

# KIC 005962262

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005962262-01	OBS	4661.01	8.617426	133.510354	144.7	3.036	10.7	11.2	0.84	5009	1.28	68.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005962262-01	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.

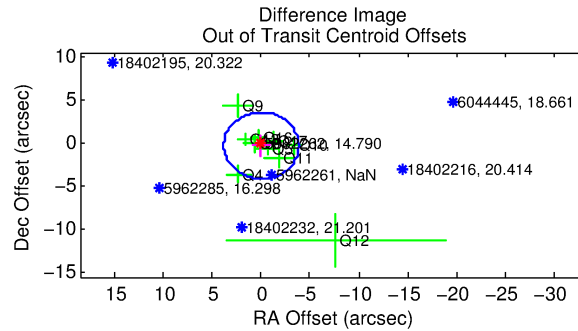
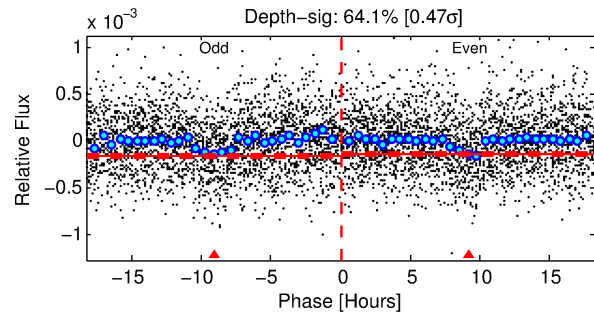
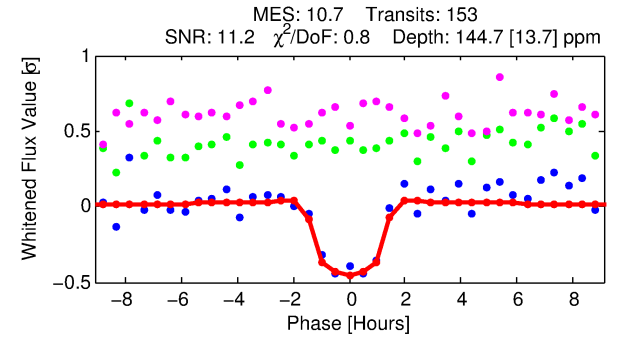
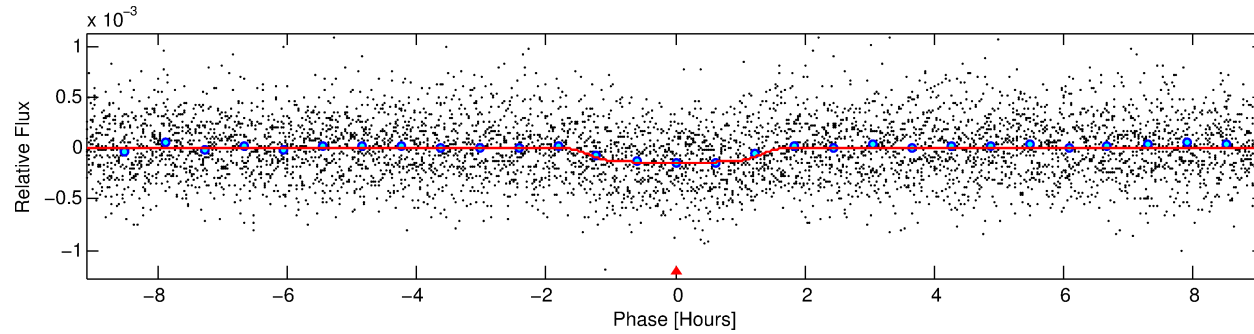
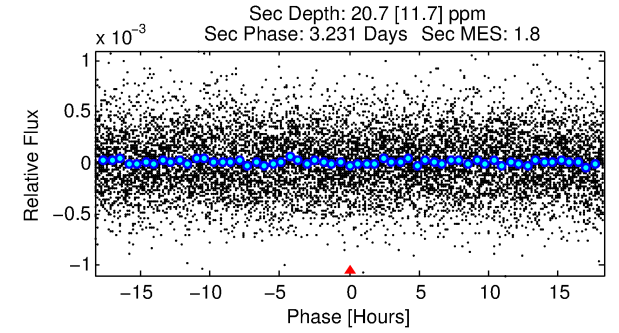
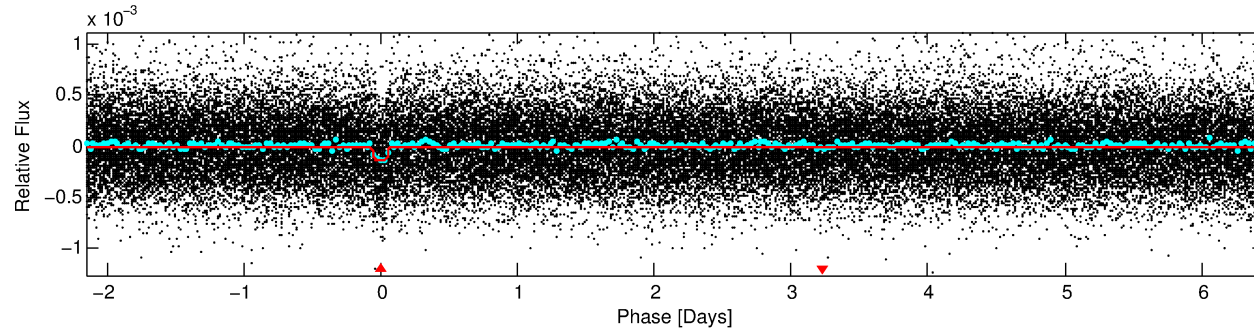
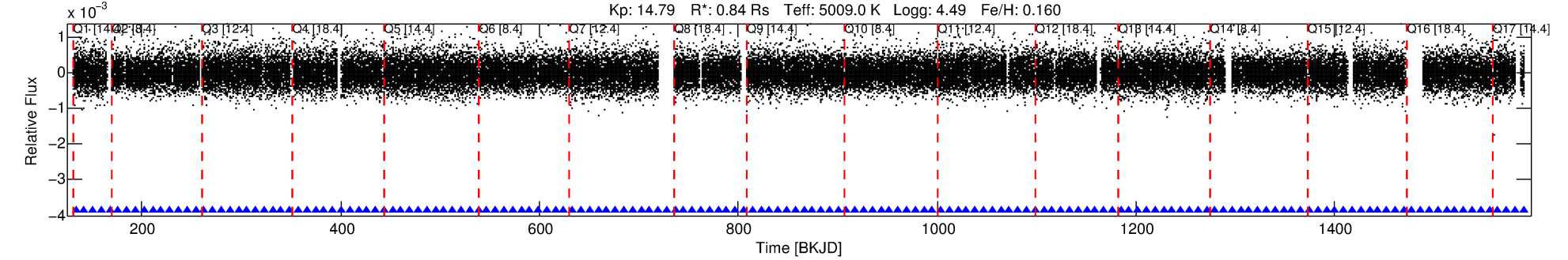
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005962262-01

No Significant Match Found

# DV One-Page Summary

KIC: 5962262 Candidate: 1 of 1 Period: 8.617 d  
KOI: K04661.01 Corr: 0.926



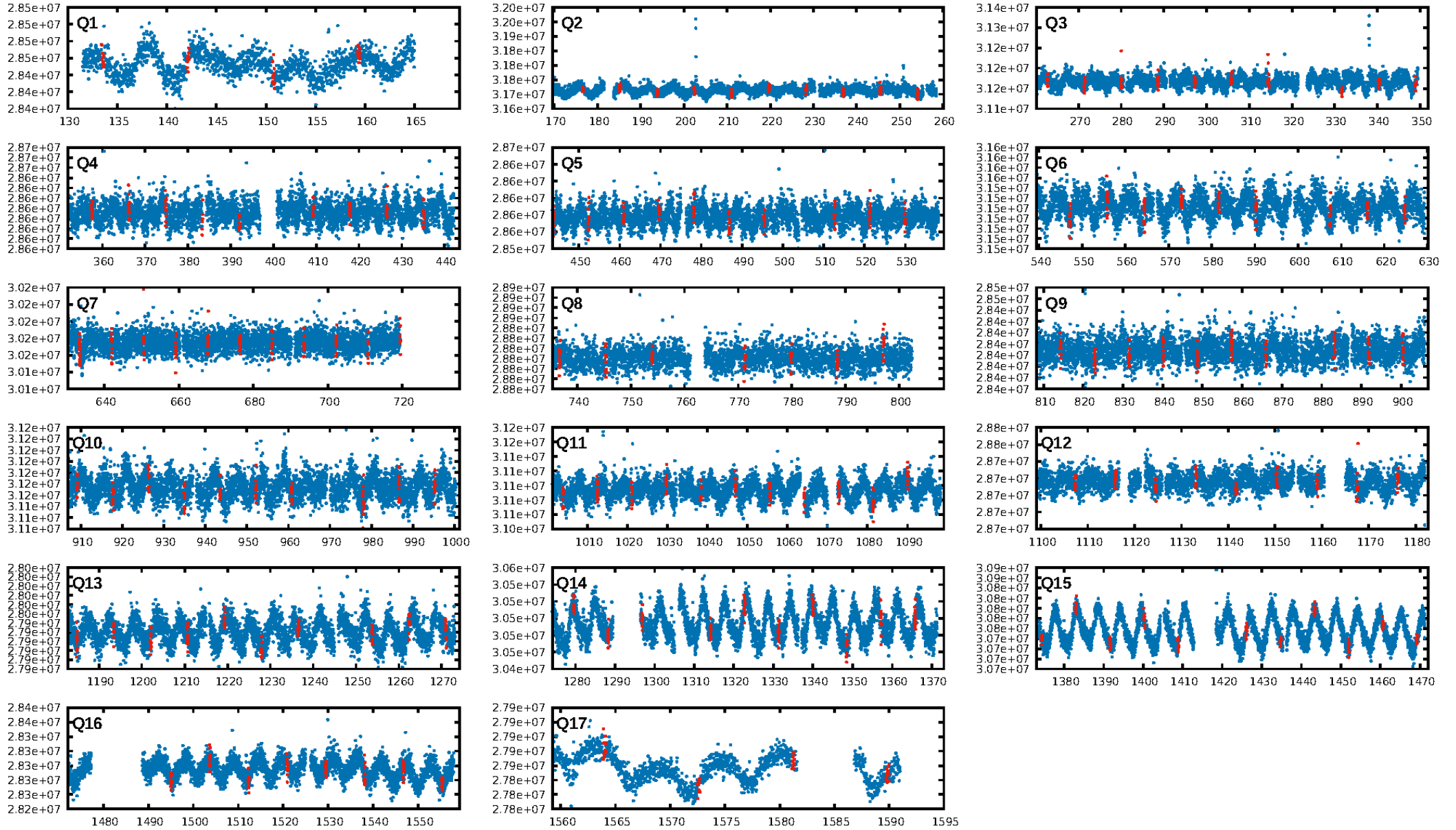
## DV Fit Results:

