

# KIC 011769210

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011769210-01	OBS	No	493.308925	345.278682	3981.1	27.628	76.8	16.9	0.84	5530	10.05	0.41

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011769210-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS

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

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

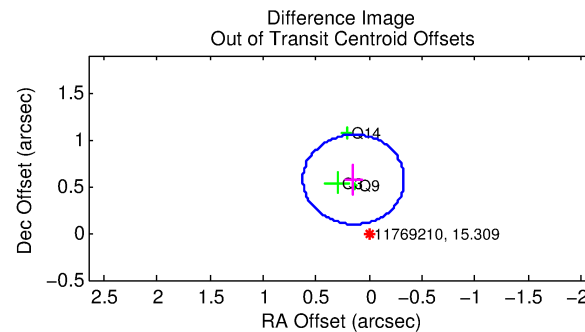
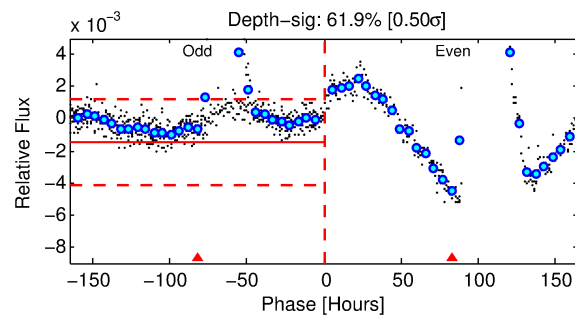
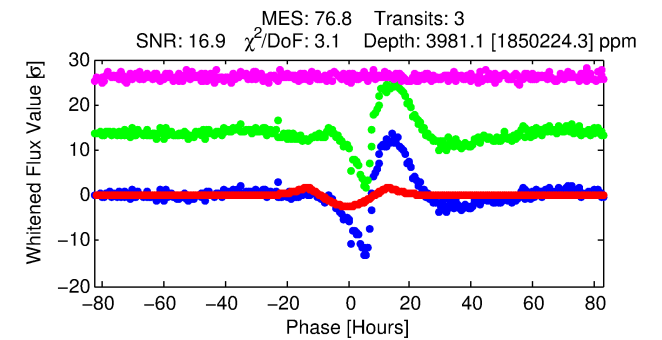
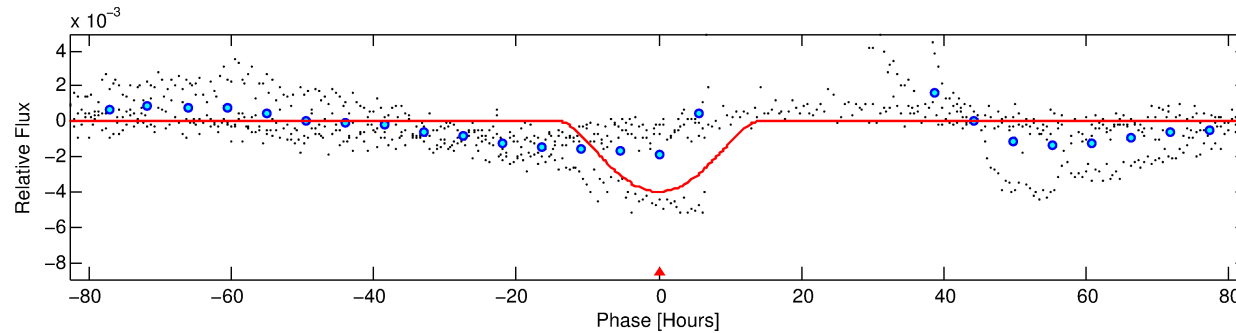
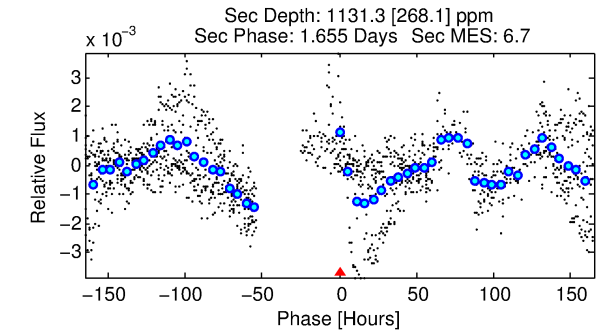
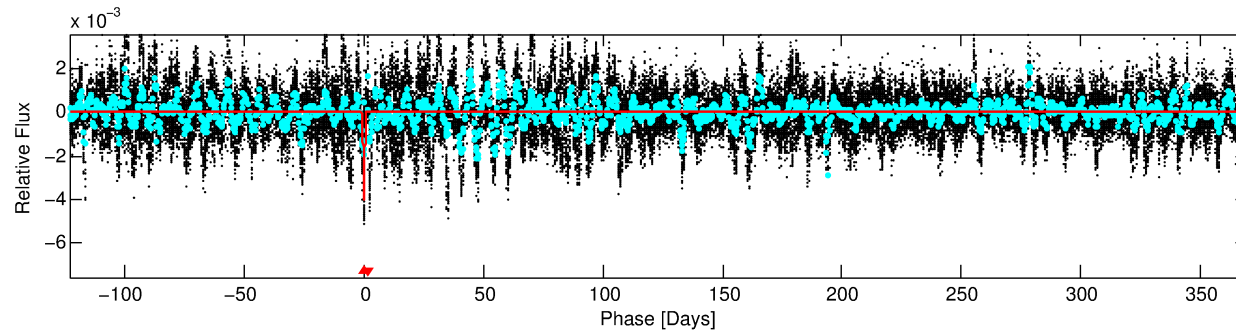
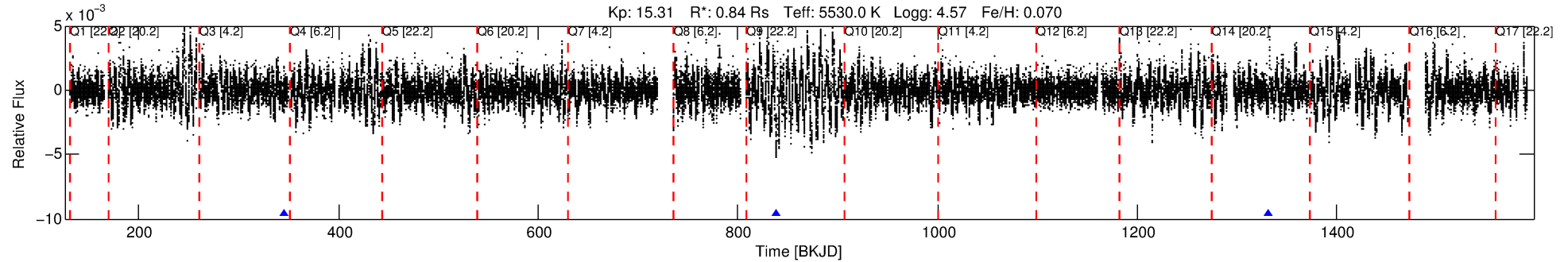
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011769210-01

No Significant Match Found

# DV One-Page Summary

KIC: 11769210 Candidate: 1 of 1 Period: 493.309 d



## DV Fit Results:

Period = 493.30892 [0.02479] d  
Epoch = 345.2787 [0.0333] BKJD  
Rp/R\* = 0.1090 [0.2221]  
a/R\* = 65.40 [24.77]  
b = 1.00 [32.94]  
Seff = 0.41 [0.12]  
Teq = 204 [15] K  
Rp = 10.05 [20.60] Re  
a = 1.2060 [0.2276] AU  
Ag = 8964.79 [36685.93] [0.24 $\sigma$ ]  
Teffp = 3072 [3137] K [0.91 $\sigma$ ]

