

# KIC 005966732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005966732-01	OBS	6641.01	1.400904	131.846029	118.4	0.649	7.9	7.2	0.97	6375	1.16	2292.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005966732-01	OBS	PC	0.96	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.

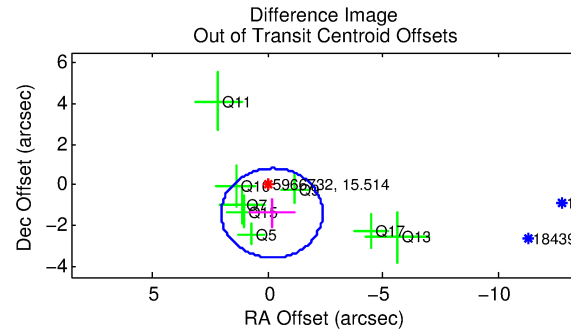
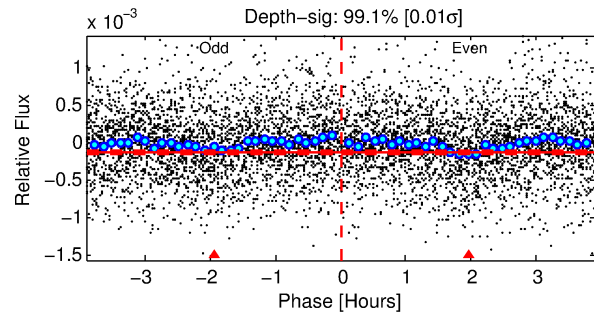
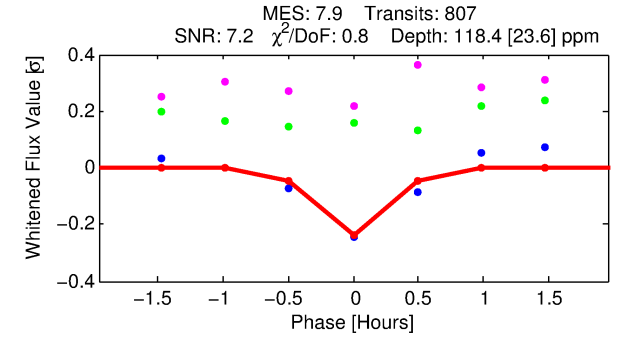
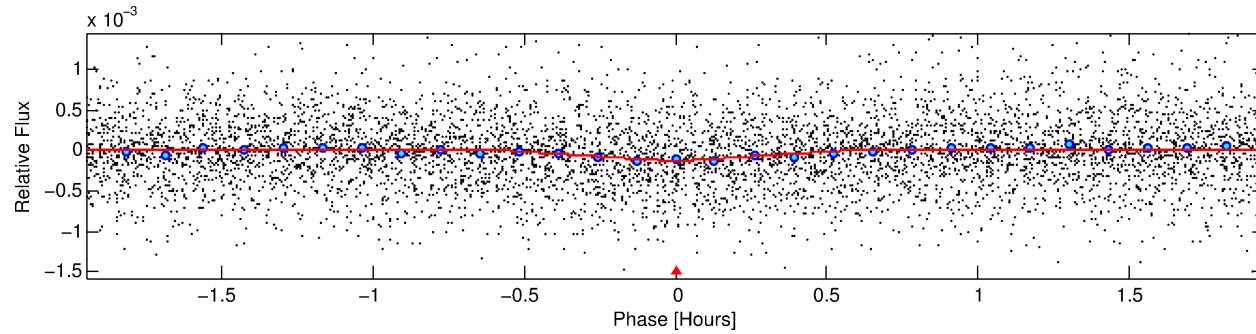
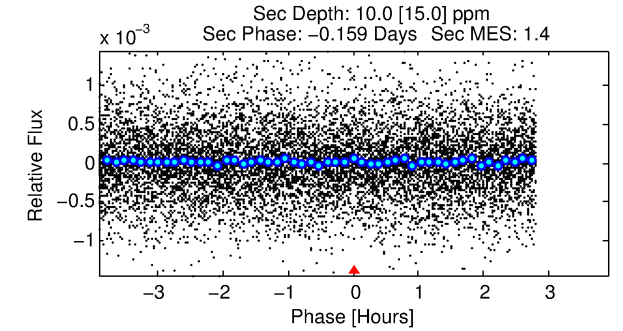
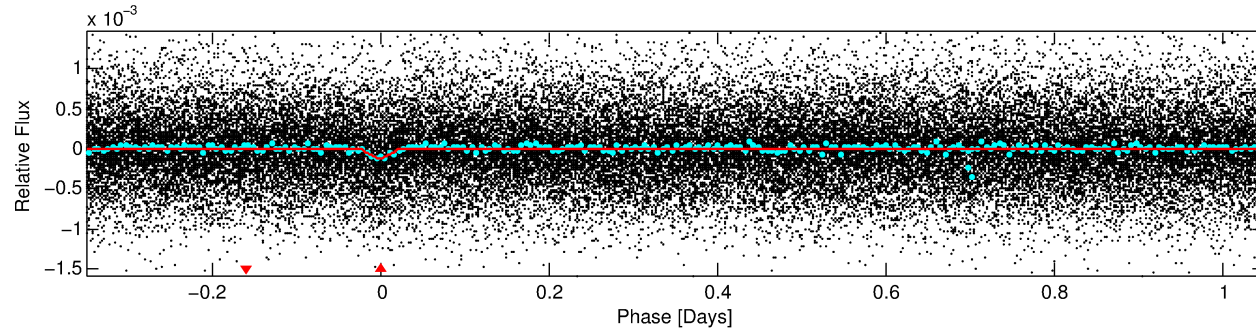
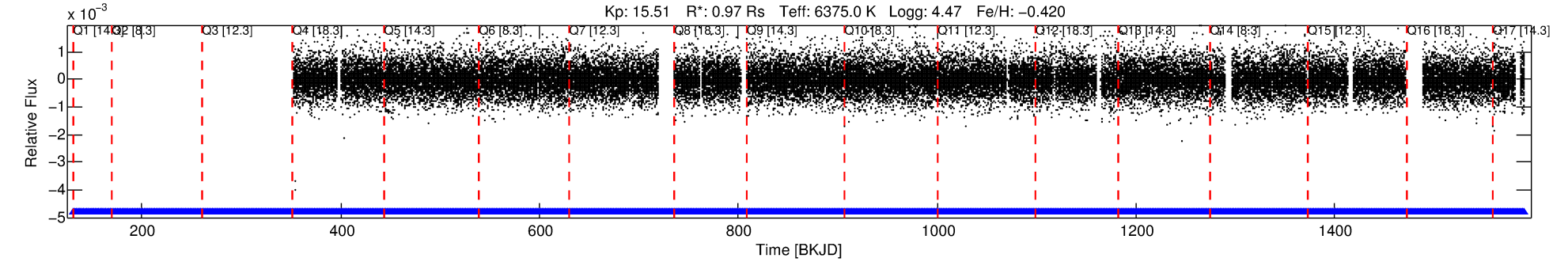
## Ephemeris Match Information For 005966732-01

No Significant Match Found

# DV One-Page Summary

KIC: 5966732 Candidate: 1 of 1 Period: 1.401 d

KOI: K06641.01 Corr: 0.839



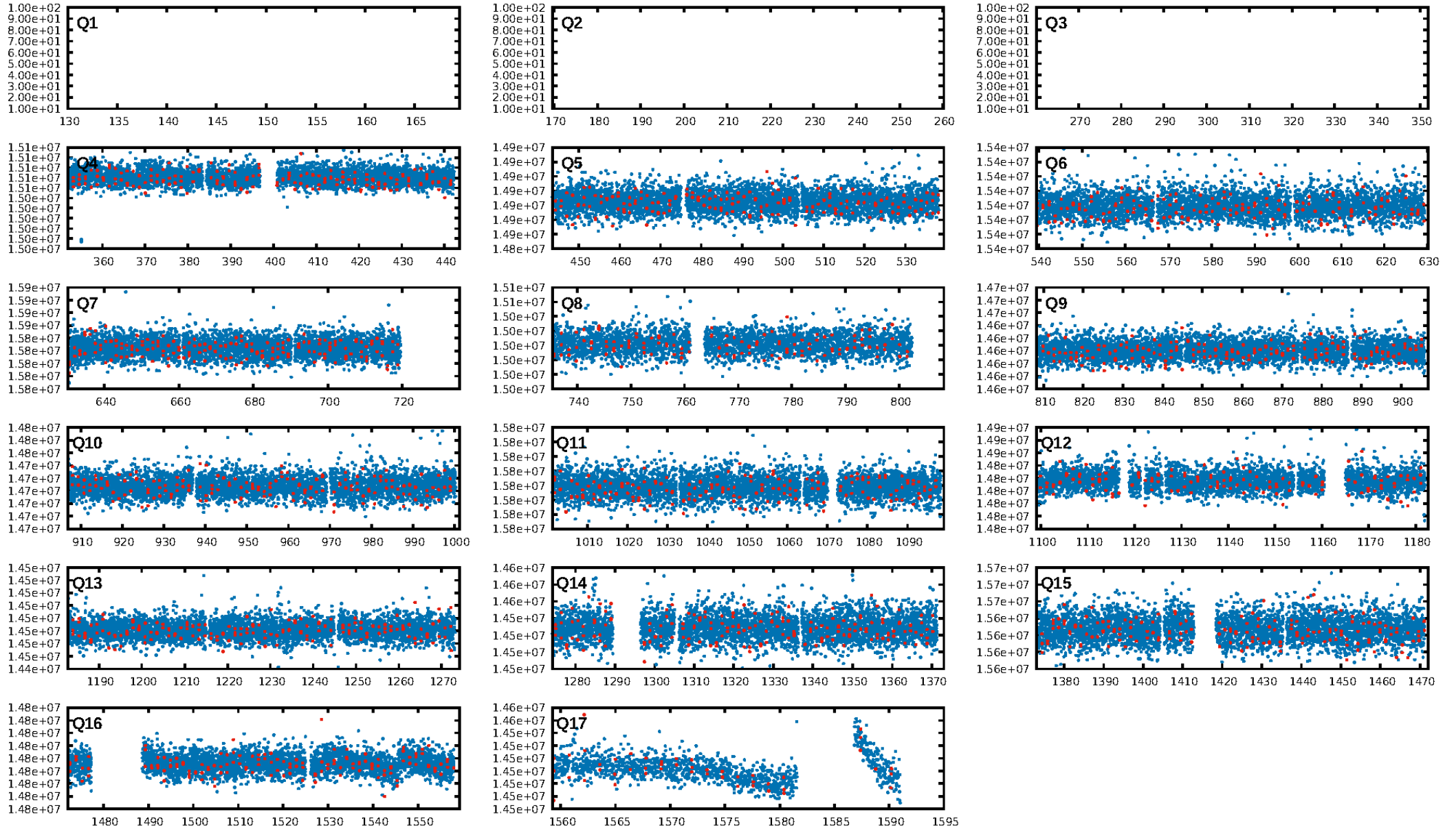
## DV Fit Results:

Period = 1.40090 [0.00001] d  
Epoch = 131.8460 [0.0018] BKJD  
Rp/R\* = 0.0109 [0.0055]  
a/R\* = 12.06 [32.50]  
b = 0.70 [1.99]  
Seff = 2292.31 [893.97]  
Teff = 1764 [172] K  
Rp = 1.16 [0.67] Re  
a = 0.0248 [0.0061] AU  
Ag = 2.50 [4.60] [0.33σ]  
Teffp = 3432 [1552] K [1.07σ]

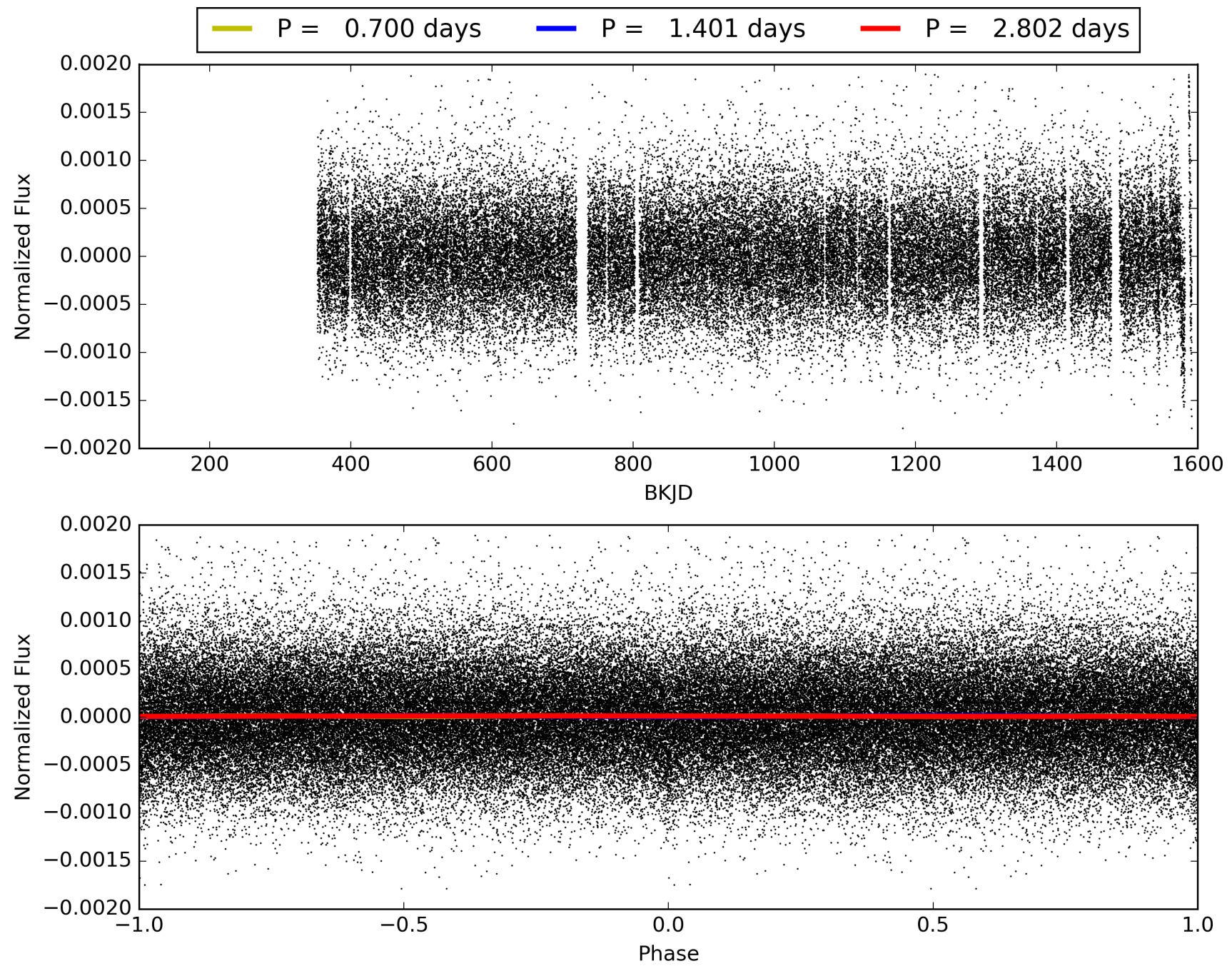
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.43e-15  
RollingBand-fgt: 1.00 [788/788]  
GhostDiagnostic-chr: -2.125  
Centroid-sig: 0.0%  
Centroid-so: 6.969 arcsec [4.26σ]  
OotOffset-rm: 1.385 arcsec [1.90σ]  
KicOffset-rm: 1.316 arcsec [1.59σ]  
OotOffset-st: 1/3/0/4 [8]  
KicOffset-st: 1/3/0/4 [8]  
DiffImageQuality-fgm: 0.50 [4/8]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 005966732-01, PDC Light Curves



