

# KIC 007282162

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007282162-01	OBS	No	0.566756	131.879450	5.6	4.644	9.8	9.2	1.06	6453	0.28	10344.44

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007282162-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—EPHEM_MATCH

**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.

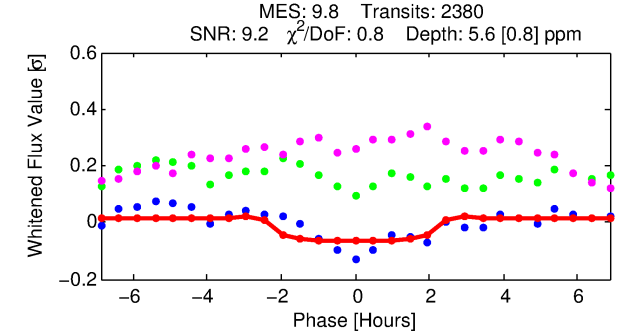
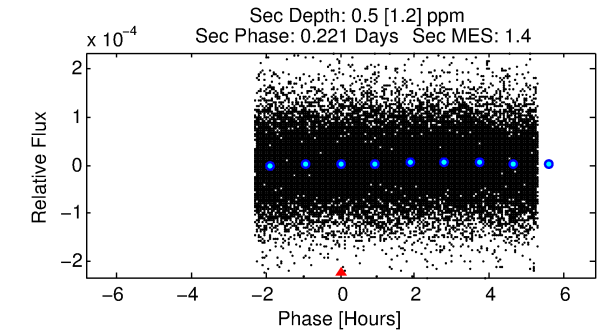
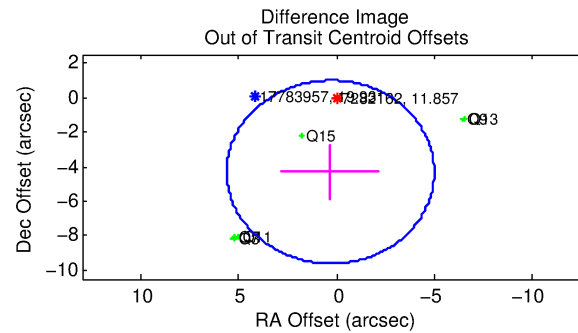
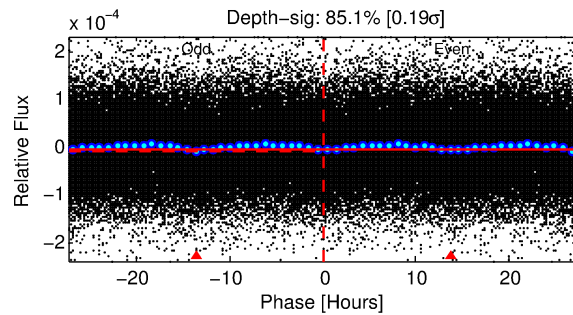
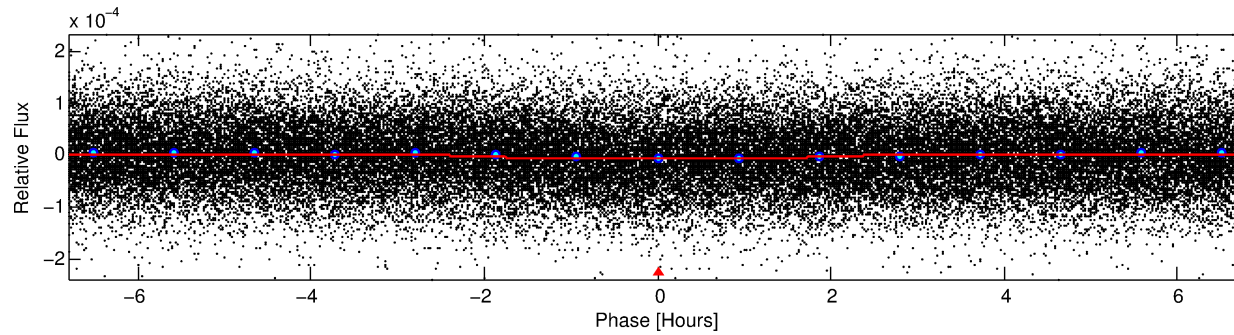
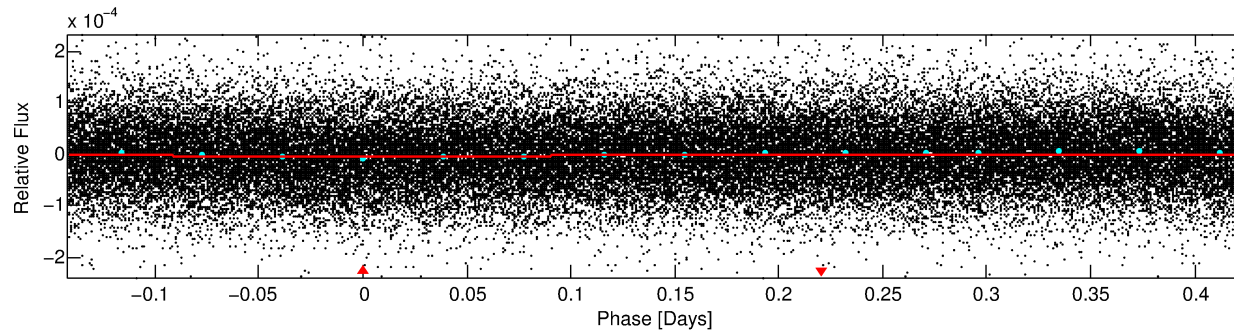
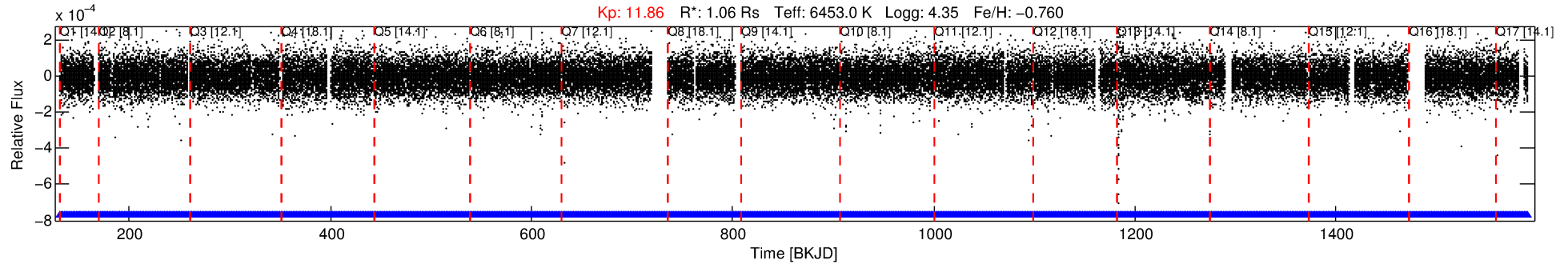
## Ephemeris Match Information For 007282162-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007282162-01	7282162	RR-Lyr-pri	7198959	1:1	1249.2	107	295	7.86	11.85	103880.00	Direct-PRF	0	1.70	20.63

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7282162 Candidate: 1 of 1 Period: 0.567 d



## DV Fit Results:

Period = 0.56676 [0.00001] d  
Epoch = 131.8795 [0.0046] BKJD  
Rp/R\* = 0.0024 [0.0016]  
a/R\* = 1.05 [0.42]  
b = 0.80 [1.79]  
Seff = 10344.44 [2780.98]  
Teq = 2572 [173] K  
Rp = 0.28 [0.20] Re  
a = 0.0130 [0.0020] AU  
Ag = 0.63 [1.74] [-0.21 $\sigma$ ]  
Teffp = 3546 [2433] K [0.40 $\sigma$ ]

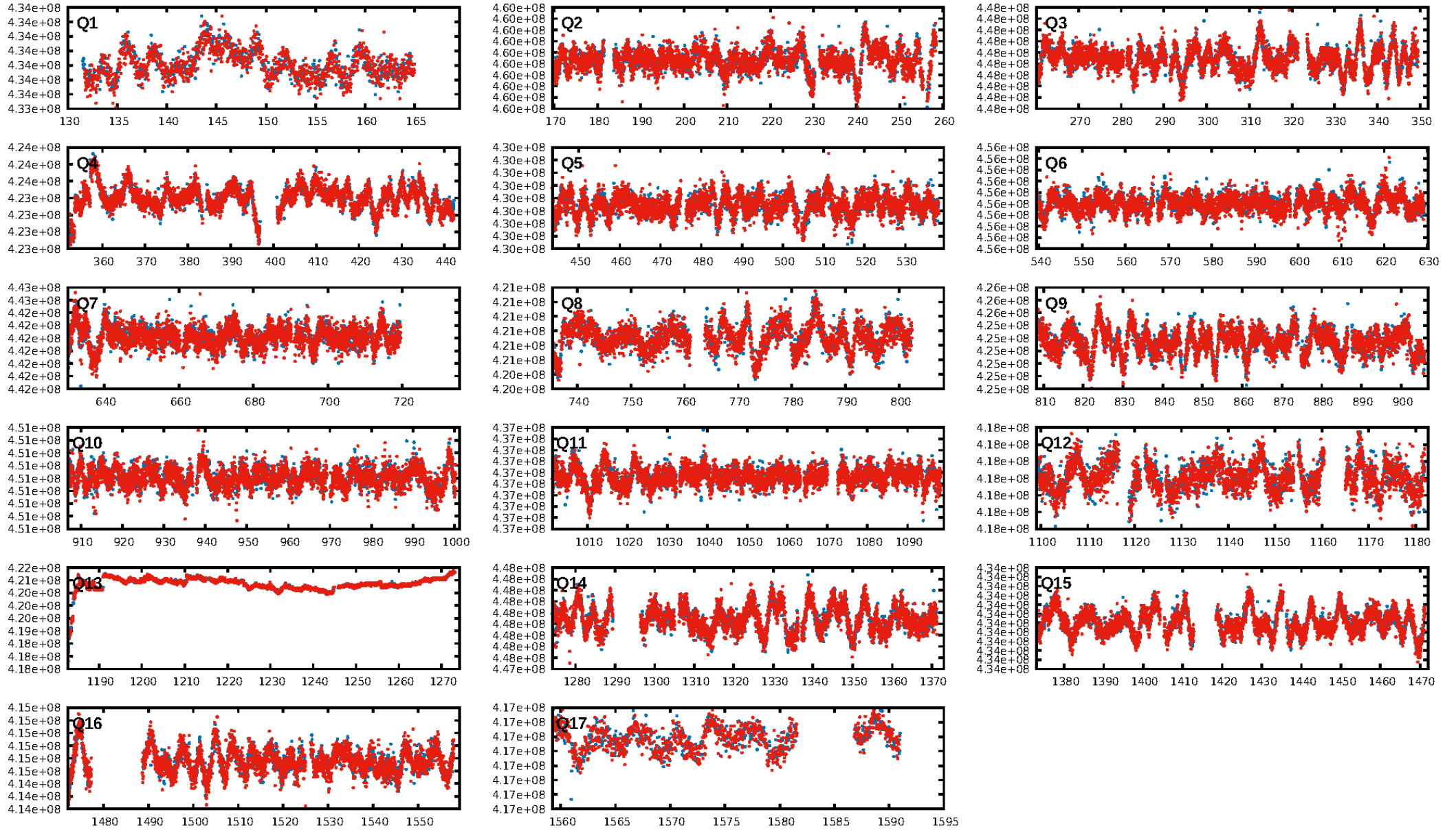
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2273/2273]  
**GhostDiagnostic-chr: 0.45**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 4.319 arcsec [2.44 $\sigma$ ]  
KicOffset-rm: 4.391 arcsec [2.77 $\sigma$ ]  
OotOffset-st: 0/4/0/2 [6]  
KicOffset-st: 0/4/0/2 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 1.00 [17/17]

