

# KIC 007939107

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007939107-01	OBS	No	379.777135	418.834538	6768.3	58.930	294.4	57.7	1.07	6194	14.63	1.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007939107-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_NOFITS

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

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

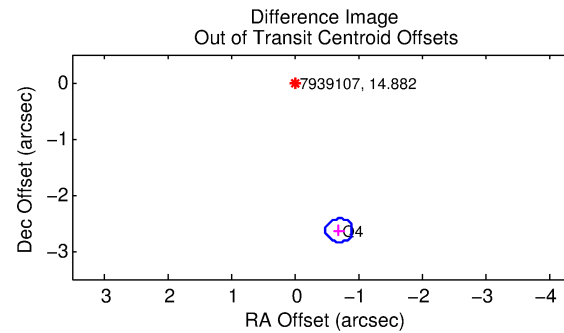
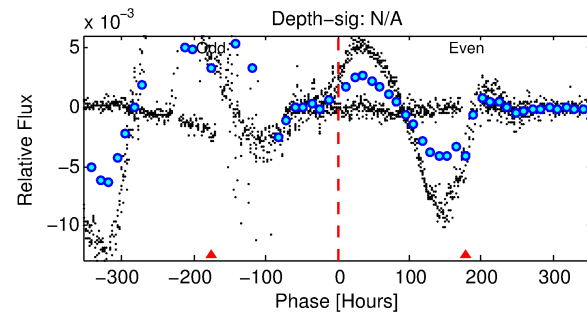
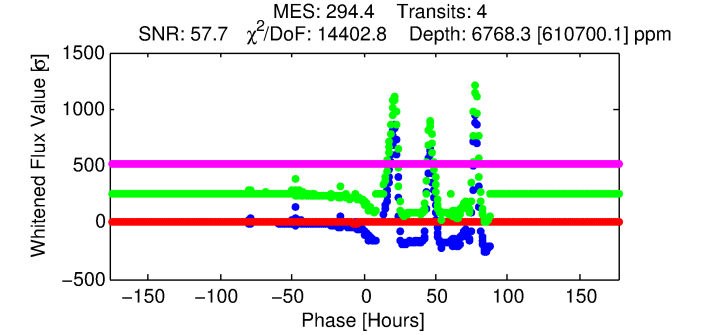
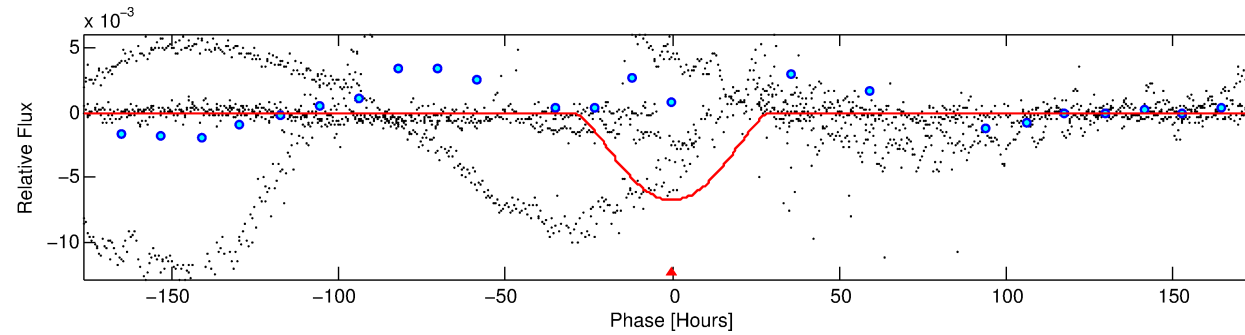
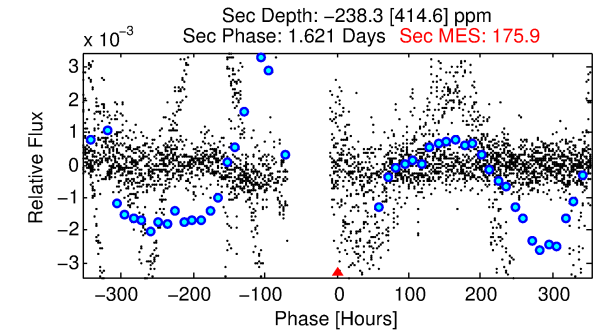
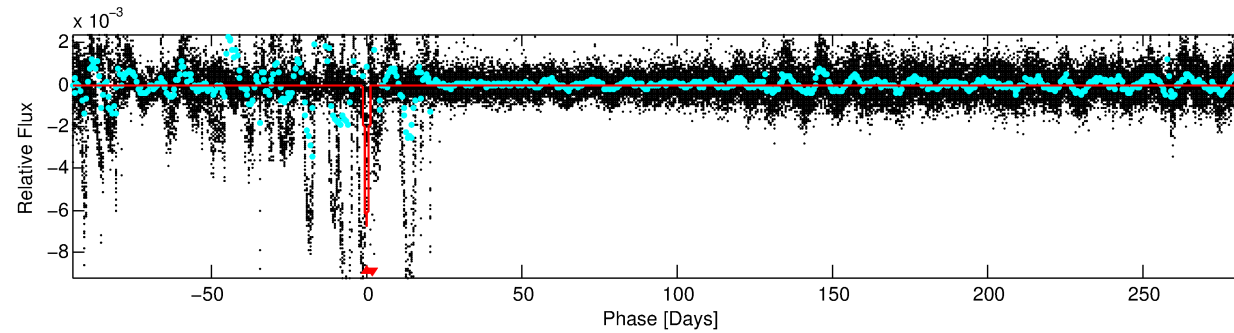
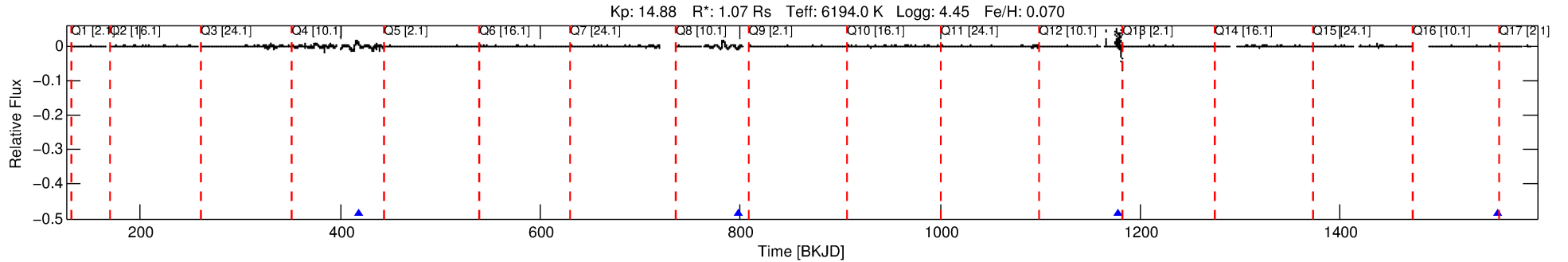
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007939107-01

No Significant Match Found

# DV One-Page Summary

KIC: 7939107 Candidate: 1 of 1 Period: 379.777 d



## DV Fit Results:

Period = 379.77713 [8.80164] d  
Epoch = 418.8345 [21.2357] BKJD  
Rp/R\* = 0.1254 [15.5284]  
a/R\* = 26.89 [548.79]  
b = 0.98 [32.33]  
Seff = 1.29 [0.48]  
Teq = 272 [25] K  
Rp = 14.63 [1811.43] Re  
a = 1.0790 [0.2560] AU  
Ag = N/A  
Teffp = N/A

