

# KIC 011071278

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011071278-01	OBS	No	55.884235	160.010532	1114.5	38.737	34.0	43.7	2.19	6215	13.84	67.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011071278-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

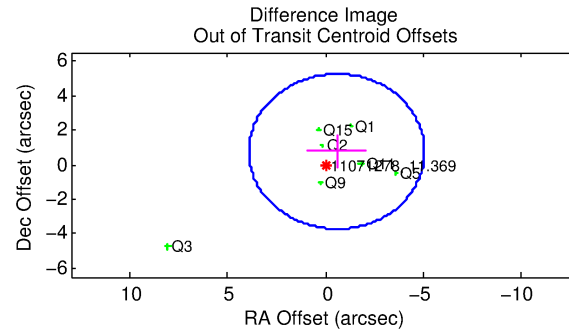
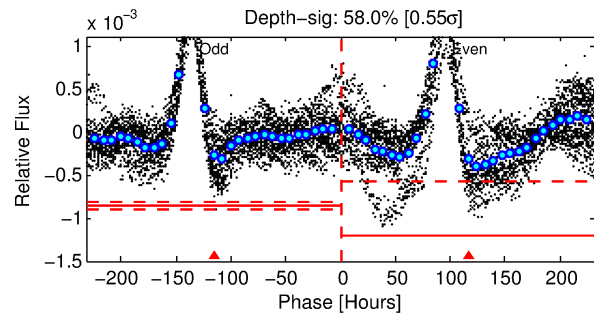
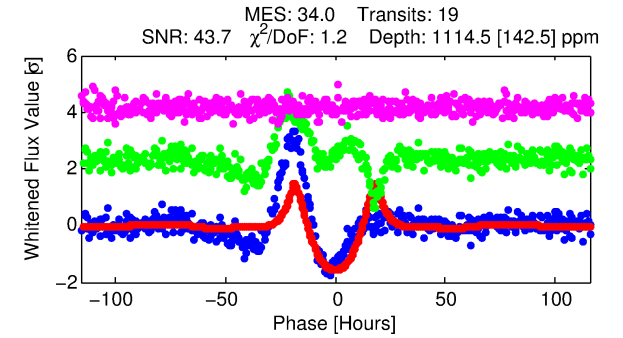
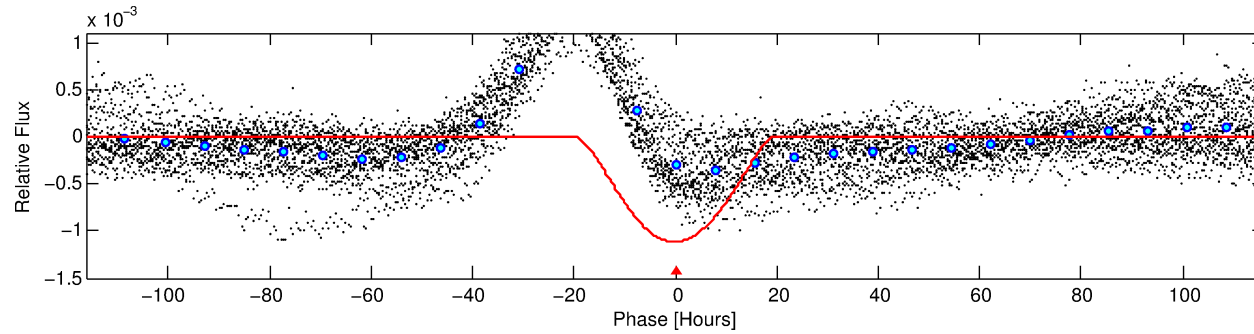
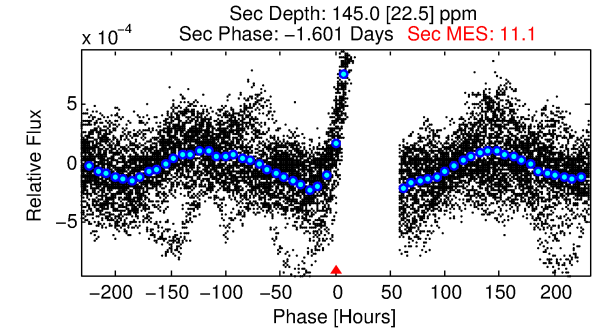
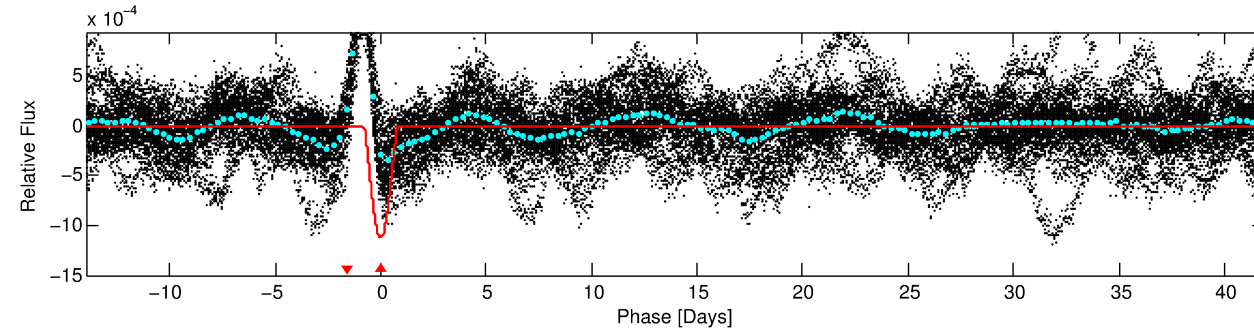
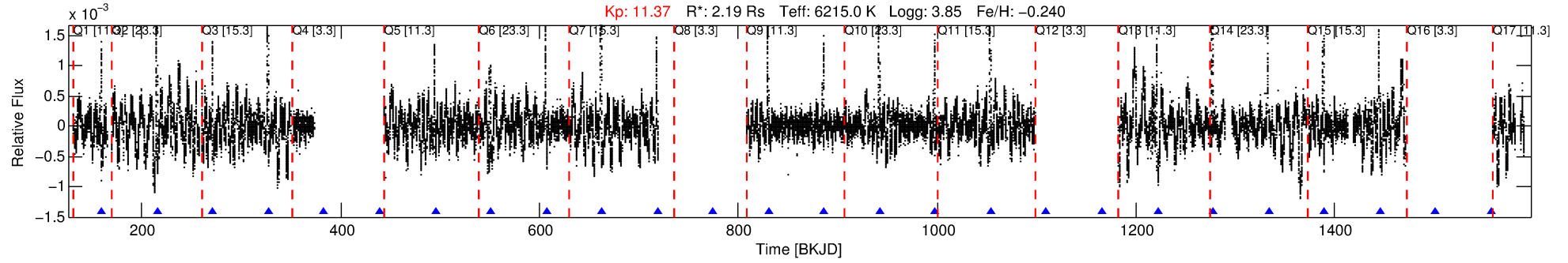
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011071278-01

No Significant Match Found

# DV One-Page Summary

KIC: 11071278 Candidate: 1 of 1 Period: 55.884 d



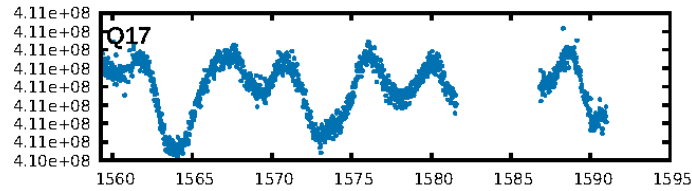
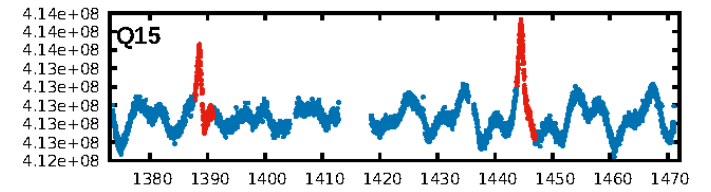
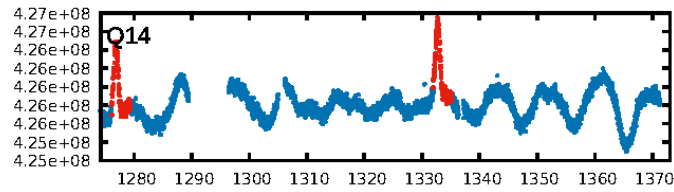
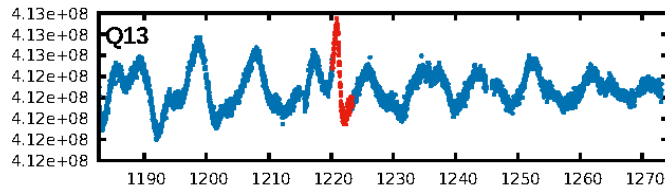
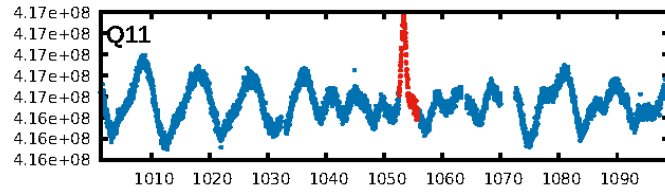
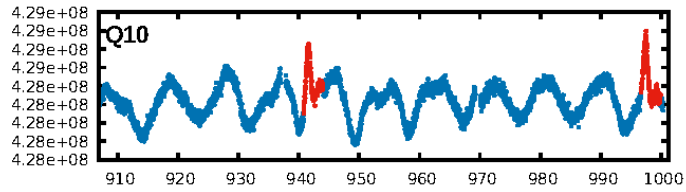
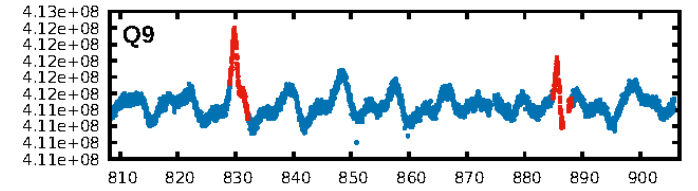
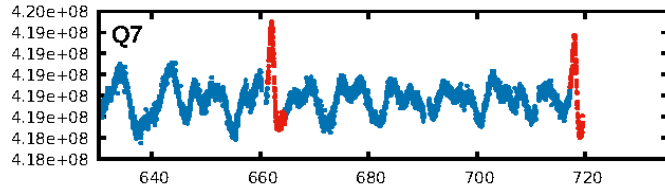
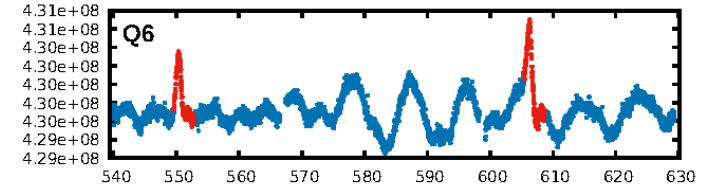
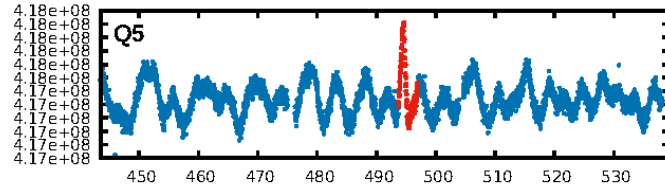
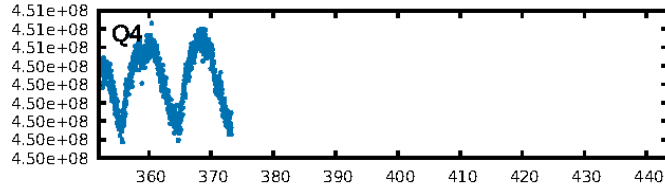
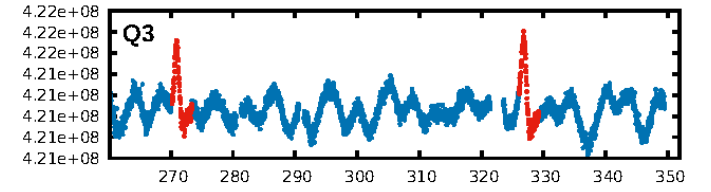
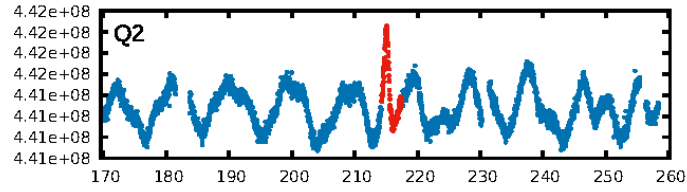
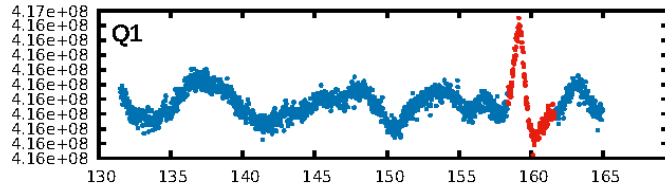
## DV Fit Results:

Period = 55.88424 [0.00086] d  
Epoch = 160.0105 [0.0121] BKJD  
Rp/R\* = 0.0580 [0.0138]  
a/R\* = 3.94 [0.20]  
b = 1.00 [0.01]  
Seff = 67.97 [56.26]  
Teq = 732 [152] K  
Rp = 13.84 [7.31] Re  
a = 0.3068 [0.1500] AU  
Ag = 39.20 [37.43] [1.02σ]  
Teffp = 2832 [373] K [5.2σ]

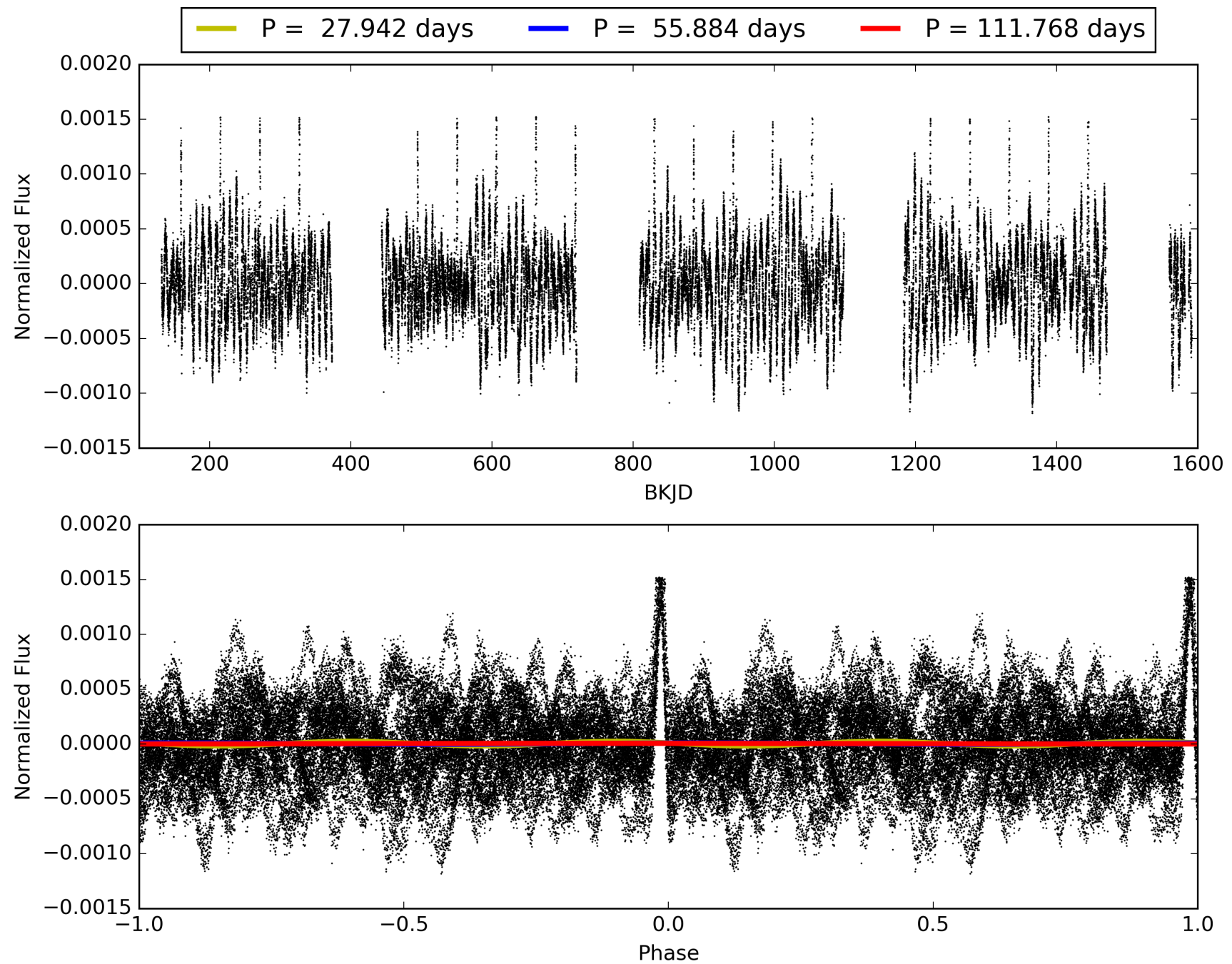
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 4.8%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 3.35e-194  
RollingBand-fgt: 1.00 [18/18]  
GhostDiagnostic-chr: 1.463  
Centroid-sig: 32.7%  
Centroid-so: 0.156 arcsec [2.14σ]  
OotOffset-rm: 0.953 arcsec [0.64σ]  
KicOffset-rm: 0.905 arcsec [0.69σ]  
OotOffset-st: 1/3/0/3 [7]  
KicOffset-st: 1/3/0/3 [7]  
DiffImageQuality-fgm: 0.29 [2/7]  
DiffImageOverlap-fno: 1.00 [10/10]

