

# KIC 004932442

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004932442-01	OBS	1665.01	6.933648	137.072650	120.1	4.526	17.6	18.6	1.30	5861	1.66	352.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004932442-01	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.

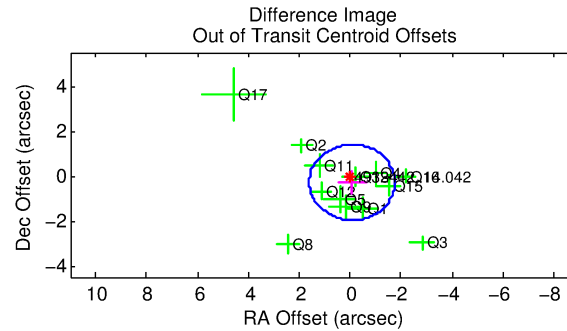
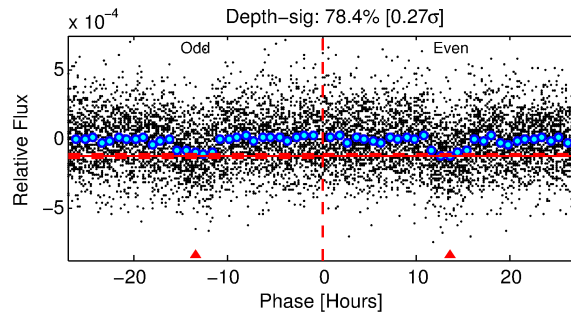
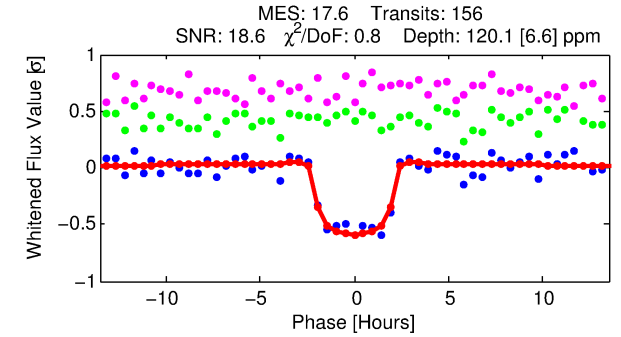
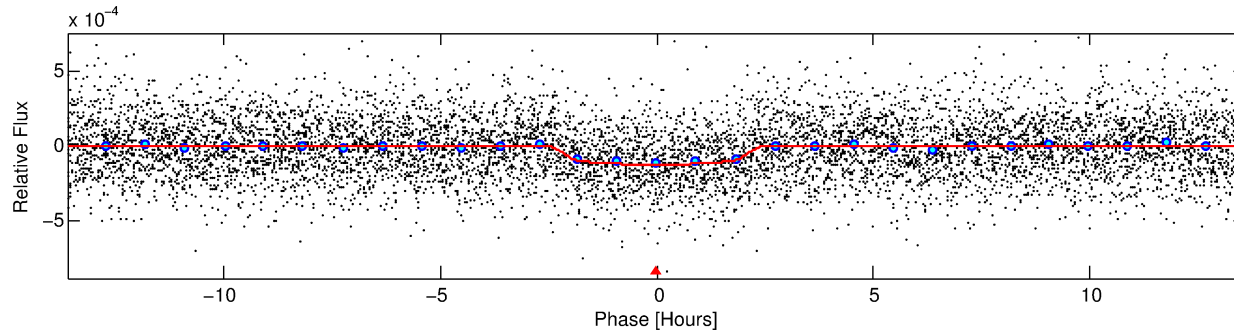
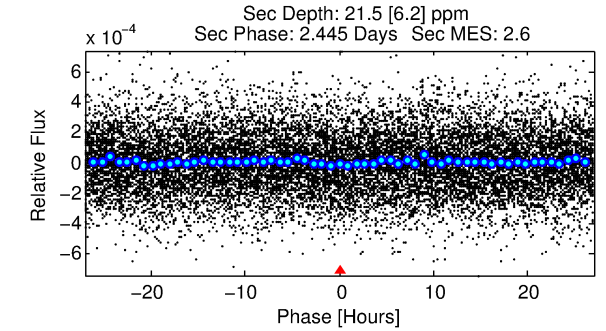
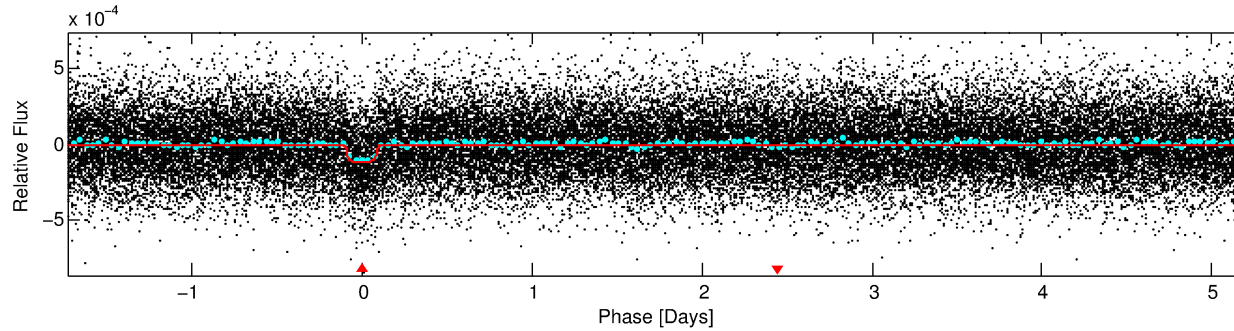
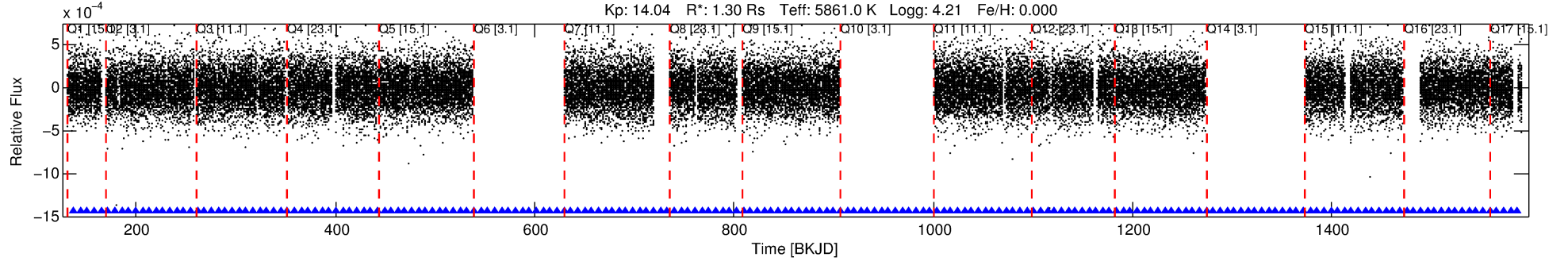
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004932442-01

No Significant Match Found

# DV One-Page Summary

KIC: 4932442 Candidate: 1 of 1 Period: 6.934 d  
KOI: K01665.01 Corr: 0.977



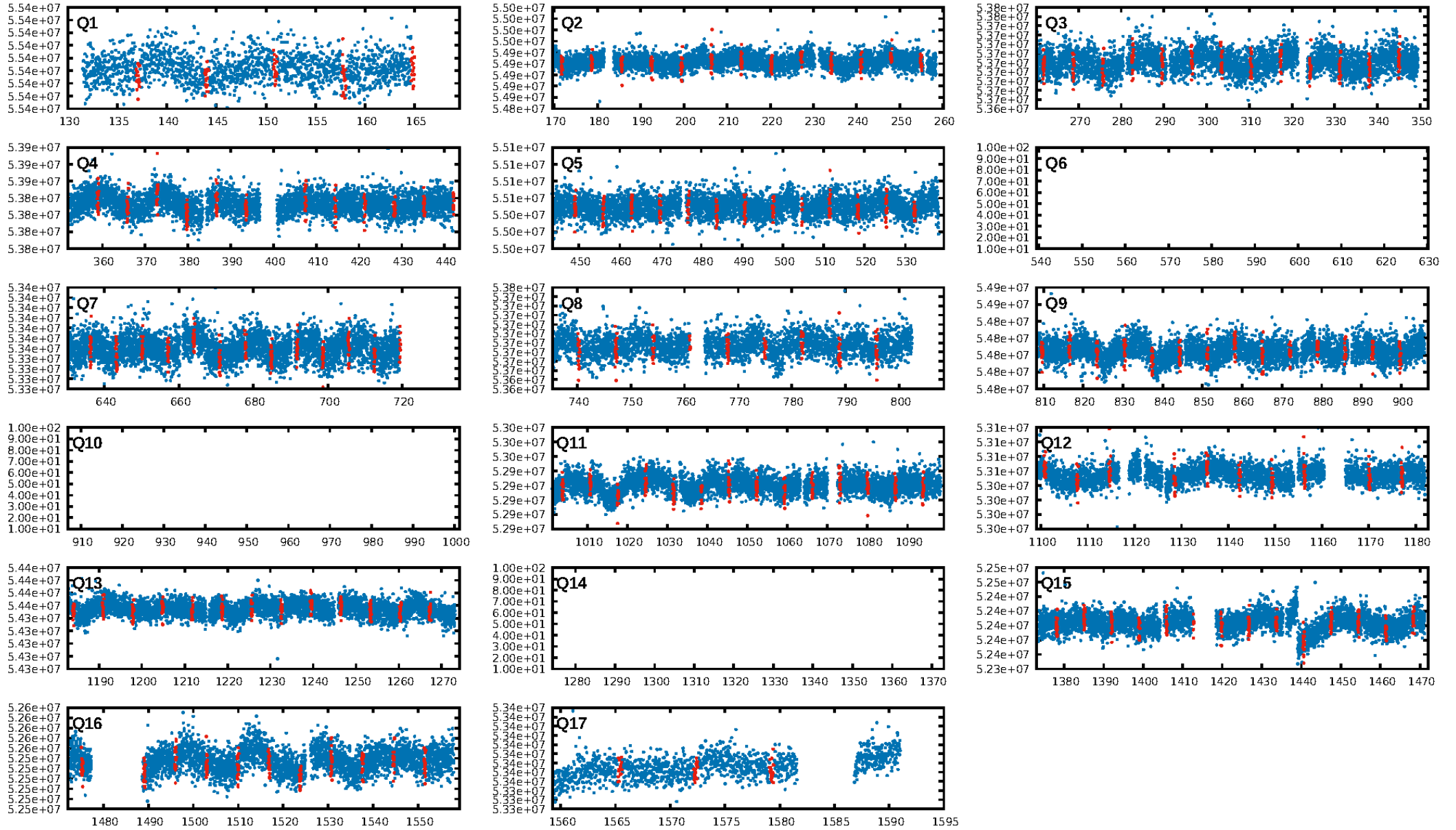
## DV Fit Results:

Period = 6.93365 [0.00004] d  
Epoch = 137.0727 [0.0040] BKJD  
Rp/R\* = 0.0117 [0.0034]  
a/R\* = 5.93 [8.18]  
b = 0.88 [0.37]  
Seff = 352.38 [108.14]  
Teq = 1105 [85] K  
Rp = 1.66 [0.57] Re  
a = 0.0714 [0.0130] AU  
Ag = 21.83 [15.63] [1.33σ]  
Teffp = 3692 [606] K [4.23σ]

