

# KIC 005818205

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005818205-01	OBS	No	284.799104	151.608751	106.0	3.326	22.8	4.7	151.74	3298	205.92	3132.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818205-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

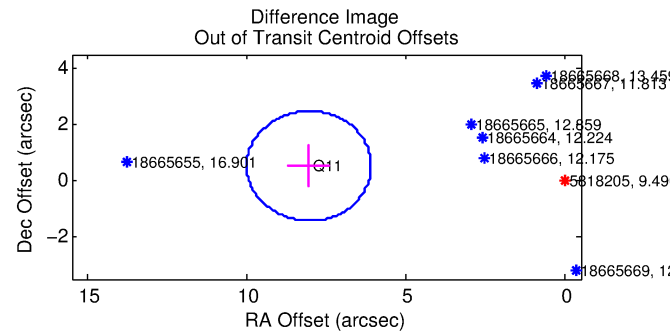
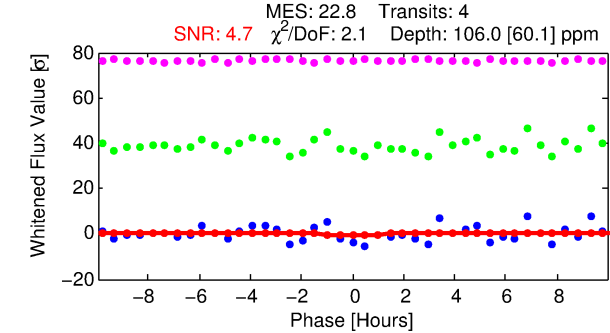
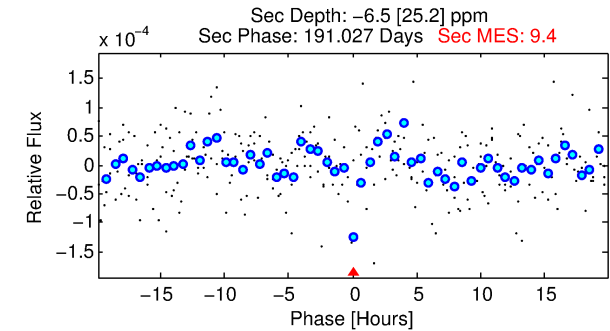
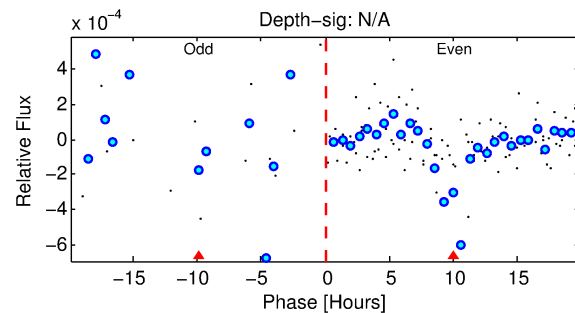
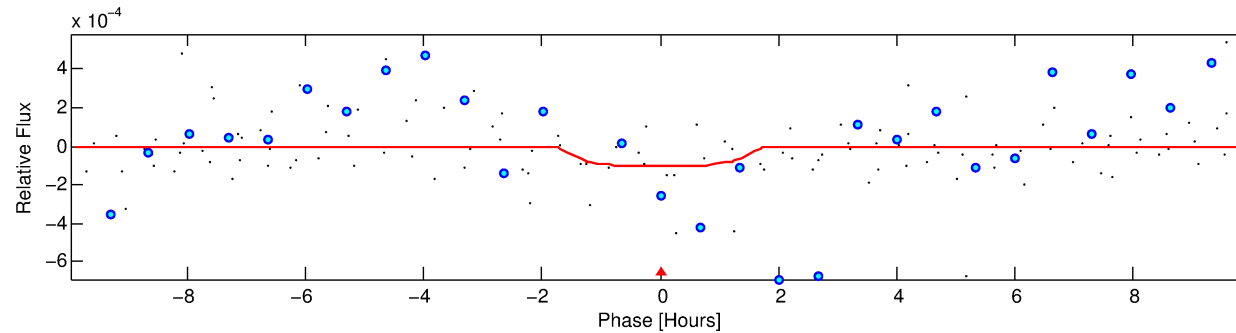
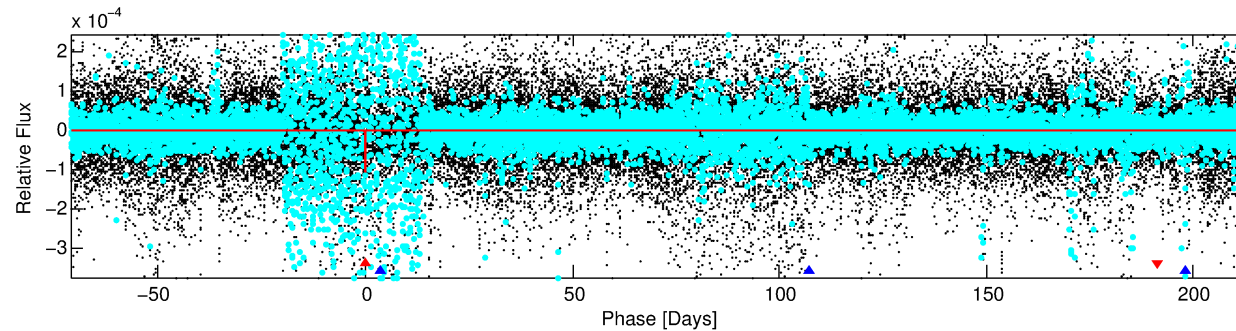
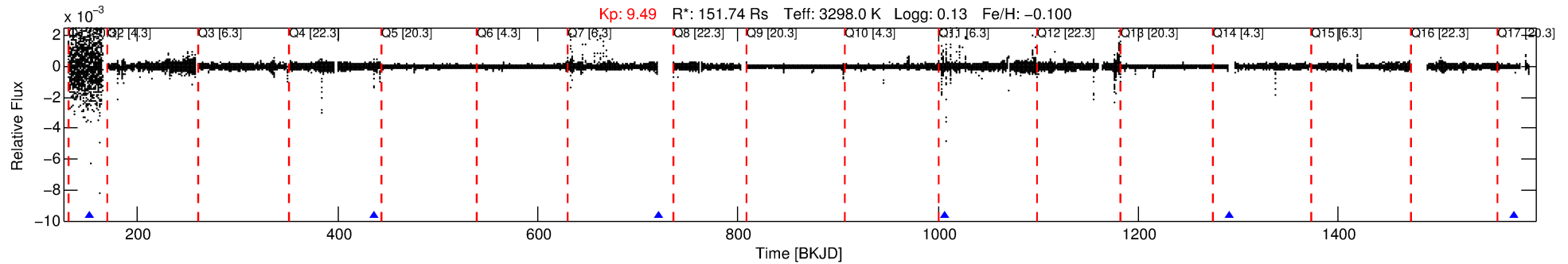
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005818205-01

No Significant Match Found

# DV One-Page Summary

KIC: 5818205 Candidate: 1 of 2 Period: 284.799 d



## DV Fit Results:

Period = 284.79910 [0.00987] d  
Epoch = 151.6088 [0.0404] BKJD  
Rp/R\* = 0.0124 [0.0739]  
a/R\* = 282.84 [5329.10]  
b = 0.92 [3.49]  
Seff = 3132.68 [1185.75]  
Teq = 1908 [181] K  
Rp = 205.92 [1224.93] Re  
a = 0.8827 [0.1845] AU  
Ag = N/A  
Teffp = N/A