Period = 8.61743 [0.00006] d  
Epoch = 133.5104 [0.0056] BKJD  
Rp/R\* = 0.0140 [0.0062]  
a/R\* = 8.94 [16.42]  
b = 0.93 [0.29]  
Seff = 68.38 [9.87]  
Teff = 733 [26] K  
Rp = 1.28 [0.58] Re  
a = 0.0763 [0.0059] AU  
Ag = 40.56 [42.98] [0.92σ]  
Teffp = 2861 [754] K [2.82σ]

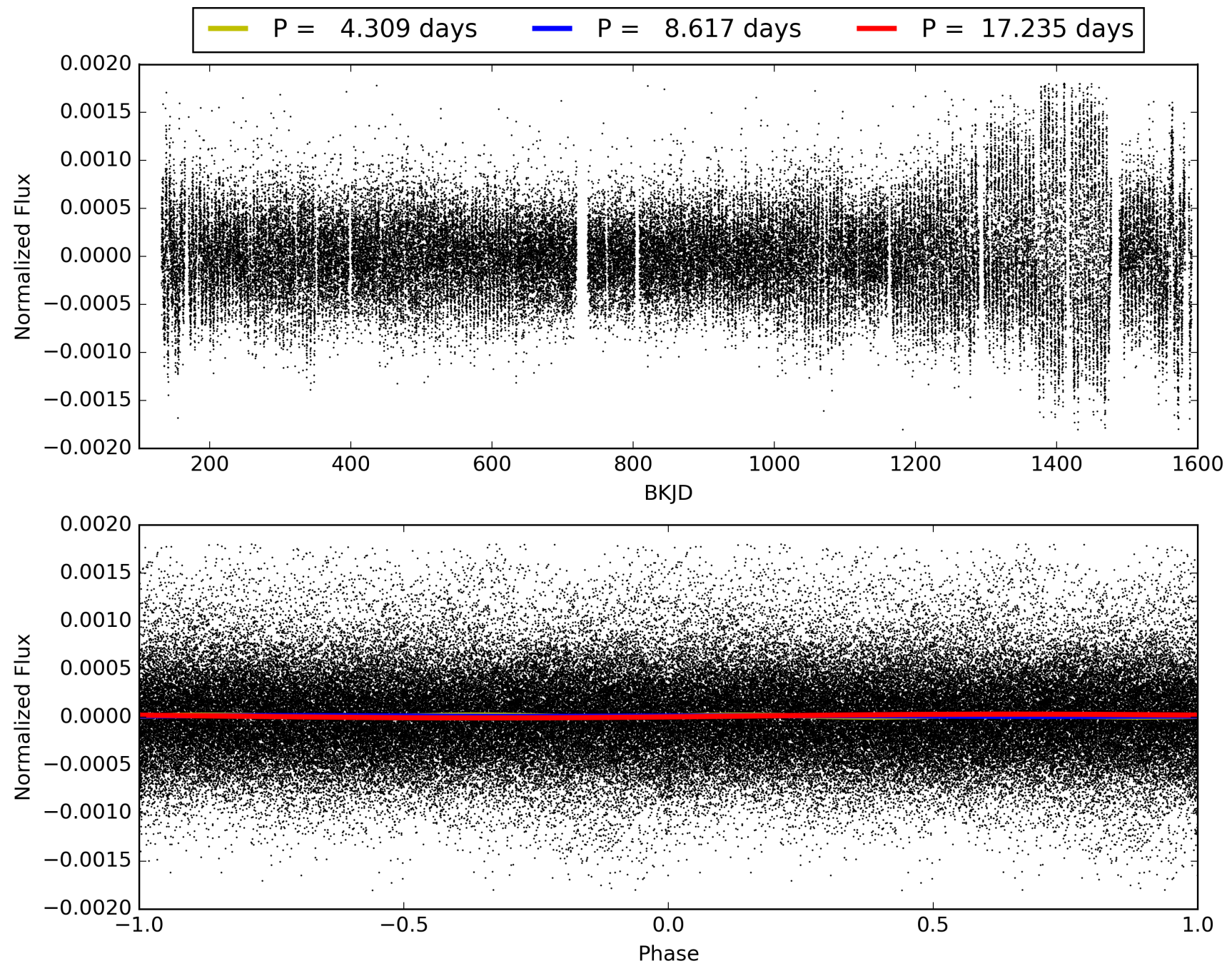
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.21e-26  
RollingBand-fgt: 1.00 [145/145]  
GhostDiagnostic-chr: -2.706  
Centroid-sig: 92.0%  
Centroid-so: 0.138 arcsec [0.11σ]  
OotOffset-rm: 0.299 arcsec [0.23σ]  
KicOffset-rm: 0.551 arcsec [0.38σ]  
OotOffset-st: 1/1/4/4 [10]  
KicOffset-st: 1/1/4/4 [10]  
DiffImageQuality-fgm: 0.40 [4/10]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005962262-01, PDC Light Curves