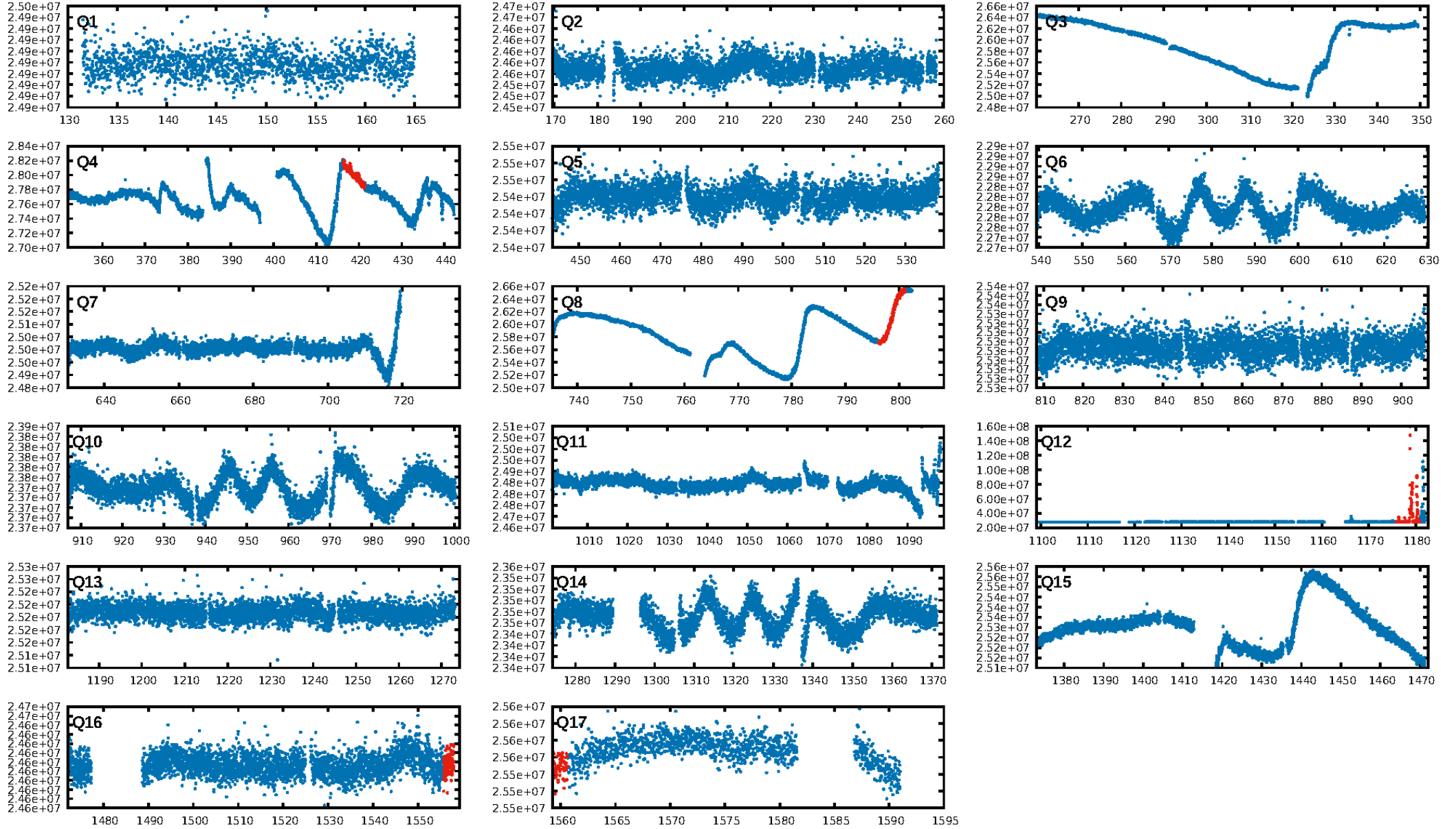
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -1.589  
Centroid-sig: 8.3%  
Centroid-so: 1.826 arcsec [7.31σ]  
OotOffset-rm: 2.726 arcsec [39.40σ]  
KicOffset-rm: 4.159 arcsec [60.23σ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

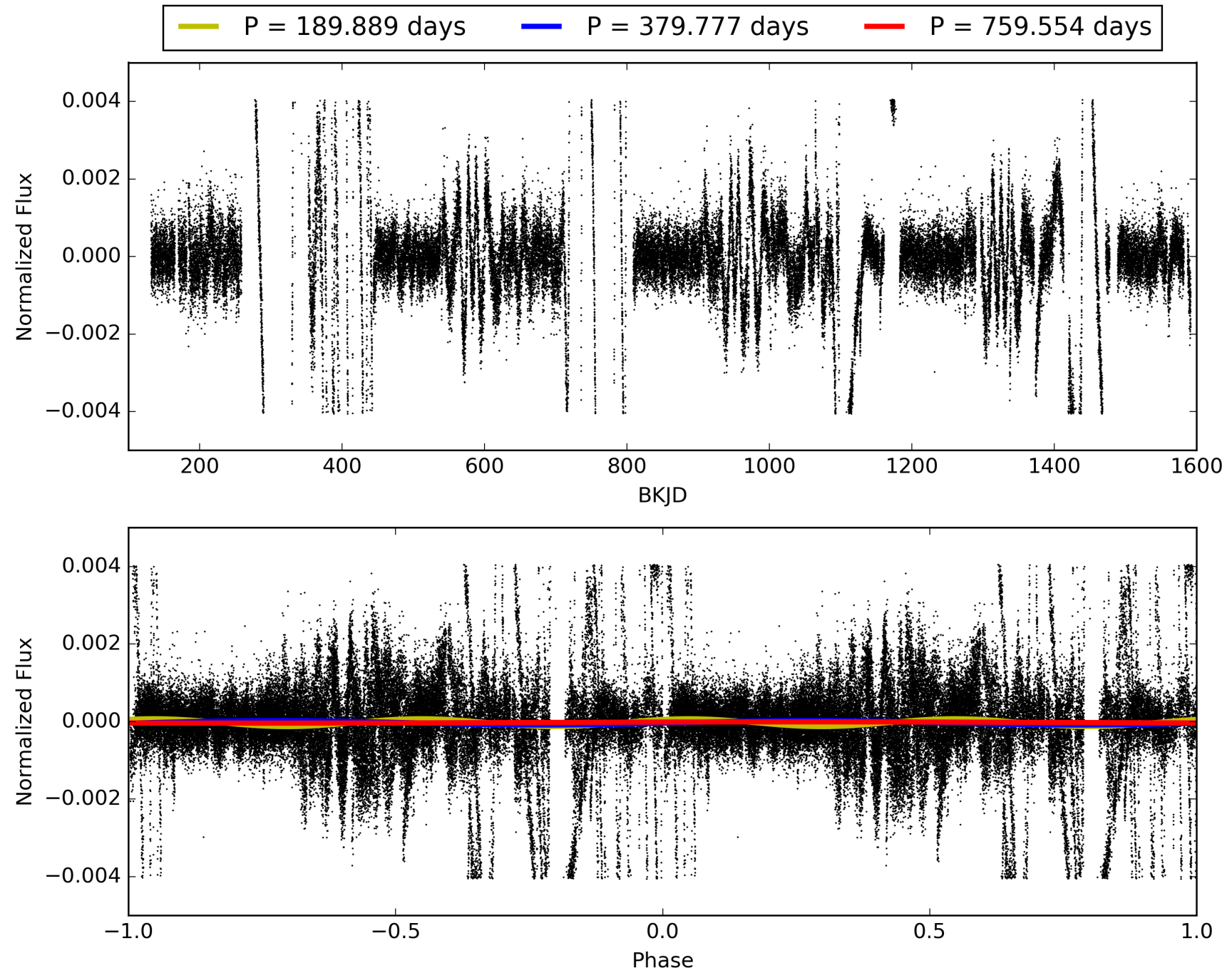
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:10:18 Z