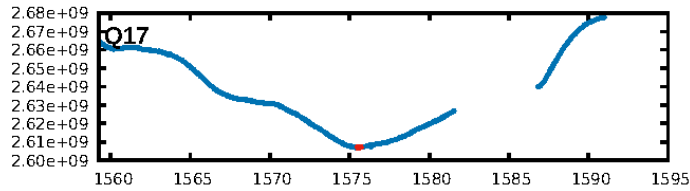
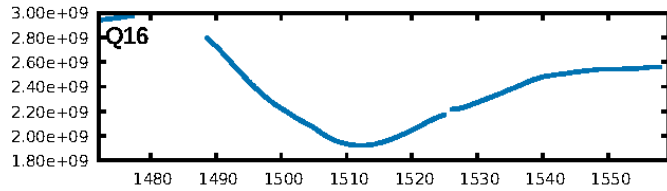
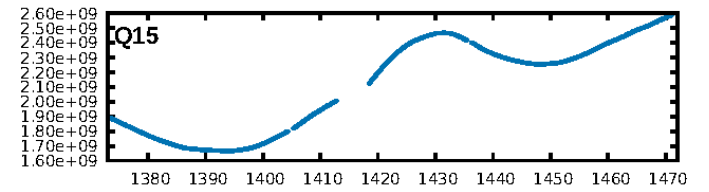
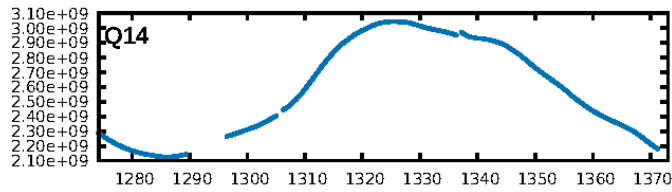
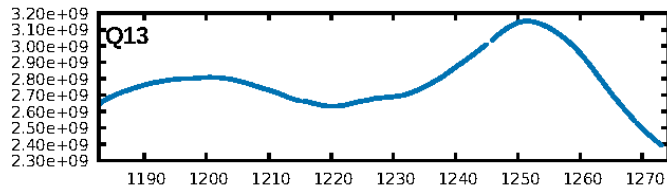
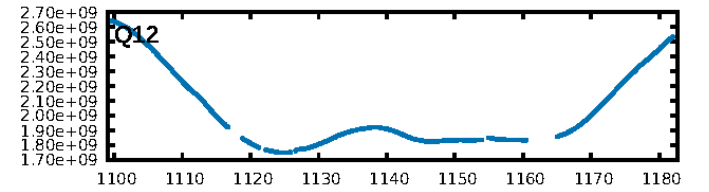
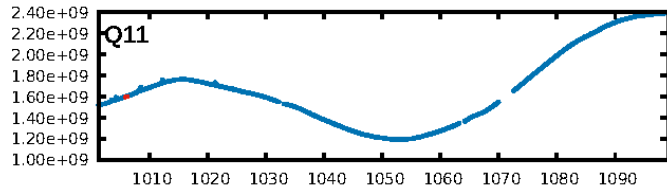
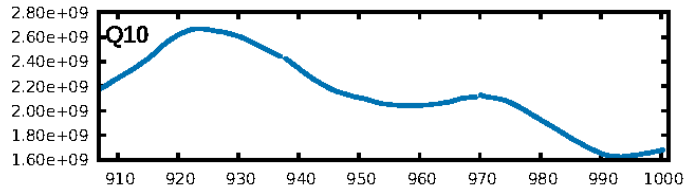
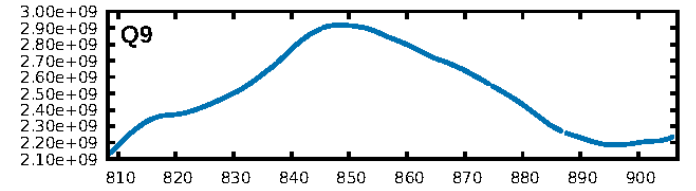
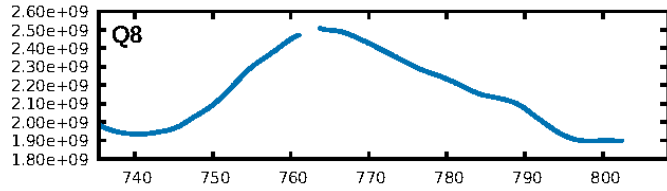
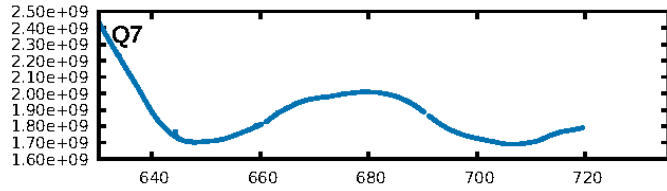
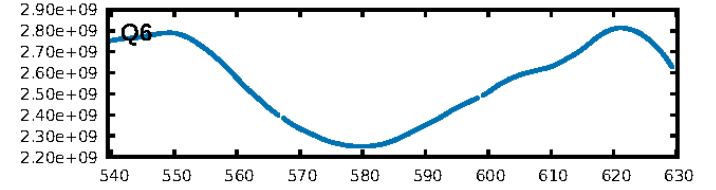
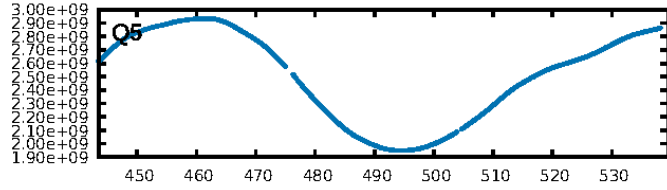
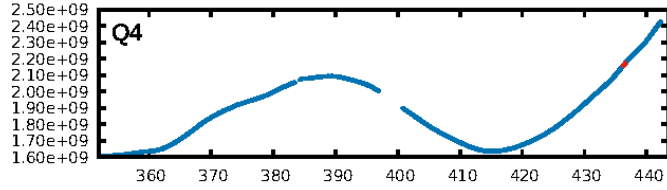
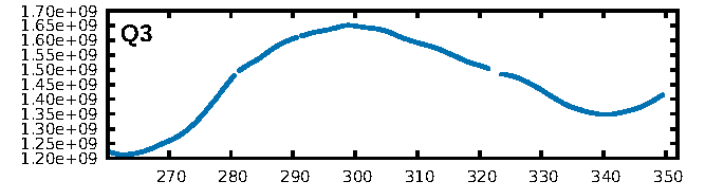
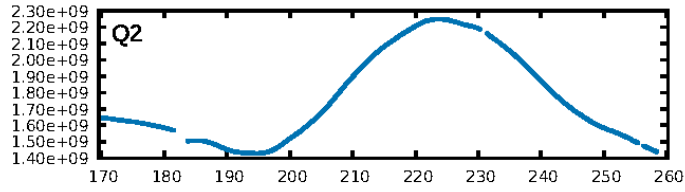
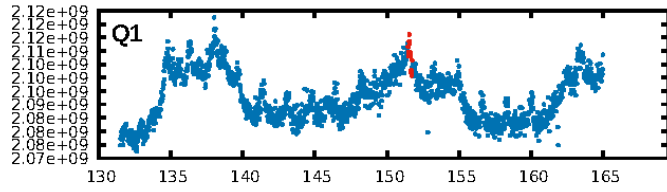
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [776.54σ]  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 90.3%  
Bootstrap-pfa: 2.65e-08  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 46.1%  
Centroid-so: 3.006 arcsec [0.50σ]  
OotOffset-rm: 8.067 arcsec [12.37σ]  
KicOffset-rm: 9.812 arcsec [15.02σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [3/3]

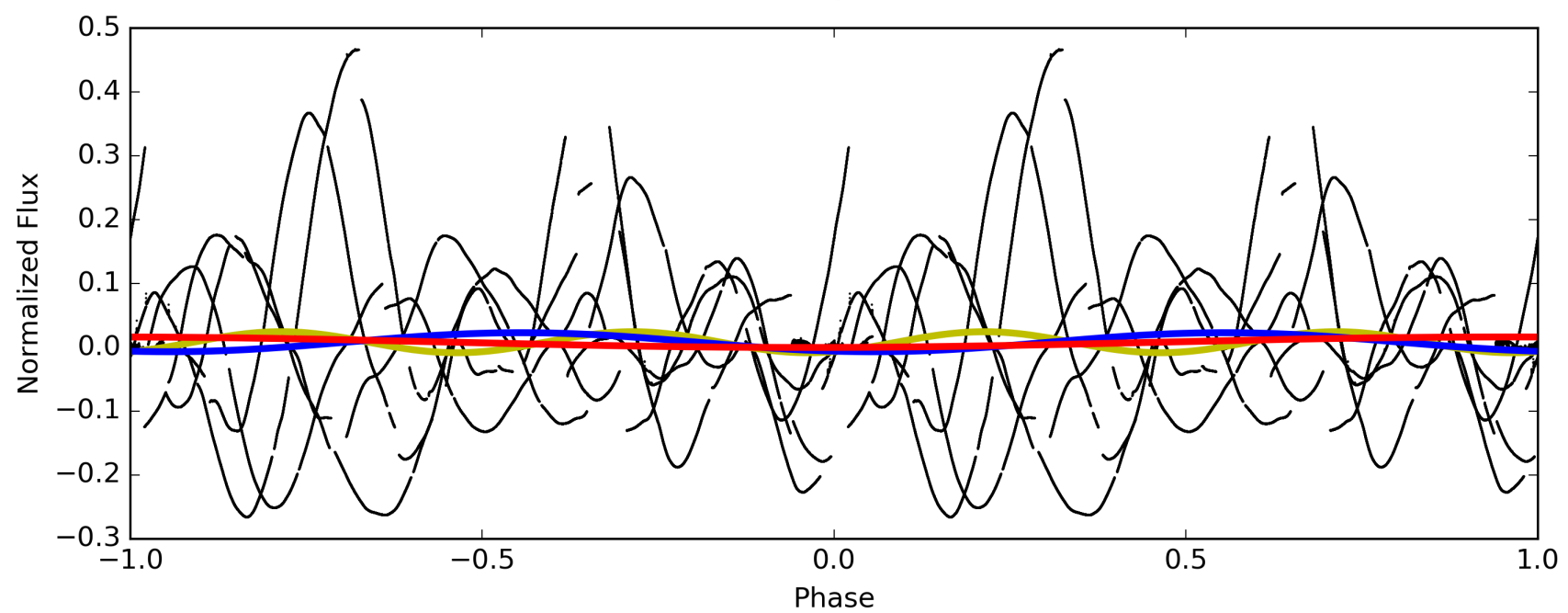
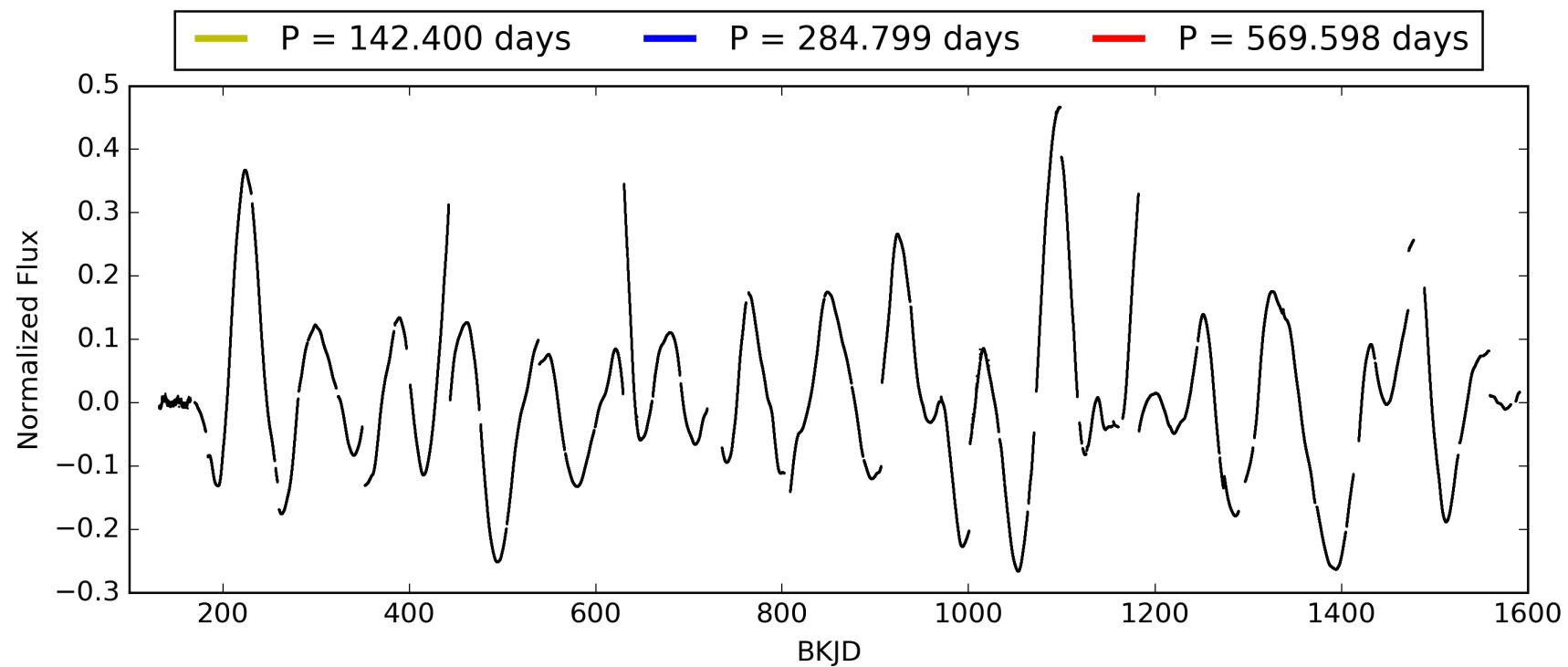
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:00:11 Z