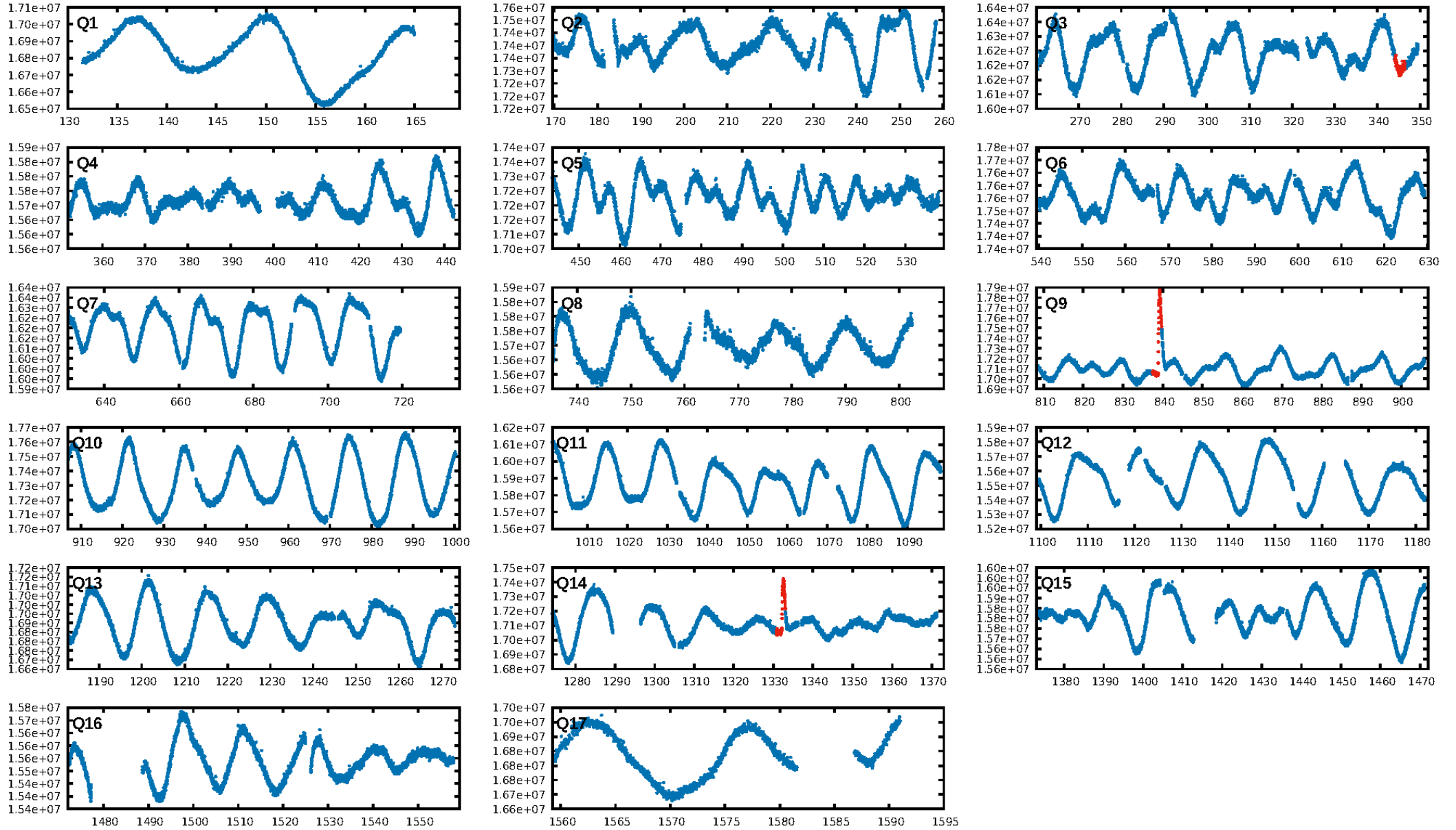
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.2%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.792  
Centroid-sig: 5.3%  
Centroid-so: 0.470 arcsec [1.28 $\sigma$ ]  
OotOffset-rm: 0.592 arcsec [3.71 $\sigma$ ]  
KicOffset-rm: 0.579 arcsec [3.36 $\sigma$ ]  
OotOffset-st: 1/1/0/1 [3]  
KicOffset-st: 1/1/0/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

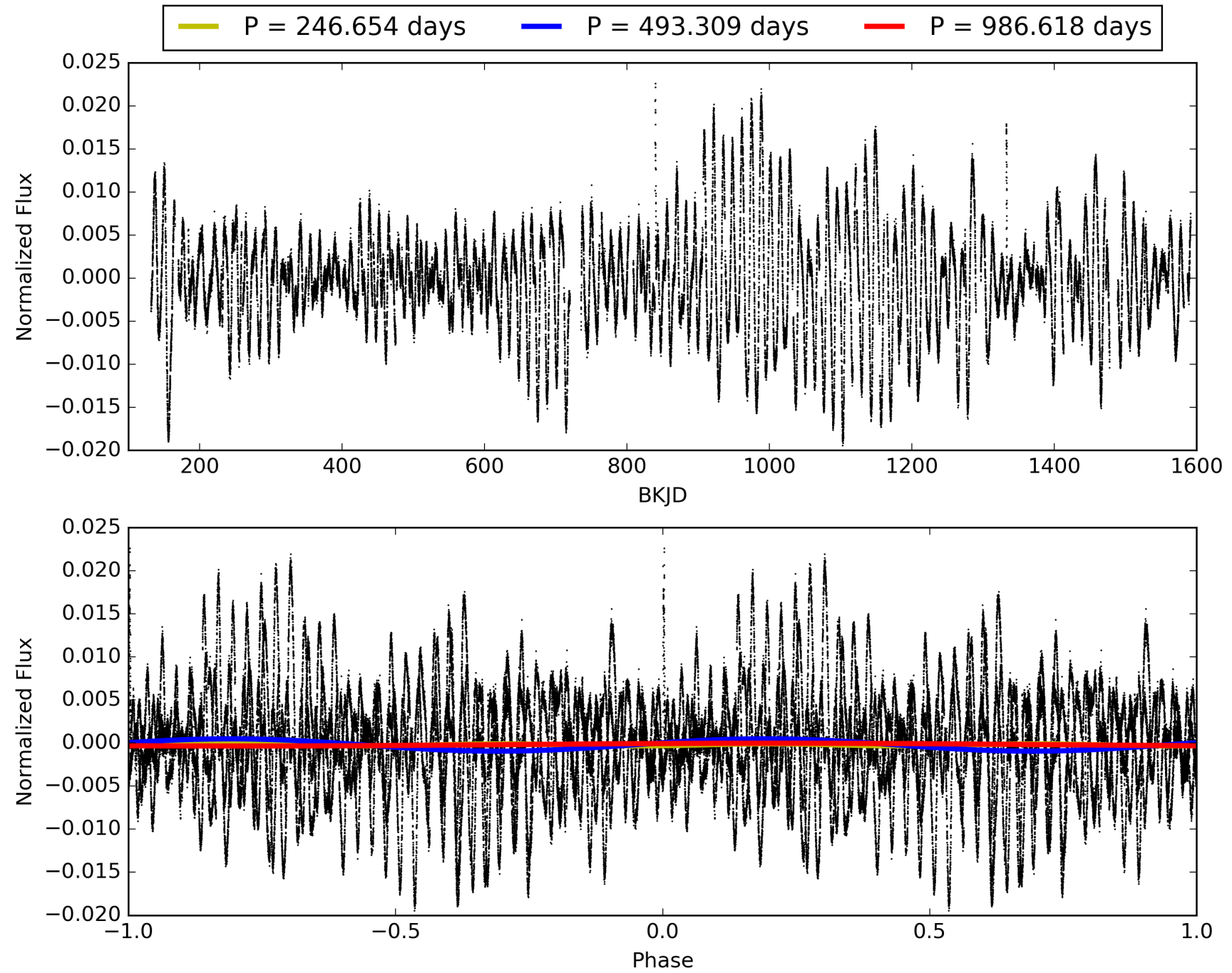
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:57:42 Z