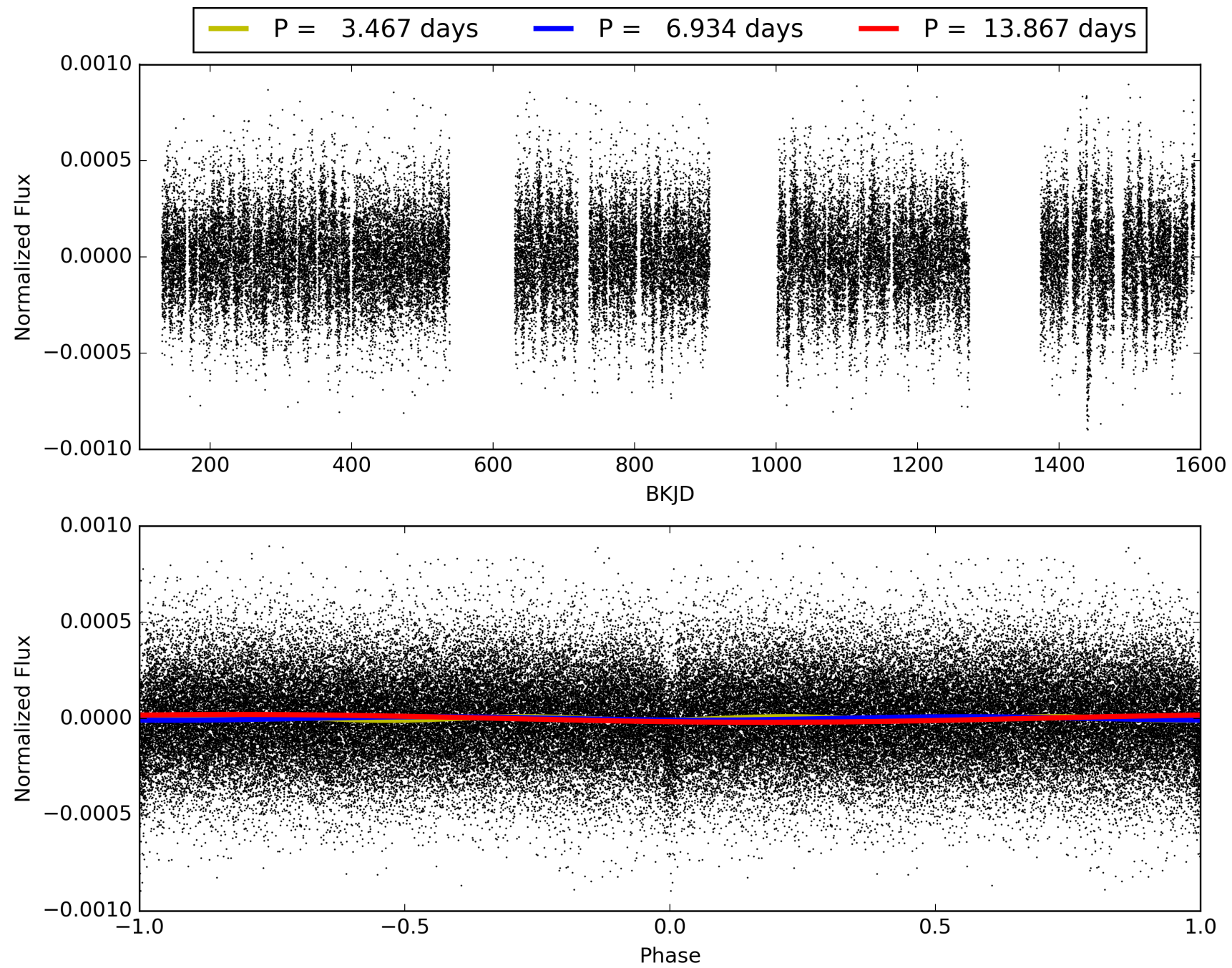
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.10e-66  
RollingBand-fgt: 1.00 [148/148]  
GhostDiagnostic-chr: -4.099  
Centroid-sig: 1.0%  
Centroid-so: 1.099 arcsec [1.67σ]  
OotOffset-rm: 0.299 arcsec [0.53σ]  
KicOffset-rm: 0.310 arcsec [0.58σ]  
OotOffset-st: 1/3/4/5 [13]  
KicOffset-st: 1/3/4/5 [13]  
DiffImageQuality-fgm: 0.85 [11/13]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 004932442-01, PDC Light Curves