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

# TCE 005818205-01, PDC Light Curves

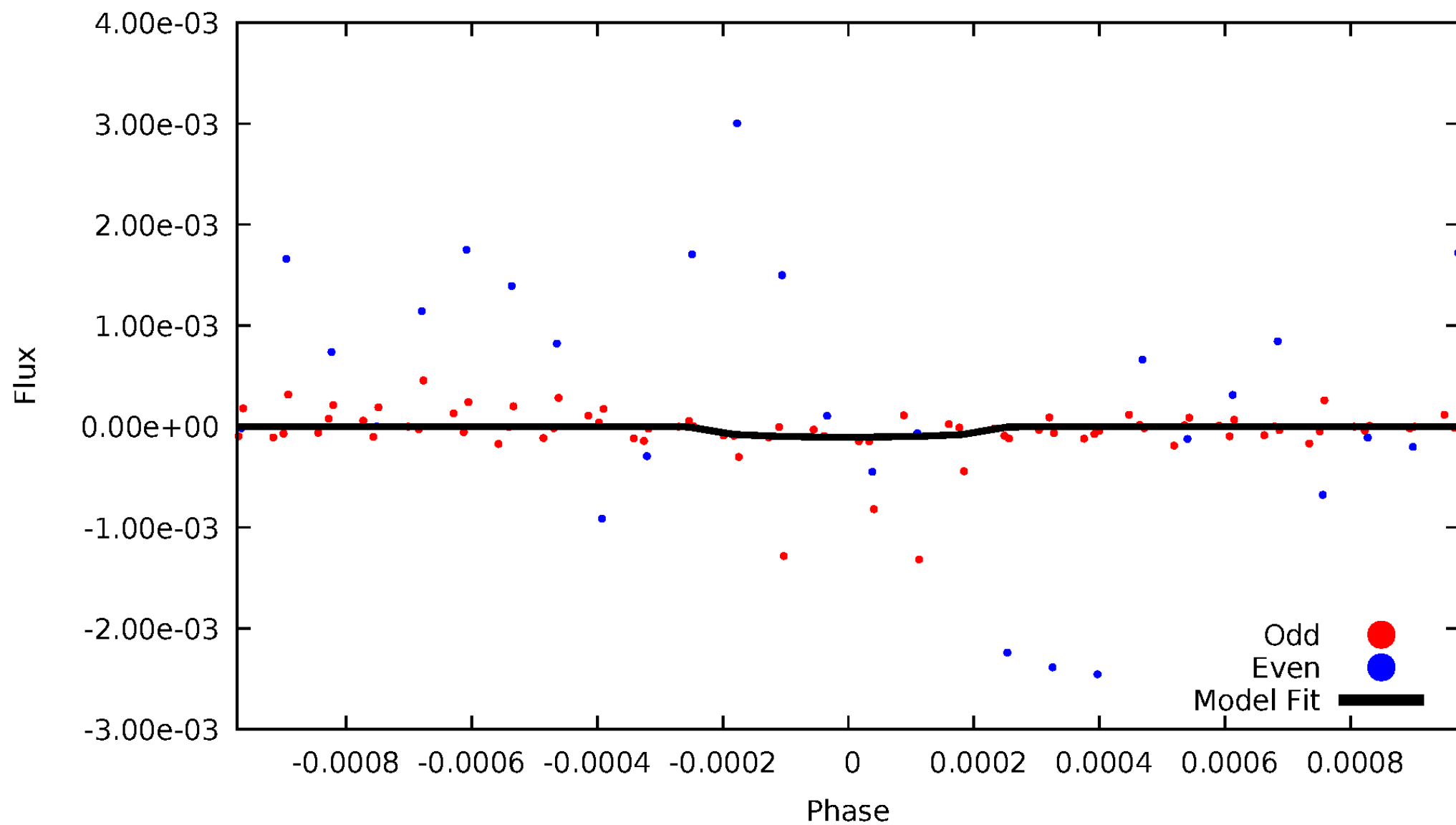


TCE 005818205-01



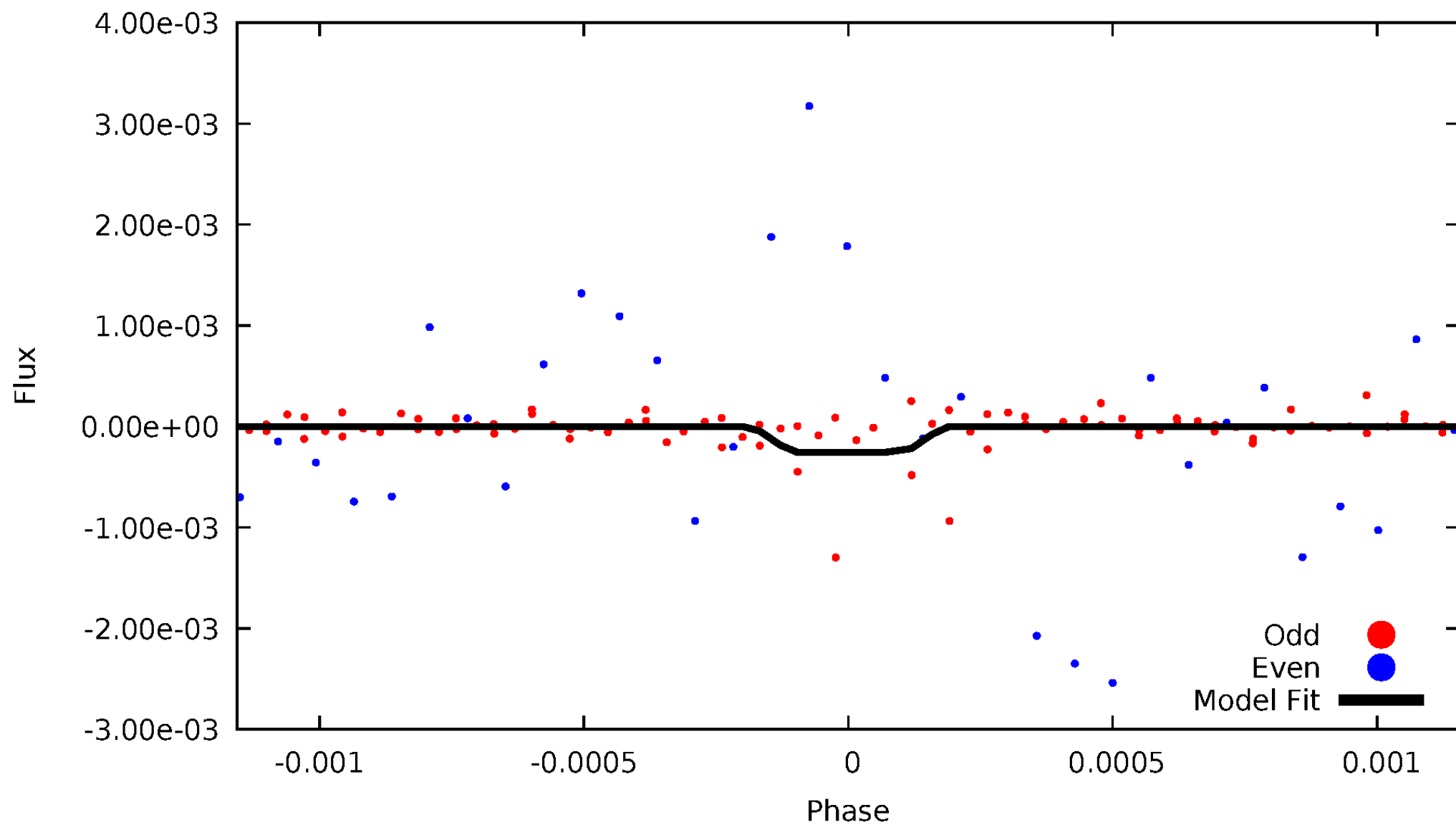
# DV Odd/Even

TCE 005818205-01



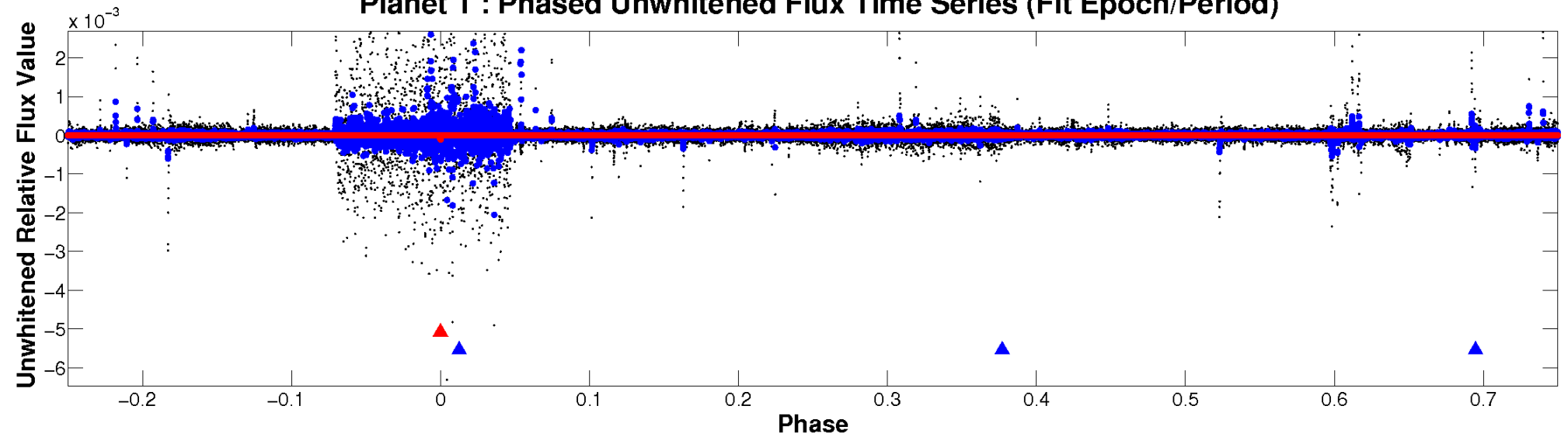
# ALT Odd/Even

TCE 005818205-01

