

# KIC 006468138

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006468138-01	OBS	1826.01	134.252546	182.704821	829.3	9.209	52.9	49.9	1.20	5818	3.58	5.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006468138-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

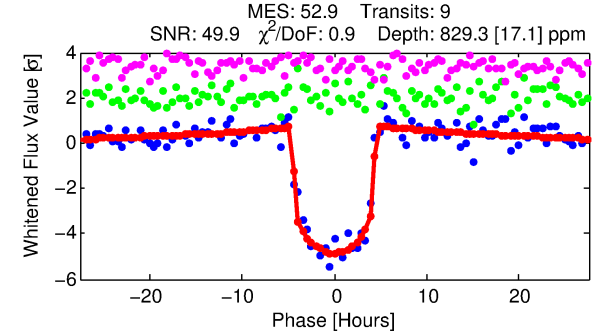
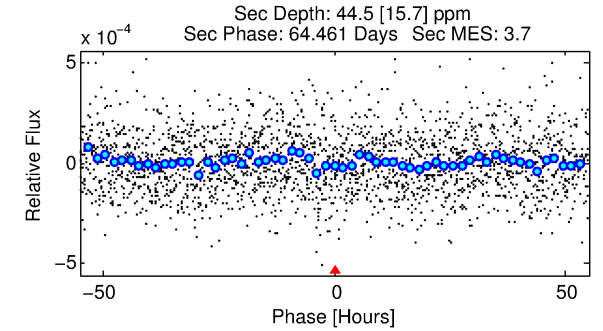
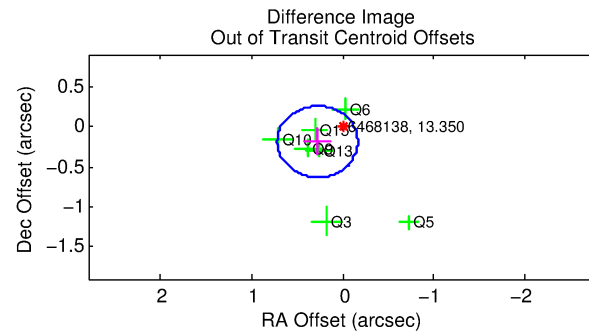
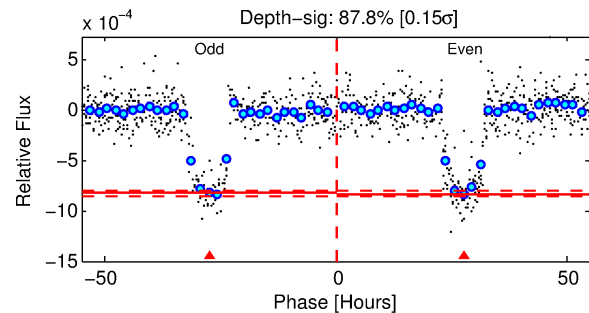
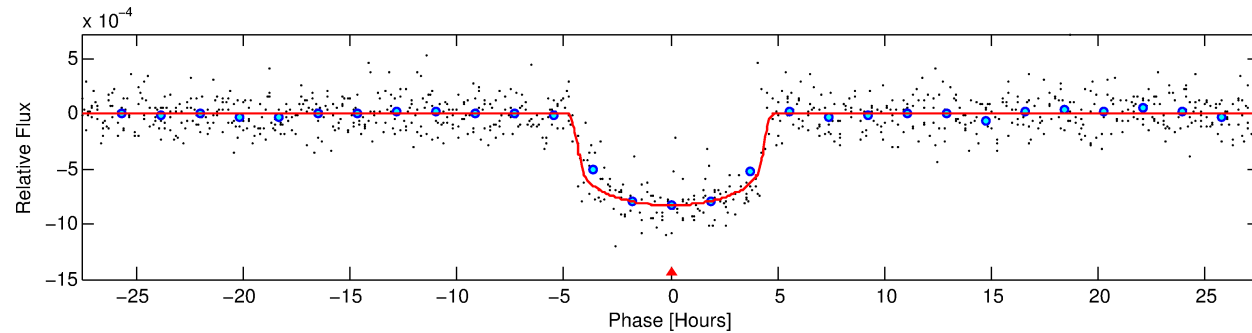
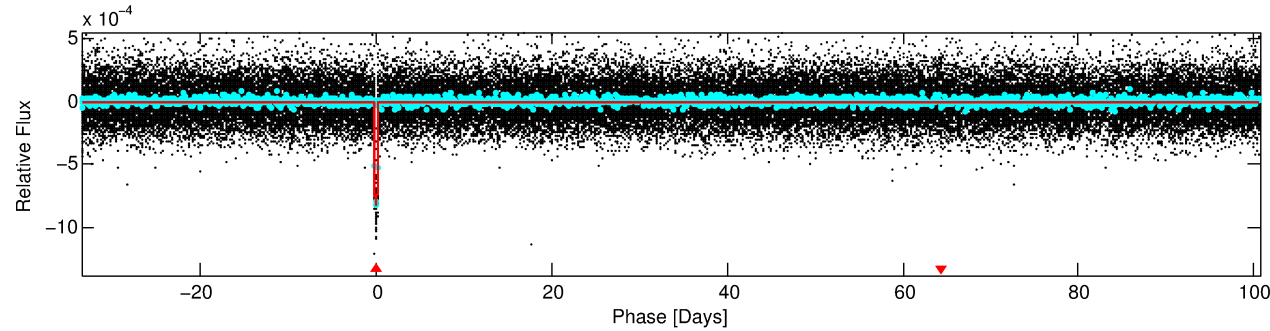
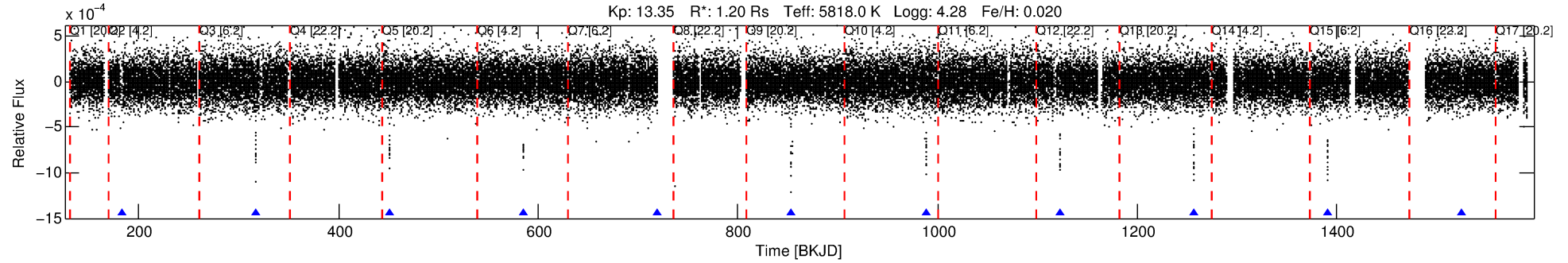
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006468138-01

No Significant Match Found

# DV One-Page Summary

KIC: 6468138 Candidate: 1 of 1 Period: 134.253 d  
KOI: K01826.01 Corr: 0.994



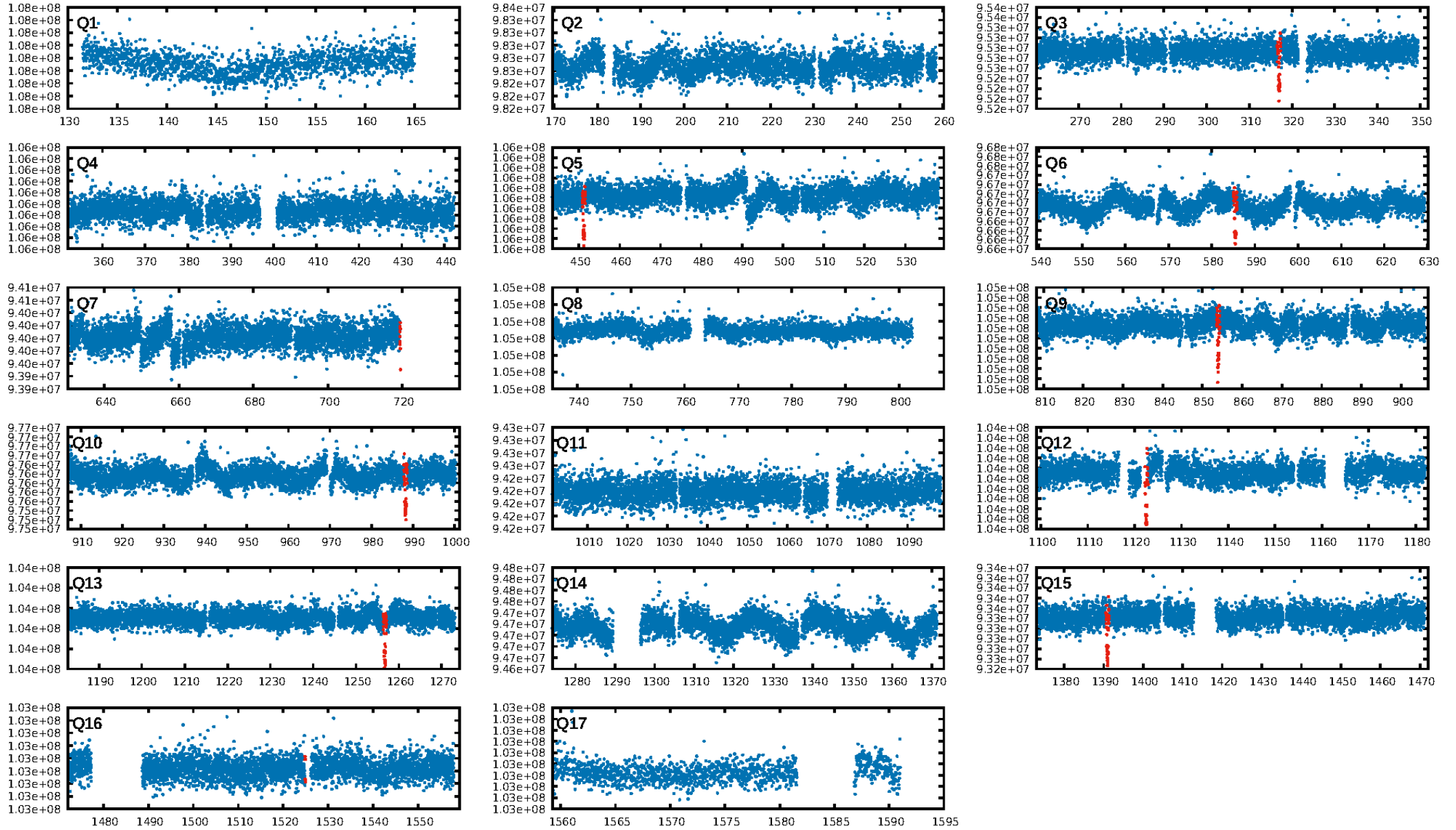
## DV Fit Results:

Period = 134.25255 [0.00056] d  
Epoch = 182.7048 [0.0034] BKJD  
Rp/R\* = 0.0274 [0.0044]  
a/R\* = 94.46 [67.72]  
b = 0.58 [0.83]  
Seff = 5.64 [1.44]  
Teff = 393 [25] K  
Rp = 3.58 [0.80] Re  
a = 0.5118 [0.0772] AU  
Ag = 499.44 [268.58] [1.86 $\sigma$ ]  
Teffp = 2873 [349] K [7.08 $\sigma$ ]

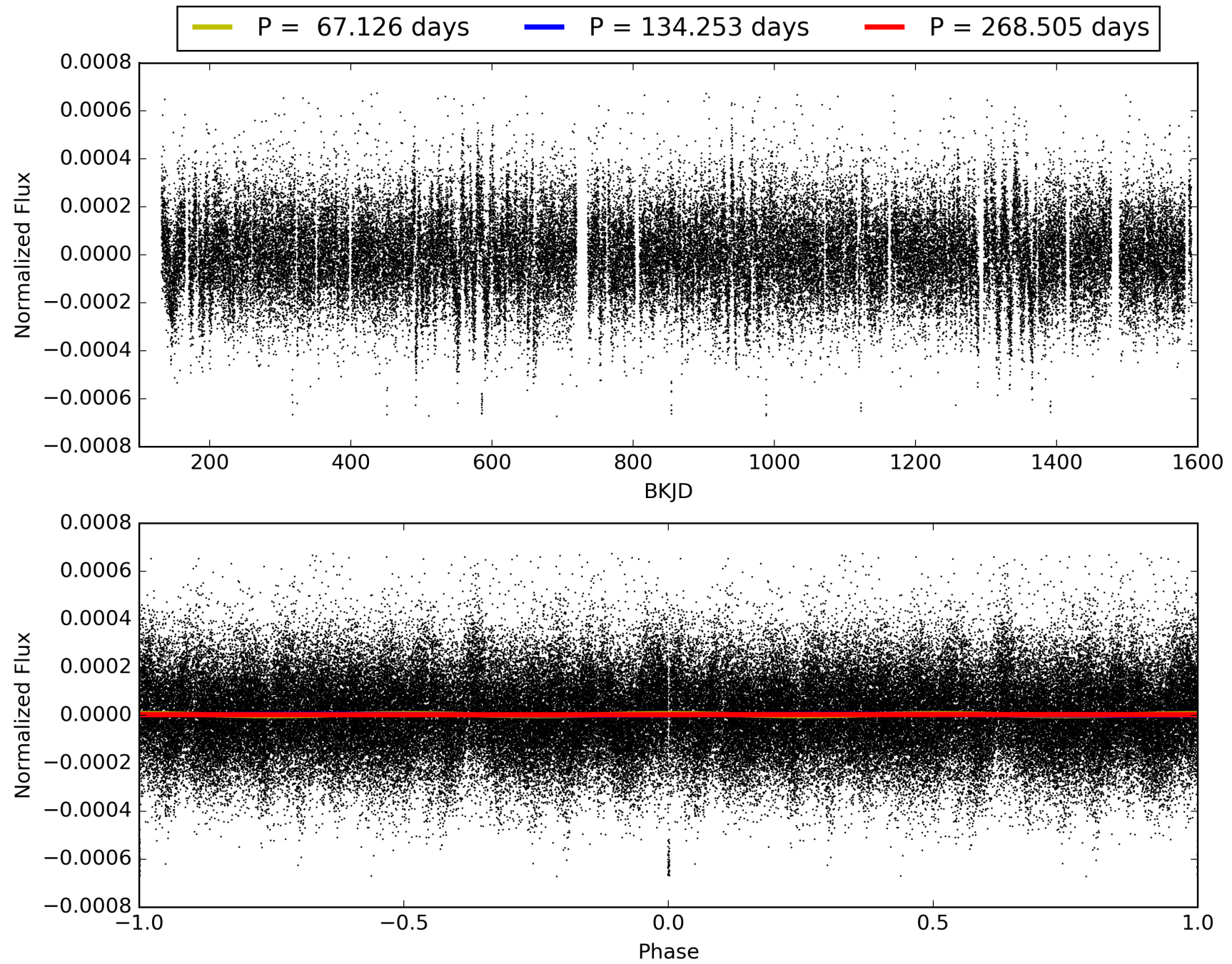
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 17.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: 4.692  
Centroid-sig: 11.5%  
Centroid-so: 0.169 arcsec [0.56 $\sigma$ ]  
OotOffset-rm: 0.336 arcsec [2.27 $\sigma$ ]  
KicOffset-rm: 0.377 arcsec [1.91 $\sigma$ ]  
OotOffset-st: 2/2/0/3 [7]  
KicOffset-st: 2/2/0/3 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [7/7]