# TCE 011071278-01, PDC Light Curves

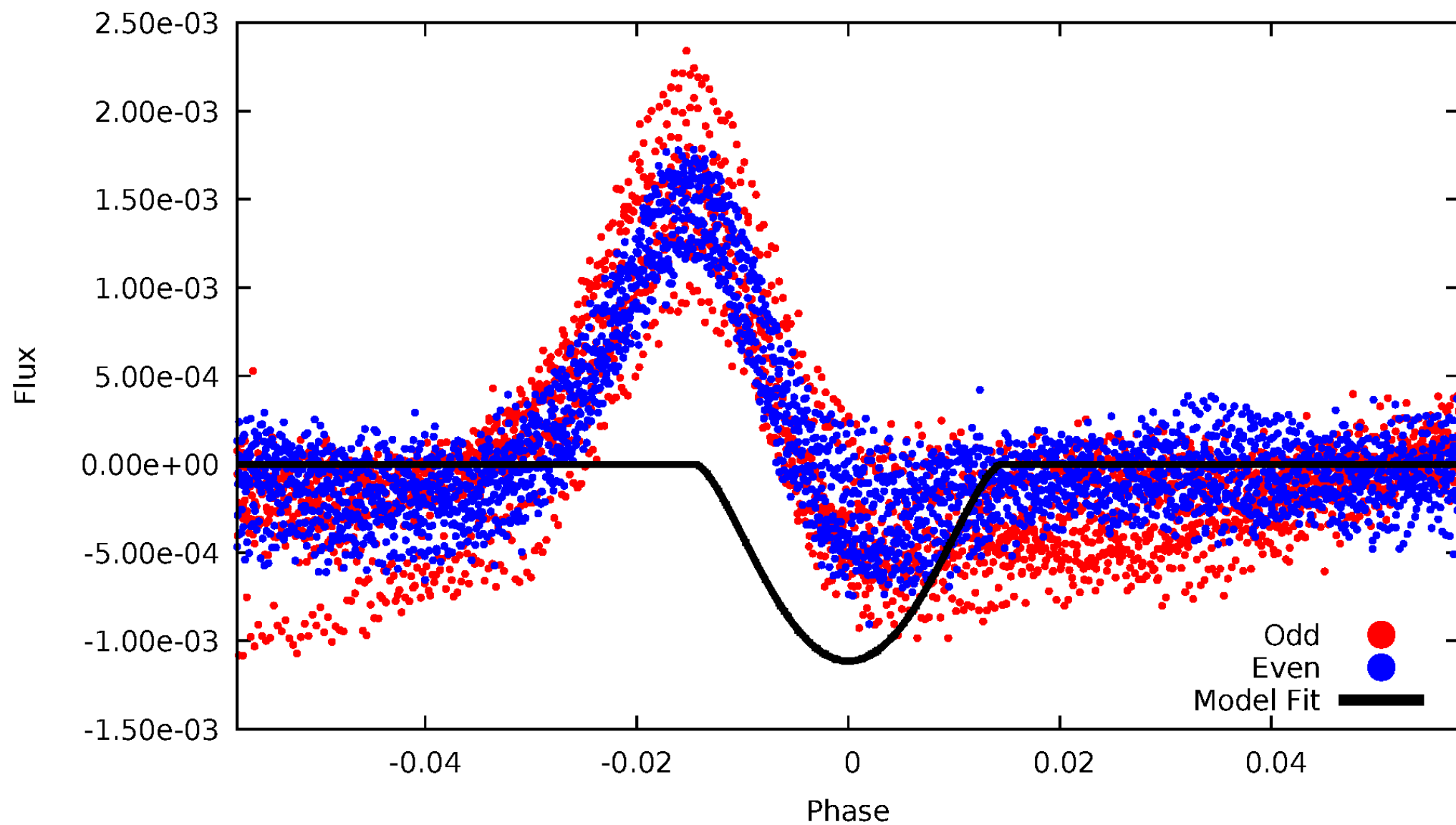


# TCE 011071278-01



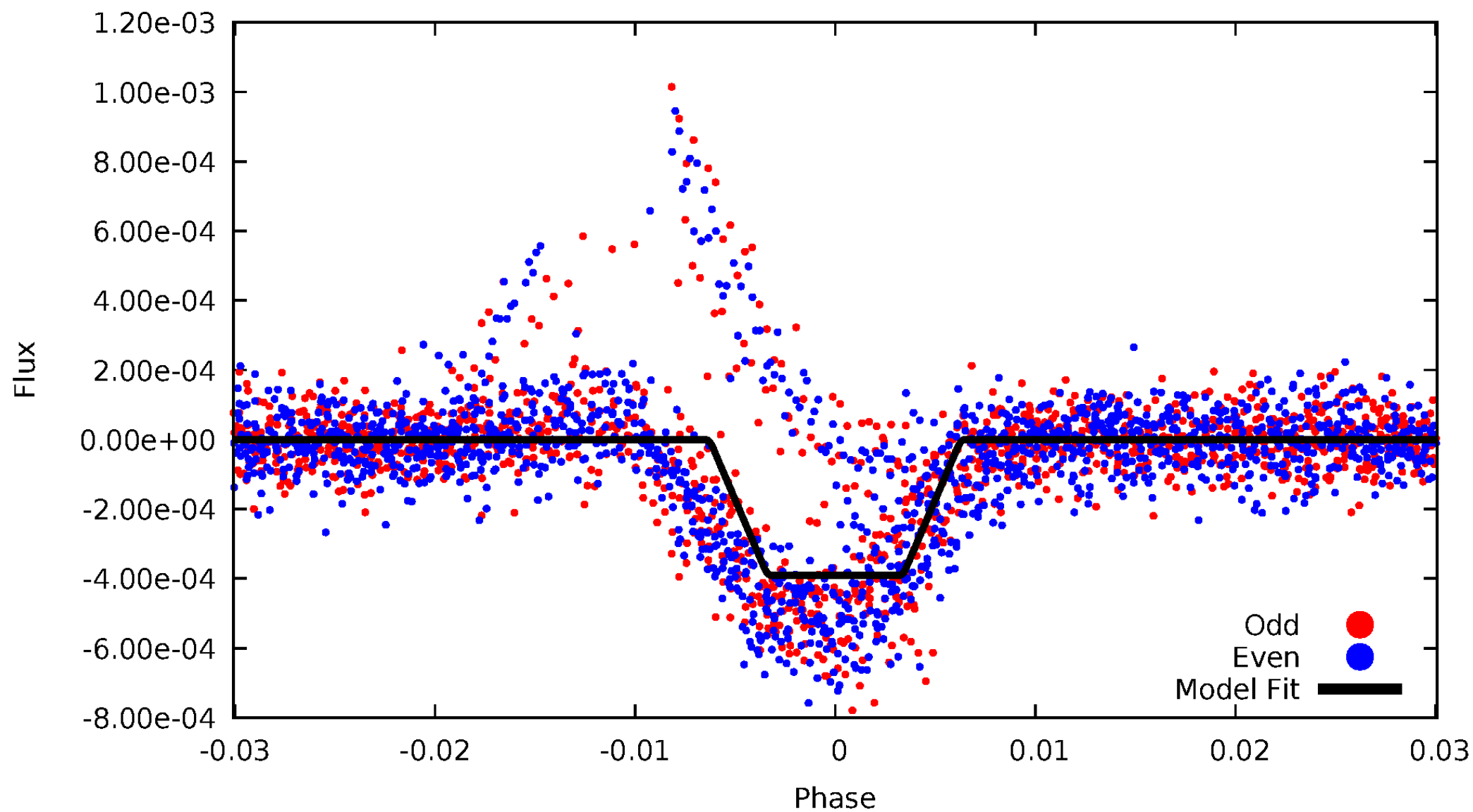
# DV Odd/Even

TCE 011071278-01



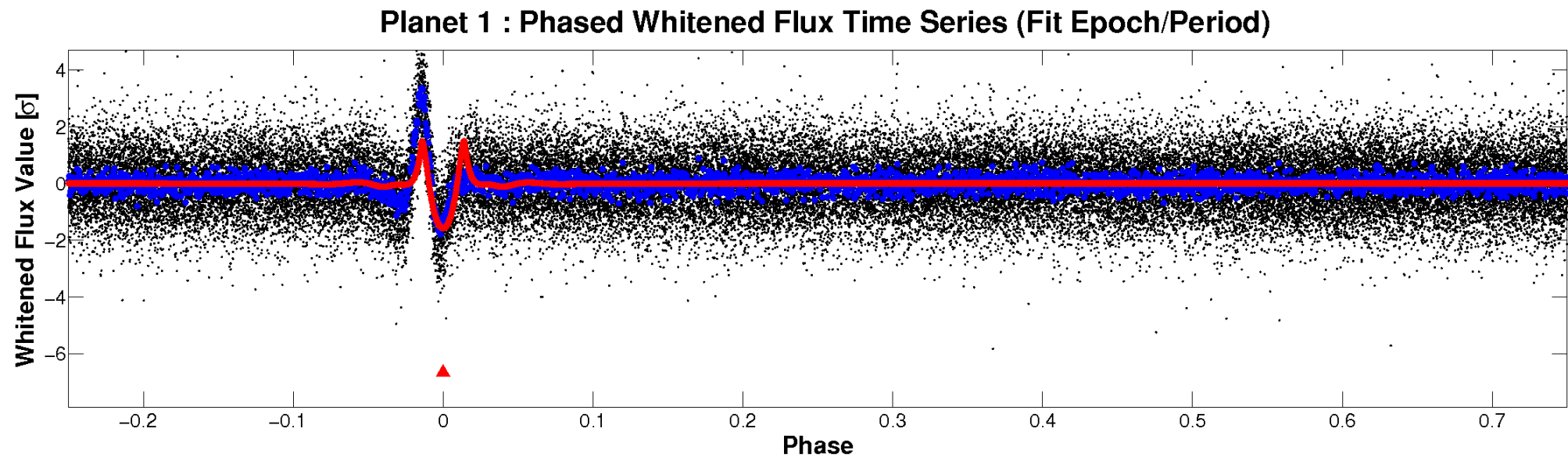
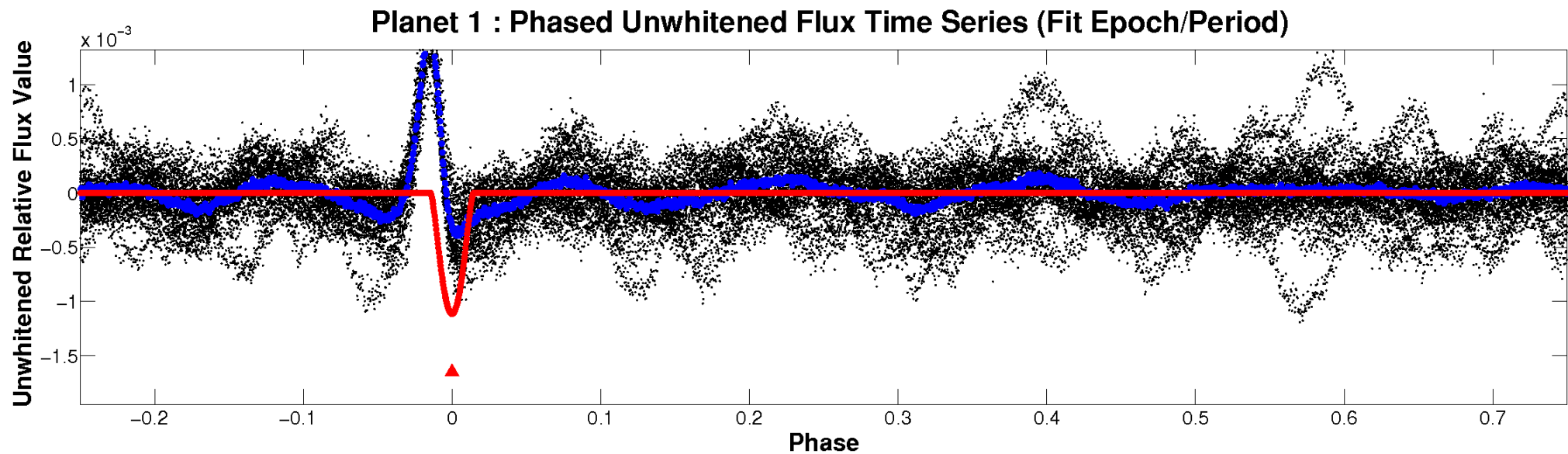
# ALT Odd/Even