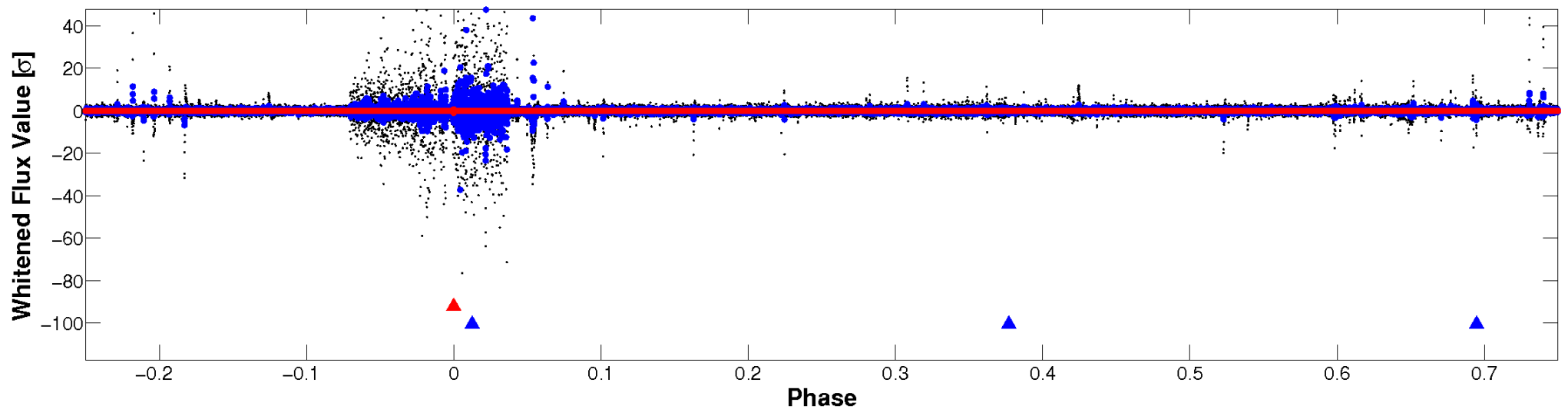


# Non-Whitened Vs. Whitened Light Curve

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

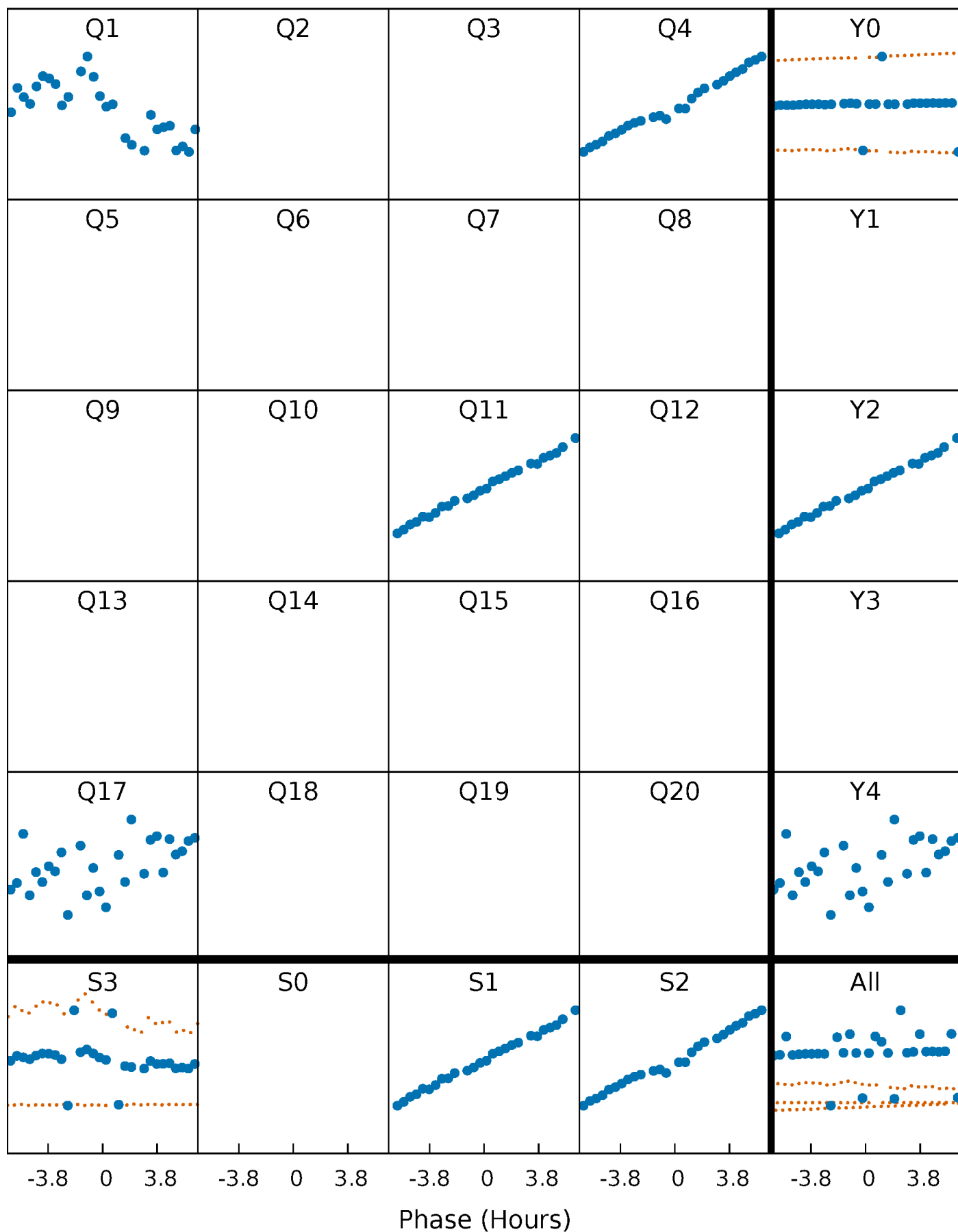


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

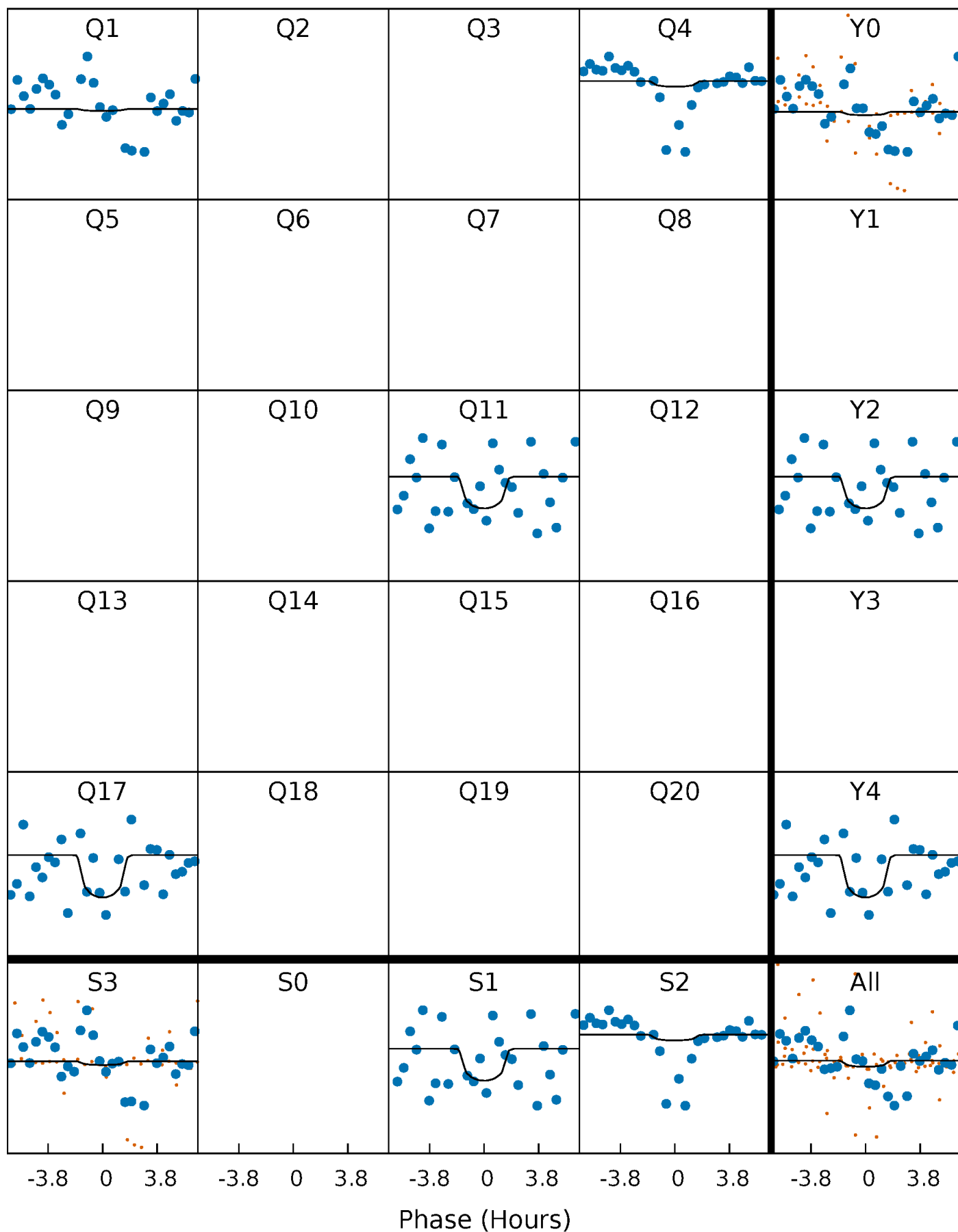
TCE 005818205-01 P=284.799104 Days  $T_0=151.608751$  (BKJD)