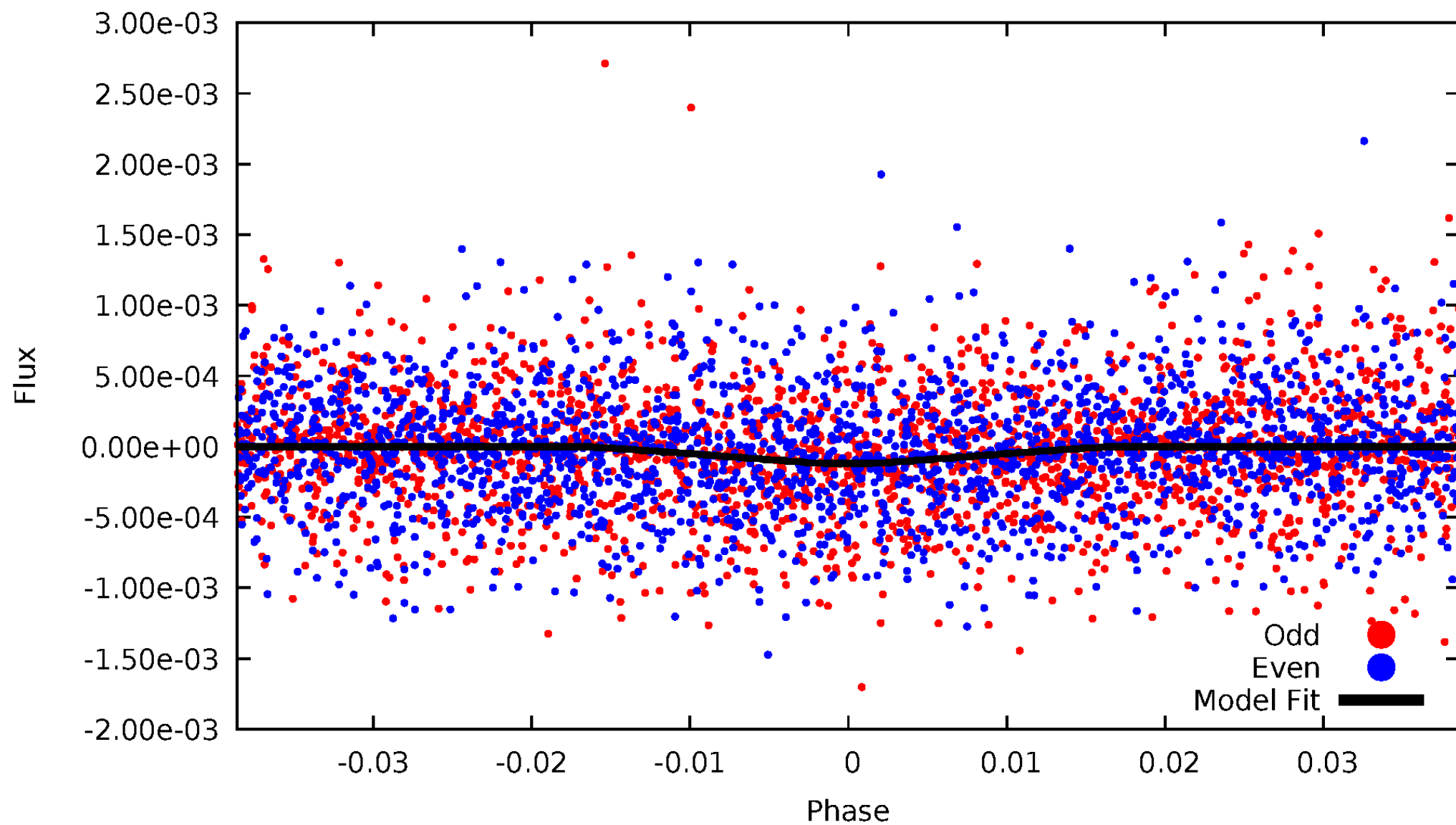
TCE 005966732-01





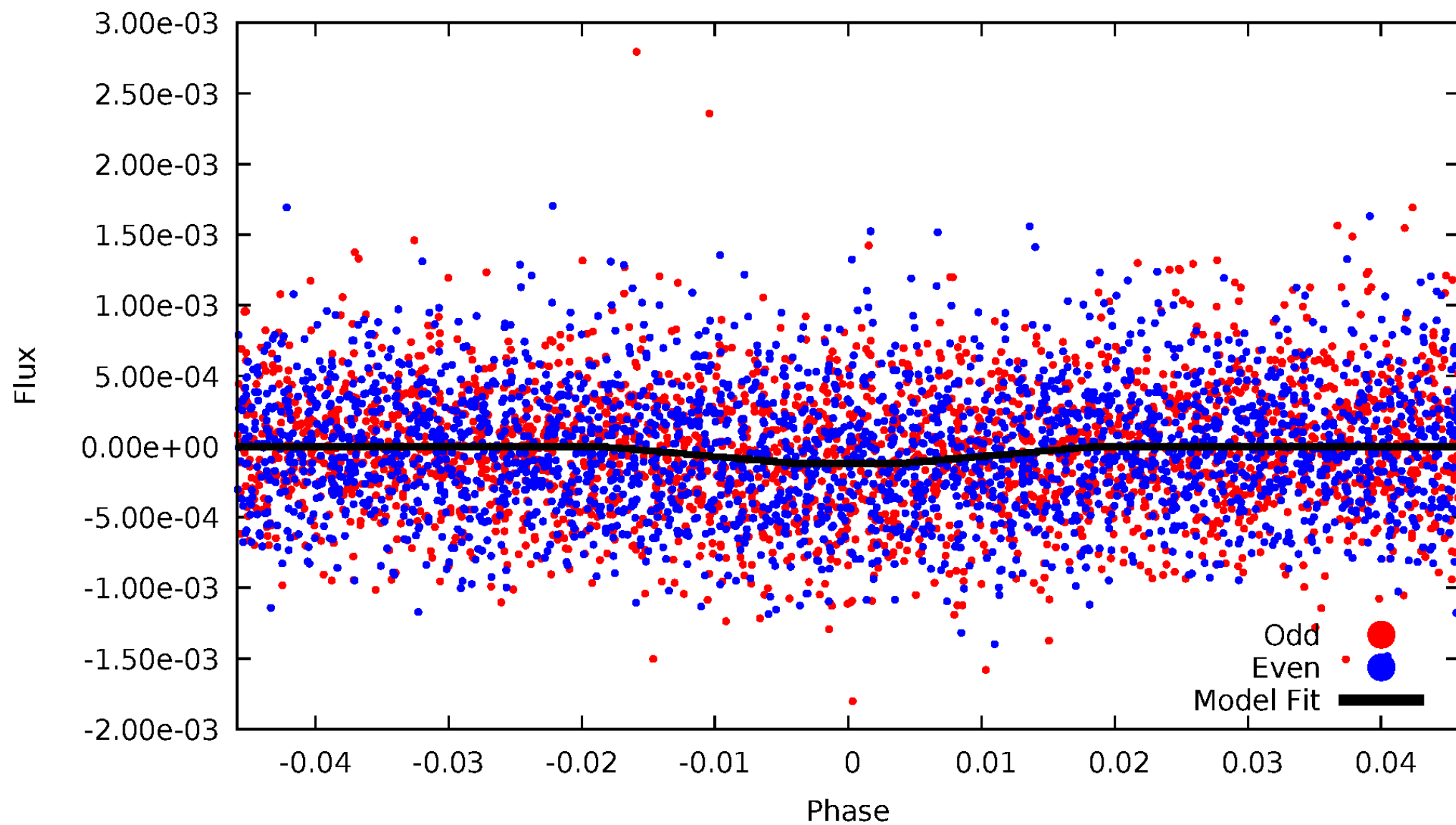
# DV Odd/Even

TCE 005966732-01



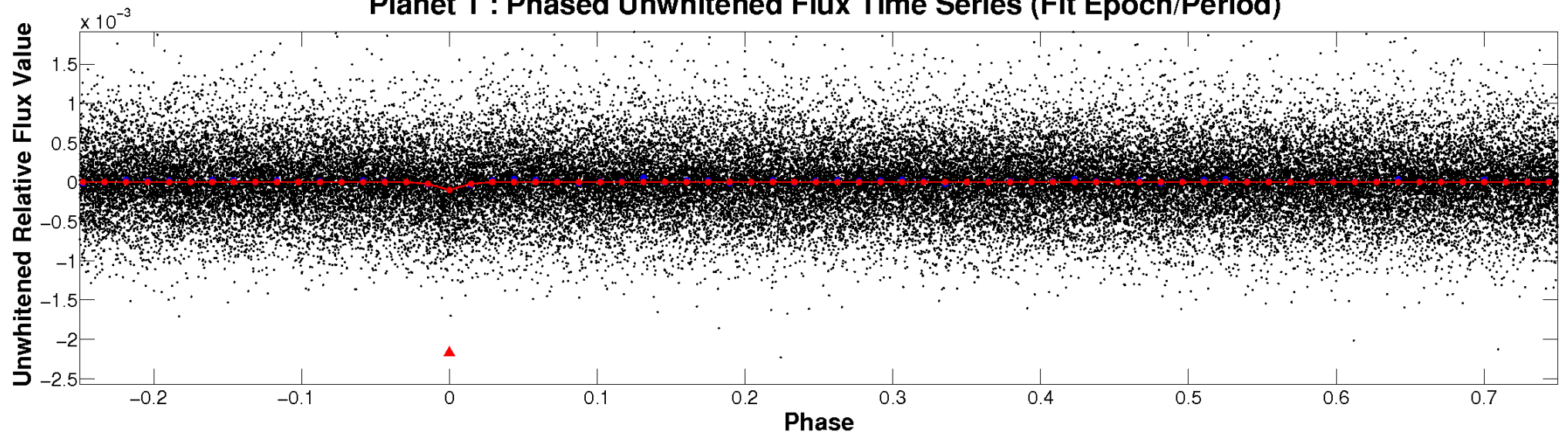
# ALT Odd/Even

TCE 005966732-01

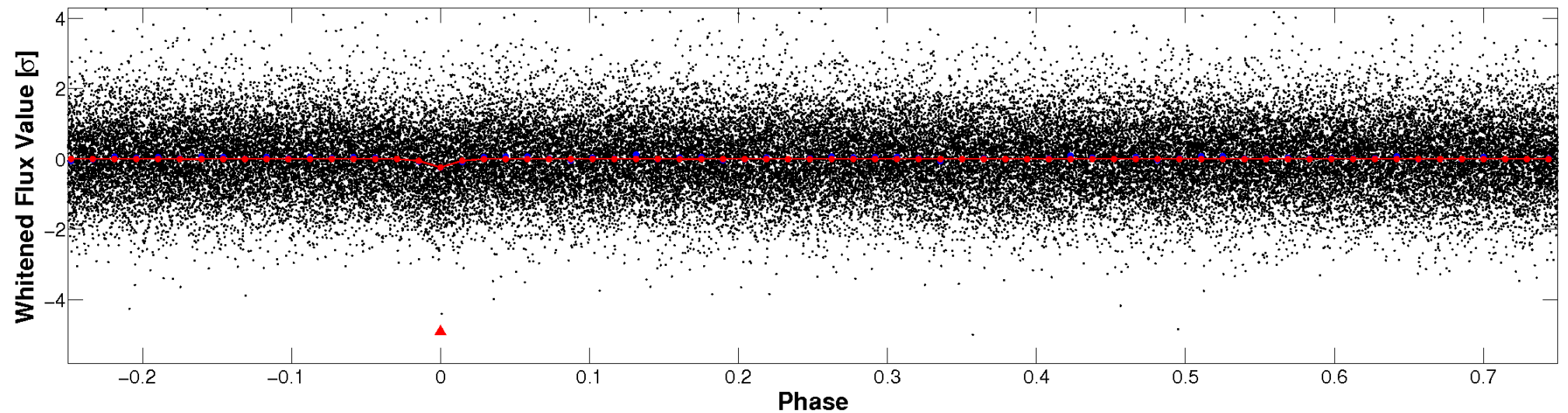


# Non-Whitened Vs. Whitened Light Curve

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

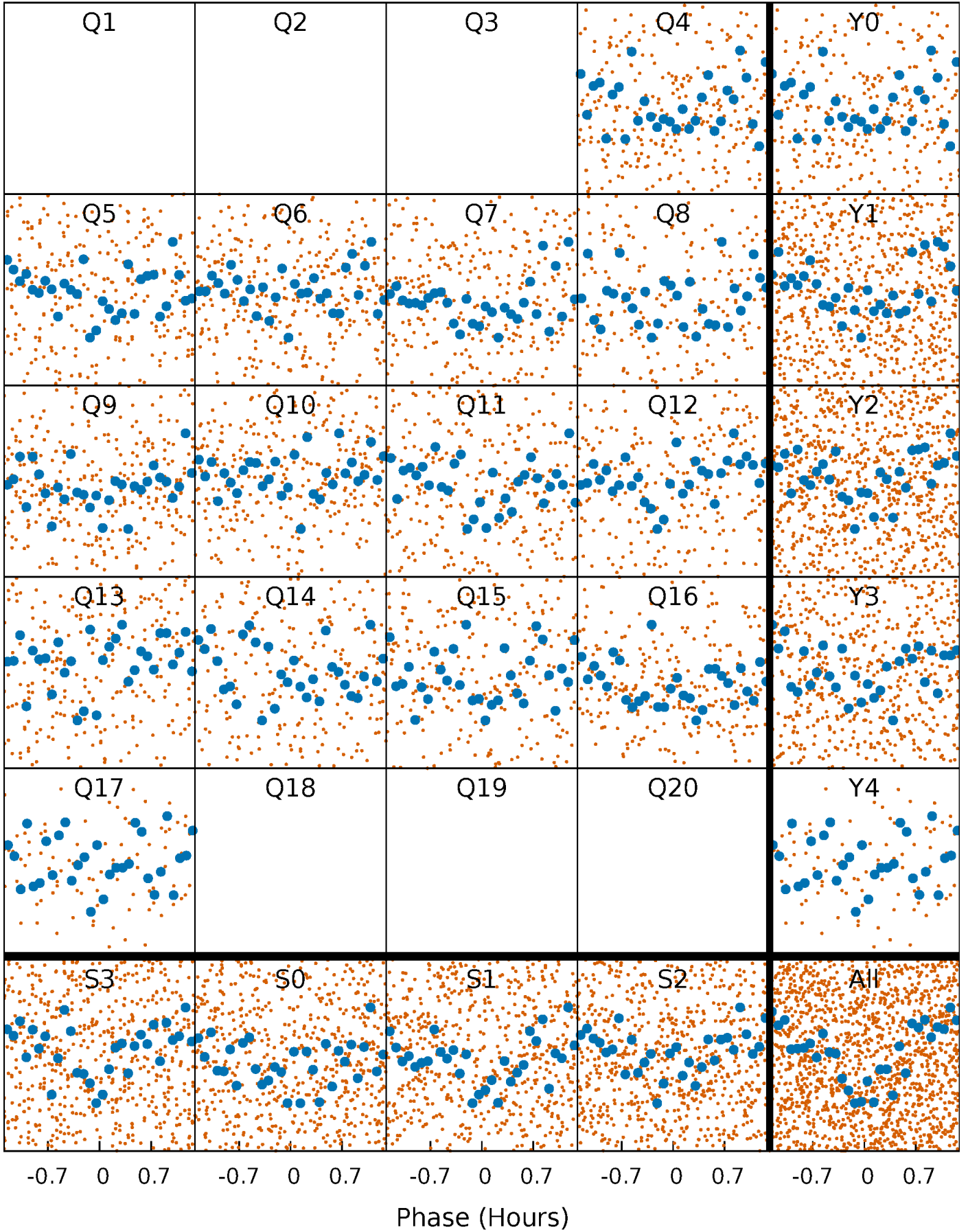