# TCE 006468138-01, PDC Light Curves

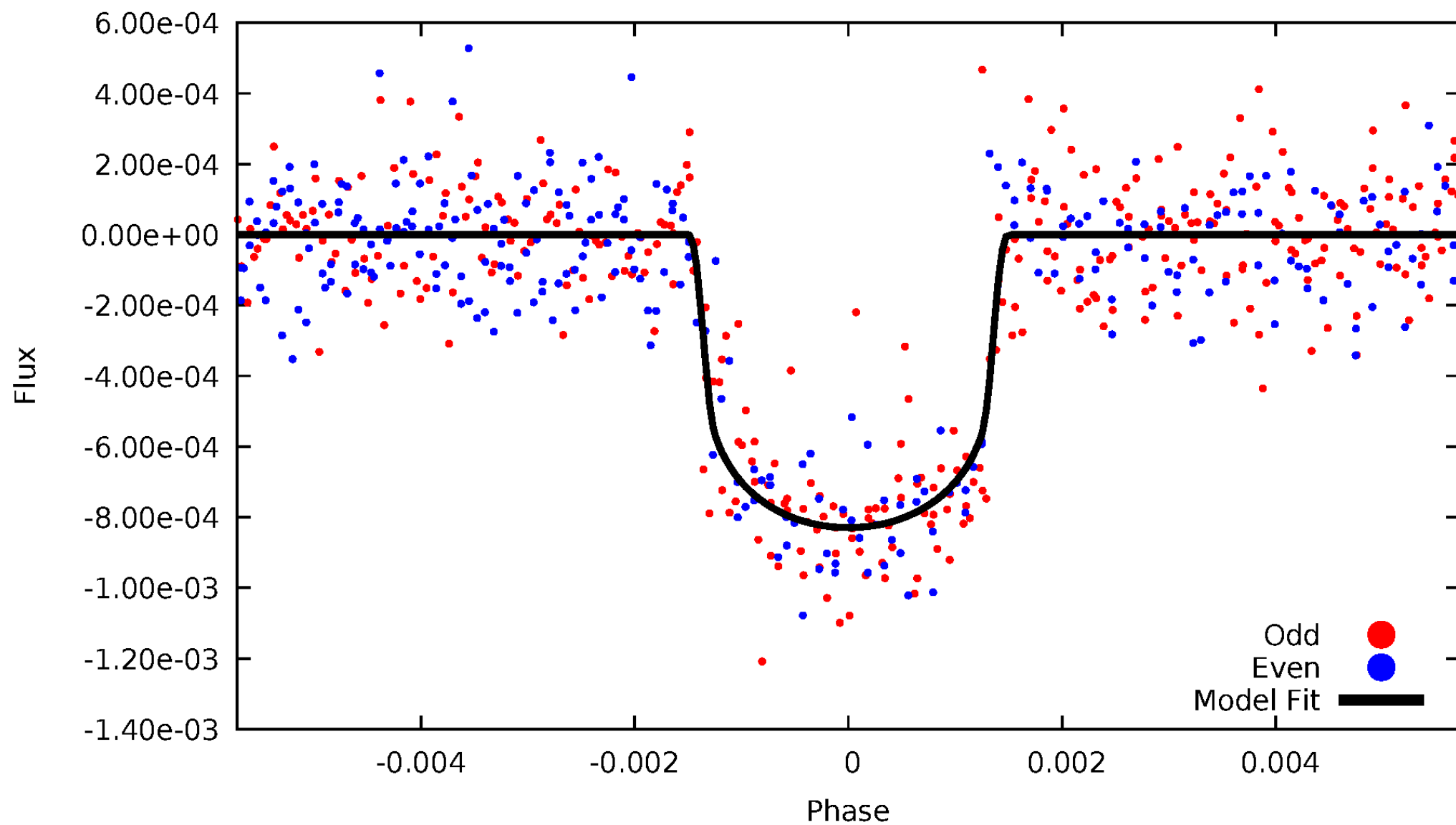


TCE 006468138-01



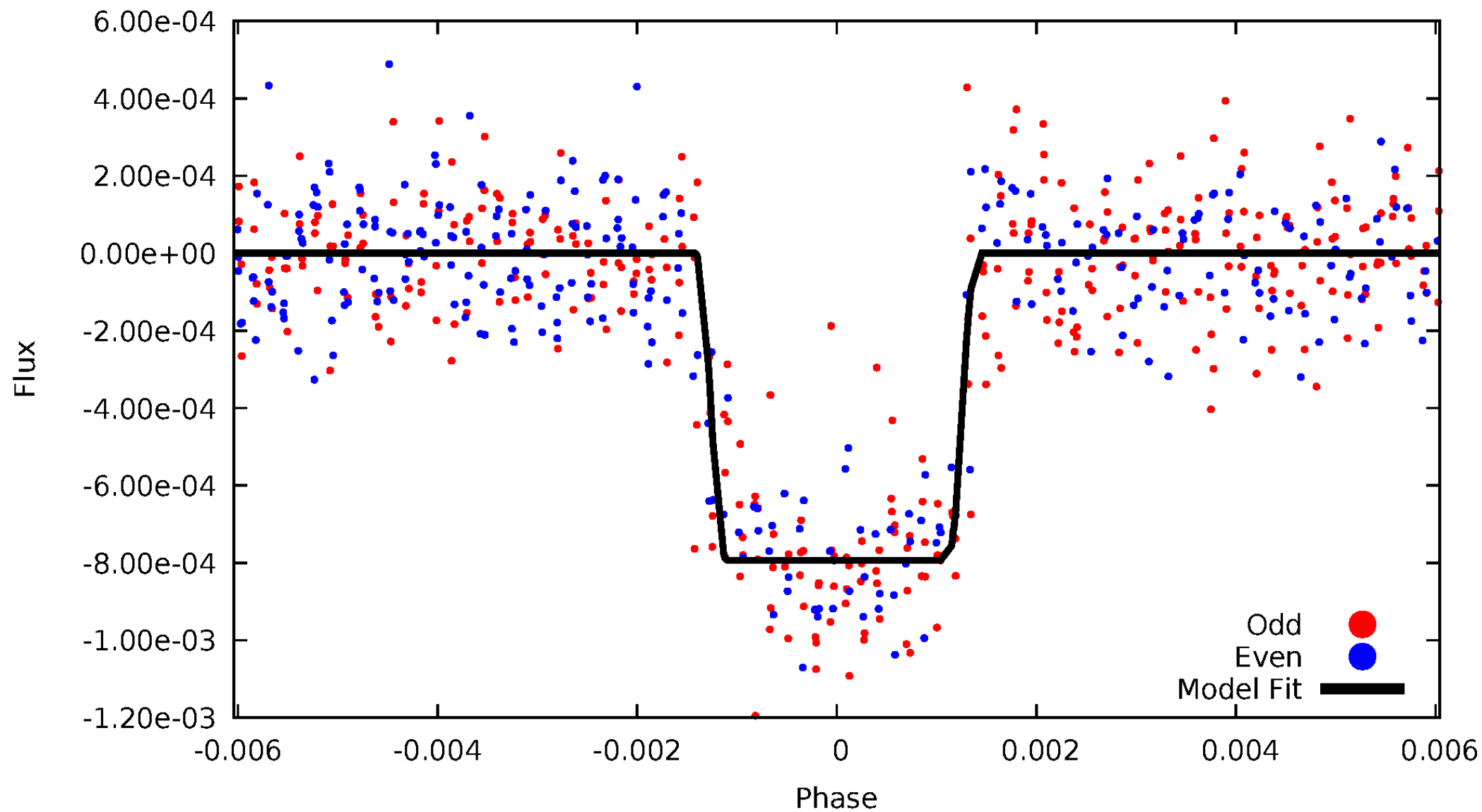
# DV Odd/Even

TCE 006468138-01

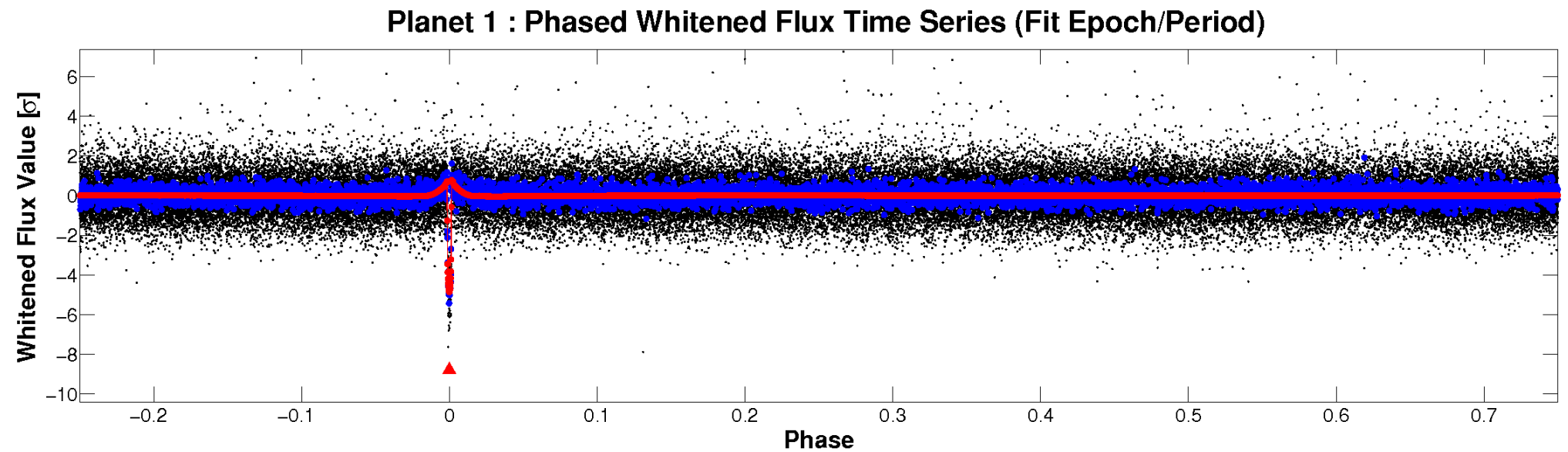
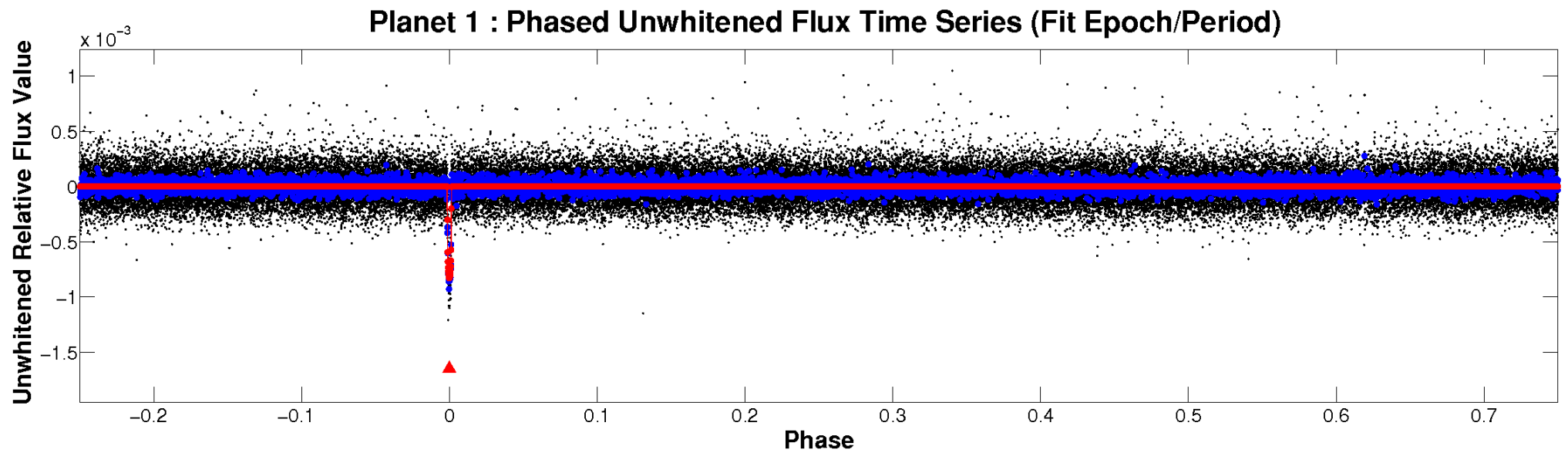