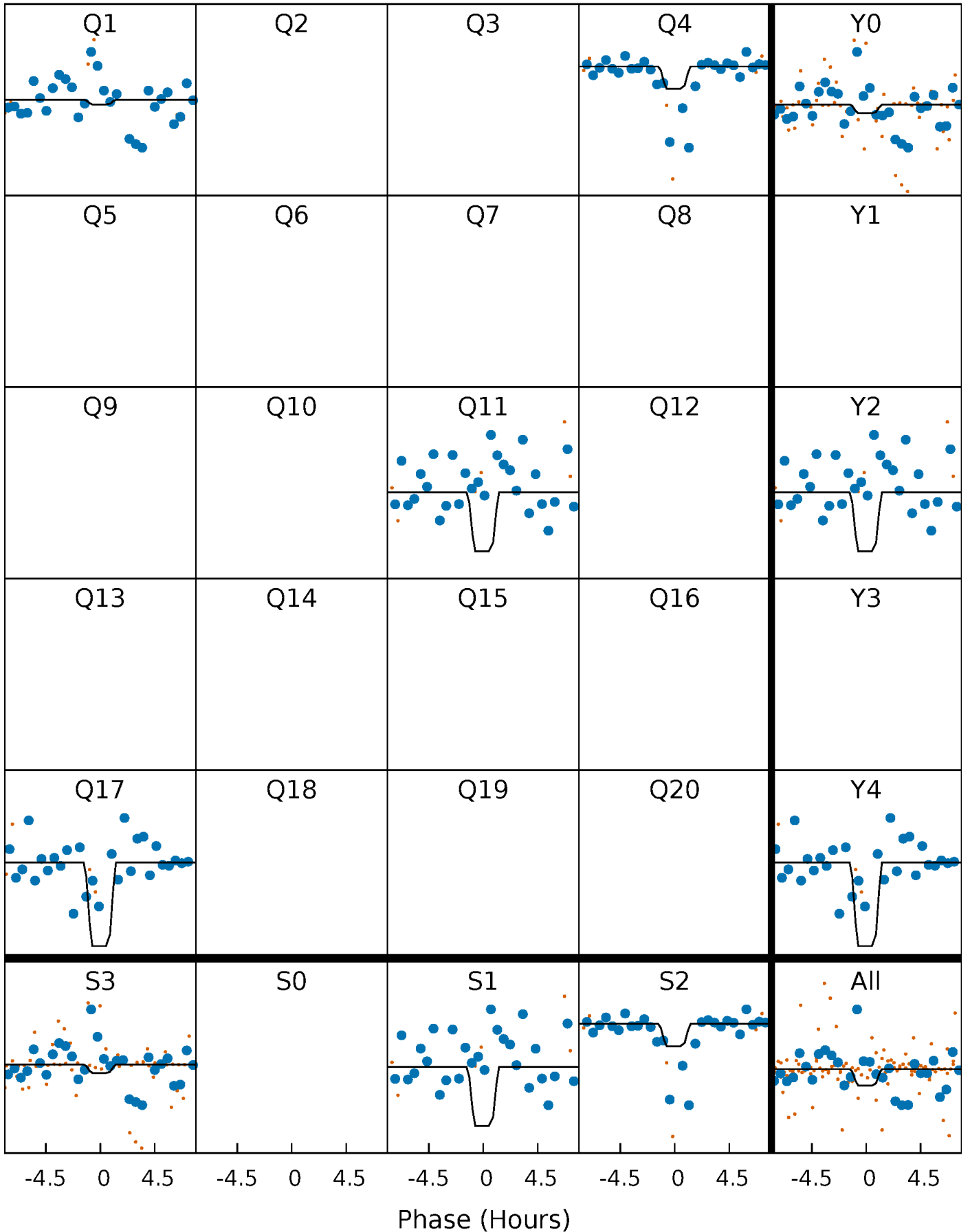
# DV Quarter-Phased Transit Curves

TCE 005818205-01 P=284.799104 Days  $T_0=151.608751$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

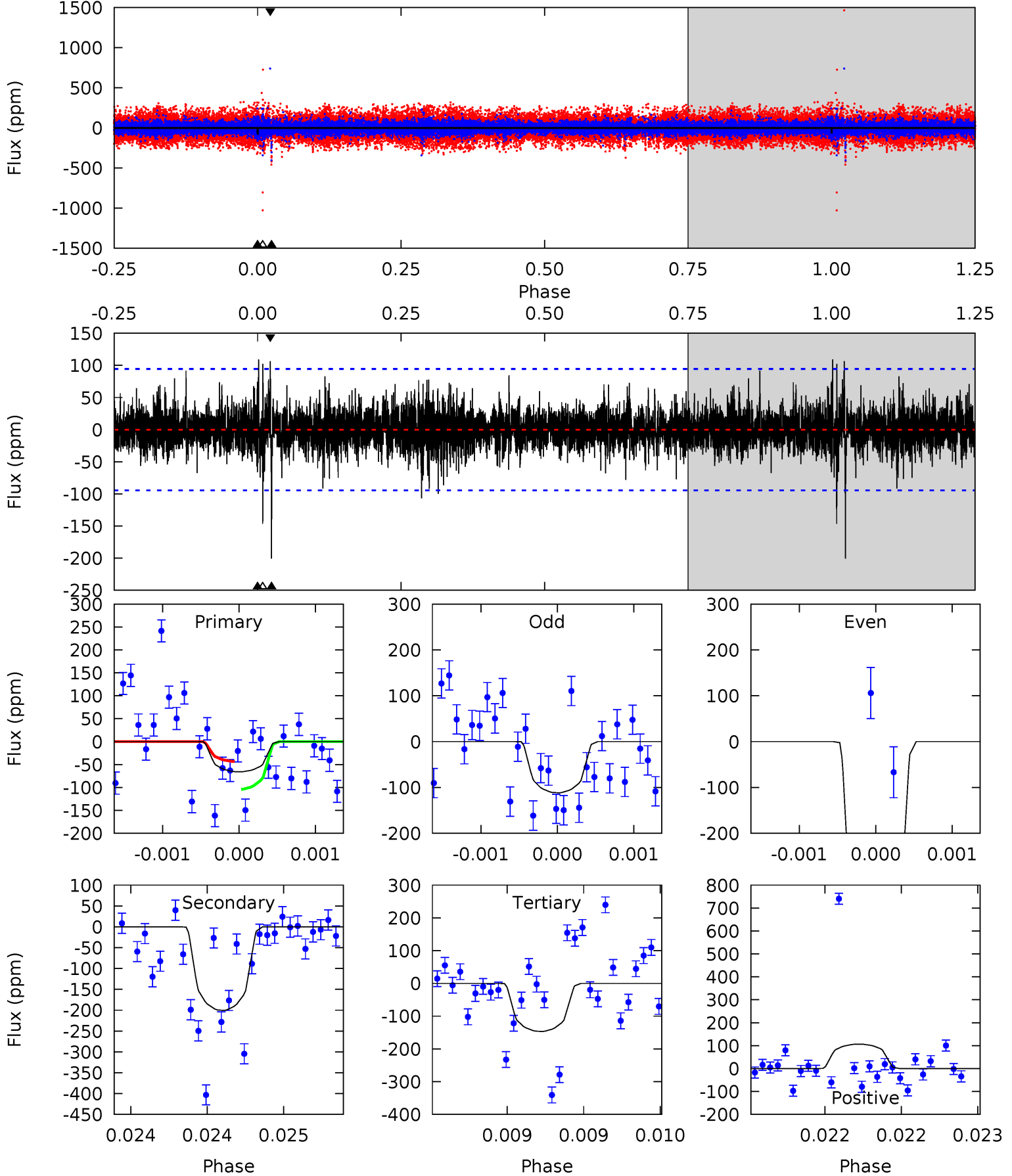
TCE 005818205-01 P=284.806006 Days  $T_0=151.579360$  (BKJD)



