

# KIC 011662184

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011662184-01	OBS	2791.01	27.571940	145.401919	298.2	6.132	18.6	19.6	1.09	5912	2.44	38.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011662184-01	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.

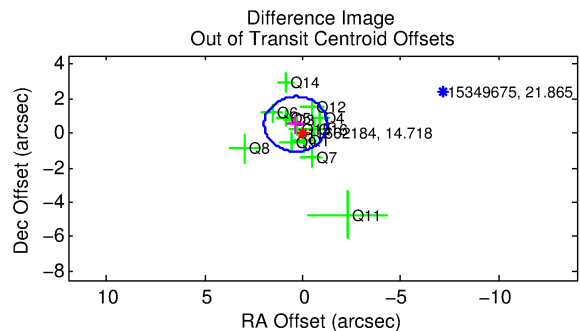
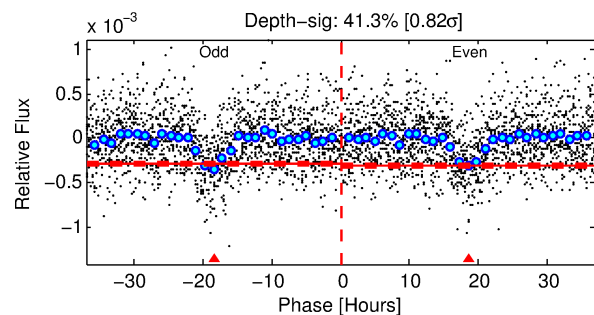
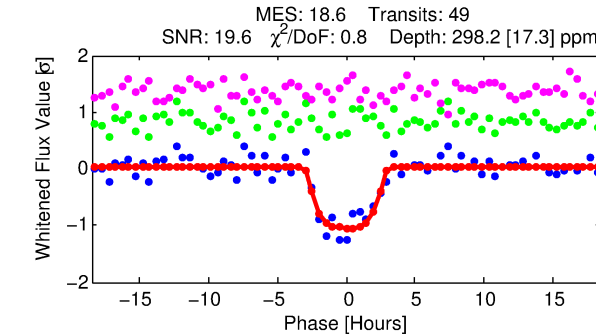
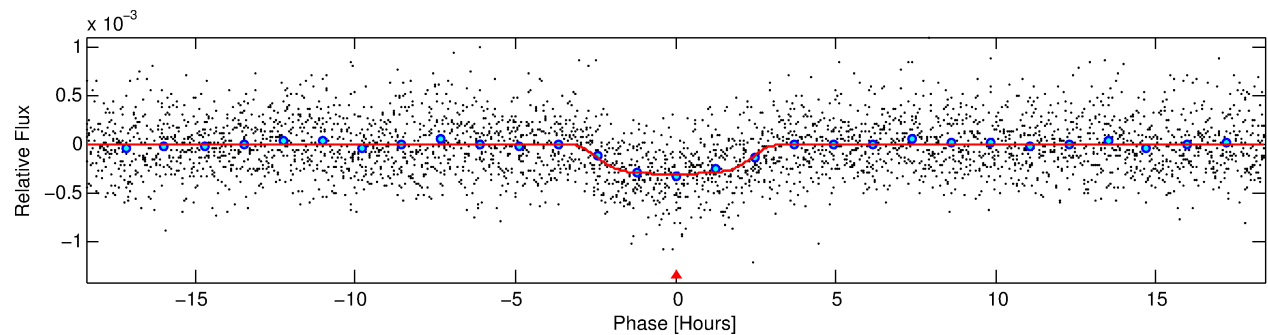
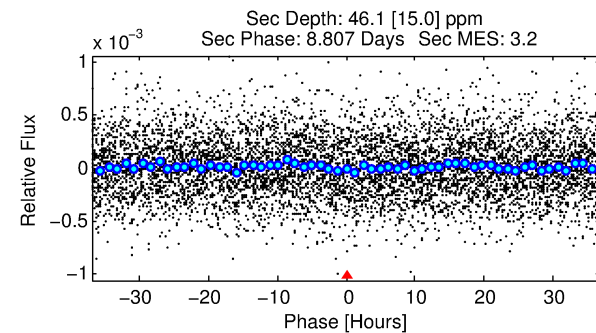
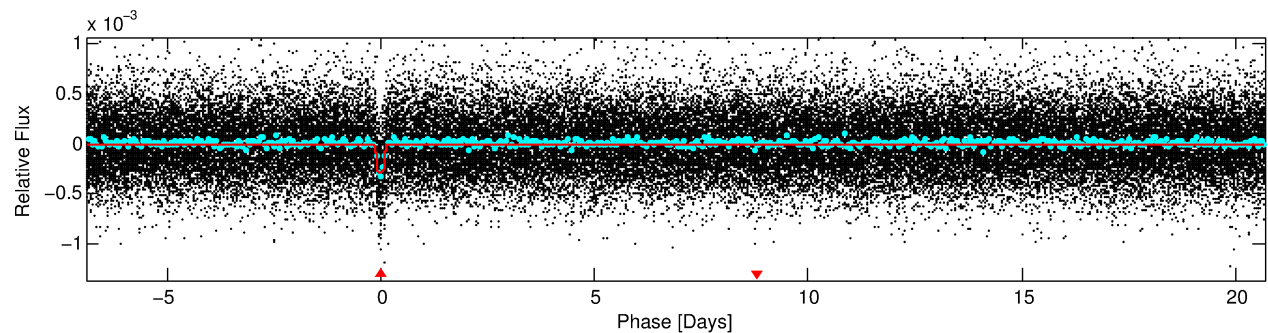
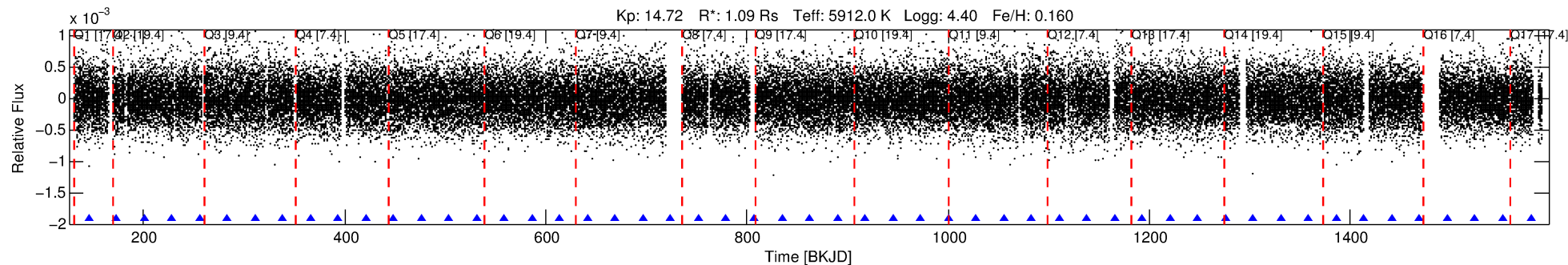
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011662184-01

No Significant Match Found

# DV One-Page Summary

KIC: 11662184 Candidate: 1 of 1 Period: 27.572 d  
KOI: K02791.01 Corr: 0.929



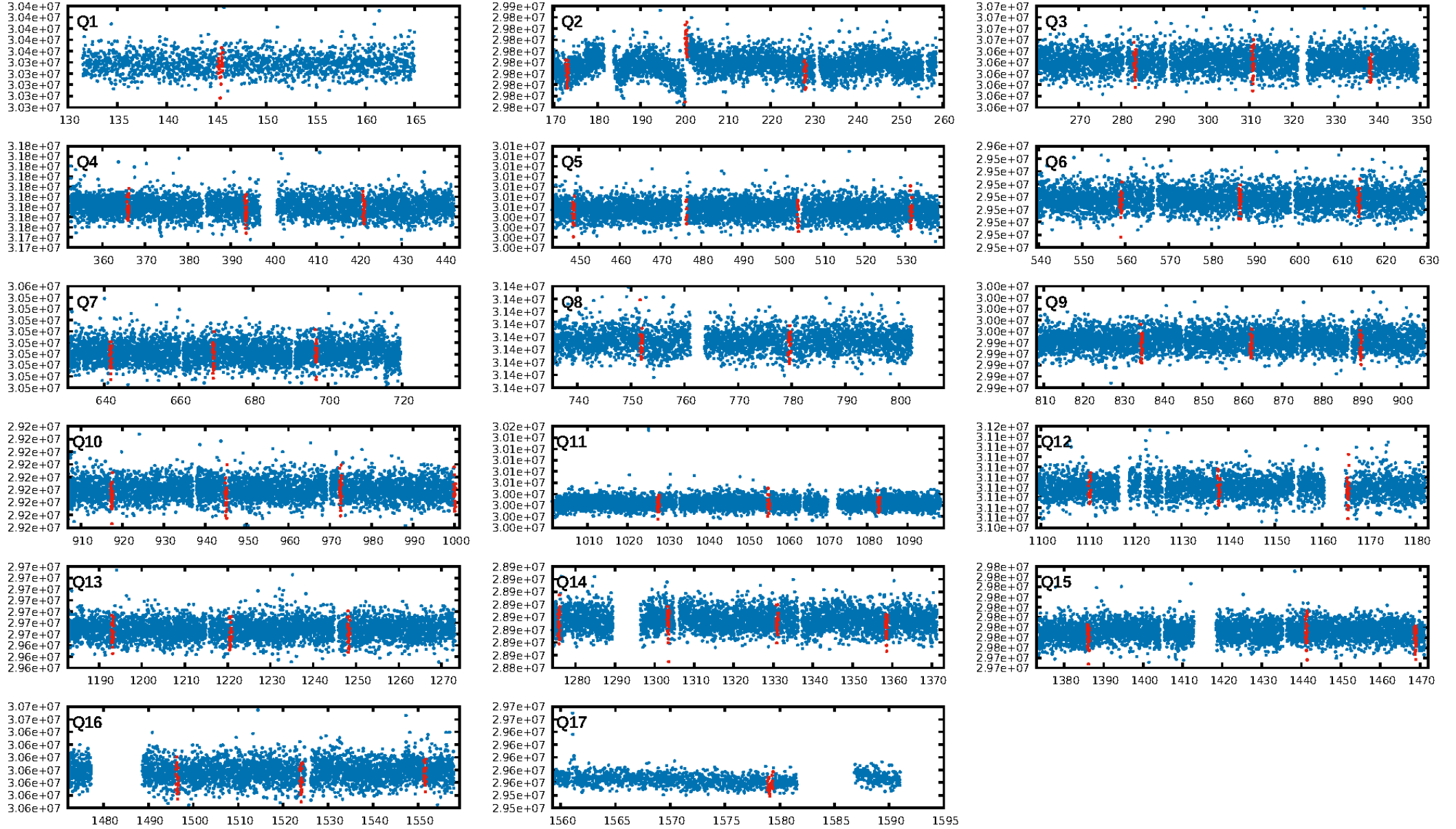
## DV Fit Results:

Period = 27.57194 [0.00023] d  
Epoch = 145.4019 [0.0071] BKJD  
Rp/R\* = 0.0205 [0.0010]  
a/R\* = 11.86 [2.12]  
b = 0.96 [0.02]  
Seff = 38.68 [8.36]  
Teff = 636 [34] K  
Rp = 2.44 [0.41] Re  
a = 0.1834 [0.0255] AU  
Ag = 143.44 [57.40] [2.48 $\sigma$ ]  
Teffp = 3403 [294] K [9.34 $\sigma$ ]

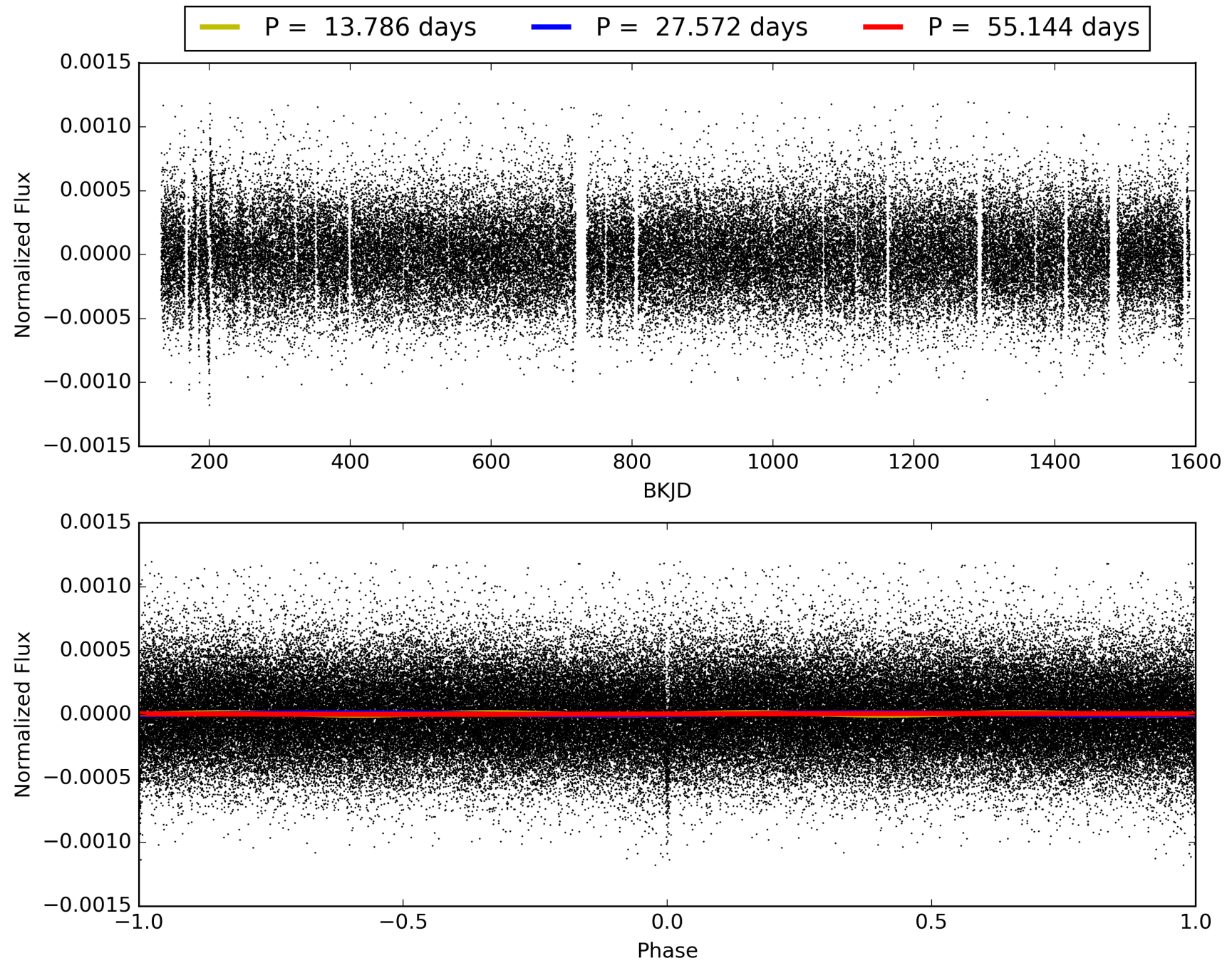
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 98.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.05e-76  
RollingBand-fgt: 1.00 [47/47]  
GhostDiagnostic-chr: -3.104  
Centroid-sig: 54.0%  
Centroid-so: 0.481 arcsec [0.68 $\sigma$ ]  
OotOffset-rm: 0.640 arcsec [1.20 $\sigma$ ]  
KicOffset-rm: 0.462 arcsec [0.91 $\sigma$ ]  
OotOffset-st: 2/4/4/3 [13]  
KicOffset-st: 2/4/4/3 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011662184-01, PDC Light Curves