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

# TCE 011769210-01, PDC Light Curves

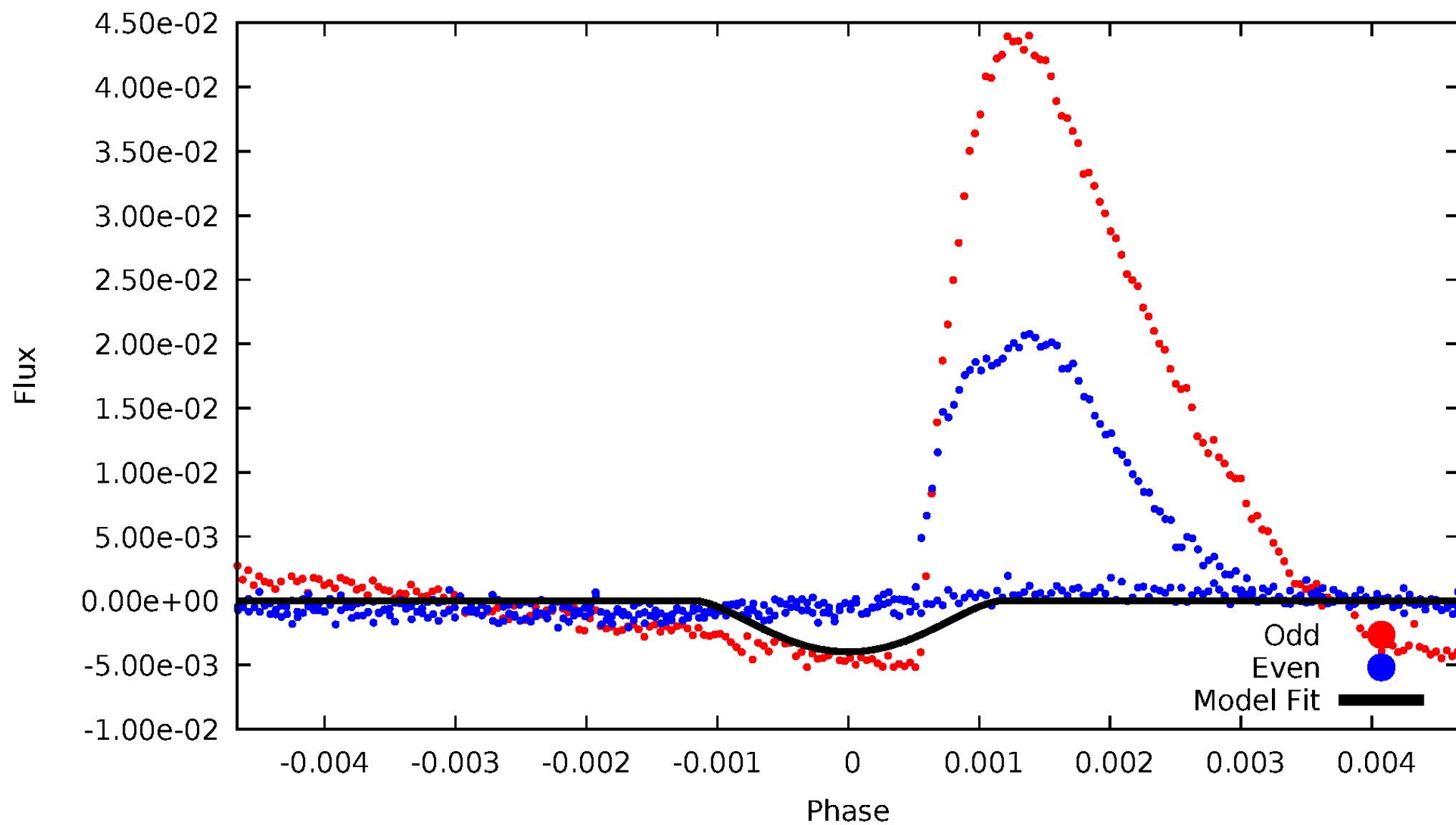


