

# KIC 007746939

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007746939-01	OBS	No	264.847933	299.445299	396.4	1.894	18.0	15.1	122.90	3435	226.30	1521.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007746939-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

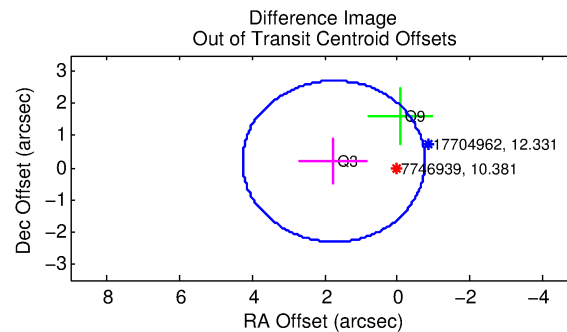
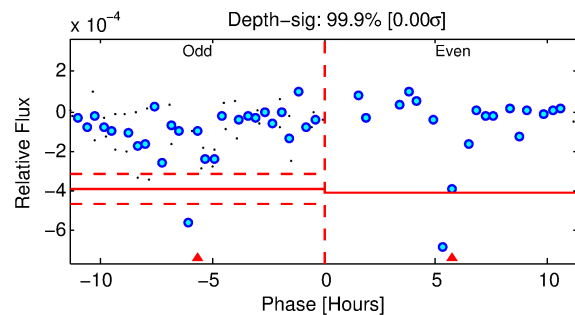
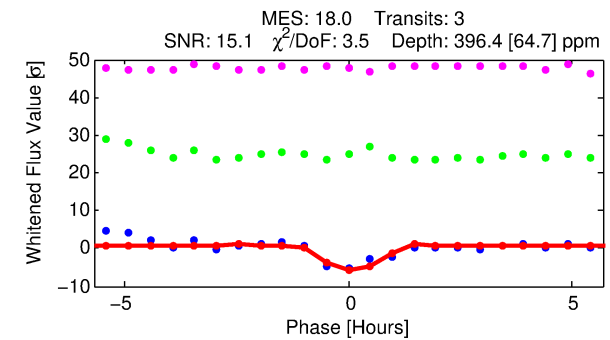
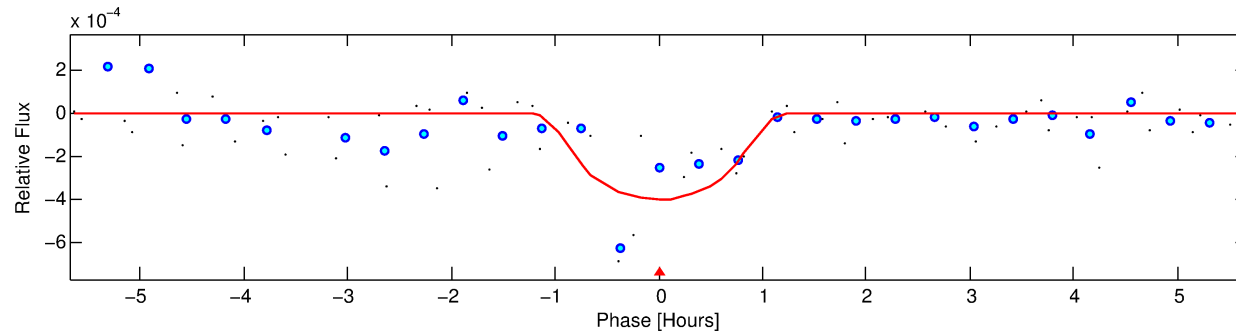
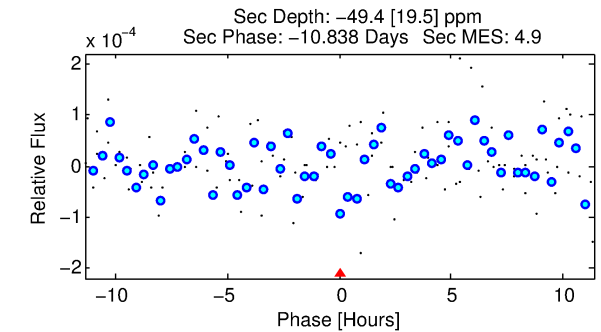
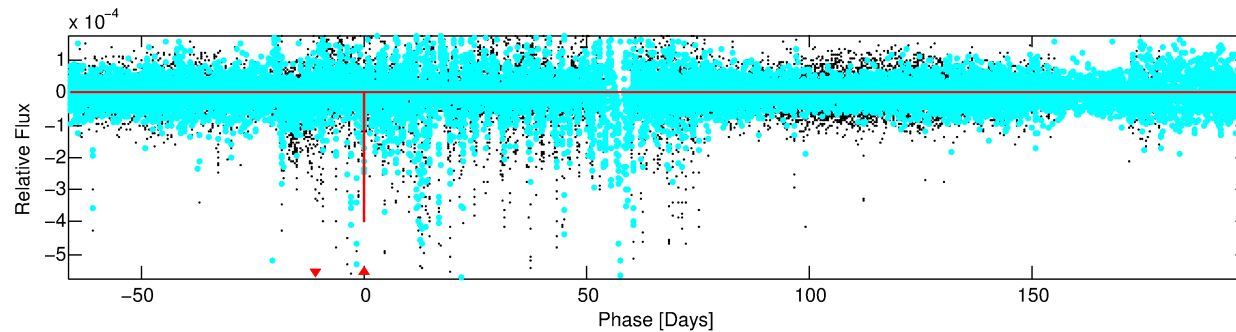
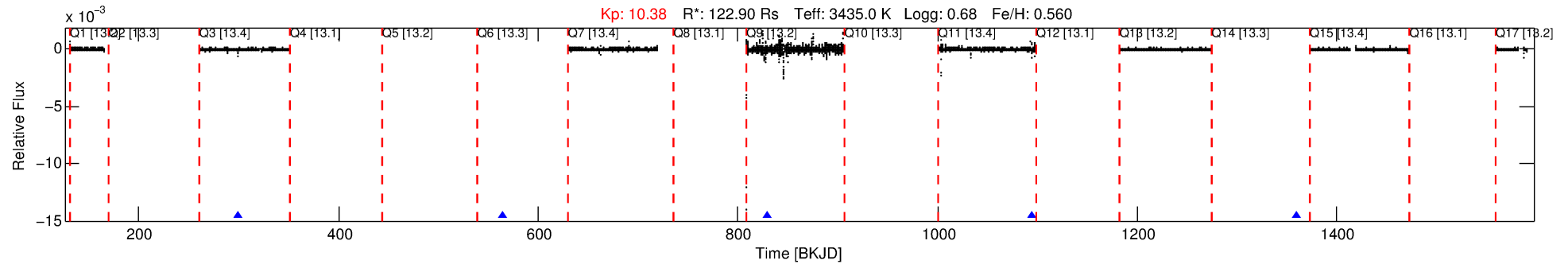
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007746939-01

No Significant Match Found

# DV One-Page Summary

KIC: 7746939 Candidate: 1 of 1 Period: 264.848 d



## DV Fit Results:

Period = 264.84793 [0.00514] d  
Epoch = 299.4453 [0.0117] BKJD  
Rp/R\* = 0.0169 [0.0283]  
a/R\* = 1080.81 [3271.86]  
b = 0.10 [33.18]  
Seff = 1521.63 [758.15]  
Teq = 1593 [198] K  
Rp = 226.30 [393.06] Re  
a = 1.1128 [0.3912] AU  
Ag = N/A  
Teffp = N/A