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

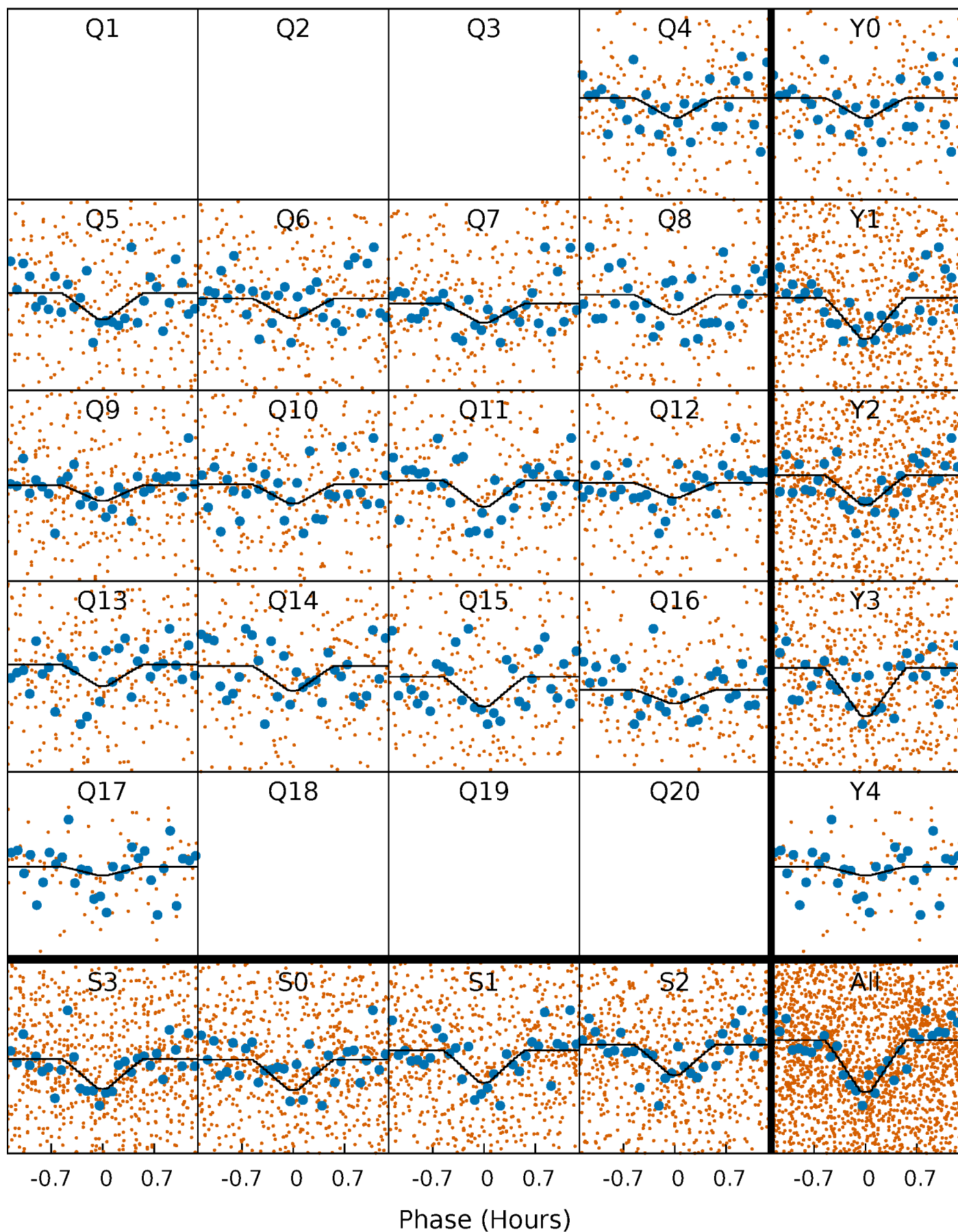
TCE 005966732-01 P= 1.400904 Days  $T_0=131.846029$  (BKJD)





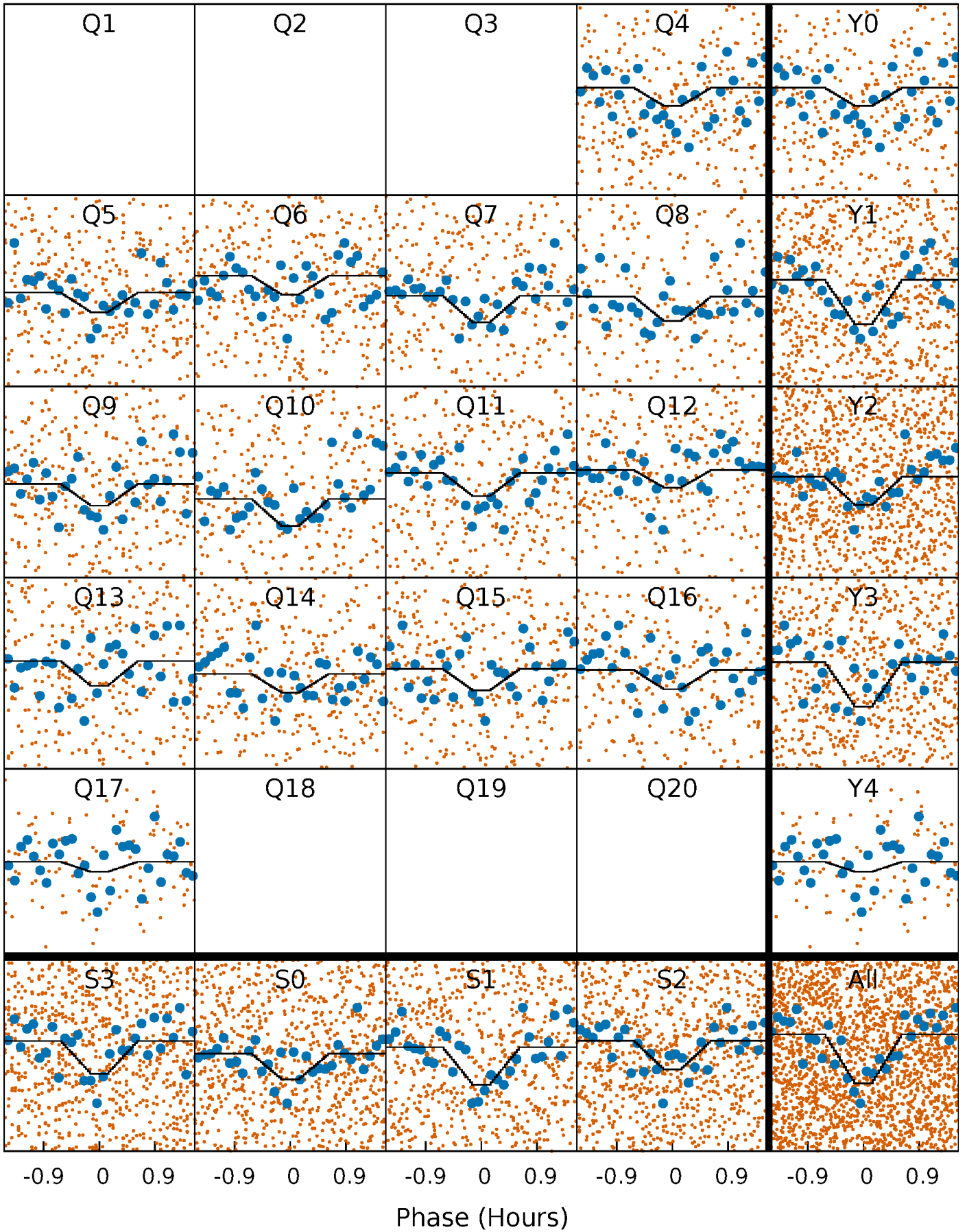
# DV Quarter-Phased Transit Curves

TCE 005966732-01 P= 1.400904 Days  $T_0=131.846029$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

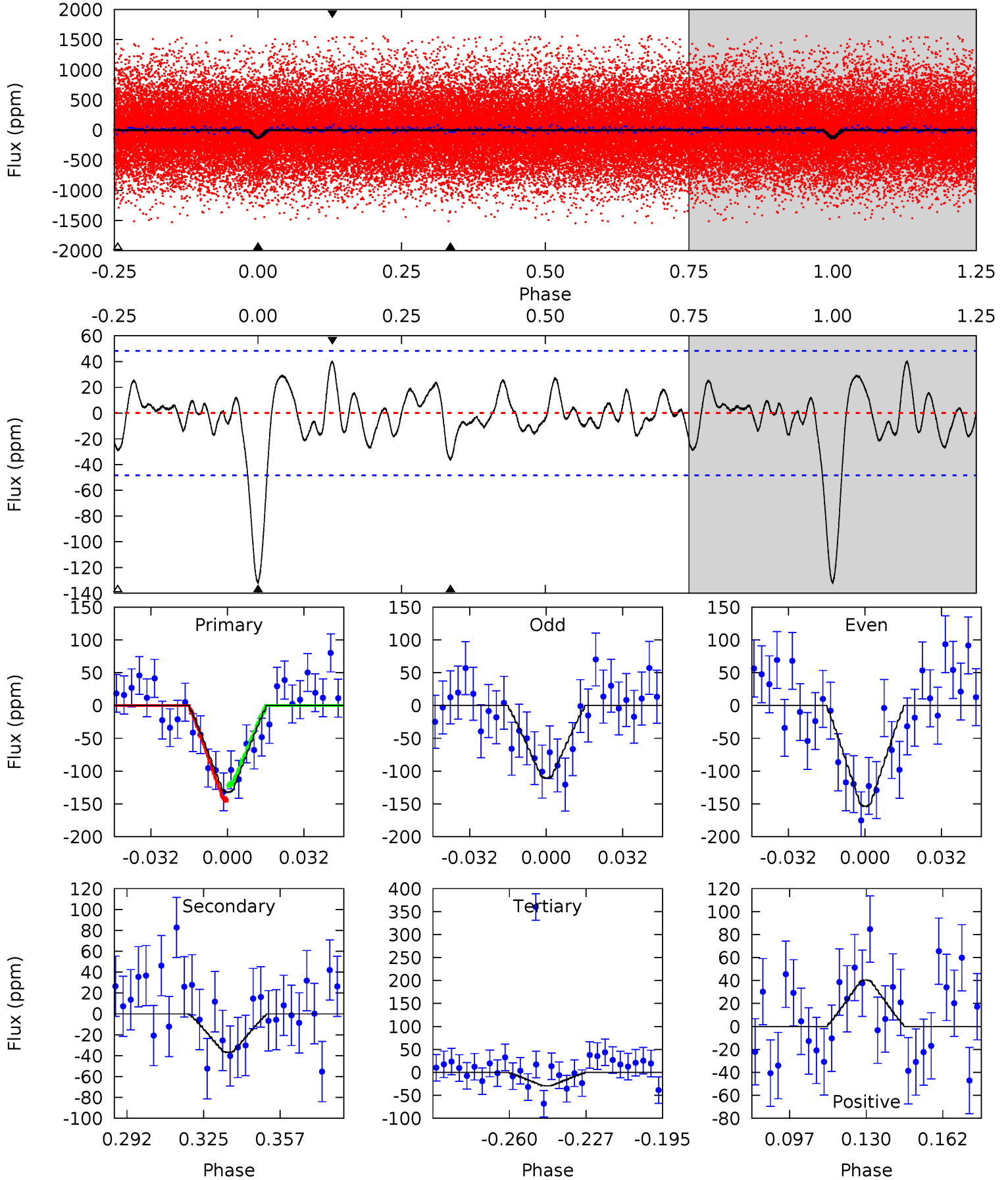
TCE 005966732-01 P= 1.400905 Days  $T_0=131.846040$  (BKJD)