# TCE 011769210-01



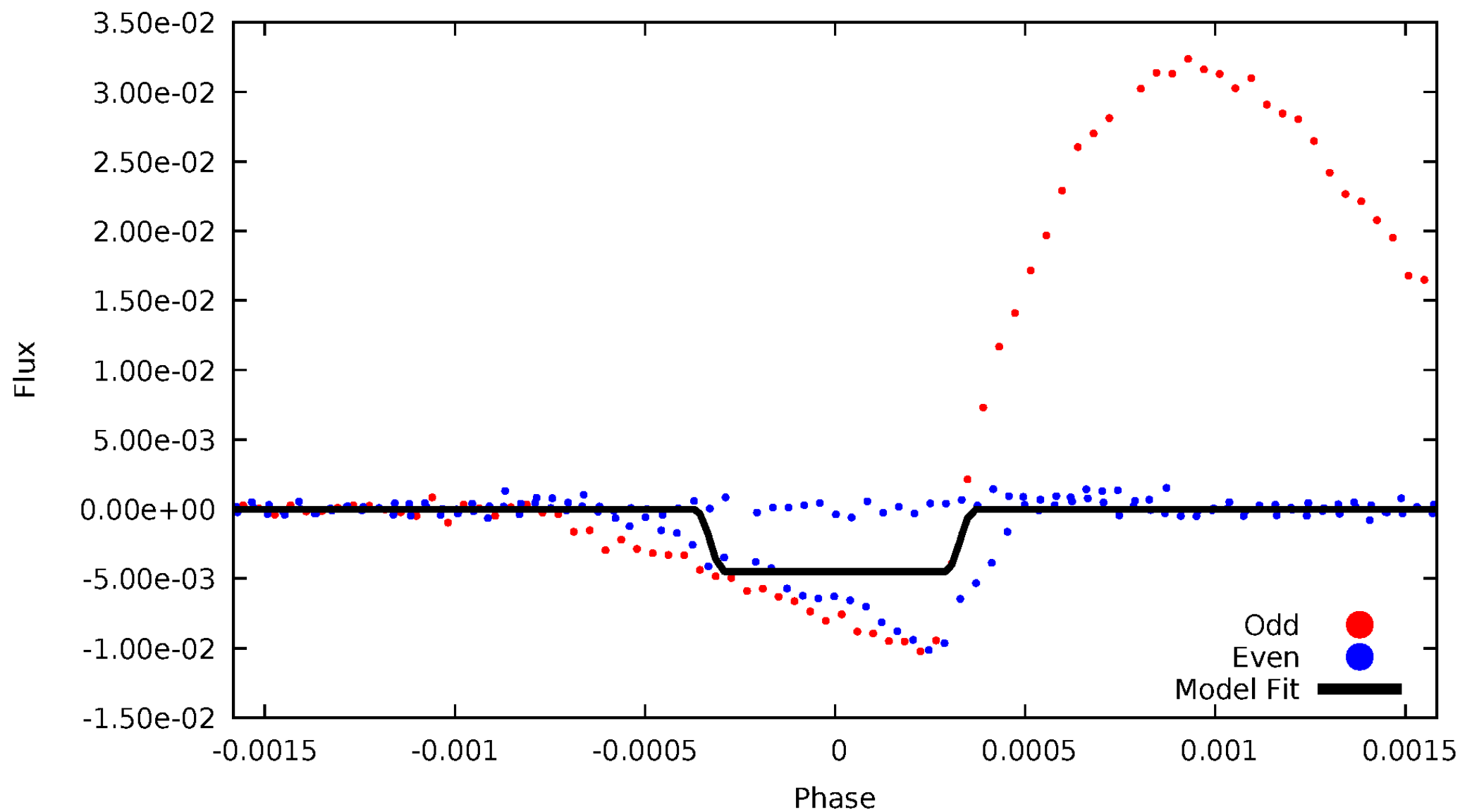
# DV Odd/Even

TCE 011769210-01

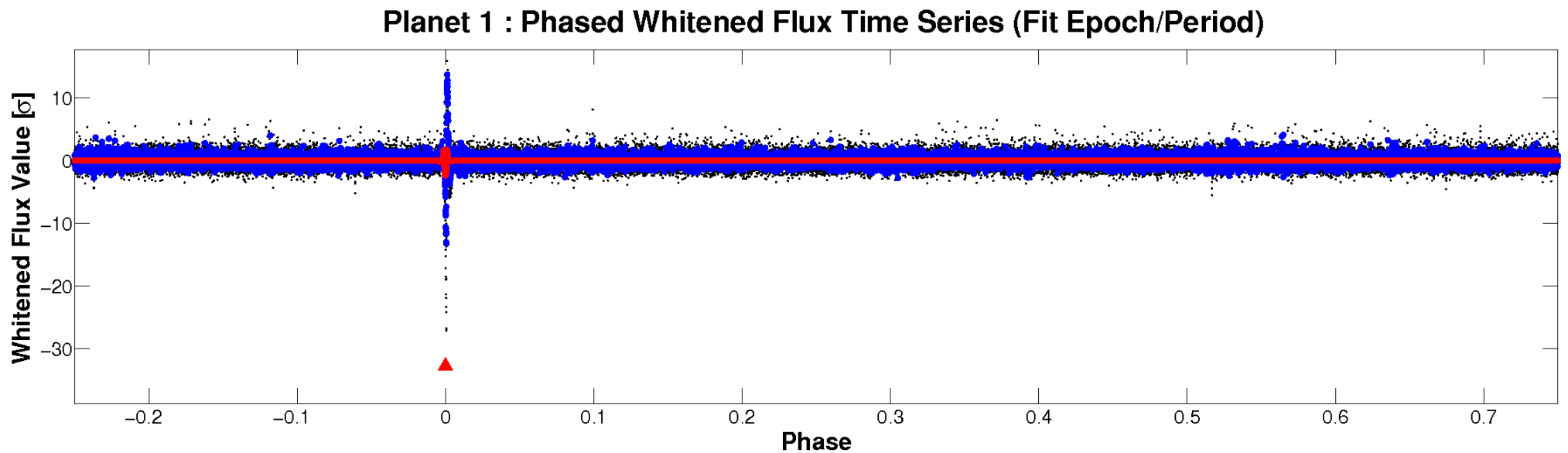
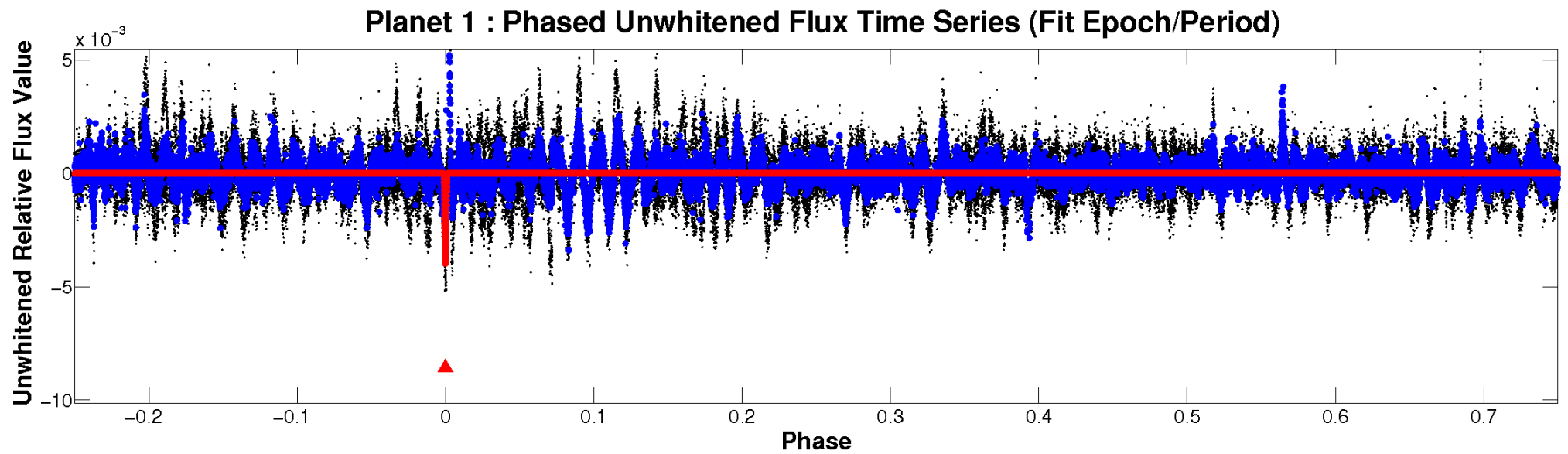