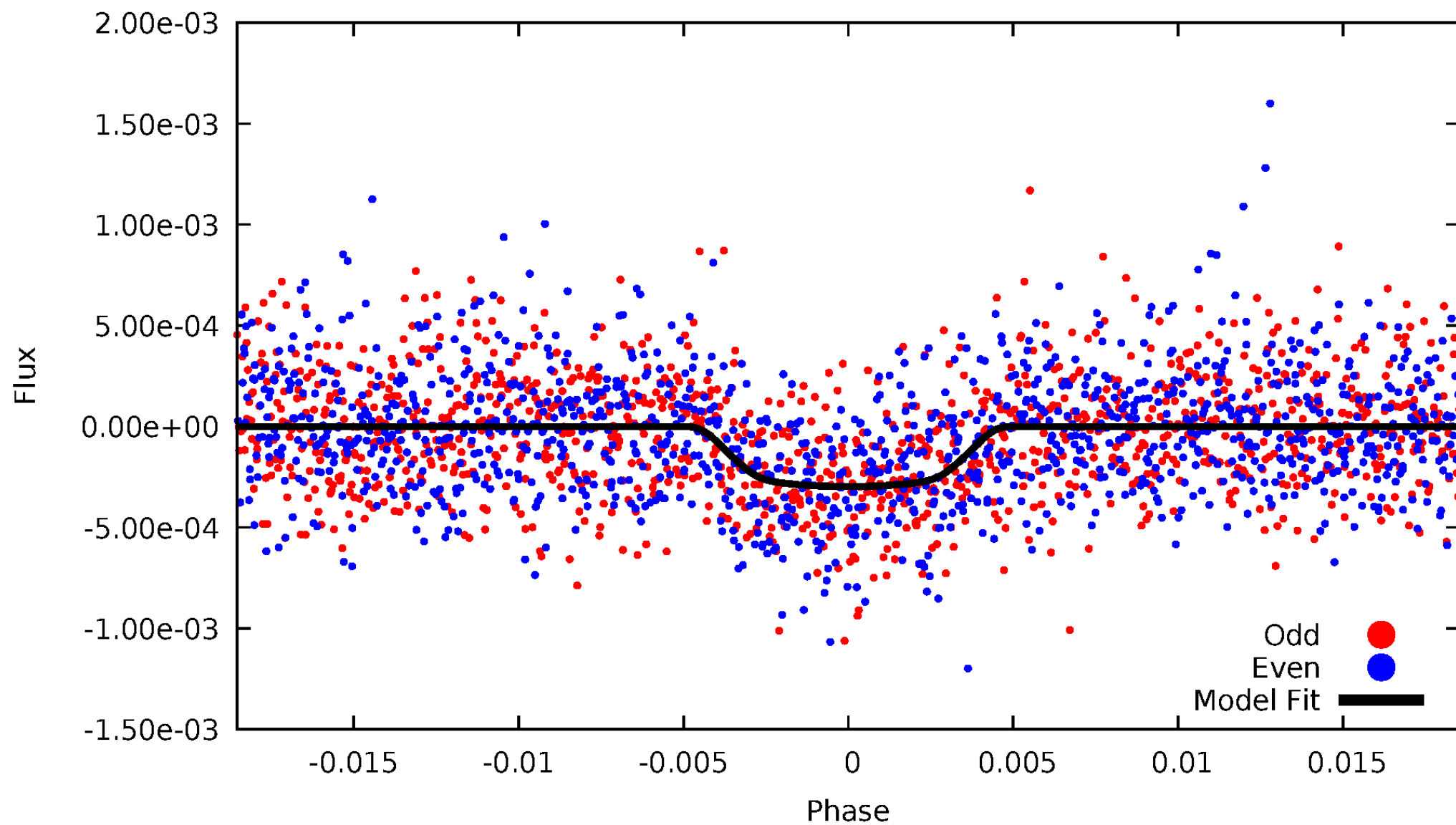


TCE 011662184-01



# DV Odd/Even

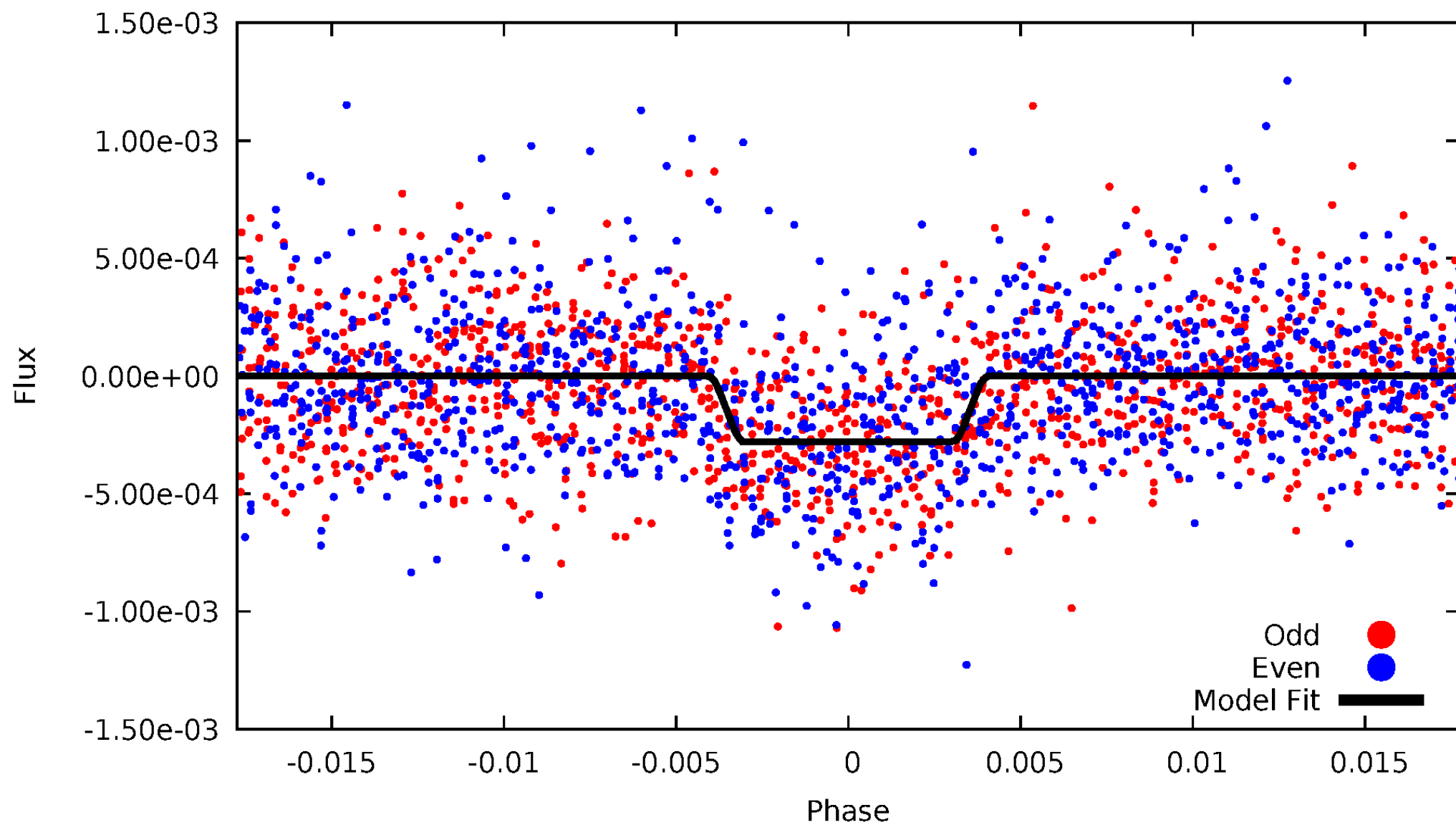
TCE 011662184-01





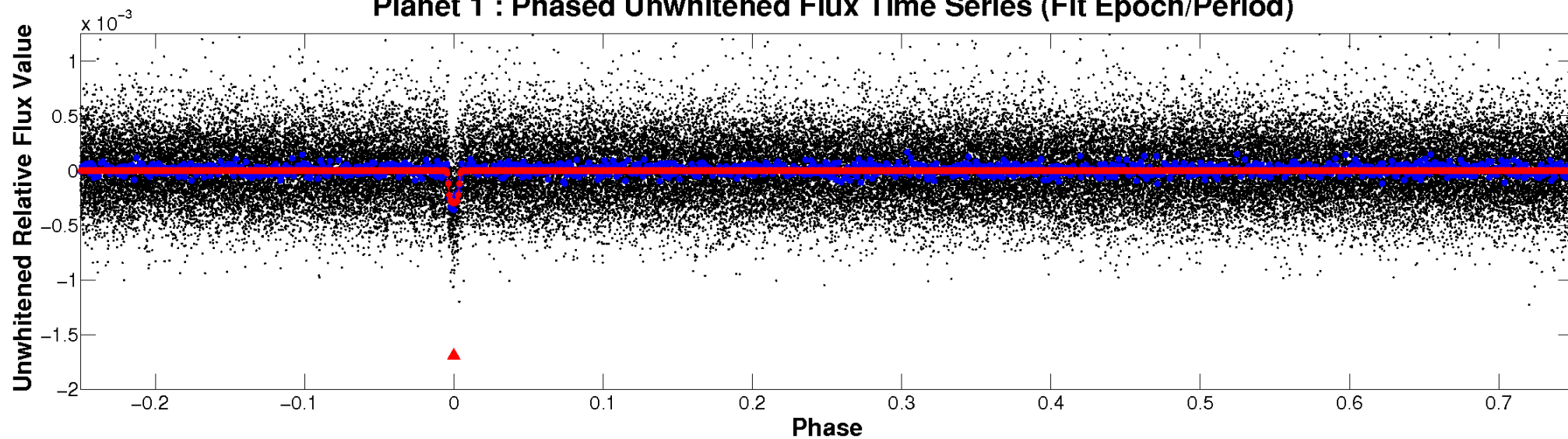
# ALT Odd/Even

TCE 011662184-01

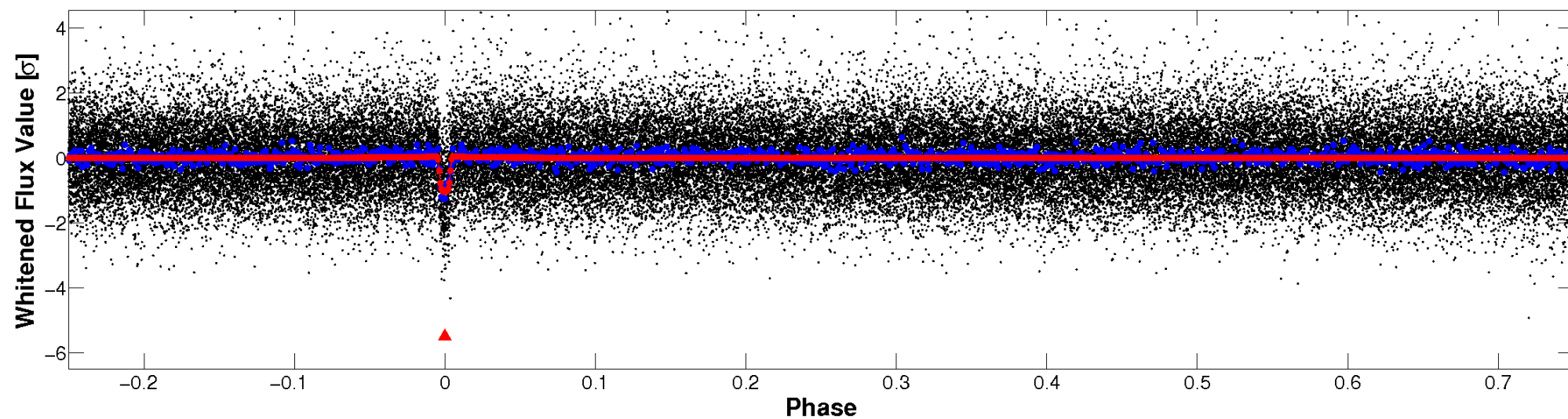


# Non-Whitened Vs. Whitened Light Curve

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

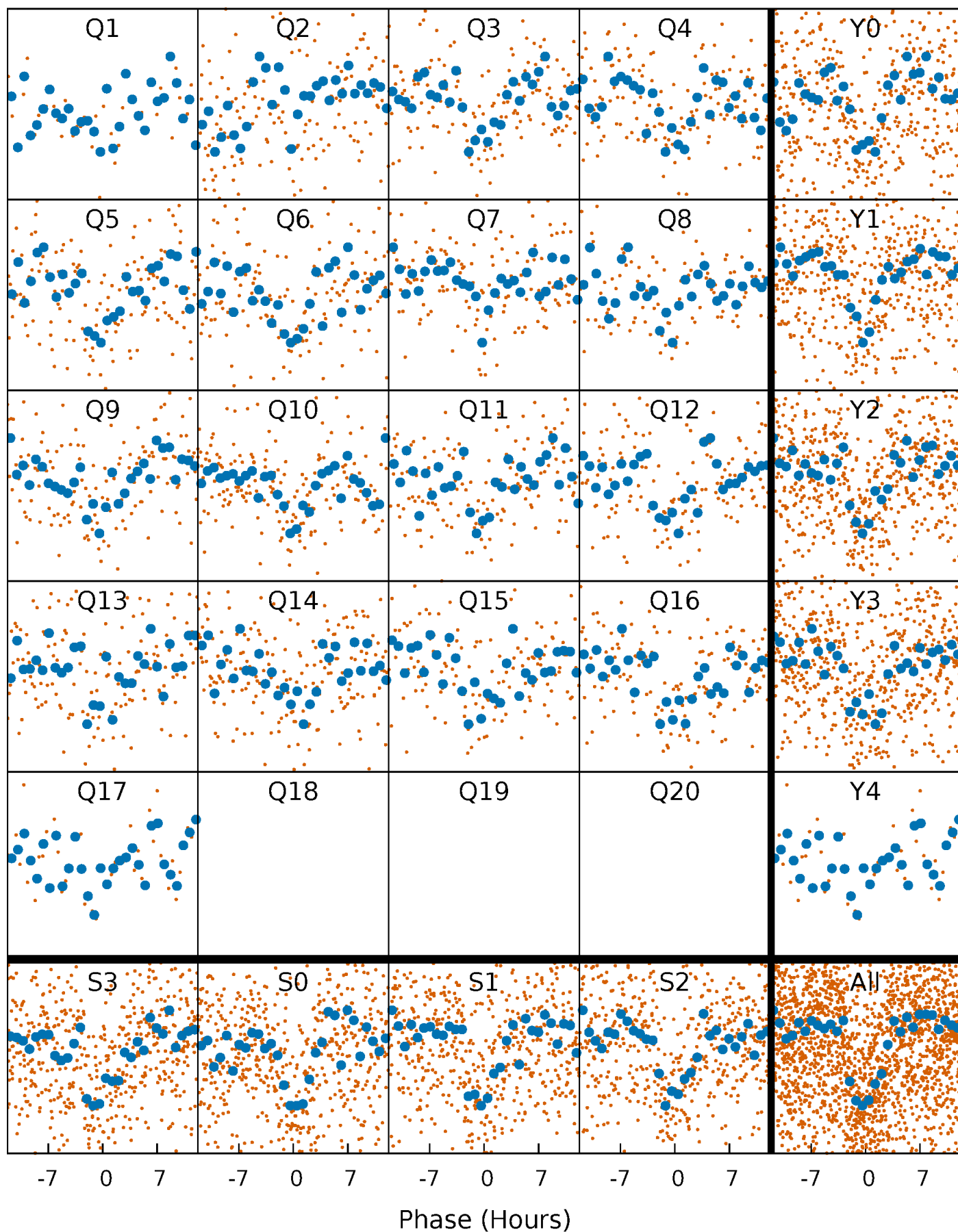