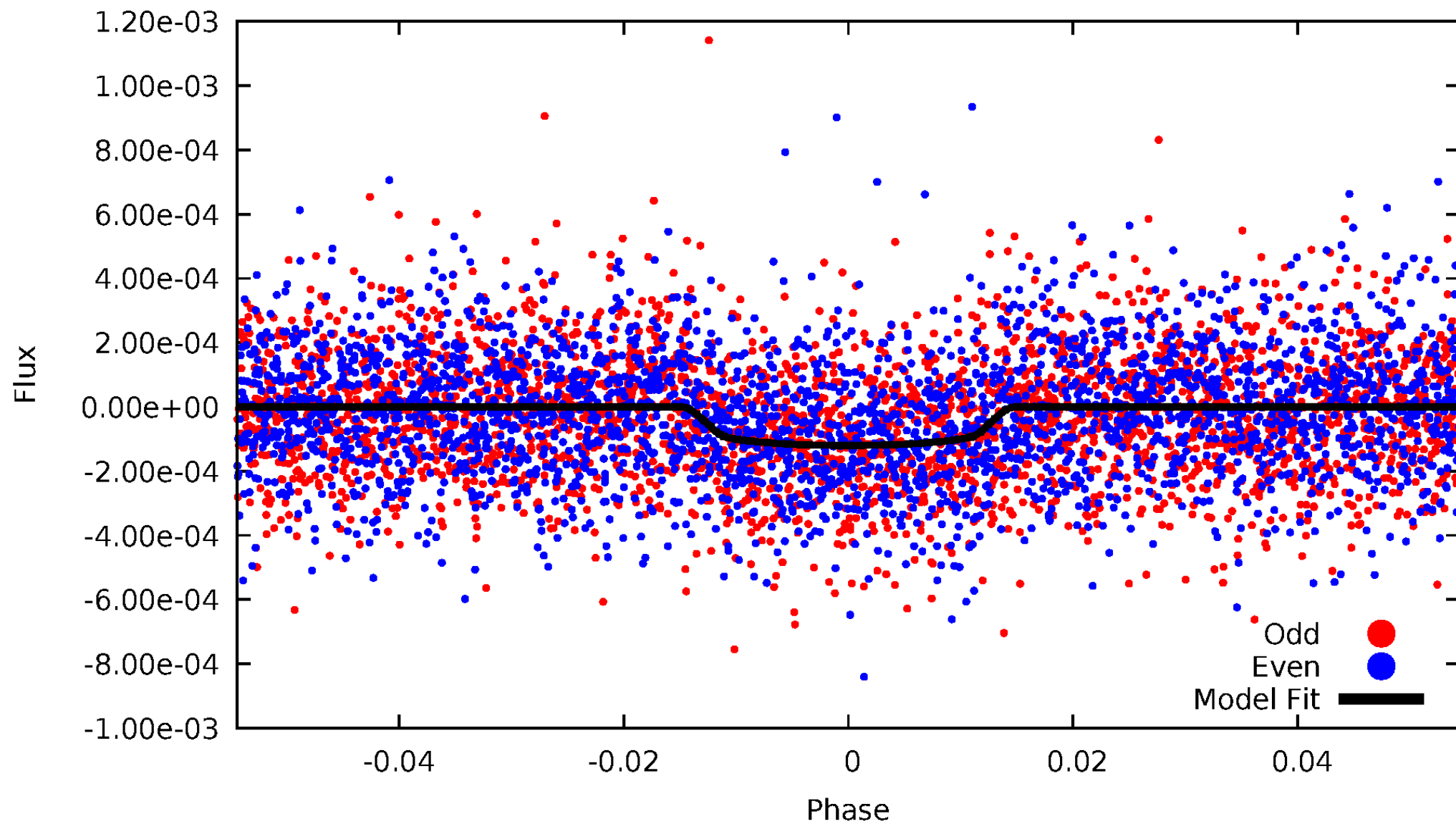


TCE 004932442-01



# DV Odd/Even

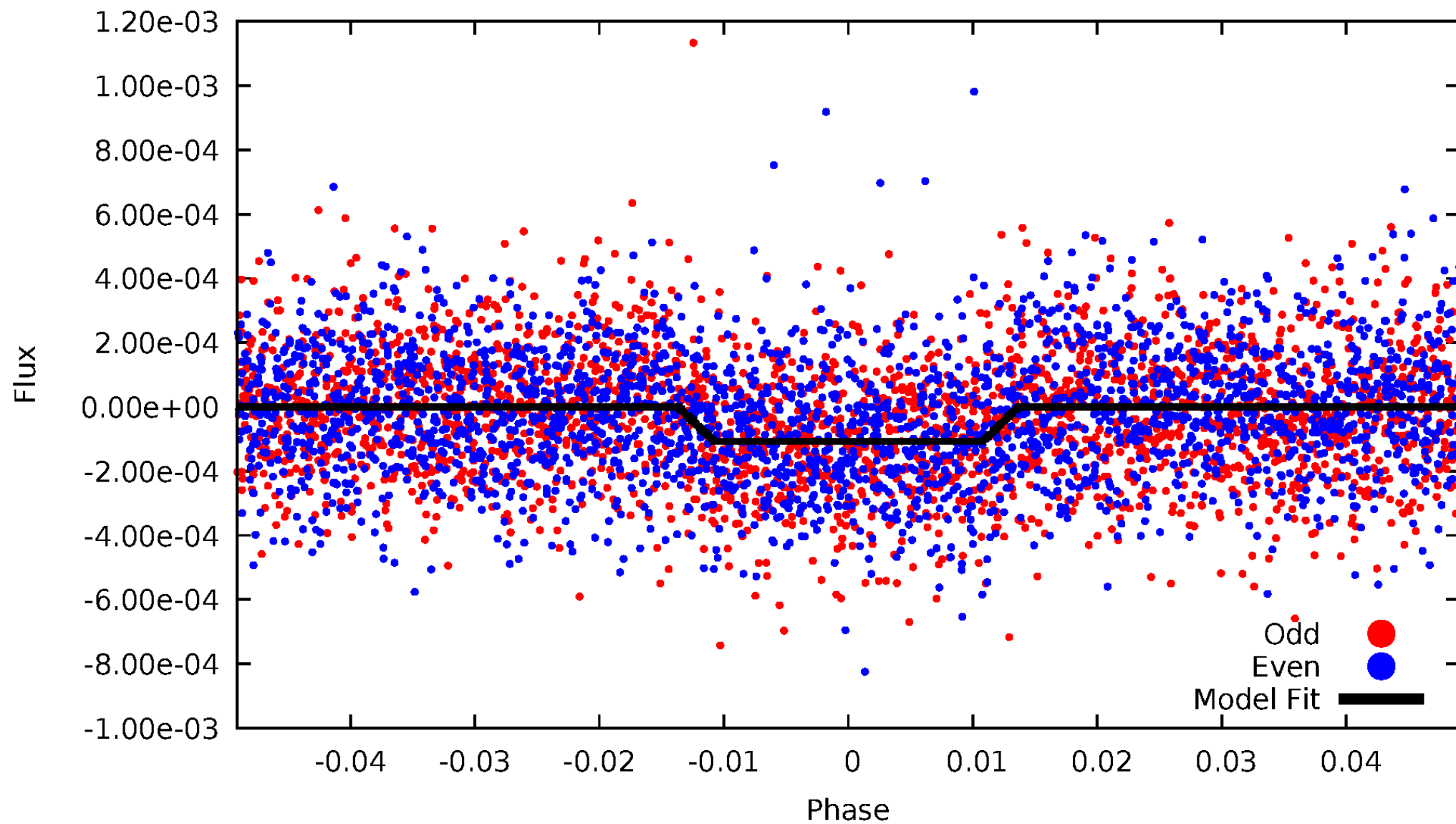
TCE 004932442-01



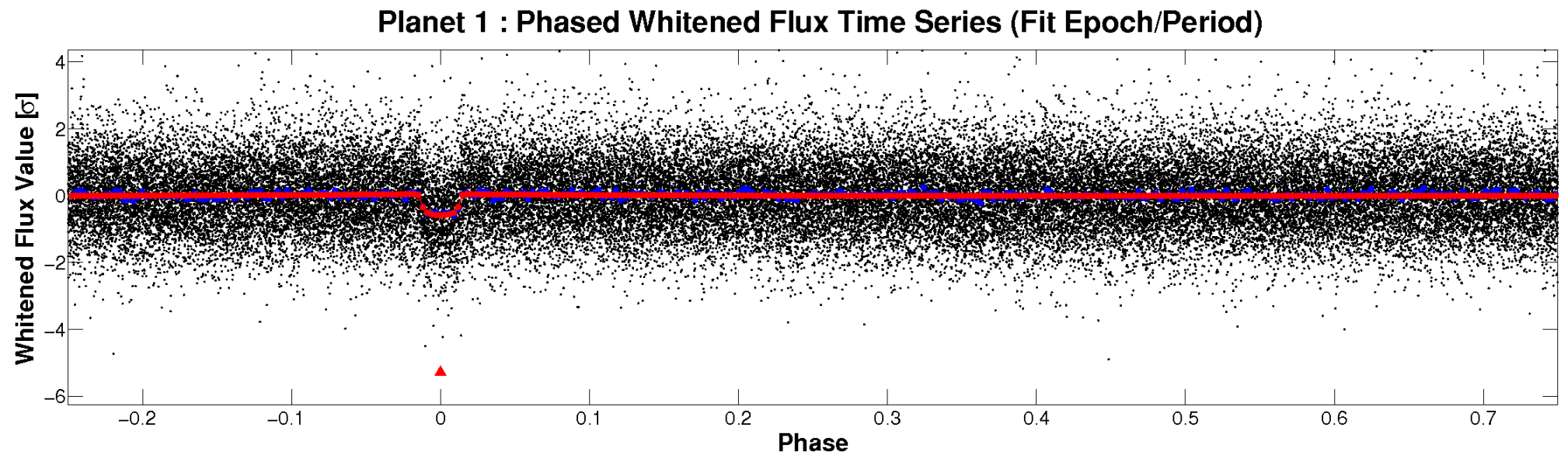
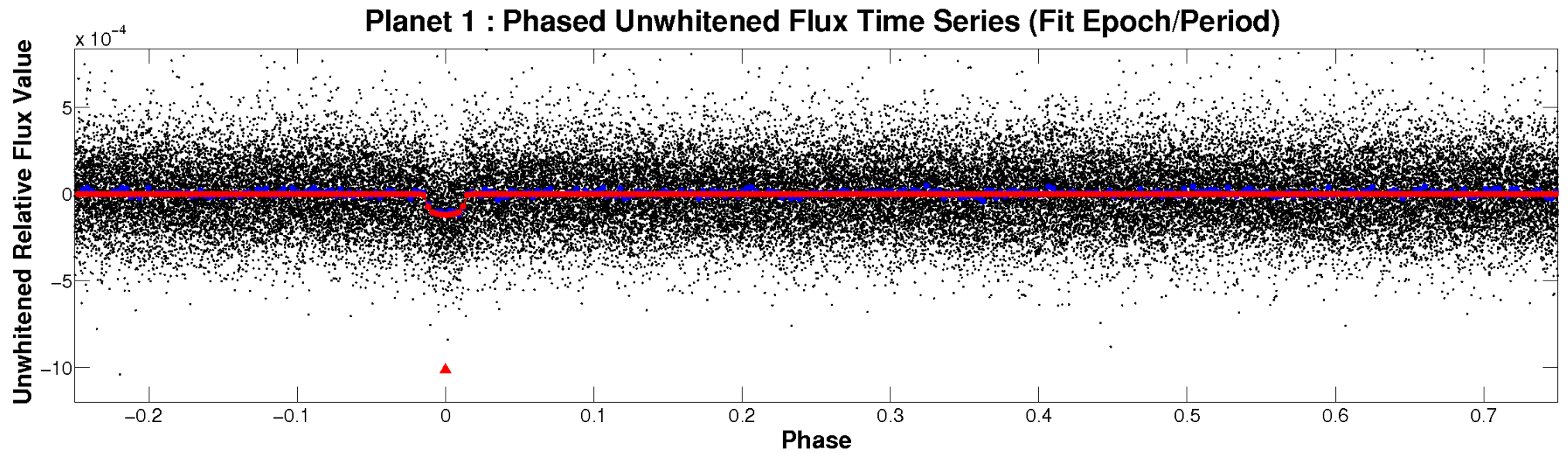


# ALT Odd/Even

TCE 004932442-01

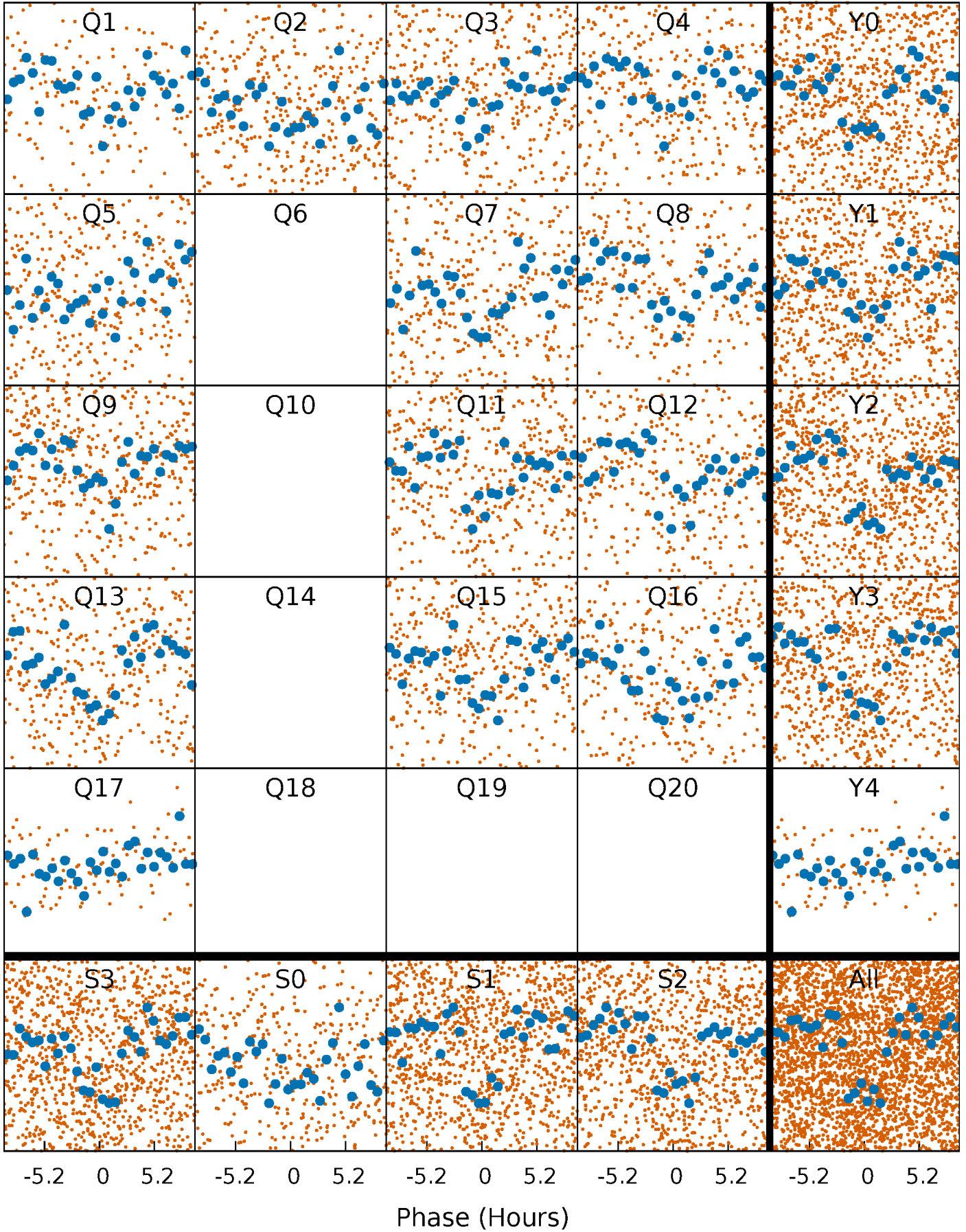


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

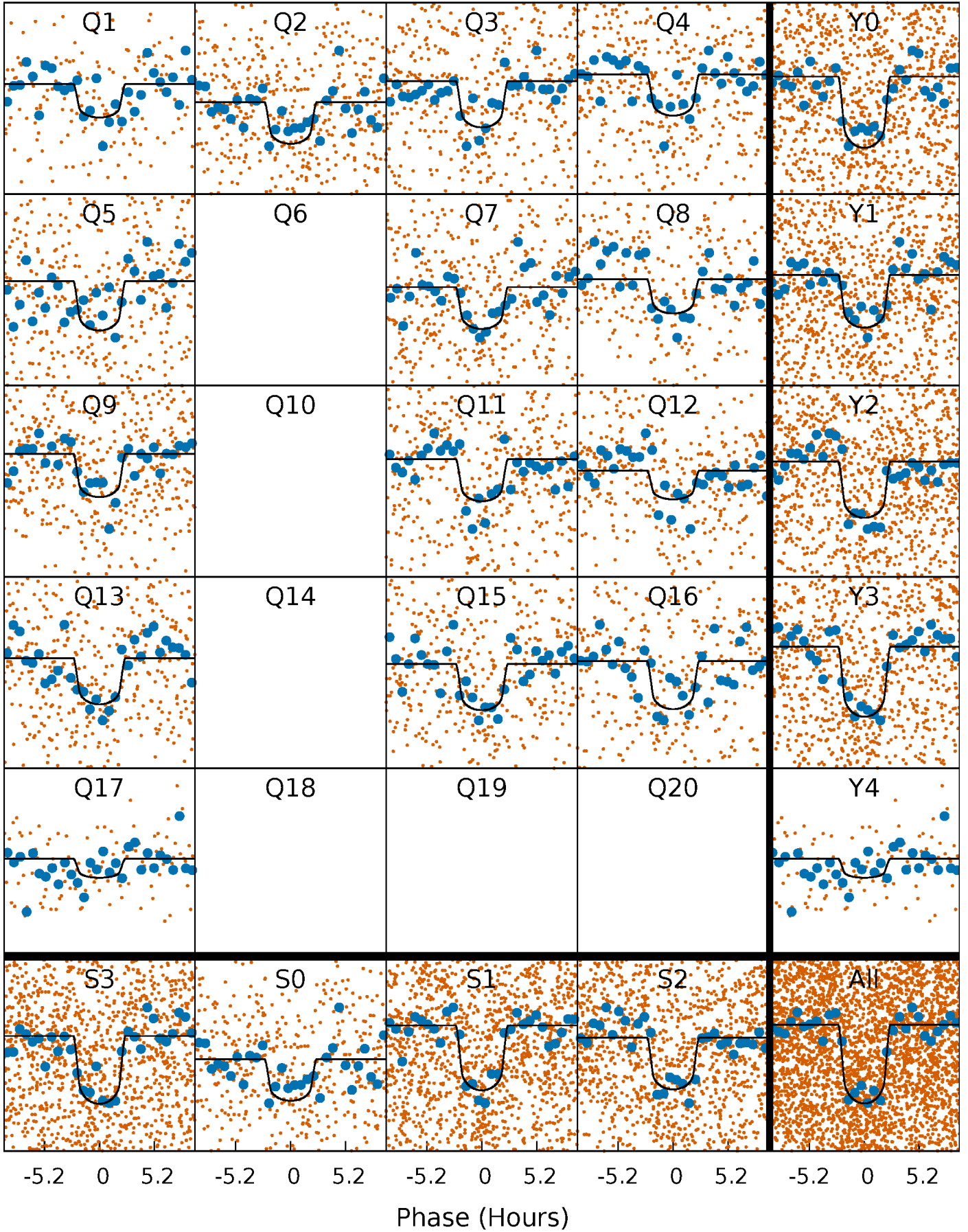
TCE 004932442-01   P= 6.933648 Days    $T_0=137.072650$  (BKJD)