# ALT Odd/Even

TCE 011769210-01

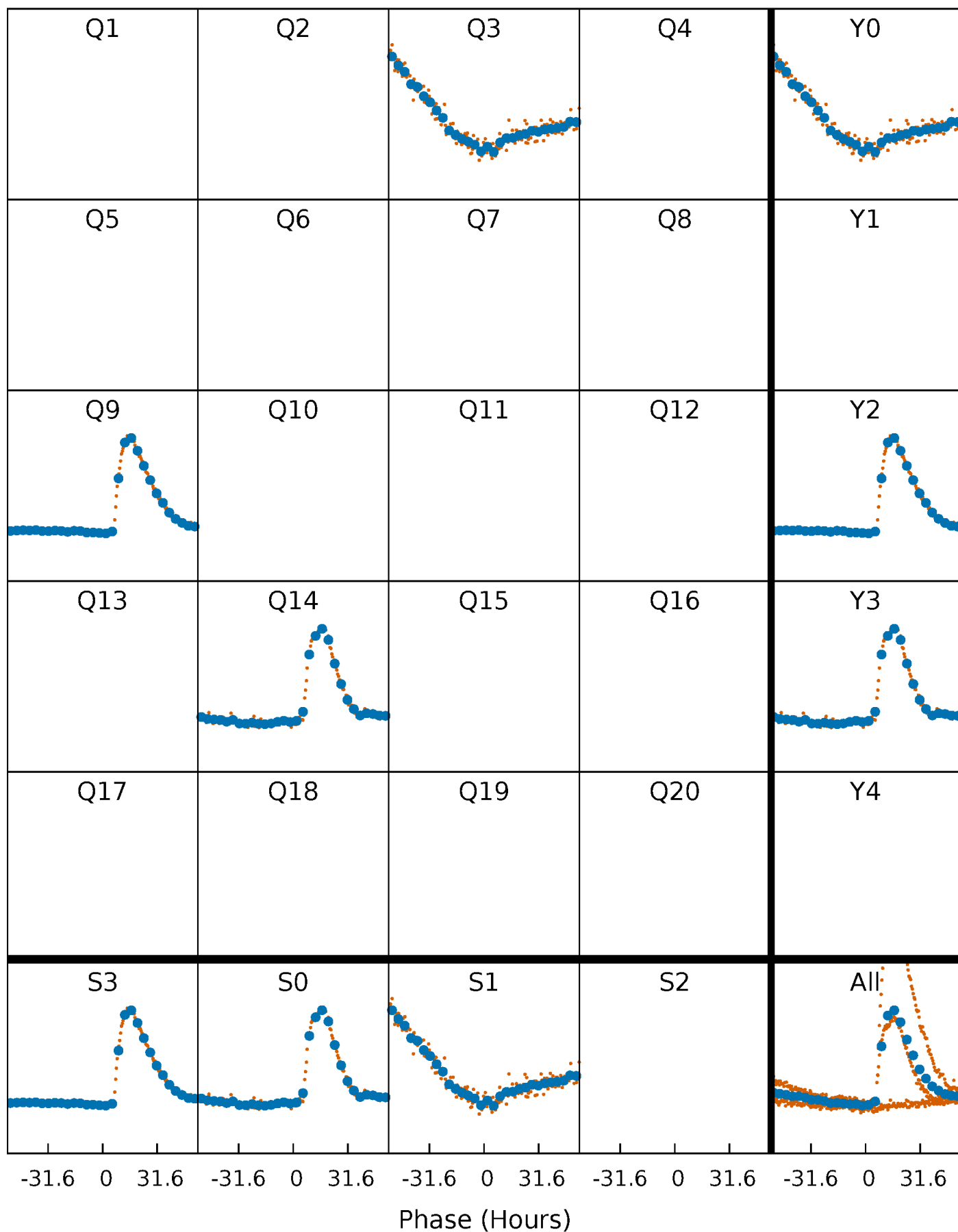


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

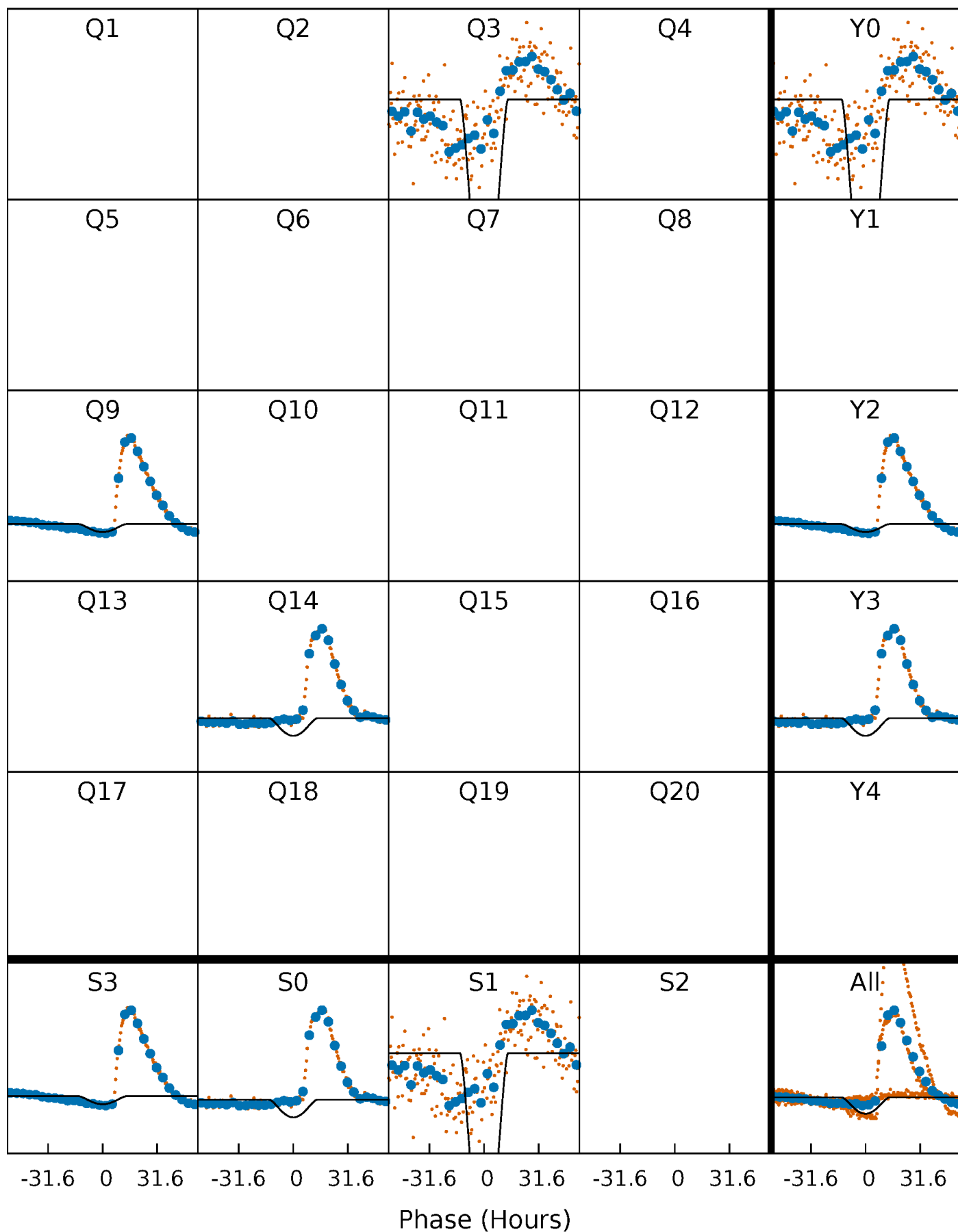
TCE 011769210-01 P=493.308925 Days  $T_0=345.278682$  (BKJD)





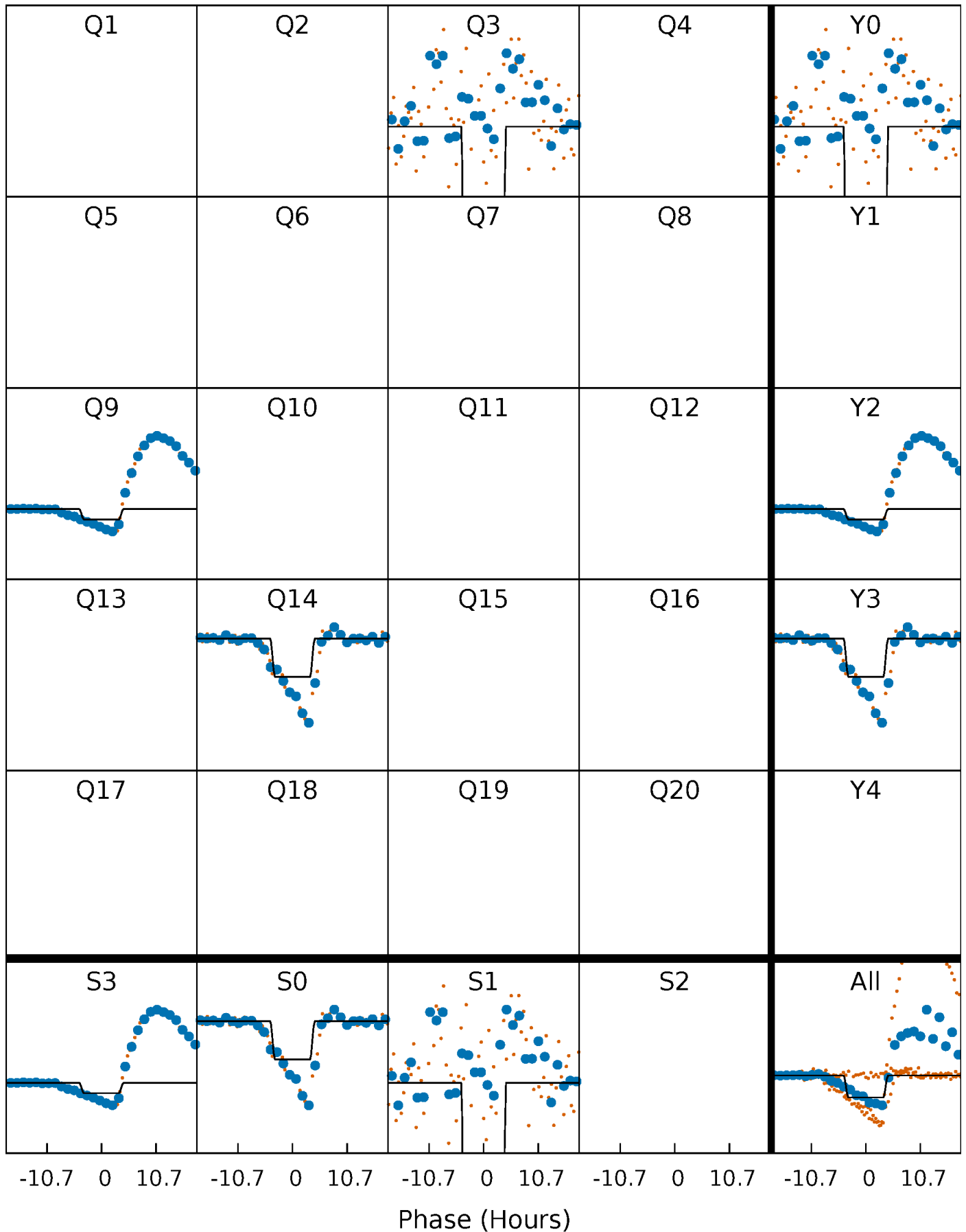
# DV Quarter-Phased Transit Curves

TCE 011769210-01 P=493.308925 Days  $T_0=345.278682$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