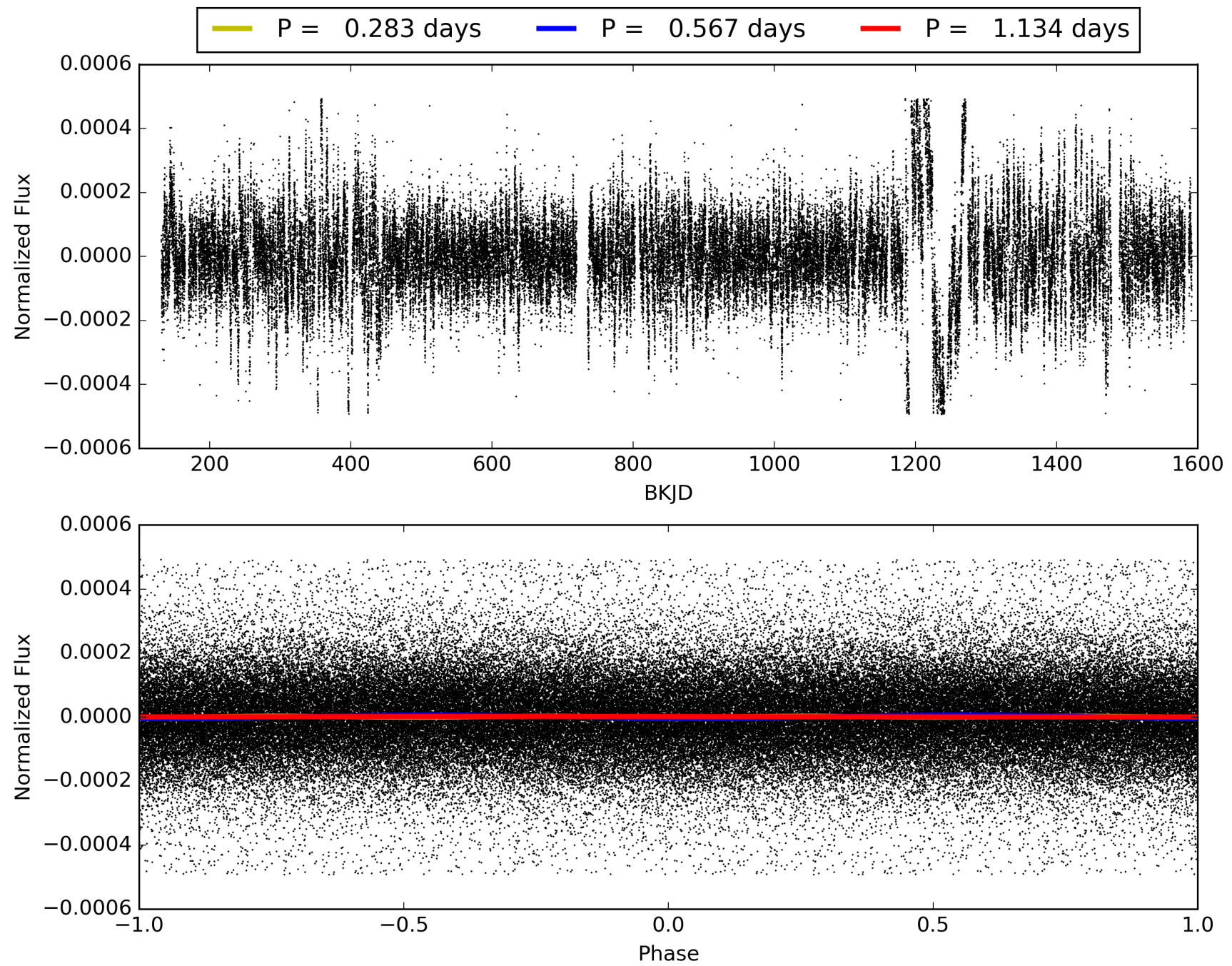
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:38:24 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007282162-01, PDC Light Curves