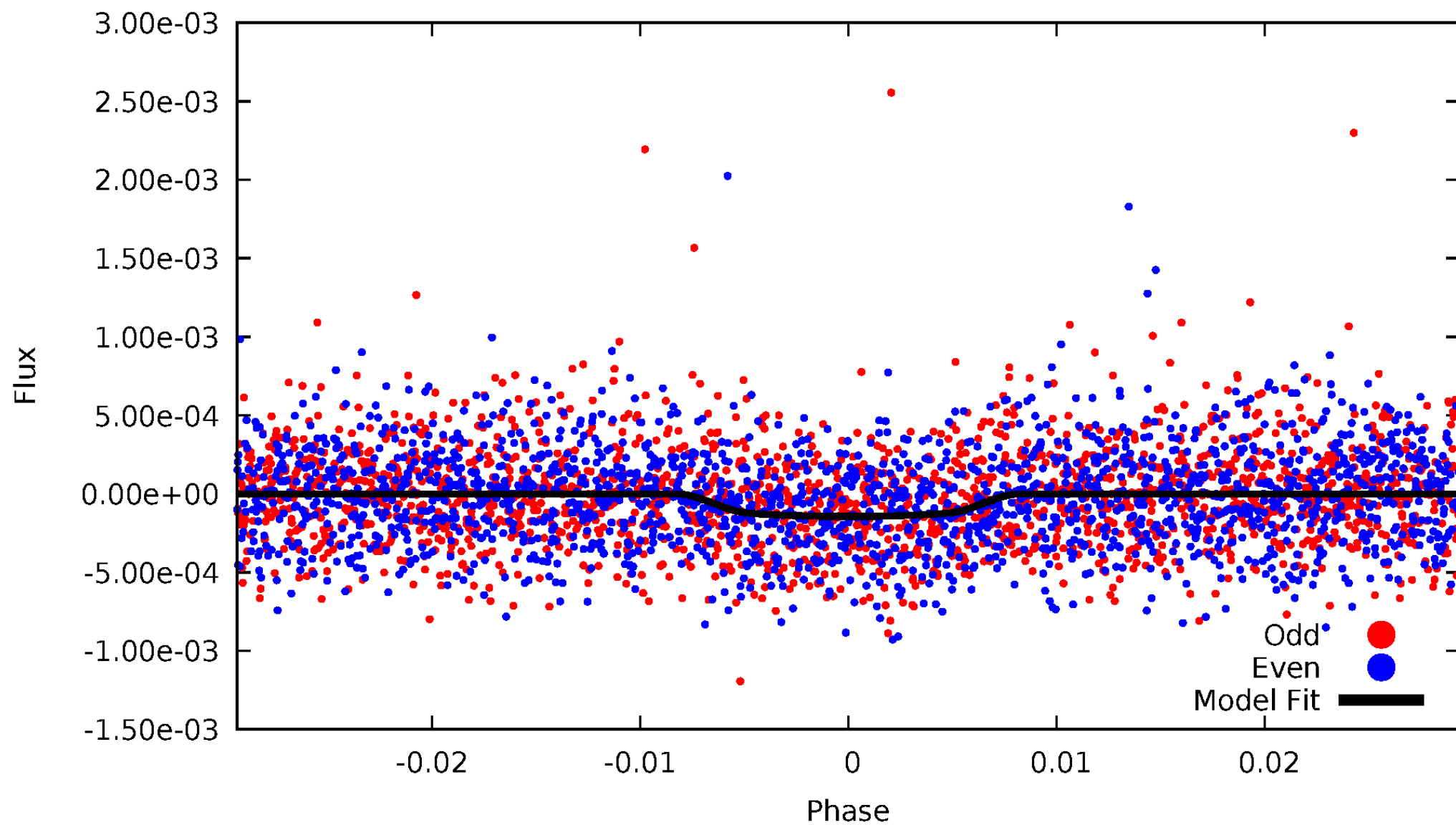
TCE 005962262-01





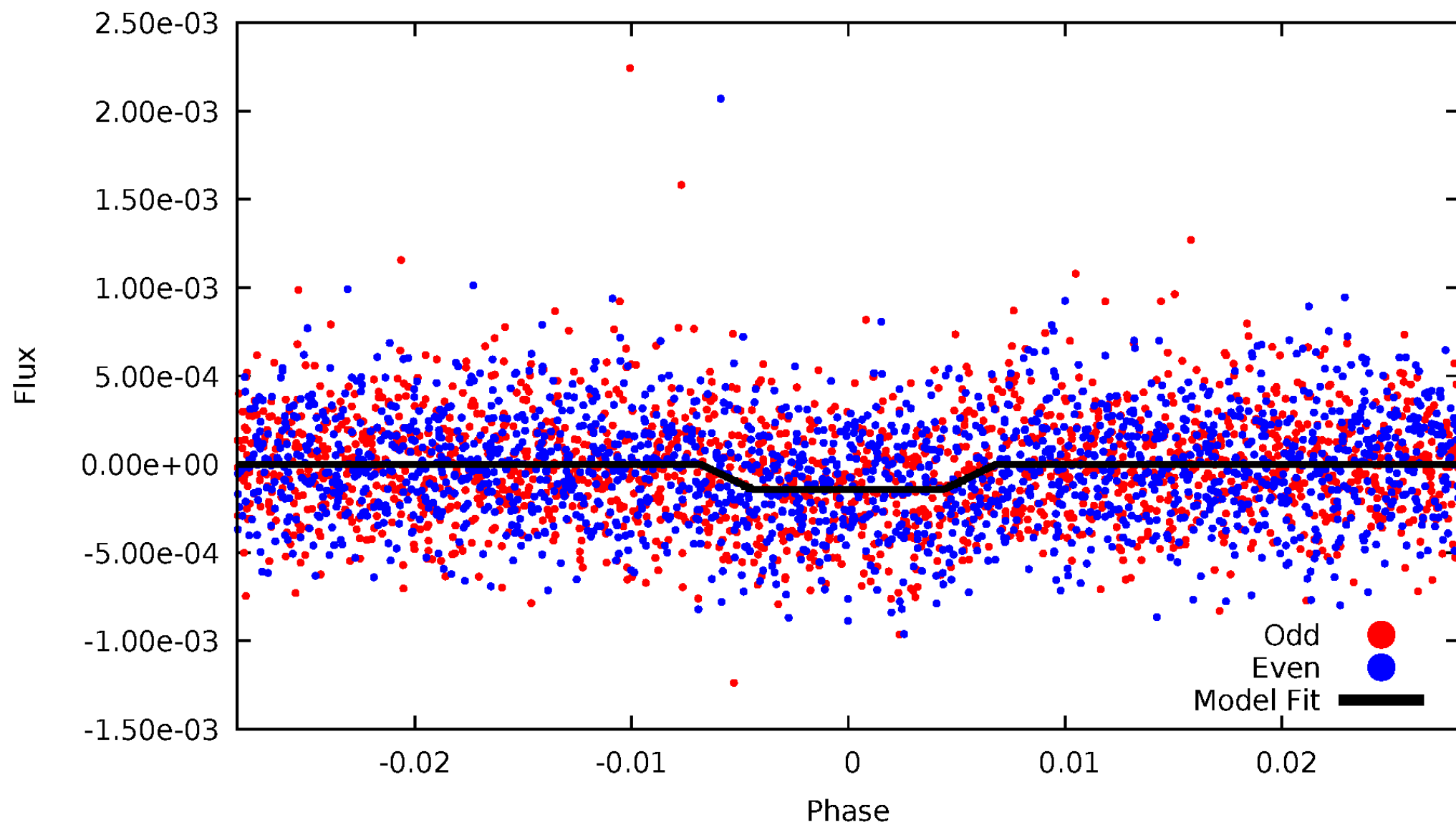
# DV Odd/Even

TCE 005962262-01



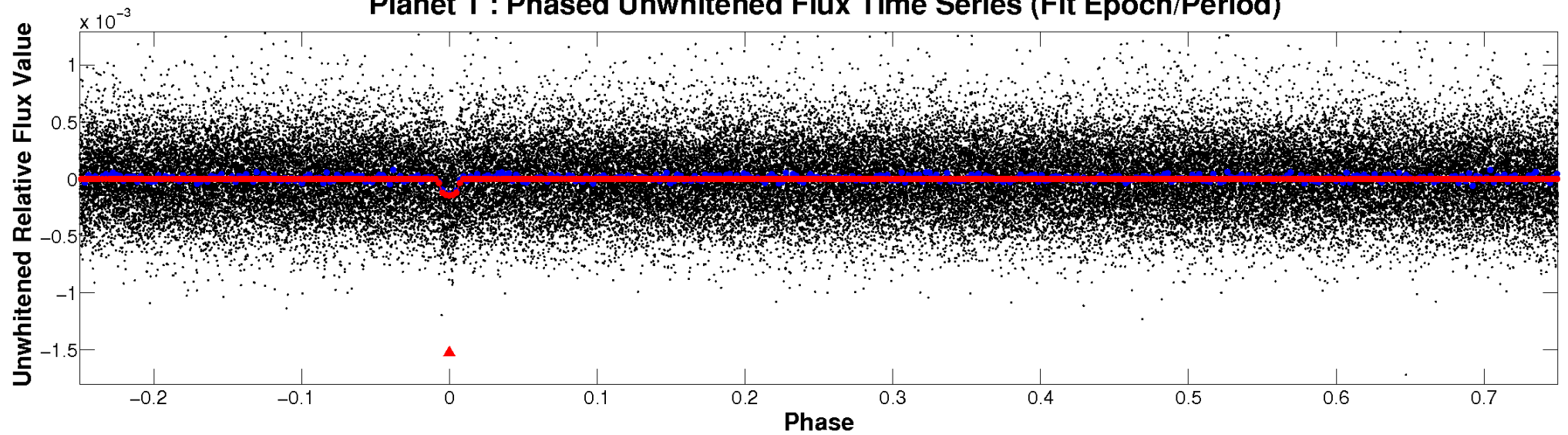
# ALT Odd/Even

TCE 005962262-01

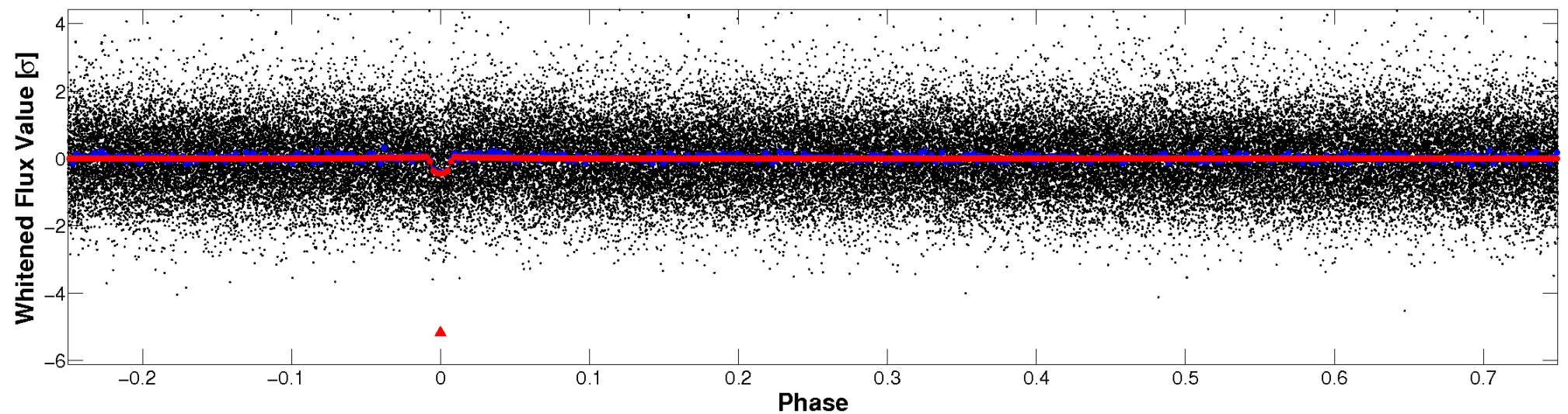


# Non-Whitened Vs. Whitened Light Curve

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

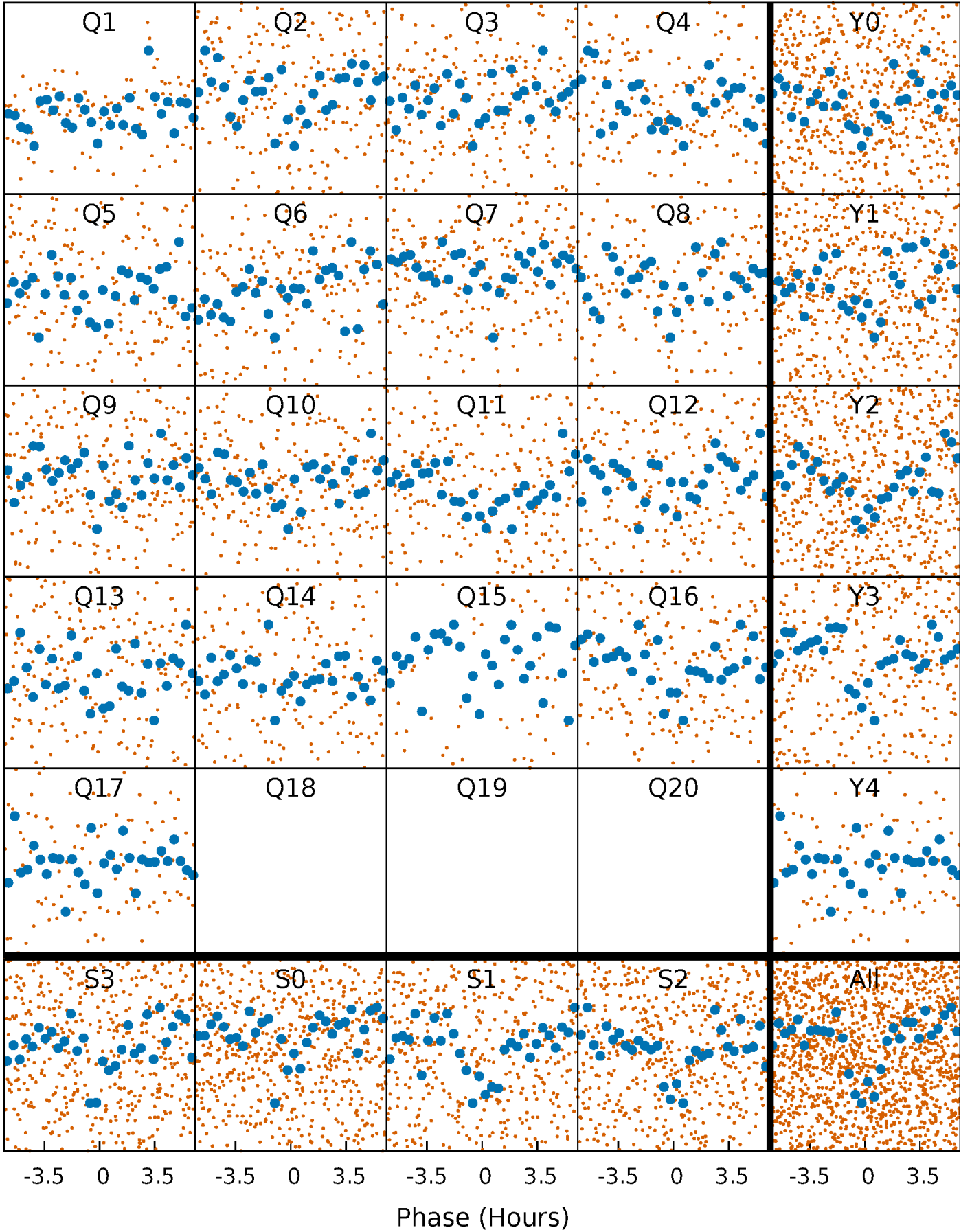


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