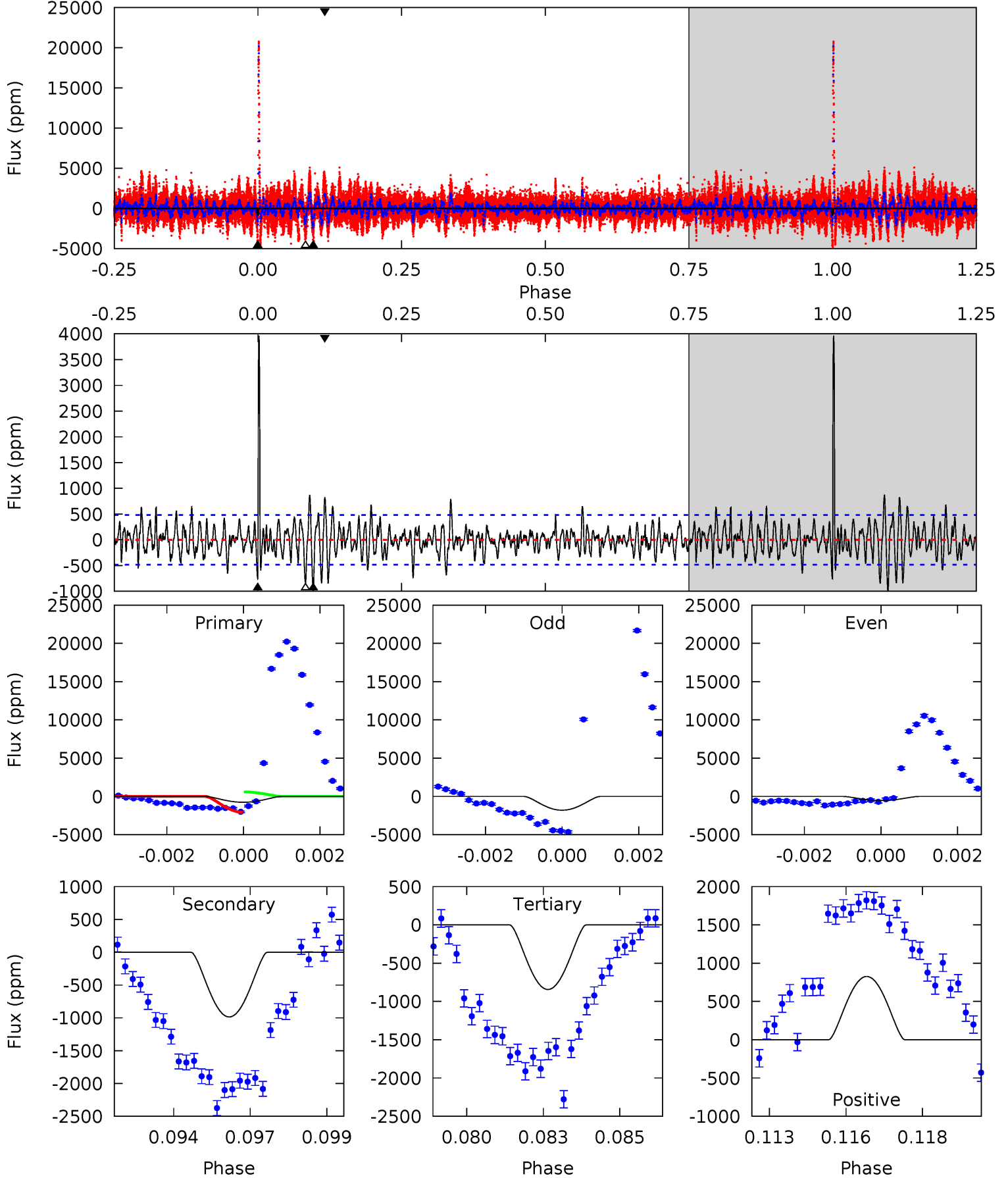
TCE 011769210-01 P=493.279761 Days  $T_0=345.449628$  (BKJD)



# DV Model-Shift Uniqueness Test

011769210-01, P = 493.308925 Days, E = 345.278682 Days

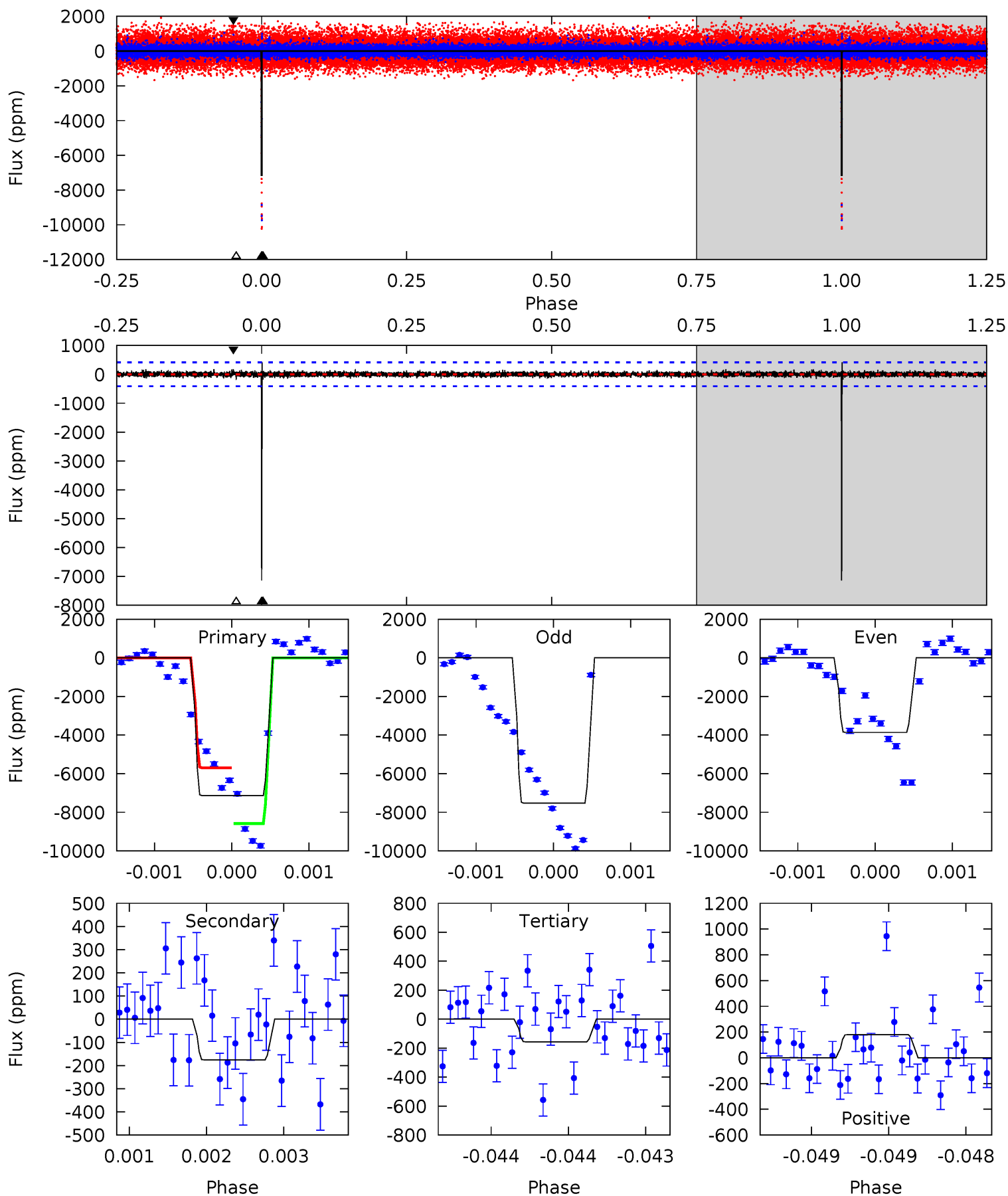
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	10.8	9.26	9.07	5.30	3.04	2.71	-0.86	-0.67	1.57	1.75	6.38	0.25	0.80	8.05