# DV Model-Shift Uniqueness Test

005966732-01, P = 1.400904 Days, E = 131.846029 Days

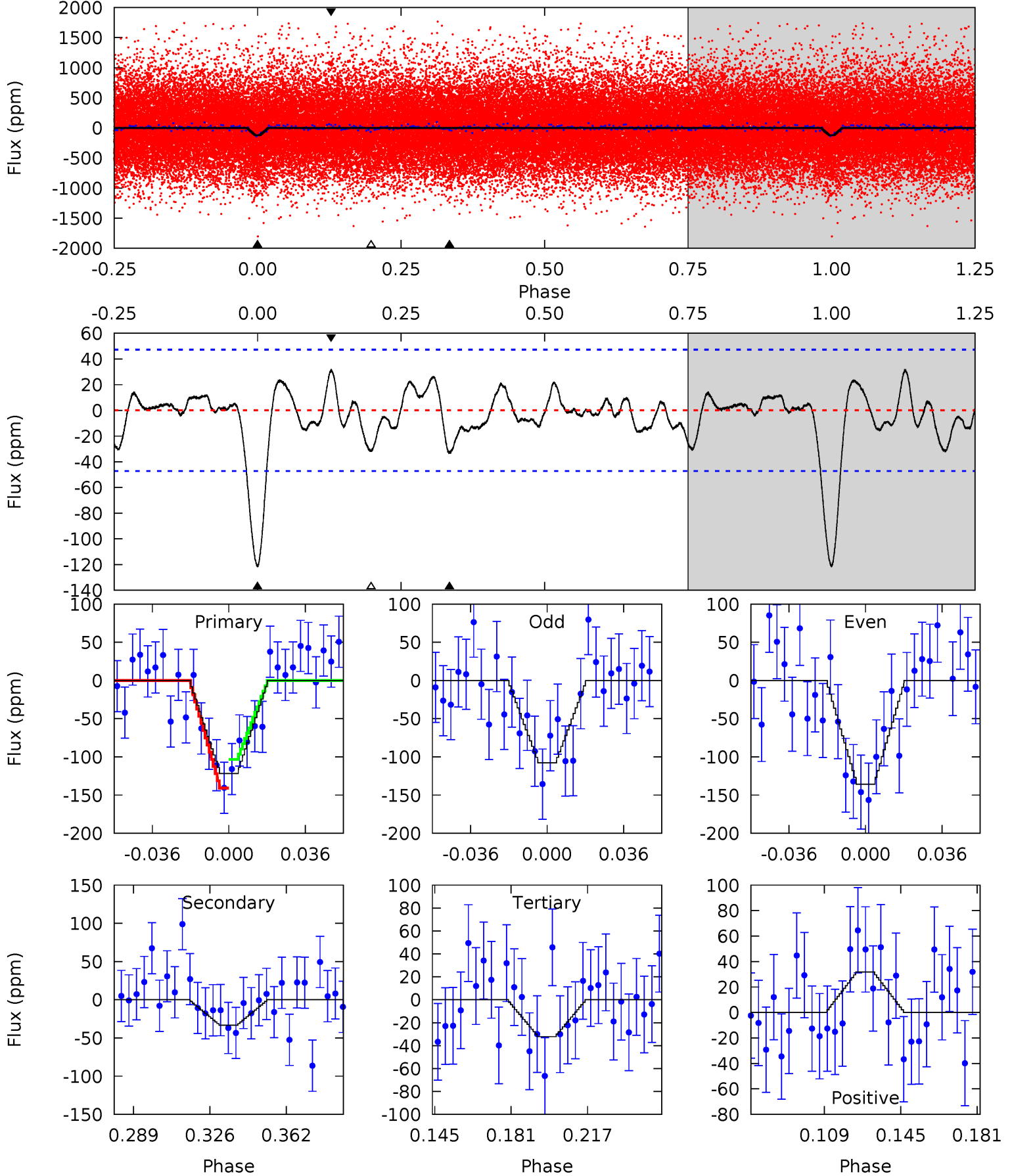
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	3.66	2.89	3.99	4.80	2.14	1.27	10.2	9.12	0.76	-0.34	2.15	0.94	0.23	1.15



# Alt Model-Shift Uniqueness Test

005966732-01, P = 1.400905 Days, E = 131.846040 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
12.3	3.37	3.25	3.20	4.77	2.09	1.20	9.07	9.12	0.12	0.17	1.42	0.96	0.21	1.89





### Stellar Parameters For KIC 005966732

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6375^{+177}_{-244}$	$4.474^{+0.065}_{-0.195}$	$-0.420^{+0.300}_{-0.300}$	$0.975^{+0.289}_{-0.096}$	$1.033^{+0.128}_{-0.142}$	$1.569^{+0.422}_{-0.758}$
	+3%/-4%	+1%/-4%	+71%/-71%	+30%/-10%	+12%/-14%	+27%/-48%
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 005966732-01 / KOI 6641.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-37 \pm 10$	$1.22^{+0.63}_{-0.54}$	$2493^{+164}_{-128}$	$4744^{+1591}_{-753}$	$7.978^{+19.381}_{-4.644}$
Alt.	$-33 \pm 10$	$1.20^{+0.64}_{-0.59}$	$2503^{+163}_{-127}$	$4712^{+1739}_{-783}$	$7.573^{+21.680}_{-4.459}$

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

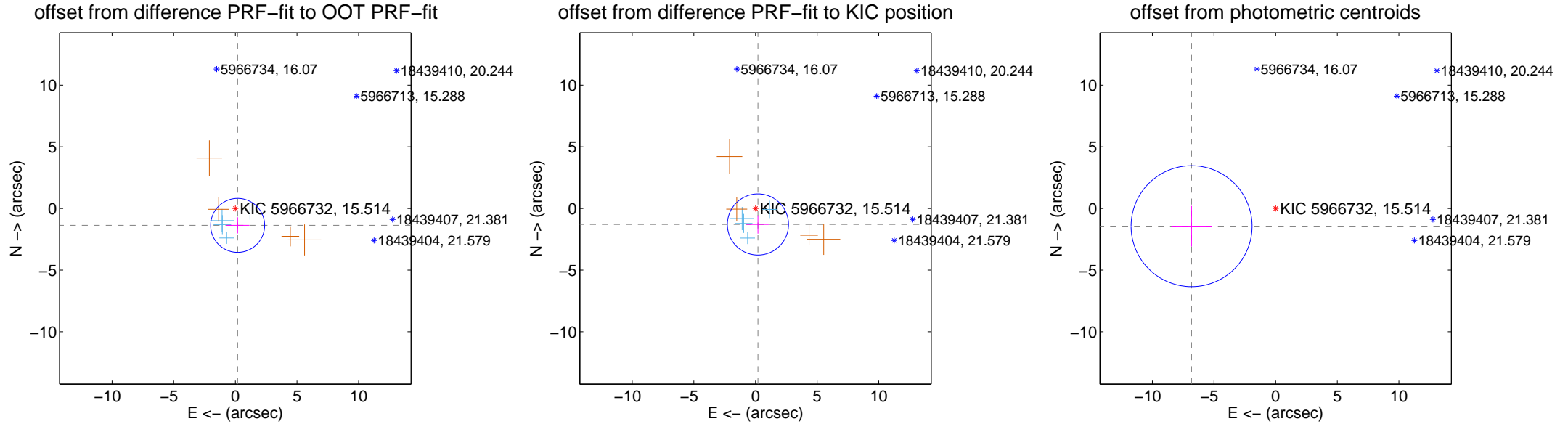
## DV Centroid Data

Supplemental centroid analysis for 005966732-01. Kepler magnitude: 15.51. Transit SNR 7.21

There are 4 quarters with good PRF difference image offsets

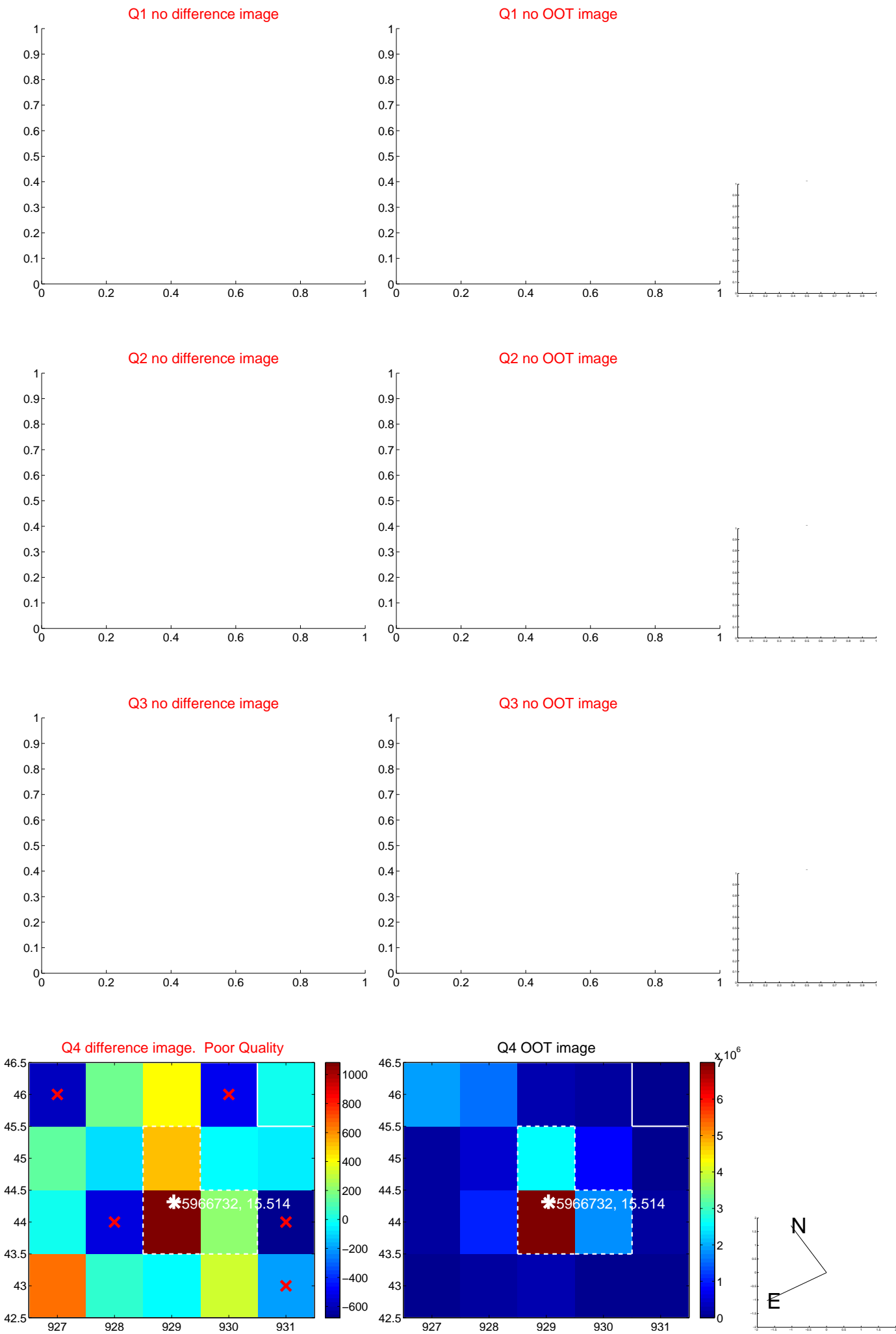
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.385 \pm 0.730$	1.90	$-0.187 \pm 0.943$	$-1.372 \pm 0.657$
PRF-fit source offset from KIC position	$1.316 \pm 0.827$	1.59	$-0.199 \pm 0.939$	$-1.301 \pm 0.738$
photometric centroid source offset	$6.97 \pm 1.64$	4.26	$6.82 \pm 1.64$	$-1.44 \pm 1.64$