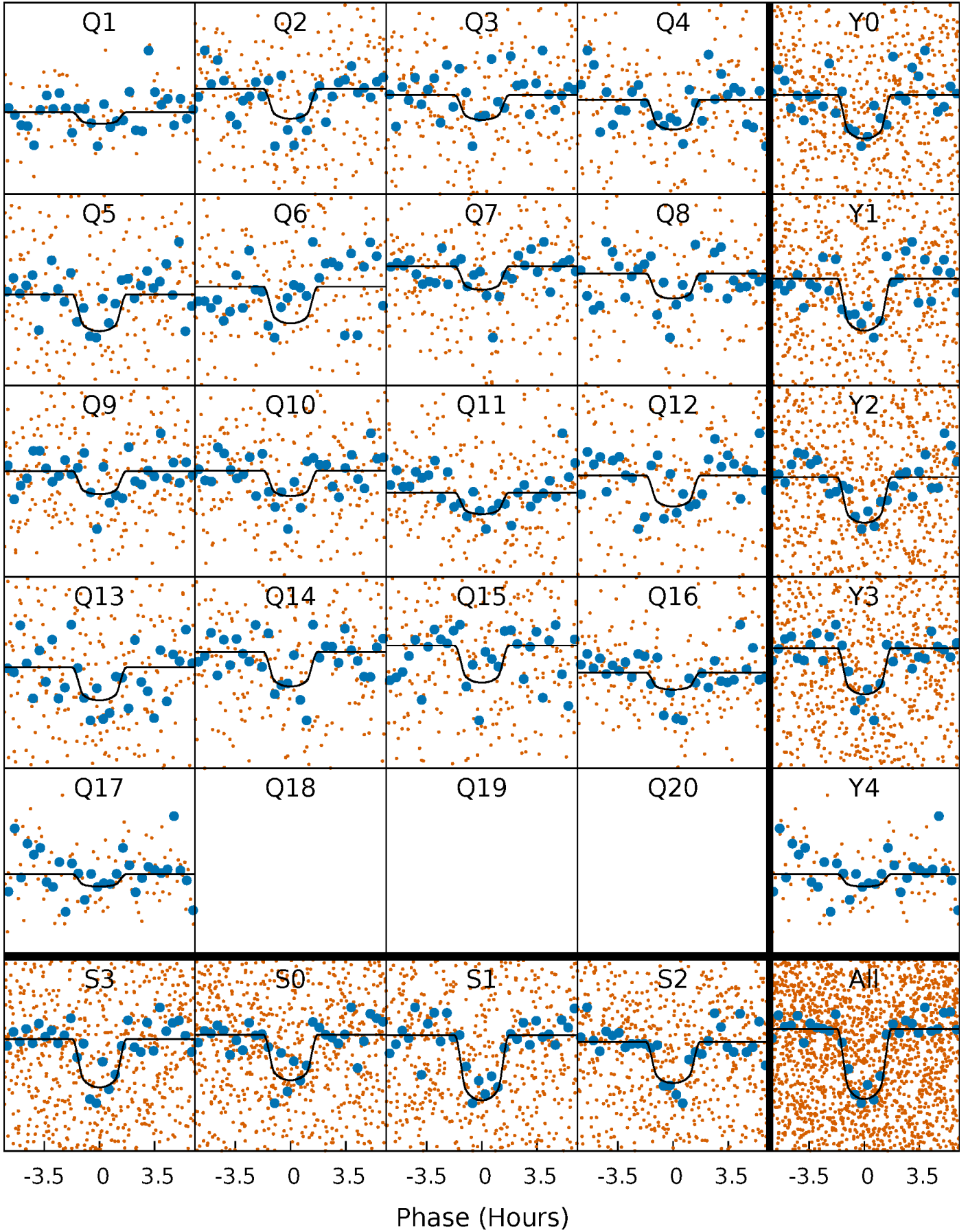
TCE 005962262-01 P= 8.617426 Days  $T_0=133.510354$  (BKJD)





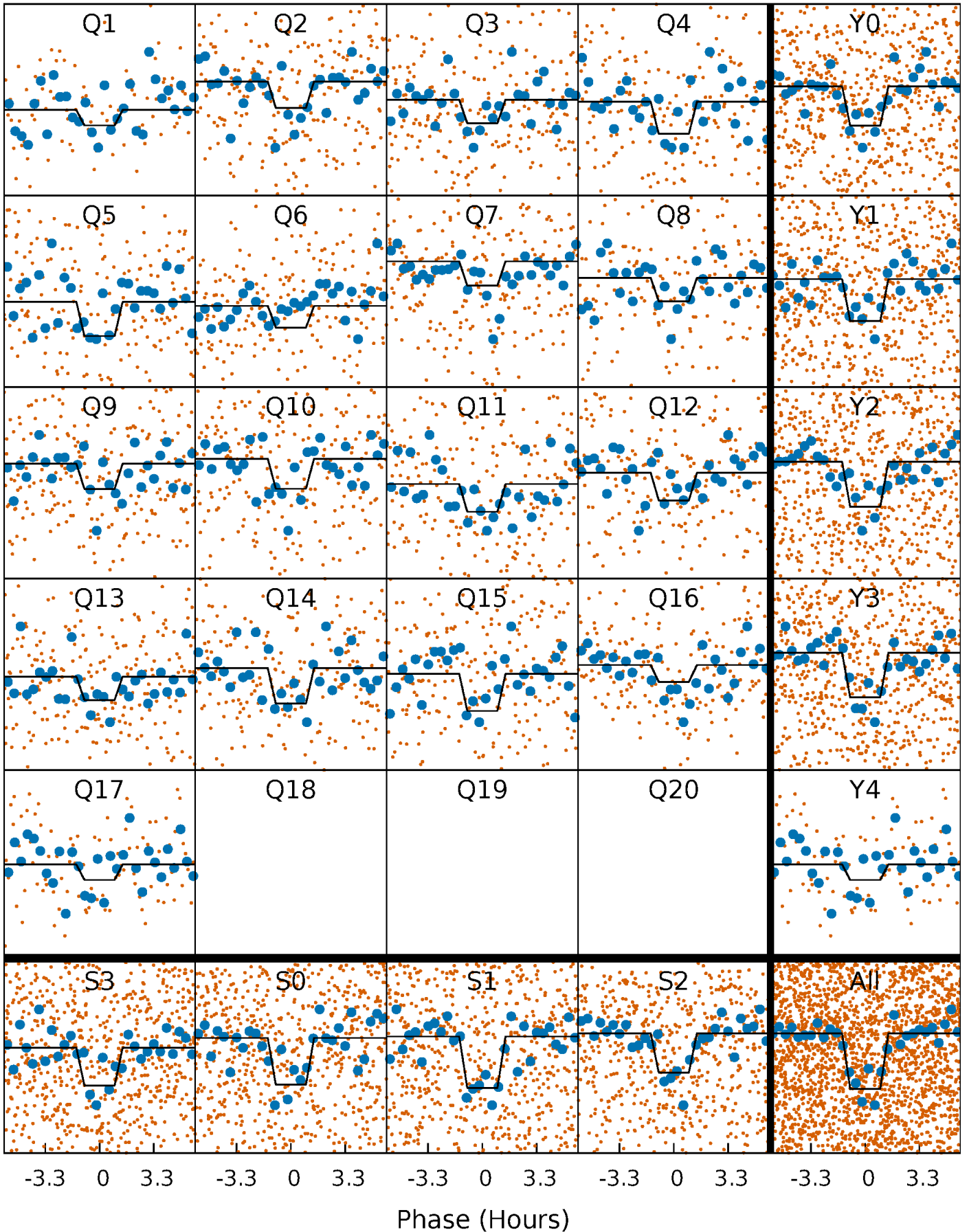
# DV Quarter-Phased Transit Curves

TCE 005962262-01    P= 8.617426 Days     $T_0=133.510354$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

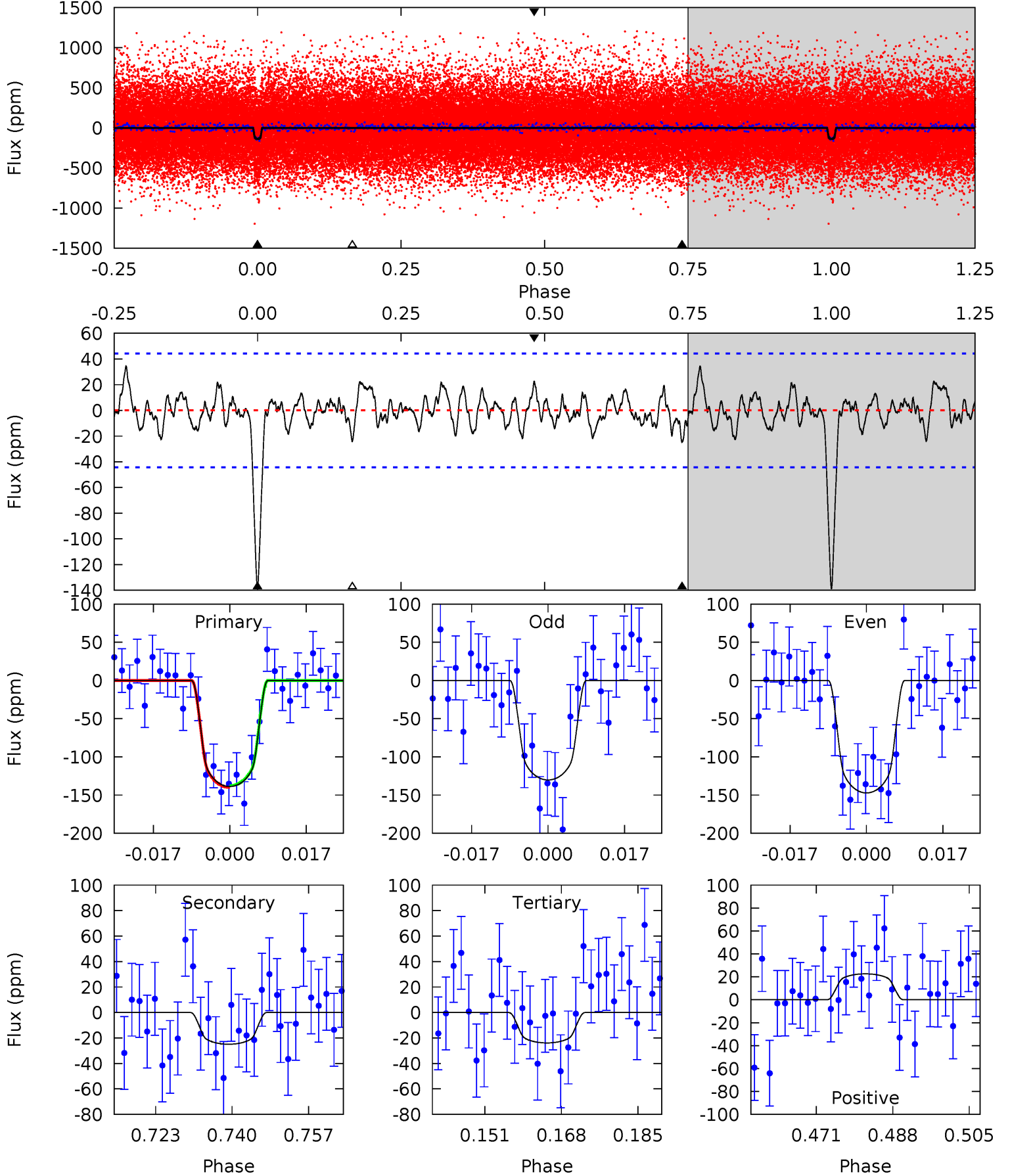
TCE 005962262-01 P= 8.617381 Days  $T_0=133.513862$  (BKJD)