TCE 011071278-01



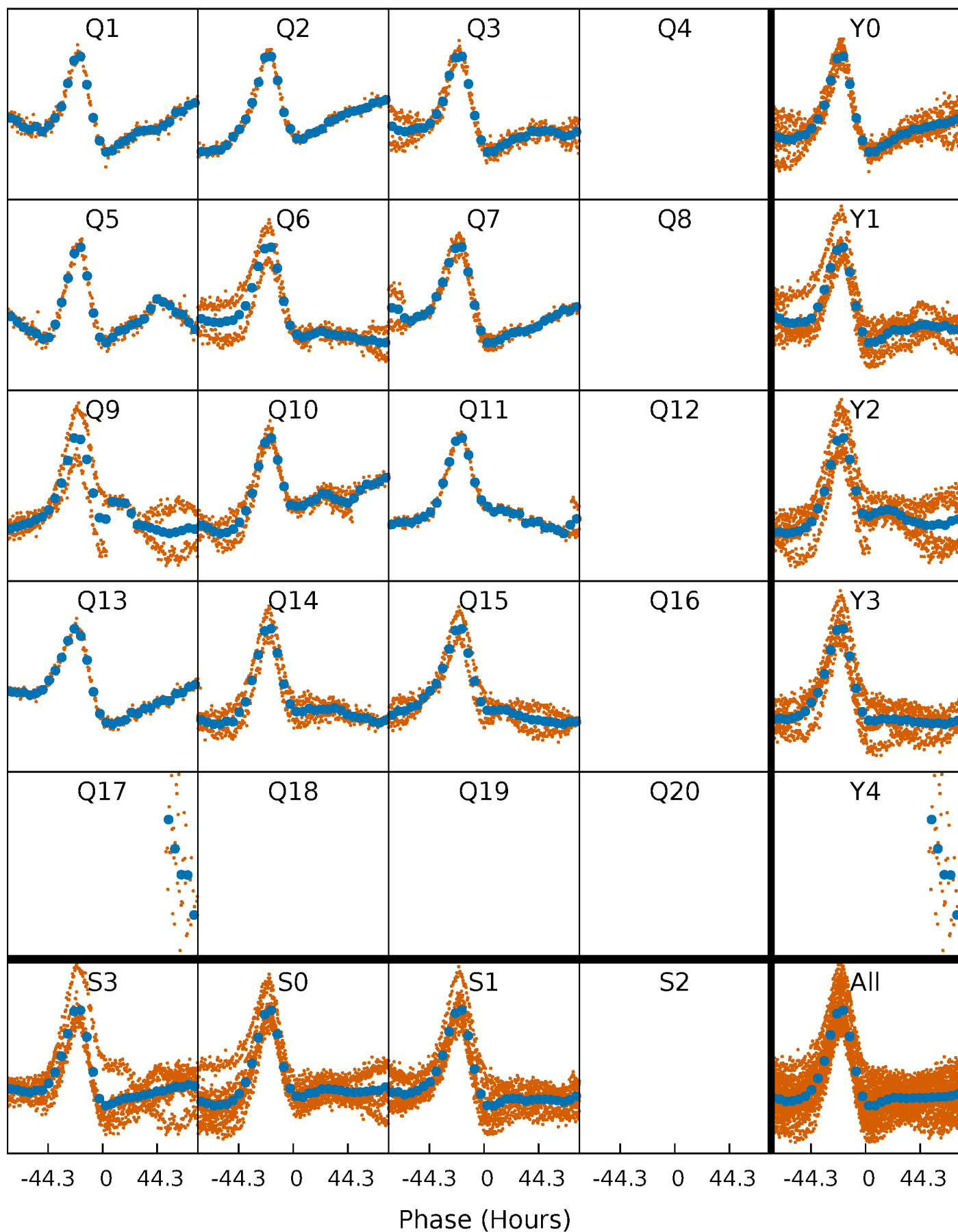


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

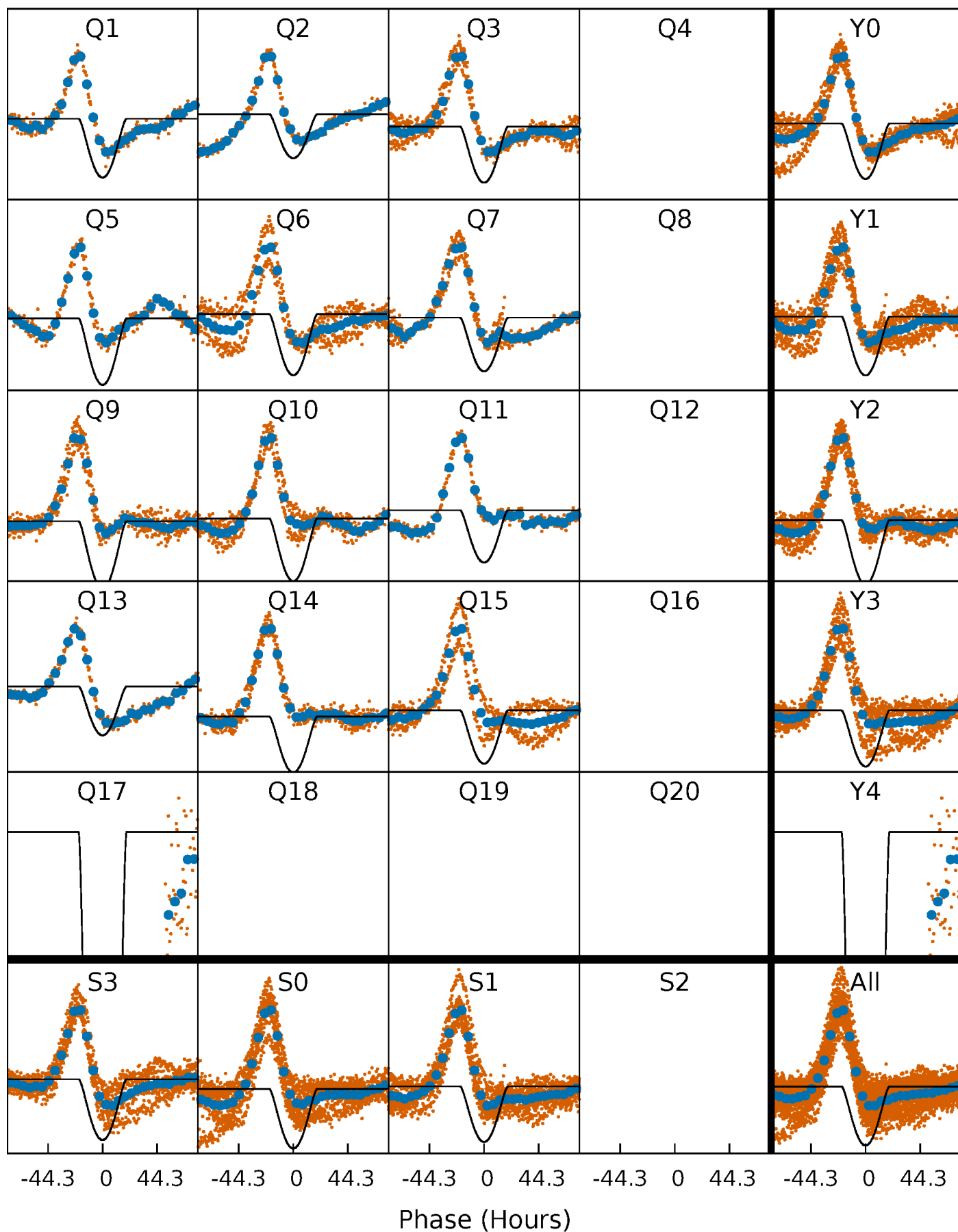
TCE 011071278-01 P= 55.884235 Days  $T_0=160.010532$  (BKJD)





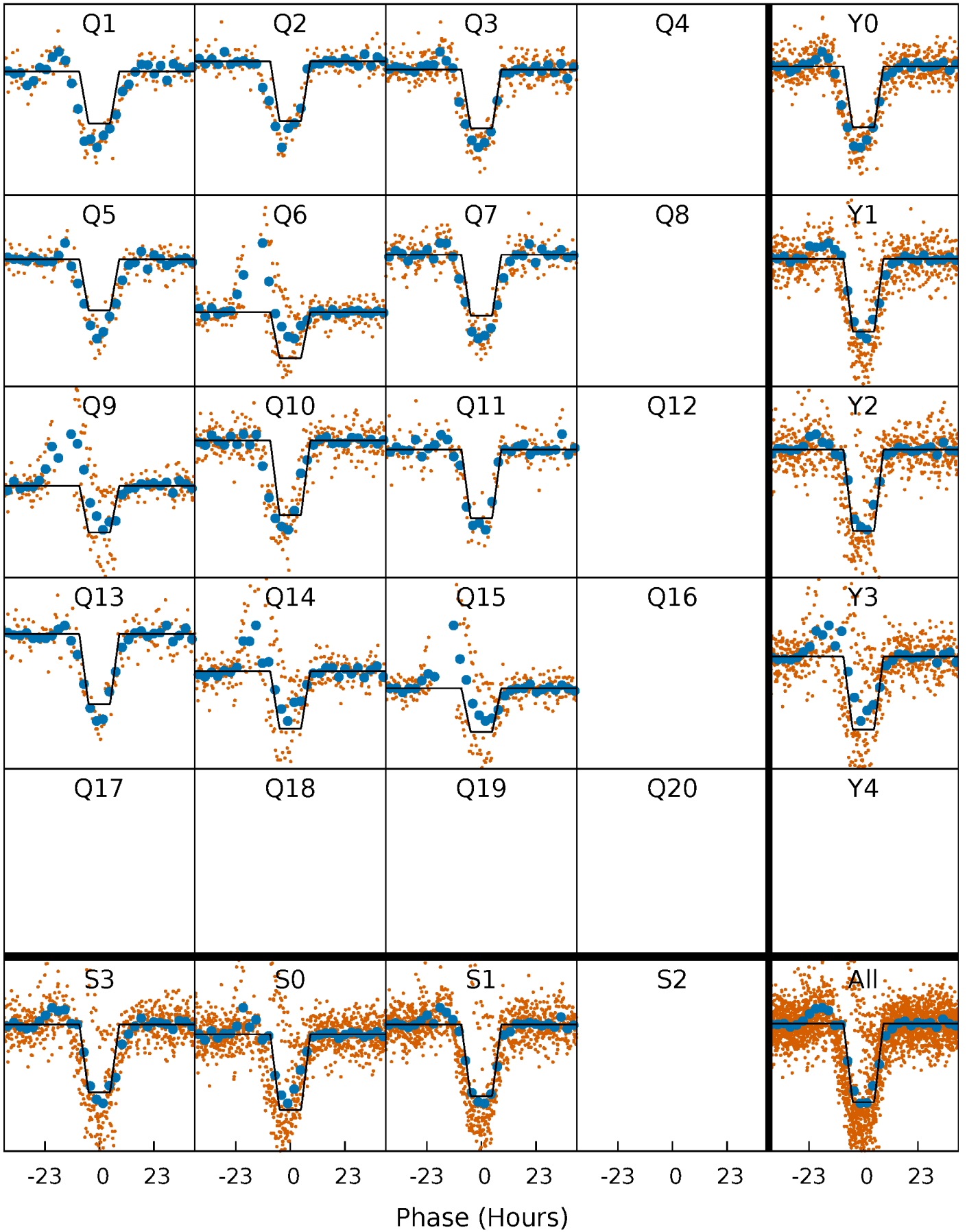
# DV Quarter-Phased Transit Curves

TCE 011071278-01 P= 55.884235 Days  $T_0=160.010532$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