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

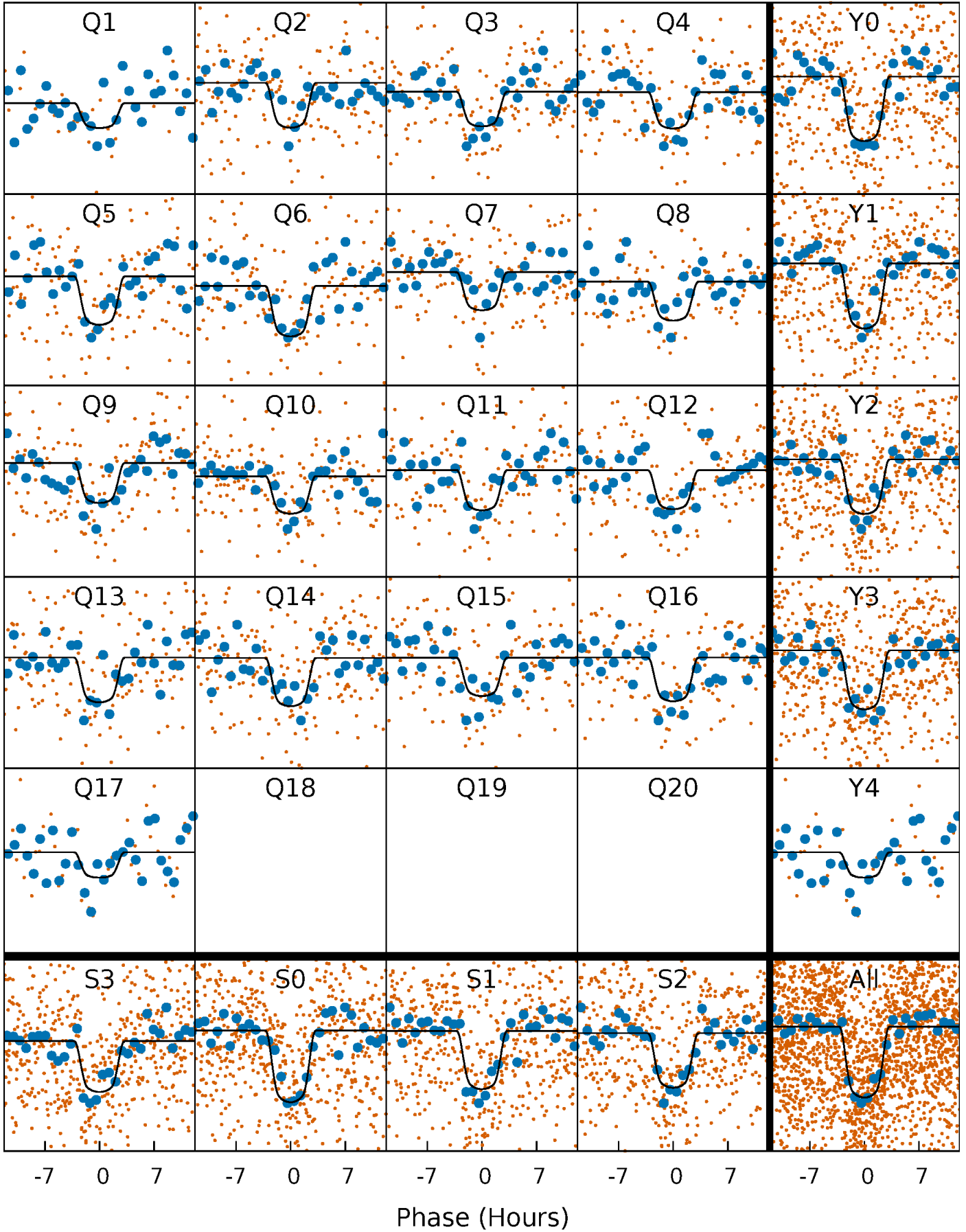
TCE 011662184-01 P= 27.571940 Days  $T_0=145.401919$  (BKJD)





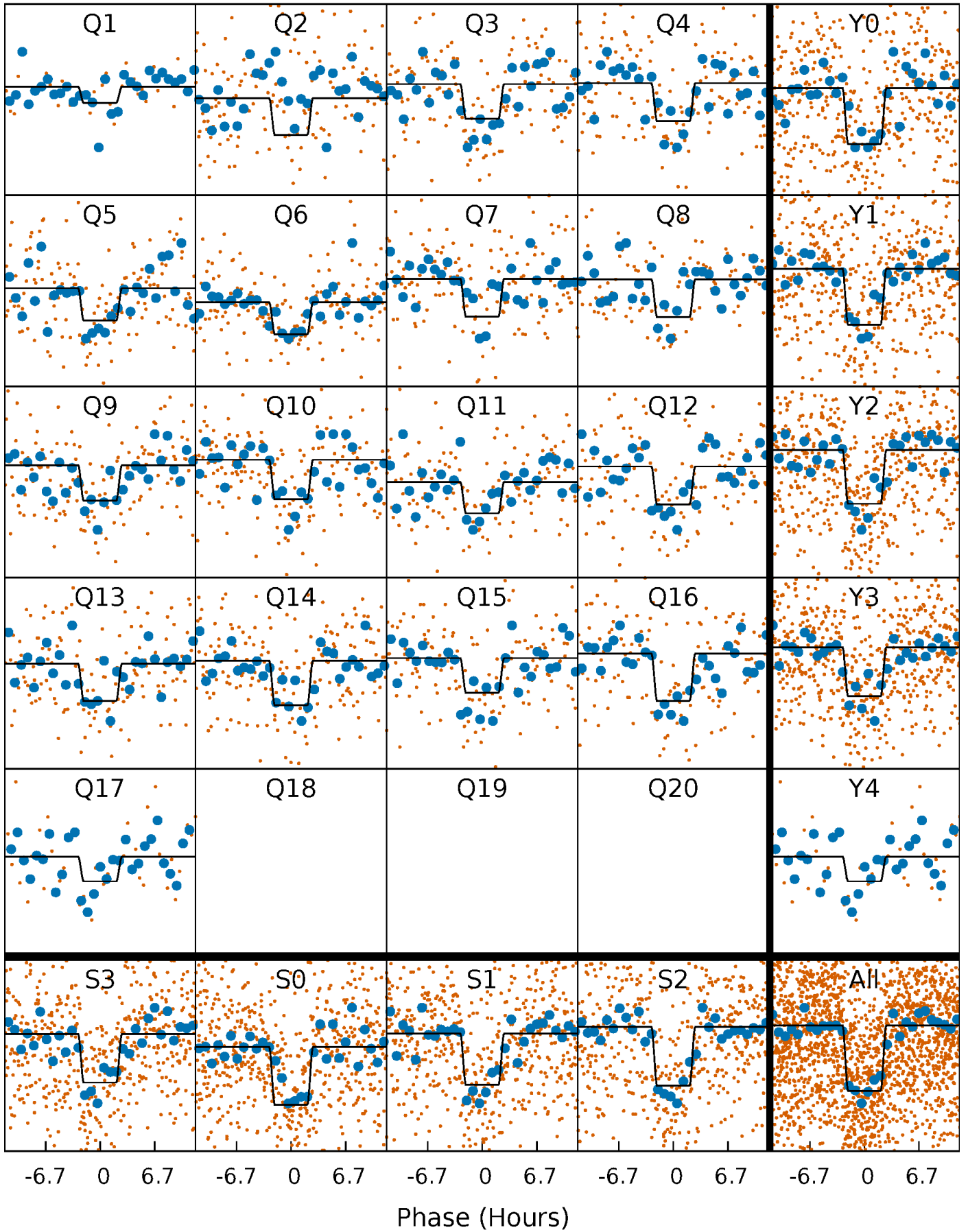
# DV Quarter-Phased Transit Curves

TCE 011662184-01 P= 27.571940 Days  $T_0=145.401919$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

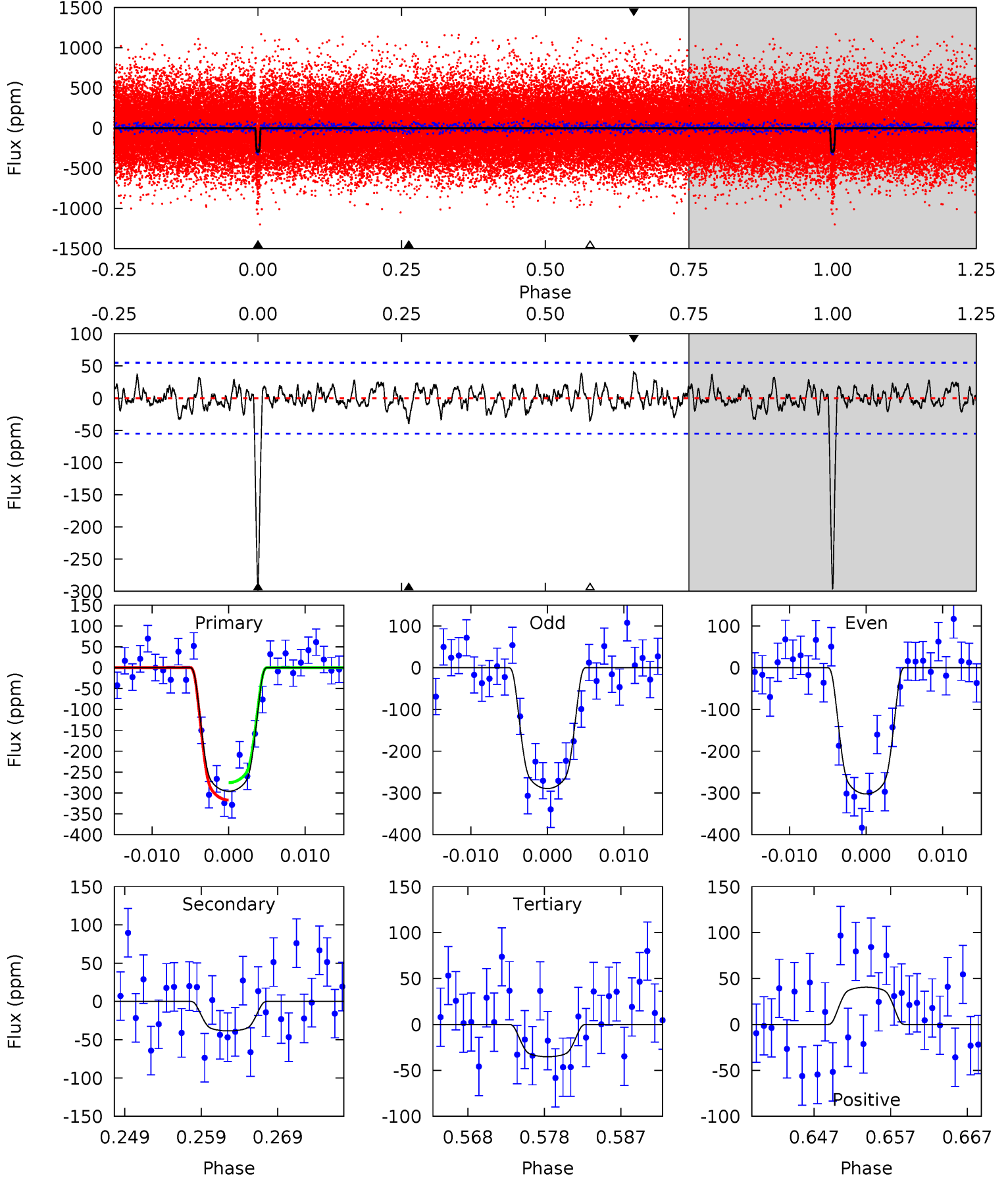
TCE 011662184-01 P= 27.572202 Days  $T_0=145.396343$  (BKJD)