# ALT Odd/Even

TCE 006468138-01

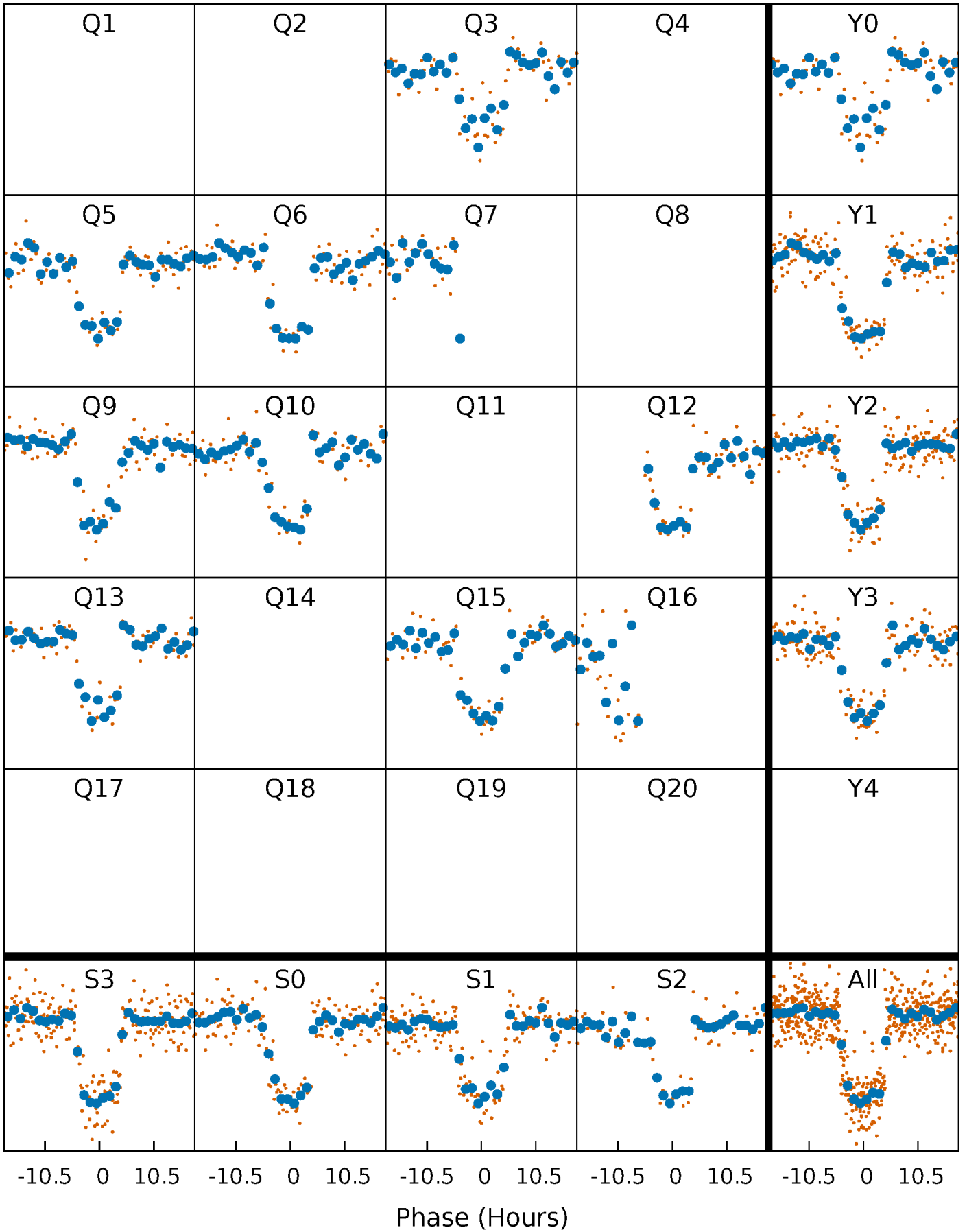


# Non-Whitened Vs. Whitened Light Curve



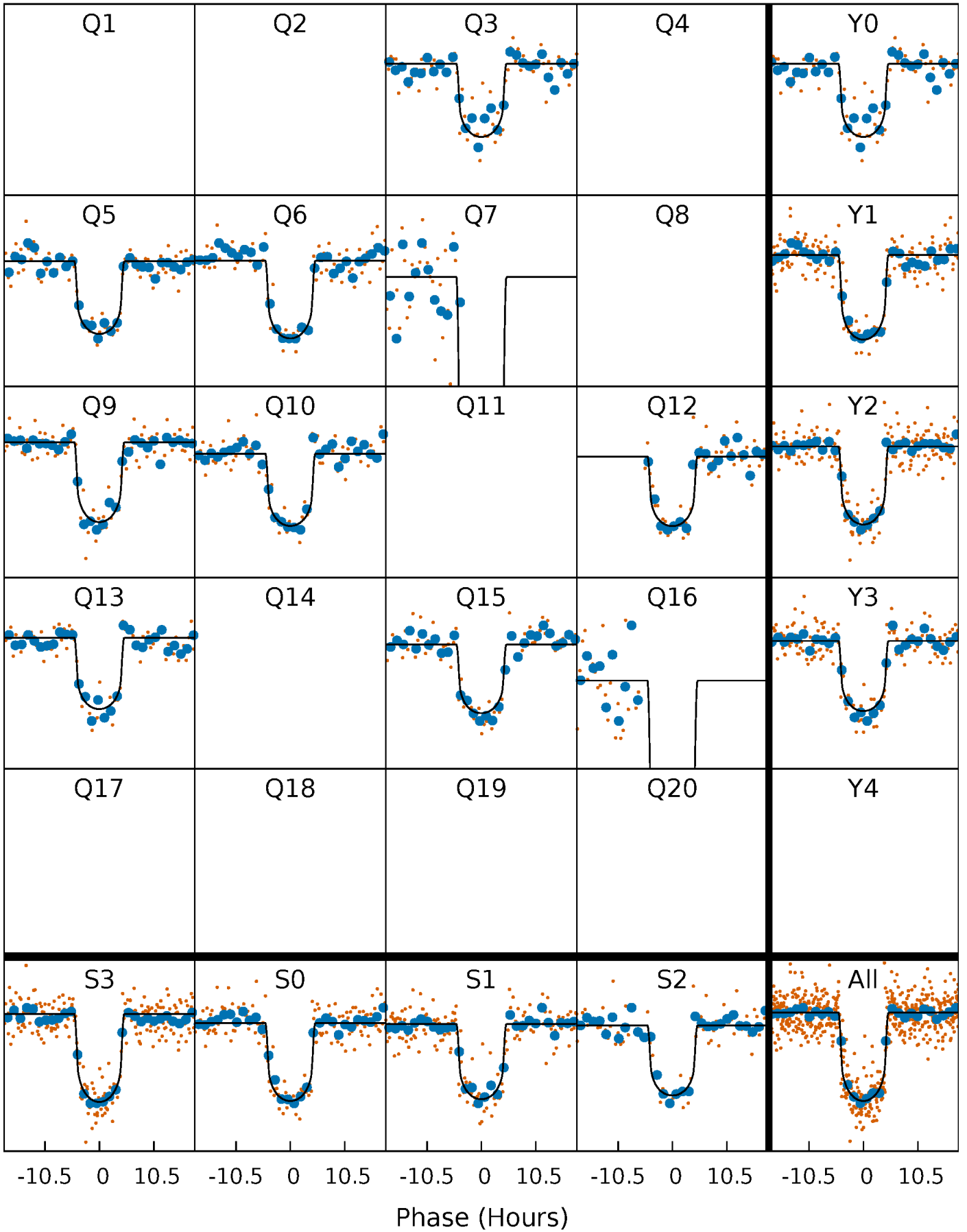
# PDC Quarter-Phased Transit Curves

TCE 006468138-01 P=134.252546 Days  $T_0=182.704821$  (BKJD)



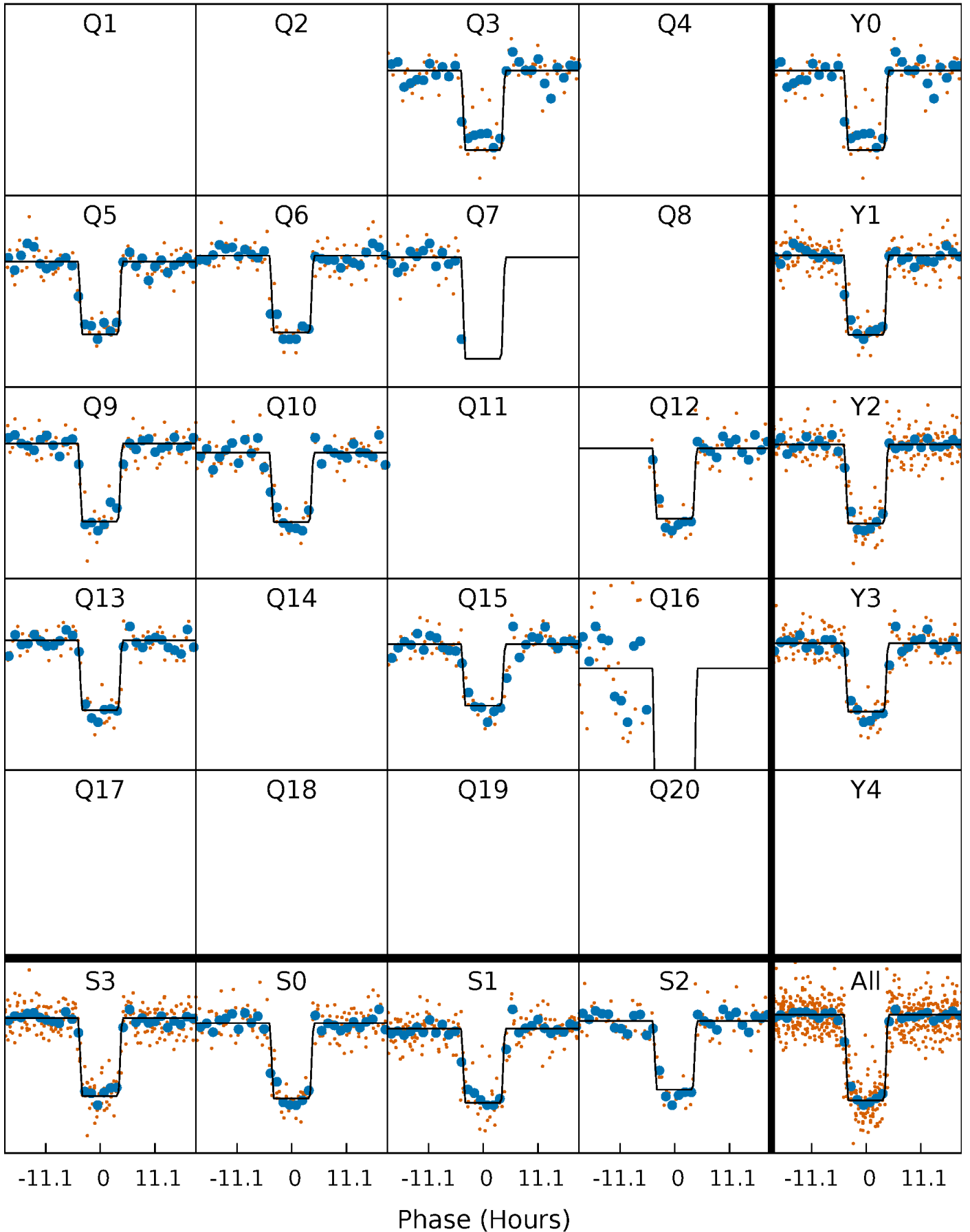
# DV Quarter-Phased Transit Curves

TCE 006468138-01 P=134.252546 Days  $T_0=182.704821$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

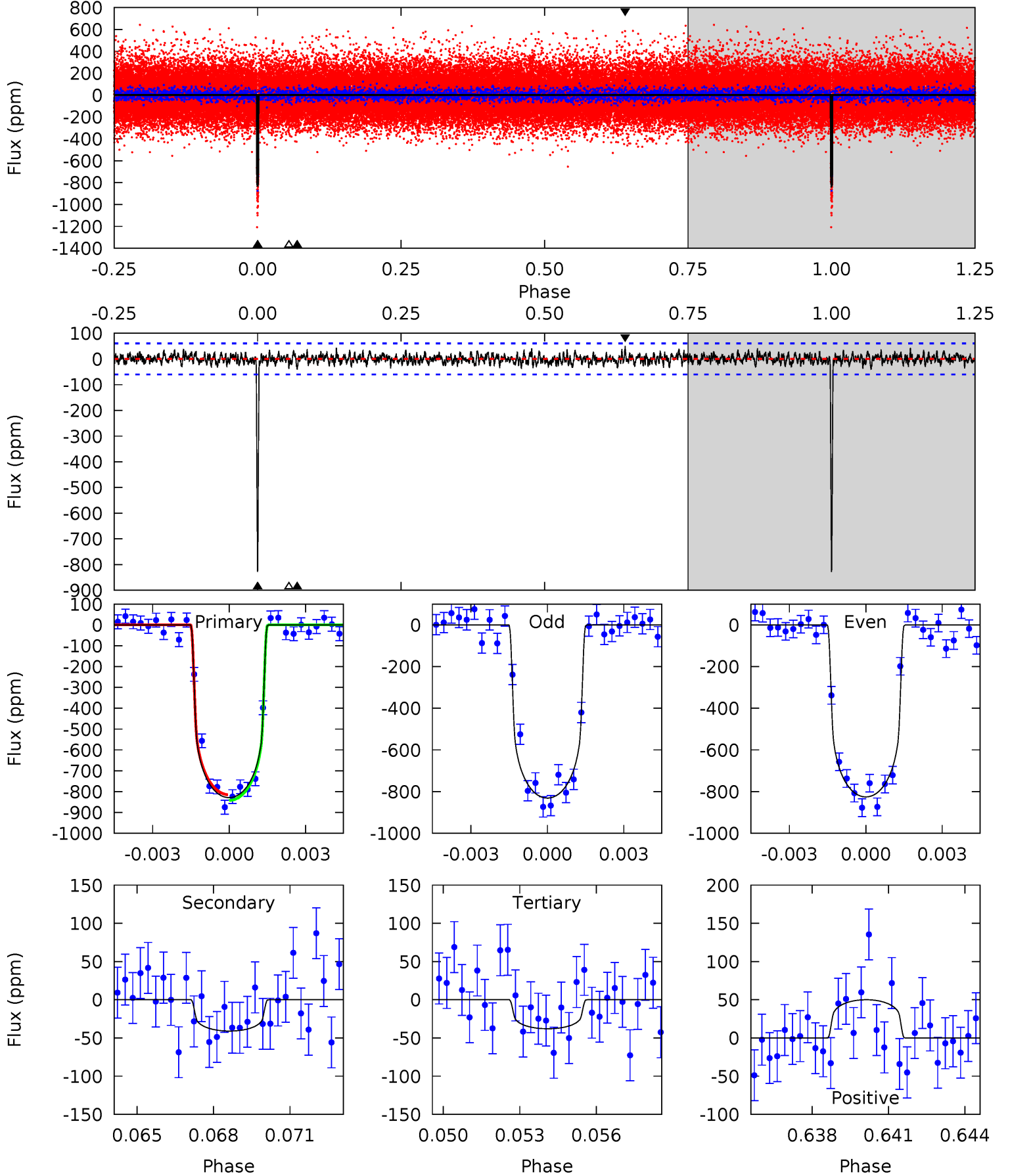
TCE 006468138-01 P=134.248489 Days  $T_0=182.725985$  (BKJD)