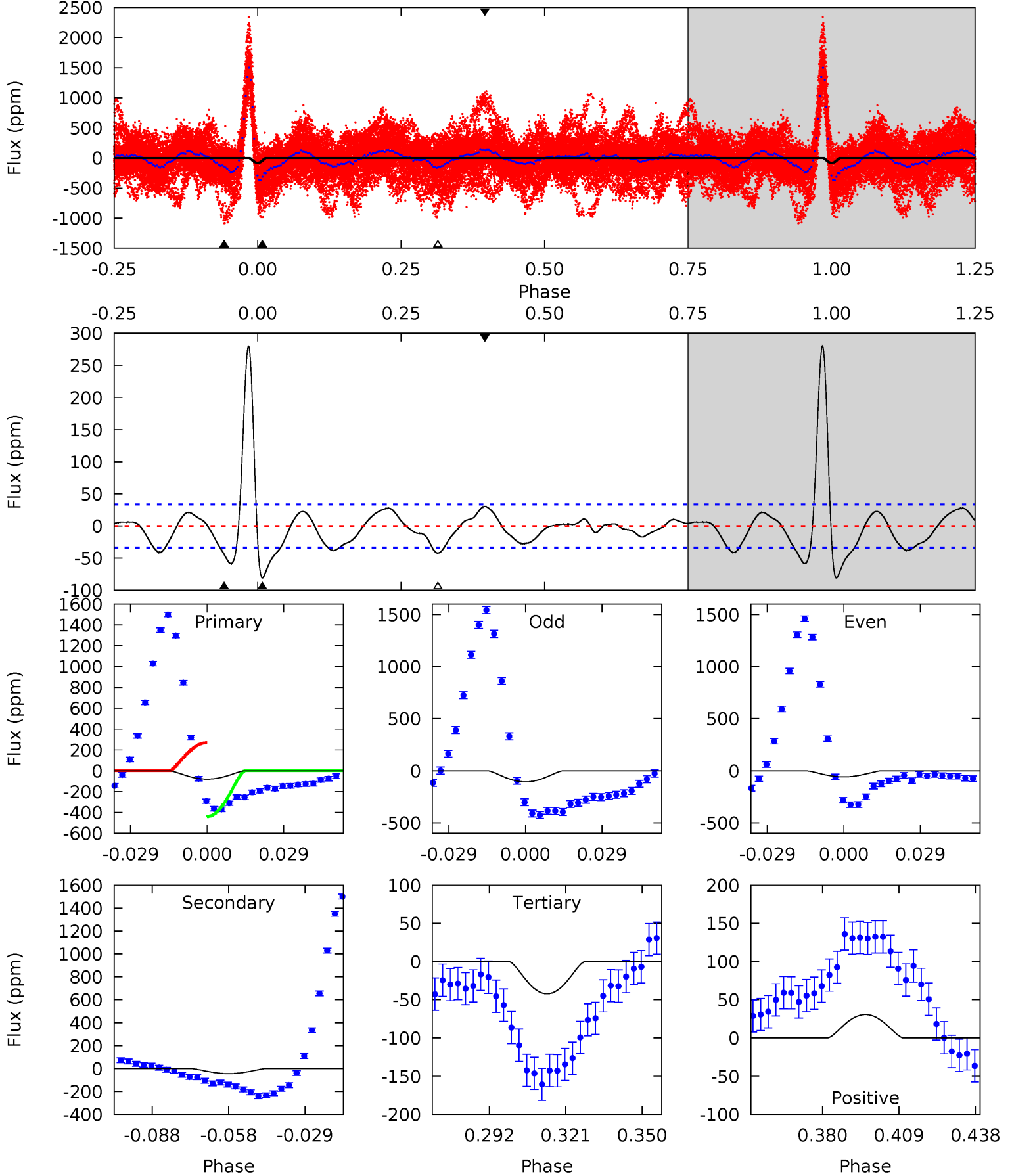
TCE 011071278-01 P= 55.883040 Days  $T_0=159.884087$  (BKJD)



# DV Model-Shift Uniqueness Test

011071278-01, P = 55.884235 Days, E = 104.126297 Days

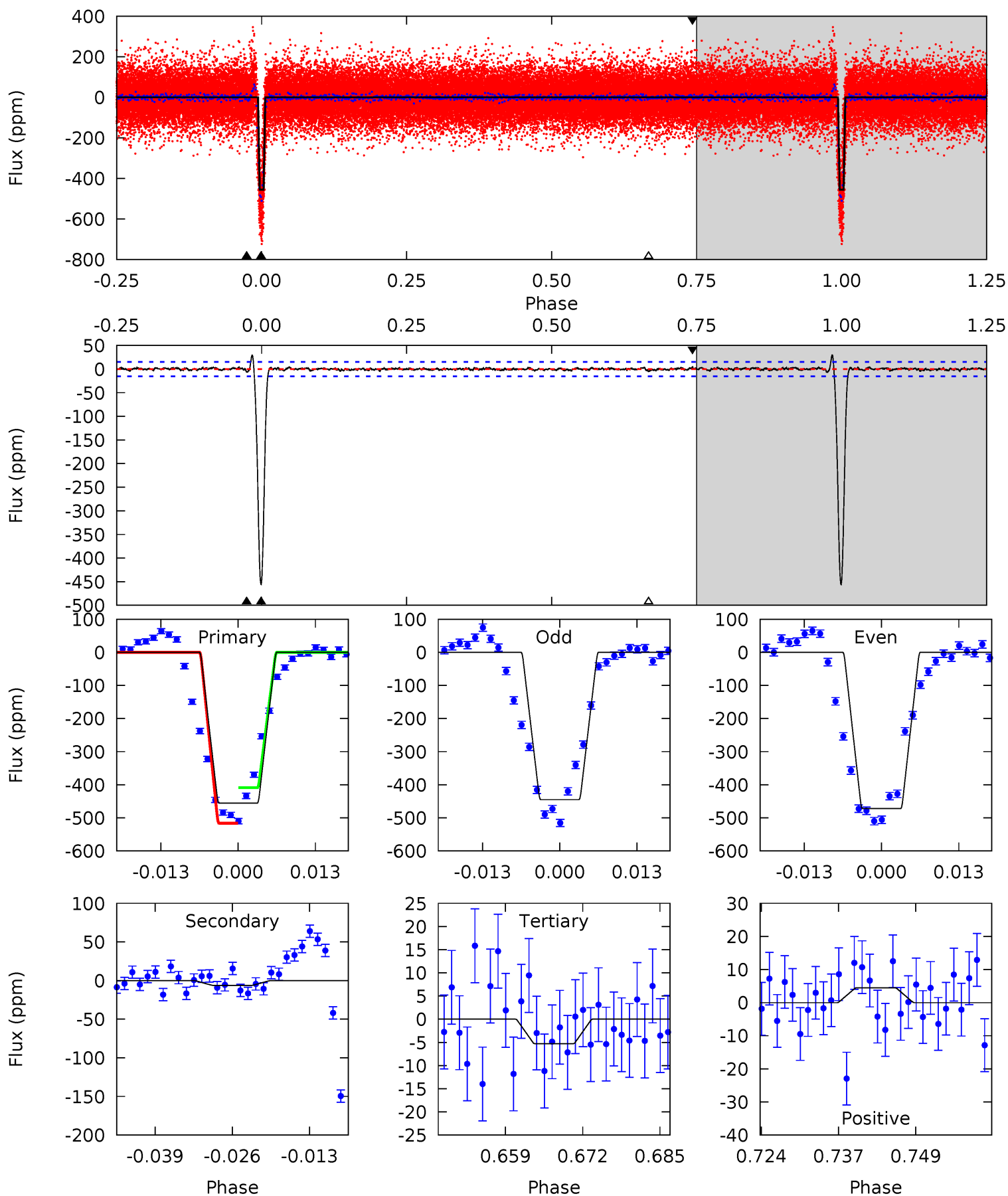
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.34	6.09	4.41	4.82	2.18	3.34	5.54	7.21	0.25	1.93	3.38	0.45	0.78	12.4



# Alt Model-Shift Uniqueness Test

011071278-01, P = 55.883040 Days, E = 104.001047 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
147.4	2.01	1.71	1.45	4.98	2.49	0.47	145.7	145.9	0.30	0.56	4.32	0.80	0.06	17.2



### Stellar Parameters For KIC 011071278

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6215^{+202}_{-247}$	$3.849^{+0.488}_{-0.122}$	$-0.240^{+0.300}_{-0.300}$	$2.188^{+0.476}_{-1.031}$	$1.233^{+0.187}_{-0.280}$	$0.166^{+0.846}_{-0.060}$
	+3%/-4%	+13%/-3%	+125%/-125%	+22%/-47%	+15%/-23%	+510%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 011071278-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-44 \pm 7$	$12.62^{+4.65}_{-3.75}$	$998^{+80}_{-126}$	$2821^{+244}_{-183}$	$14^{+14}_{-7}$
Alt.	$-6 \pm 3$	$4.48^{+3.60}_{-2.45}$	$991^{+82}_{-128}$	$2822^{+782}_{-440}$	$14^{+72}_{-11}$

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

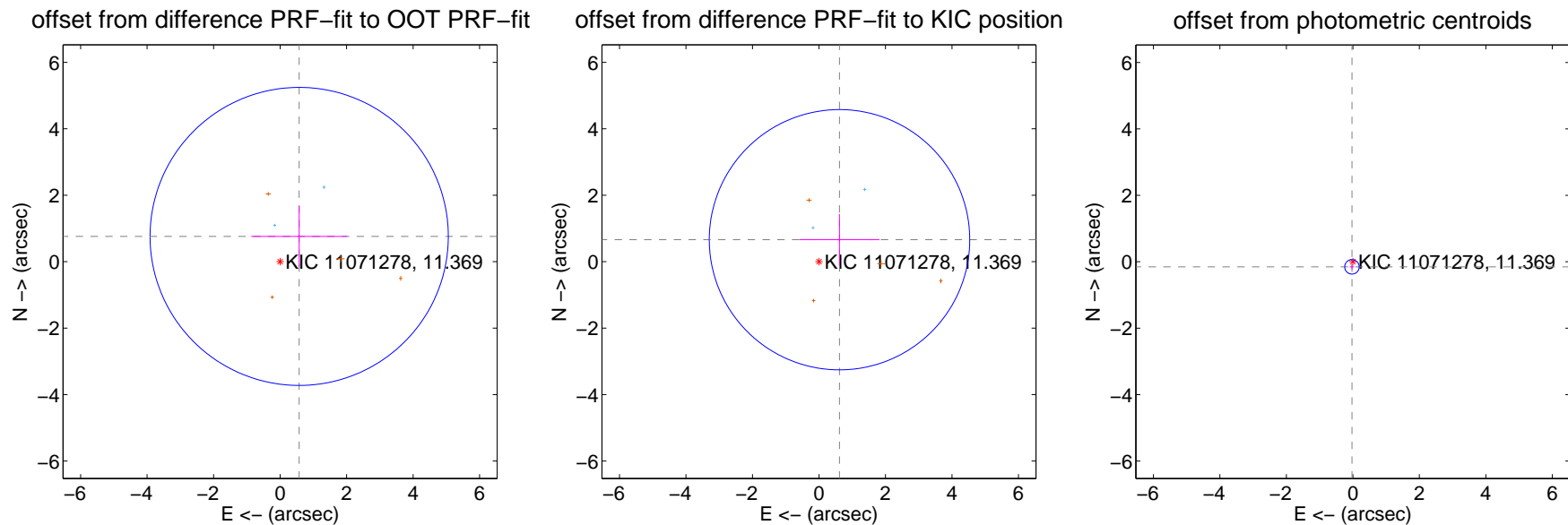
## DV Centroid Data

Supplemental centroid analysis for 011071278-01. **Kepler magnitude: 11.37.** Transit SNR 43.72