# DV Model-Shift Uniqueness Test

011662184-01,  $P = 27.571940$  Days,  $E = 117.829979$  Days

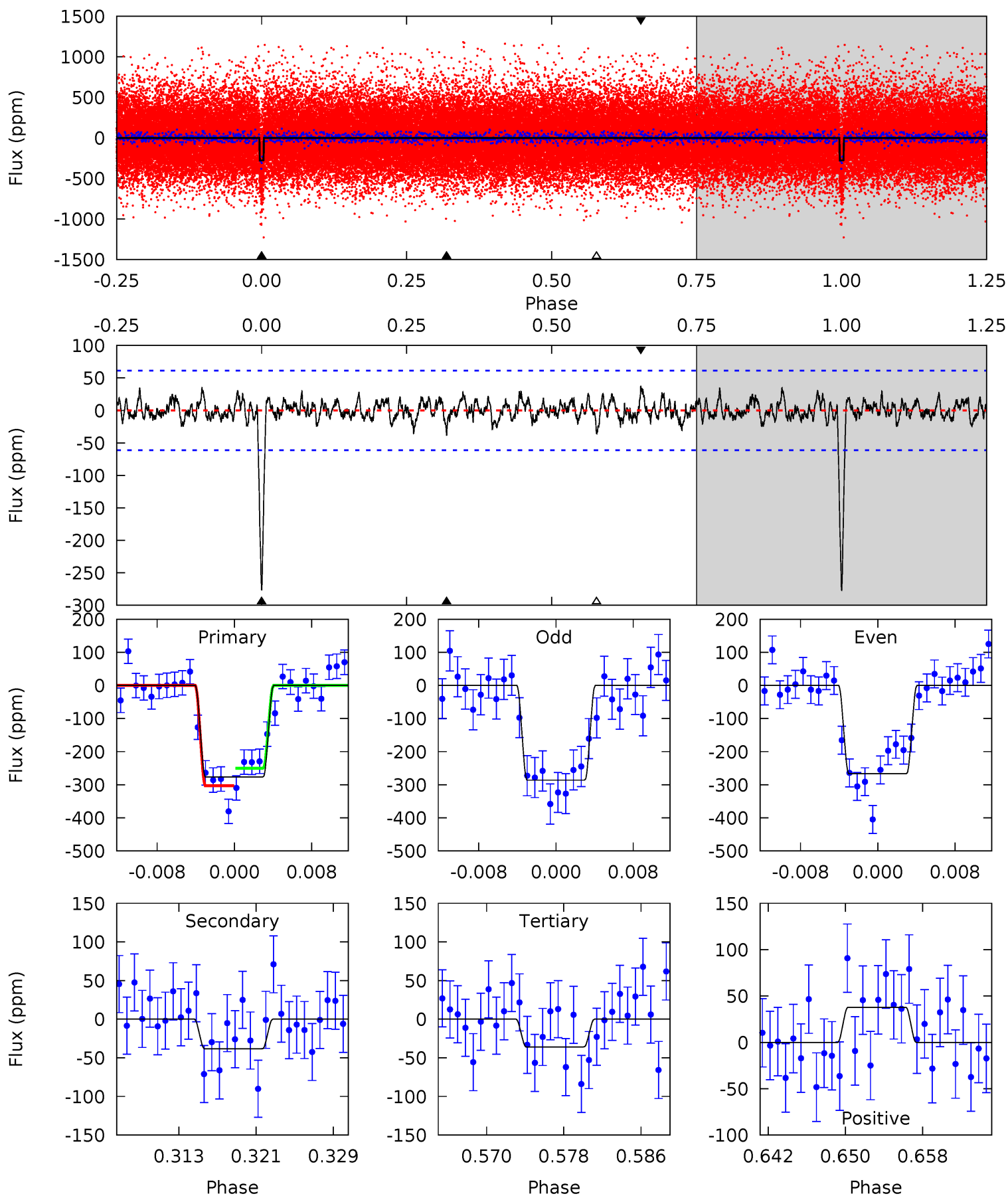
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	3.50	3.20	3.69	5.03	2.58	1.18	23.7	23.3	0.30	-0.19	0.59	0.98	0.12	1.90



# Alt Model-Shift Uniqueness Test

011662184-01, P = 27.572202 Days, E = 117.824141 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
22.8	3.17	2.96	3.13	5.07	2.65	0.98	19.9	19.7	0.21	0.05	0.80	0.93	0.12	2.18



### Stellar Parameters For KIC 011662184

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5912^{+70}_{-82}$	$4.397^{+0.063}_{-0.117}$	$0.160^{+0.150}_{-0.150}$	$1.090^{+0.174}_{-0.093}$	$1.079^{+0.065}_{-0.072}$	$1.175^{+0.298}_{-0.403}$
	+1%/-1%	+1%/-3%	+94%/-94%	+16%/-9%	+6%/-7%	+25%/-34%
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 011662184-01 / KOI 2791.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-38 \pm 11$	$2.47^{+0.22}_{-0.20}$	$891^{+37}_{-25}$	$3671^{+176}_{-217}$	$116^{+41}_{-37}$
Alt.	$-38 \pm 12$	$2.02^{+0.18}_{-0.18}$	$893^{+38}_{-28}$	$3940^{+207}_{-265}$	$173^{+66}_{-58}$

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



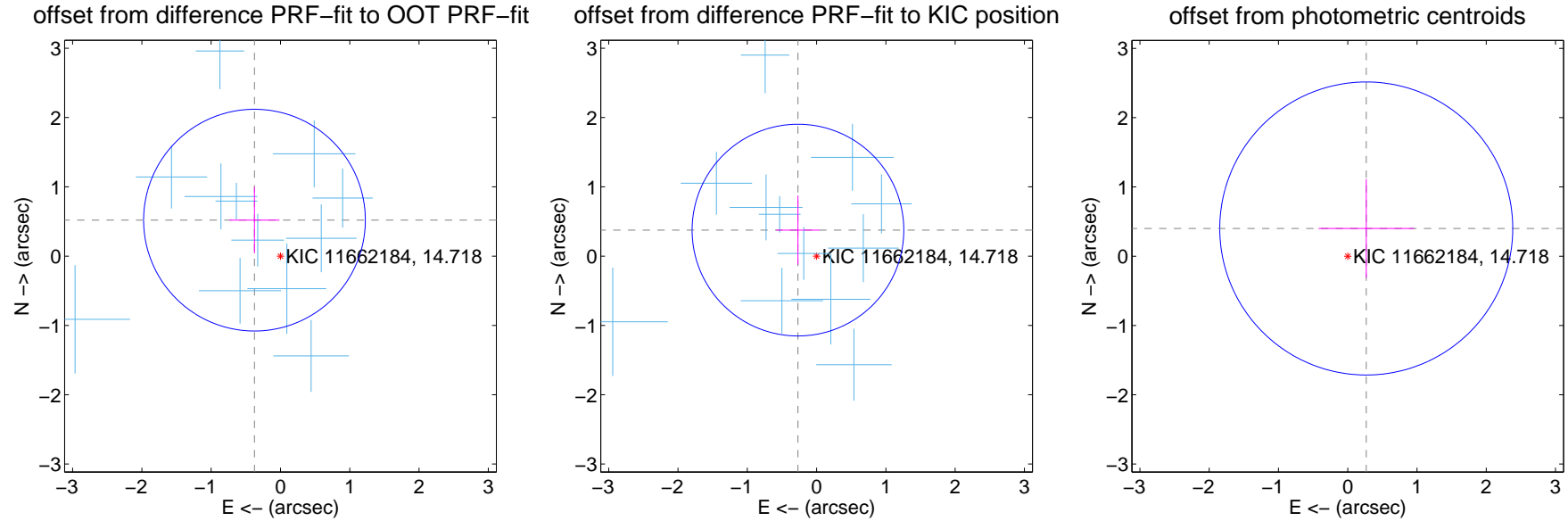
## DV Centroid Data

Supplemental centroid analysis for 011662184-01. Kepler magnitude: 14.72. Transit SNR 19.57