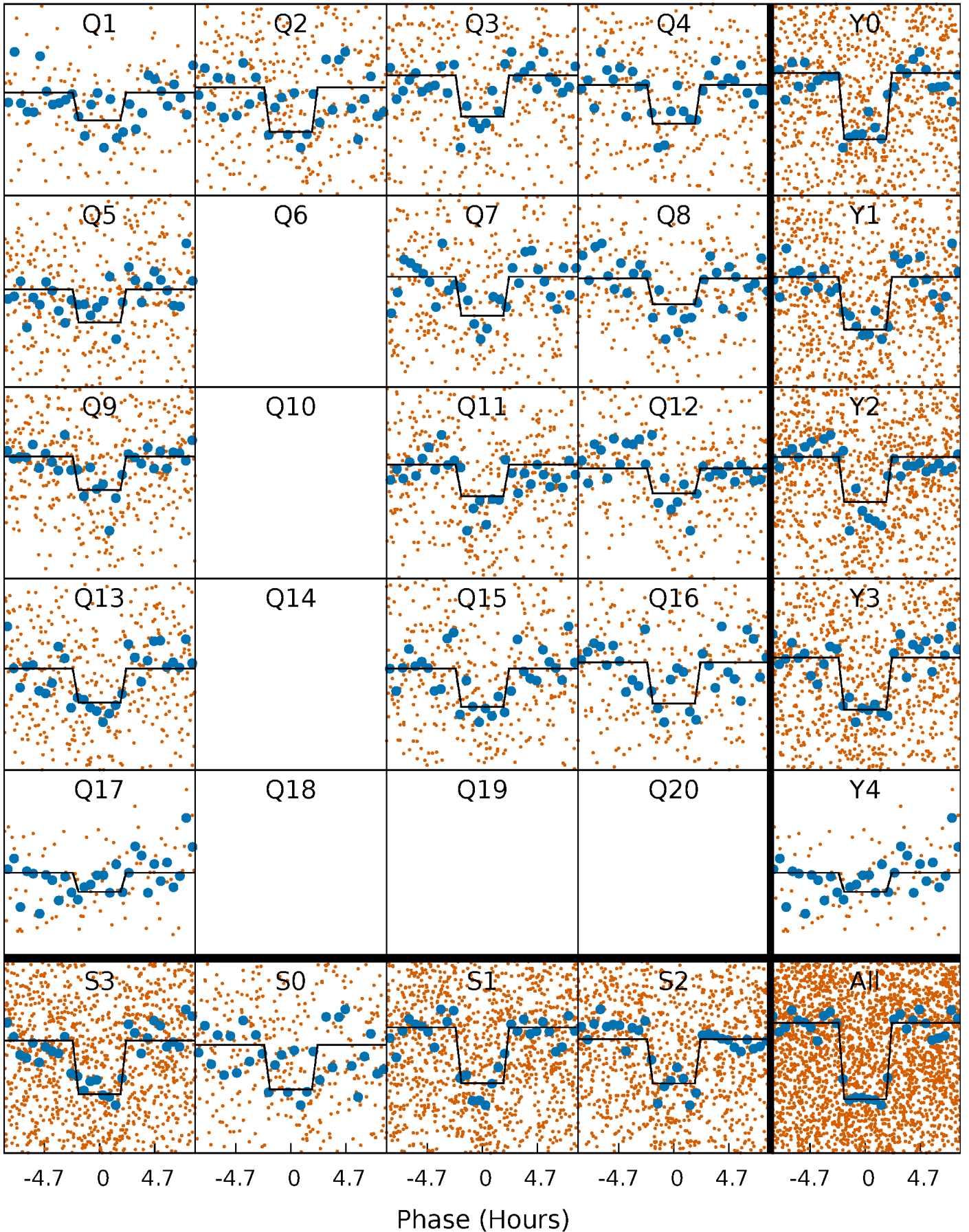
# DV Quarter-Phased Transit Curves

TCE 004932442-01 P= 6.933648 Days  $T_0=137.072650$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

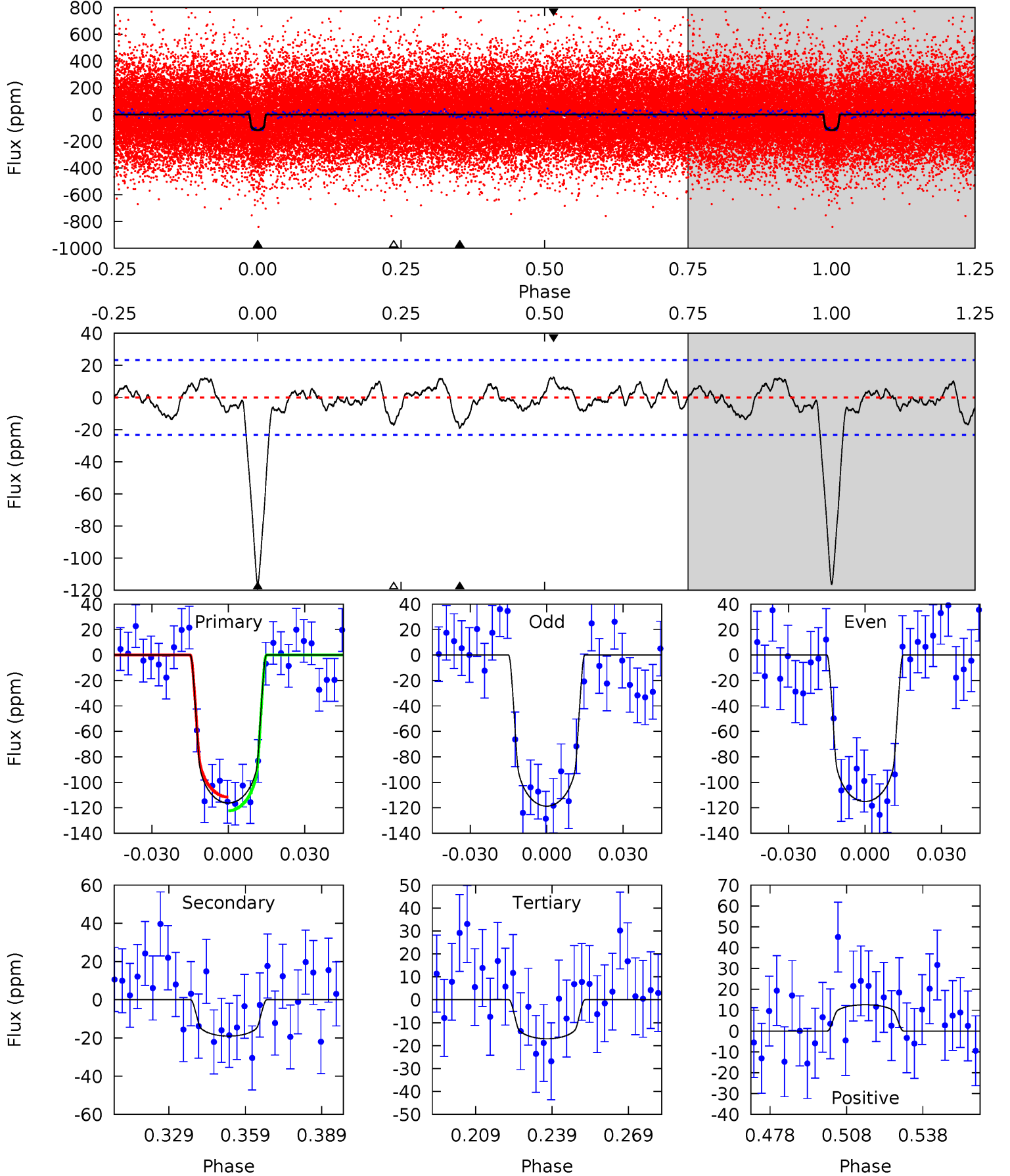
TCE 004932442-01 P= 6.933601 Days  $T_0=137.079491$  (BKJD)



# DV Model-Shift Uniqueness Test

004932442-01, P = 6.933648 Days, E = 130.139002 Days

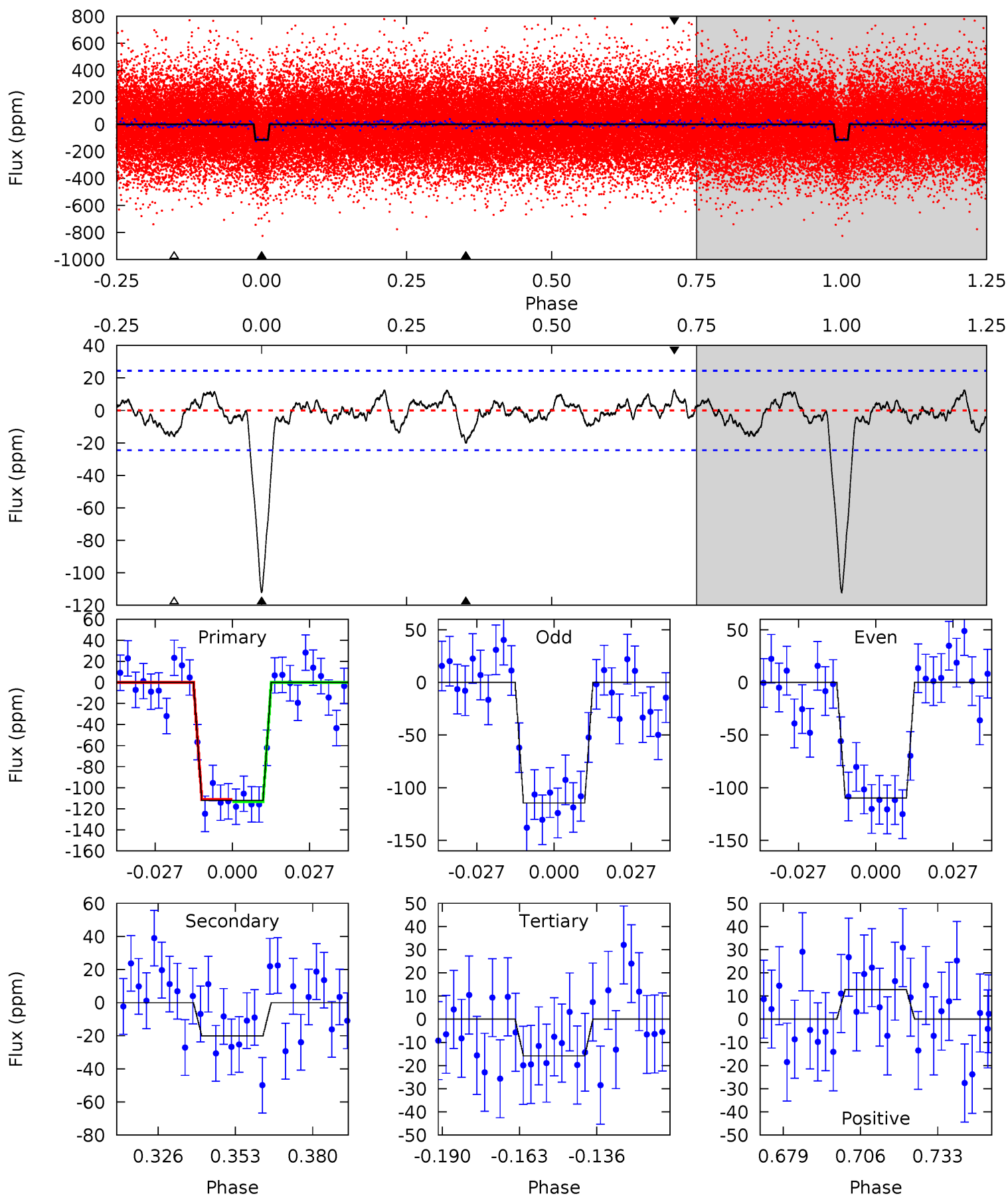
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	3.93	3.51	2.60	4.81	2.17	1.23	20.5	21.4	0.42	1.33	0.37	0.97	0.10	1.11