**There are 2 quarters with good PRF difference image offsets**

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

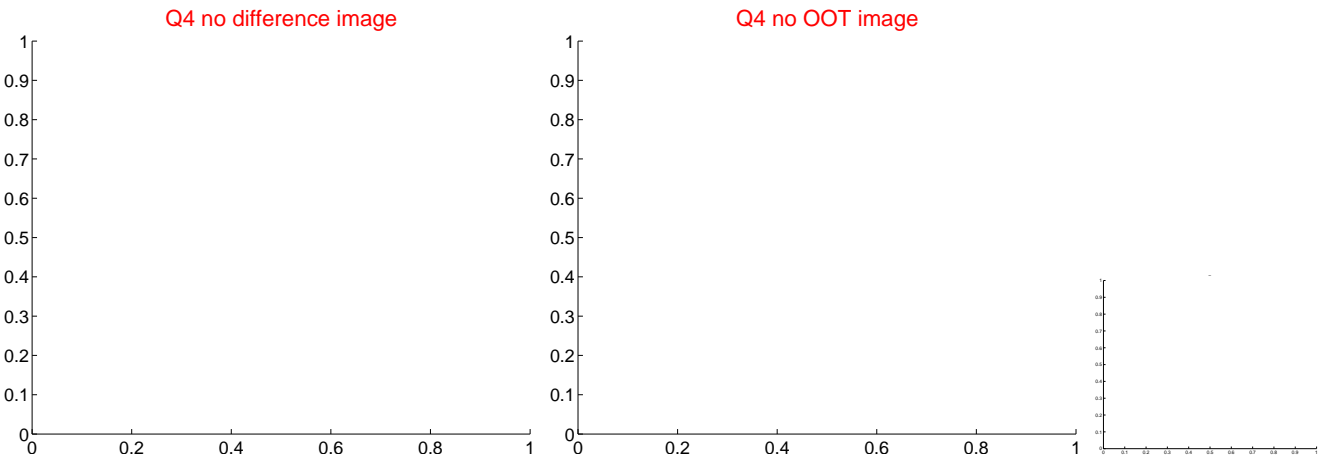
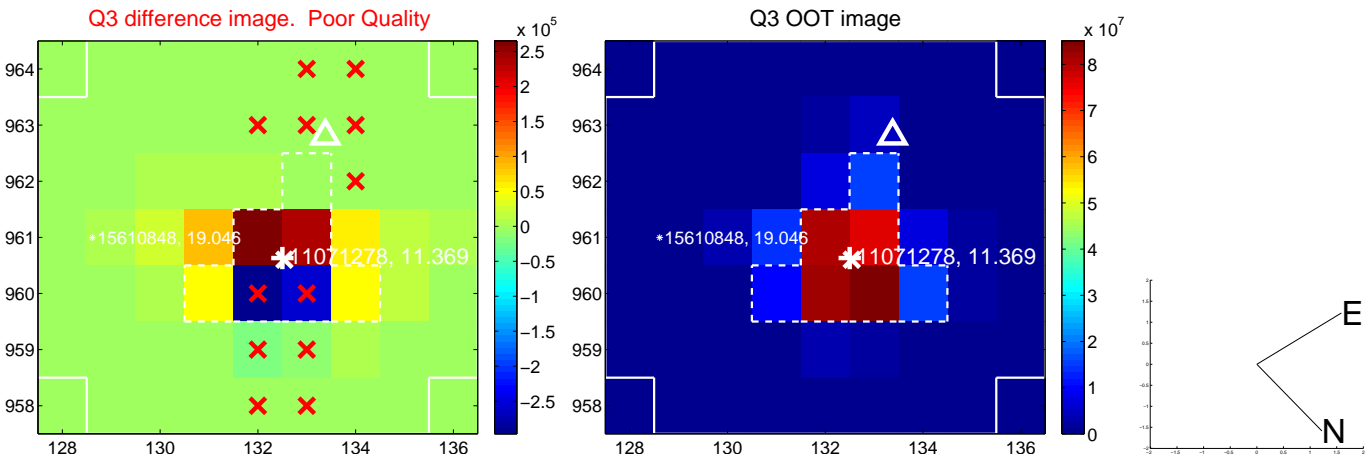
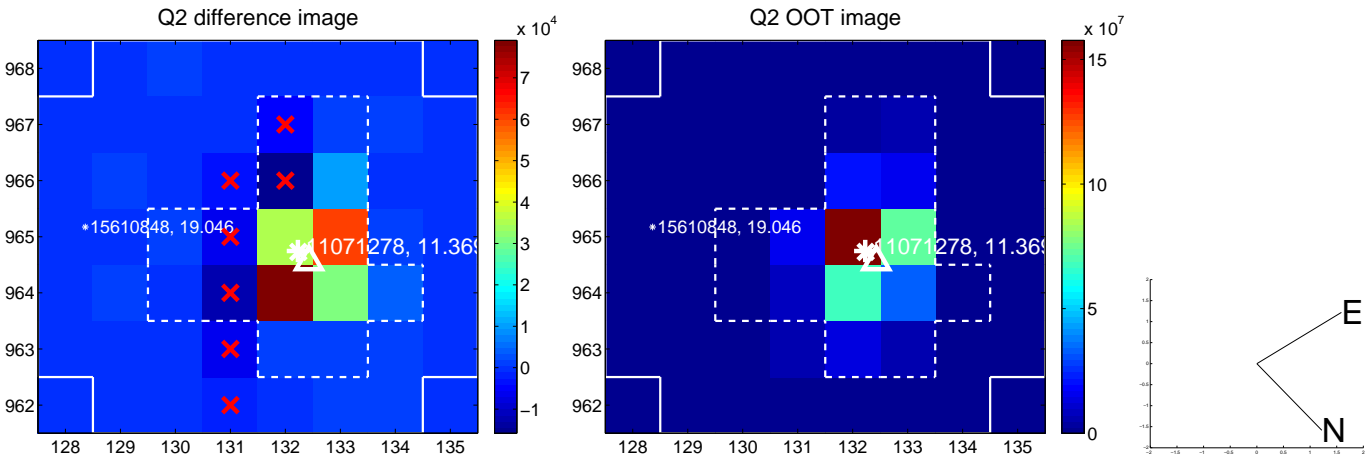
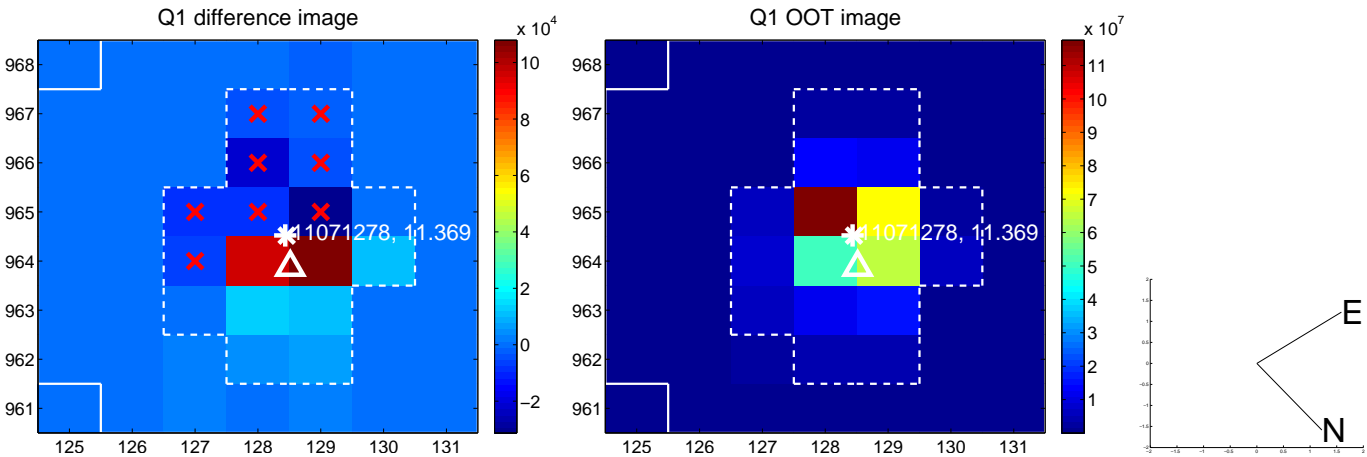
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.953 \pm 1.495$	0.64	$-0.574 \pm 1.443$	$0.761 \pm 0.911$
PRF-fit source offset from KIC position	$0.905 \pm 1.305$	0.69	$-0.617 \pm 1.201$	$0.661 \pm 0.773$
photometric centroid source offset	$0.16 \pm 0.07$	2.14	$0.03 \pm 0.07$	$-0.15 \pm 0.07$