# DV Model-Shift Uniqueness Test

006468138-01, P = 134.252546 Days, E = 48.452275 Days

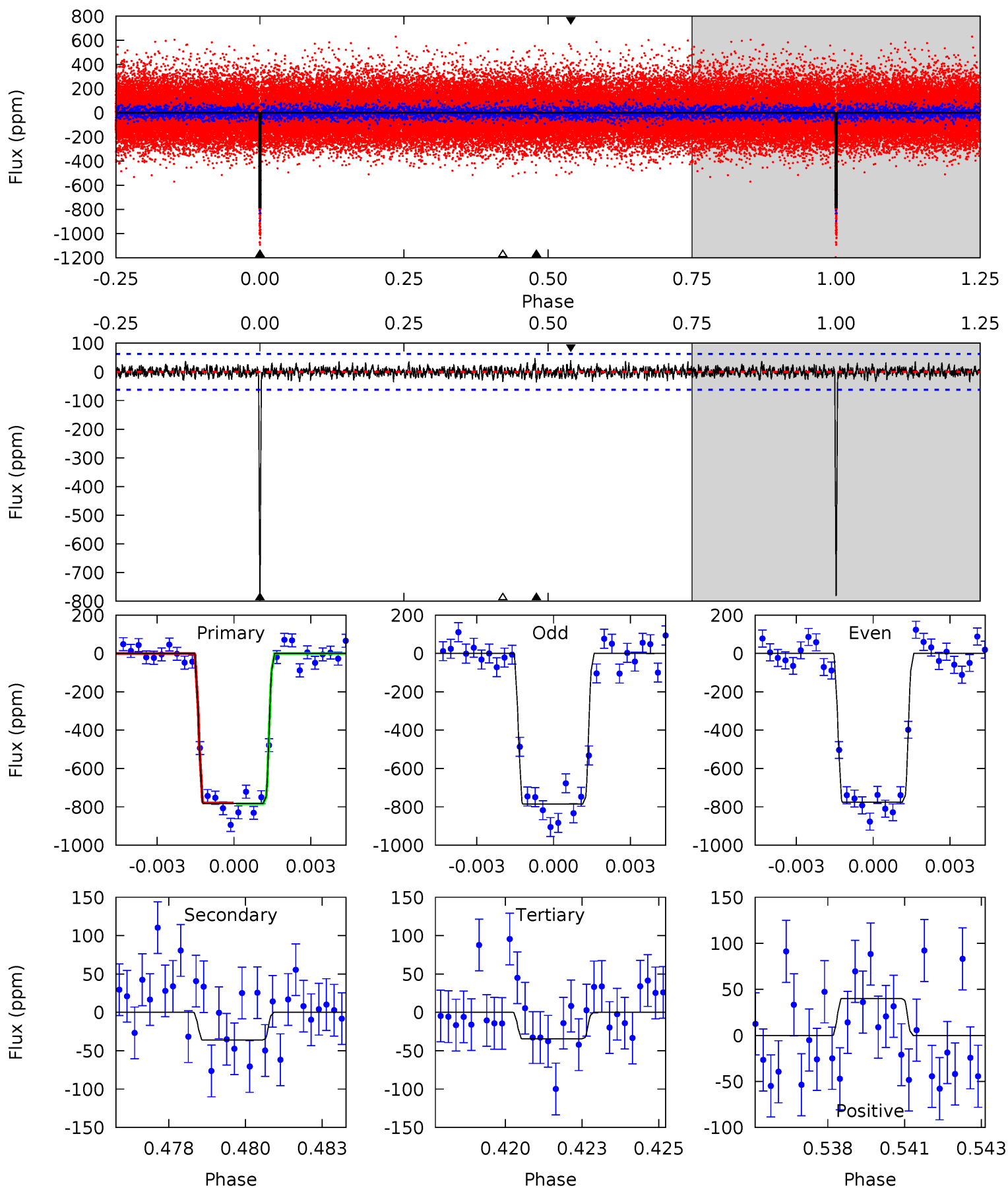
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.8	3.55	3.29	4.33	5.25	2.97	1.16	68.5	67.5	0.26	-0.78	0.24	1.01	0.06	1.17



# Alt Model-Shift Uniqueness Test

006468138-01,  $P = 134.248489$  Days,  $E = 48.477496$  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
66.1	3.05	2.91	3.38	5.27	3.00	0.93	63.2	62.7	0.14	-0.34	0.39	0.98	0.06	0.20



### Stellar Parameters For KIC 006468138

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5818^{+105}_{-117}$	$4.276^{+0.143}_{-0.104}$	$0.020^{+0.150}_{-0.150}$	$1.200^{+0.186}_{-0.186}$	$0.991^{+0.081}_{-0.065}$	$0.808^{+0.545}_{-0.280}$
	+2%/-2%	+3%/-2%	+750%/-750%	+16%/-16%	+8%/-7%	+67%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 006468138-01 / KOI 1826.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-41 \pm 12$	$3.54^{+0.65}_{-0.64}$	$547^{+25}_{-26}$	$3348^{+242}_{-221}$	$470^{+293}_{-187}$
Alt.	$-36 \pm 12$	$3.62^{+0.71}_{-0.62}$	$547^{+23}_{-25}$	$3248^{+247}_{-208}$	$387^{+248}_{-156}$

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

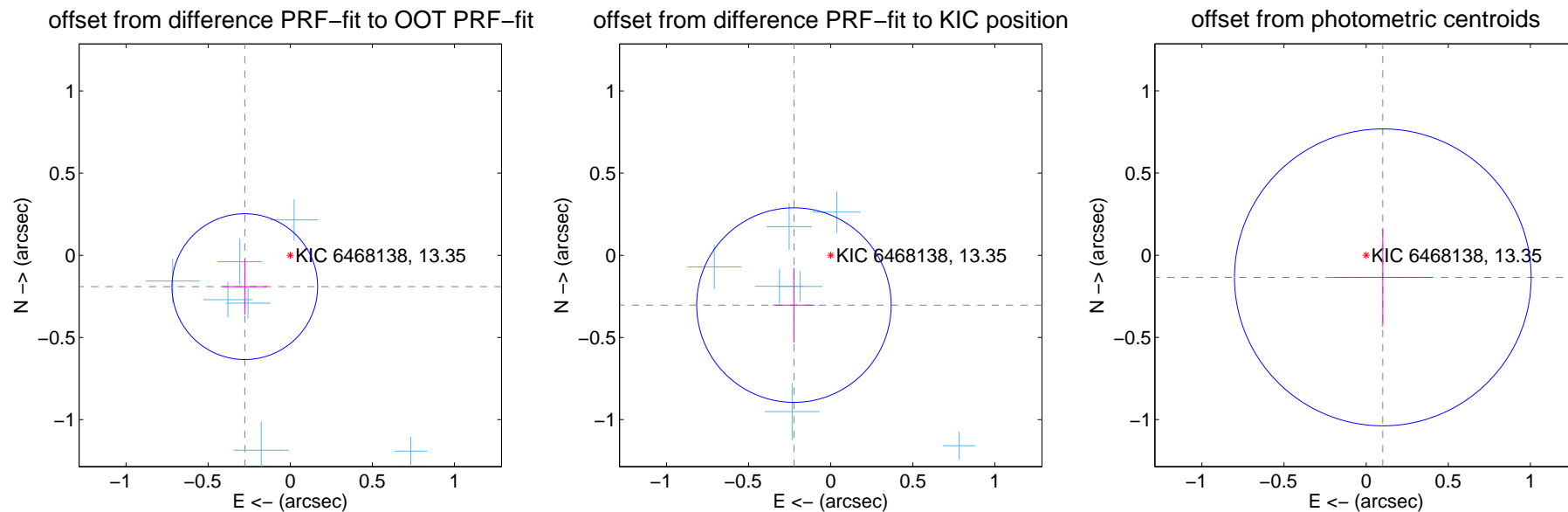
## DV Centroid Data

Supplemental centroid analysis for 006468138-01. Kepler magnitude: 13.35. Transit SNR 49.89

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

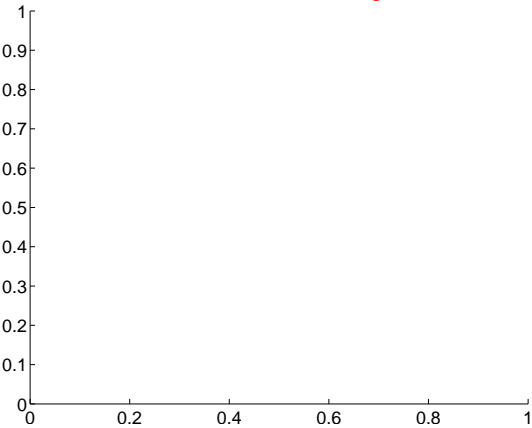
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.336 \pm 0.148$	2.27	$0.277 \pm 0.137$	$-0.191 \pm 0.169$
PRF-fit source offset from KIC position	$0.377 \pm 0.197$	1.91	$0.224 \pm 0.126$	$-0.303 \pm 0.227$
photometric centroid source offset	$0.17 \pm 0.30$	0.56	$-0.10 \pm 0.30$	$-0.13 \pm 0.30$



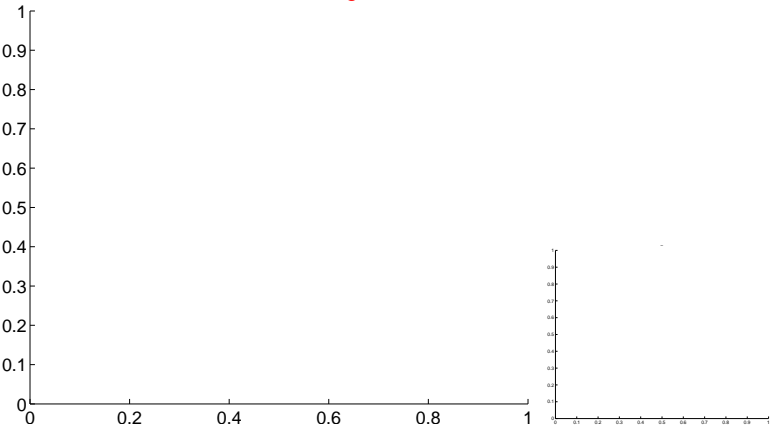
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