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

# TCE 007939107-01, PDC Light Curves

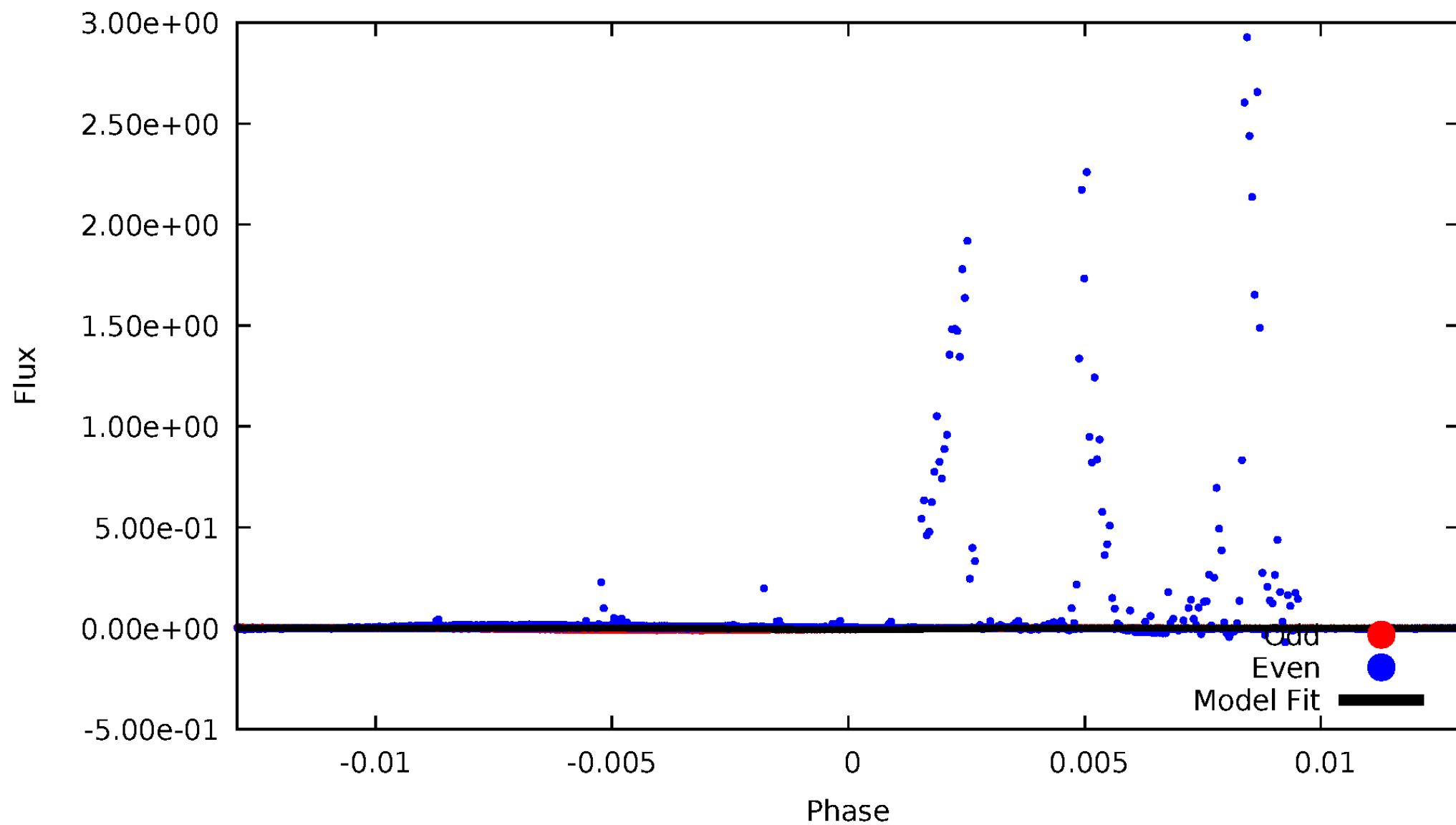


TCE 007939107-01



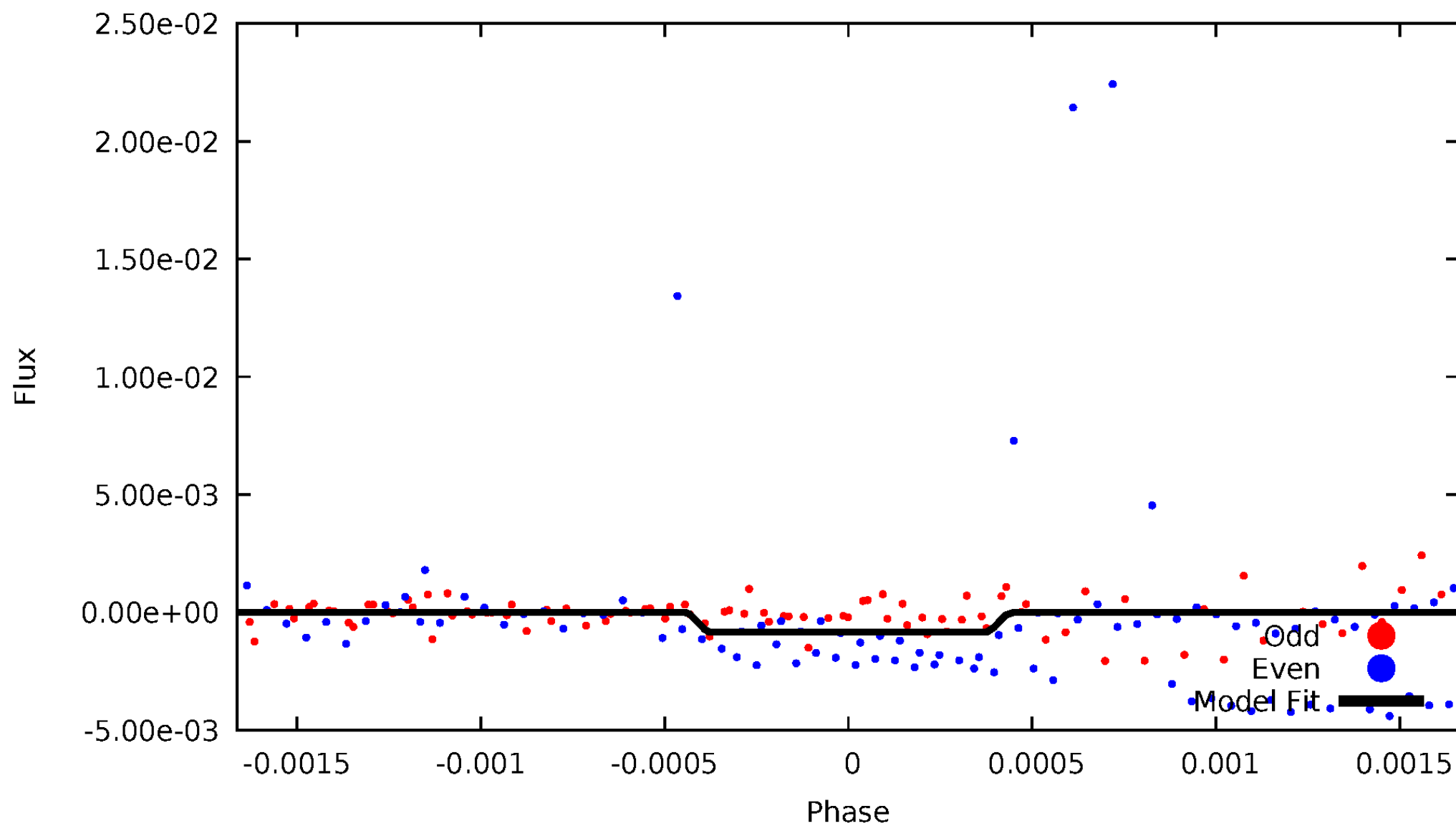
# DV Odd/Even

TCE 007939107-01