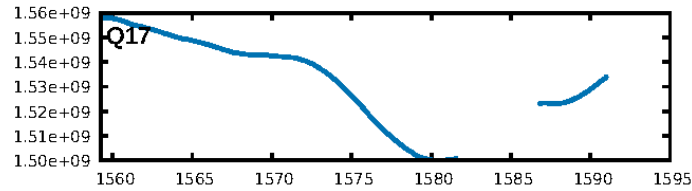
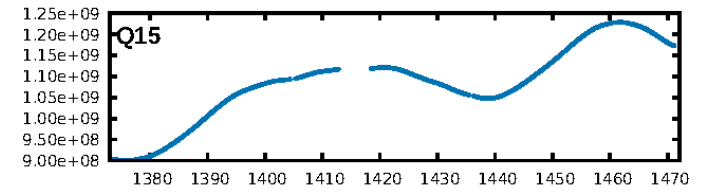
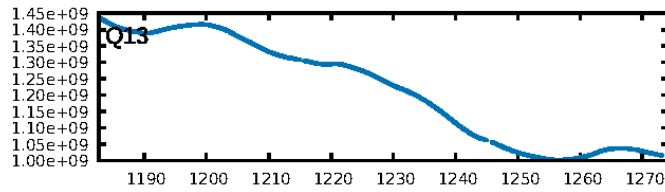
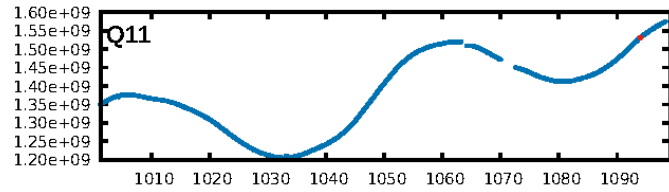
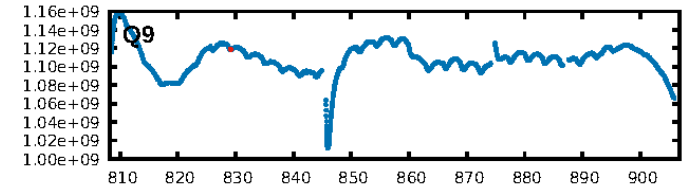
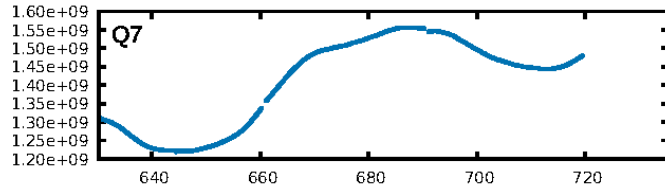
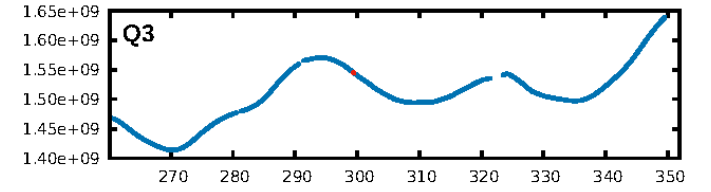
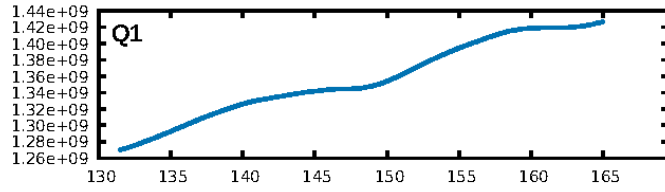
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 6.96e-09  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -4.511  
Centroid-sig: 40.0%  
Centroid-so: 3.019 arcsec [1.05 $\sigma$ ]  
OotOffset-rm: 1.759 arcsec [2.10 $\sigma$ ]  
KicOffset-rm: 1.531 arcsec [2.48 $\sigma$ ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-st: 0/1/0/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

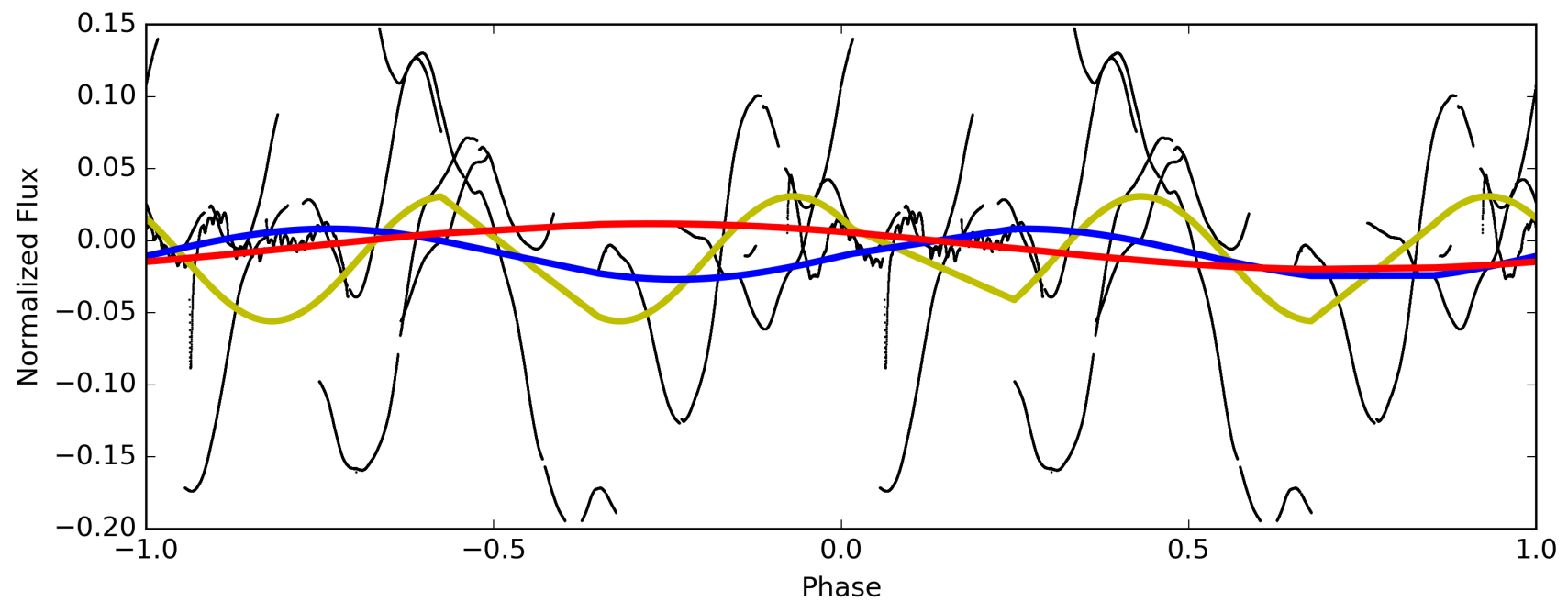
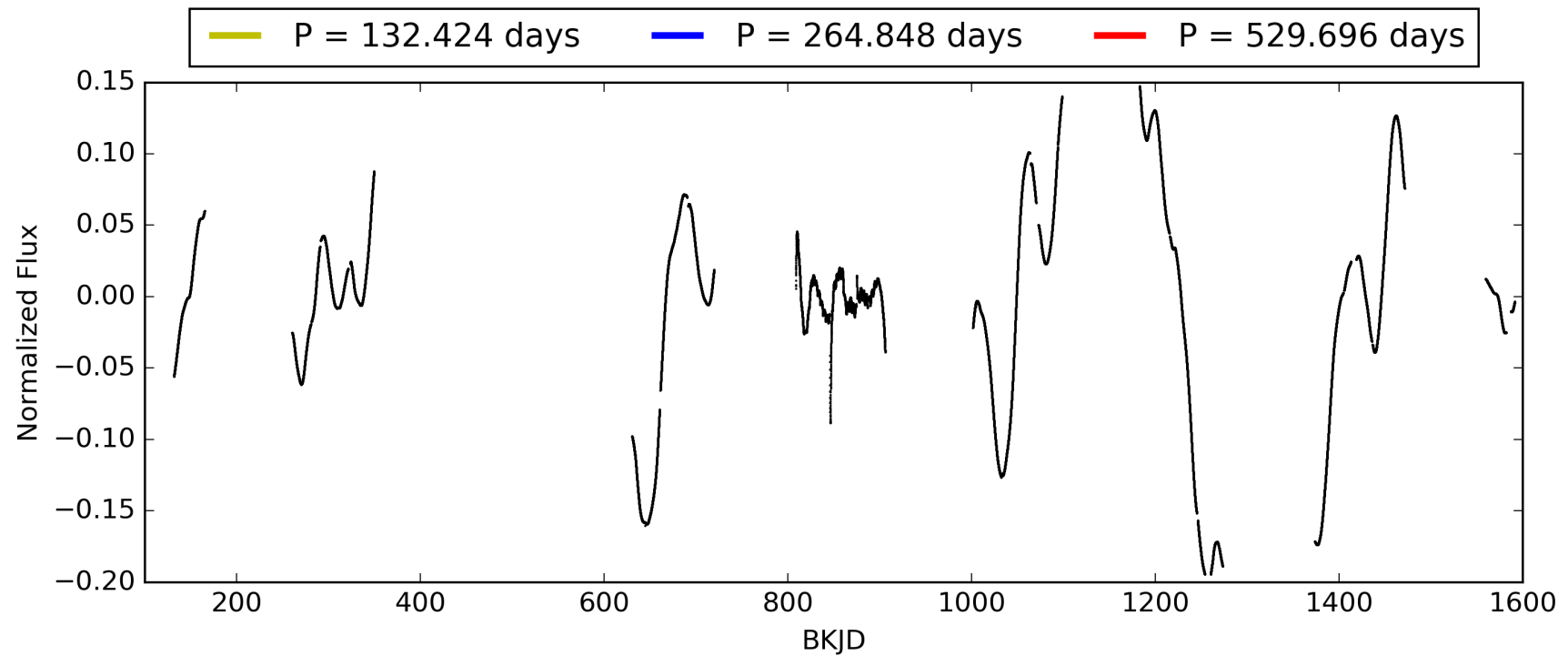
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:36:18 Z