There are 12 quarters with good PRF difference image offsets

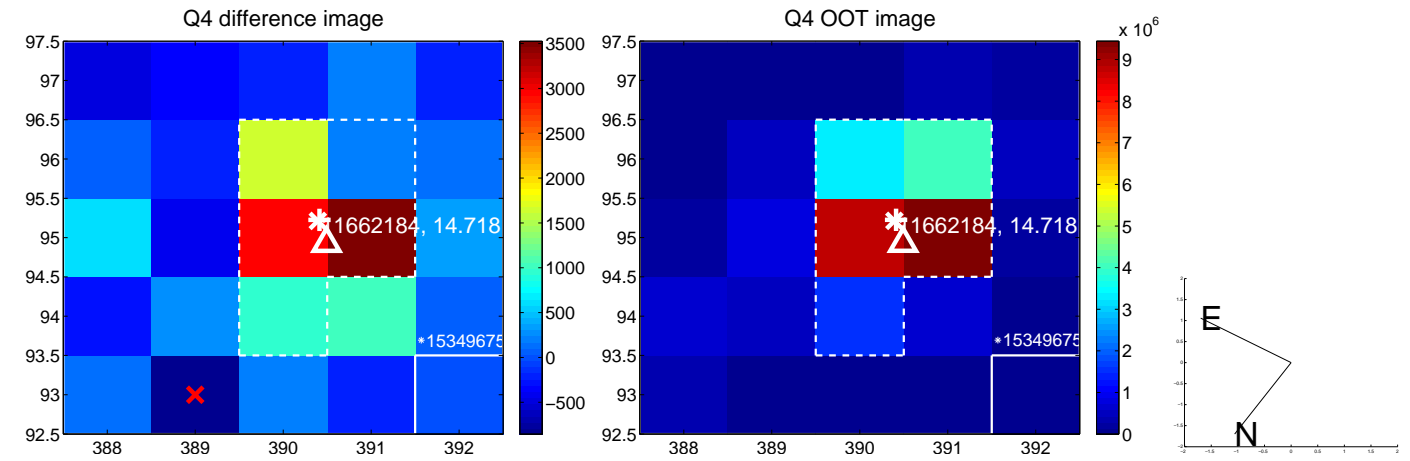
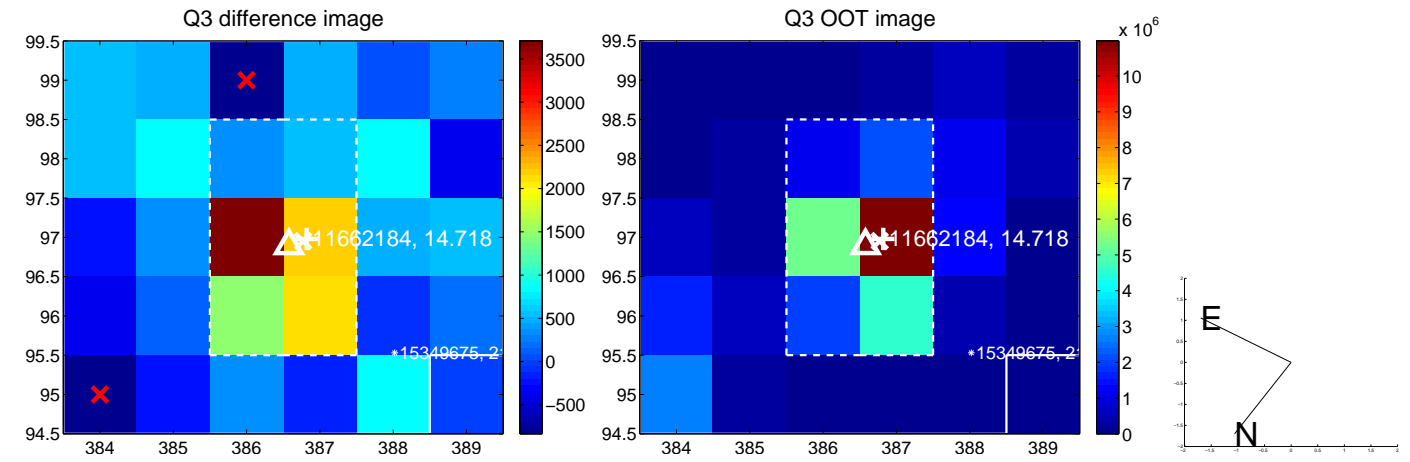
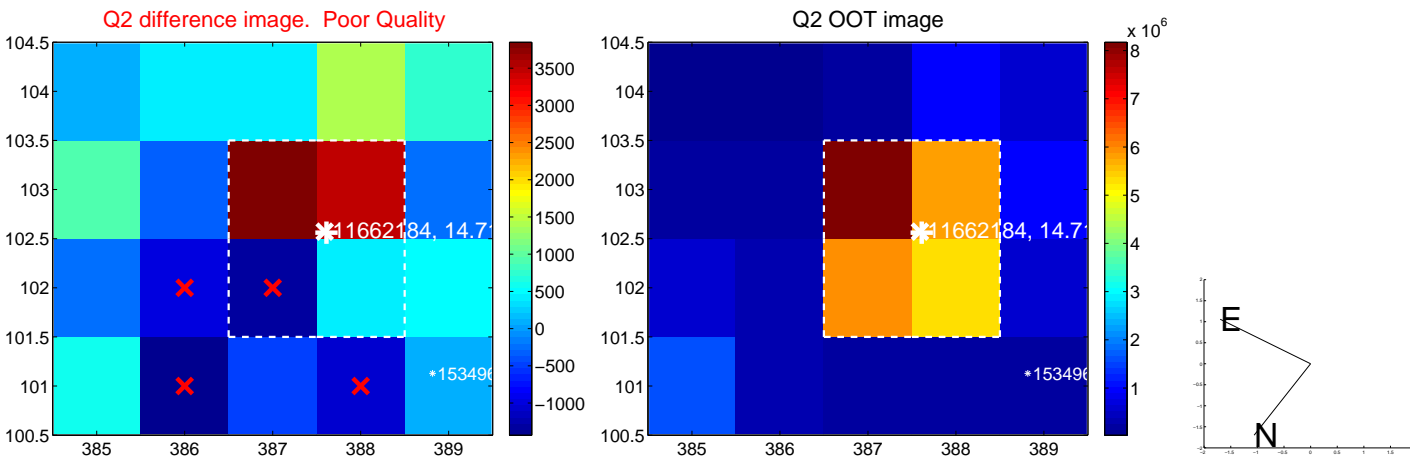
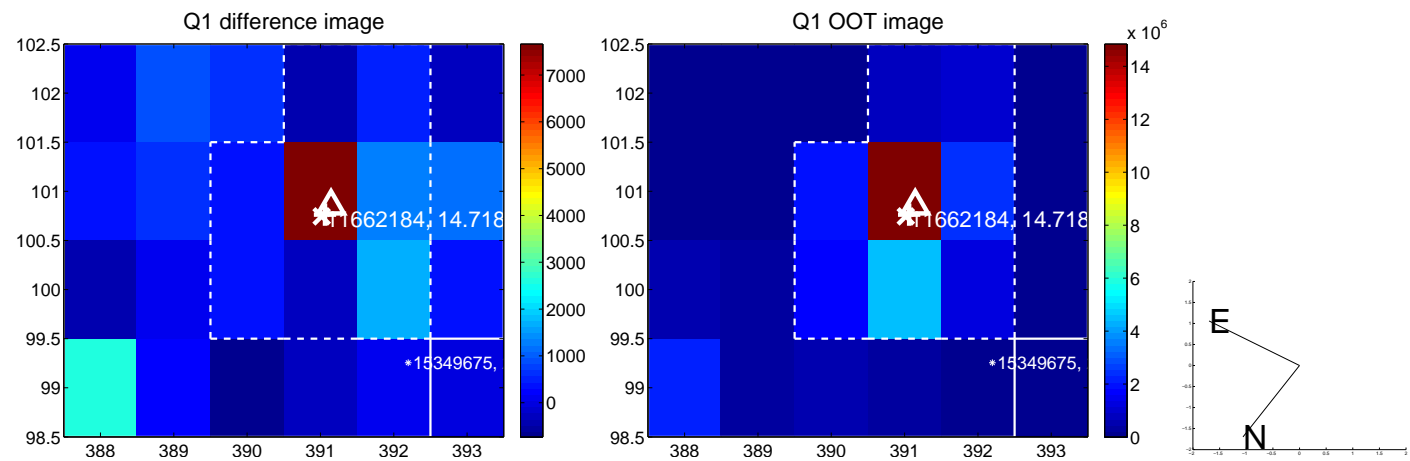
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.640 \pm 0.533$	1.20	$0.375 \pm 0.359$	$0.519 \pm 0.478$
PRF-fit source offset from KIC position	$0.462 \pm 0.509$	0.91	$0.269 \pm 0.313$	$0.376 \pm 0.498$
photometric centroid source offset	$0.48 \pm 0.71$	0.68	$-0.27 \pm 0.69$	$0.40 \pm 0.71$