# Alt Model-Shift Uniqueness Test

004932442-01, P = 6.933601 Days, E = 130.145890 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
22.1	3.97	3.12	2.51	4.83	2.21	1.12	19.0	19.6	0.84	1.46	0.47	0.96	0.10	0.20





### Stellar Parameters For KIC 004932442

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5861^{+105}_{-117}$	$4.212^{+0.176}_{-0.108}$	$0.000^{+0.150}_{-0.150}$	$1.304^{+0.195}_{-0.238}$	$1.010^{+0.093}_{-0.069}$	$0.641^{+0.512}_{-0.206}$
	+2%/-2%	+4%/-3%	+inf%/-inf%	+15%/-18%	+9%/-7%	+80%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

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

### Secondary Eclipse Parameters for KIC 004932442-01 / KOI 1665.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-19 \pm 5$	$1.65^{+0.54}_{-0.46}$	$1534^{+69}_{-82}$	$3915^{+542}_{-420}$	$20^{+22}_{-10}$
Alt.	$-20 \pm 5$	$1.47^{+0.48}_{-0.51}$	$1539^{+77}_{-82}$	$4140^{+731}_{-438}$	$26^{+38}_{-12}$

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

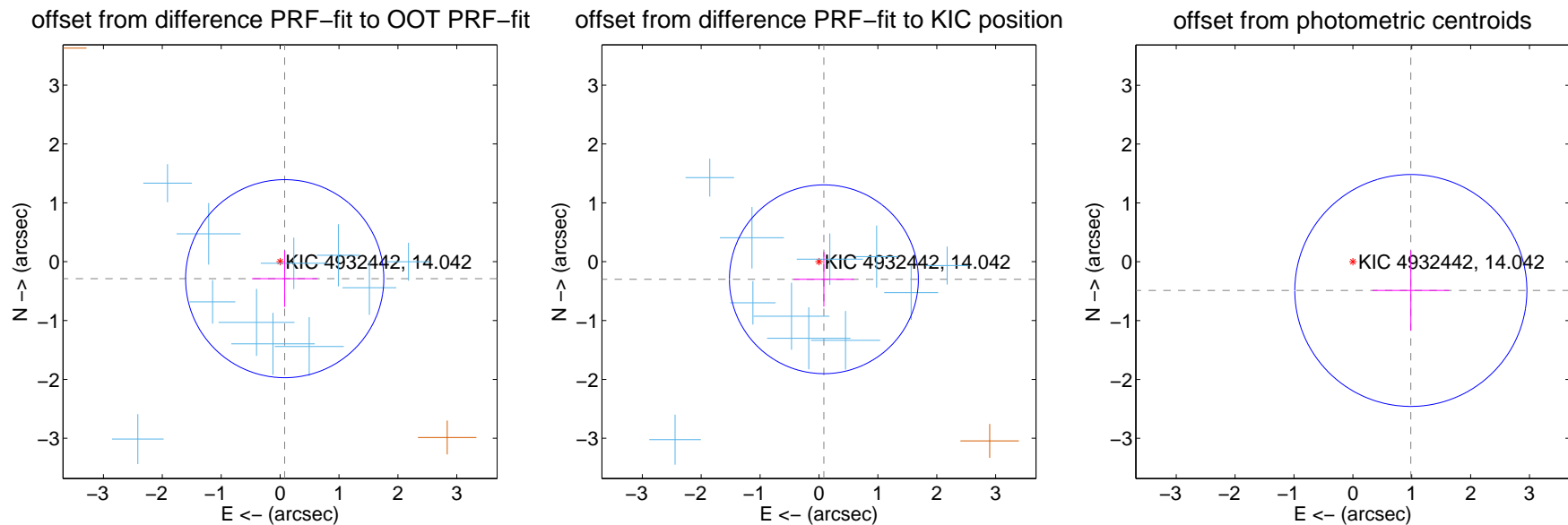
## DV Centroid Data

Supplemental centroid analysis for 004932442-01. Kepler magnitude: 14.04. Transit SNR 18.62

There are 11 quarters with good PRF difference image offsets

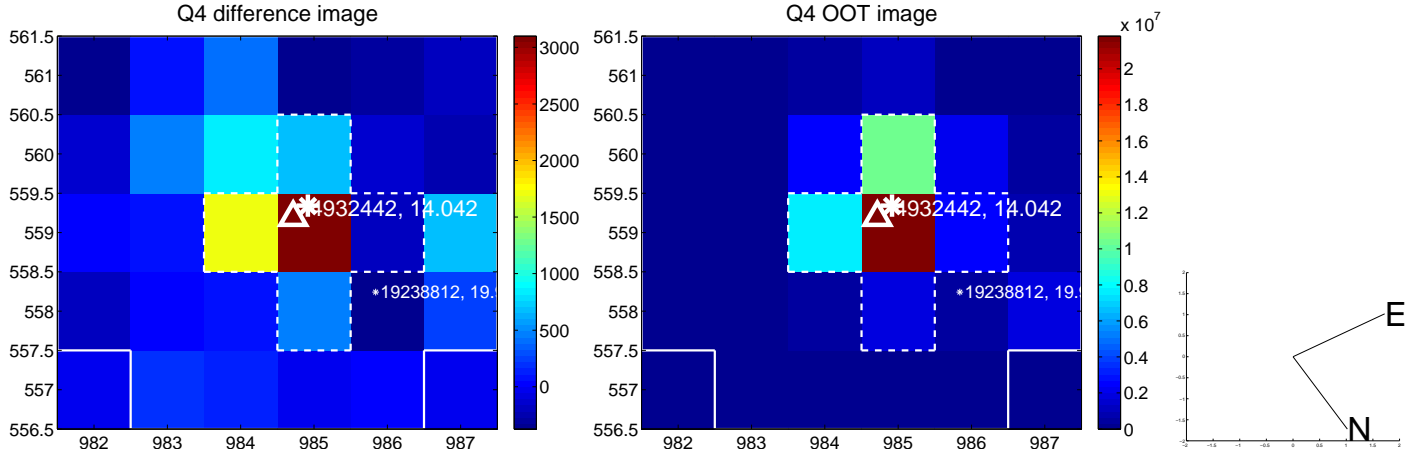
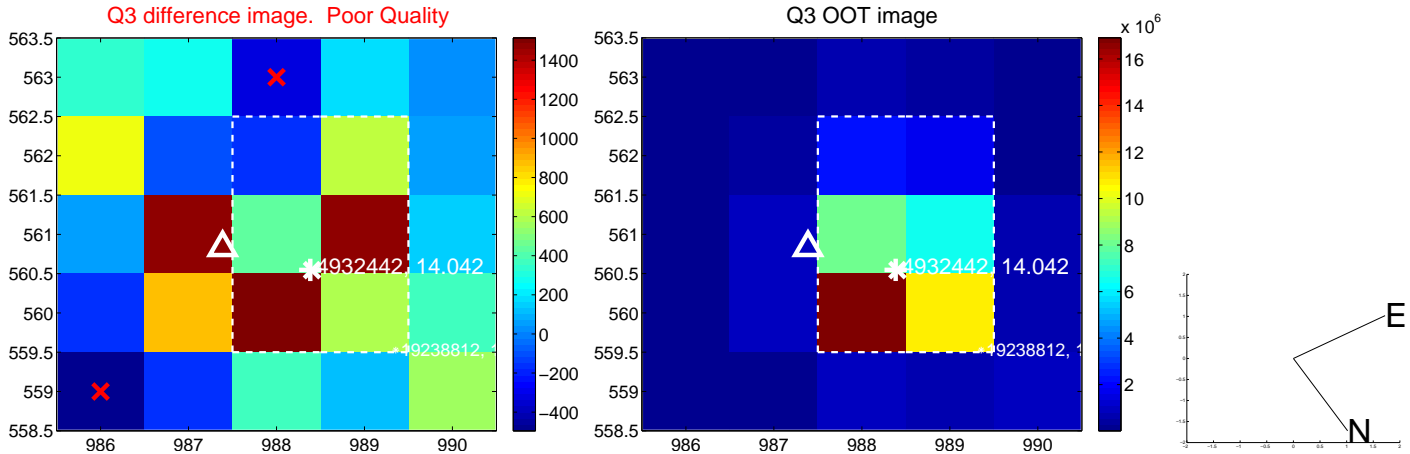
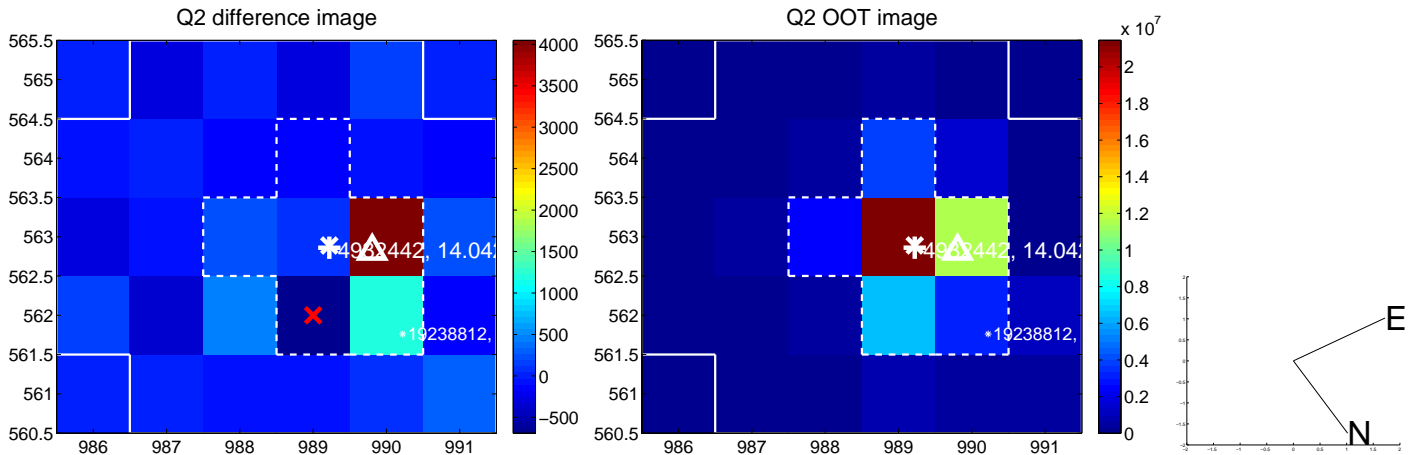
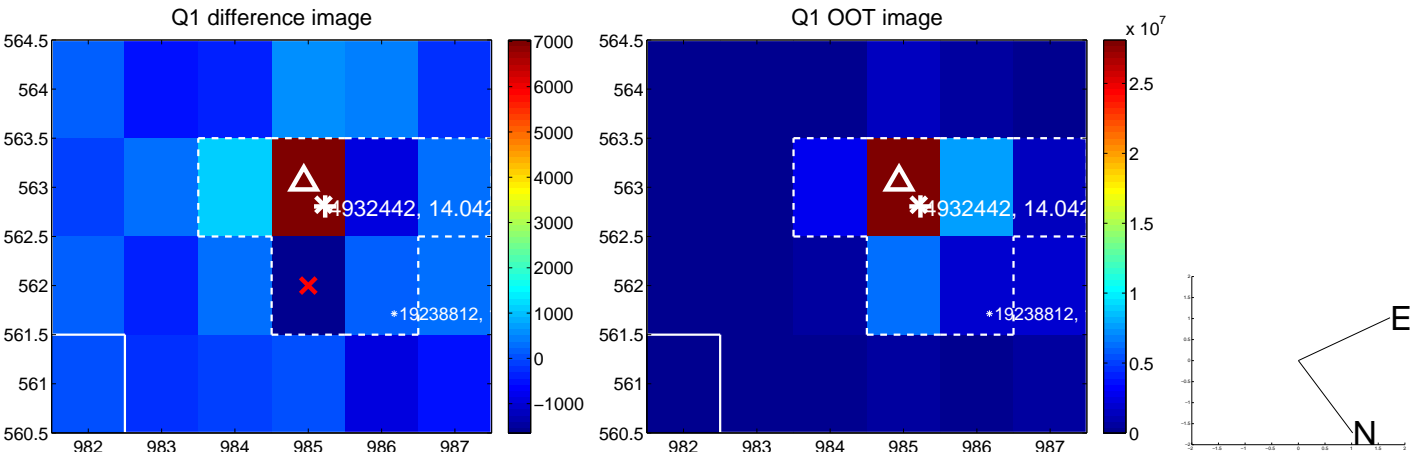
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.299 \pm 0.561$	0.53	$-0.078 \pm 0.556$	$-0.289 \pm 0.479$
PRF-fit source offset from KIC position	$0.310 \pm 0.535$	0.58	$-0.084 \pm 0.512$	$-0.299 \pm 0.463$
photometric centroid source offset	$1.10 \pm 0.66$	1.67	$-0.99 \pm 0.65$	$-0.49 \pm 0.68$