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

# TCE 007746939-01, PDC Light Curves

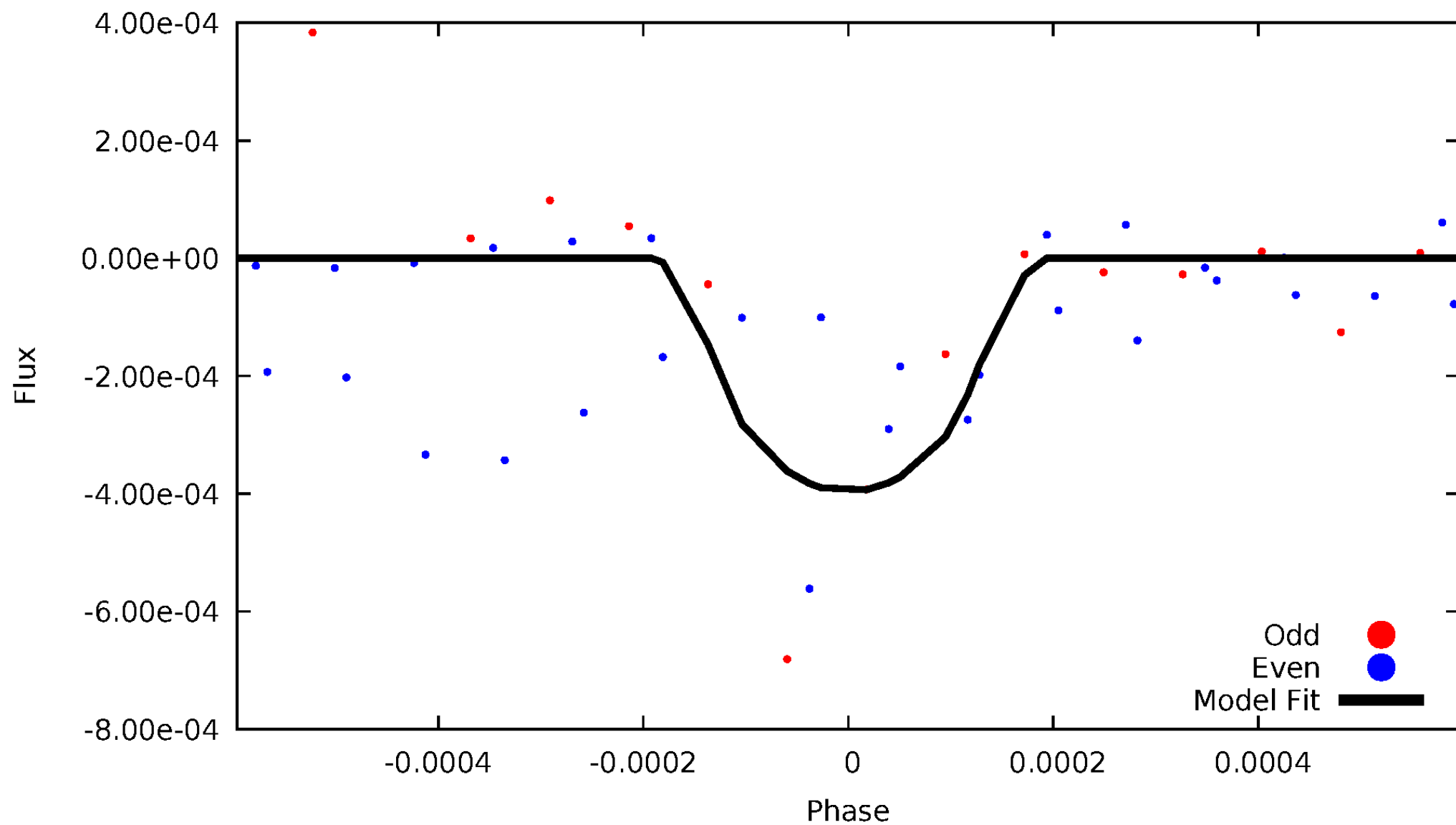


TCE 007746939-01



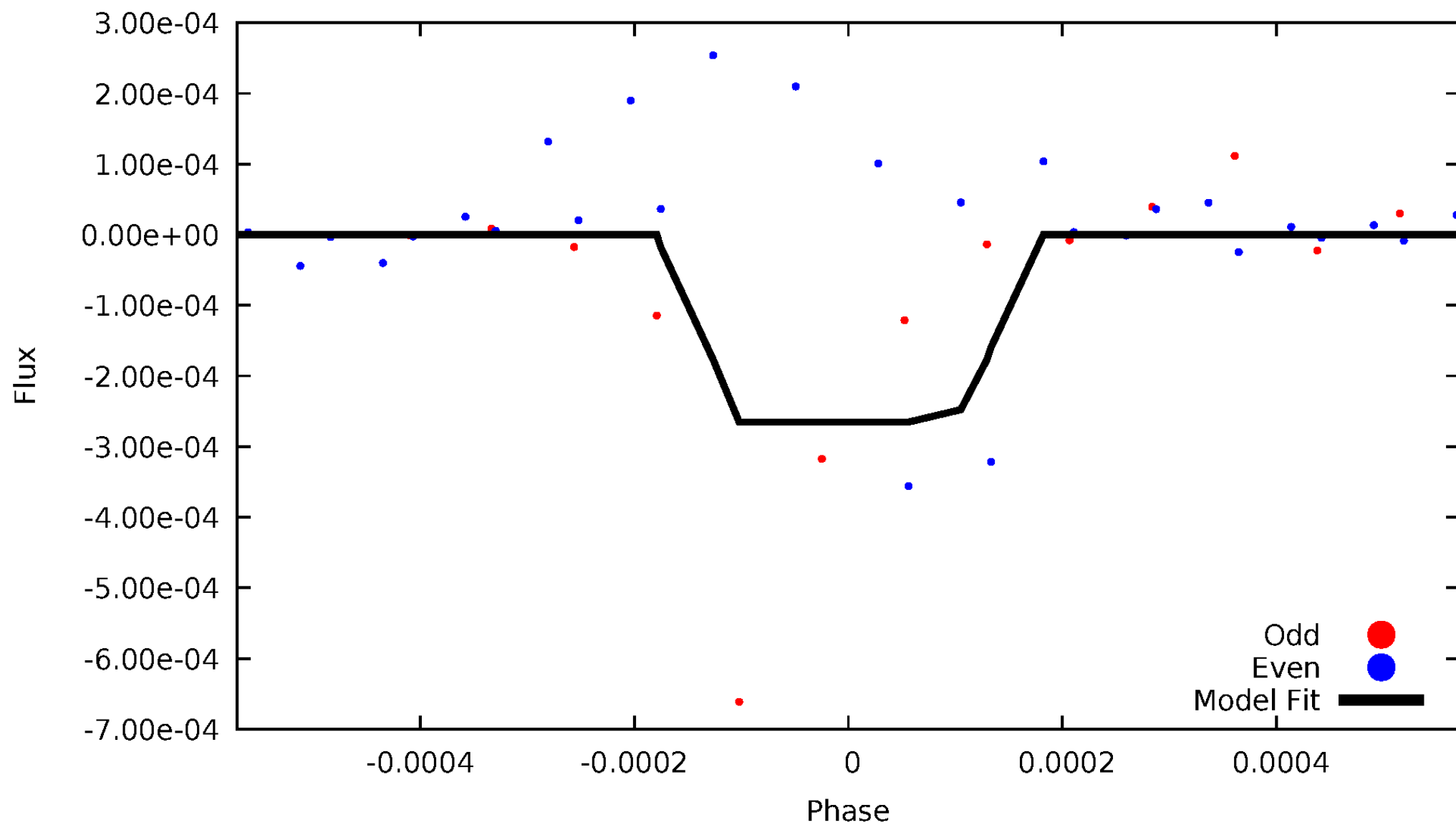
# DV Odd/Even

TCE 007746939-01



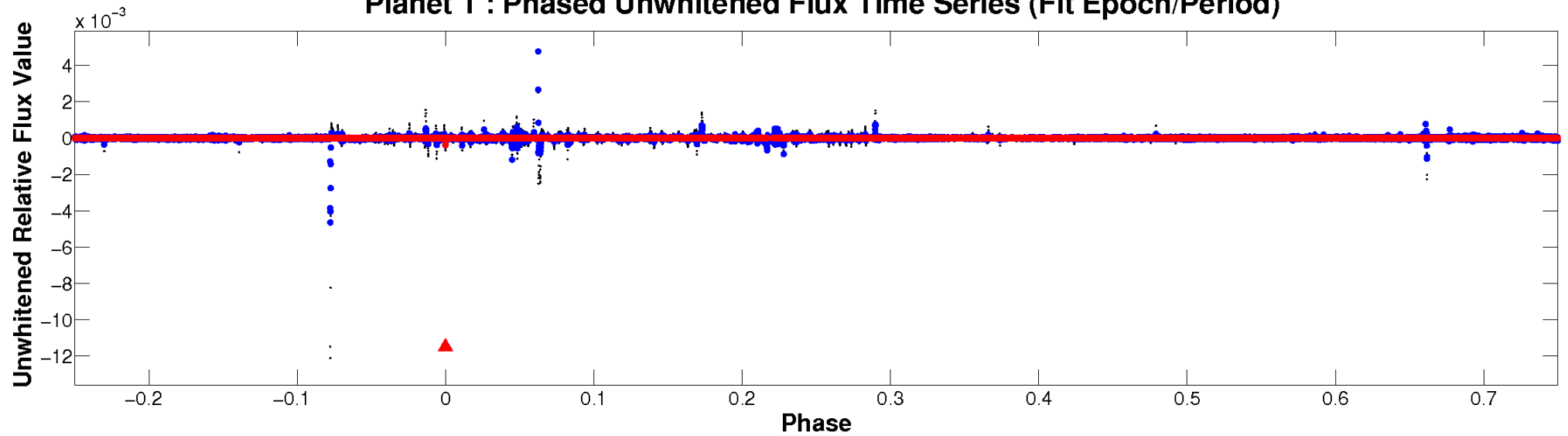
# ALT Odd/Even

TCE 007746939-01