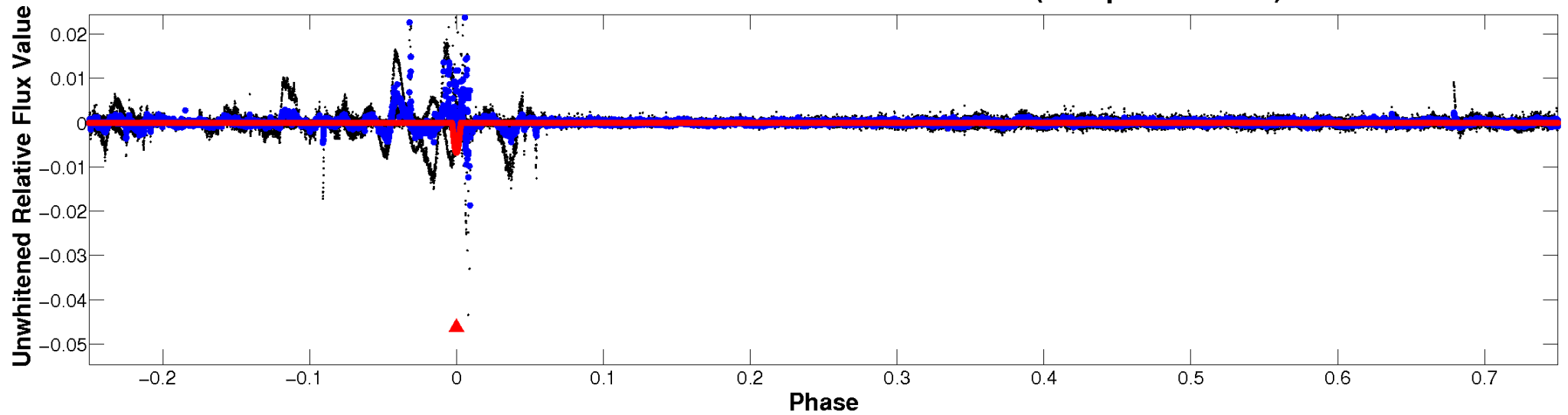
# ALT Odd/Even

TCE 007939107-01

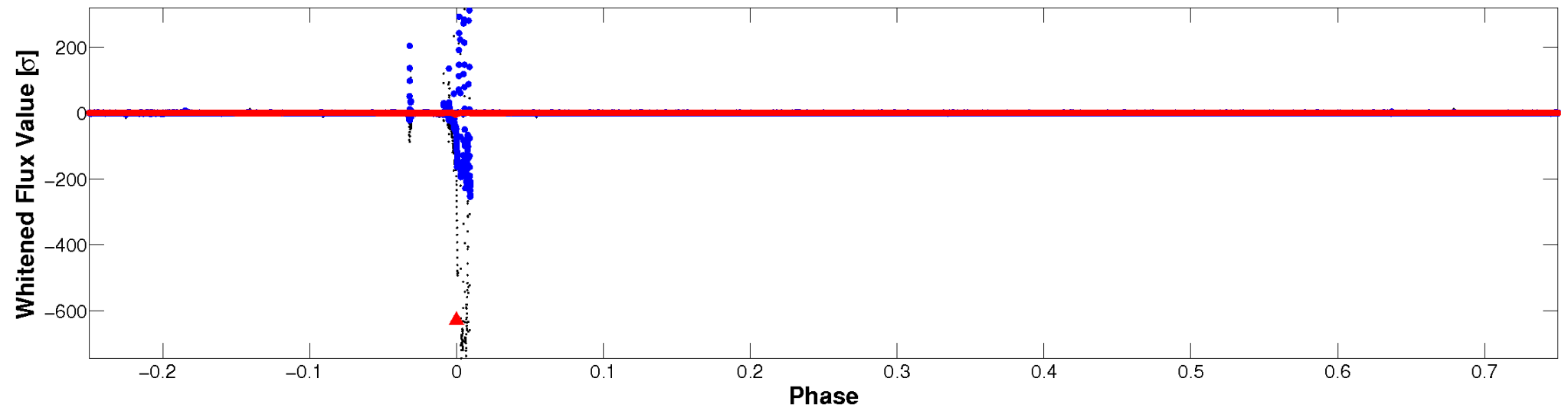


# Non-Whitened Vs. Whitened Light Curve

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