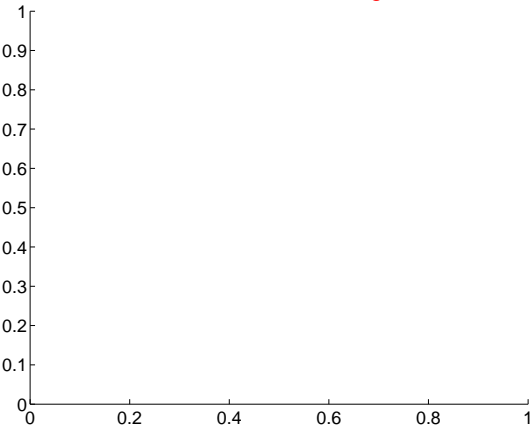
Q1 no difference image



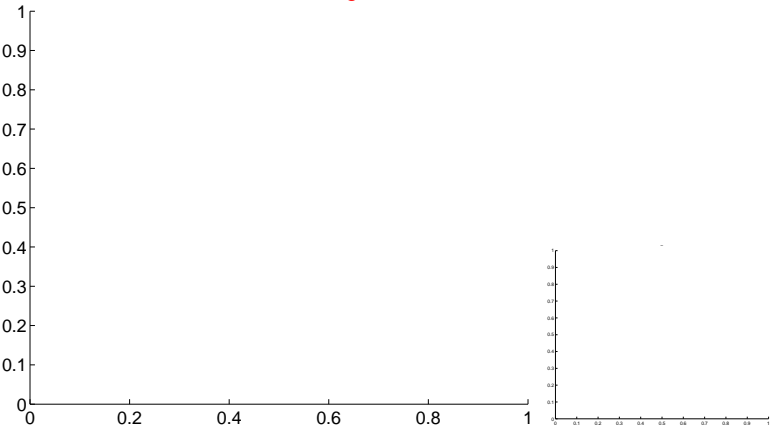
Q1 no OOT image



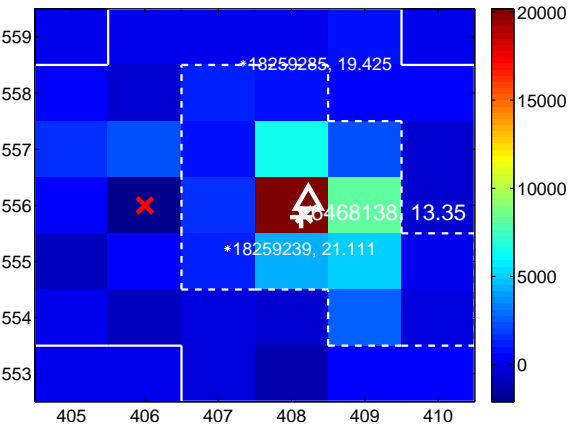
Q2 no difference image



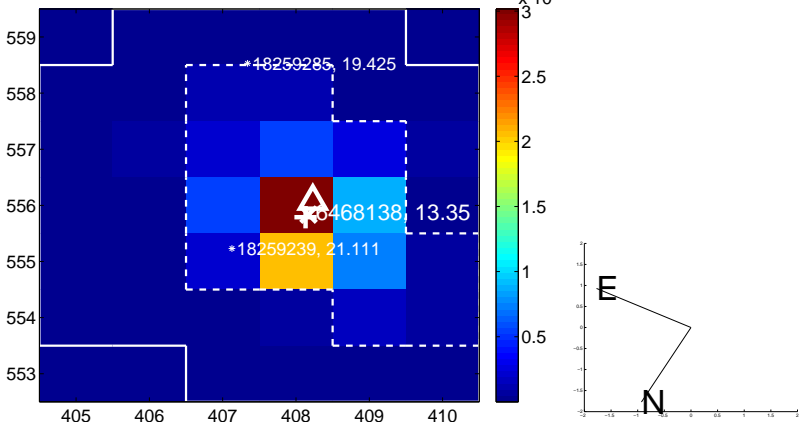
Q2 no OOT image



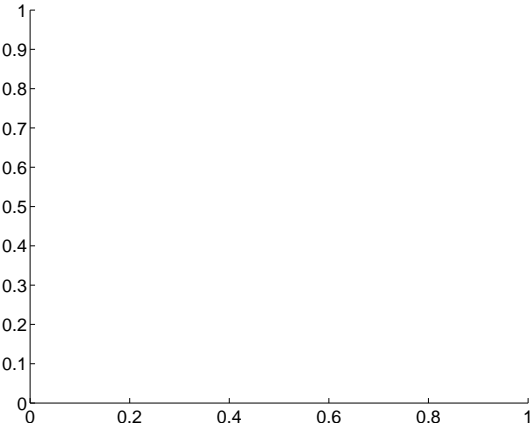
Q3 difference image



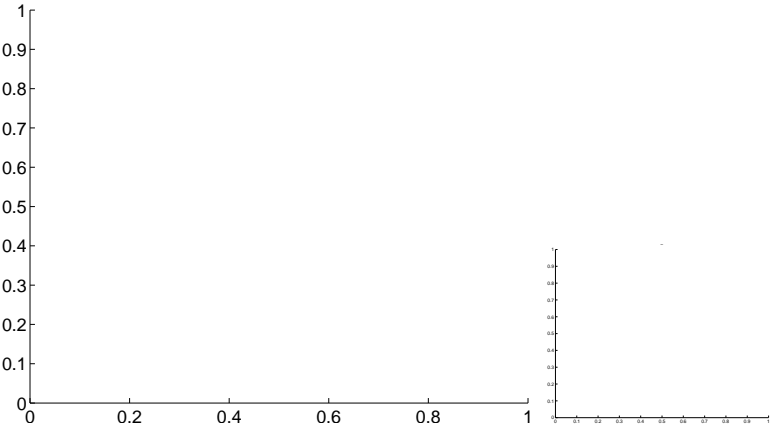
Q3 OOT image



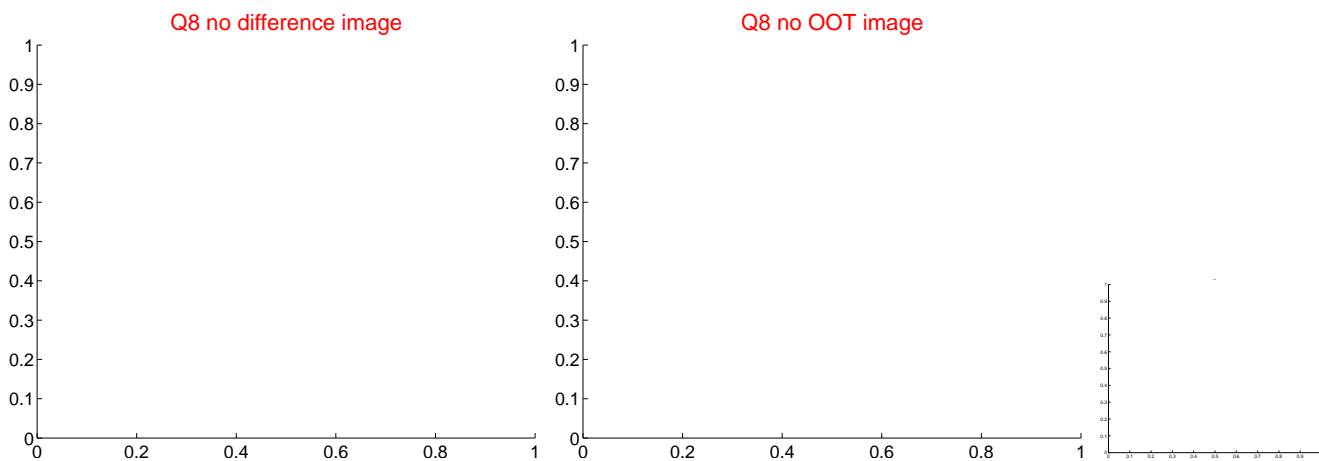
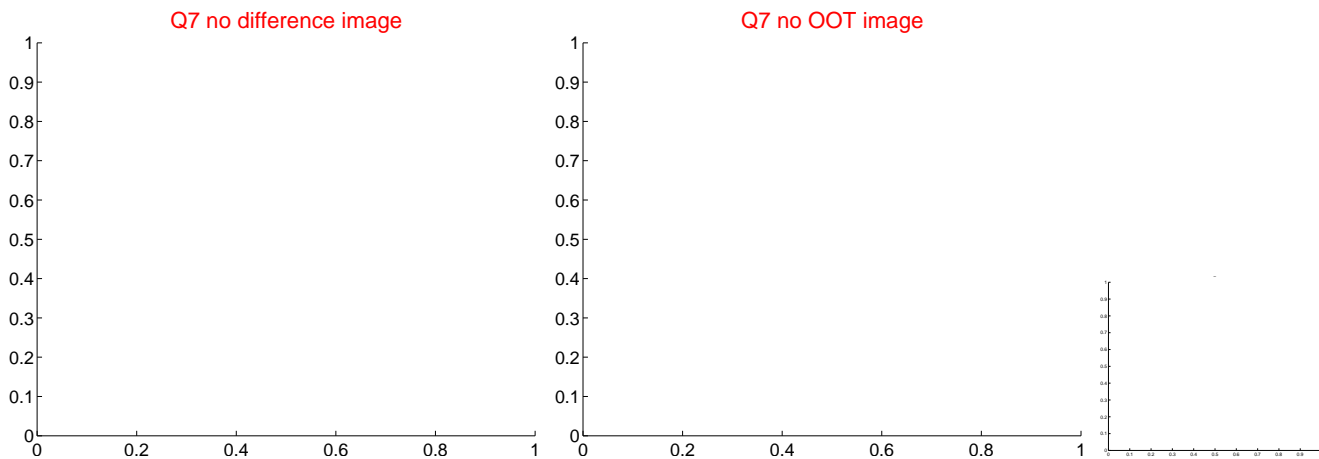
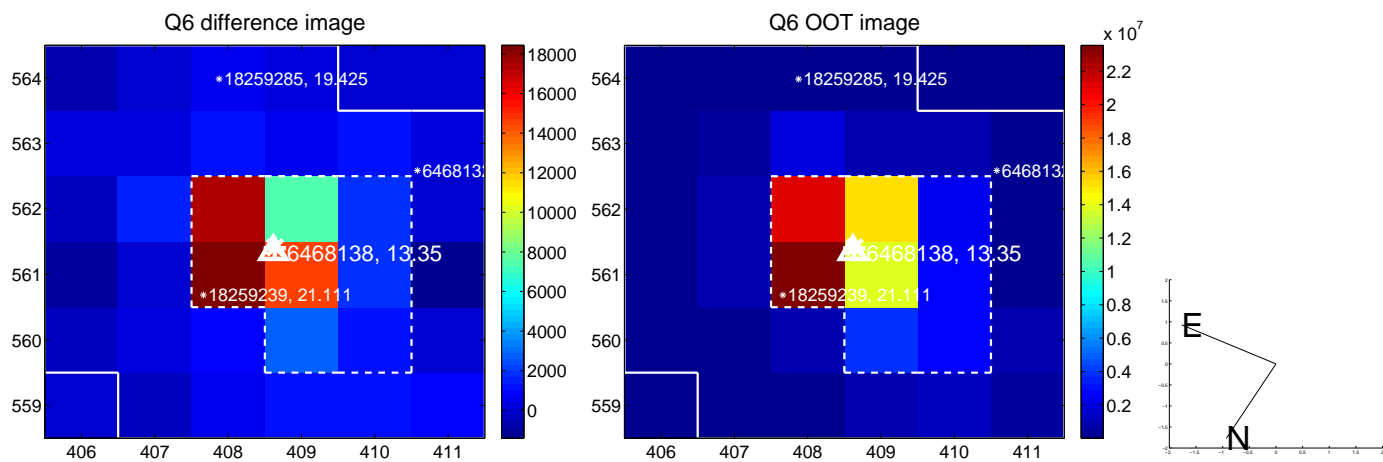
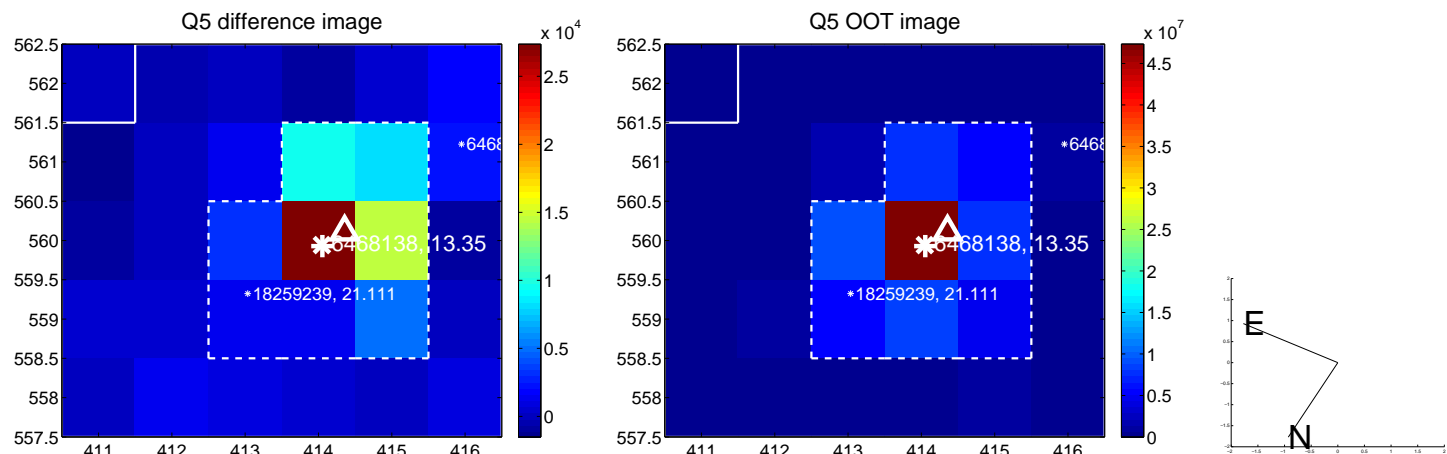
Q4 no difference image