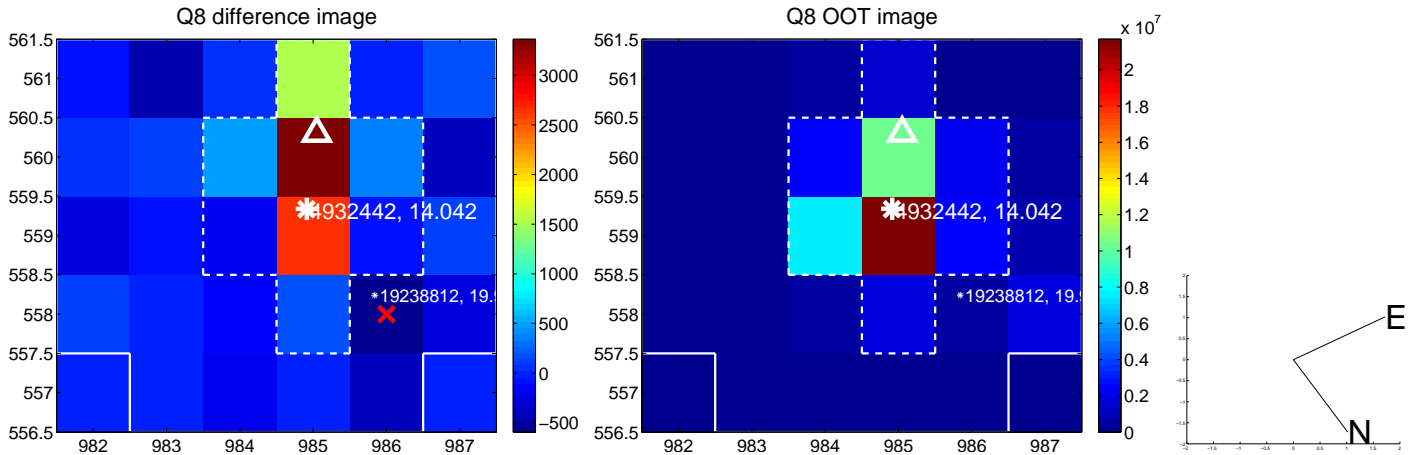
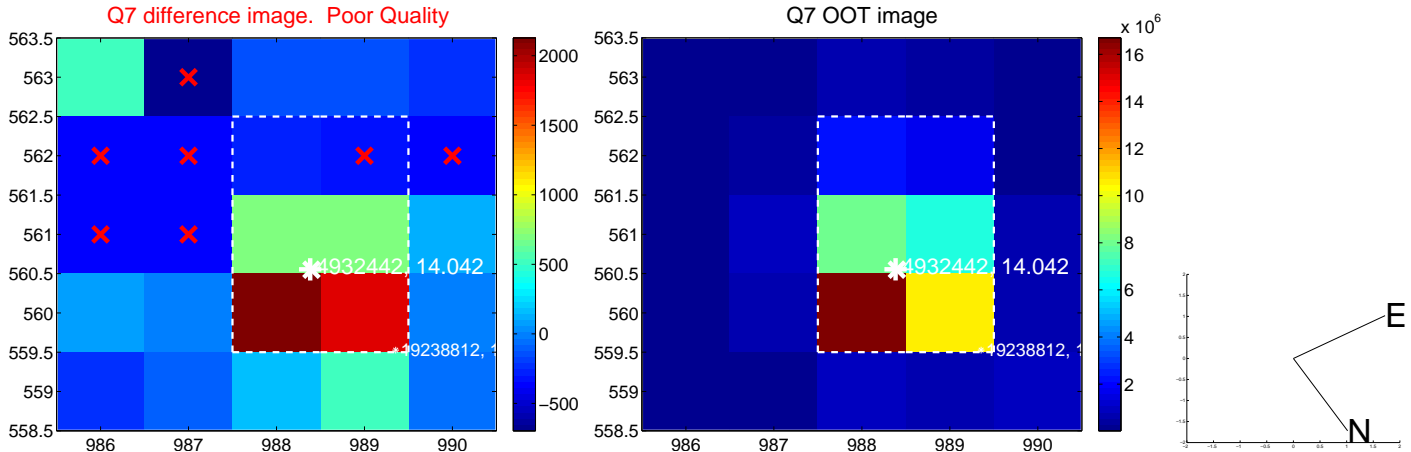
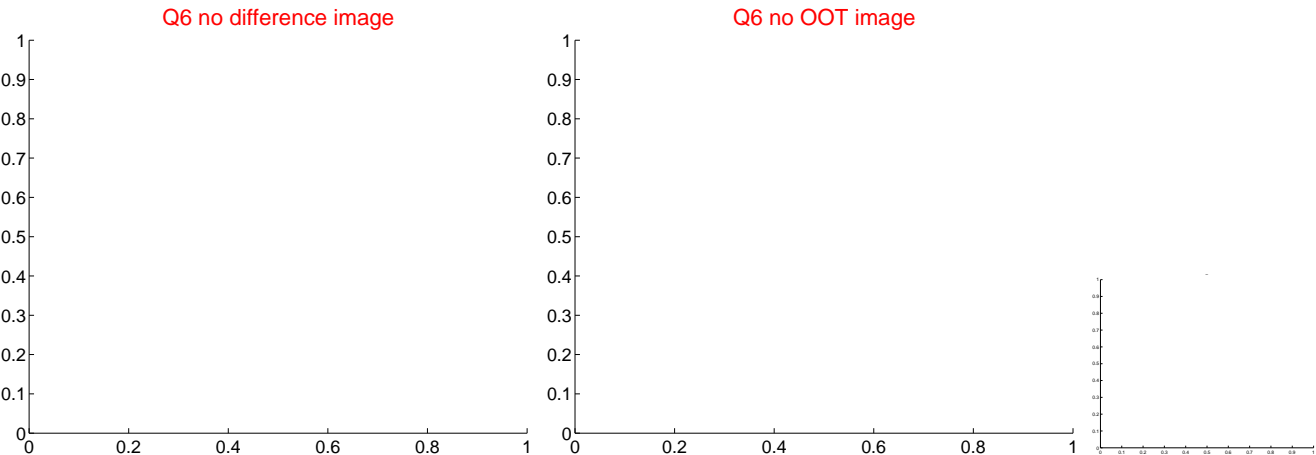
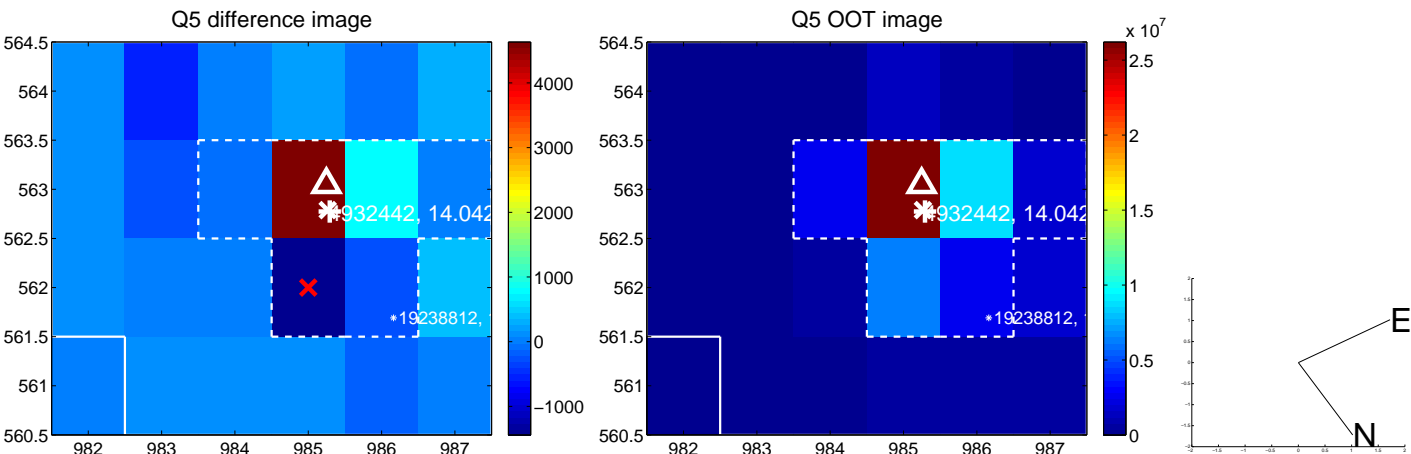