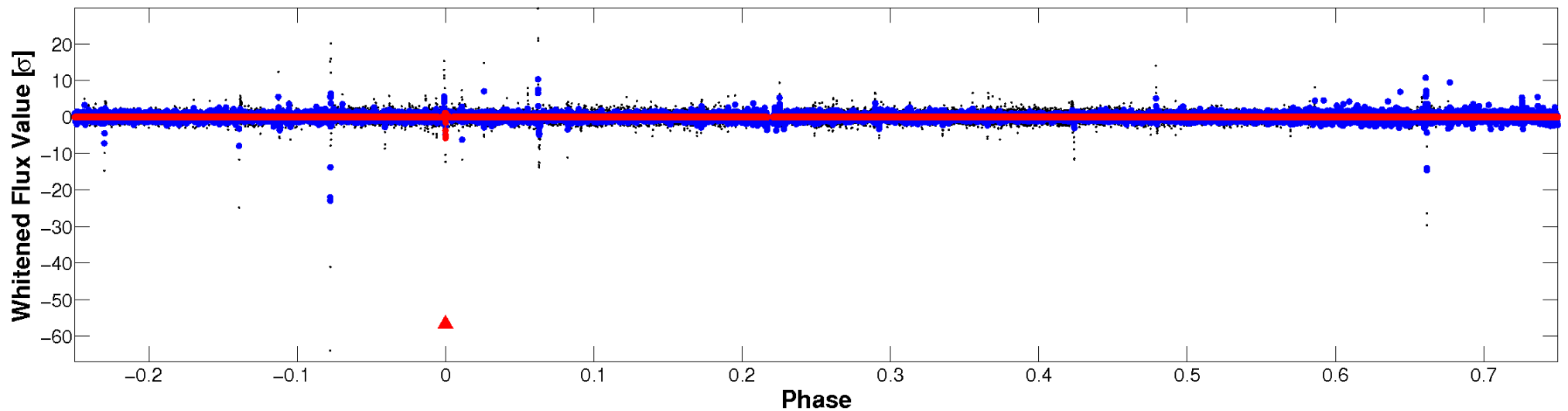


# Non-Whitened Vs. Whitened Light Curve

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

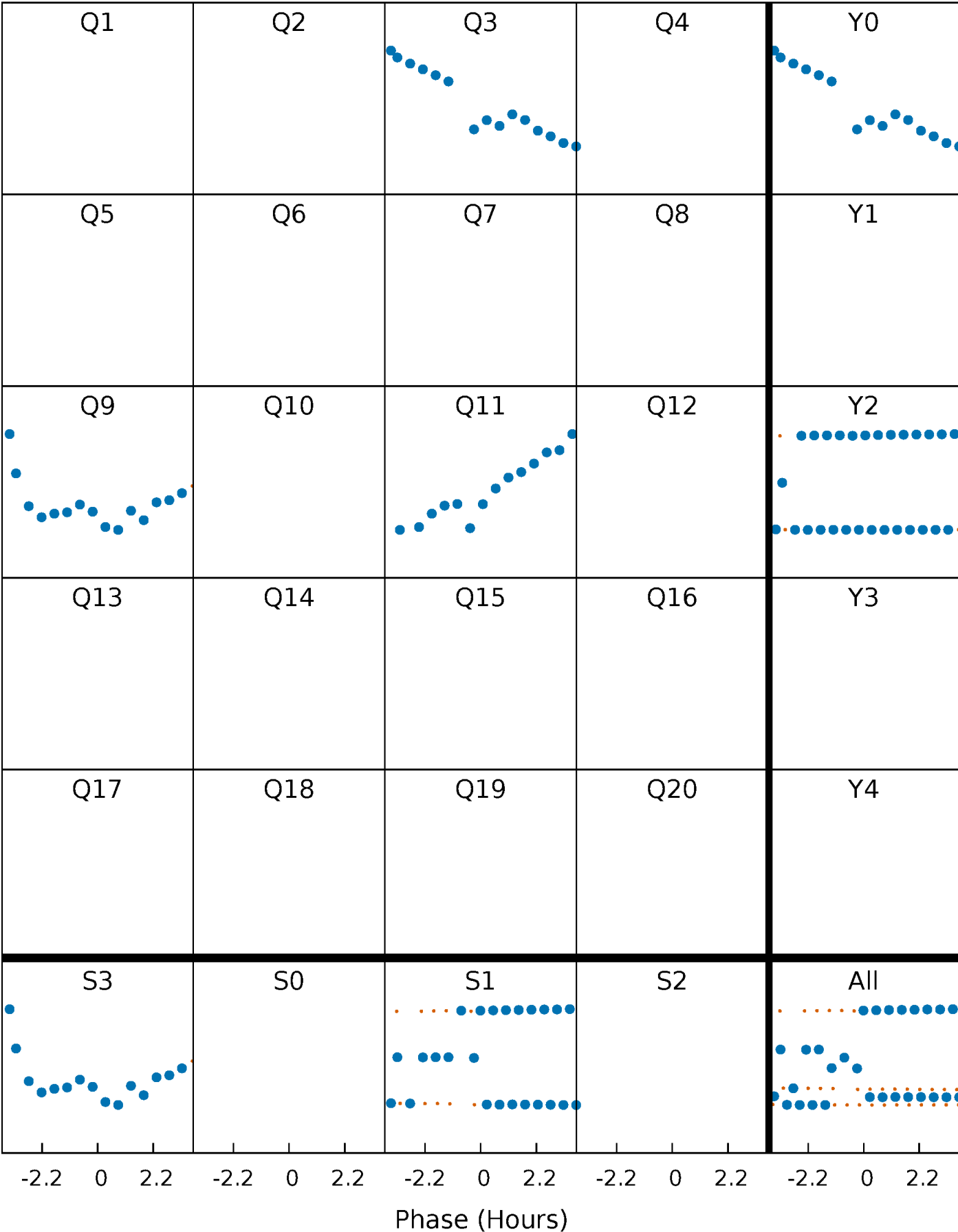


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



PDC Quarter-Phased Transit Curves