# DV Model-Shift Uniqueness Test

005962262-01, P = 8.617426 Days, E = 124.892928 Days

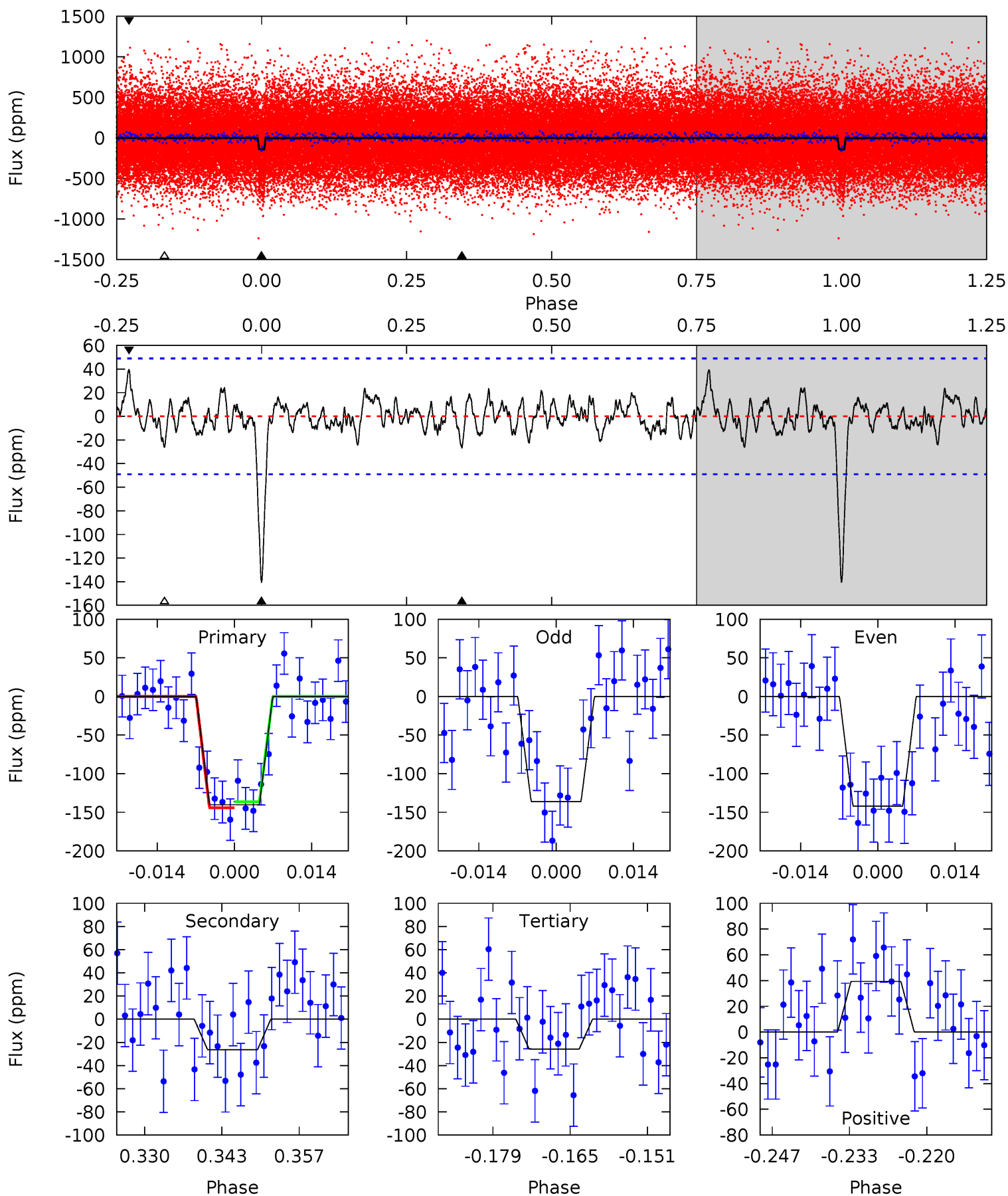
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	2.77	2.66	2.51	4.93	2.39	1.10	12.8	12.9	0.11	0.26	0.95	0.94	0.20	0.13



# Alt Model-Shift Uniqueness Test

005962262-01, P = 8.617381 Days, E = 124.896481 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
14.2	2.67	2.63	3.99	4.97	2.46	1.03	11.6	10.2	0.04	-1.32	0.29	1.00	0.22	0.40



### Stellar Parameters For KIC 005962262

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5009^{+74}_{-82}$	$4.491^{+0.077}_{-0.028}$	$0.160^{+0.150}_{-0.150}$	$0.840^{+0.032}_{-0.064}$	$0.797^{+0.054}_{-0.029}$	$1.892^{+0.557}_{-0.186}$
	+1%/-2%	+2%/-1%	+94%/-94%	+4%/-8%	+7%/-4%	+29%/-10%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 005962262-01 / KOI 4661.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-25 \pm 9$	$1.28^{+0.55}_{-0.55}$	$1019^{+22}_{-27}$	$3414^{+740}_{-416}$	$47^{+101}_{-27}$
Alt.	$-26 \pm 10$	$1.10^{+0.56}_{-0.54}$	$1018^{+24}_{-26}$	$3635^{+1041}_{-527}$	$69^{+209}_{-43}$

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



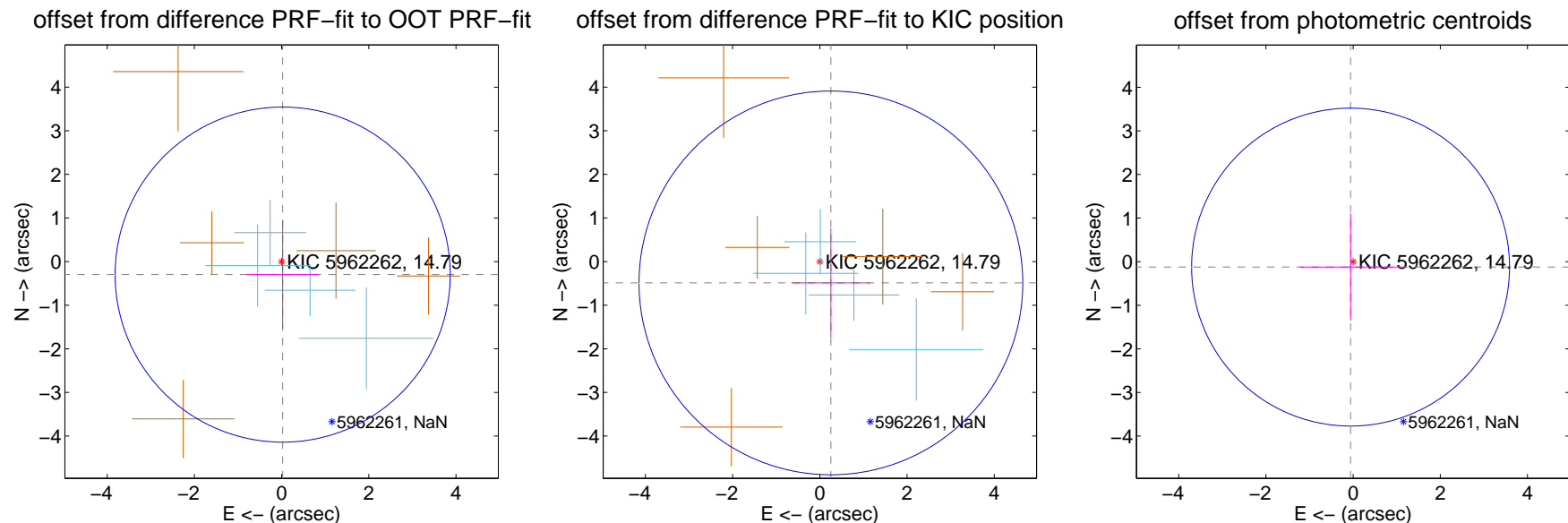
## DV Centroid Data

Supplemental centroid analysis for 005962262-01. Kepler magnitude: 14.79. Transit SNR 11.20