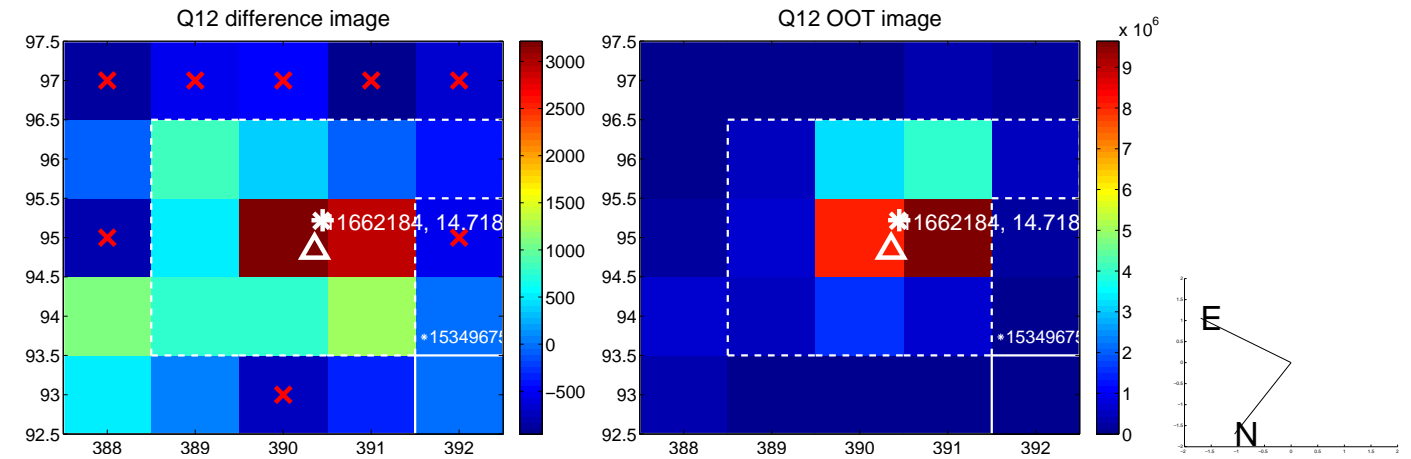
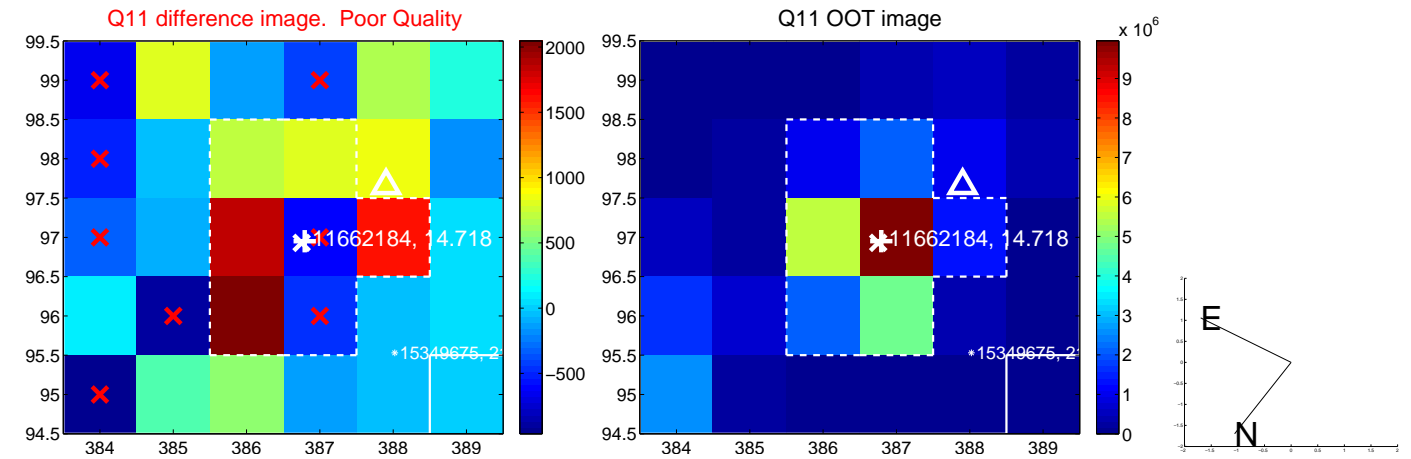
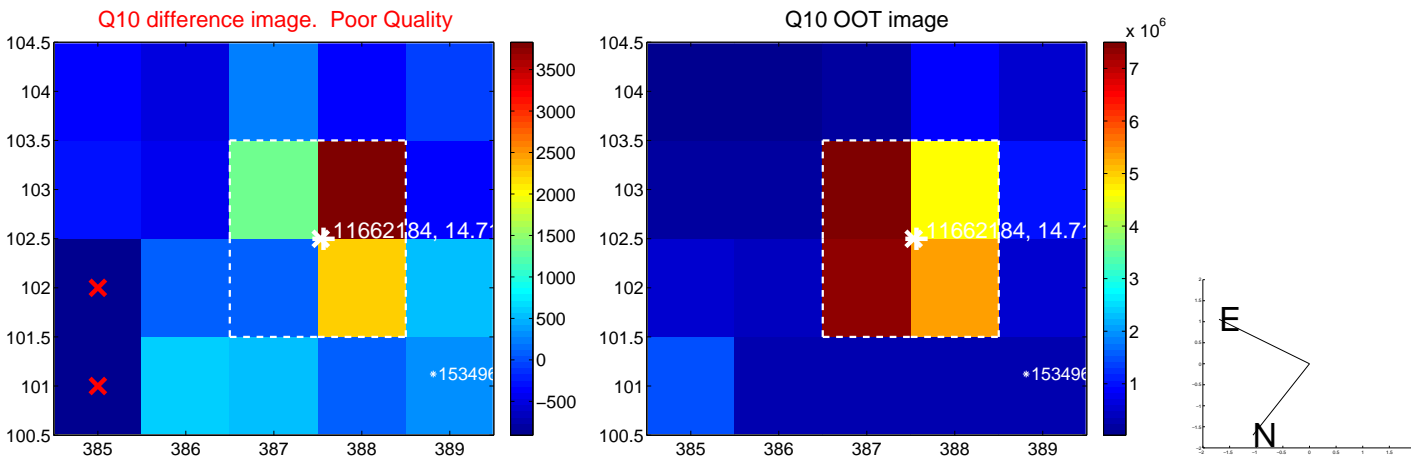
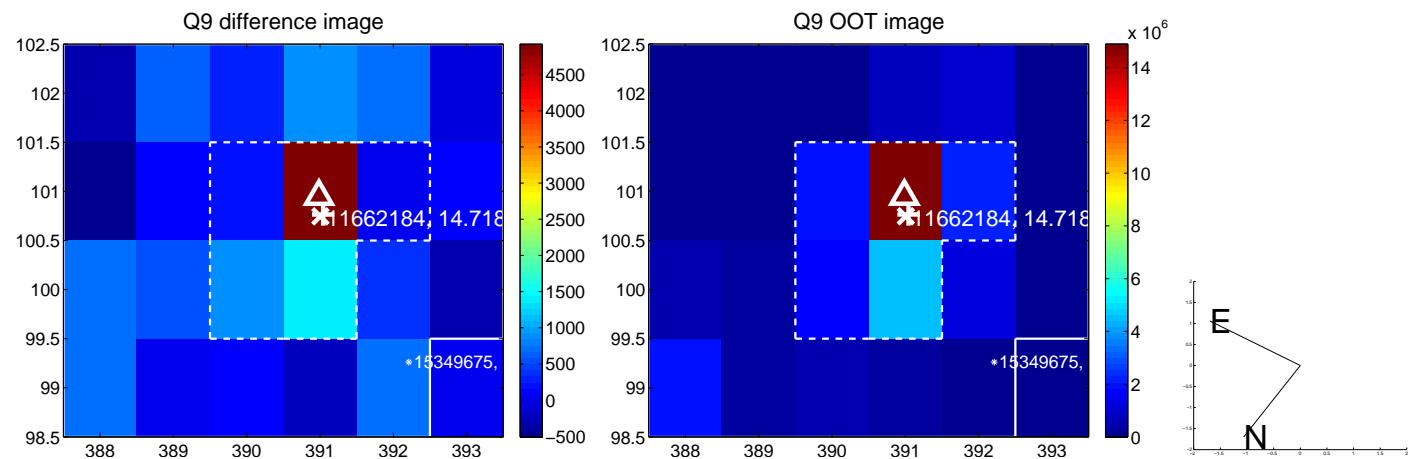
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