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

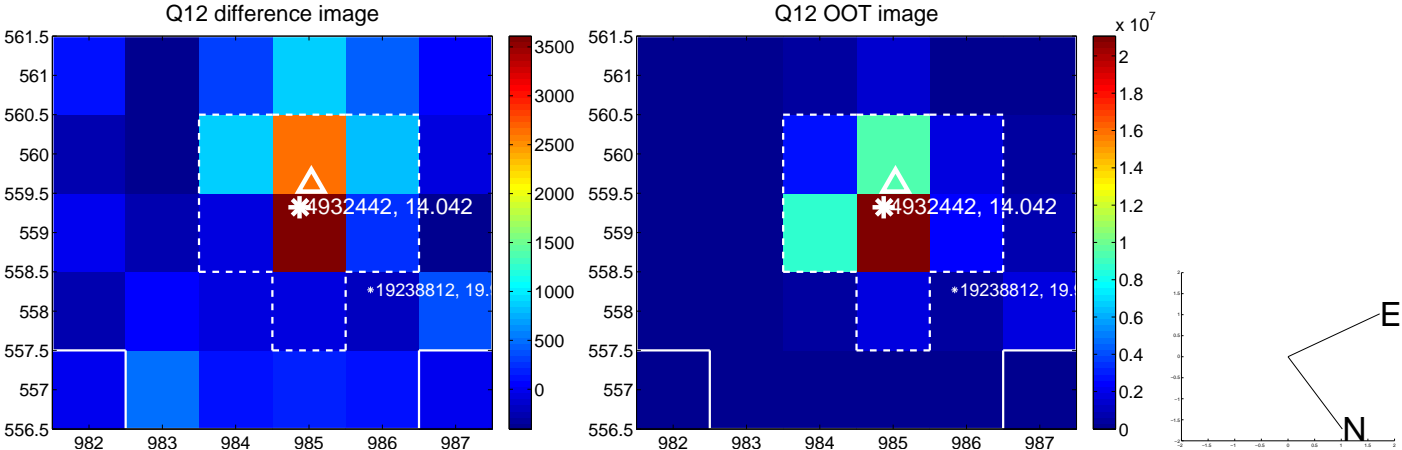
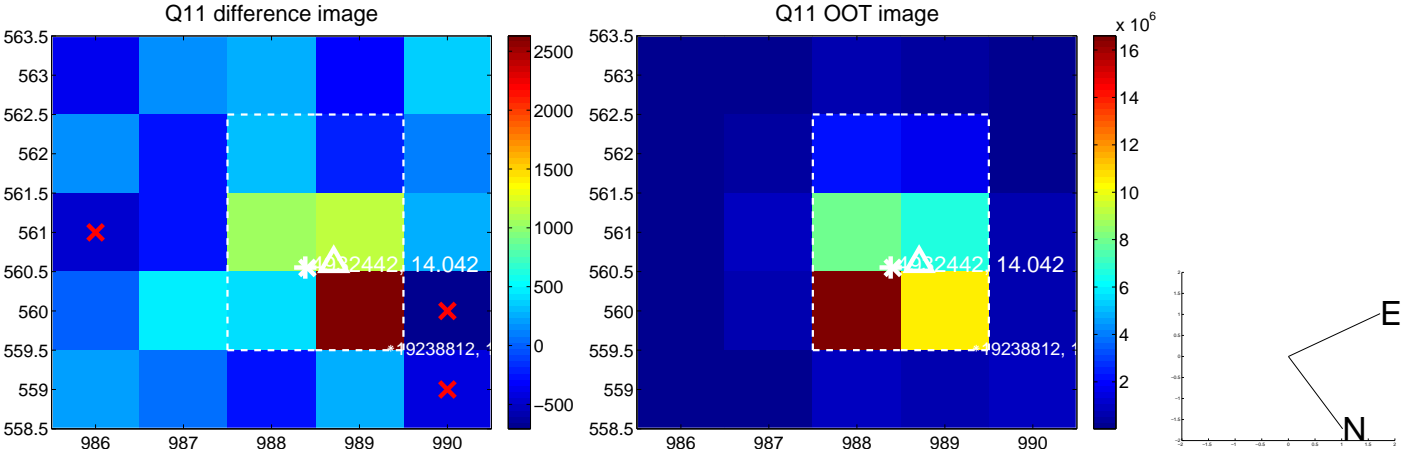
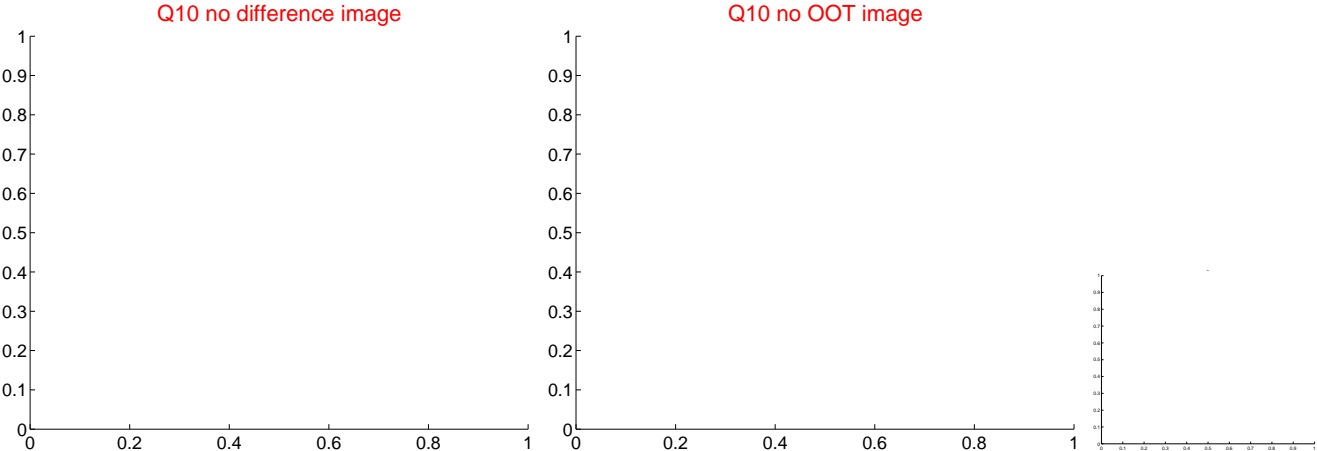
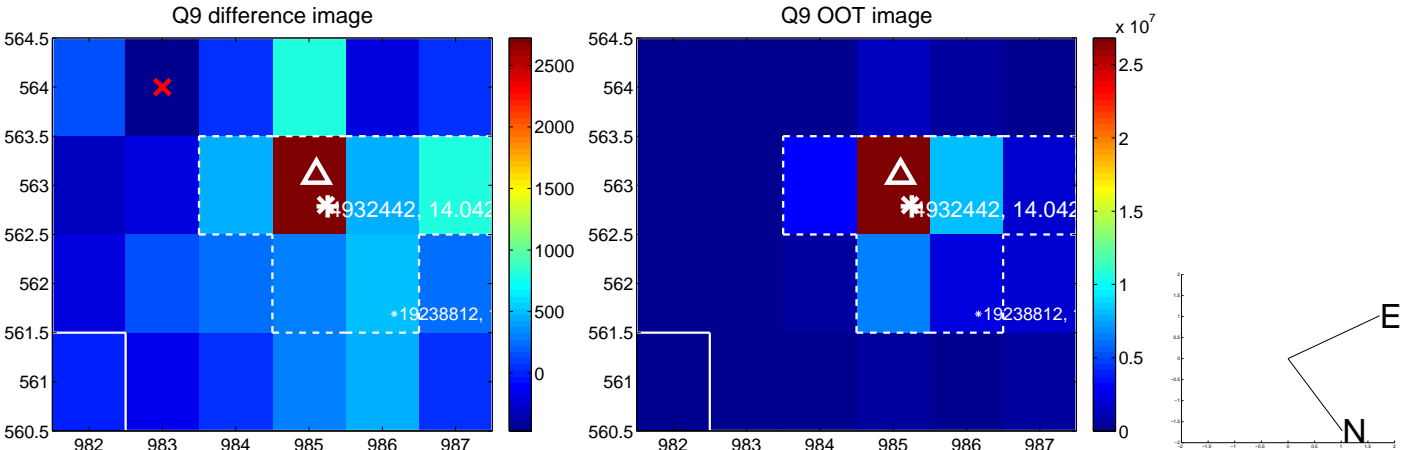