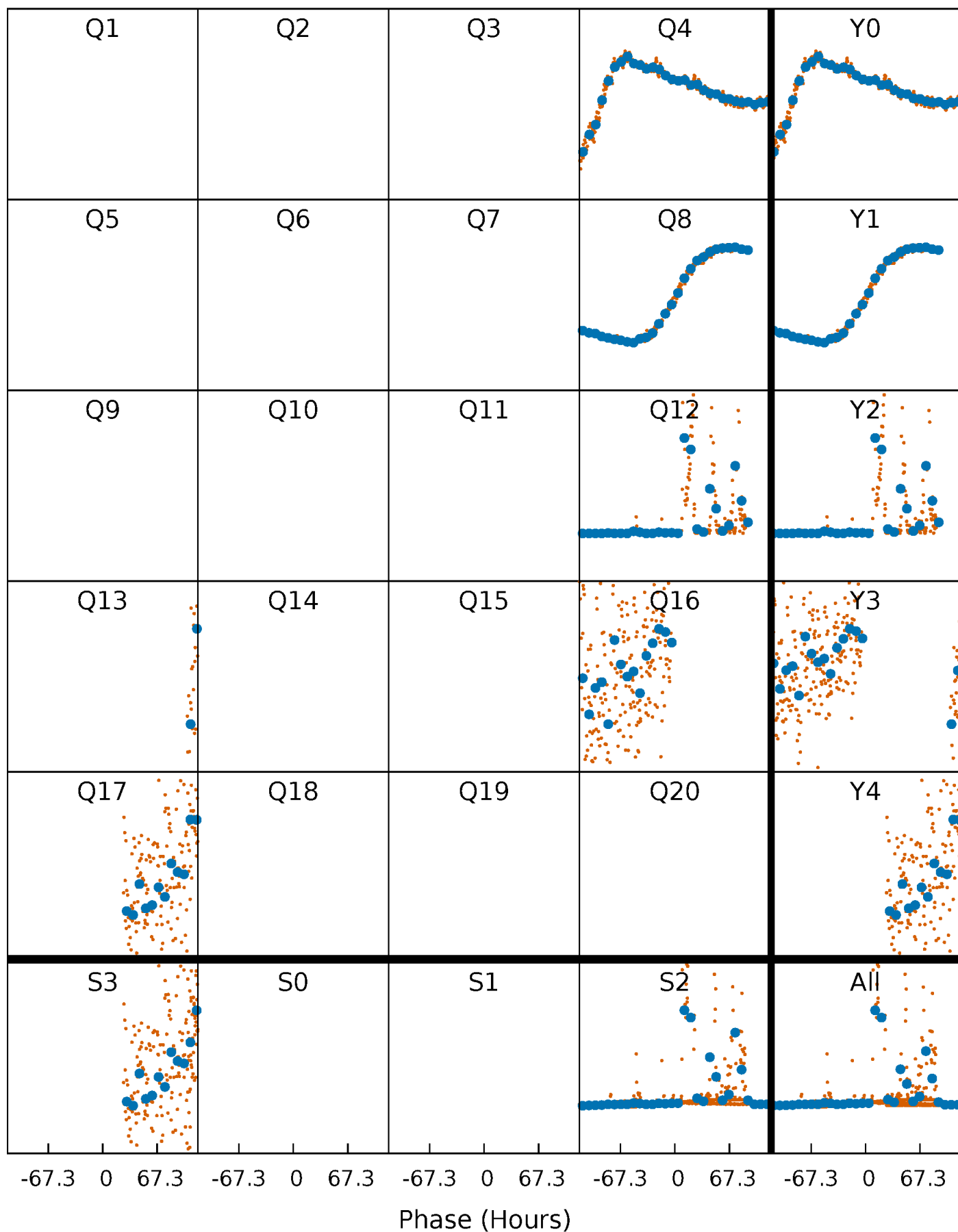


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

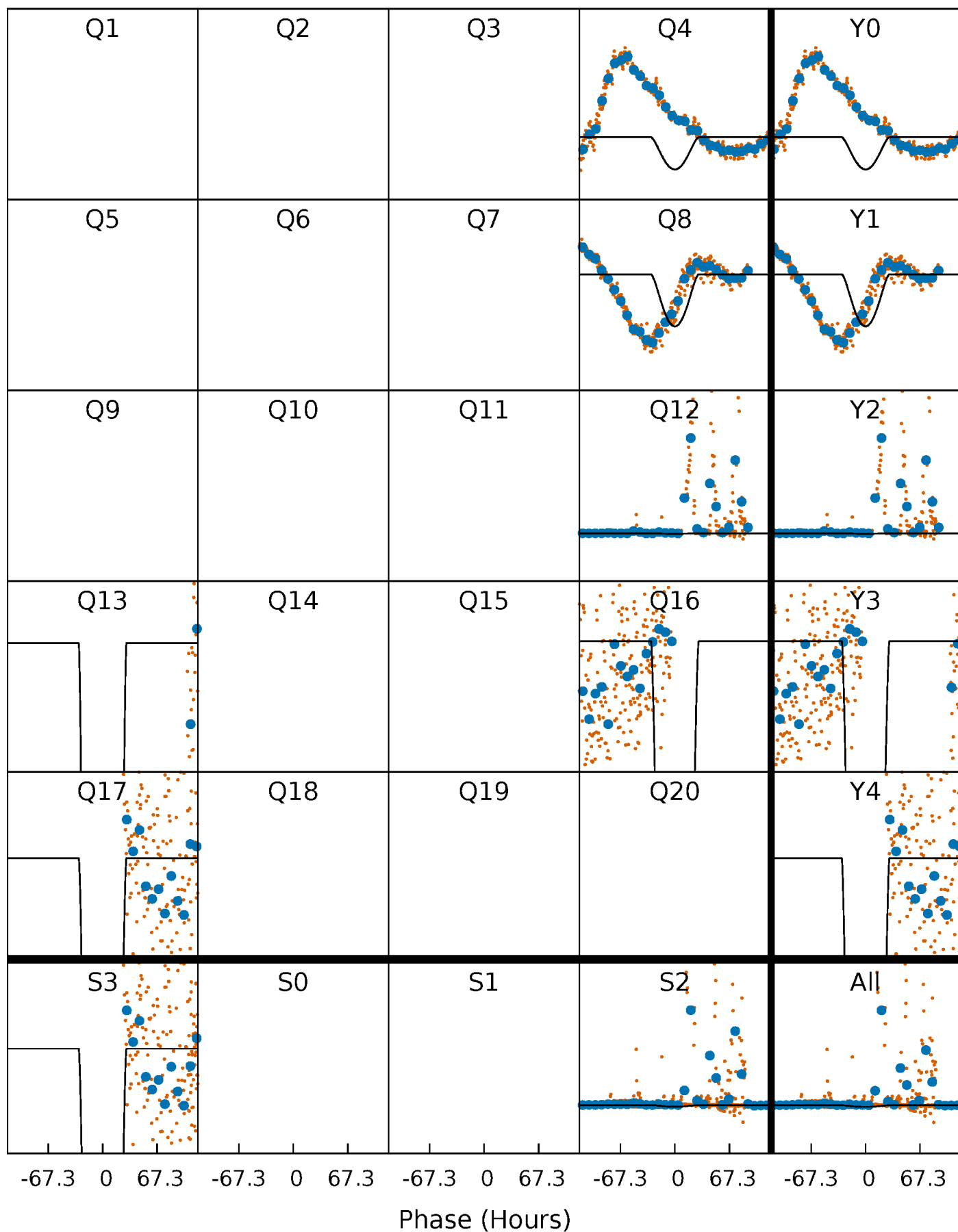
TCE 007939107-01 P=379.777135 Days  $T_0=418.834538$  (BKJD)