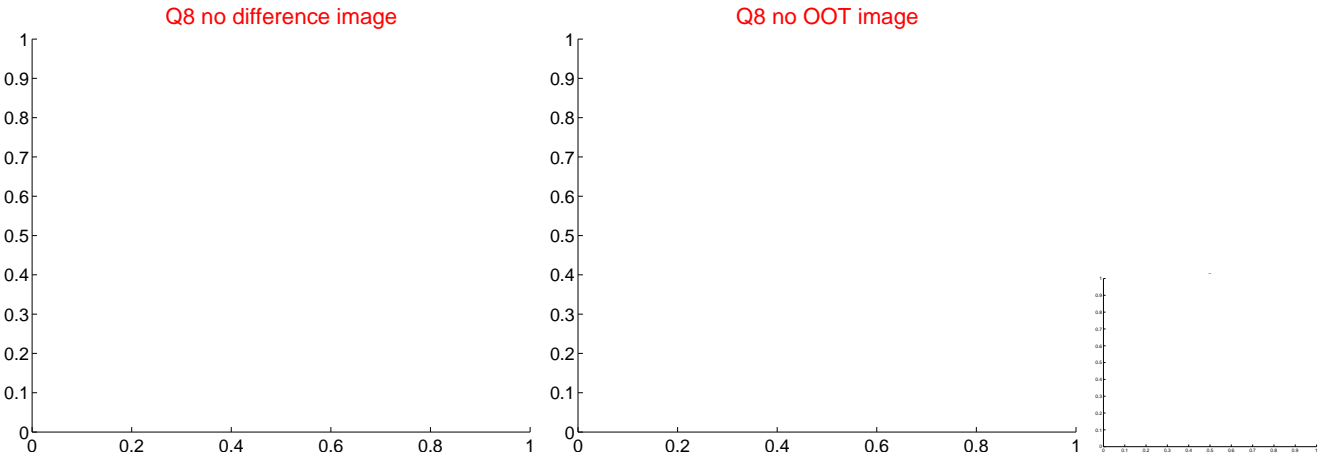
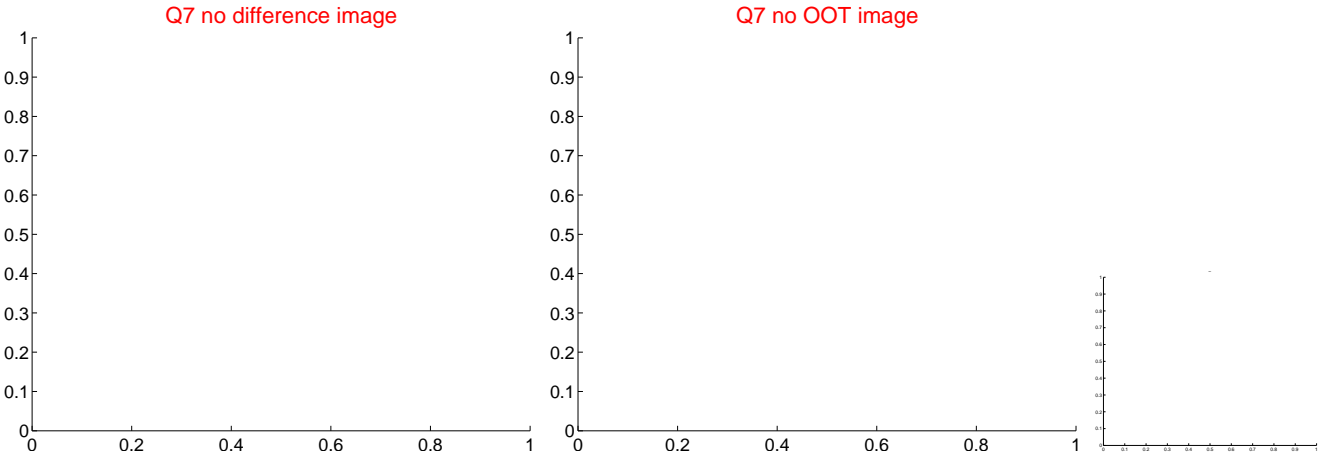
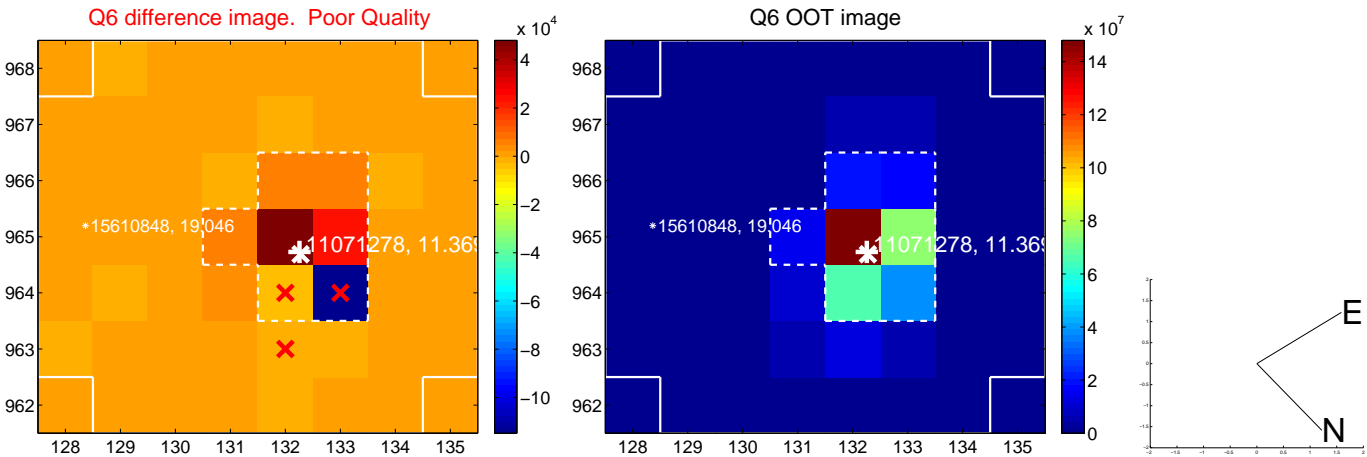
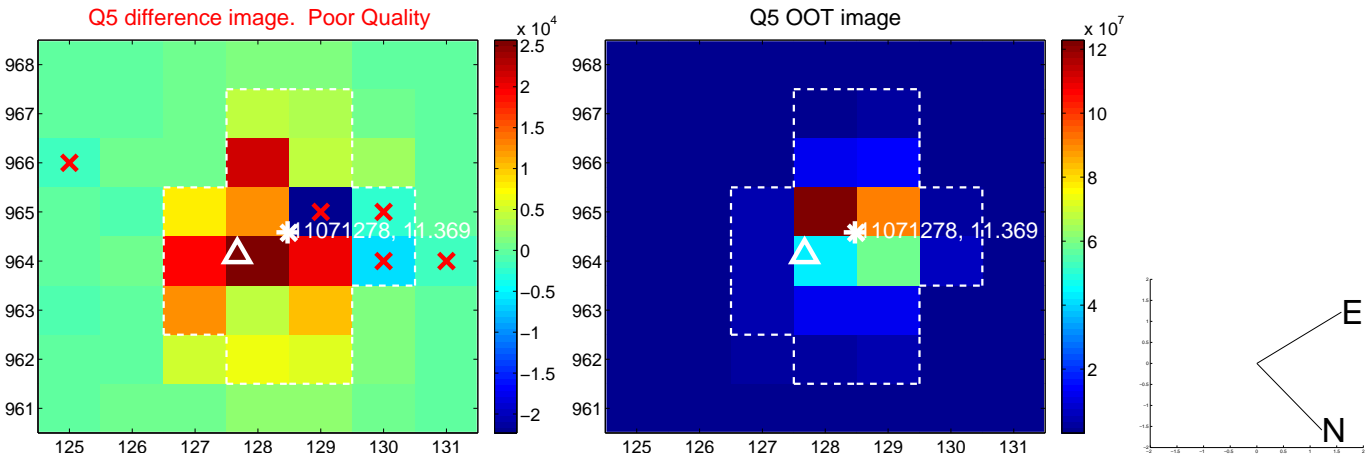
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



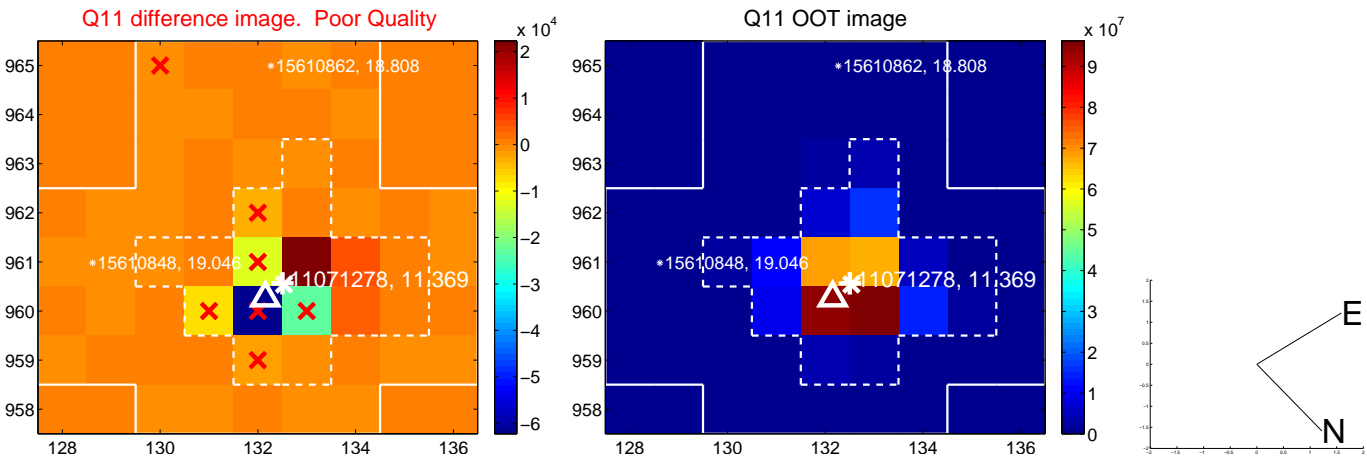
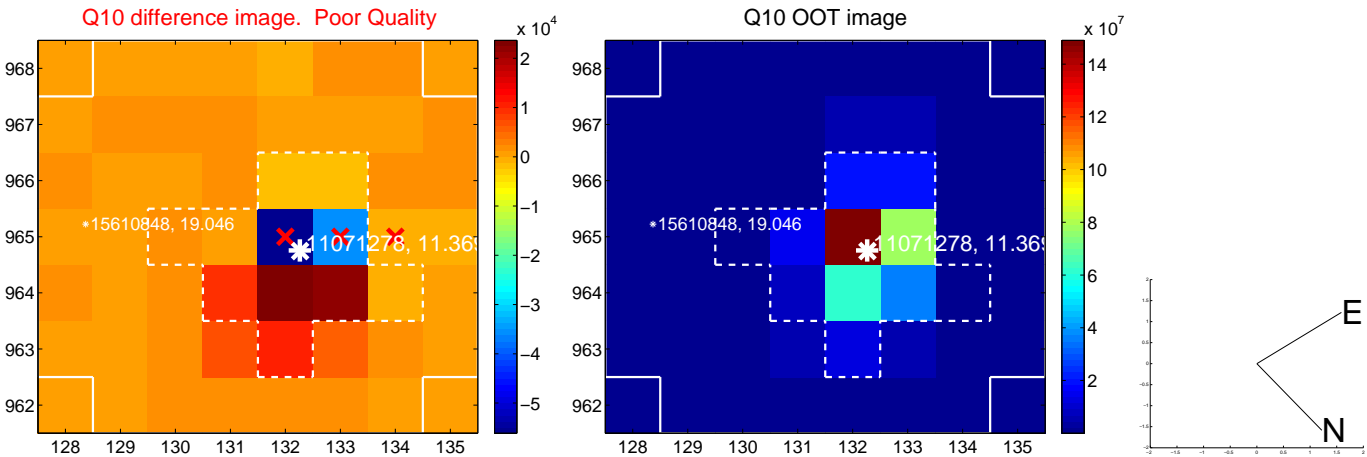
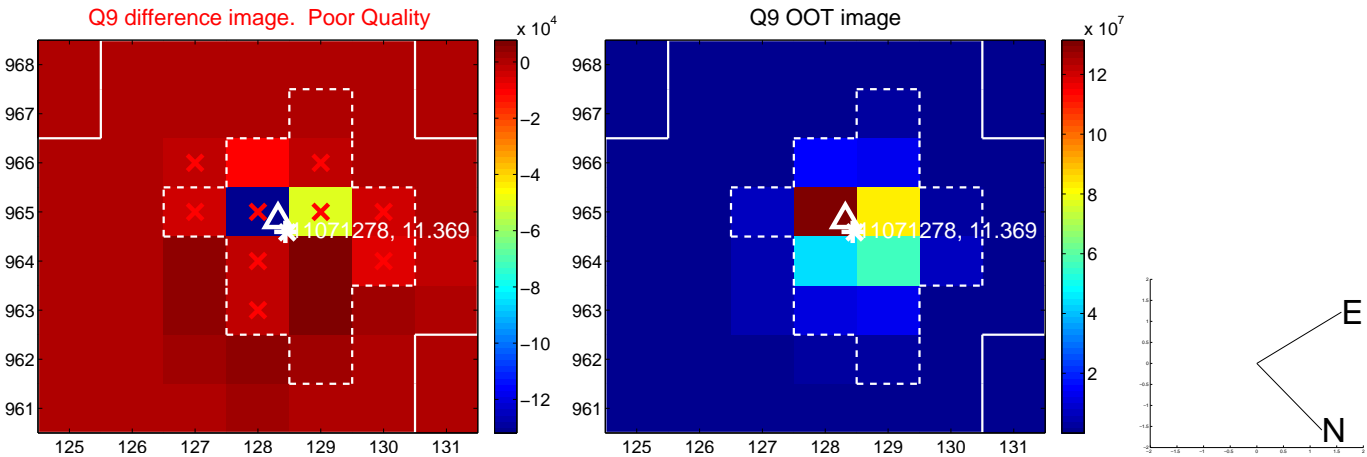
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