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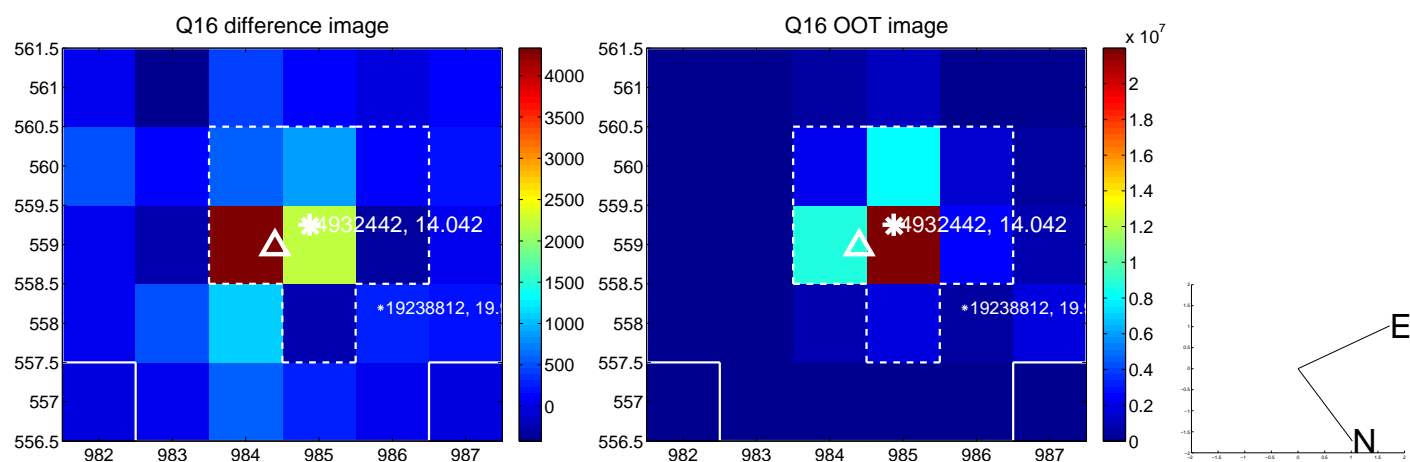
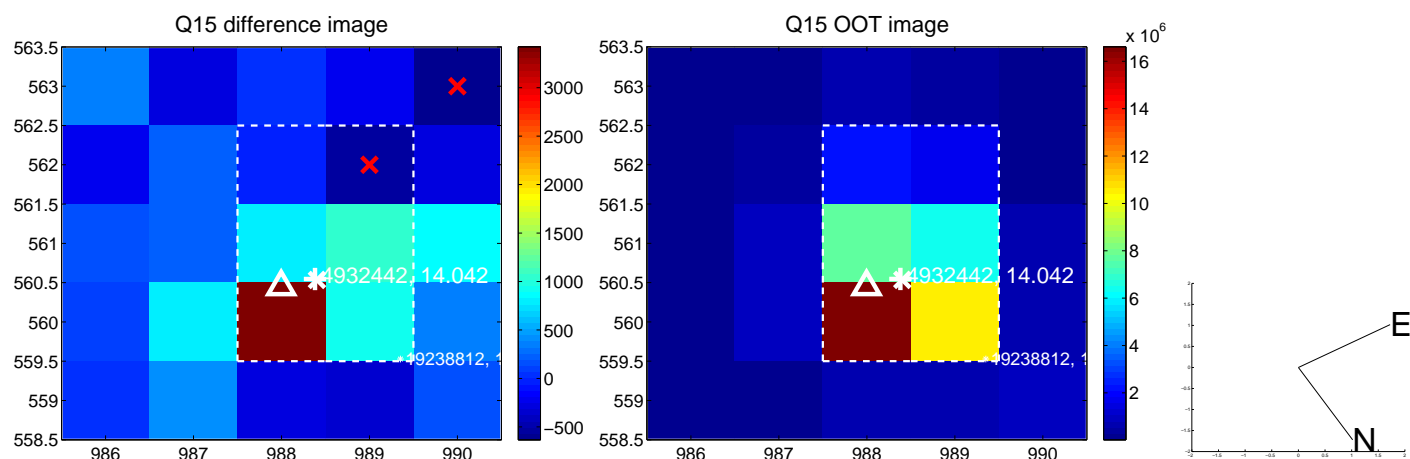
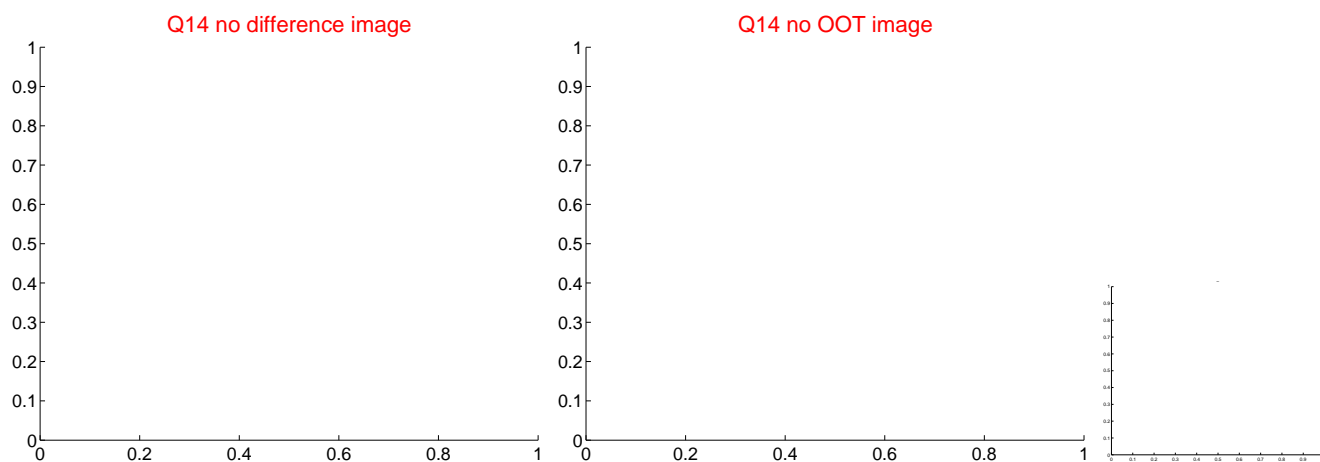
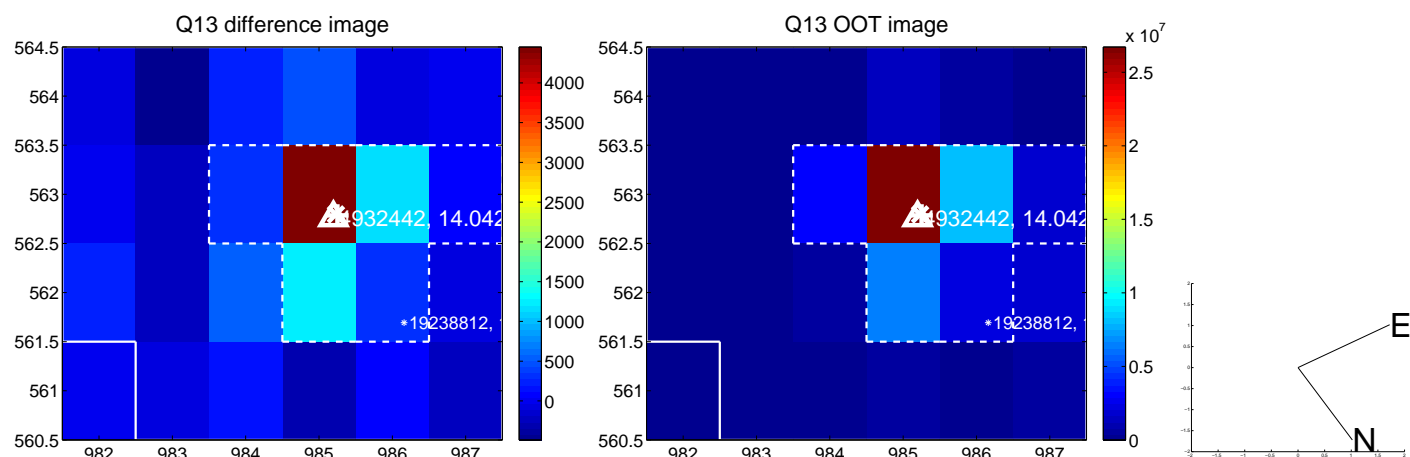




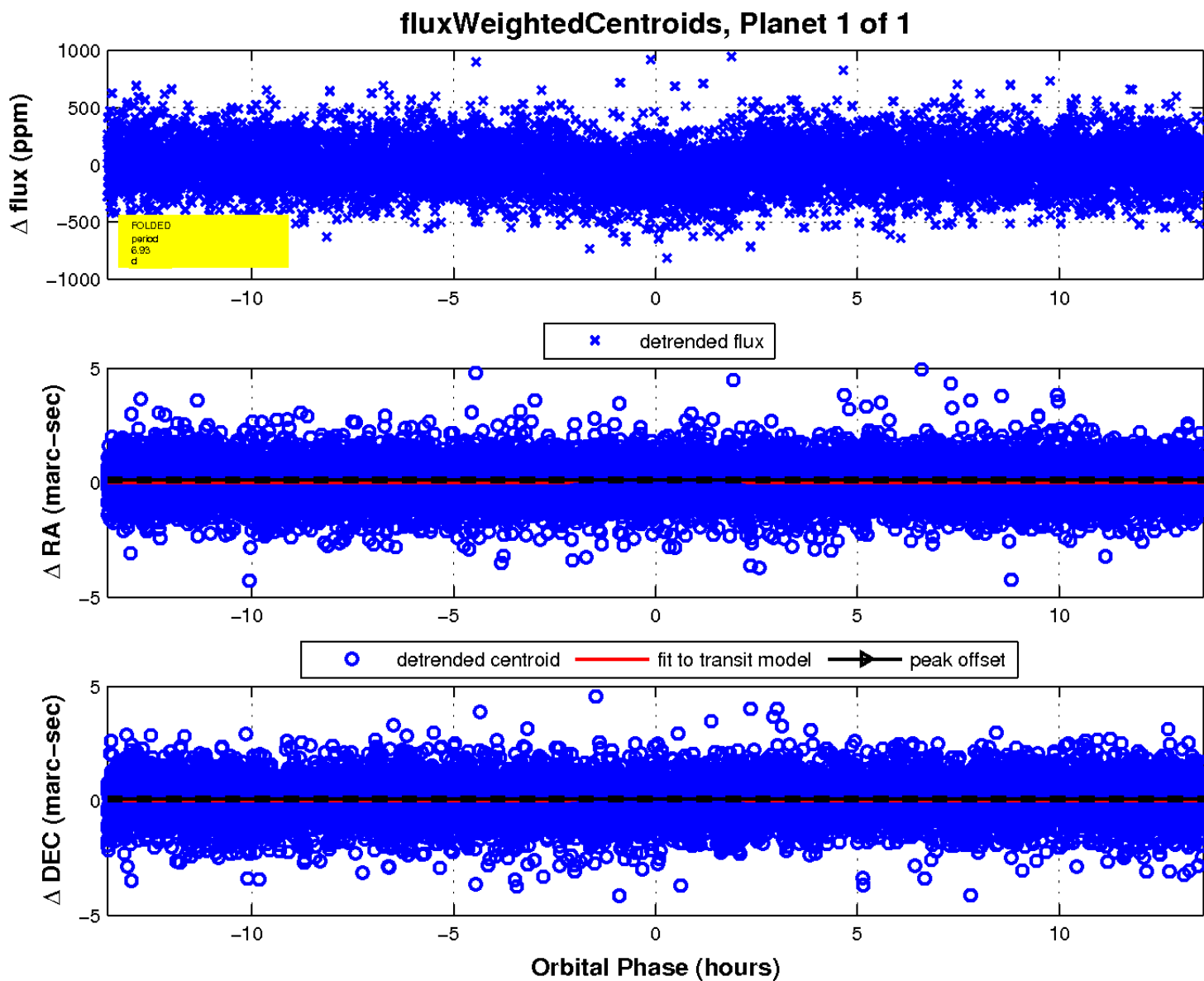
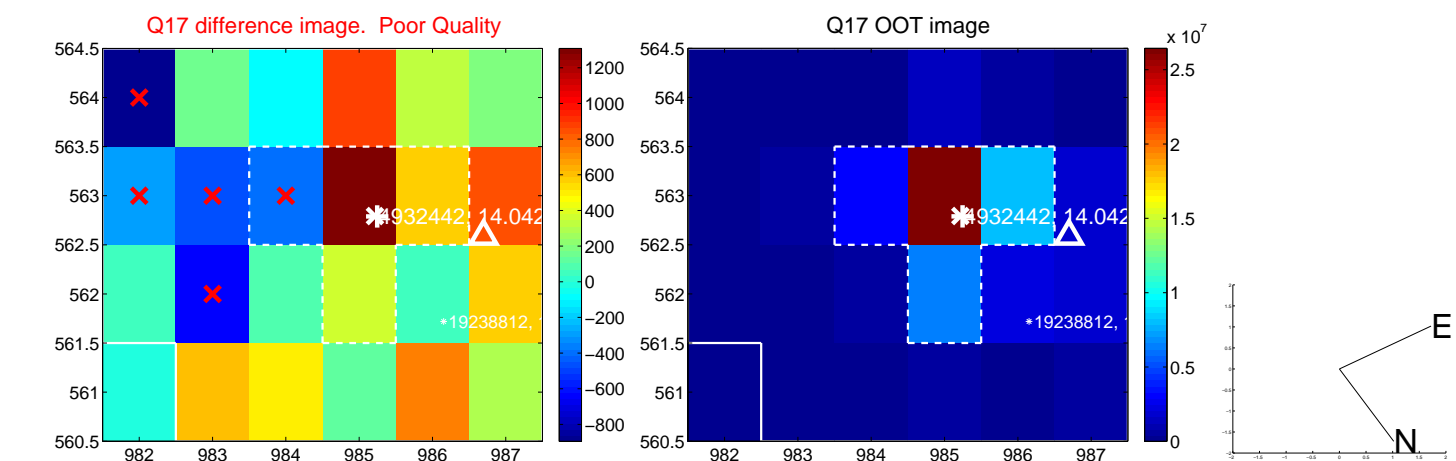
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