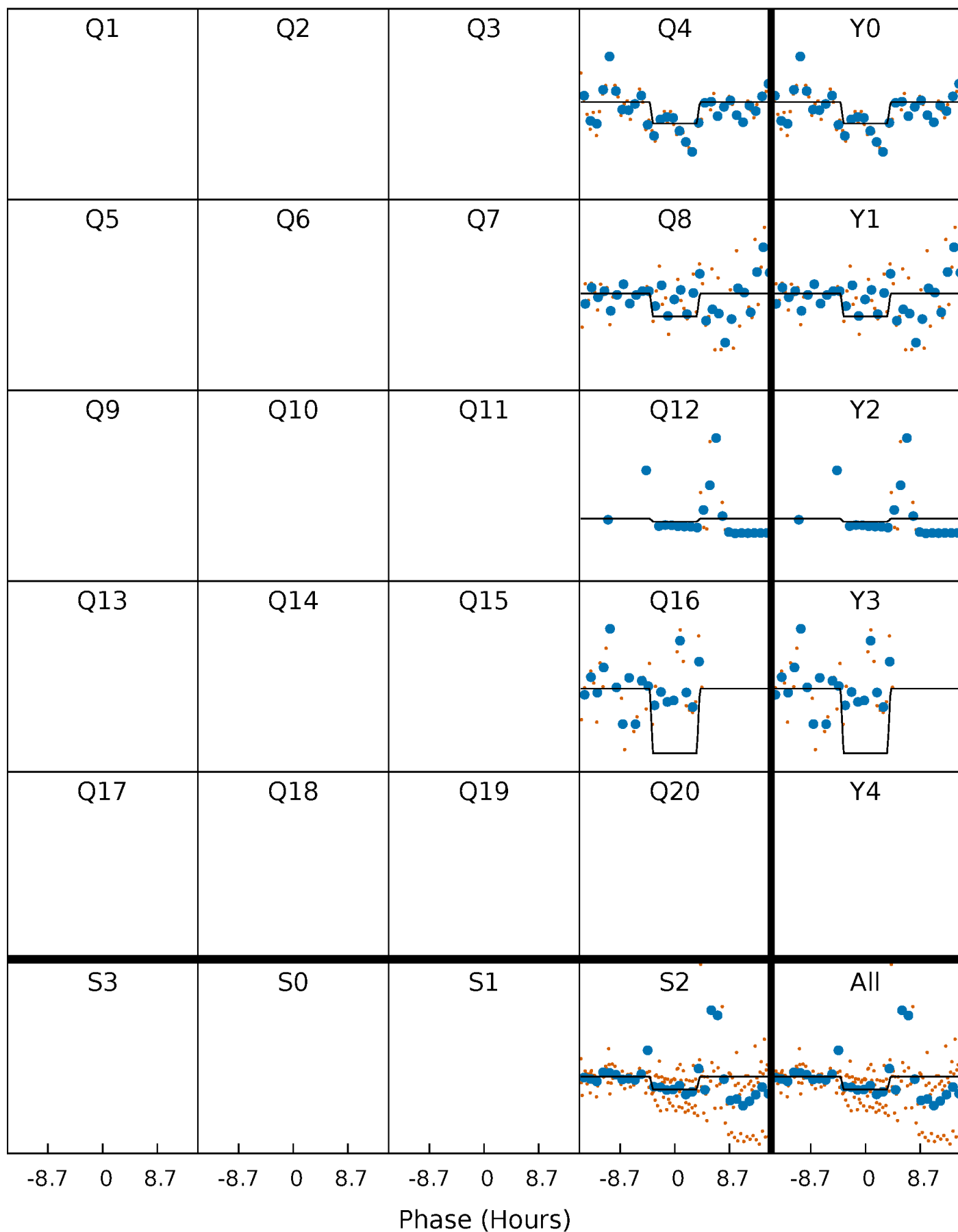
# DV Quarter-Phased Transit Curves

TCE 007939107-01 P=379.777135 Days  $T_0=418.834538$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

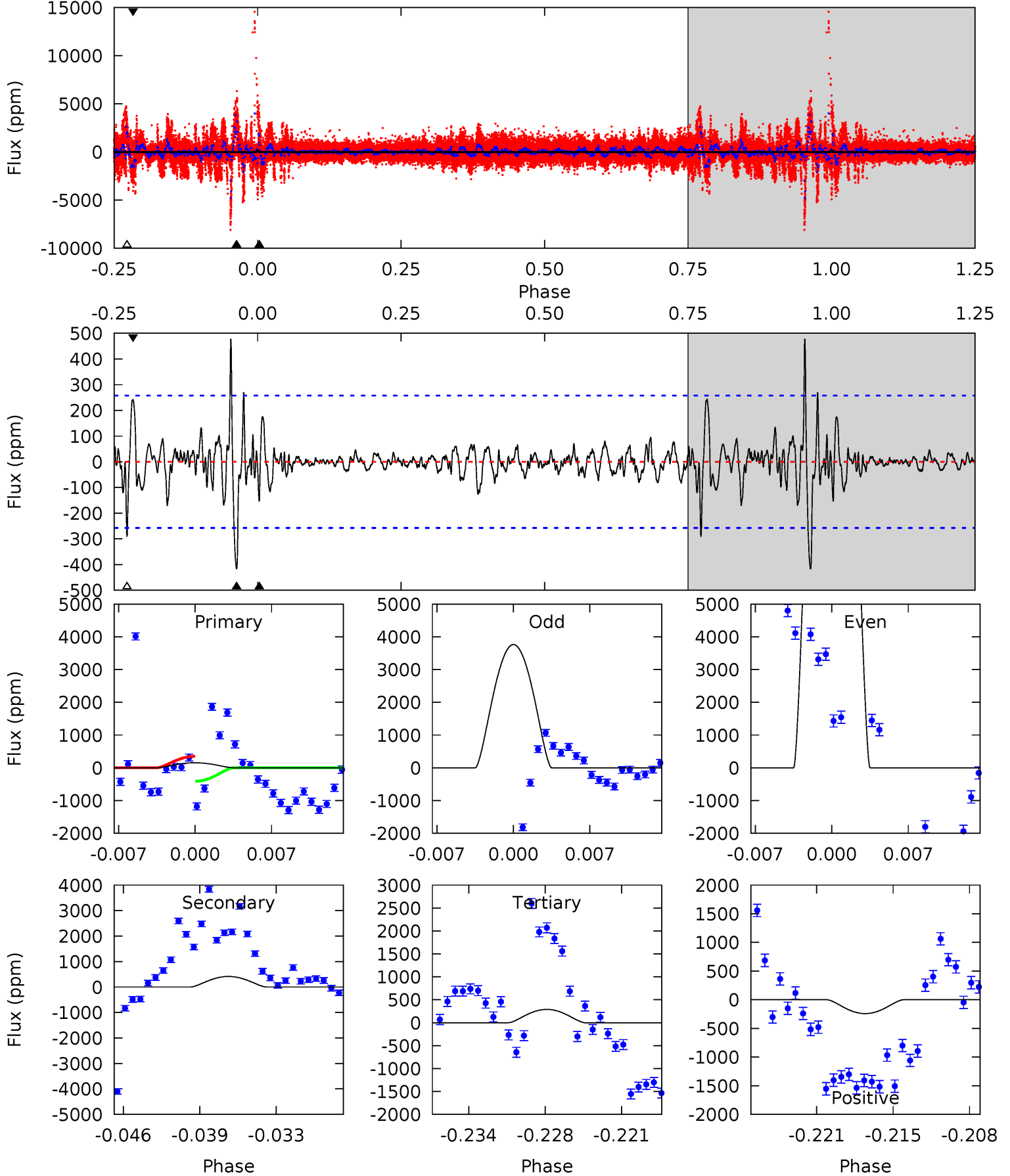
TCE 007939107-01 P=379.750901 Days  $T_0=418.528341$  (BKJD)