# Alt Model-Shift Uniqueness Test

011769210-01, P = 493.279761 Days, E = 345.449628 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
95.1	2.33	2.08	2.39	5.51	3.39	0.51	93.0	92.7	0.25	-0.05	14.7	0.69	0.05	19.3



### Stellar Parameters For KIC 011769210

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5530^{+166}_{-166}$	$4.567^{+0.029}_{-0.152}$	$0.070^{+0.250}_{-0.300}$	$0.845^{+0.188}_{-0.063}$	$0.961^{+0.074}_{-0.111}$	$2.244^{+0.359}_{-0.960}$
	+3%/-3%	+1%/-3%	+357%/-429%	+22%/-7%	+8%/-12%	+16%/-43%
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 011769210-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-986 \pm 91$	$18.72^{+18.60}_{-12.90}$	$291^{+15}_{-12}$	$2904^{+1343}_{-480}$	$2243^{+22109}_{-1705}$
Alt.	$-175 \pm 75$	$16.81^{+18.54}_{-11.87}$	$291^{+17}_{-12}$	$2365^{+879}_{-364}$	$441^{+3905}_{-348}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

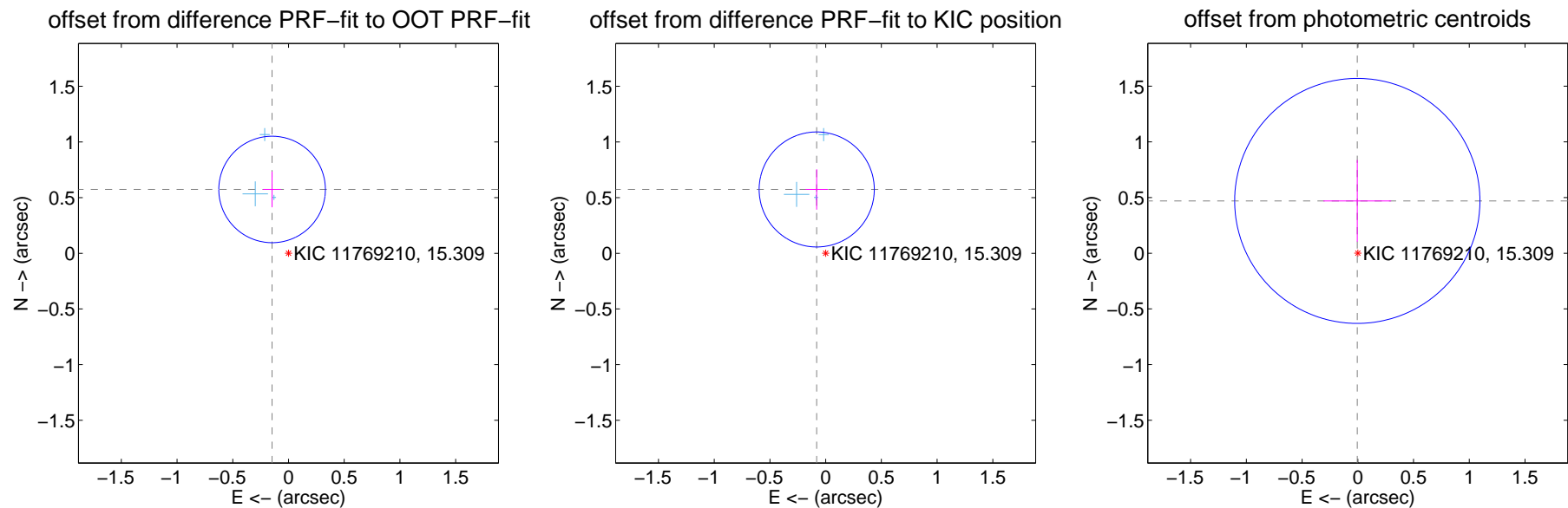
## DV Centroid Data

Supplemental centroid analysis for 011769210-01. Kepler magnitude: 15.31. Transit SNR 16.90

There are 3 quarters with good PRF difference image offsets

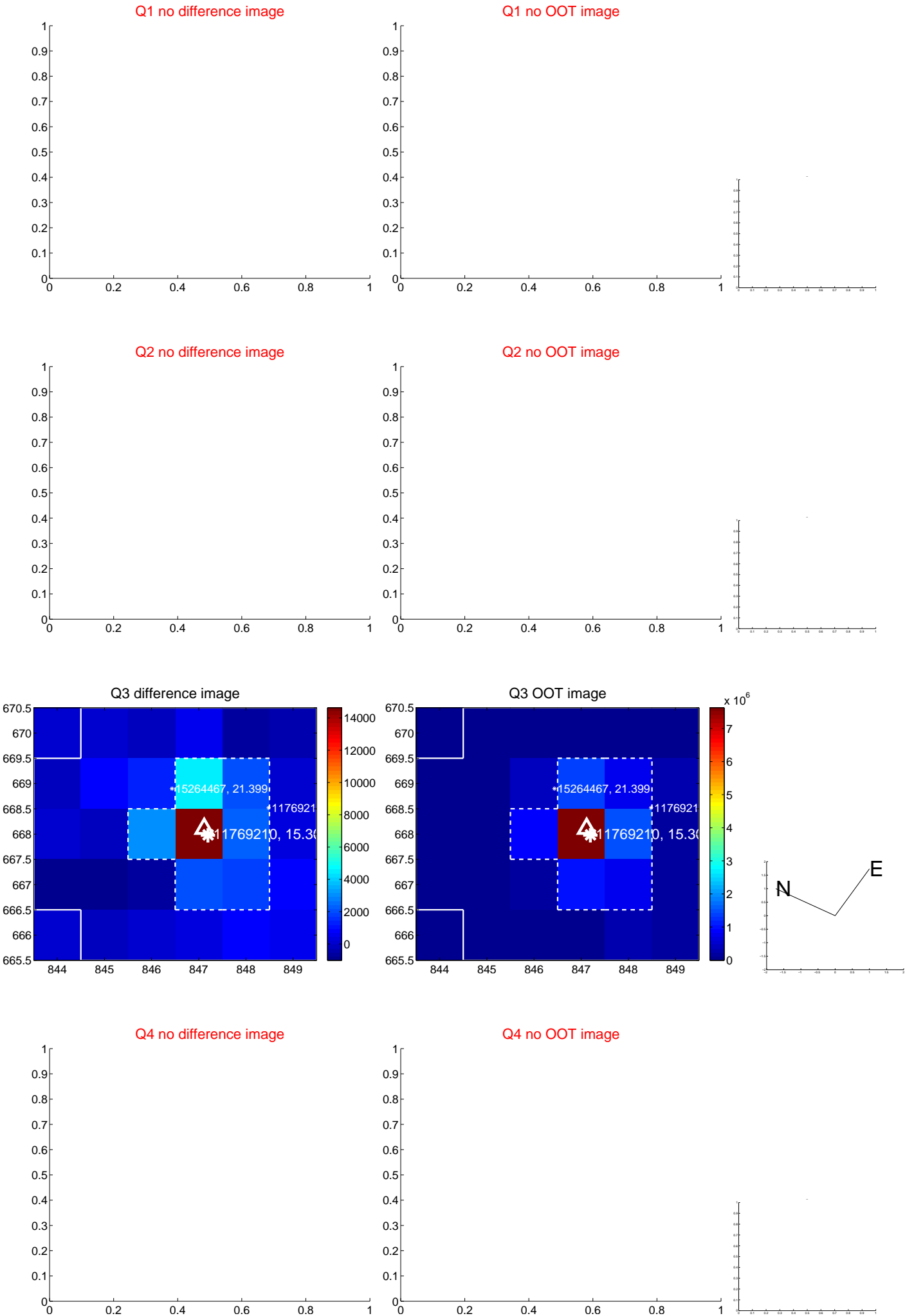
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.592 \pm 0.159$	3.71	$0.147 \pm 0.080$	$0.573 \pm 0.160$
PRF-fit source offset from KIC position	$0.579 \pm 0.172$	3.36	$0.080 \pm 0.100$	$0.573 \pm 0.181$
photometric centroid source offset	$0.47 \pm 0.37$	1.28	$0.00 \pm 0.30$	$0.47 \pm 0.37$



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.