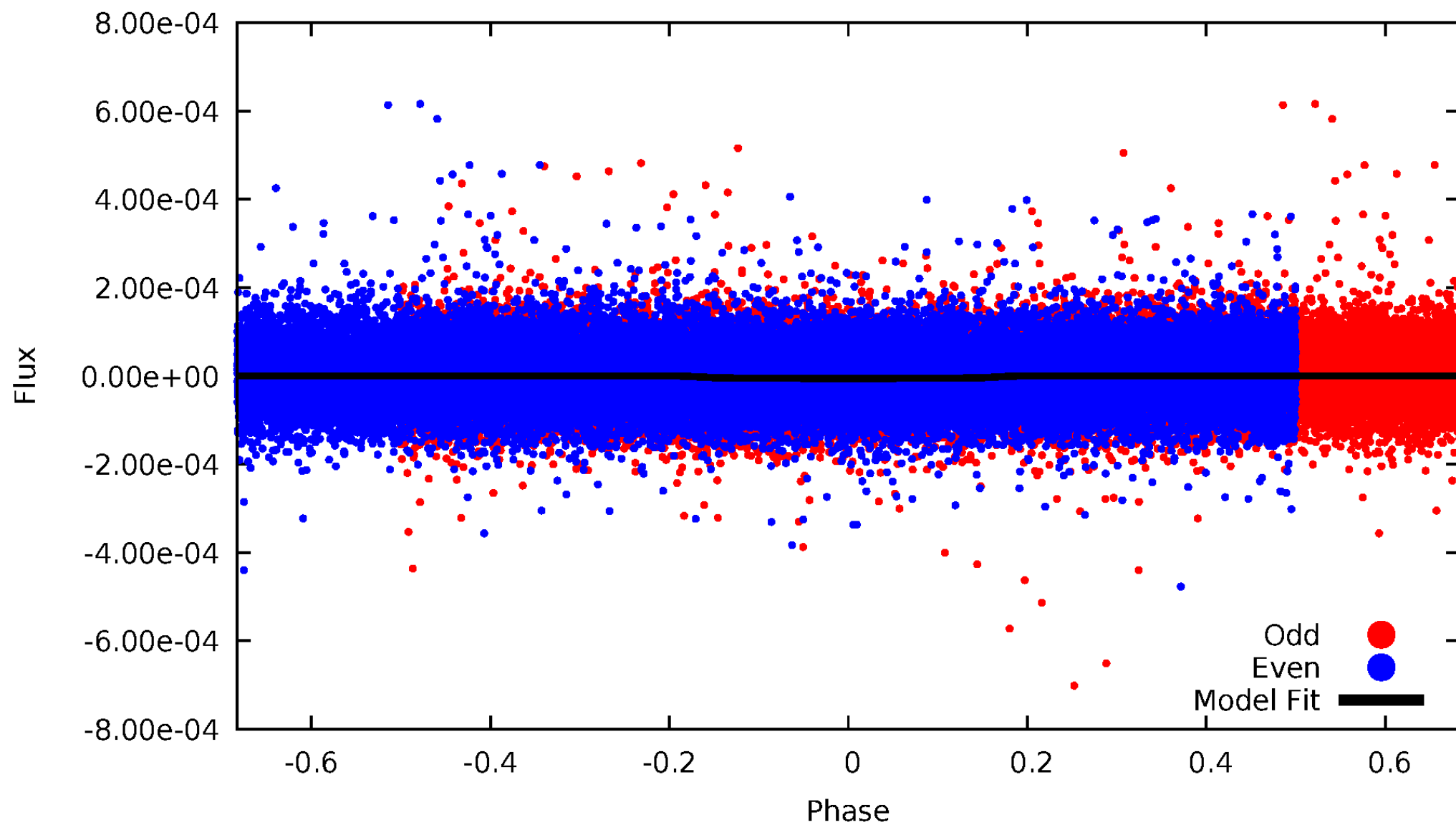


TCE 007282162-01



# DV Odd/Even

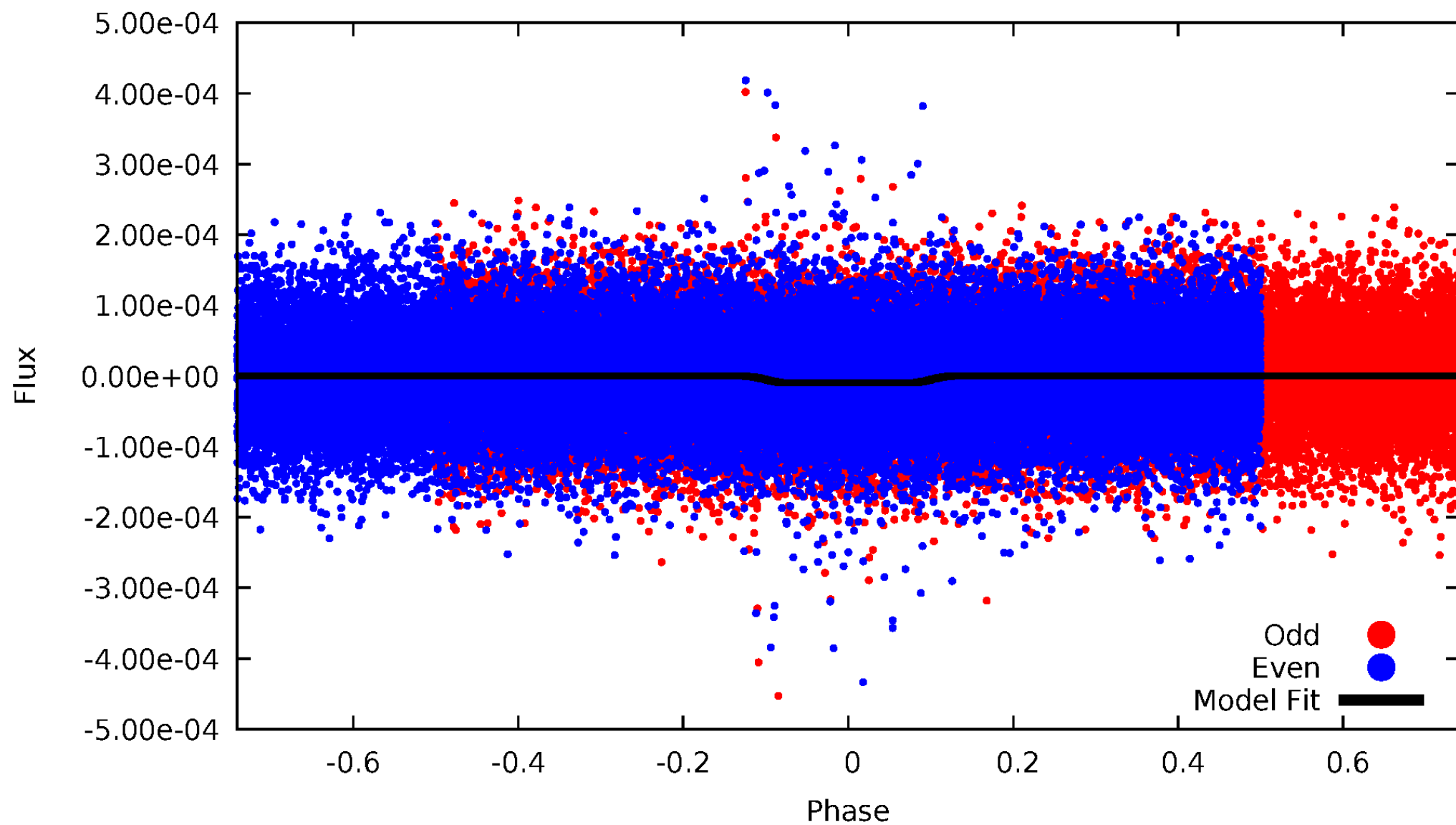
TCE 007282162-01



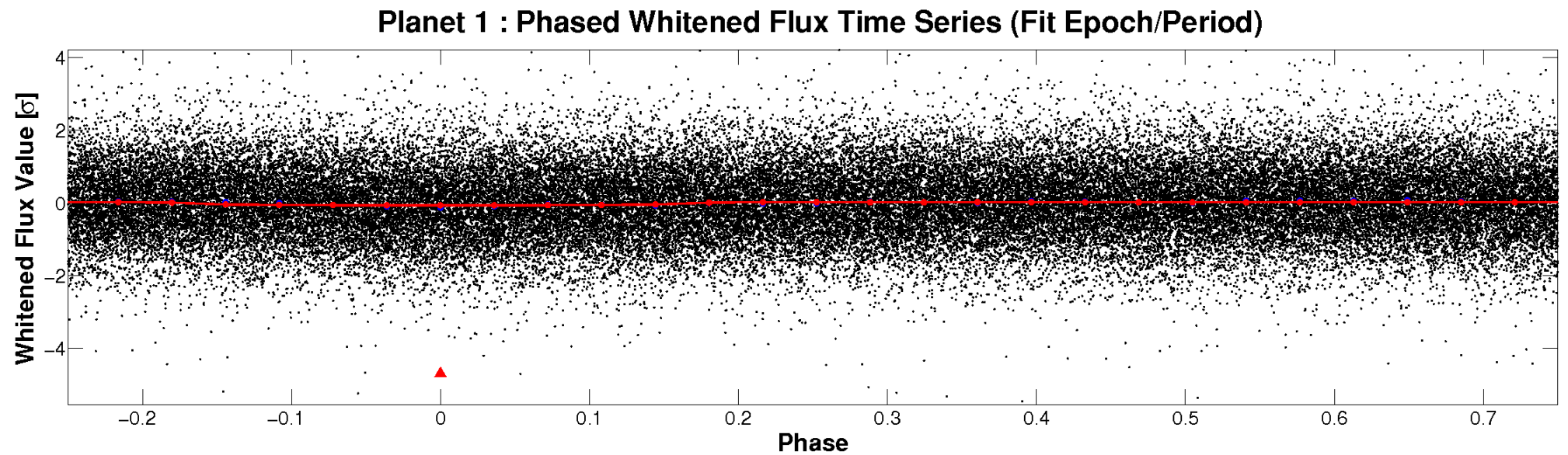
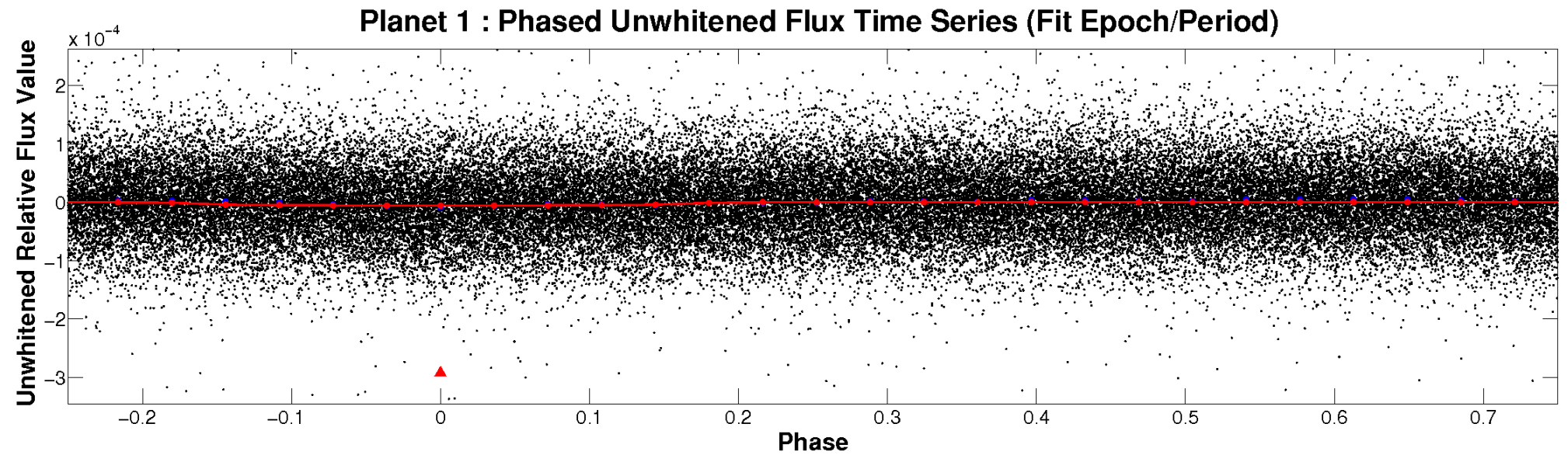