# DV Model-Shift Uniqueness Test

007939107-01, P = 379.777135 Days, E = 39.057403 Days

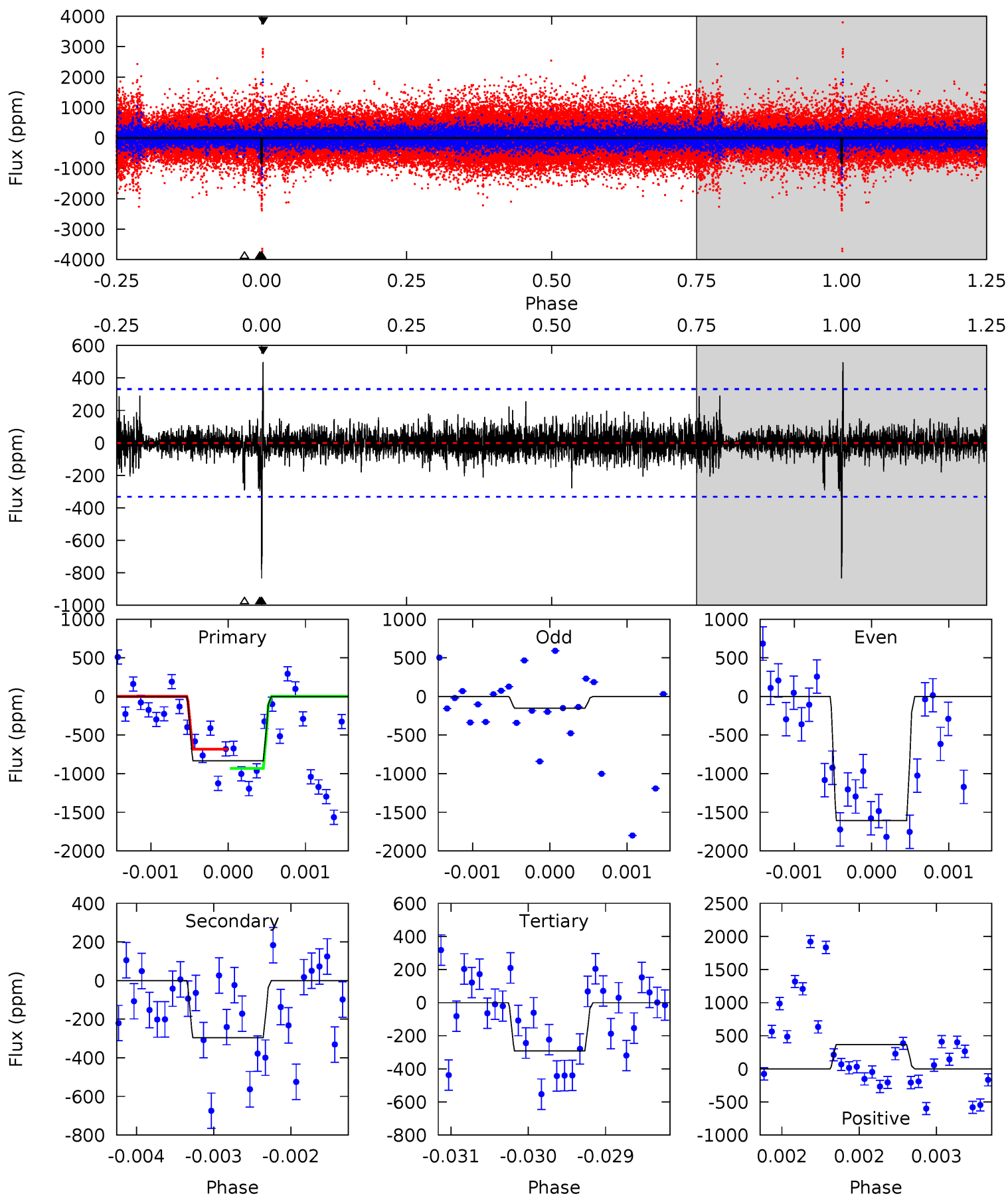
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.04	8.22	5.74	4.79	5.11	2.72	1.03	-2.70	-1.75	2.48	3.43	119.2	15.4	0.54	0.58



# Alt Model-Shift Uniqueness Test

007939107-01, P = 379.750901 Days, E = 38.777440 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
13.8	4.89	4.83	6.07	5.48	3.34	0.92	8.97	7.73	0.06	-1.18	12.3	1.21	0.37	2.05



### Stellar Parameters For KIC 007939107

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6194^{+172}_{-215}$	$4.445^{+0.050}_{-0.188}$	$0.070^{+0.200}_{-0.350}$	$1.069^{+0.301}_{-0.129}$	$1.161^{+0.127}_{-0.184}$	$1.340^{+0.352}_{-0.639}$
	+3%/-3%	+1%/-4%	+286%/-500%	+28%/-12%	+11%/-16%	+26%/-48%
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 007939107-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-415 \pm 50$	$1282.42^{+1307.42}_{-910.26}$	$388^{+25}_{-20}$	$-1274^{+2813}_{-65}$	$0.153^{+1.763}_{-0.114}$
Alt.	$-295 \pm 60$	$1337.40^{+1548.30}_{-934.27}$	$387^{+26}_{-20}$	$-1300^{+2741}_{-48}$	$0.100^{+1.007}_{-0.078}$

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

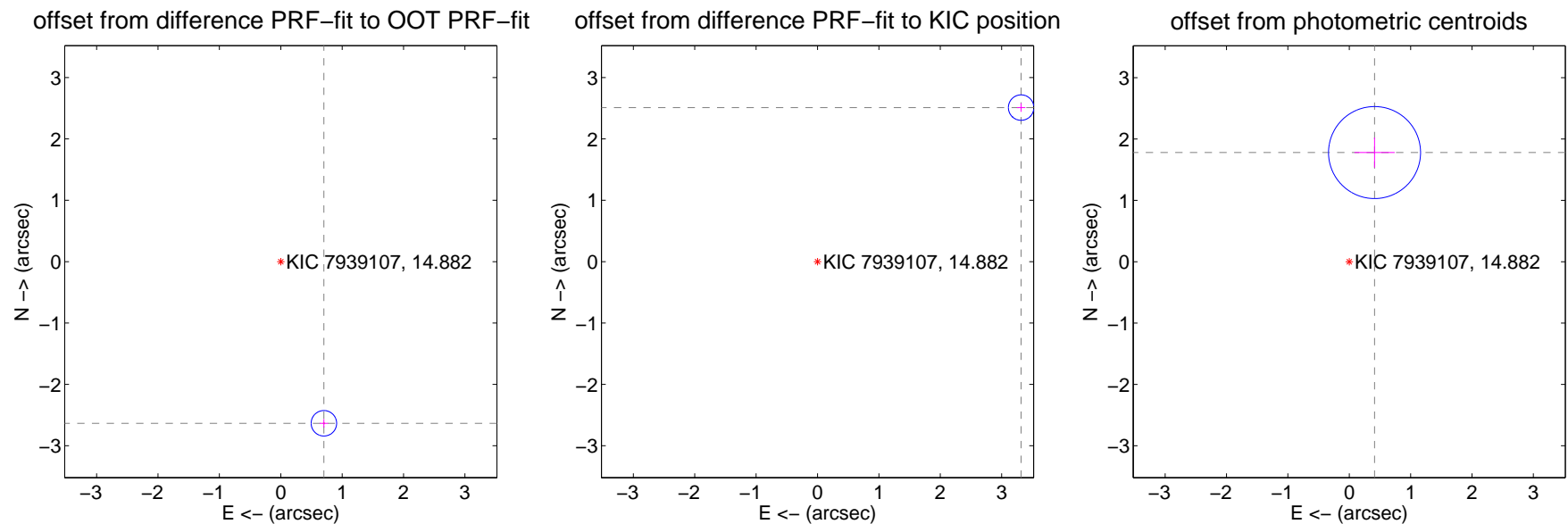
## DV Centroid Data

Supplemental centroid analysis for 007939107-01. Kepler magnitude: 14.88. Transit SNR 57.73