There are 4 quarters with good PRF difference image offsets

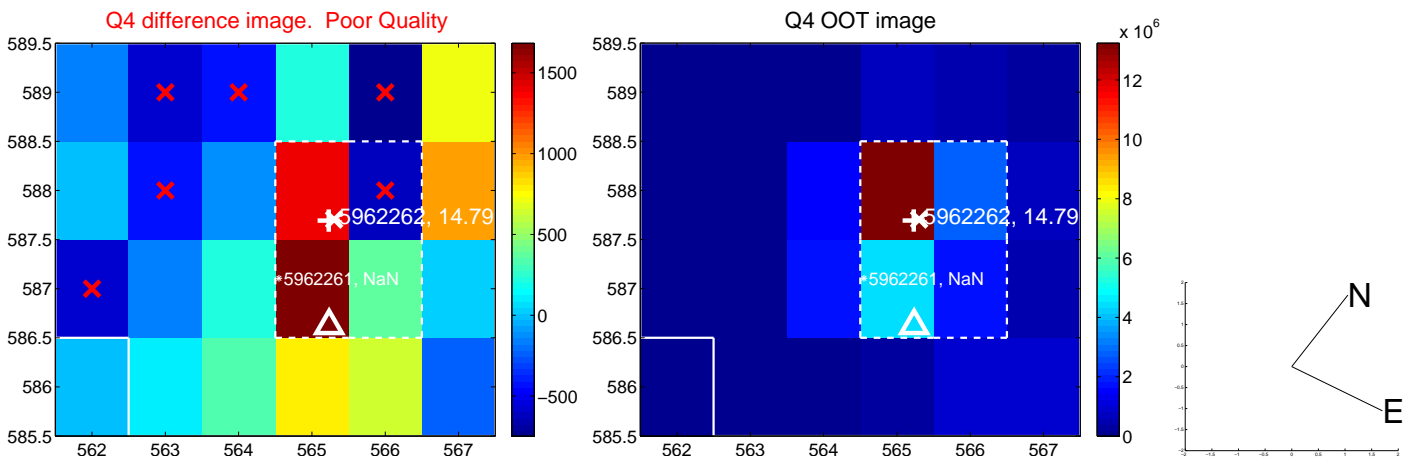
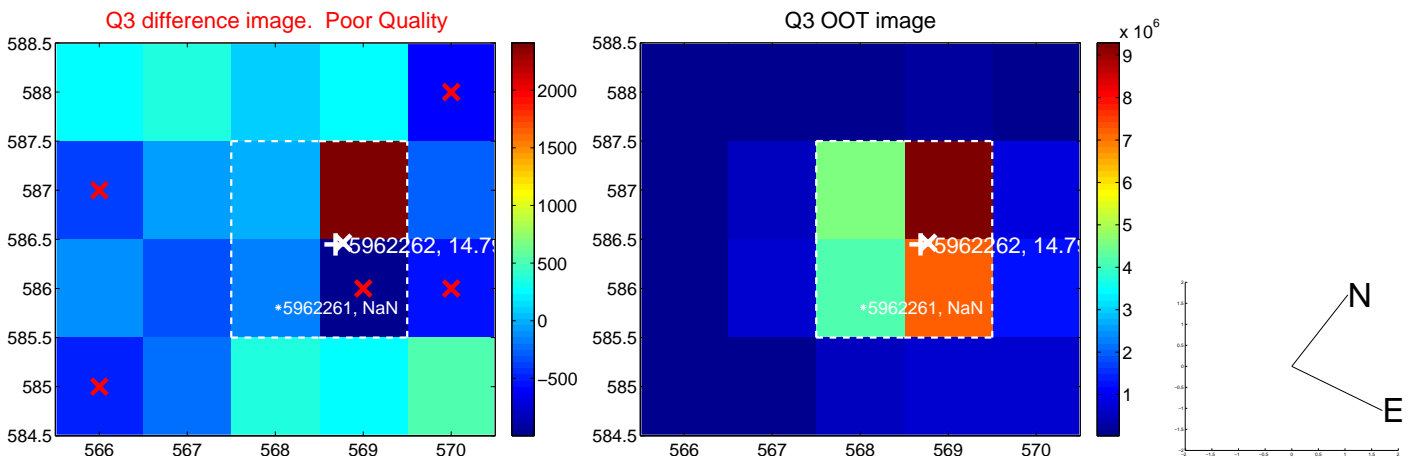
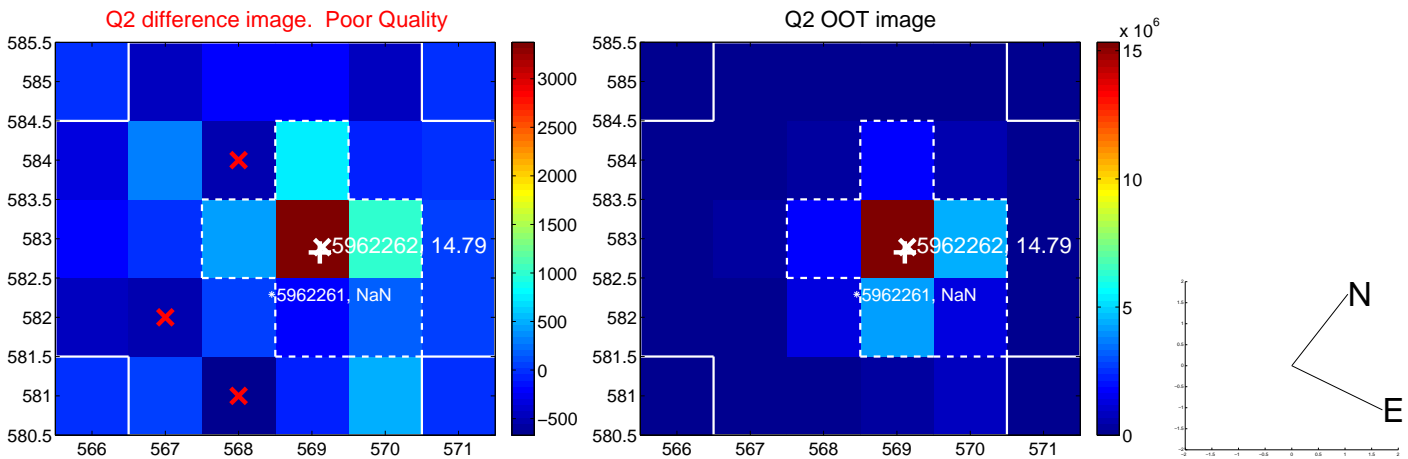
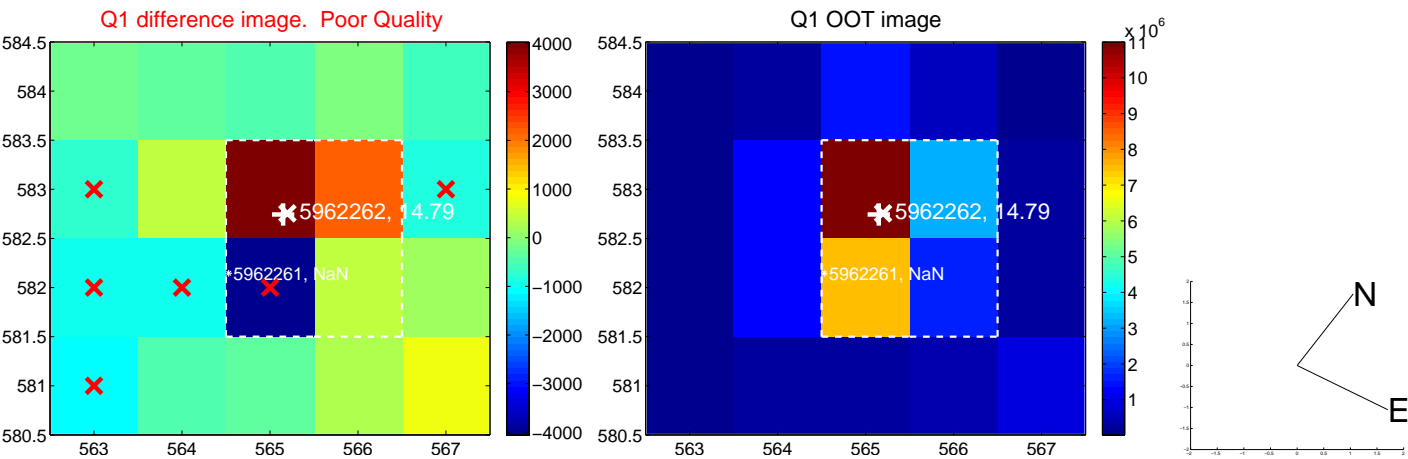
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.299 \pm 1.281$	0.23	$-0.025 \pm 0.829$	$-0.298 \pm 1.237$
PRF-fit source offset from KIC position	$0.551 \pm 1.467$	0.38	$-0.254 \pm 0.906$	$-0.489 \pm 1.258$
photometric centroid source offset	$0.14 \pm 1.22$	0.11	$0.06 \pm 1.16$	$-0.12 \pm 1.23$