# ALT Odd/Even

TCE 007282162-01

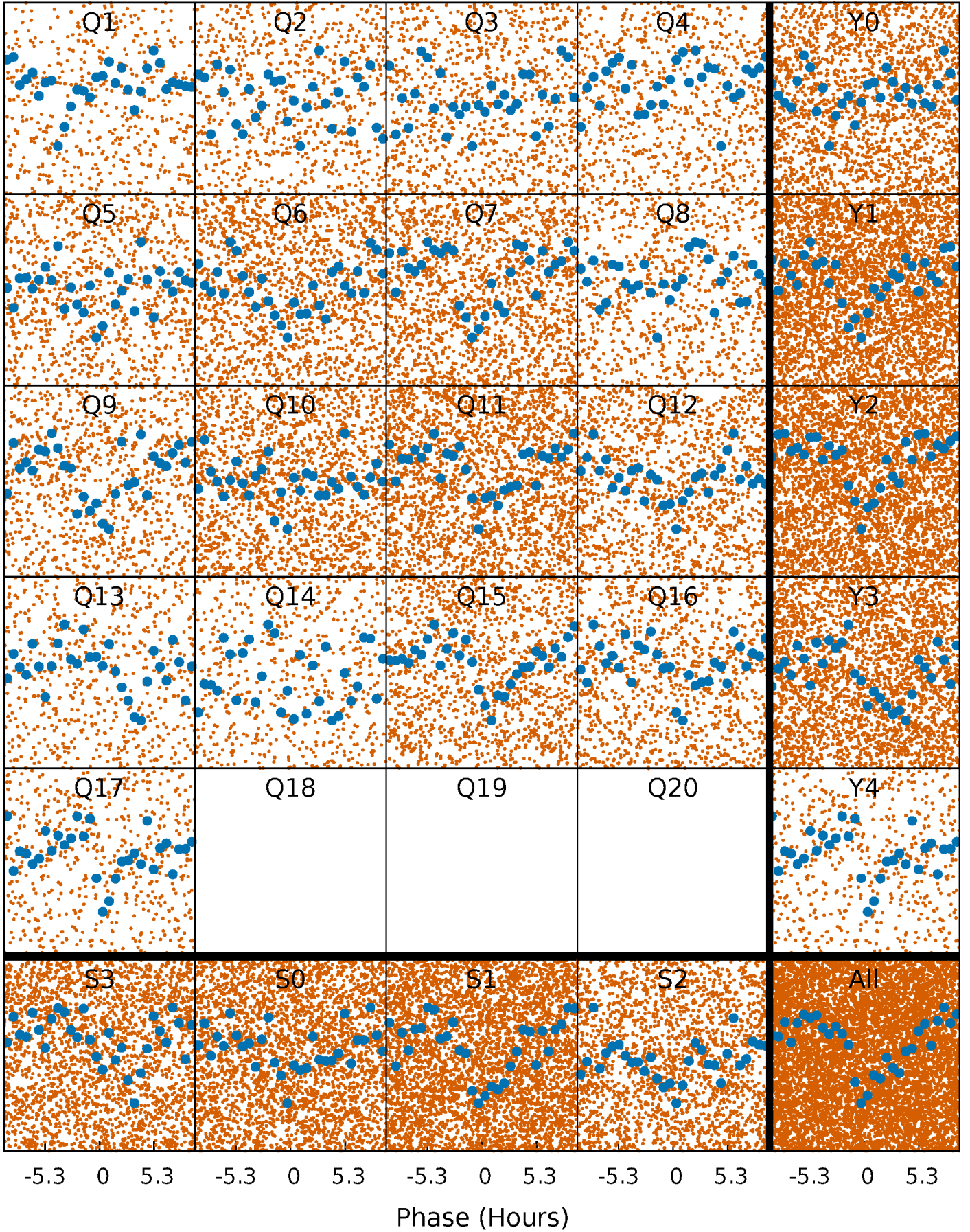


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

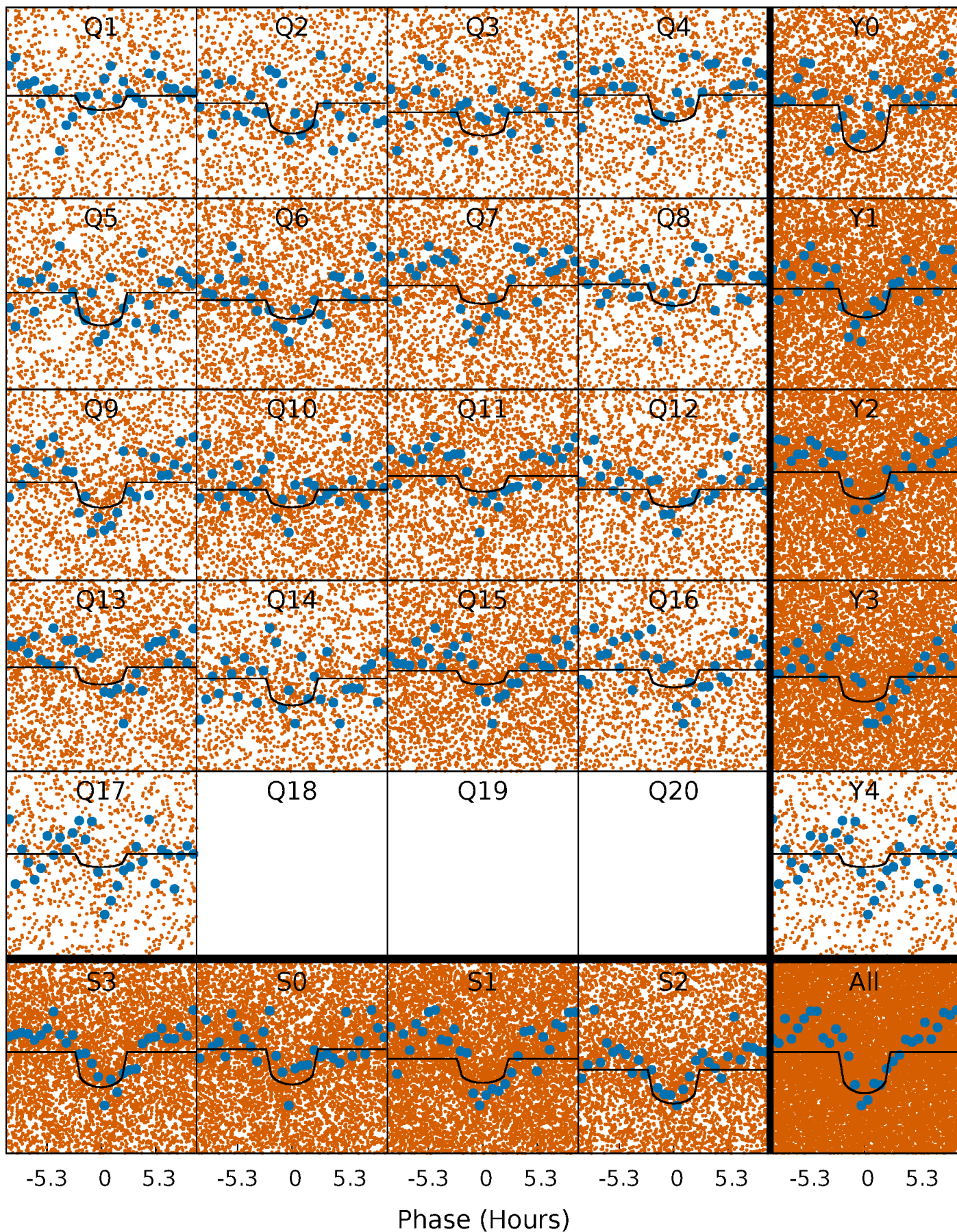
TCE 007282162-01 P= 0.566756 Days  $T_0=131.879450$  (BKJD)





# DV Quarter-Phased Transit Curves

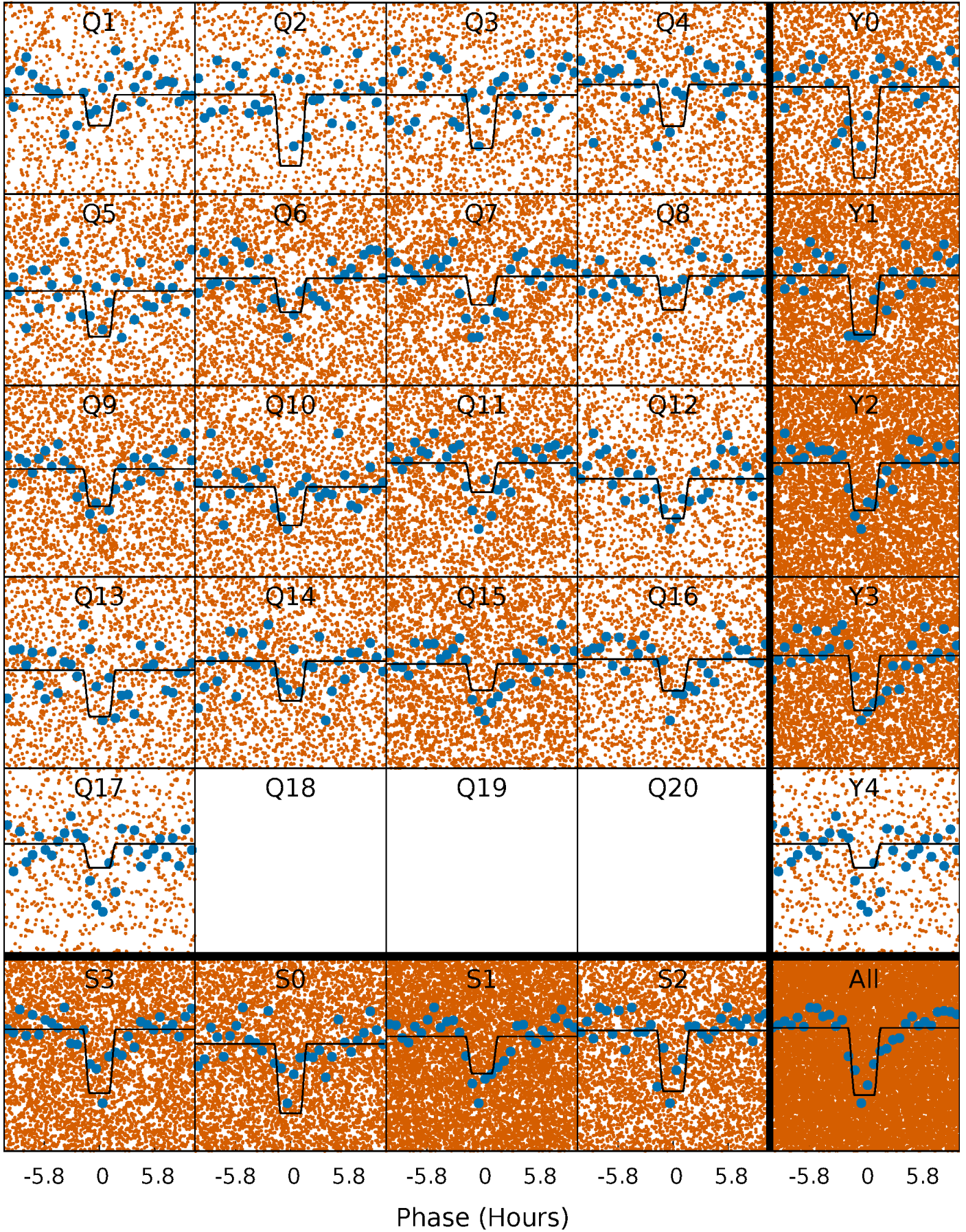
TCE 007282162-01 P= 0.566756 Days  $T_0=131.879450$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