There are 0 quarters with good PRF difference image offsets

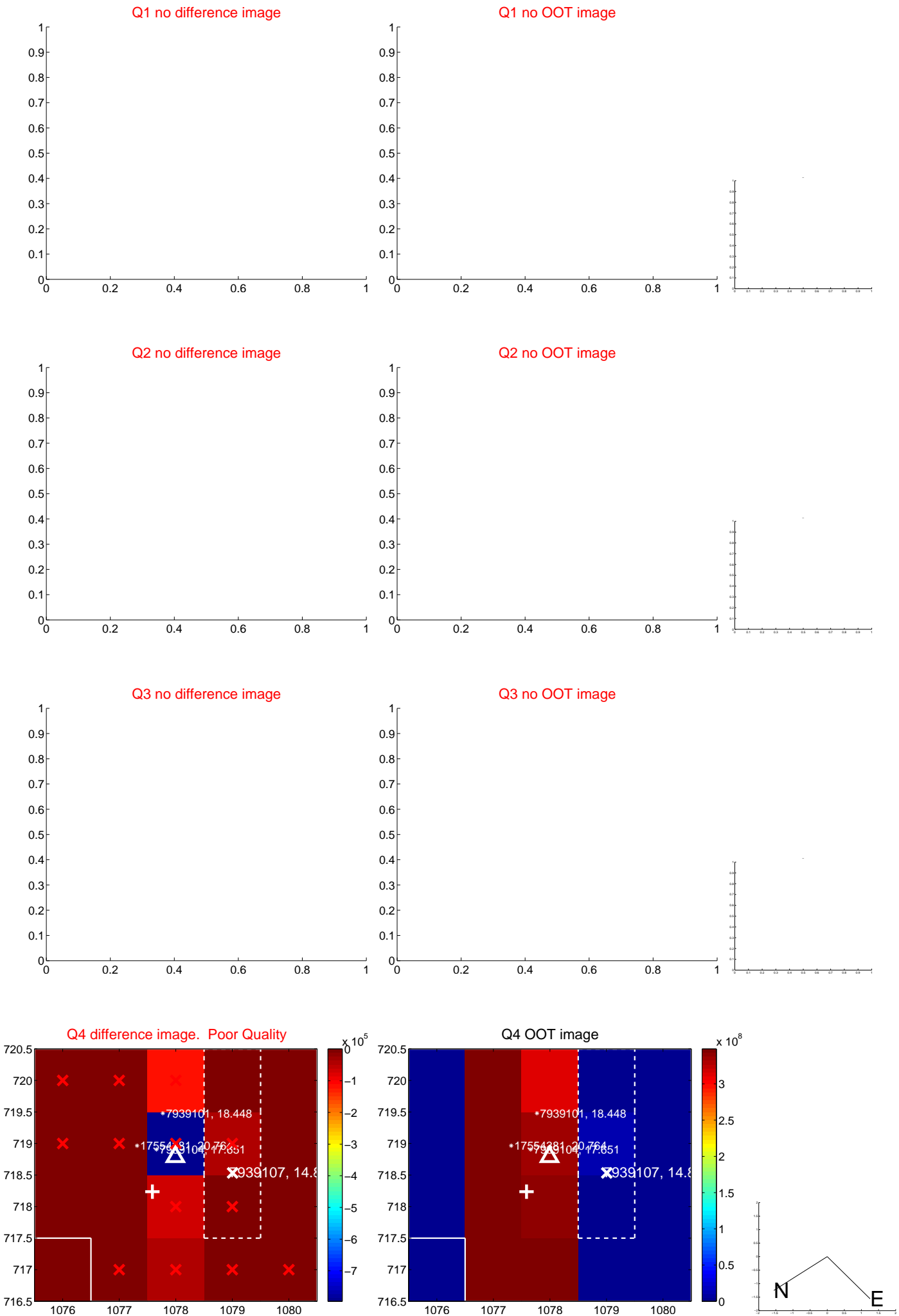
The OOT PRF centroid is offset from the target star catalog position by about 5.77 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.726 \pm 0.069$	39.40	$-0.702 \pm 0.069$	$-2.634 \pm 0.069$
PRF-fit source offset from KIC position	$4.159 \pm 0.069$	60.23	$-3.316 \pm 0.069$	$2.510 \pm 0.069$
photometric centroid source offset	$1.83 \pm 0.25$	7.31	$-0.41 \pm 0.33$	$1.78 \pm 0.25$



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.





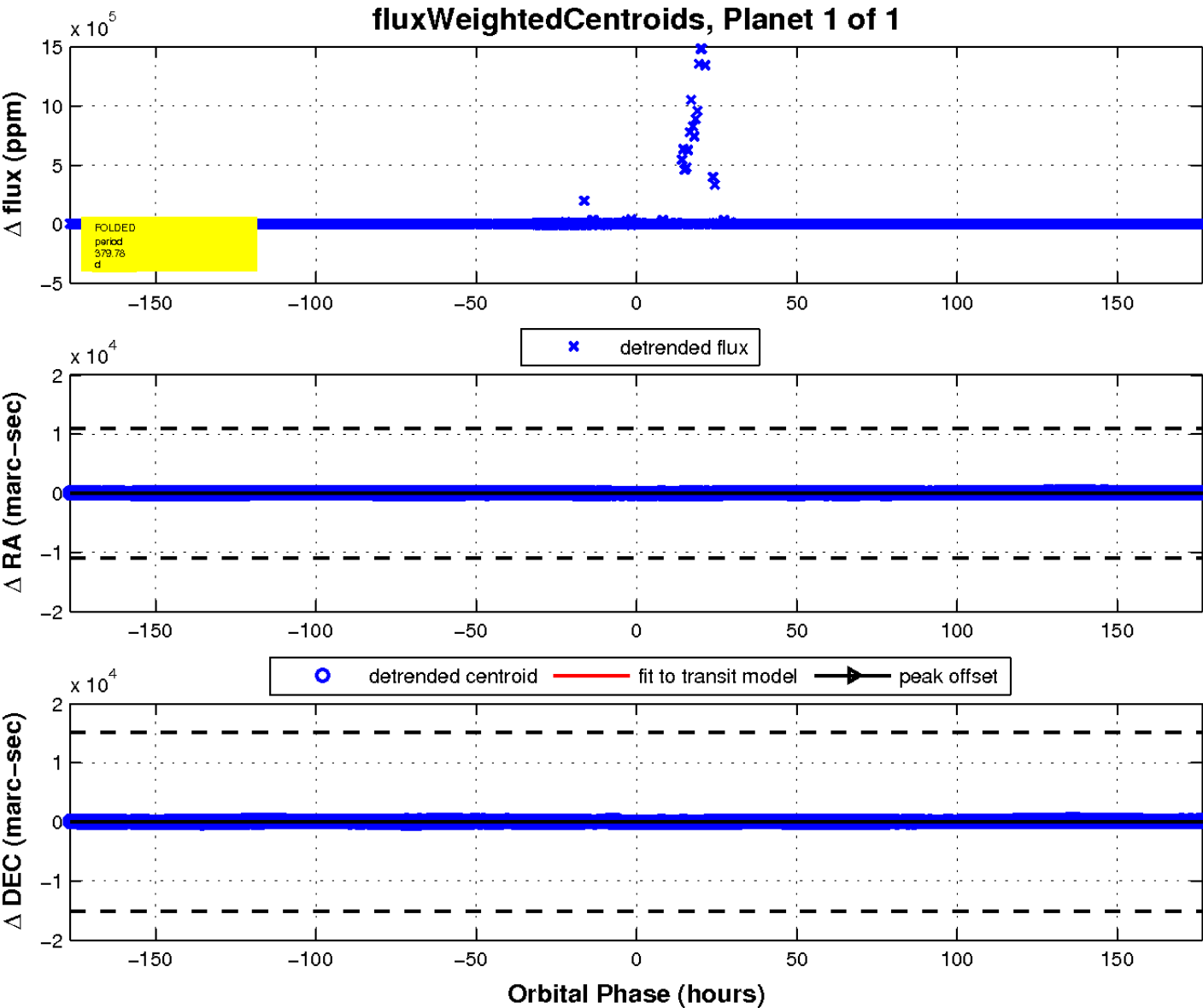
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