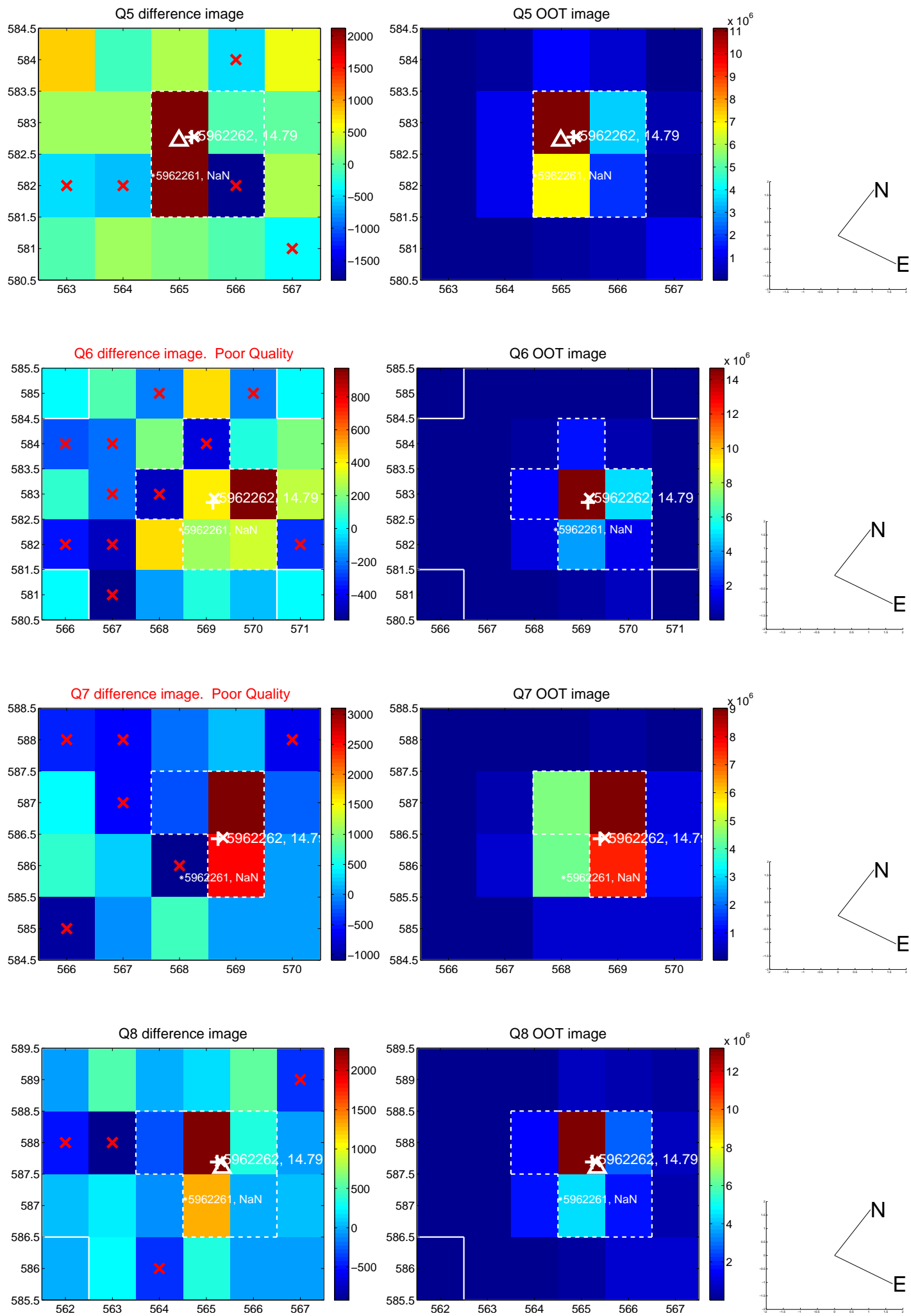


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

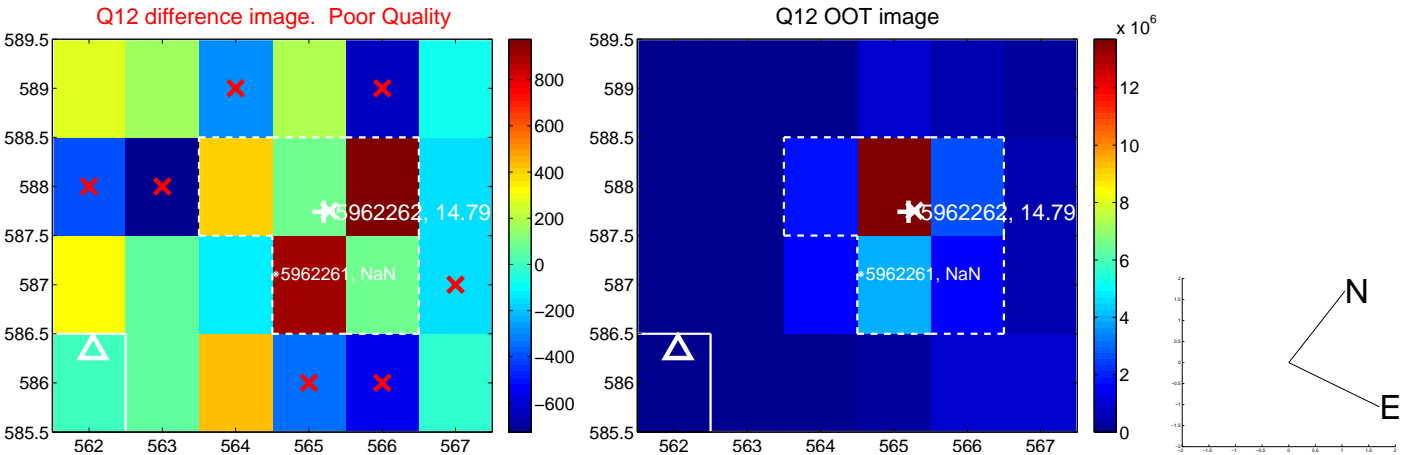
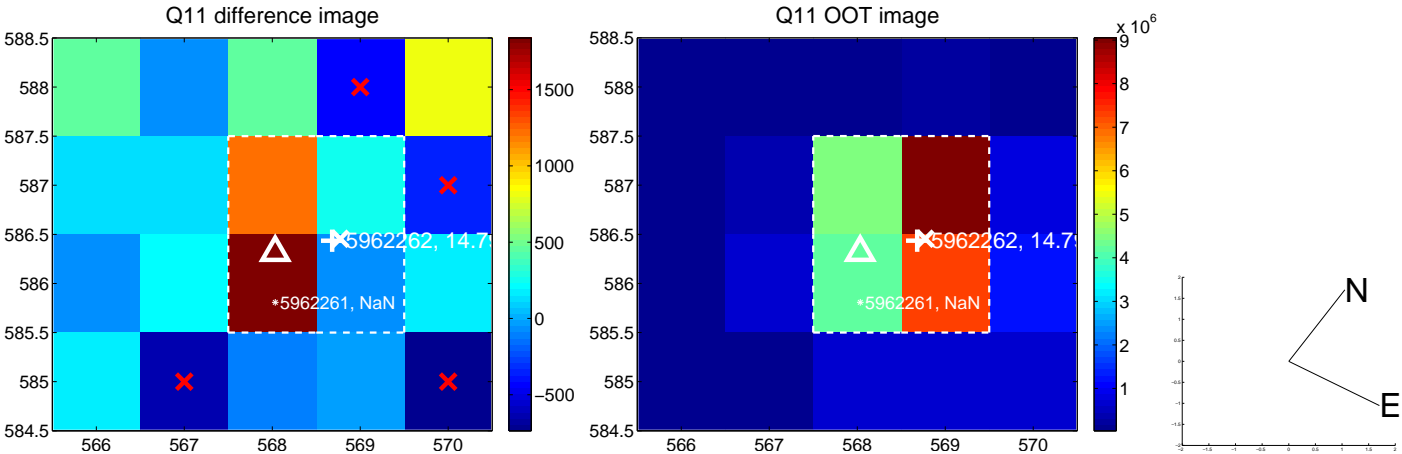
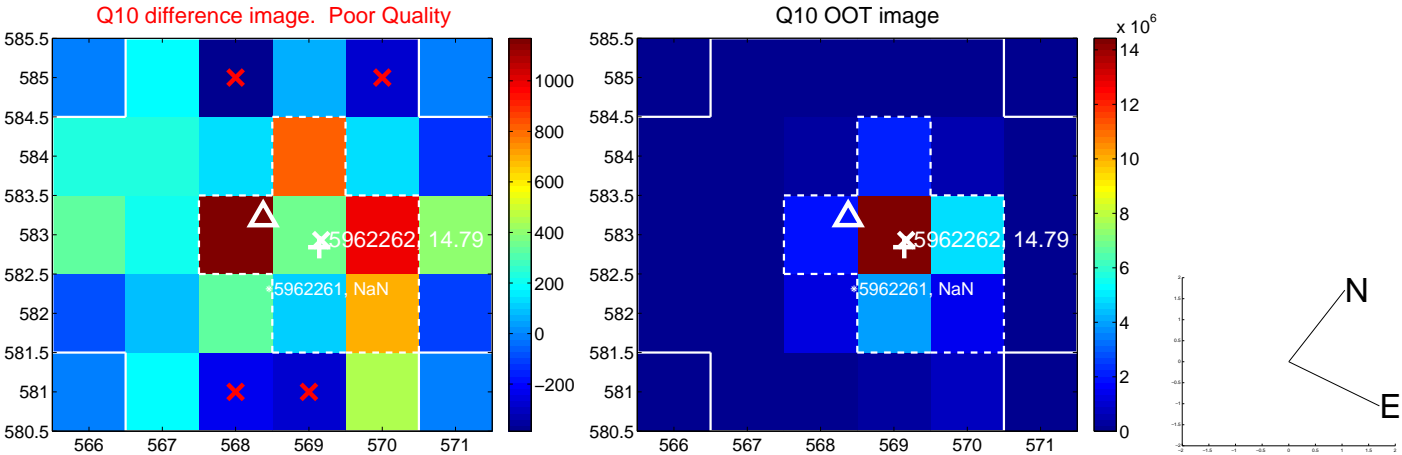
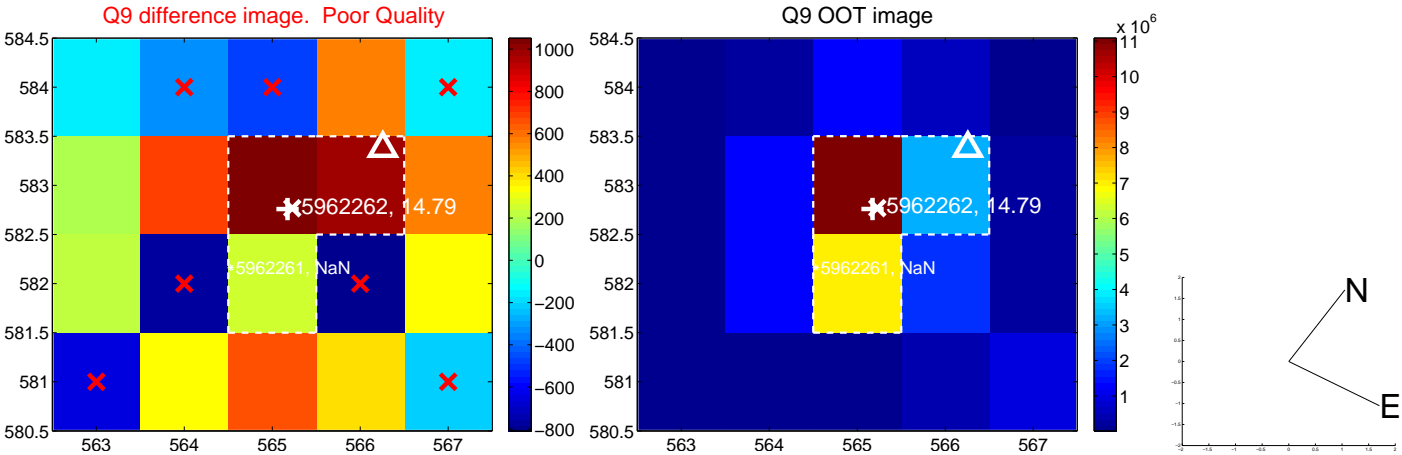
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