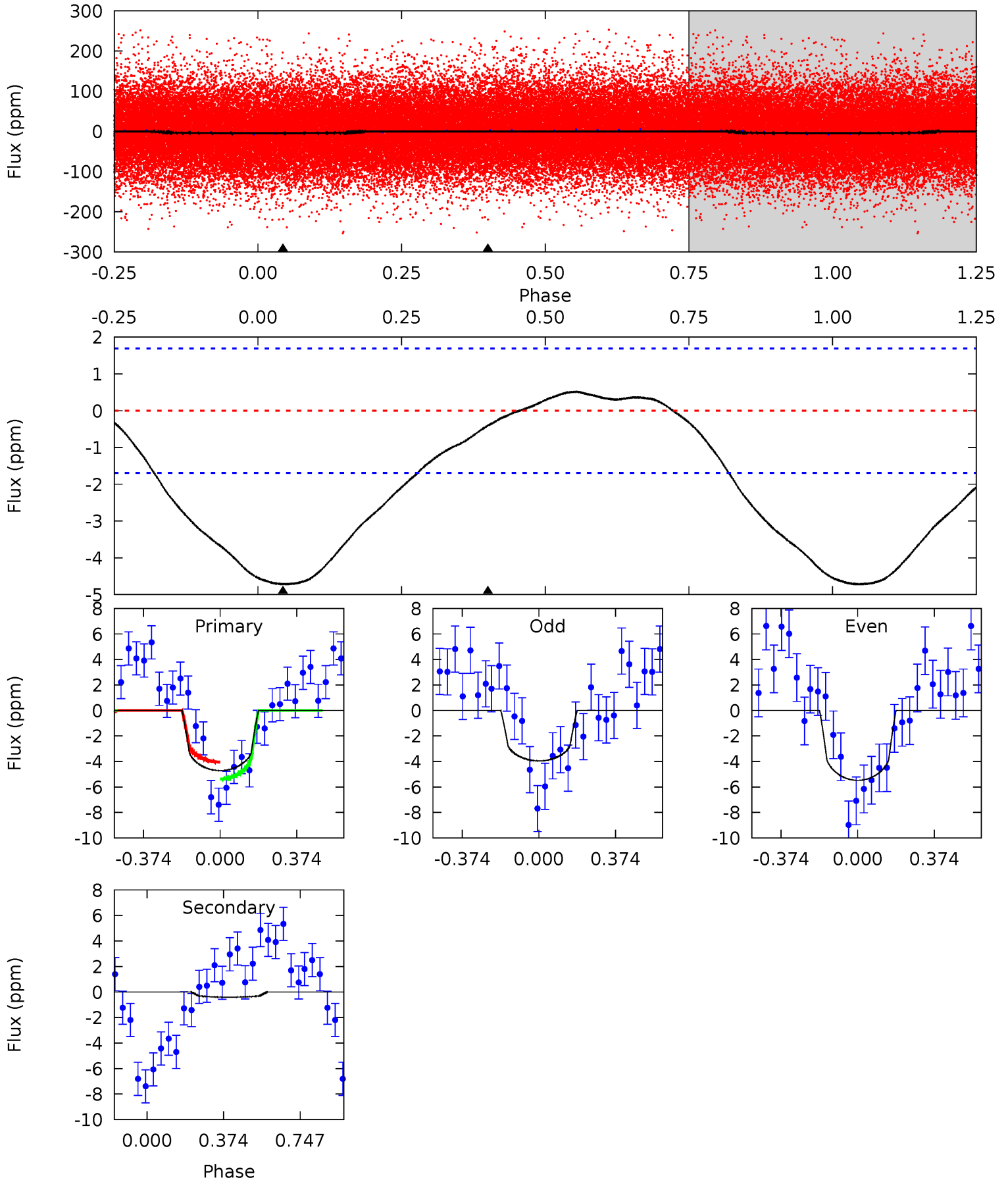
TCE 007282162-01 P= 0.566782 Days  $T_0=131.849735$  (BKJD)



# DV Model-Shift Uniqueness Test

007282162-01, P = 0.566756 Days, E = 131.312694 Days

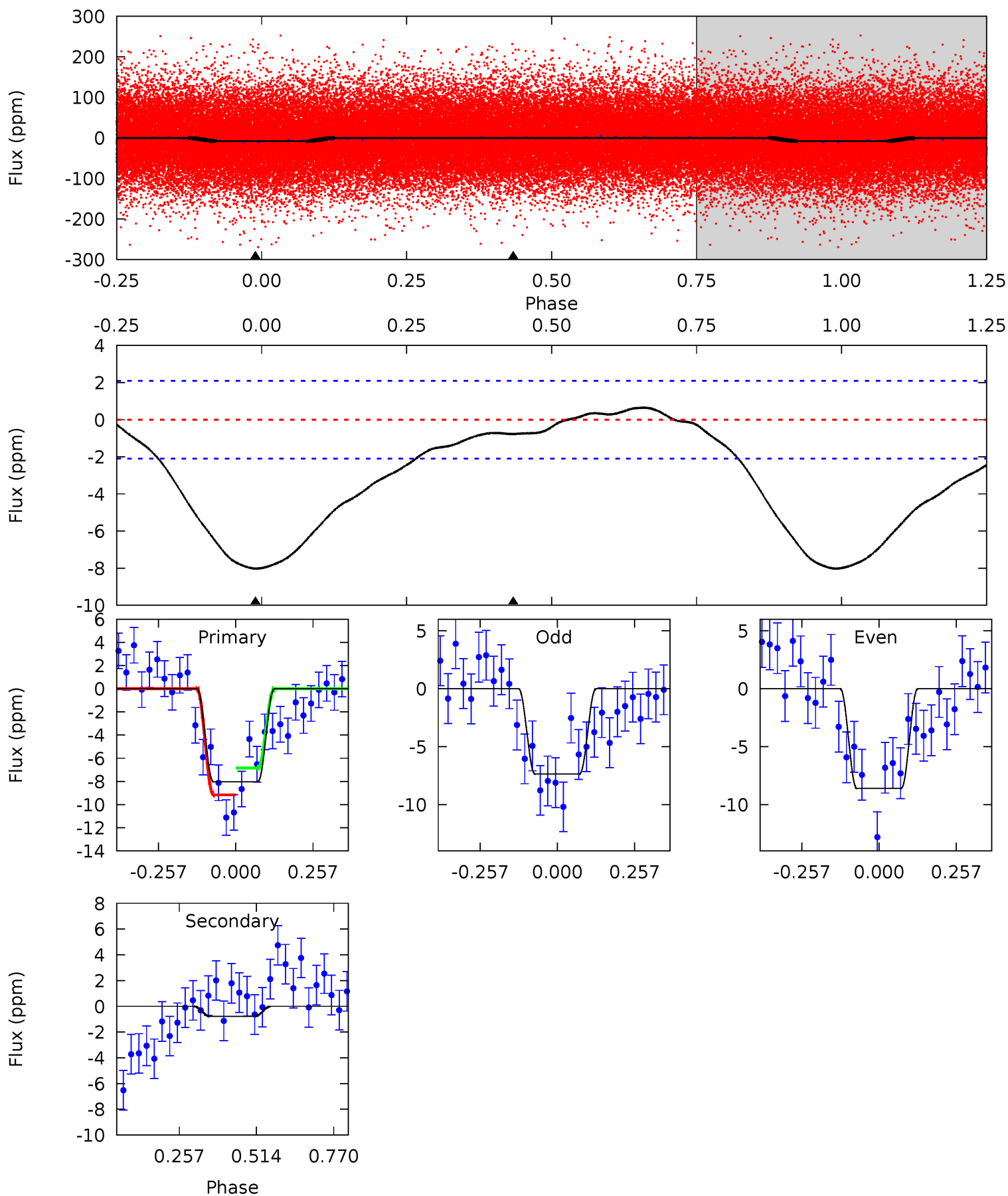
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	1.03	0	0	4.28	0.89	0.78	11.9	11.9	1.03	1.03	1.95	0.96	0.10	1.69



# Alt Model-Shift Uniqueness Test

007282162-01, P = 0.566782 Days, E = 131.282953 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
16.7	1.62	0	0	4.36	1.13	0.70	16.7	16.7	1.62	1.62	1.28	1.02	0.08	2.35





### Stellar Parameters For KIC 007282162

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6453^{+156}_{-195}$	$4.348^{+0.137}_{-0.125}$	$-0.760^{+0.300}_{-0.300}$	$1.064^{+0.185}_{-0.166}$	$0.919^{+0.101}_{-0.082}$	$1.074^{+0.607}_{-0.388}$
	+2%/-3%	+3%/-3%	+39%/-39%	+17%/-16%	+11%/-9%	+57%/-36%
Source	PHO1	FLK73	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 007282162-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-0 \pm 0$	$0.30^{+0.18}_{-0.17}$	$3593^{+198}_{-185}$	$2775^{+1928}_{-6241}$	$0.369^{+1.751}_{-0.370}$
Alt.	$-1 \pm 0$	$0.36^{+0.20}_{-0.18}$	$3579^{+184}_{-181}$	$3297^{+1466}_{-6486}$	$0.534^{+1.726}_{-0.415}$

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

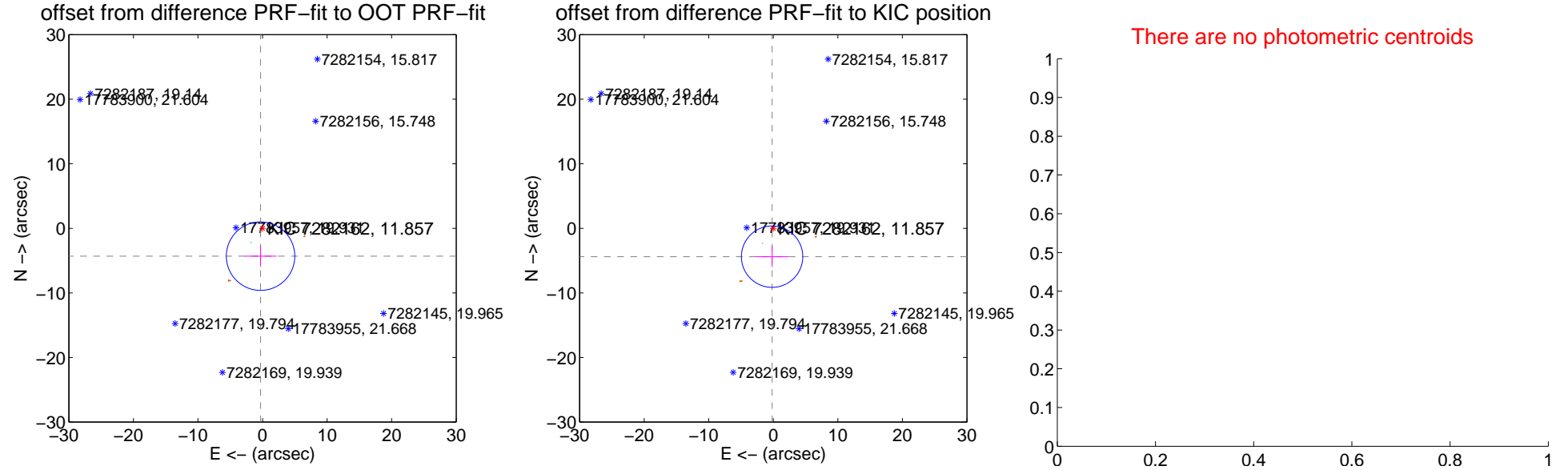
## DV Centroid Data

Supplemental centroid analysis for 007282162-01. **Kepler magnitude: 11.86.** Transit SNR 9.22