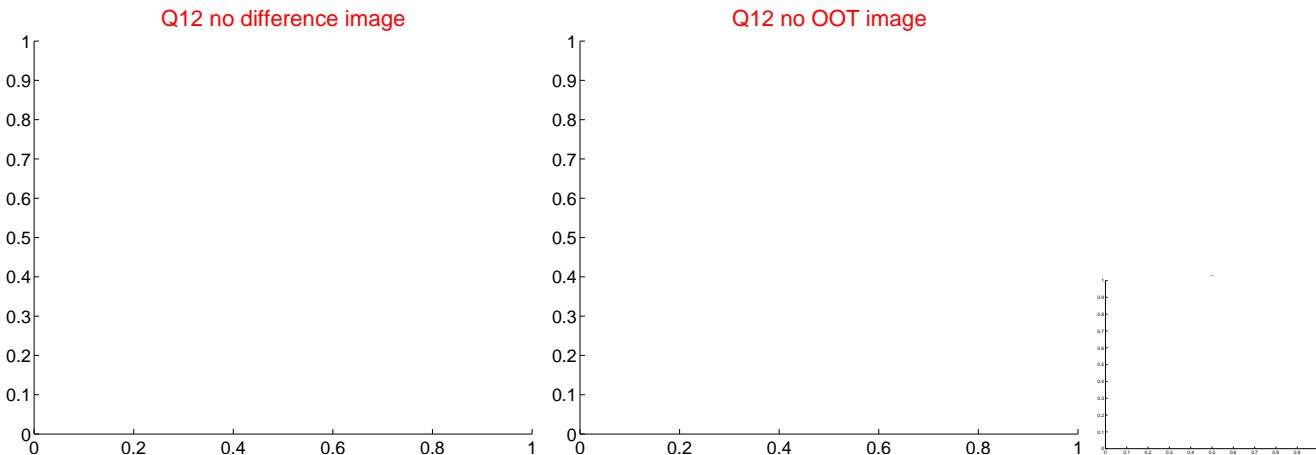
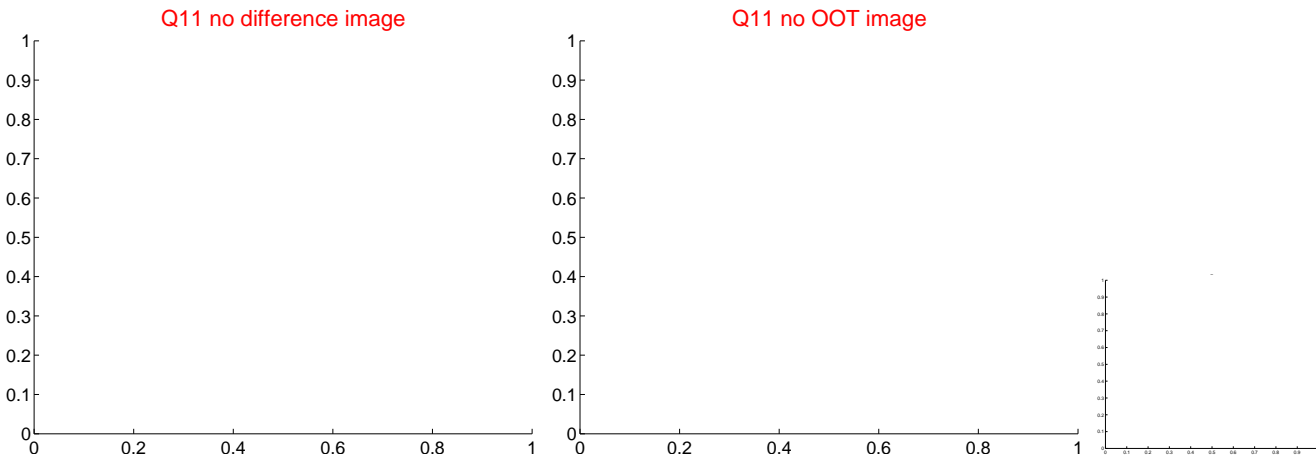
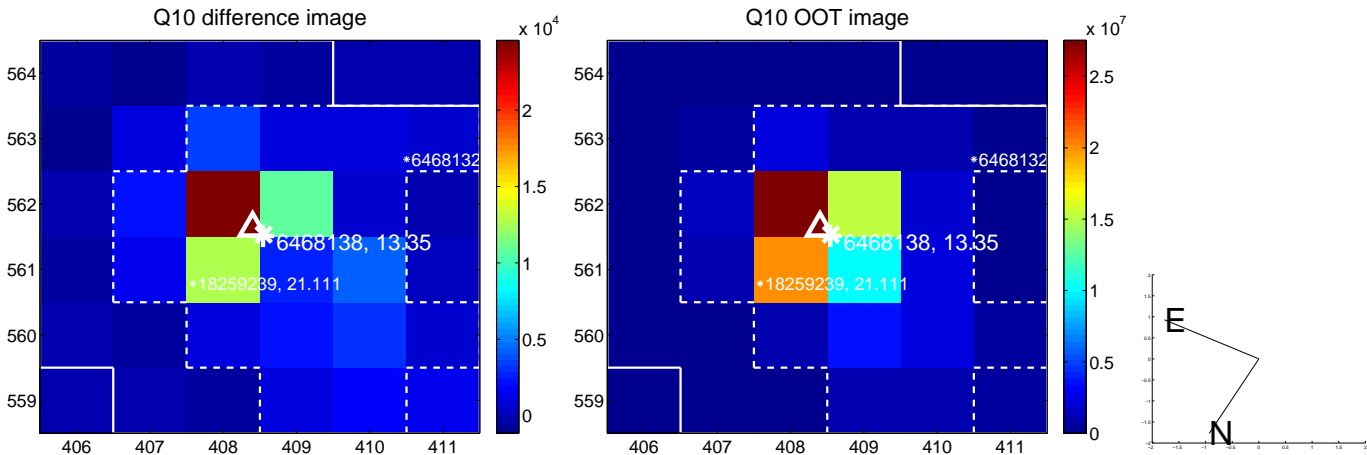
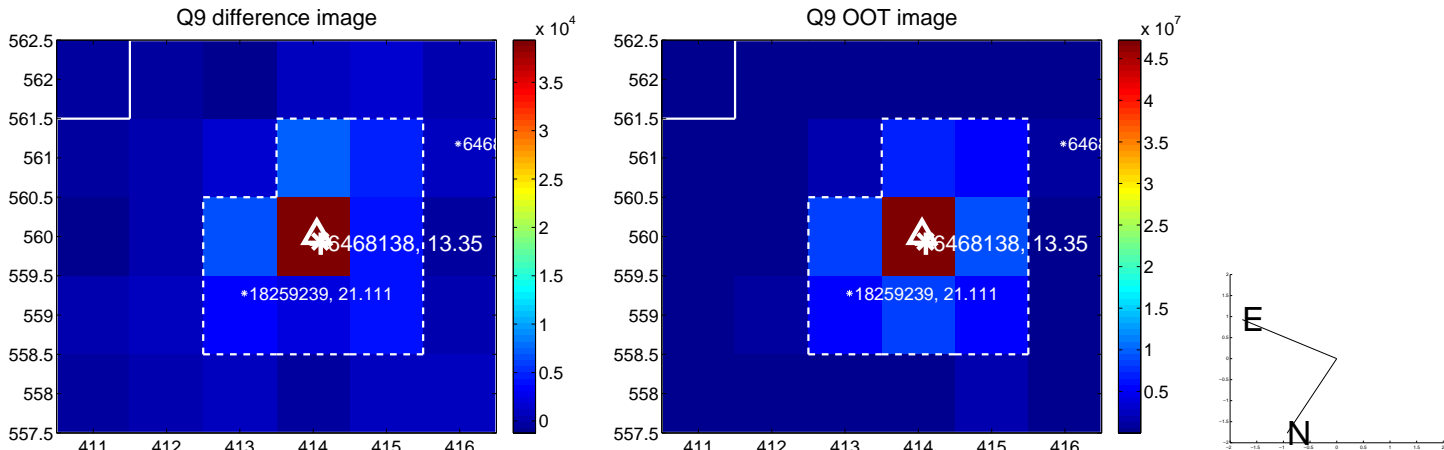
Q4 no OOT image