# DV Model-Shift Uniqueness Test

005818205-01, P = 284.799104 Days, E = 151.608751 Days

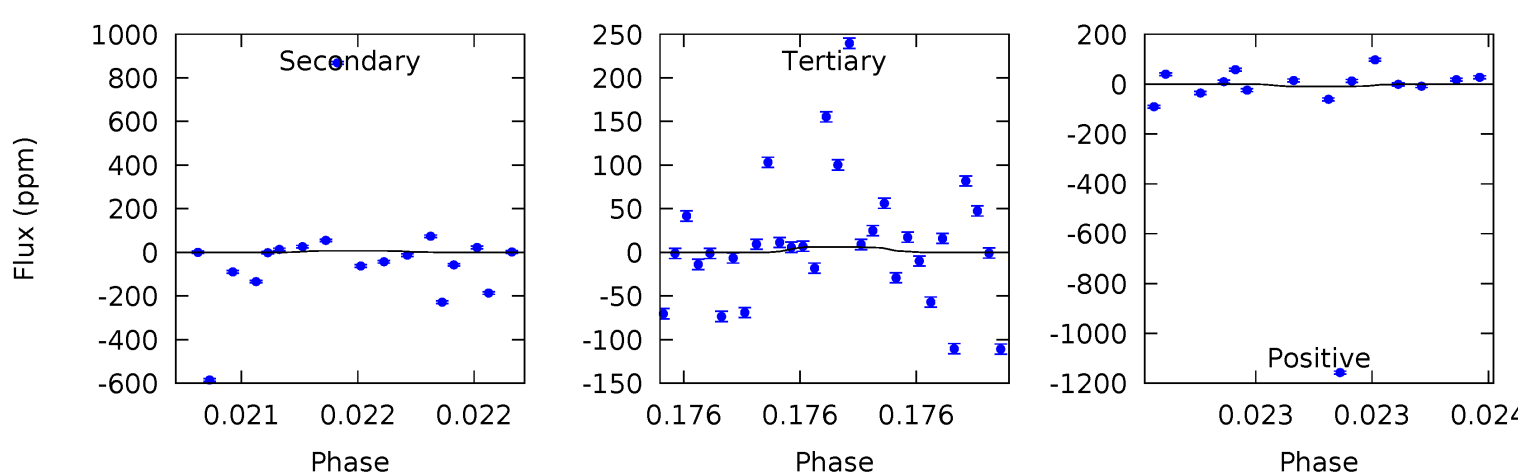
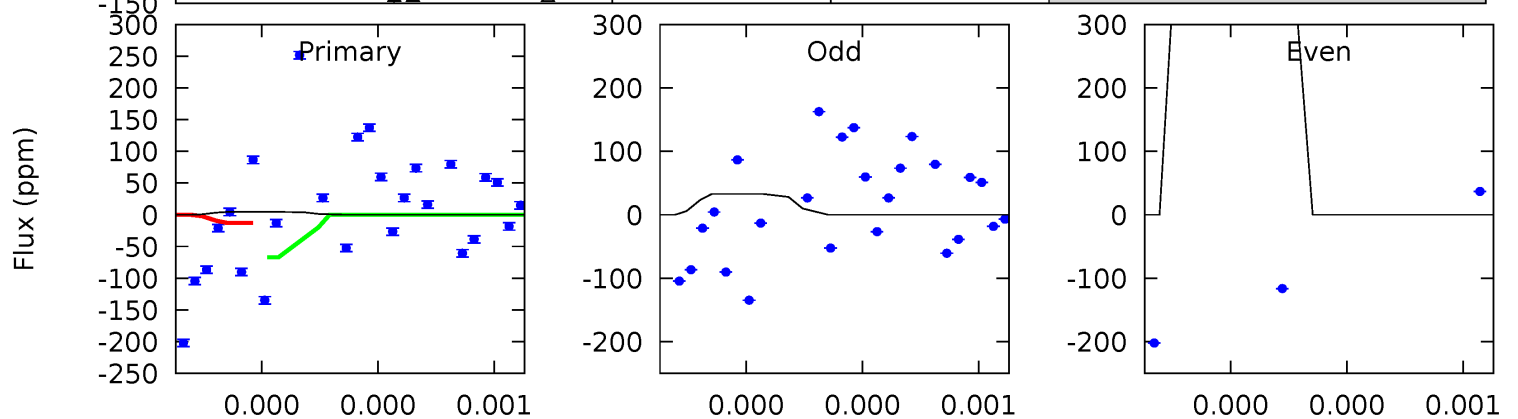
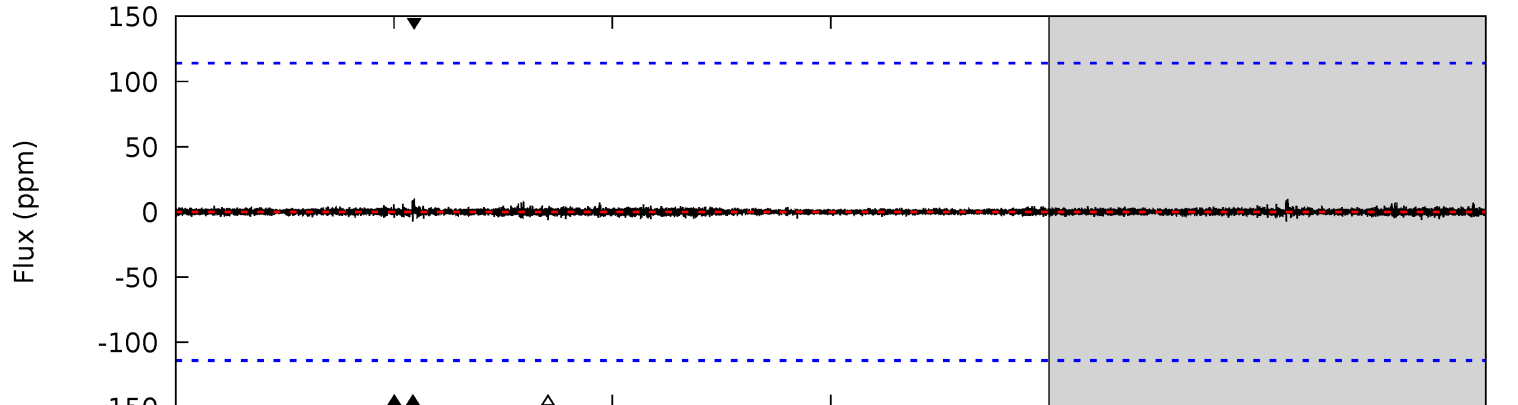
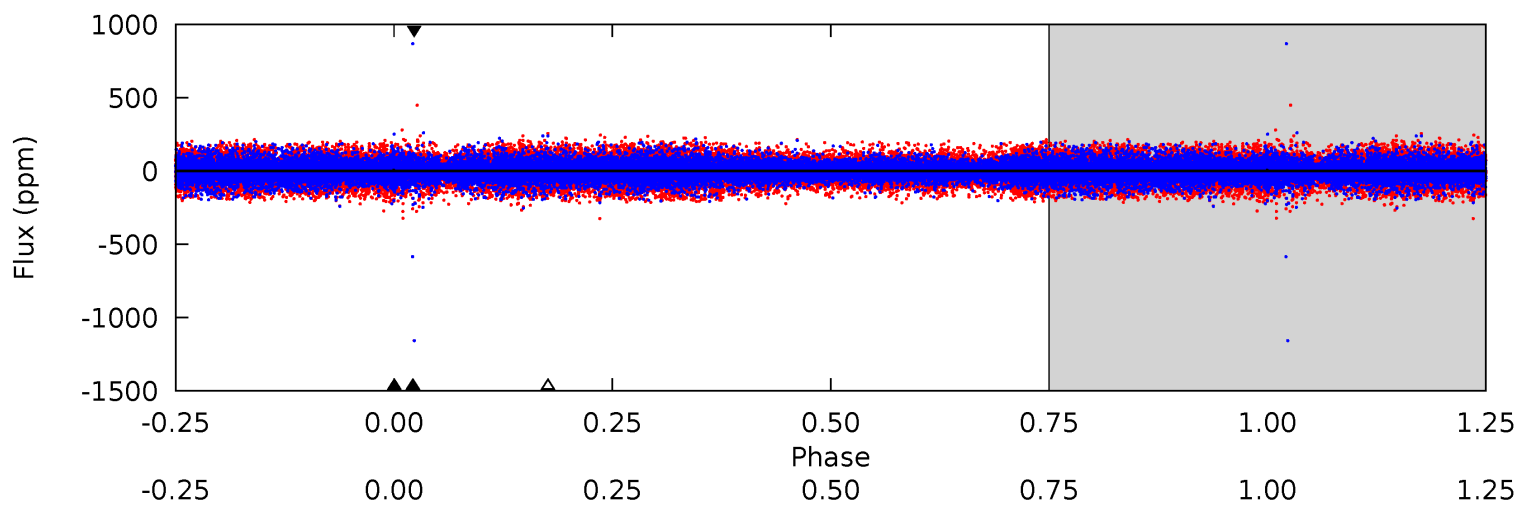
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.87	11.8	8.61	6.24	5.55	3.44	1.17	-4.74	-2.37	3.17	5.53	7.30	1.36	0.35	1.81



# Alt Model-Shift Uniqueness Test

005818205-01, P = 284.806006 Days, E = 151.579360 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
0.23	0.36	0.30	0.47	5.65	3.59	0.05	-0.08	-0.24	0.06	-0.11	30.8	-47.9	0.57	0



### Stellar Parameters For KIC 005818205

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$3298^{+117}_{-88}$	$0.129^{+0.212}_{-0.050}$	$-0.100^{+0.250}_{-0.150}$	$151.742^{+7.966}_{-29.874}$	$1.130^{+0.206}_{-0.137}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+164%/-39%	+250%/-150%	+5%/-20%	+18%/-12%	+99%/-11%
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 005818205-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-201 \pm 17$	$853.31^{+883.09}_{-603.56}$	$2617^{+127}_{-136}$	$-2406^{+5499}_{-185}$	$0.124^{+1.370}_{-0.095}$
Alt.	$-7 \pm 20$	$910.63^{+927.76}_{-629.14}$	$2631^{+124}_{-146}$	$-2596^{+118}_{-108}$	$0.002^{+0.038}_{-0.011}$

