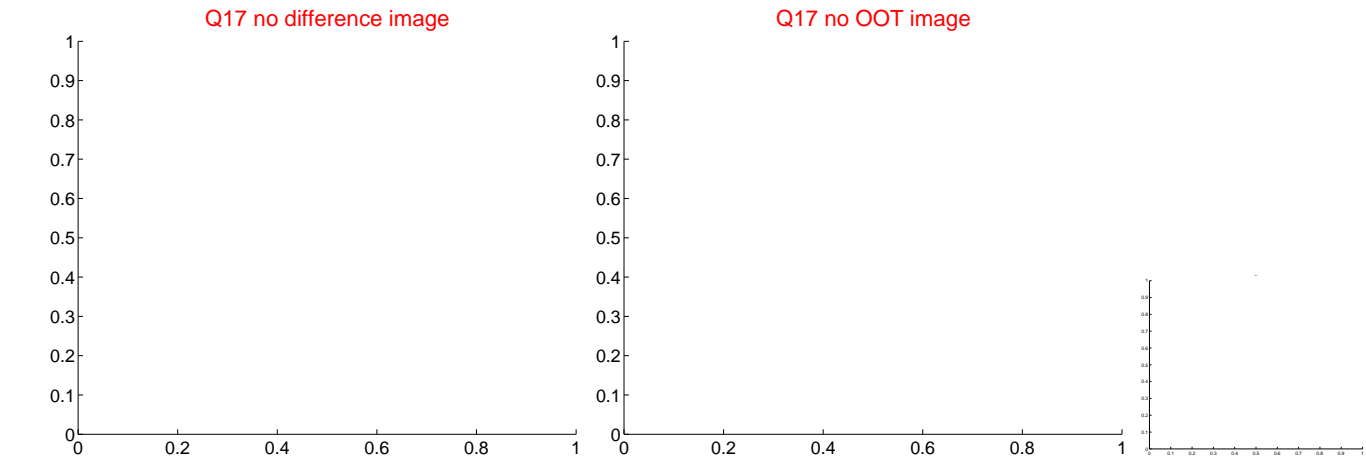
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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.



UKIRT Image