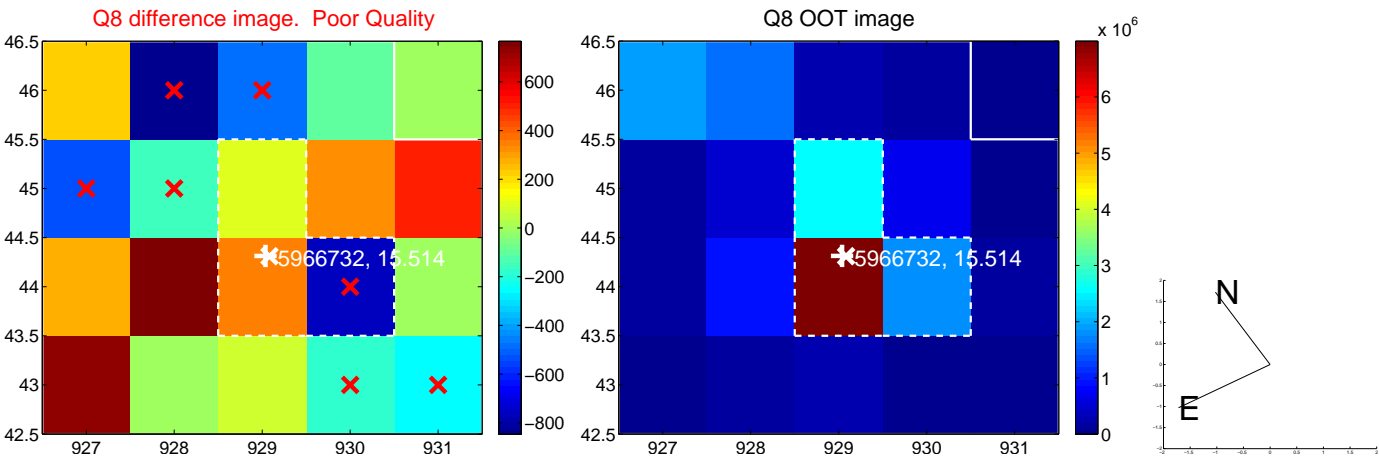
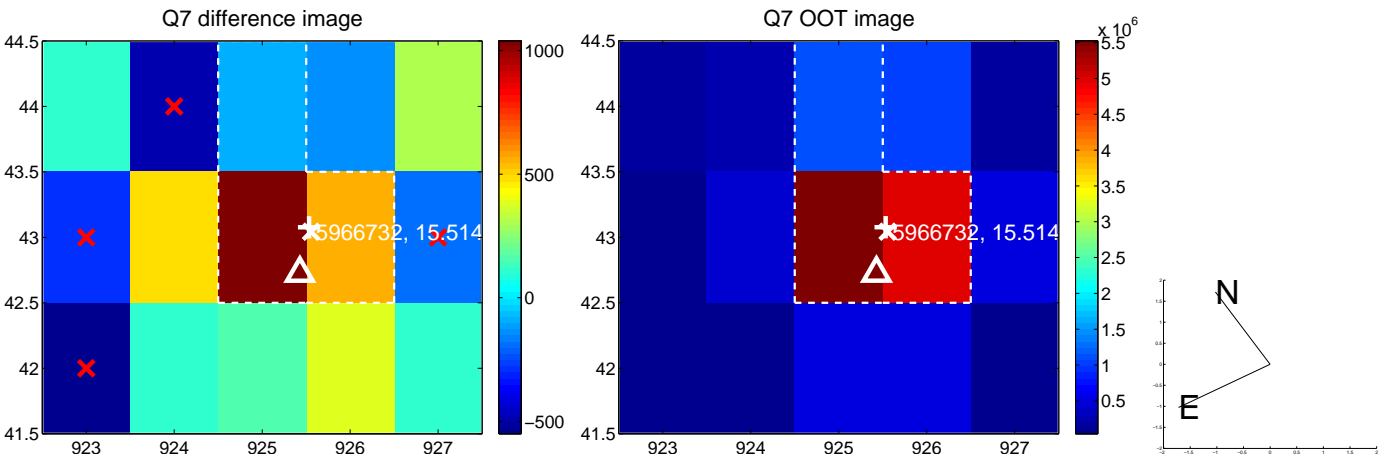
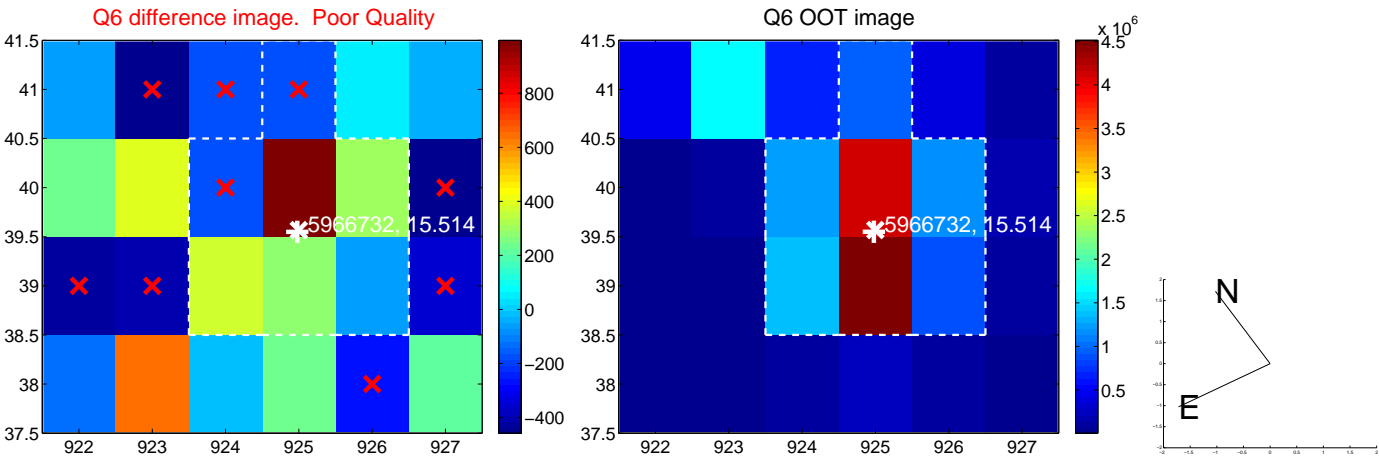
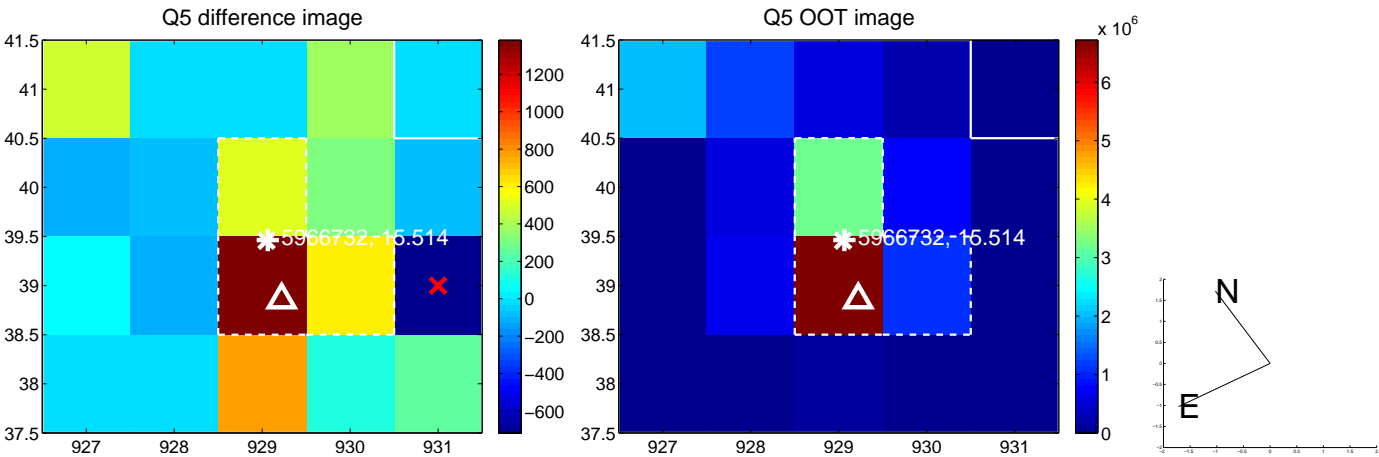