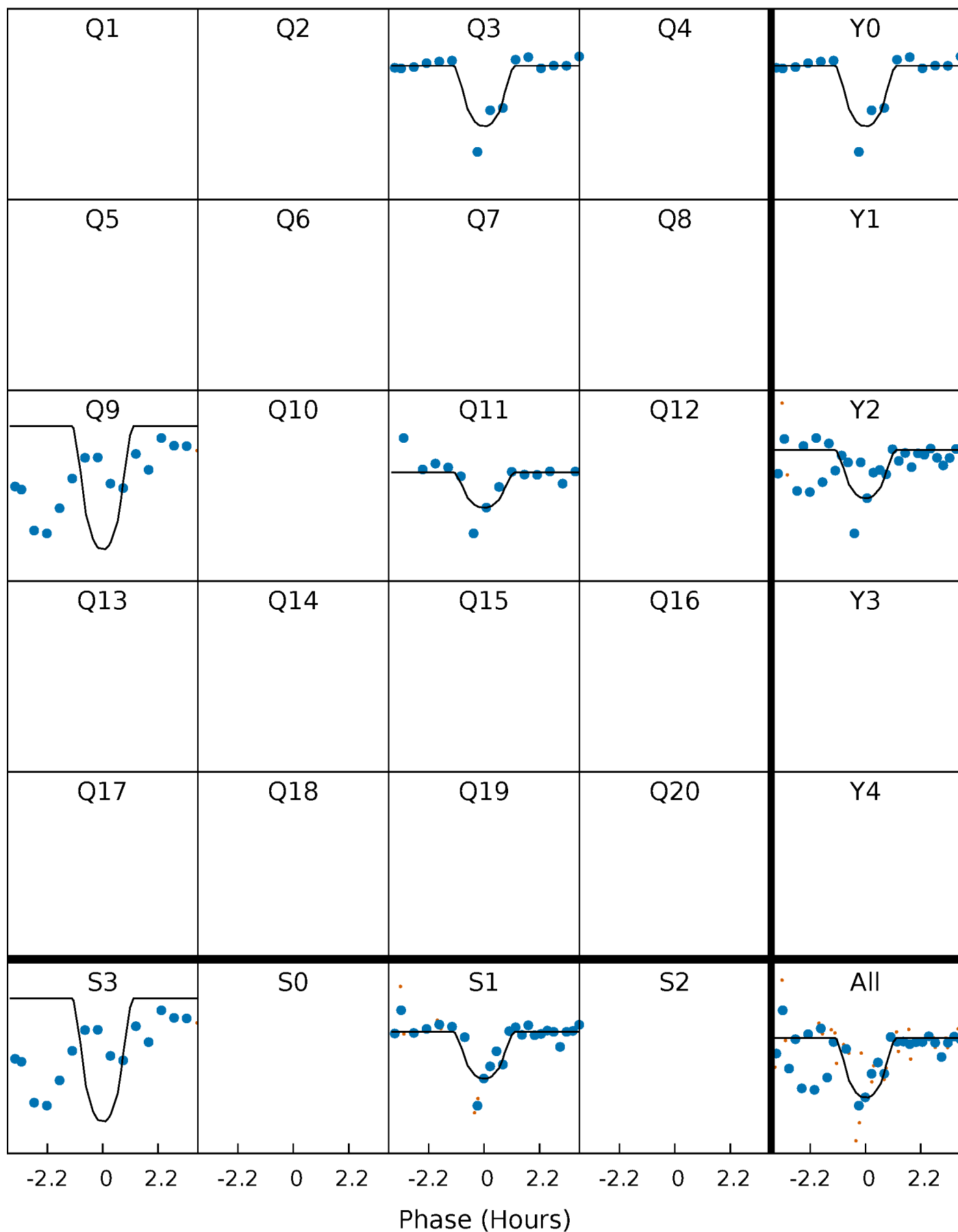
TCE 007746939-01    P=264.847933 Days    T<sub>0</sub>=299.445299 (BKJD)





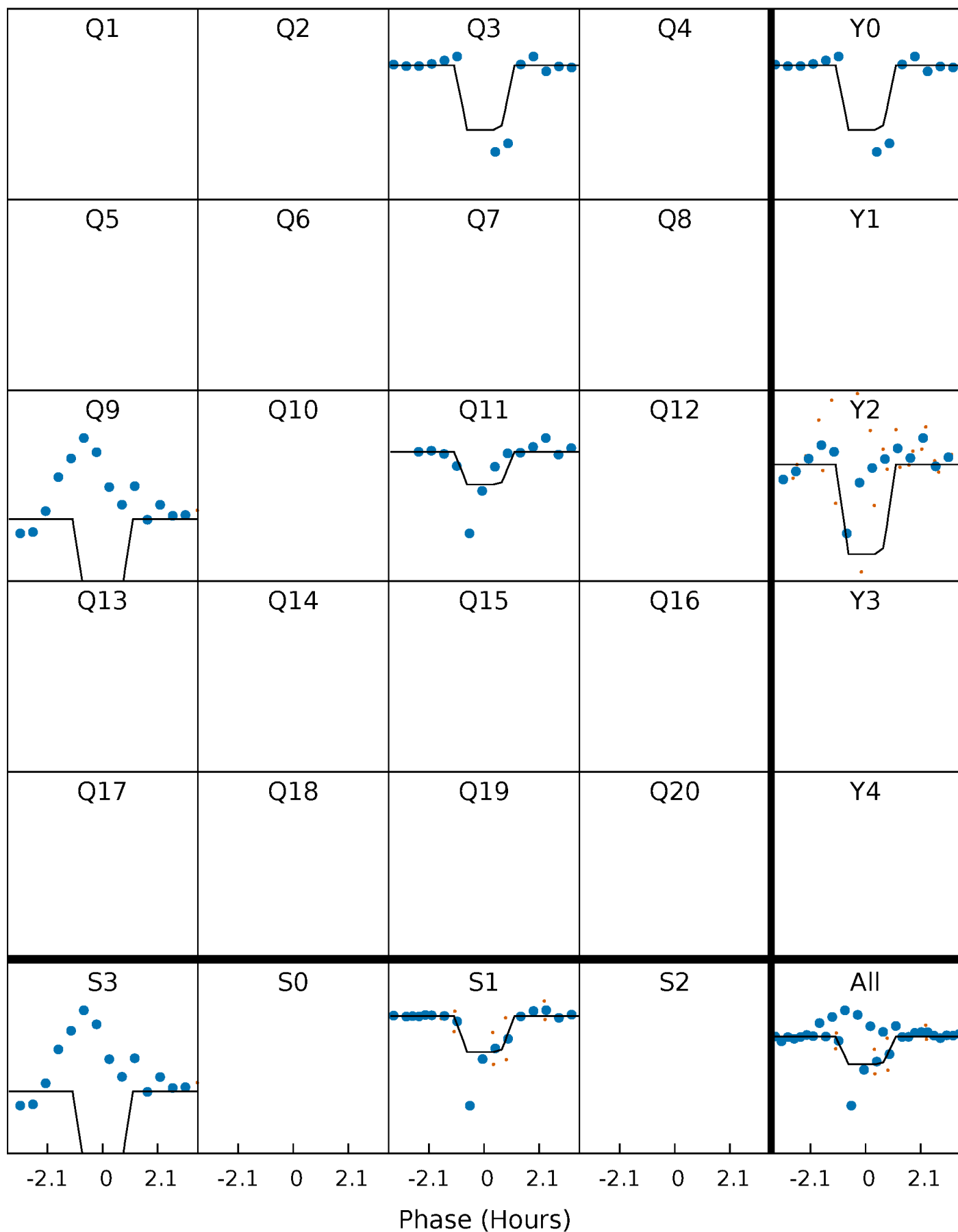
# DV Quarter-Phased Transit Curves

TCE 007746939-01 P=264.847933 Days  $T_0=299.445299$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