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

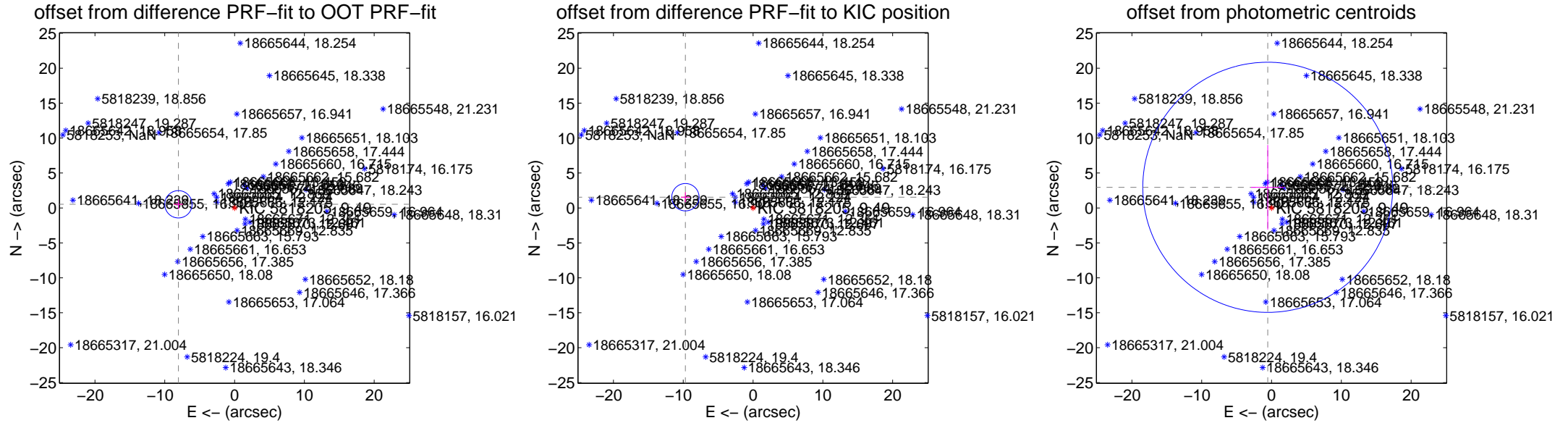
# DV Centroid Data

Supplemental centroid analysis for 005818205-01. **Kepler magnitude: 9.49.** Transit SNR 4.70

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

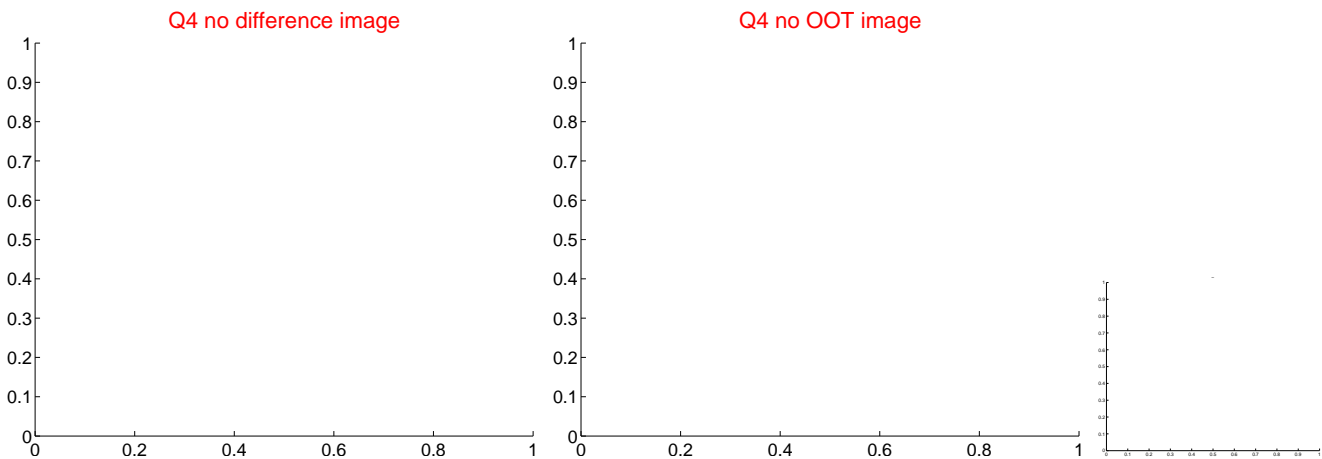
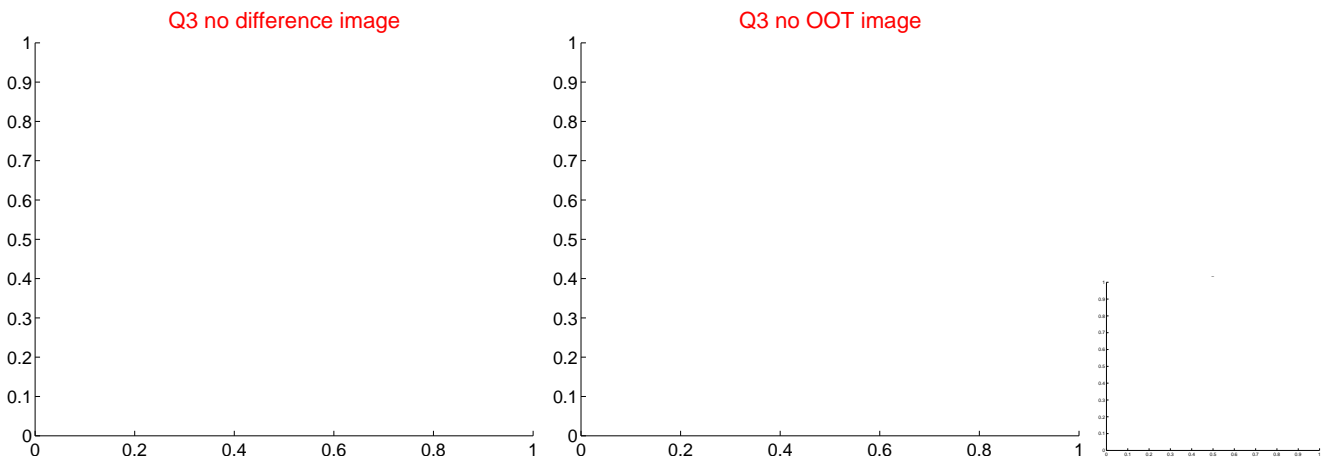
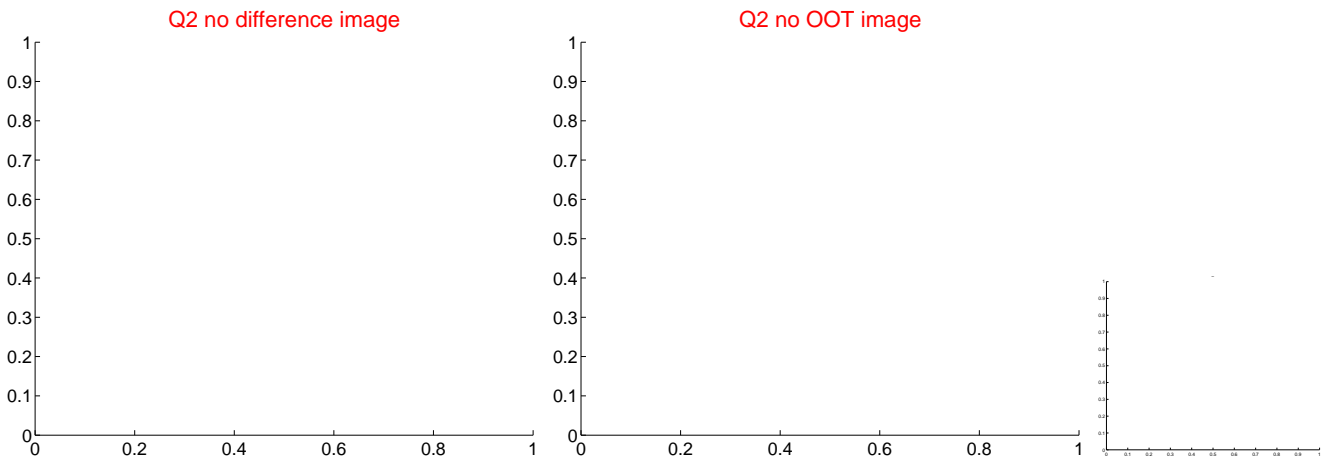
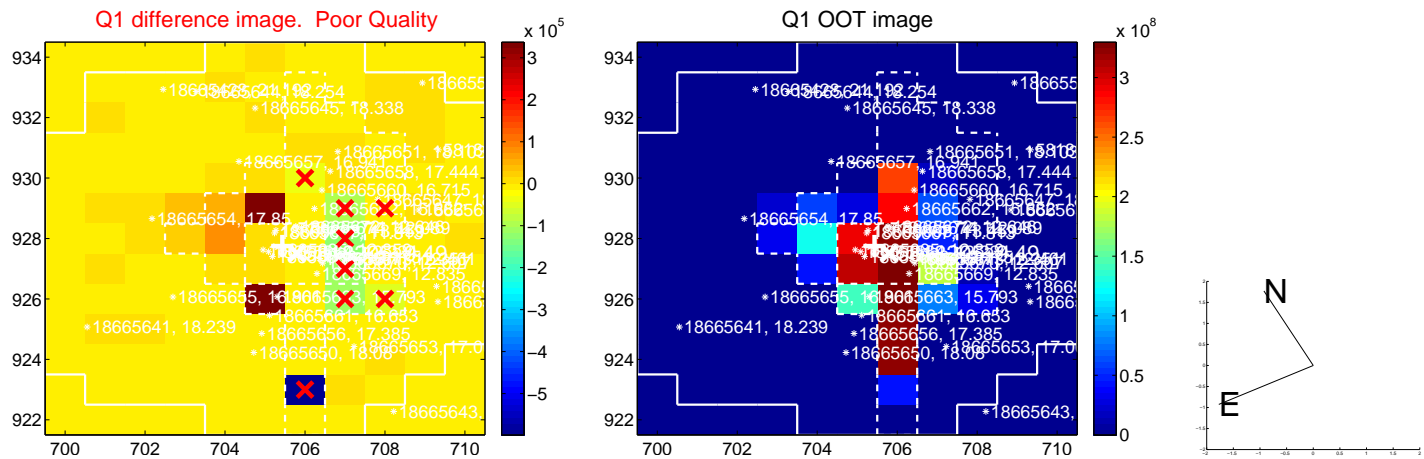
The direct PRF centroid is offset from the target star catalog position by about 1.93 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>8.067 <math>\pm</math> 0.652</b>	<b>12.37</b>	8.050 $\pm$ 0.652	0.524 $\pm$ 0.709
PRF-fit source offset from KIC position	<b>9.812 <math>\pm</math> 0.653</b>	<b>15.02</b>	9.691 $\pm$ 0.652	1.539 $\pm$ 0.709
photometric centroid source offset	3.01 $\pm$ 5.97	0.50	0.54 $\pm$ 2.38	2.96 $\pm$ 6.05



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.