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

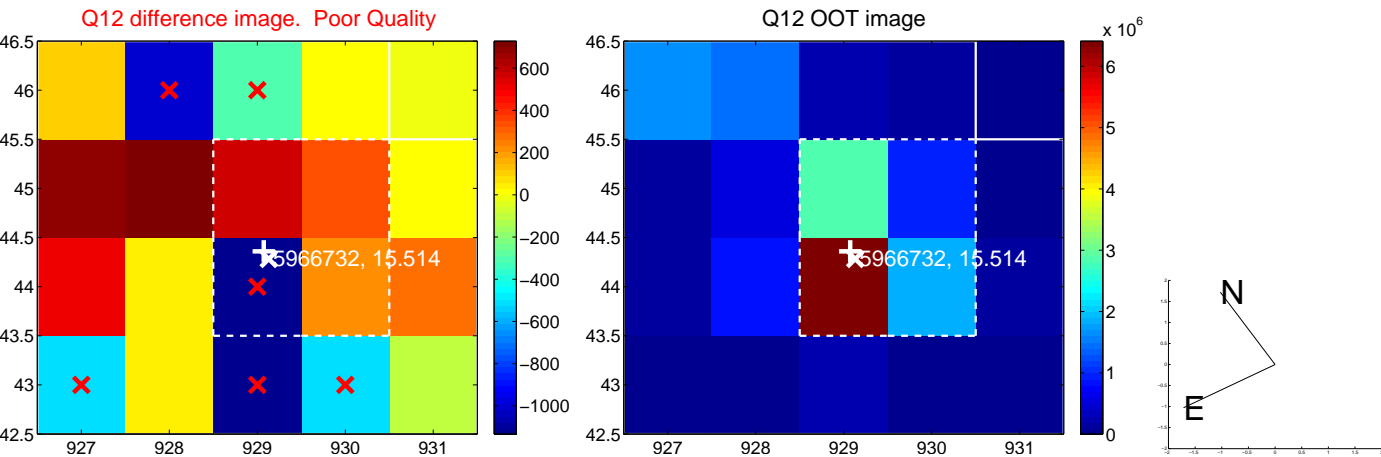
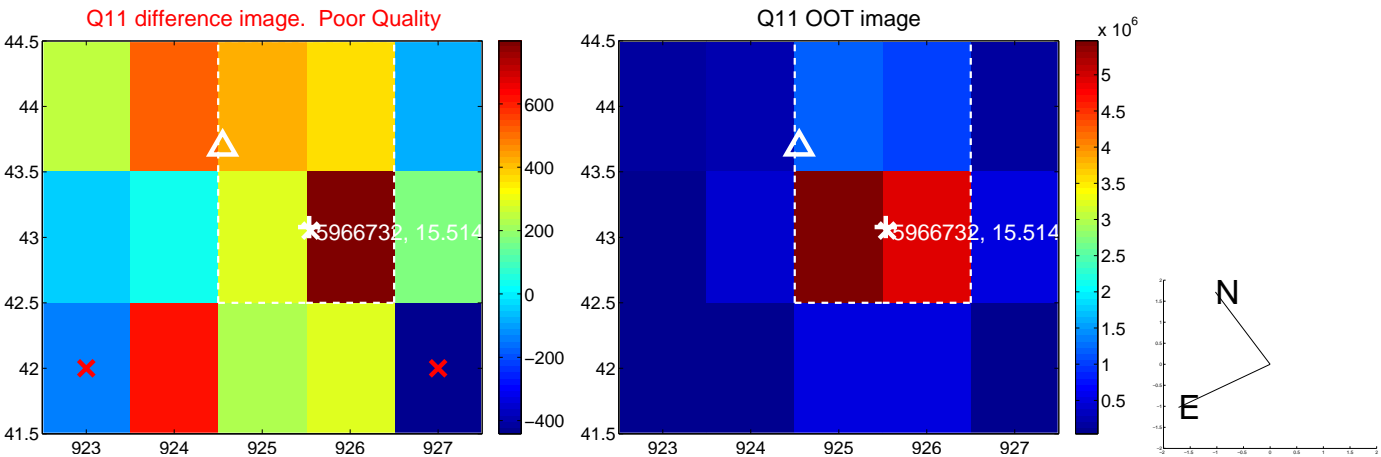
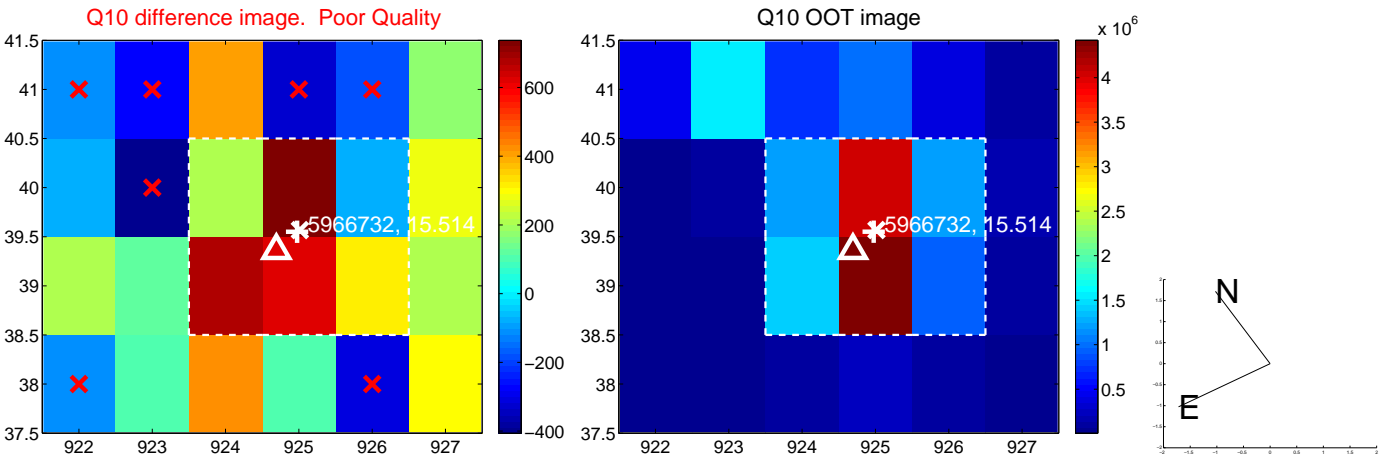
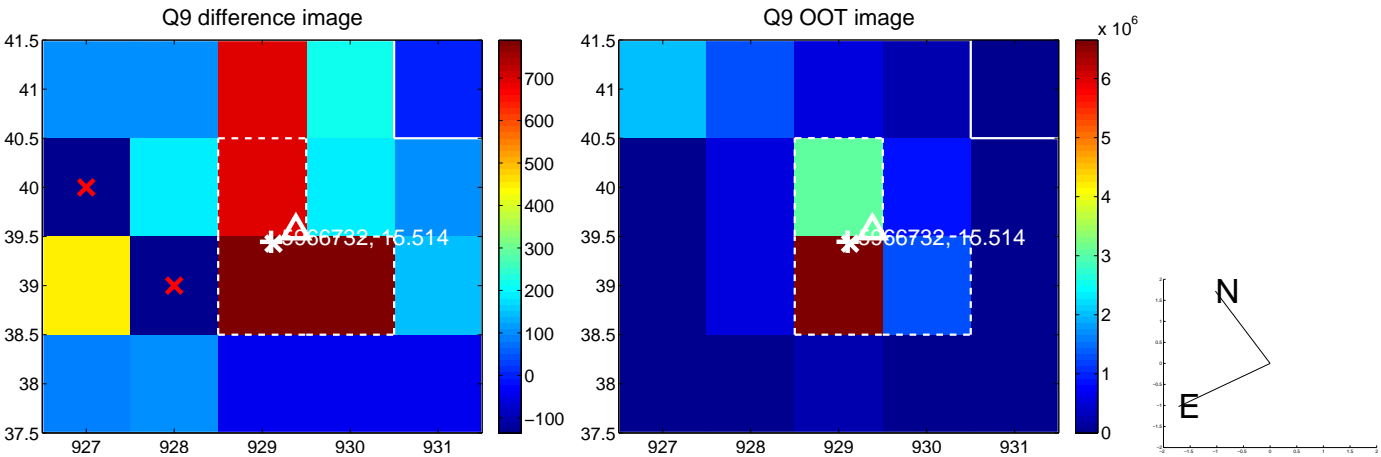