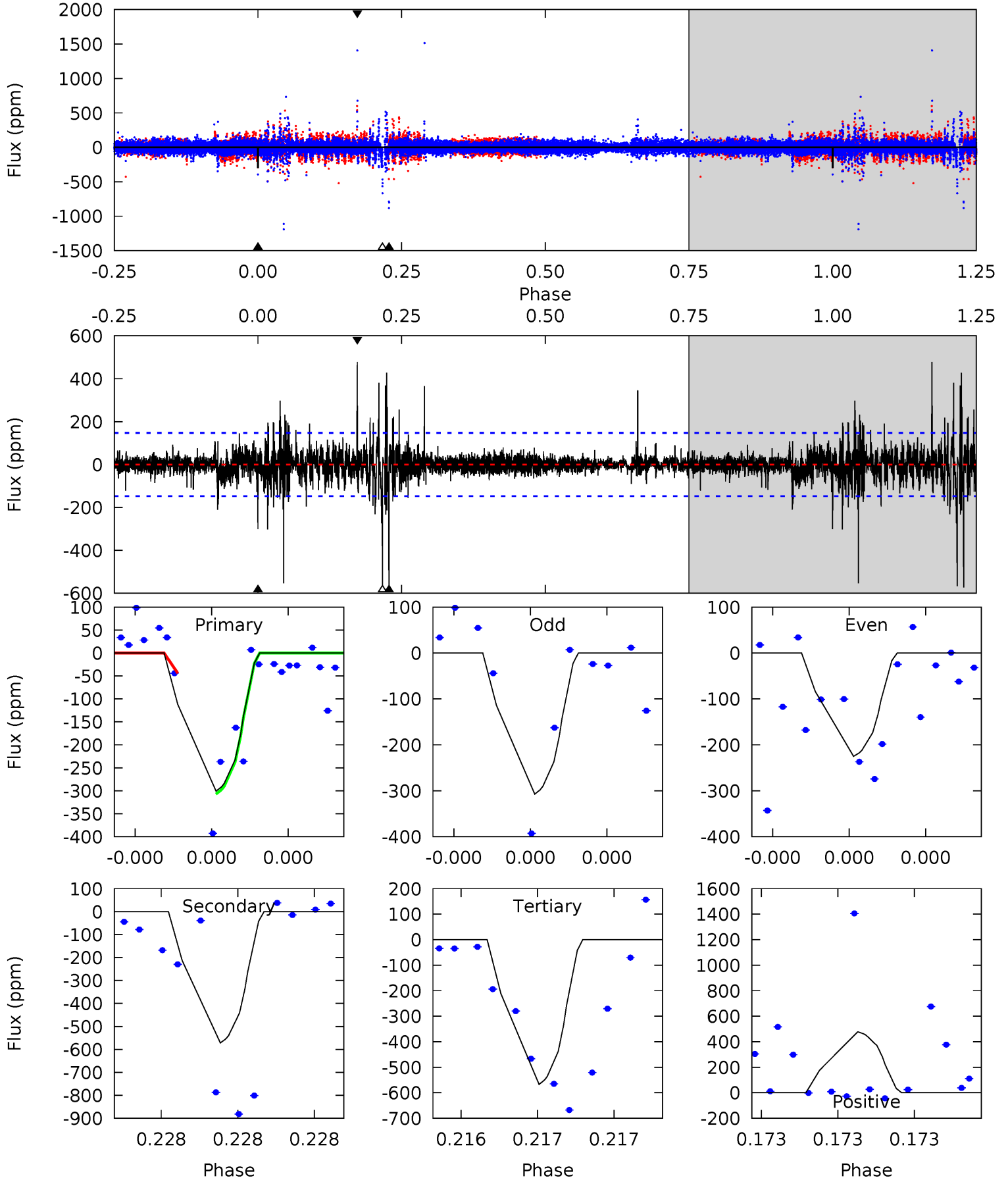
TCE 007746939-01 P=264.853163 Days  $T_0=299.440807$  (BKJD)



# DV Model-Shift Uniqueness Test

007746939-01, P = 264.847933 Days, E = 34.597366 Days

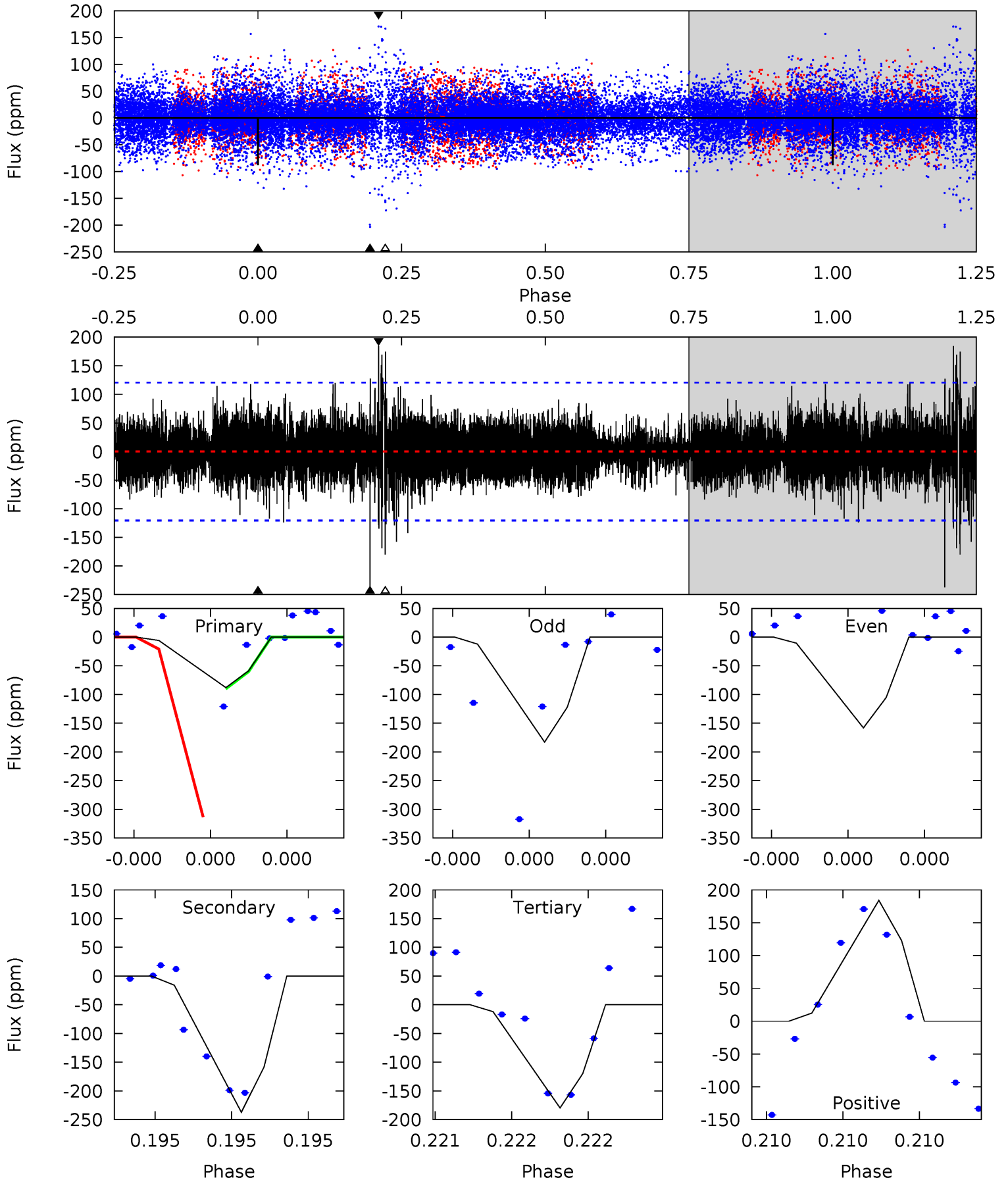
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	22.0	21.8	18.4	5.66	3.61	1.57	-10.2	-6.80	0.17	3.62	1.65	0.80	0.46	0



# Alt Model-Shift Uniqueness Test

007746939-01, P = 264.853163 Days, E = 34.587644 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
4.15	11.2	8.48	8.69	5.69	3.65	1.17	-4.32	-4.53	2.72	2.51	1.01	0.58	0.44	6.09



### Stellar Parameters For KIC 007746939

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3435^{+125}_{-93}$	$0.677^{+0.242}_{-0.198}$	$0.560^{+0.050}_{-0.250}$	$122.901^{+22.007}_{-55.017}$	$2.615^{+0.641}_{-1.496}$	$0.000^{+0.000}_{-0.000}$
	+4%/-3%	+36%/-29%	+9%/-45%	+18%/-45%	+25%/-57%	+202%/-45%
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 007746939-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-572 \pm 26$	$365.05^{+342.25}_{-247.63}$	$2250^{+169}_{-193}$	$3213^{+1684}_{-613}$	$2.800^{+24.632}_{-2.028}$
Alt.	$-237 \pm 21$	$364.65^{+331.72}_{-248.59}$	$2243^{+156}_{-180}$	$2806^{+1286}_{-897}$	$1.228^{+11.070}_{-0.894}$

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

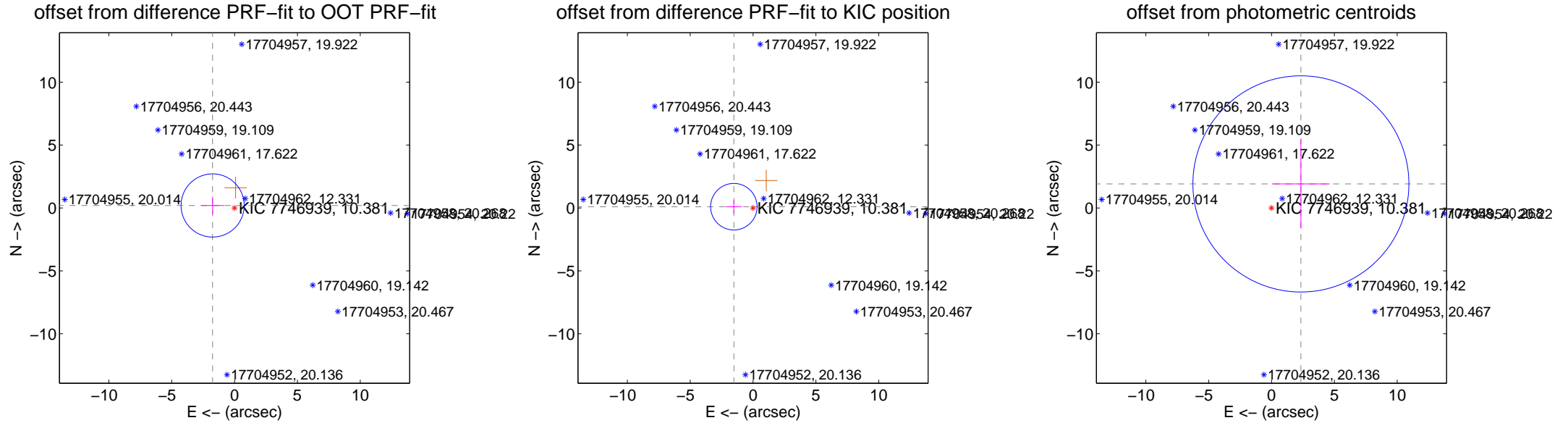
## DV Centroid Data

Supplemental centroid analysis for 007746939-01. **Kepler magnitude: 10.38.** Transit SNR 15.14