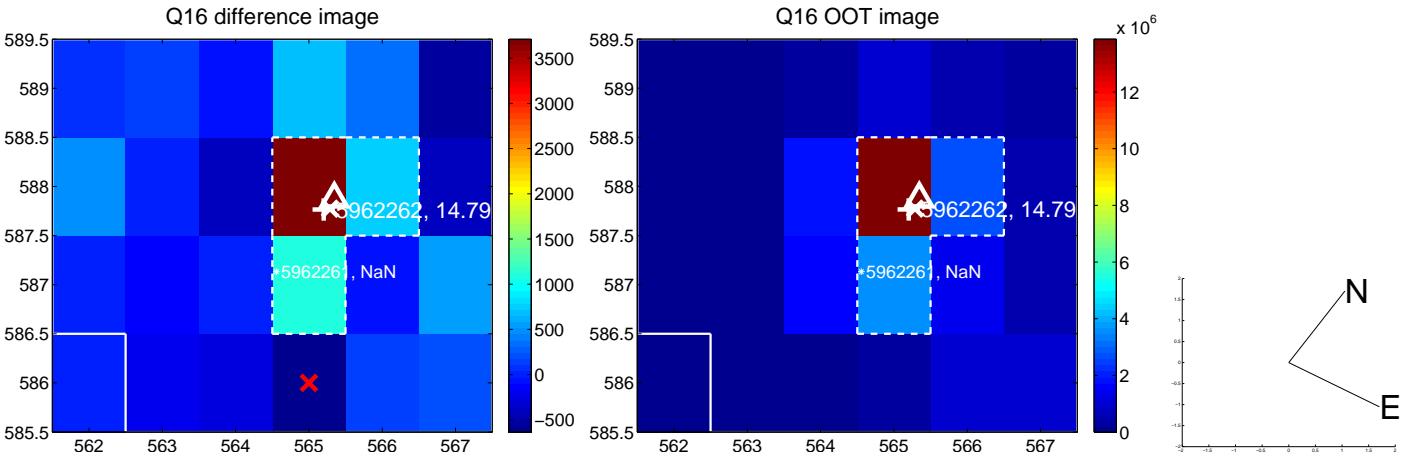
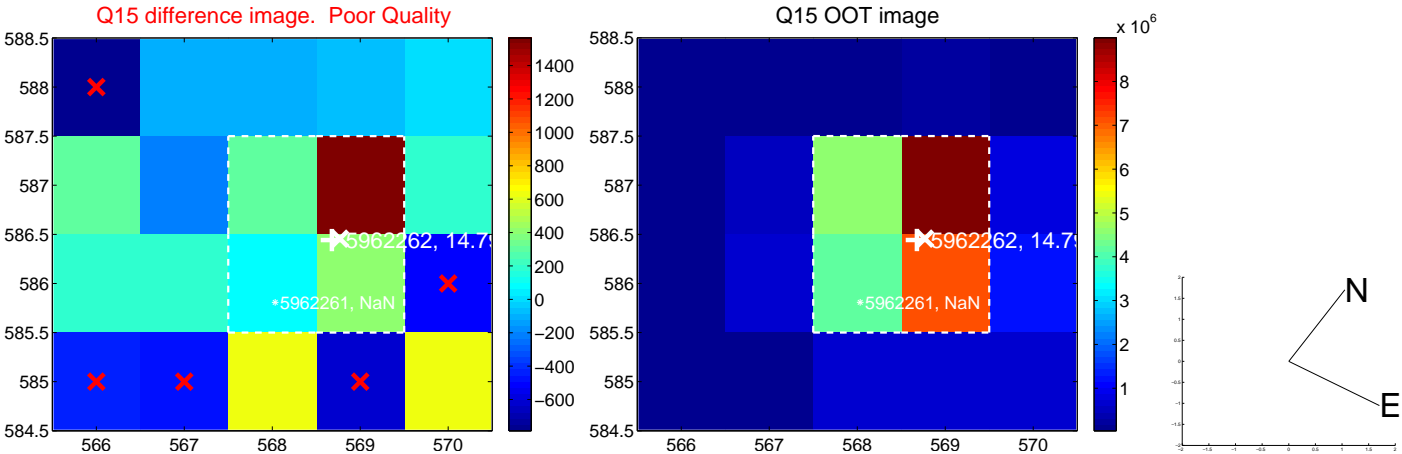
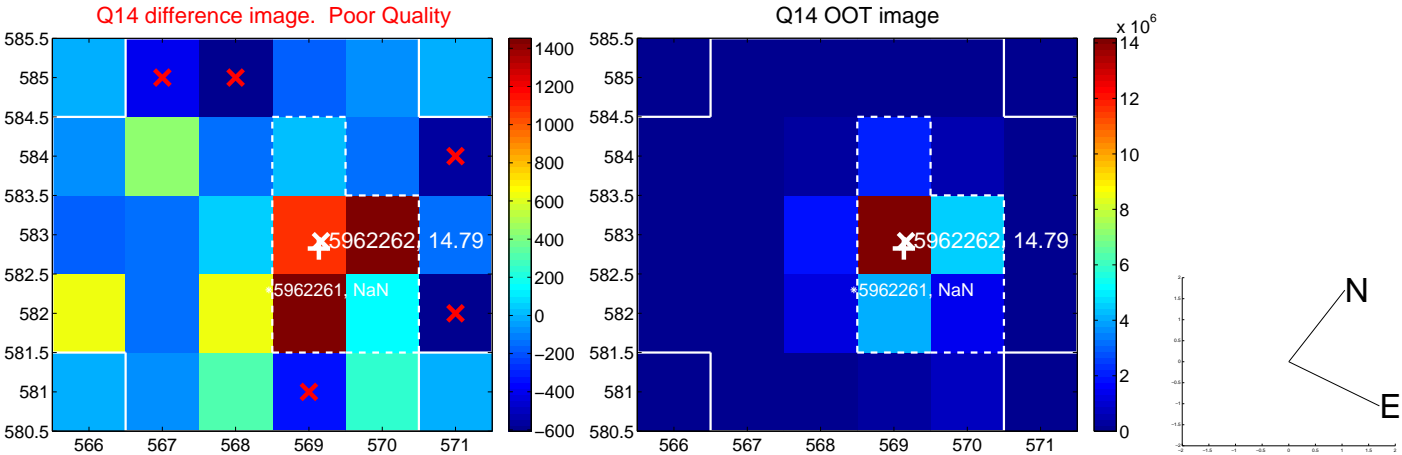
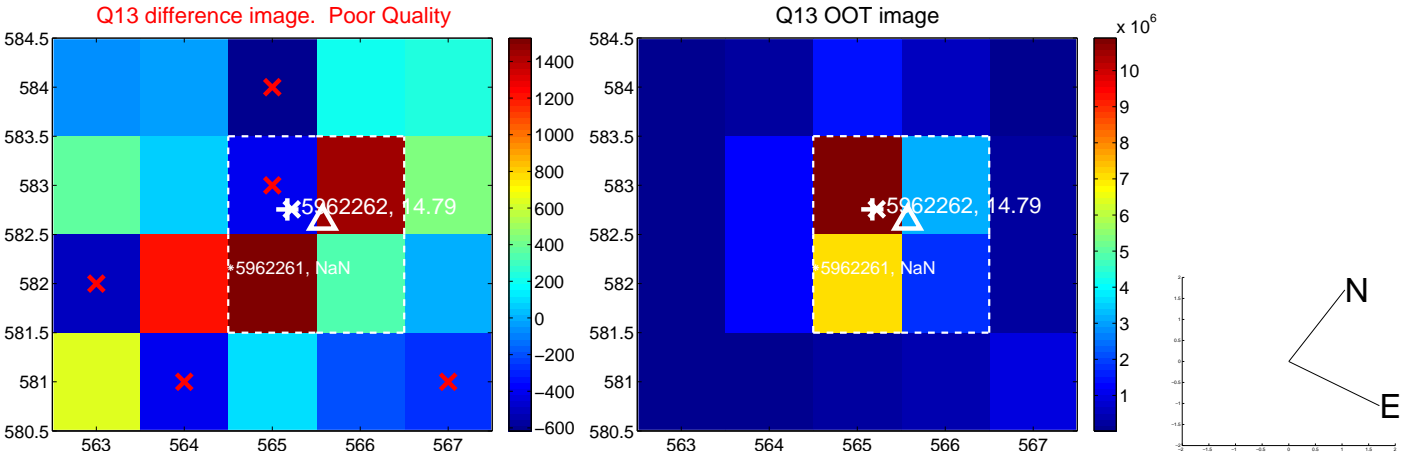
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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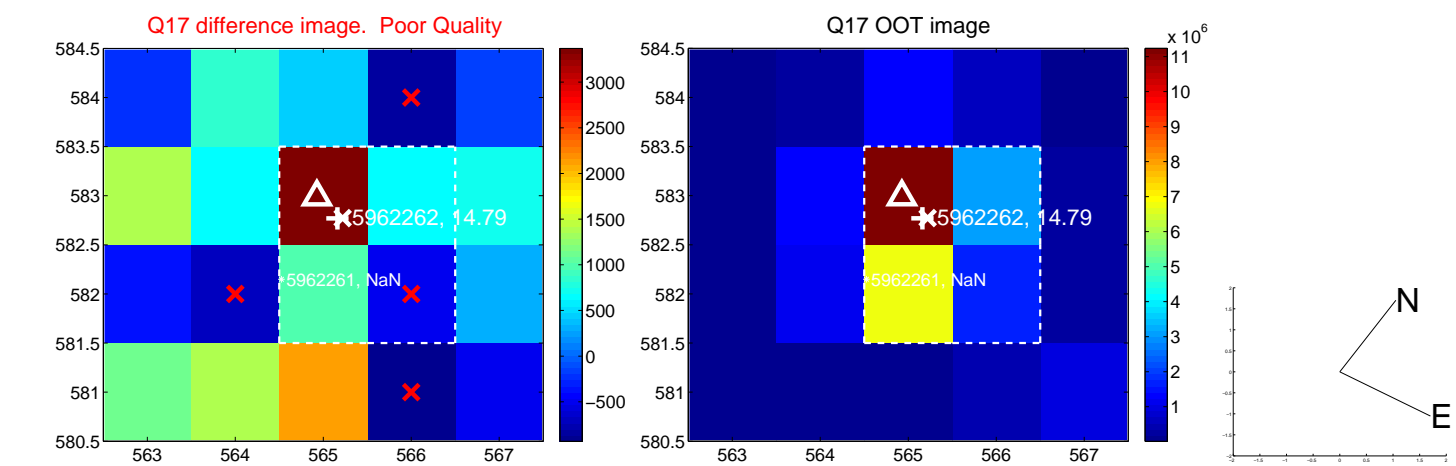


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

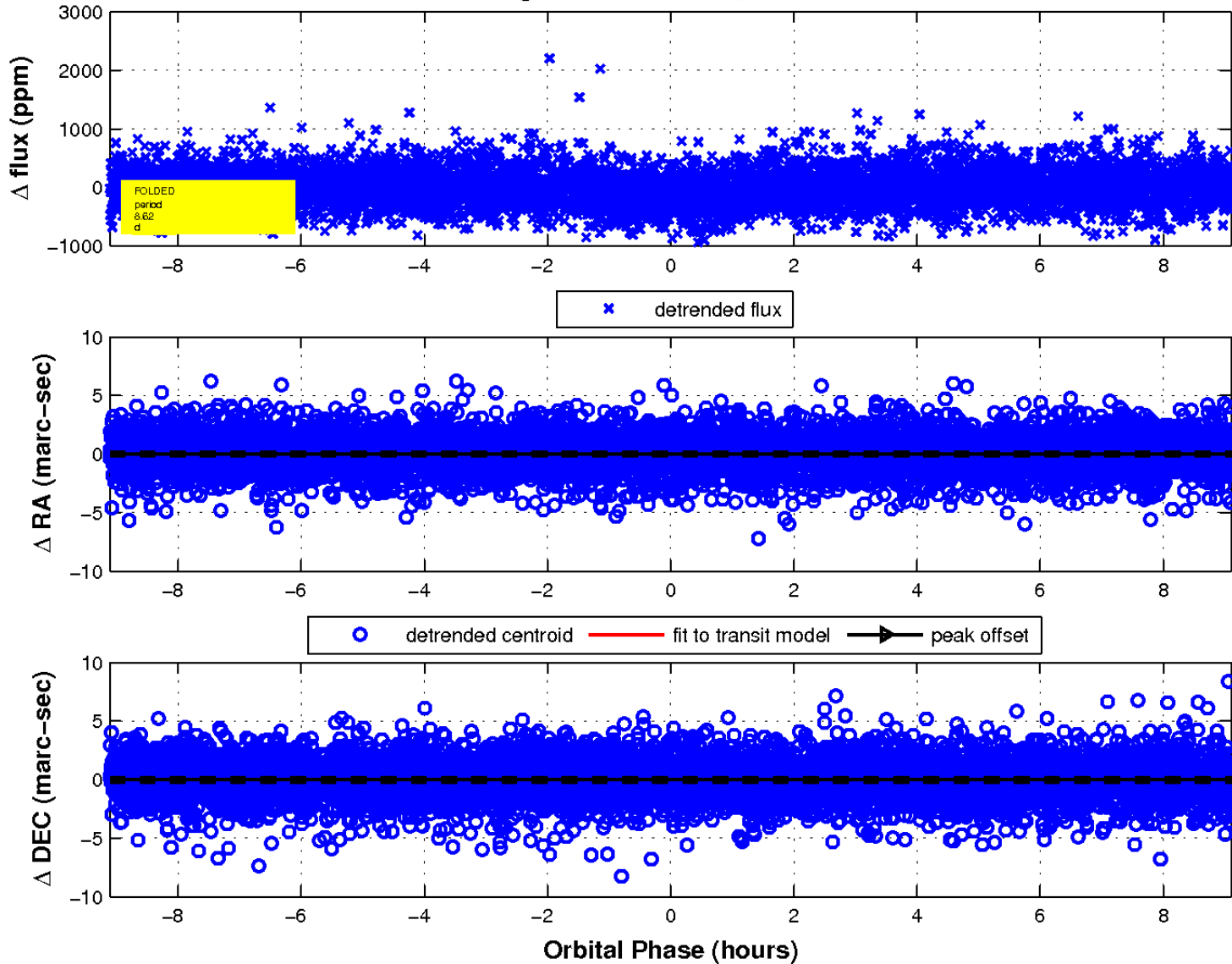




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