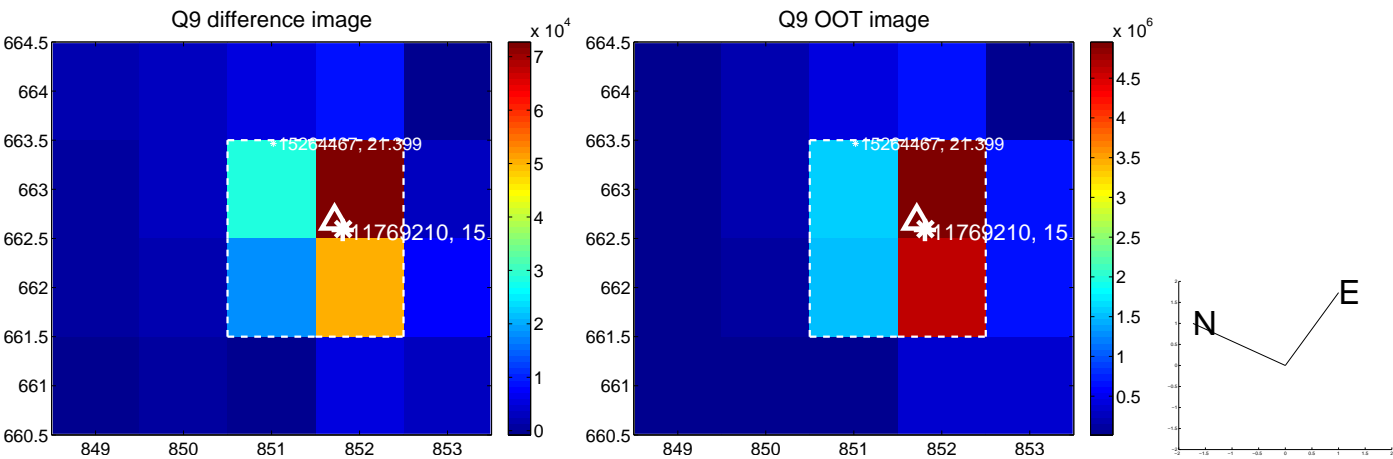


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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.

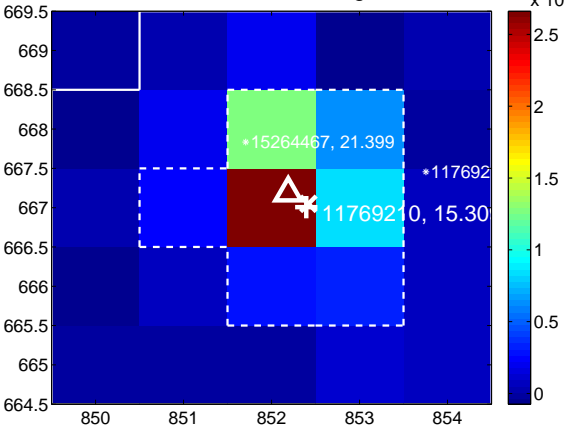
Q13 no difference image



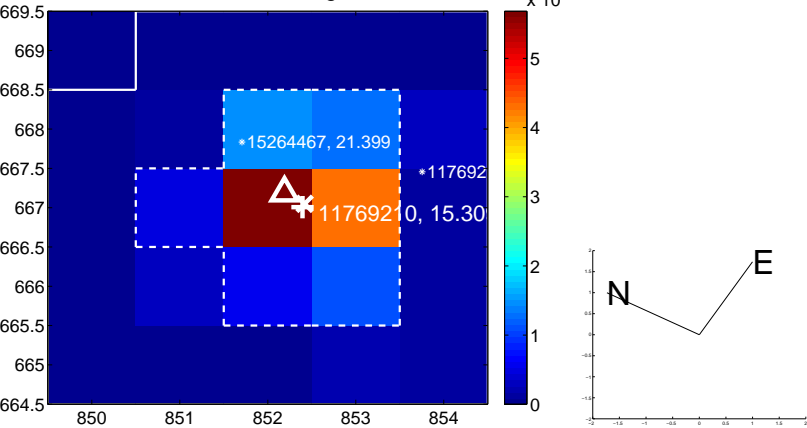
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



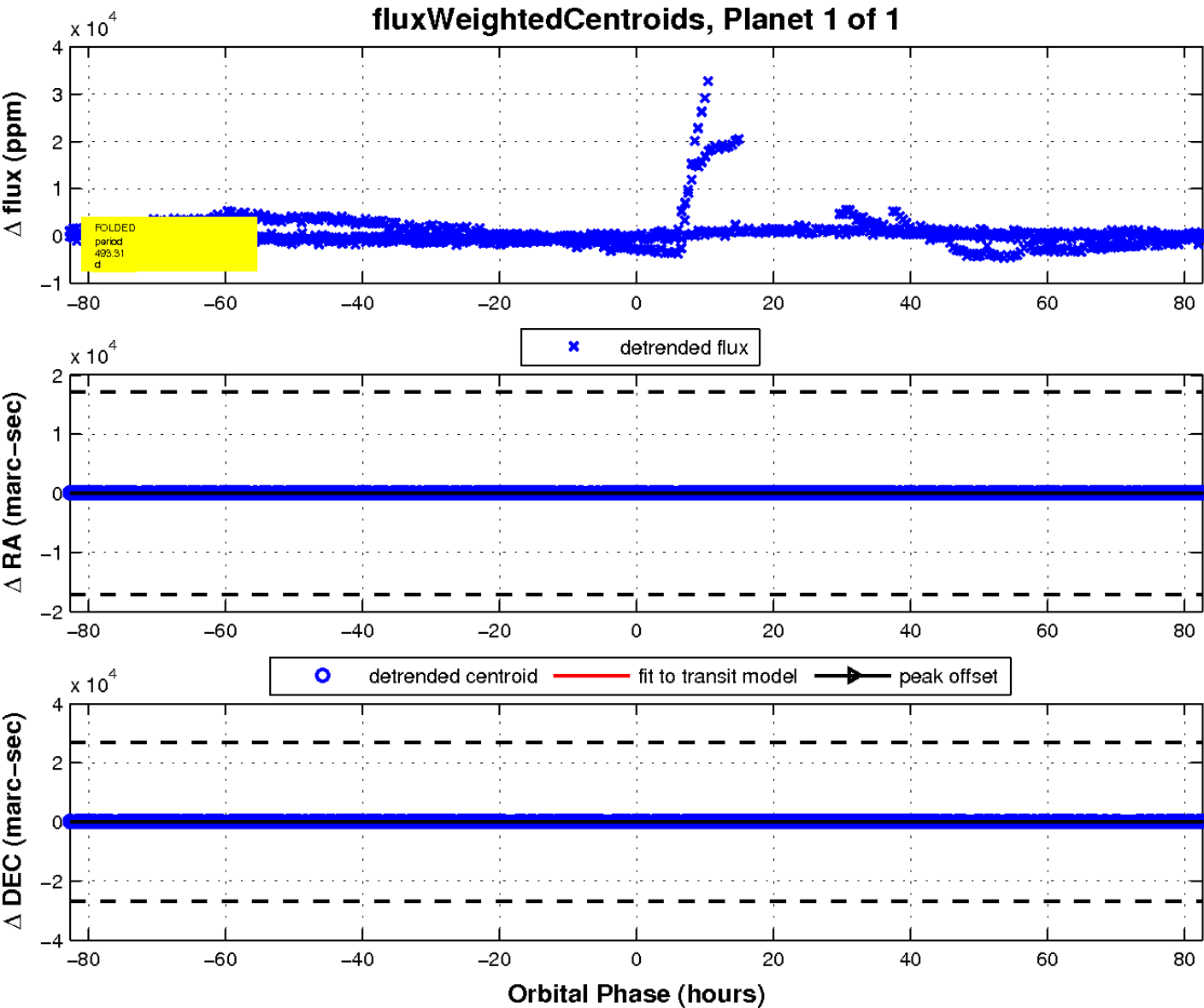
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