**There are 1 quarters with good PRF difference image offsets**

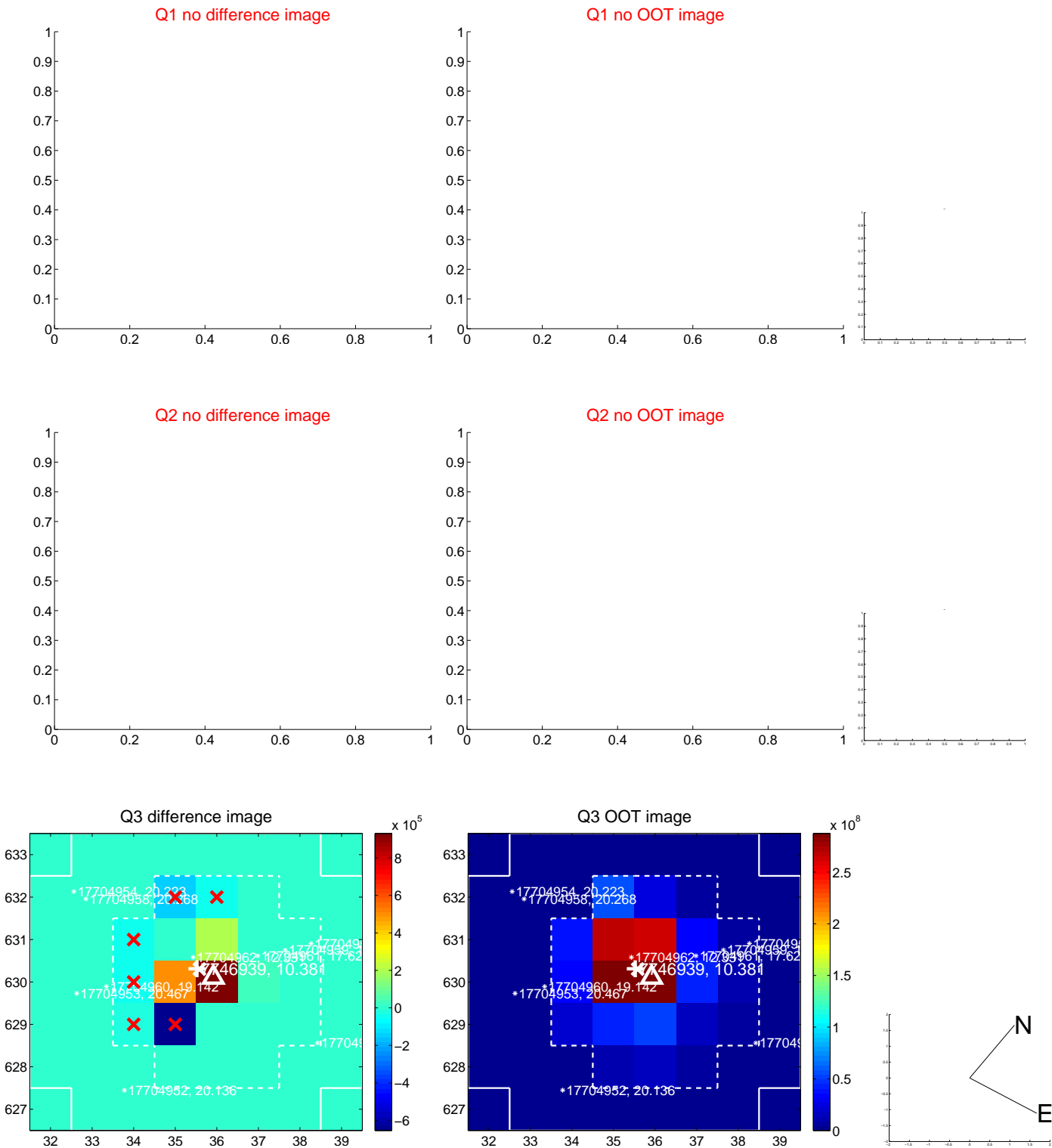
The direct PRF centroid is offset from the target star catalog position by about 1.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.759 \pm 0.837$	2.10	$1.748 \pm 0.922$	$0.198 \pm 0.711$
PRF-fit source offset from KIC position	$1.531 \pm 0.617$	2.48	$1.528 \pm 0.651$	$0.099 \pm 0.527$
photometric centroid source offset	$3.02 \pm 2.86$	1.05	$-2.34 \pm 2.30$	$1.91 \pm 3.55$



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 are from the UKIRT catalog.