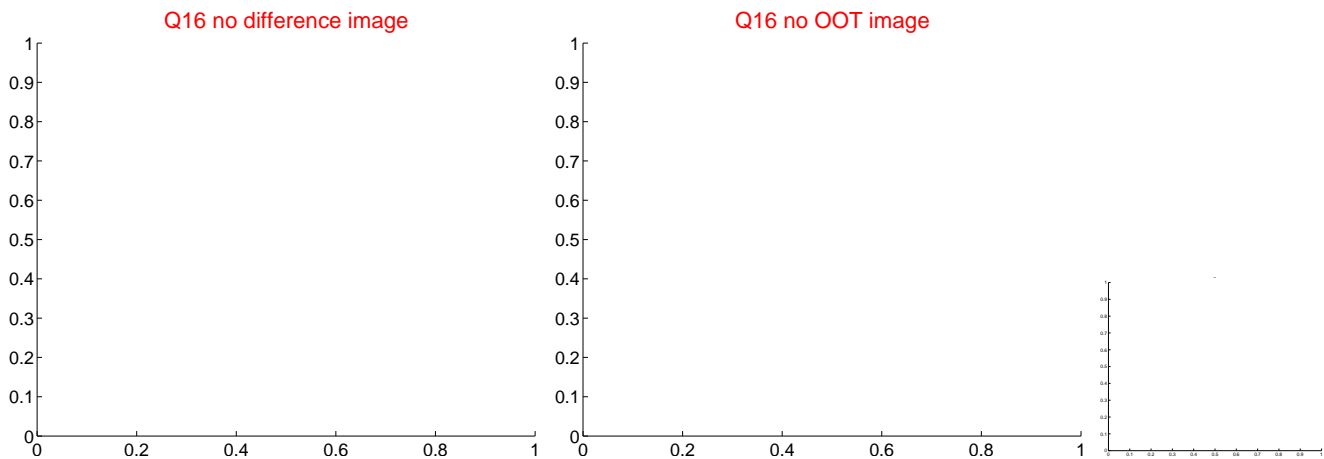
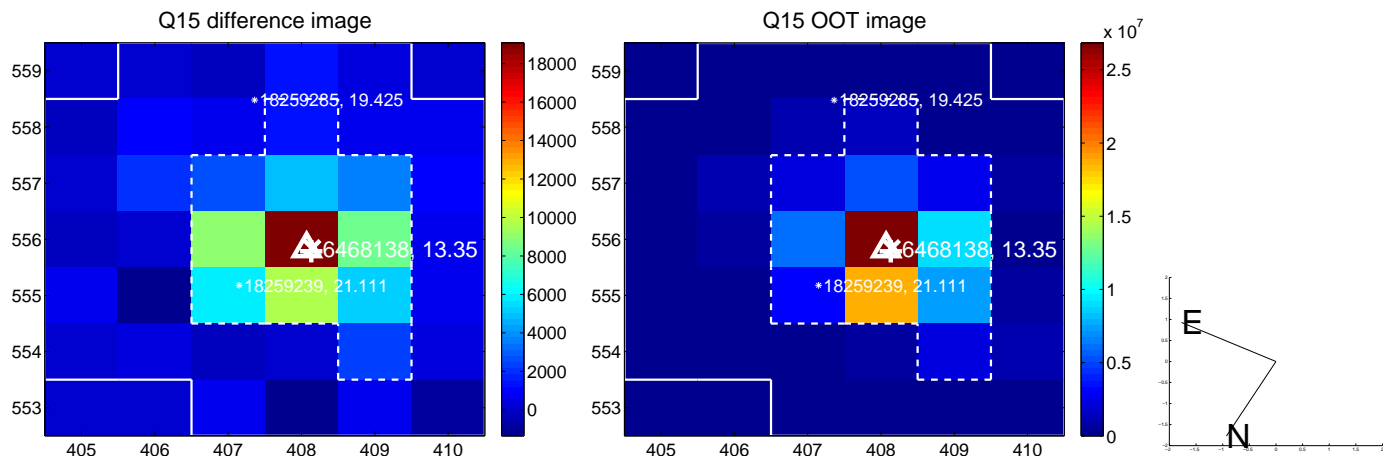
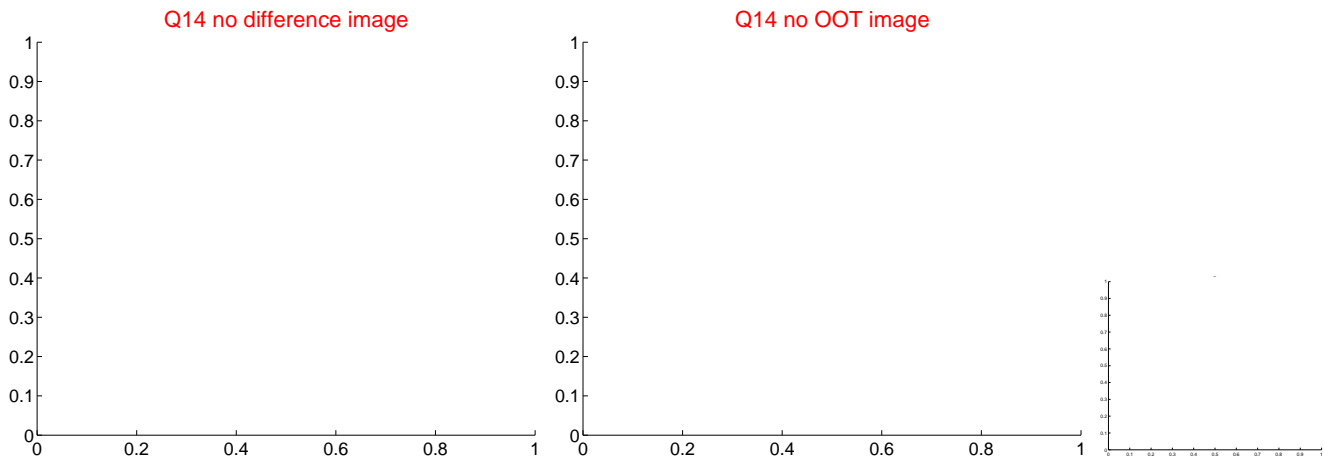
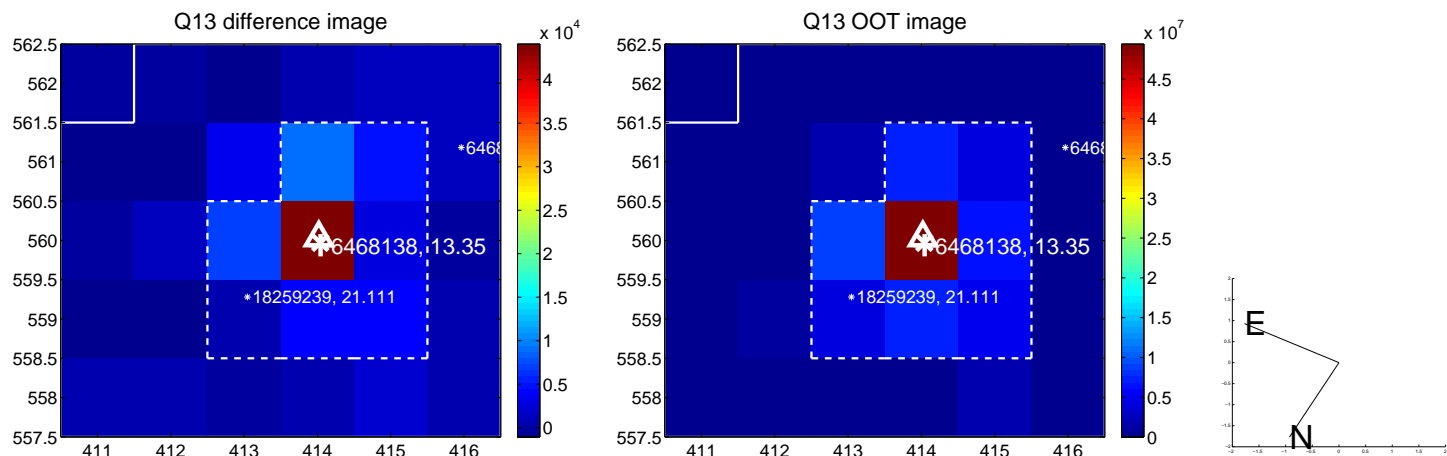
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



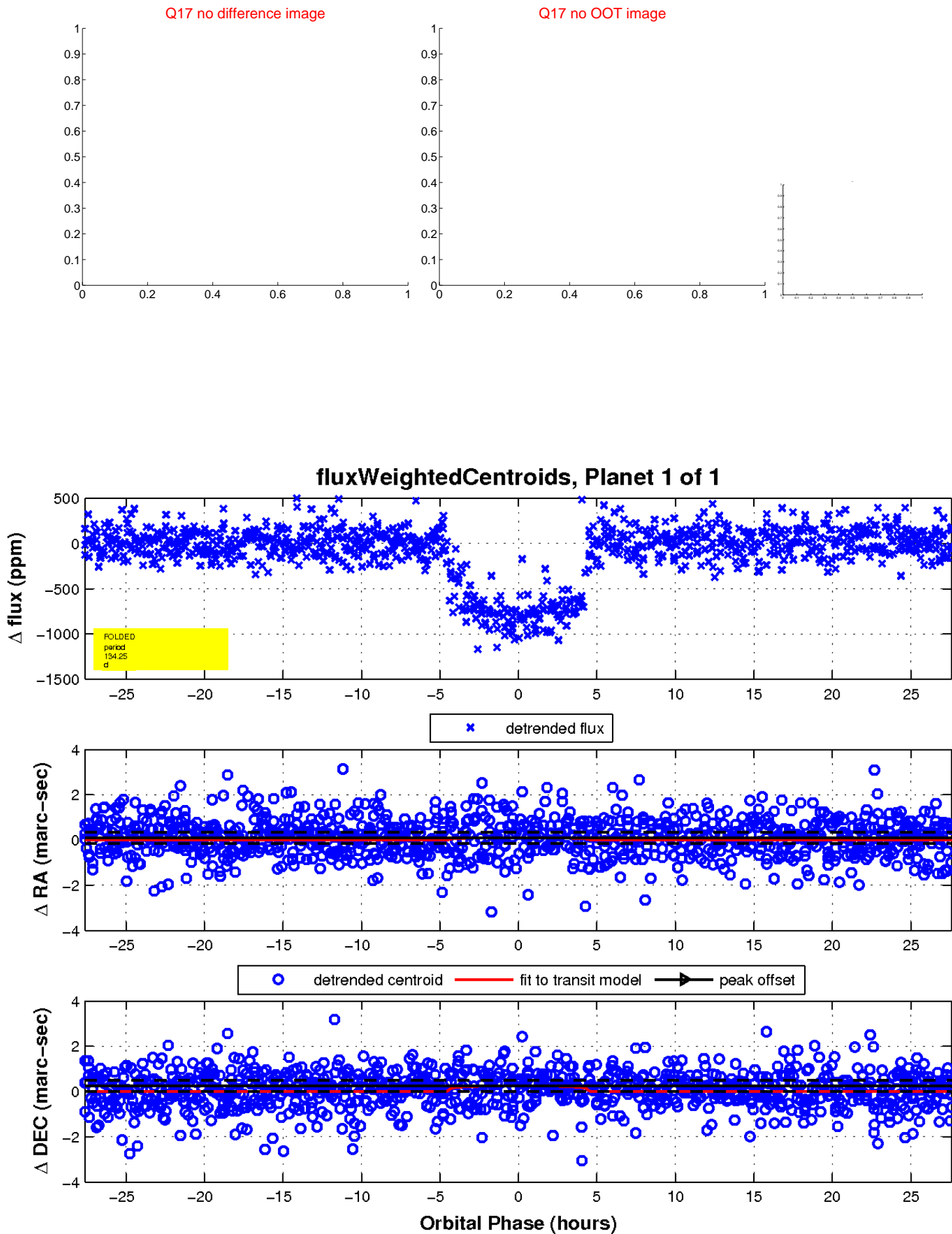
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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UKIRT Image