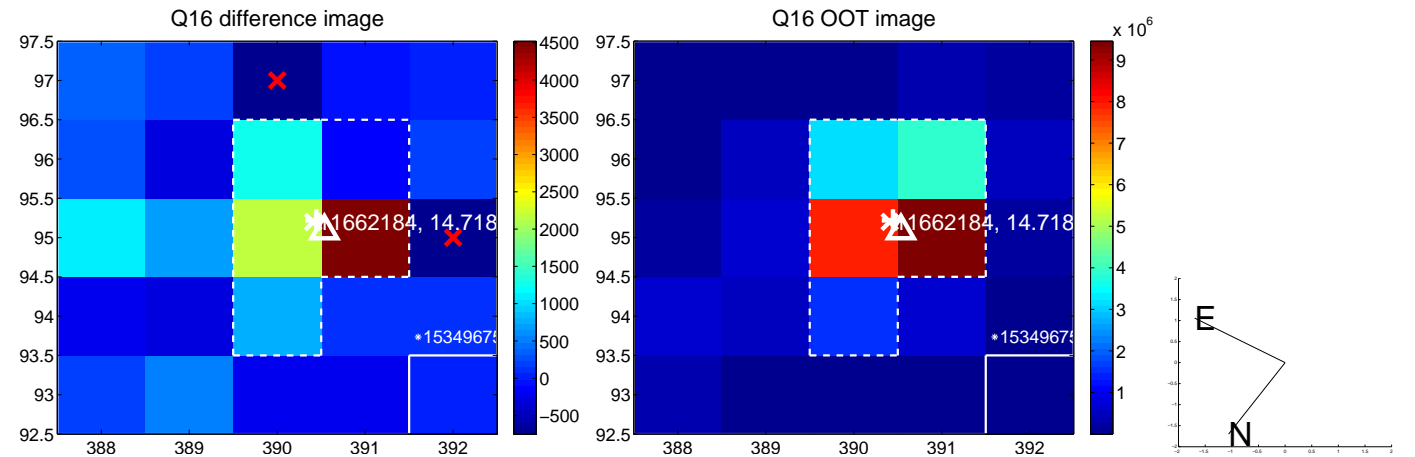
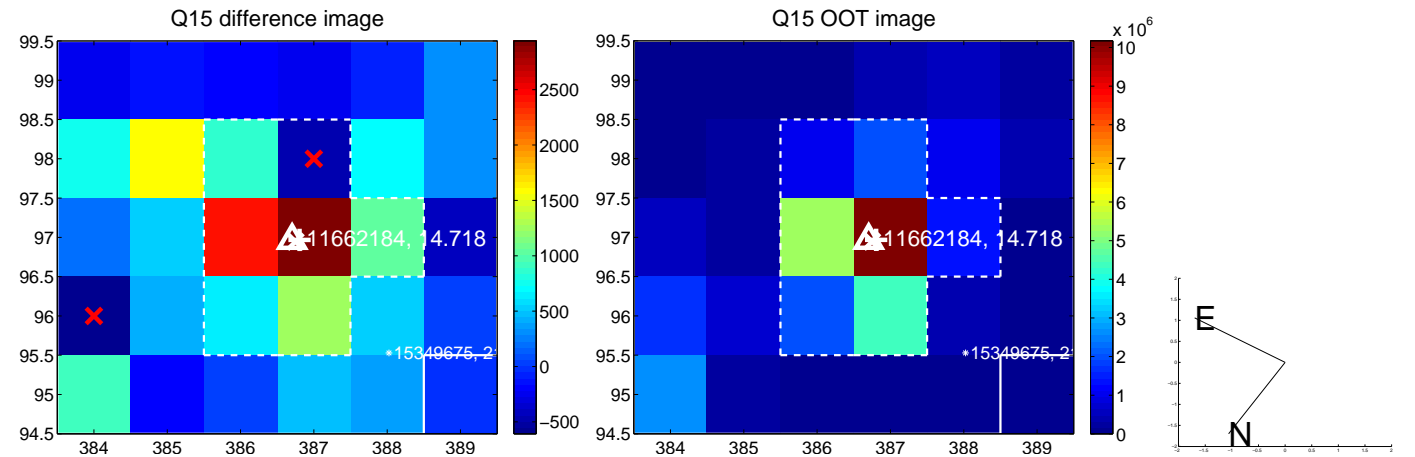
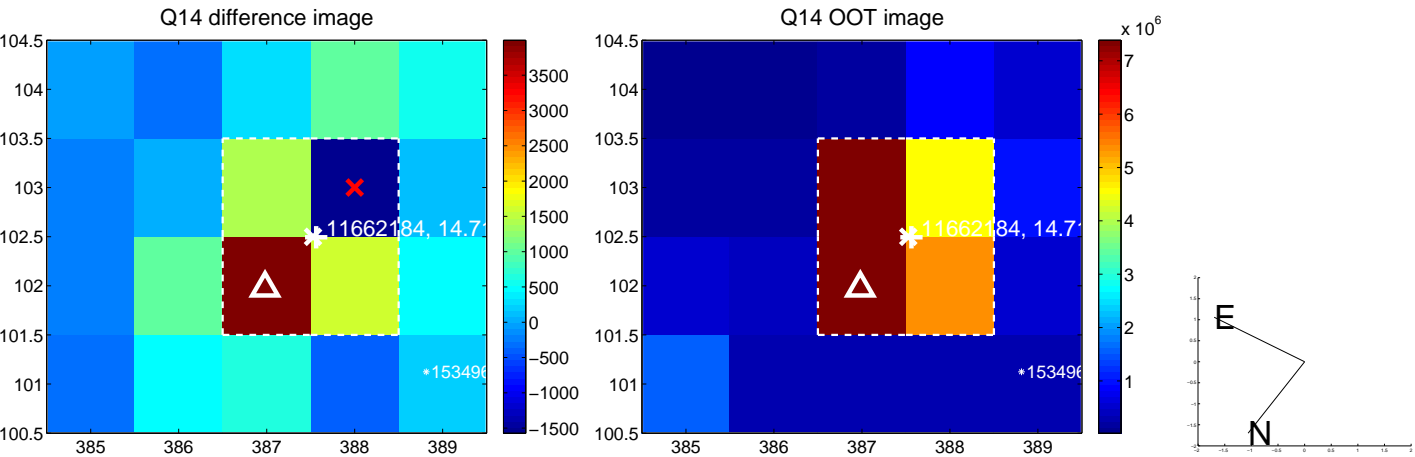
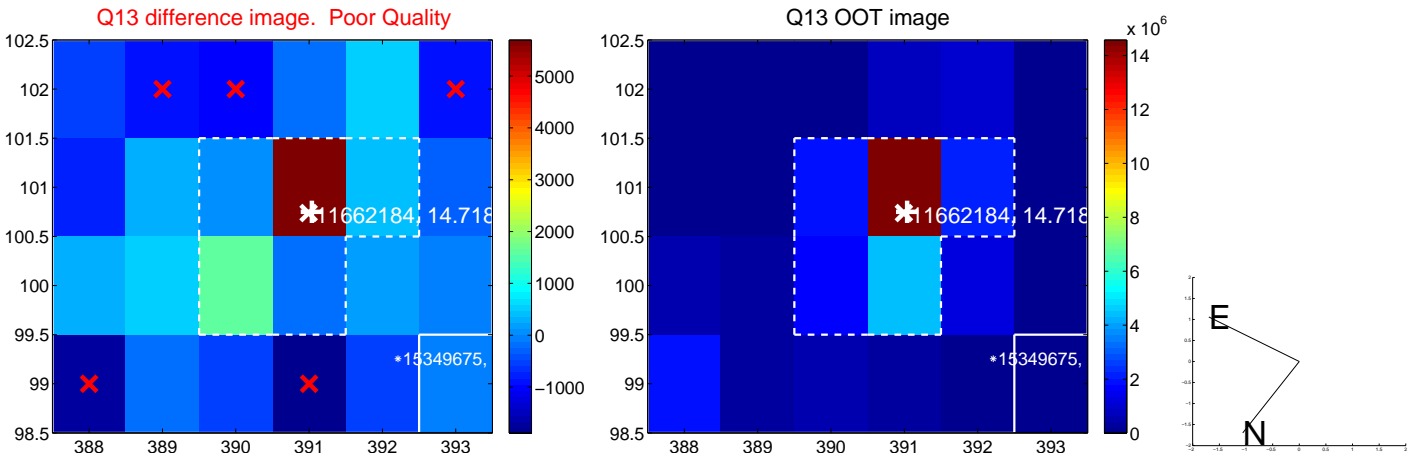




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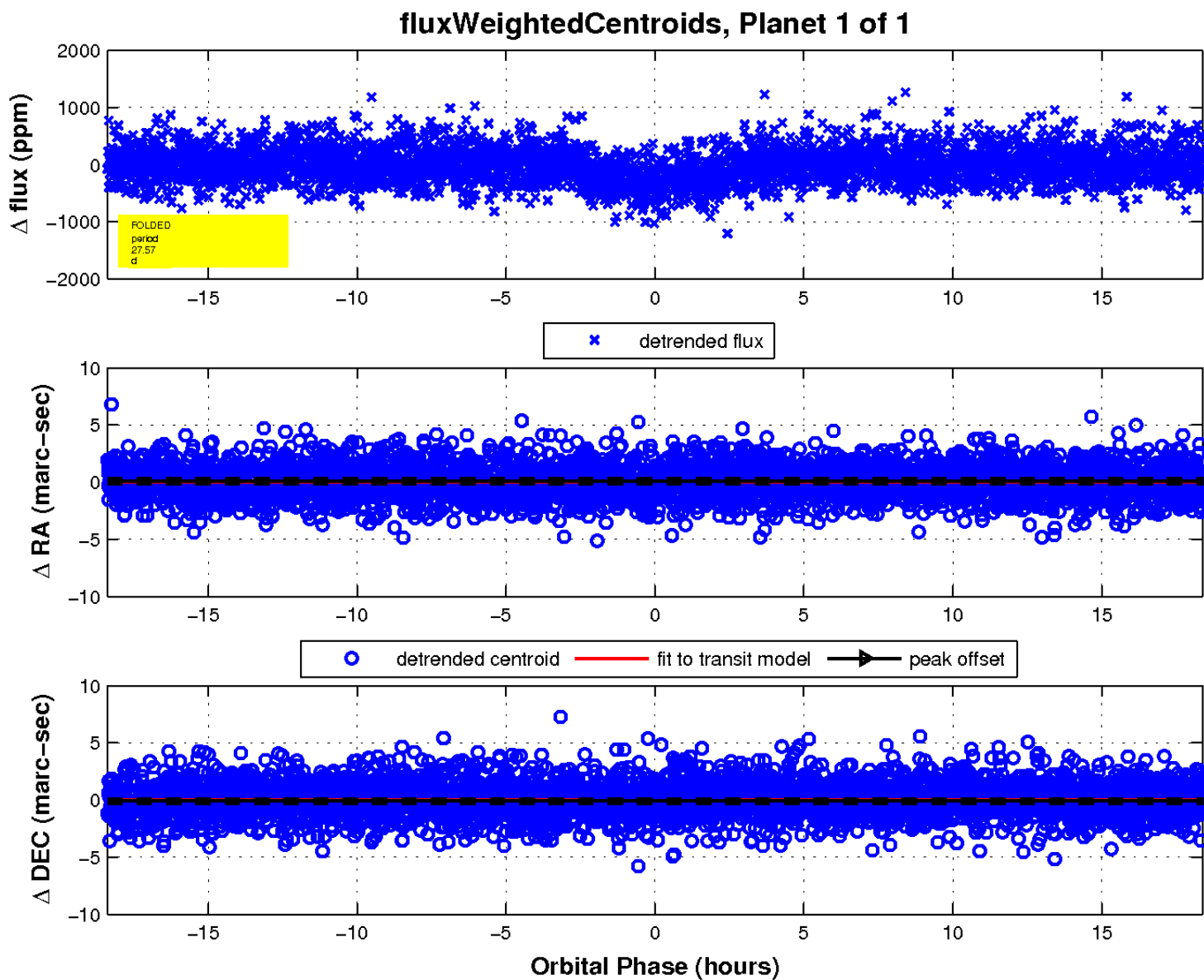
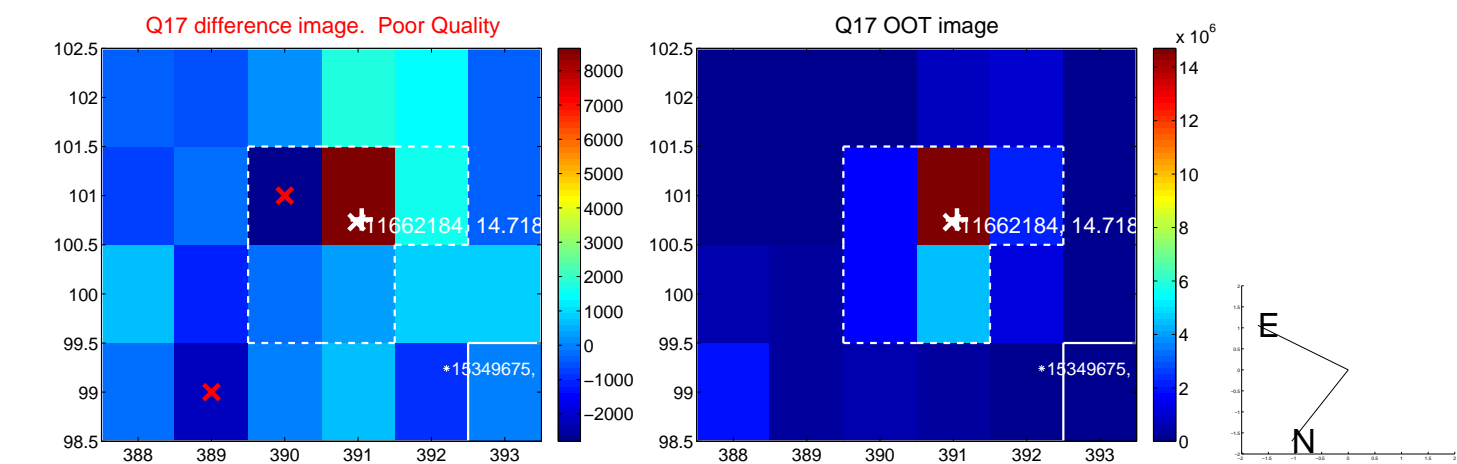


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