**There are 1 quarters with good PRF difference image offsets**

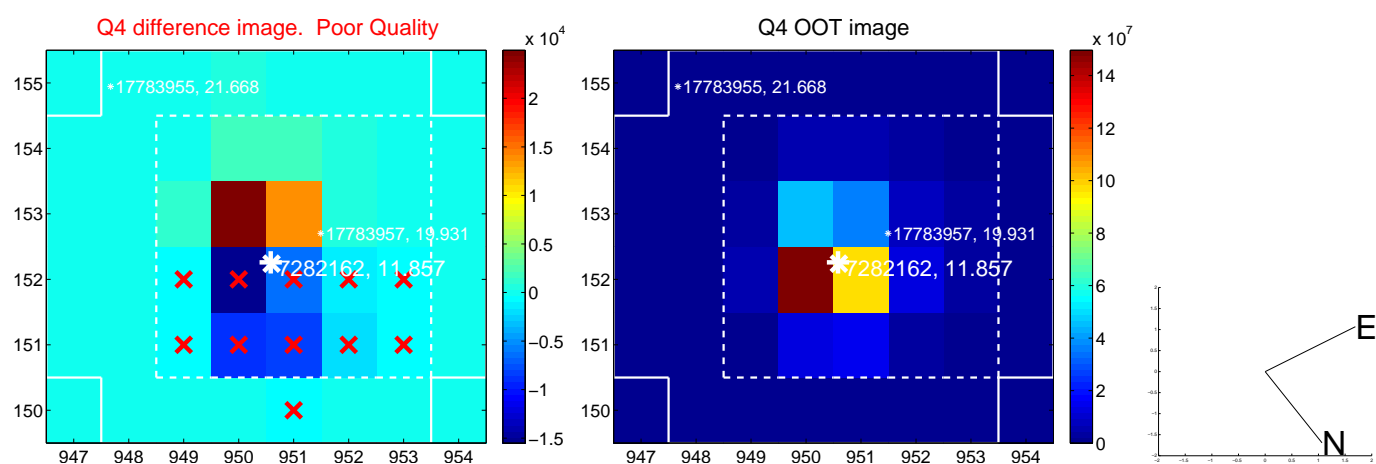
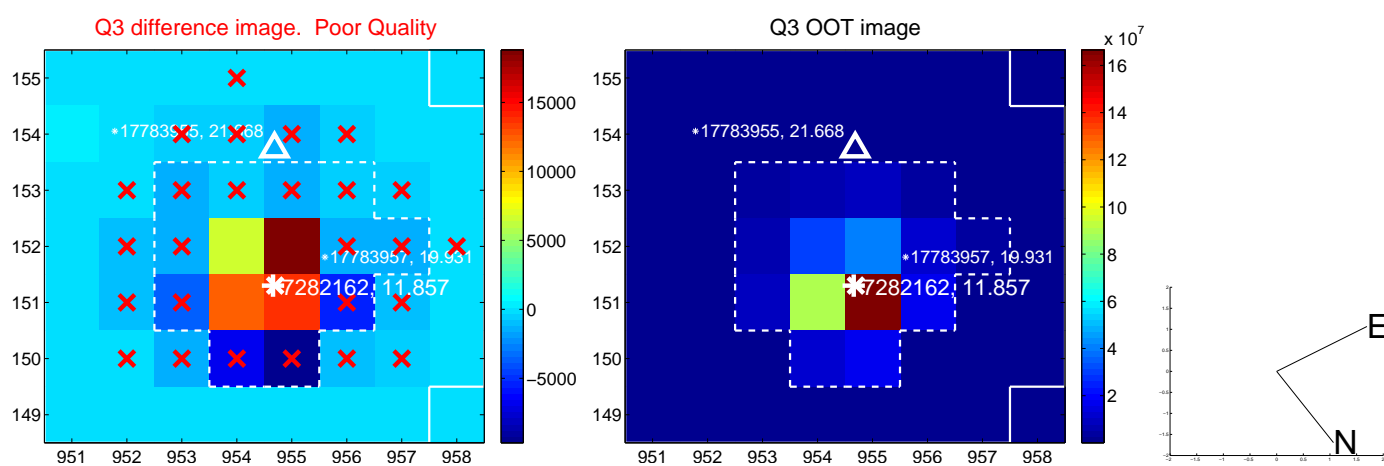
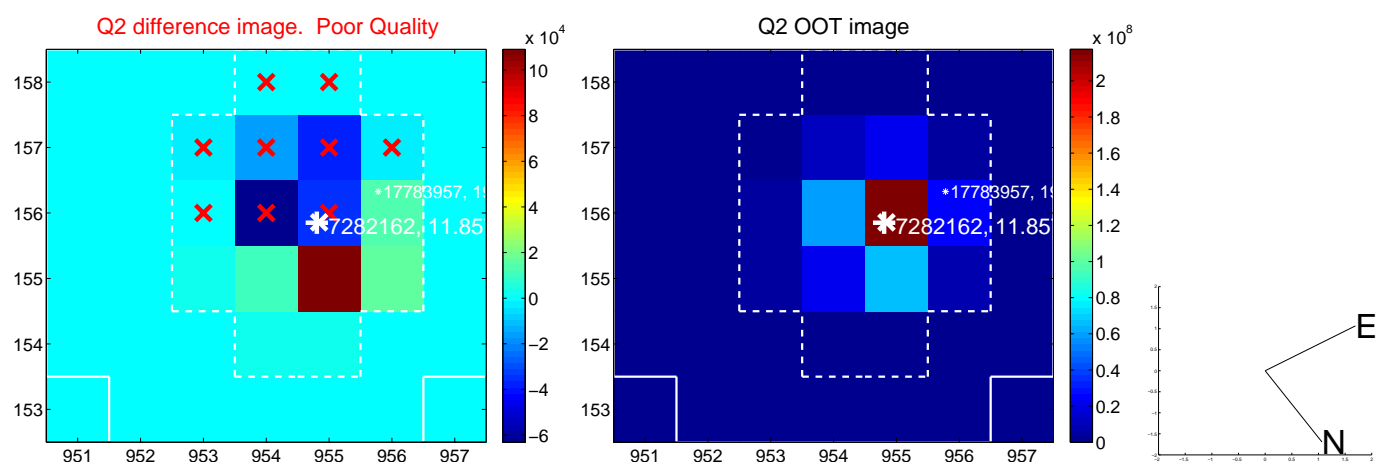
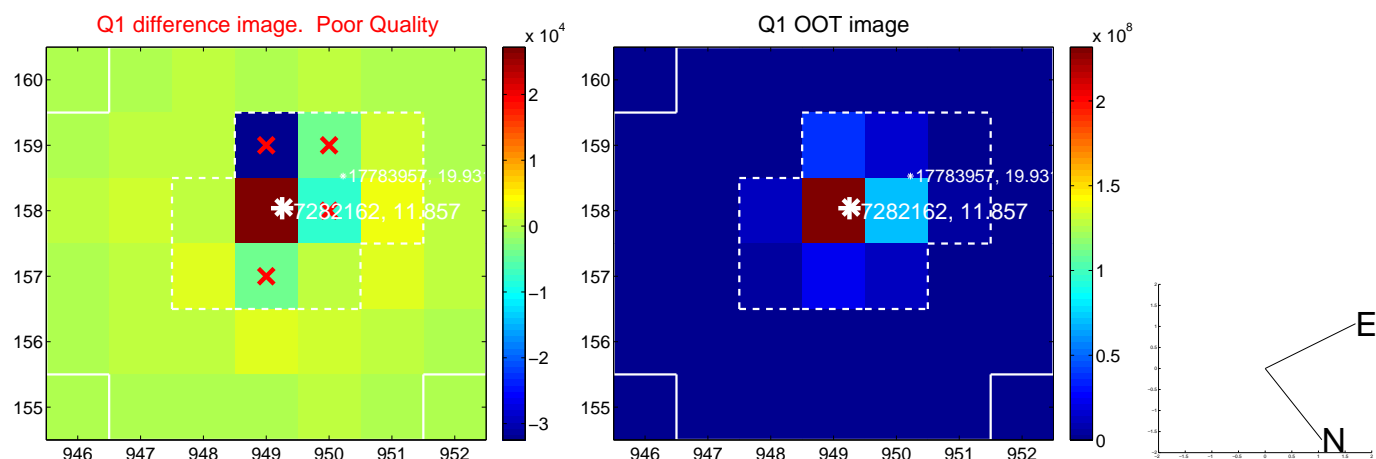
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.319 \pm 1.767$	2.44	$0.305 \pm 2.497$	$-4.309 \pm 1.608$
PRF-fit source offset from KIC position	$4.391 \pm 1.584$	2.77	$0.183 \pm 2.577$	$-4.387 \pm 1.582$
photometric centroid source offset	—	—	—	—