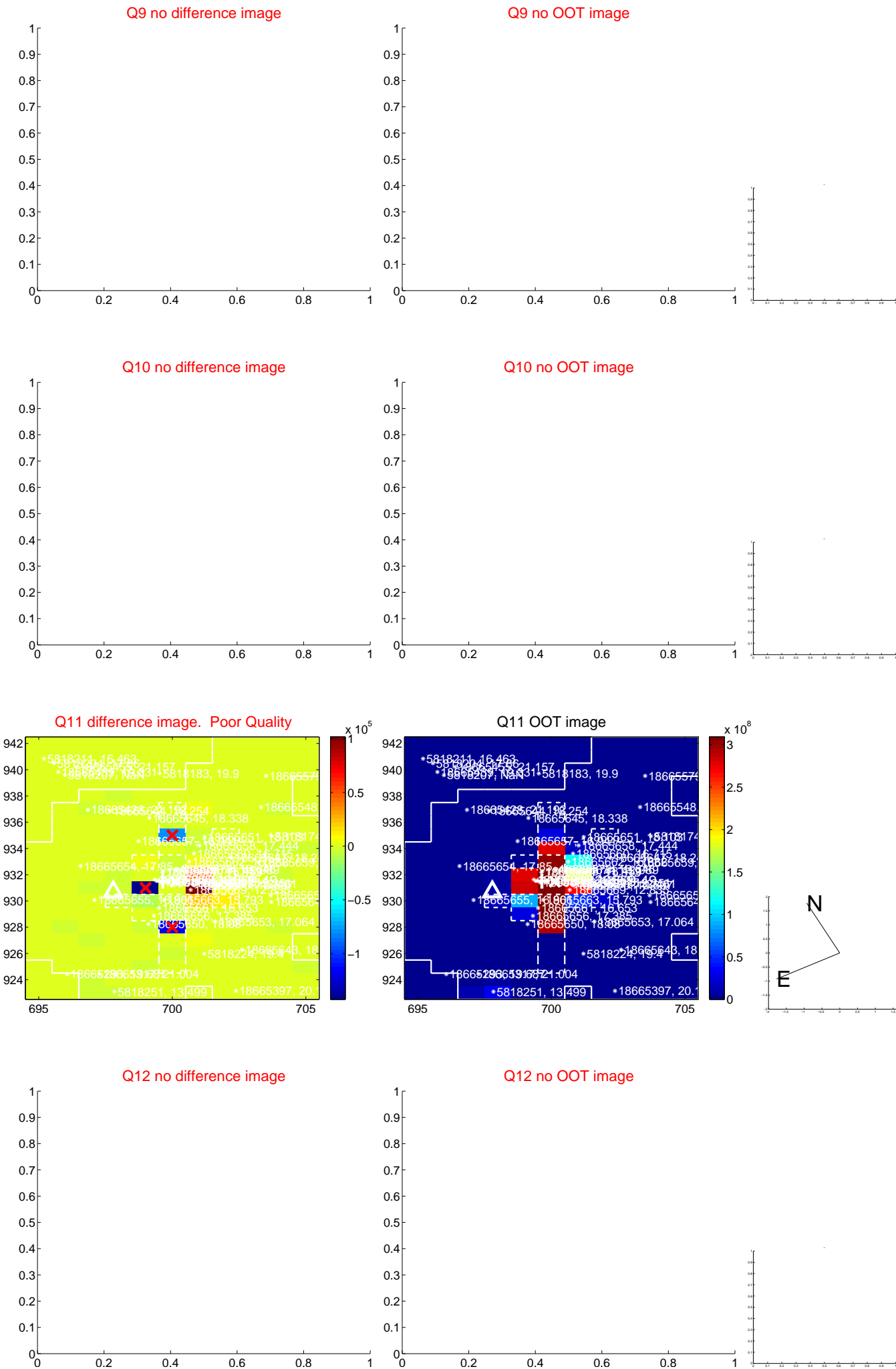


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





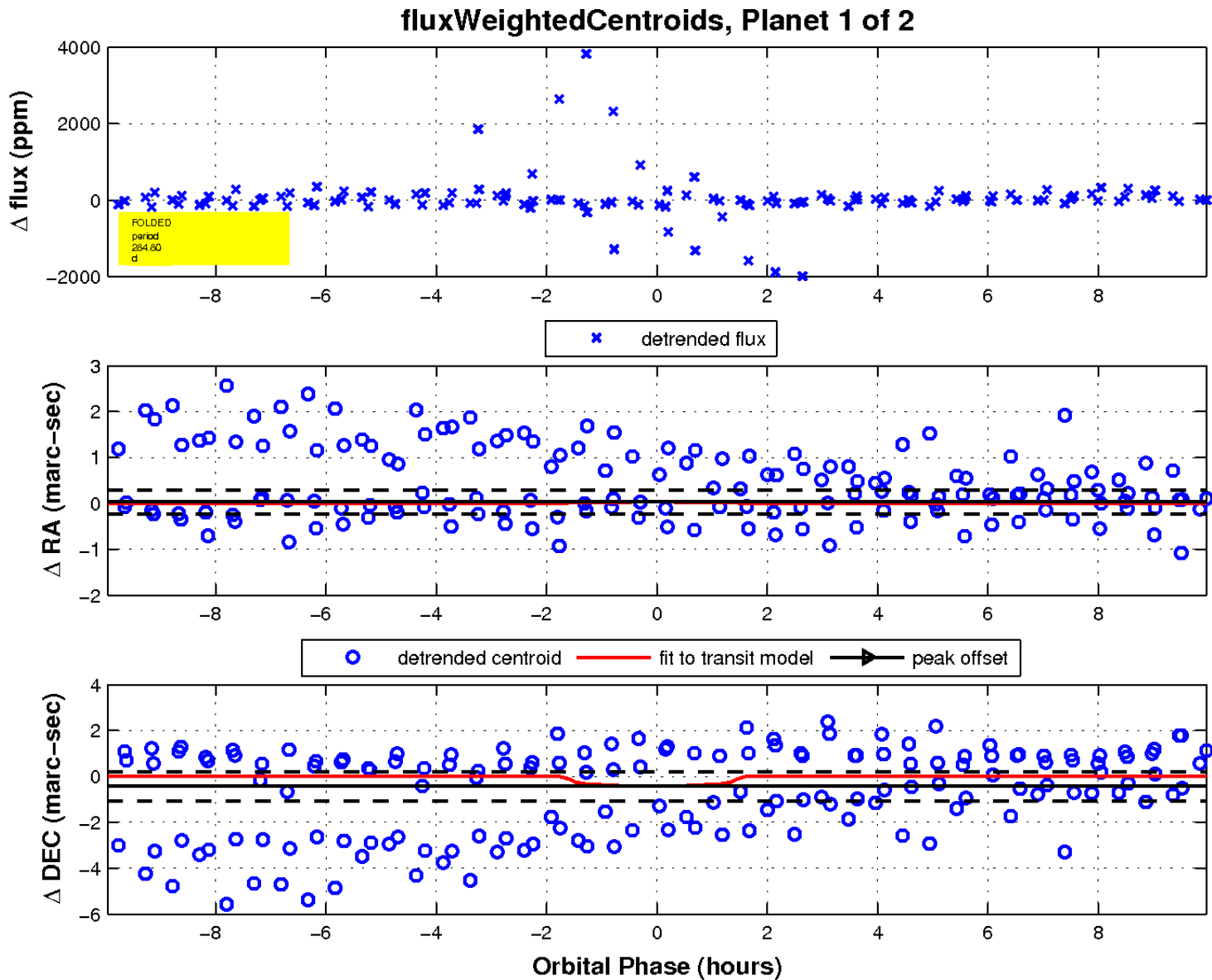
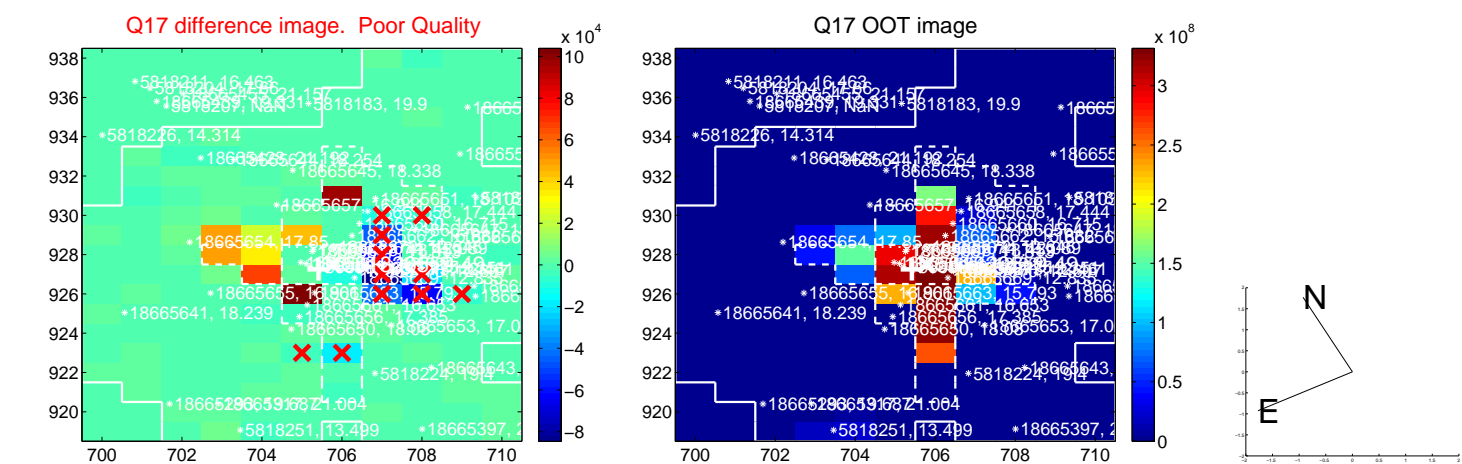
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