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

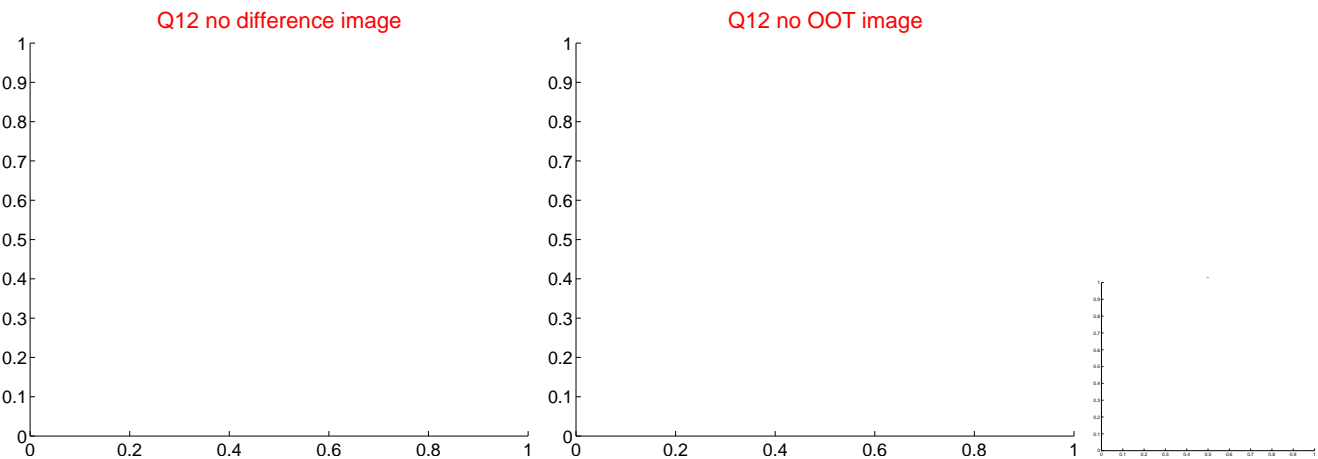
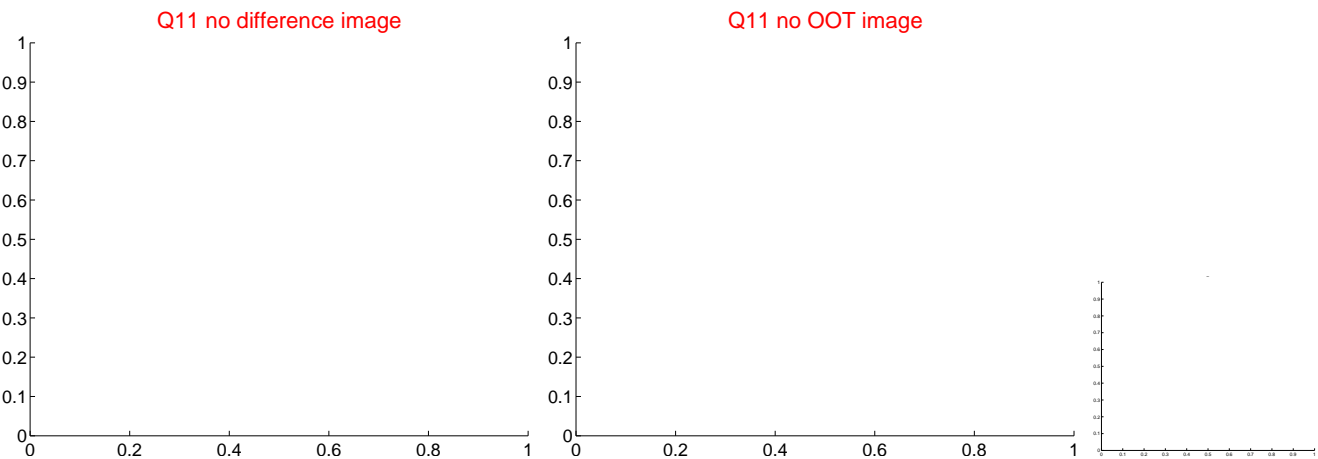
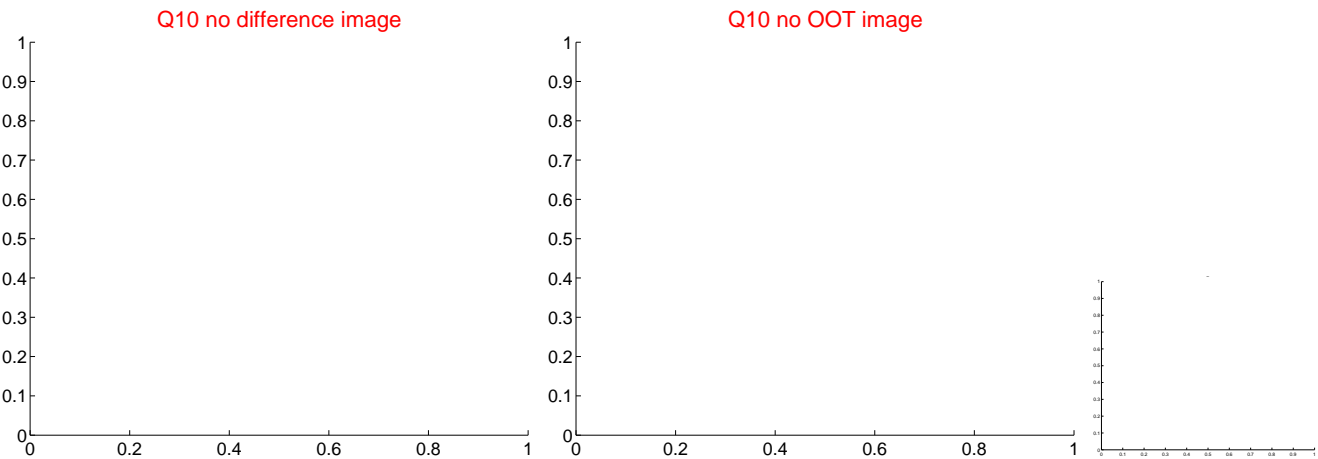
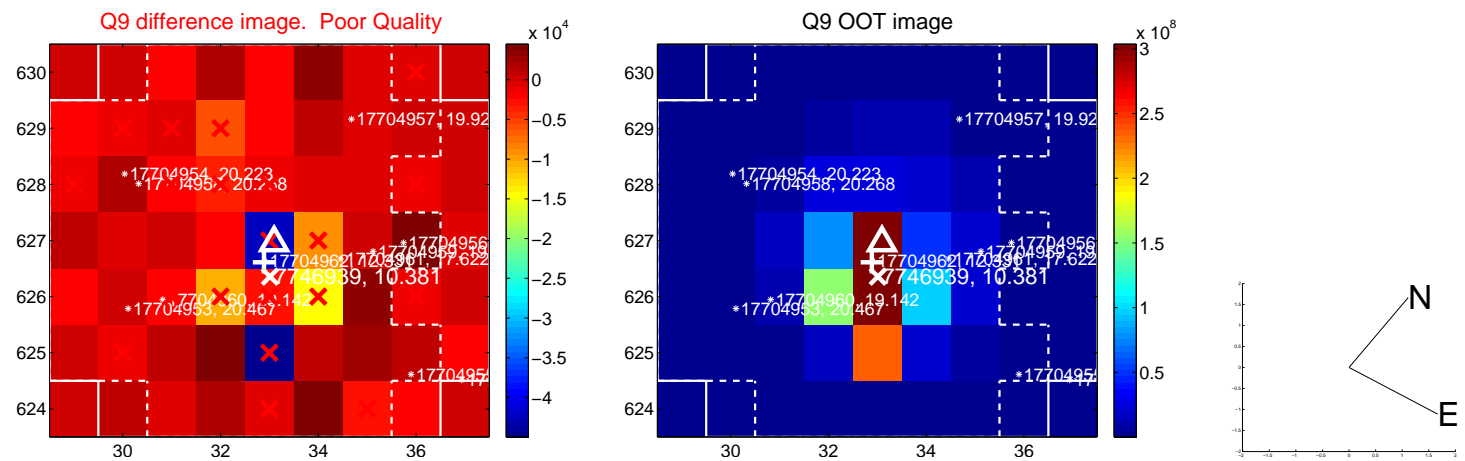


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





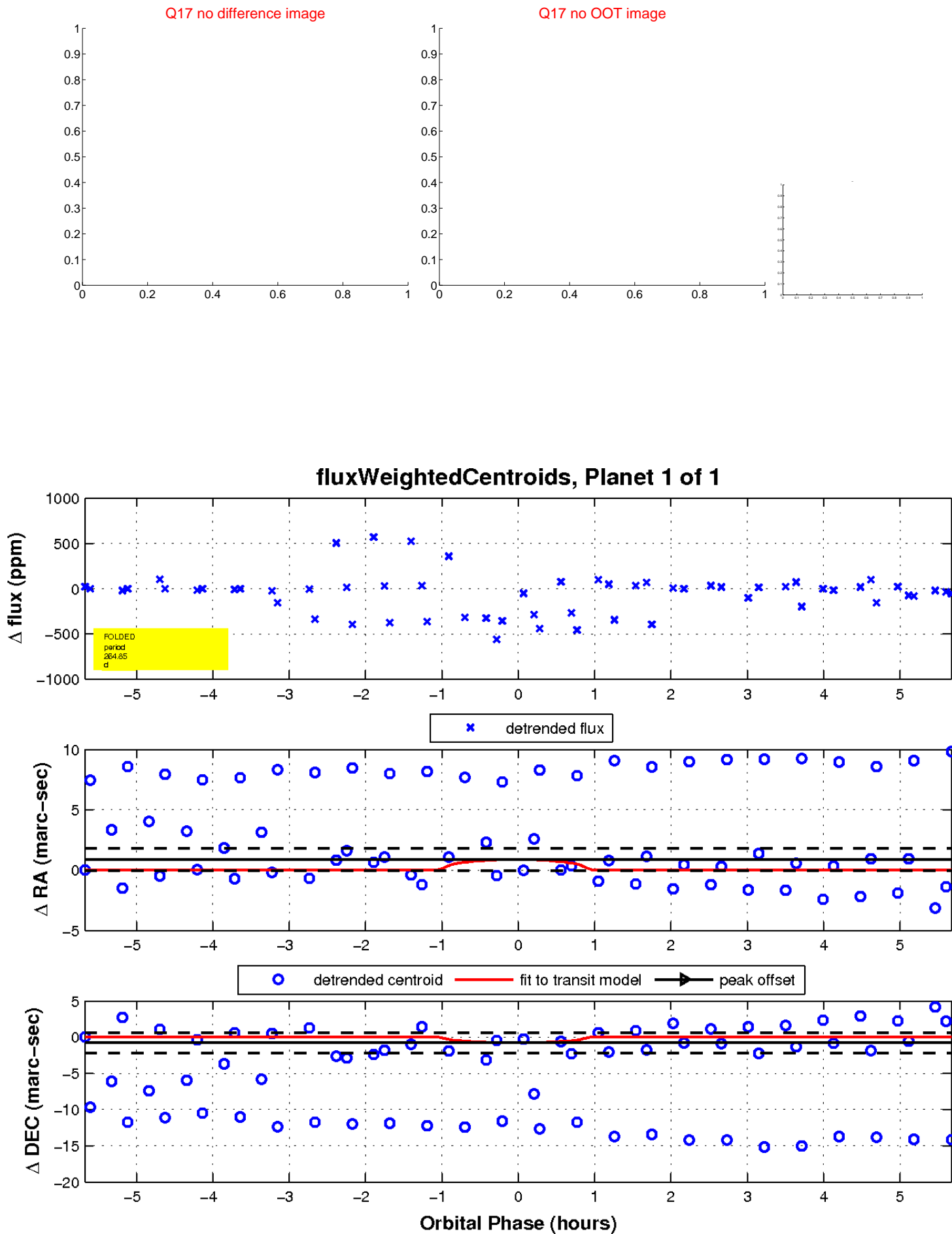
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