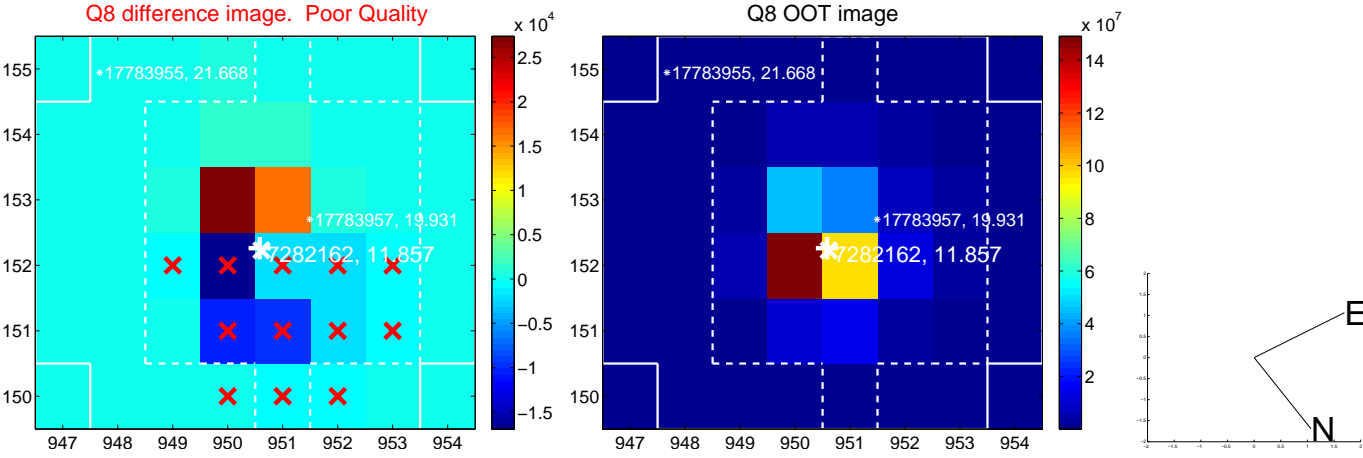
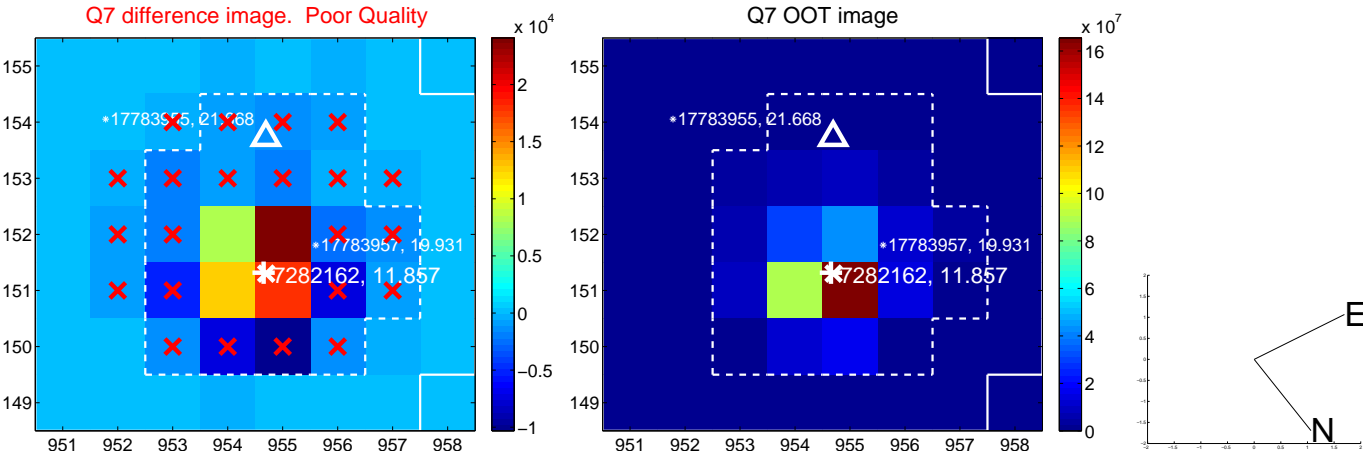
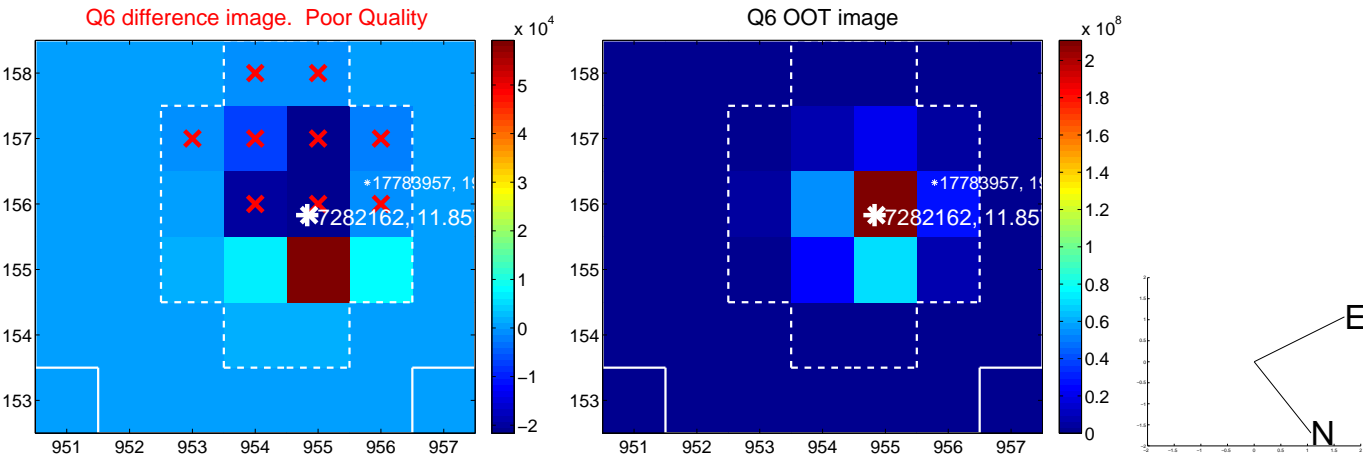
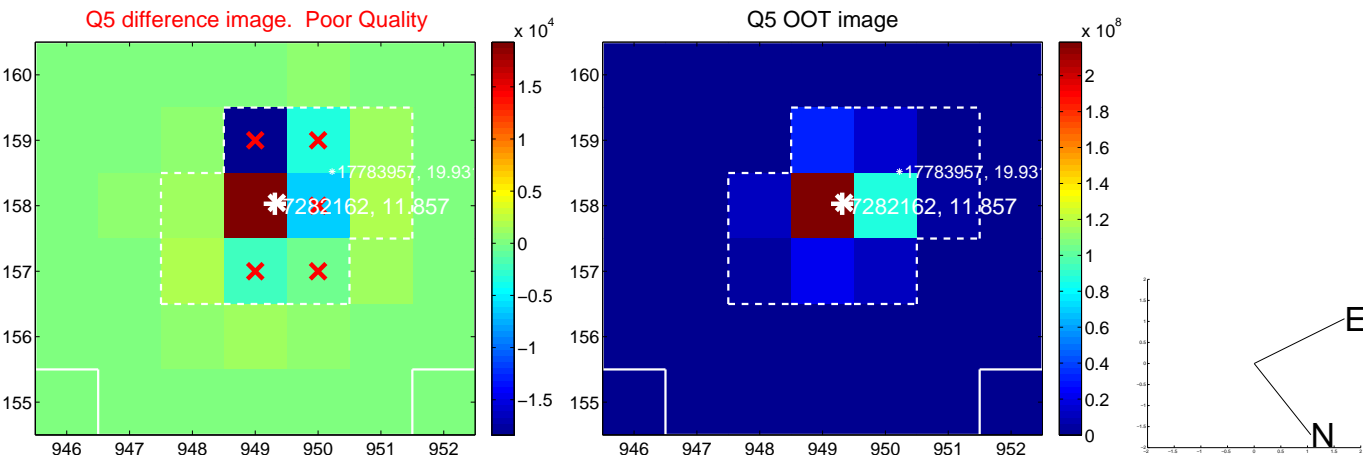