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

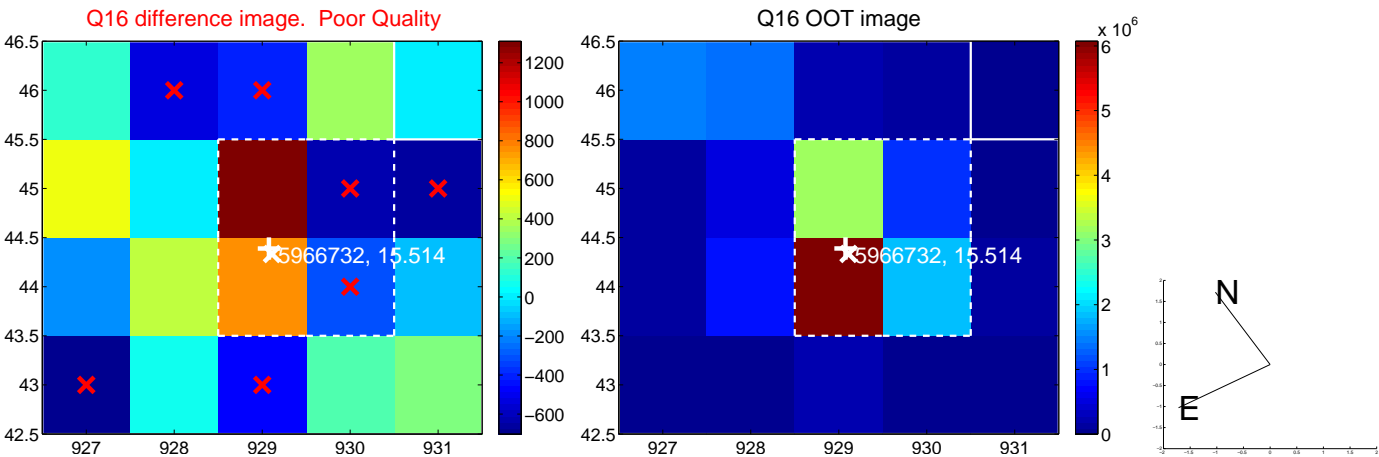
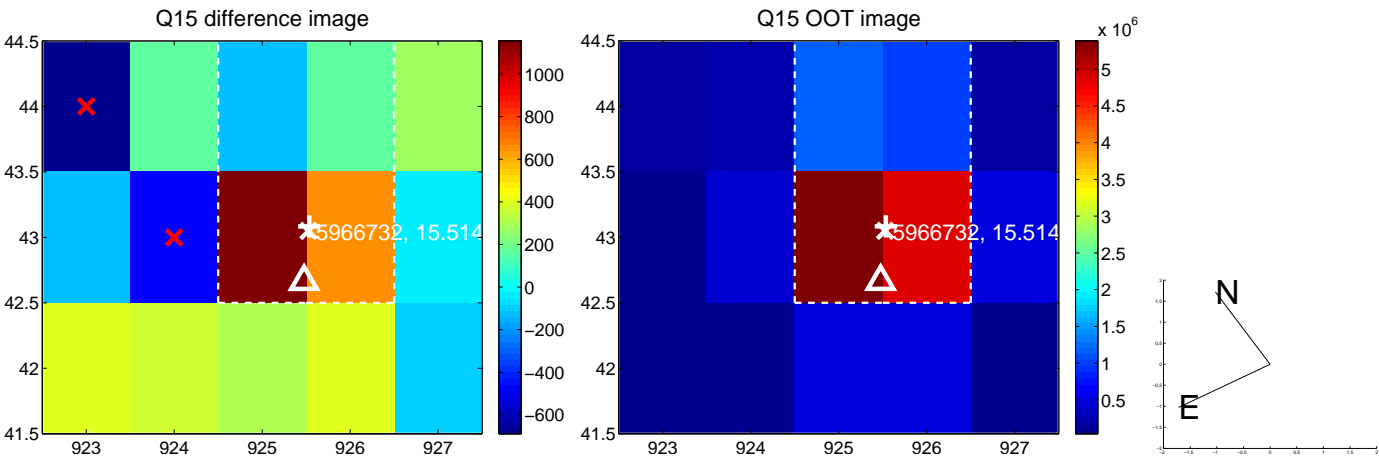
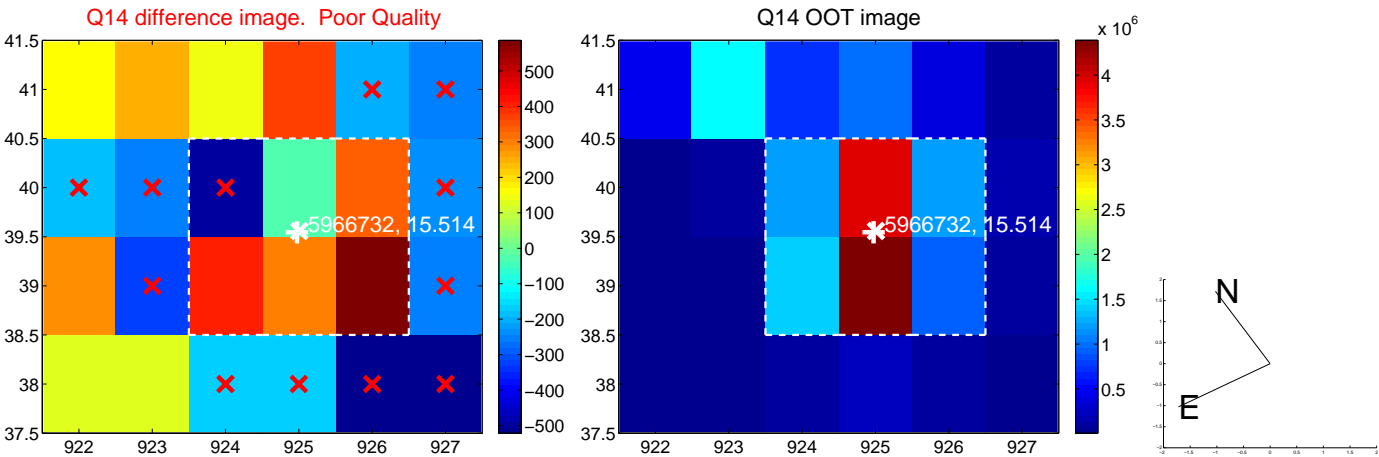
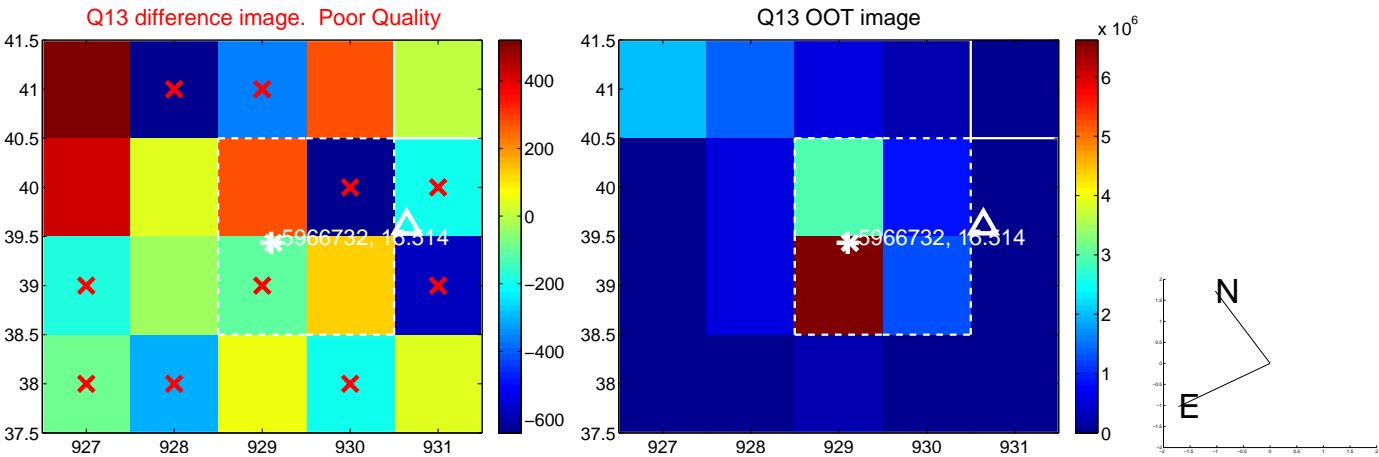




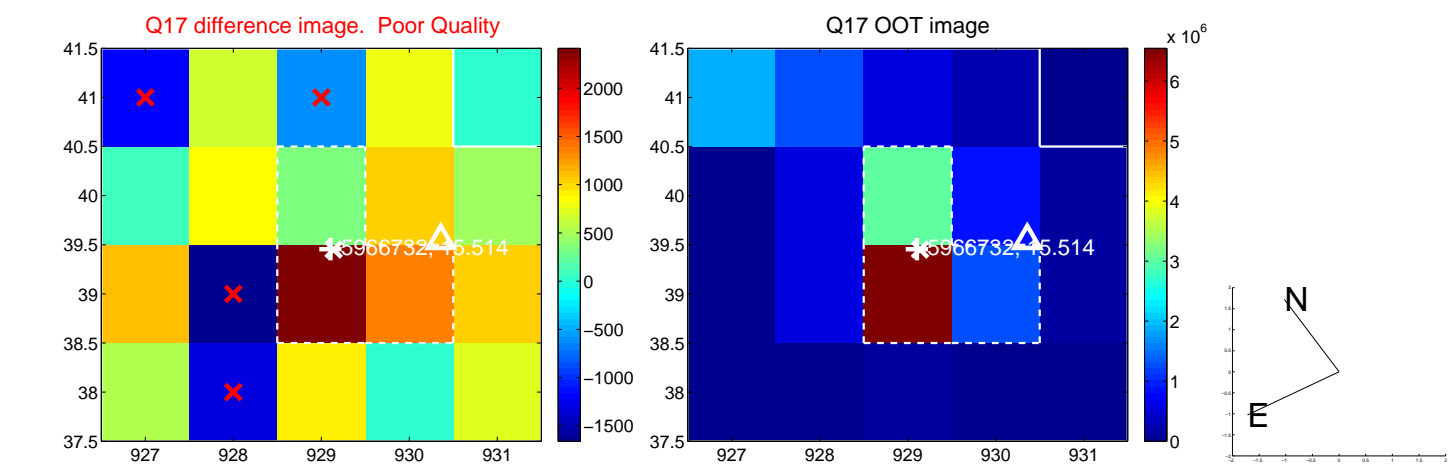
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



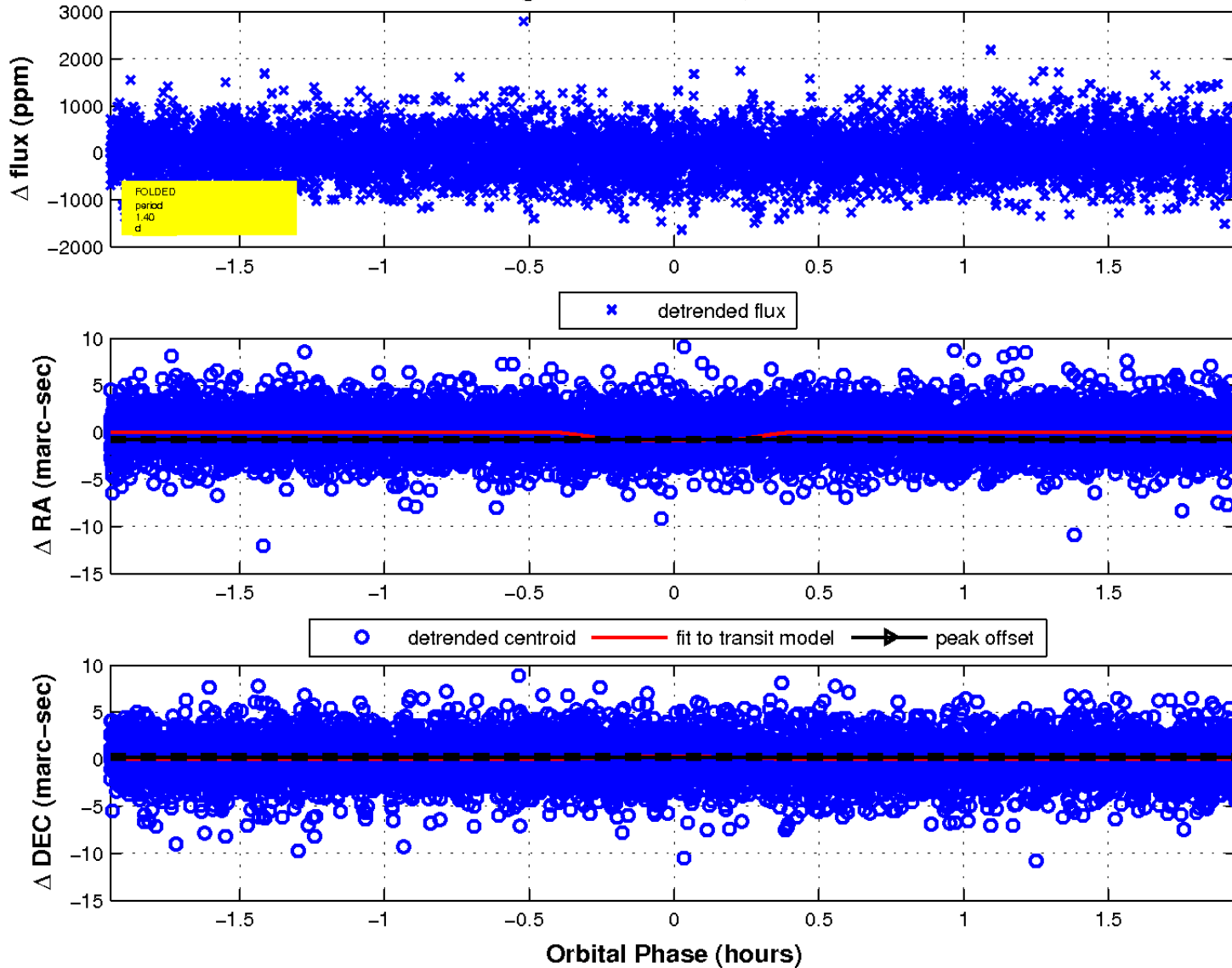
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