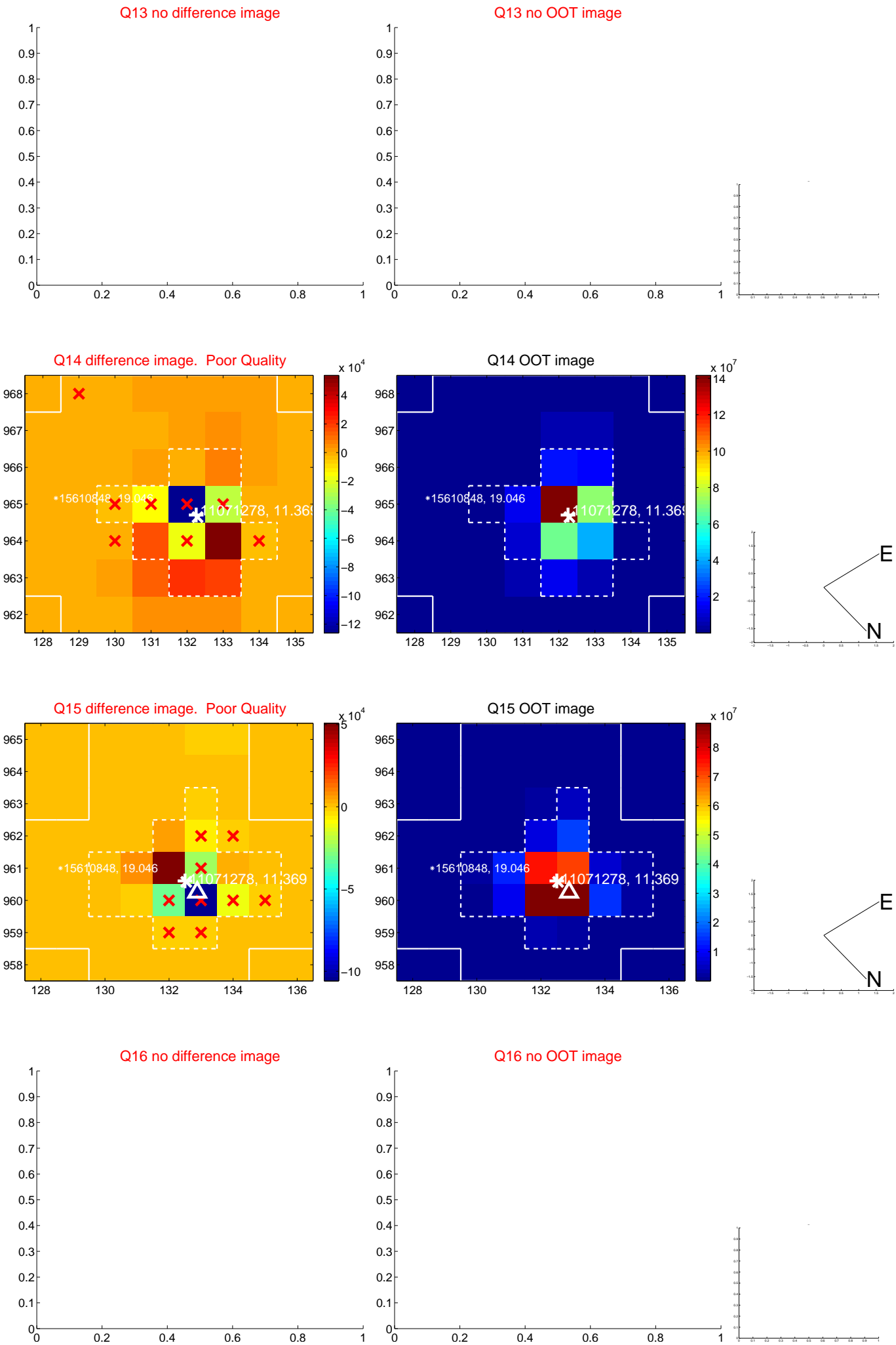
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



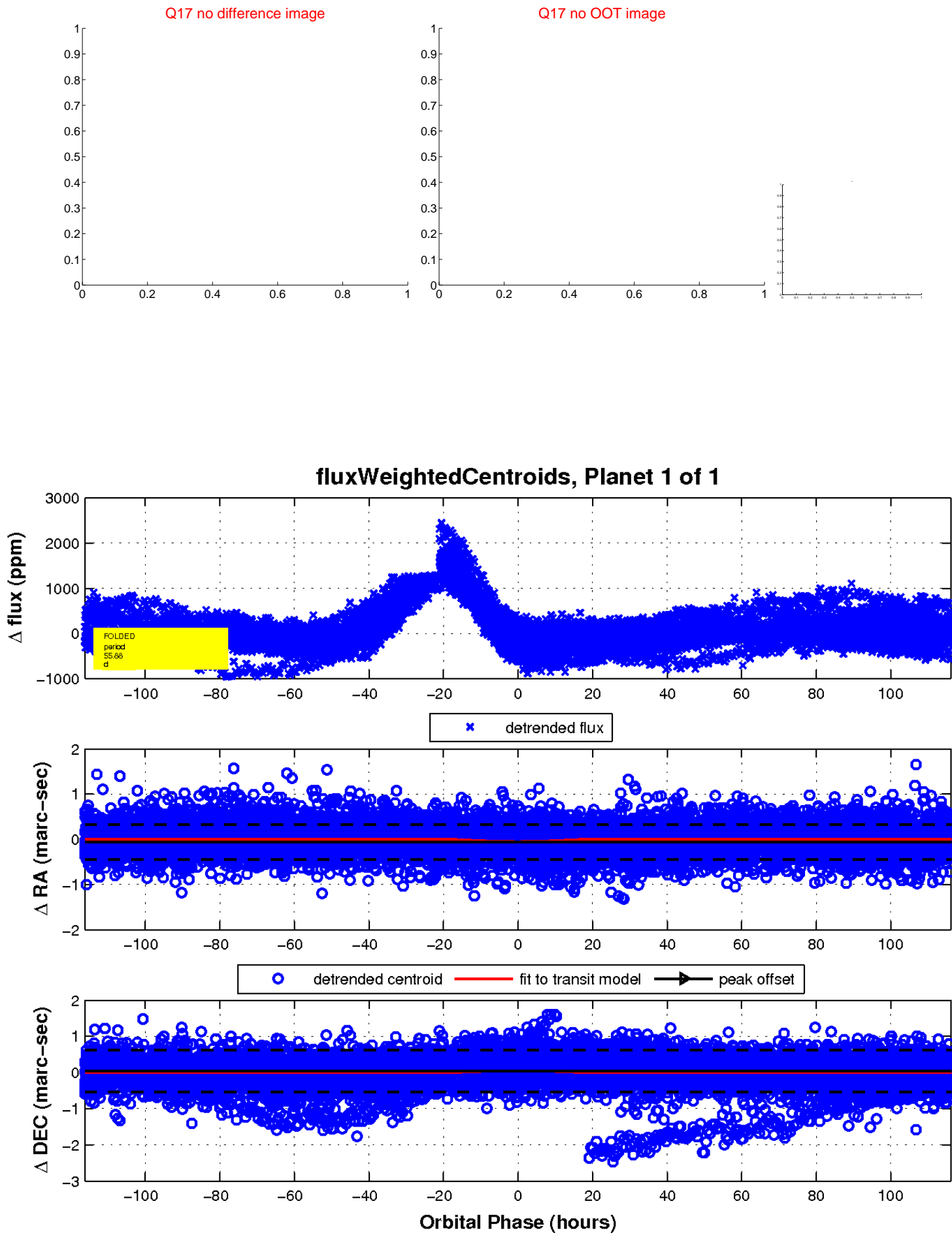
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UKIRT Image

Declination