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

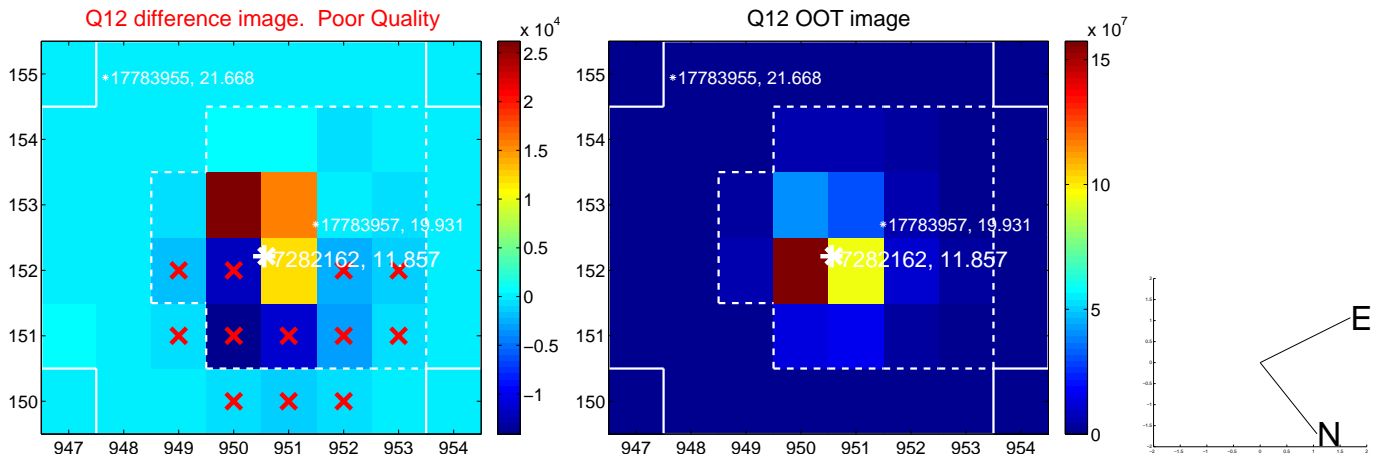
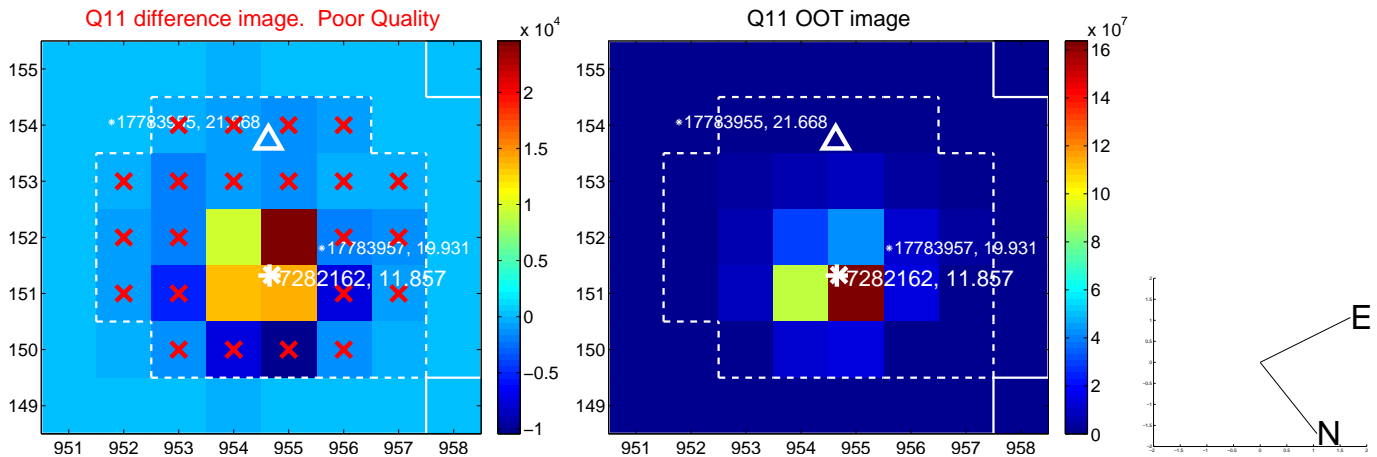
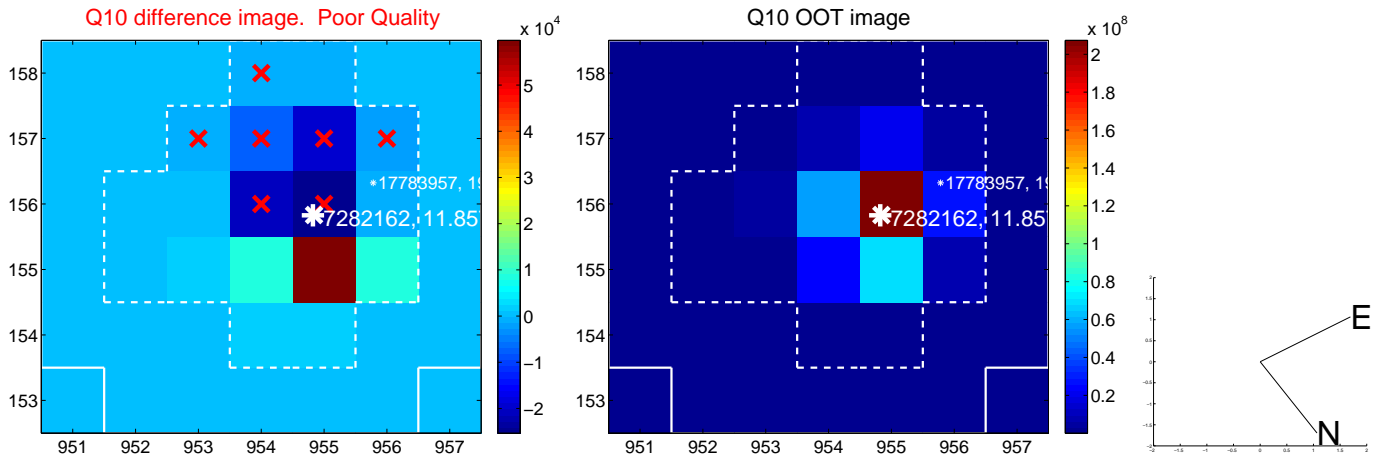
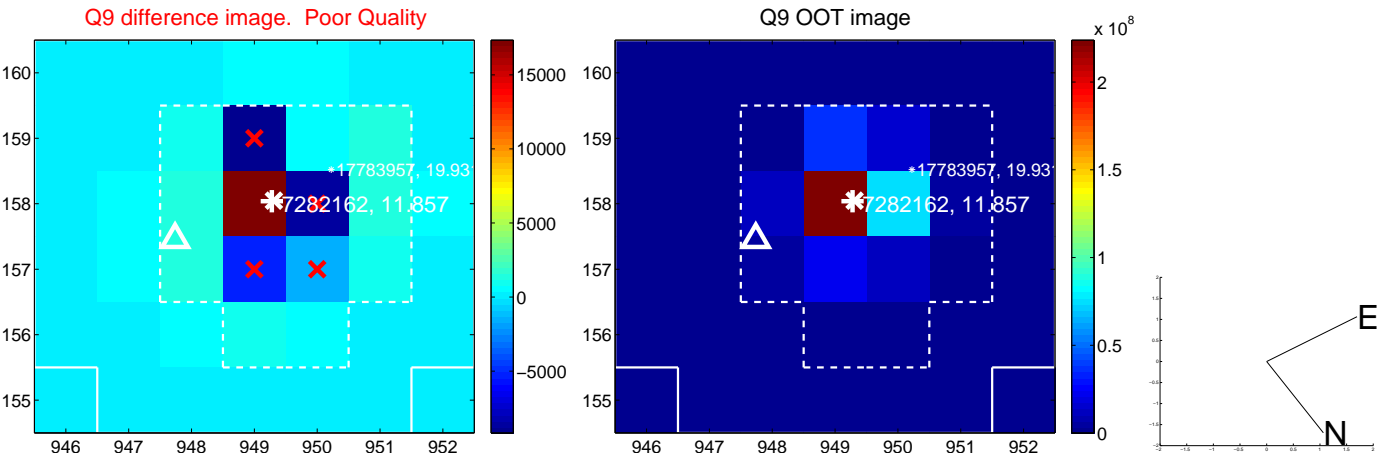


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

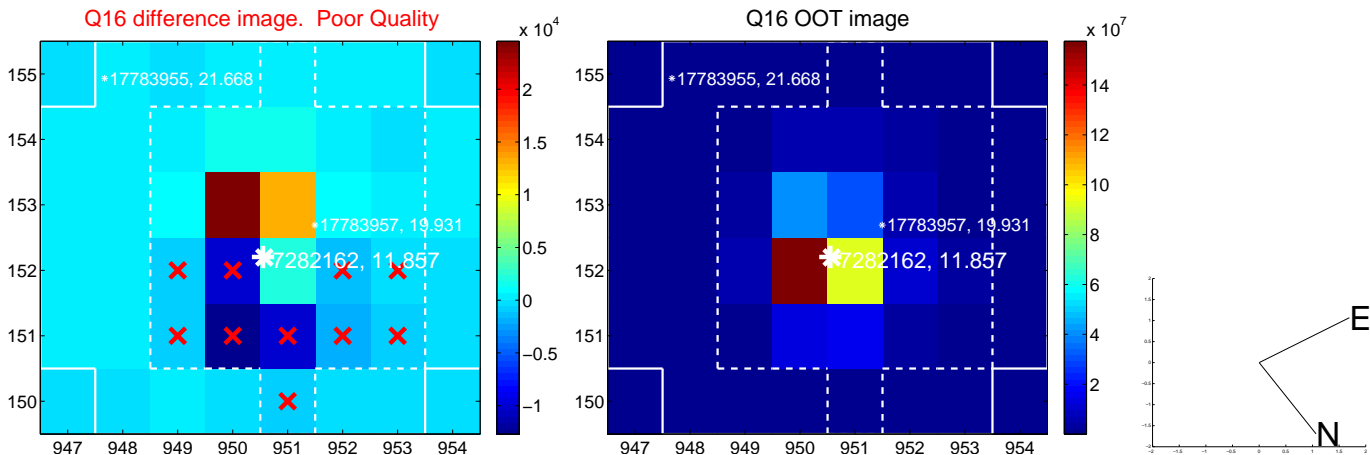
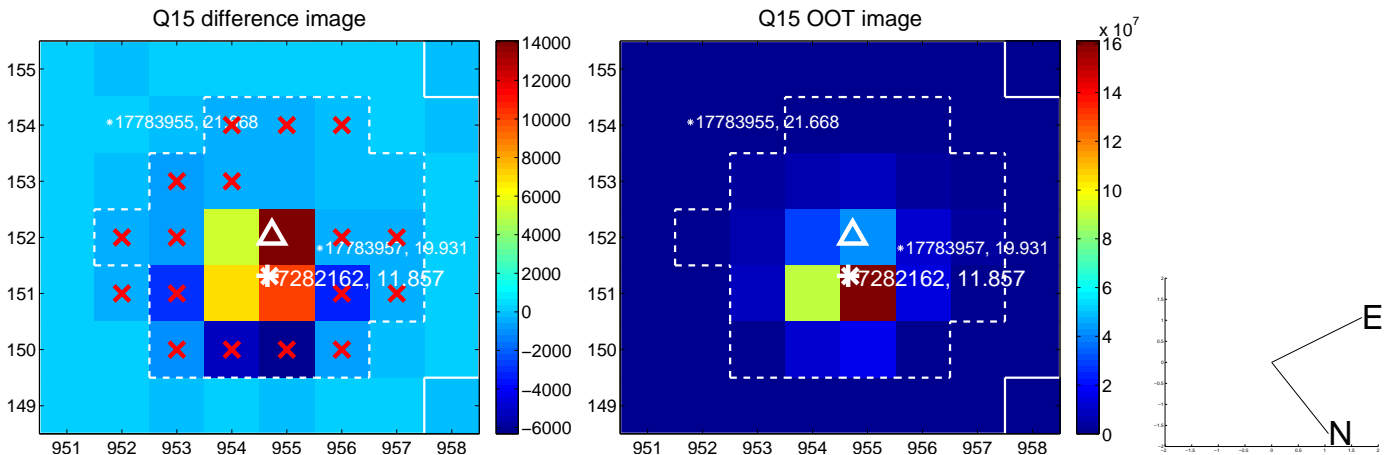
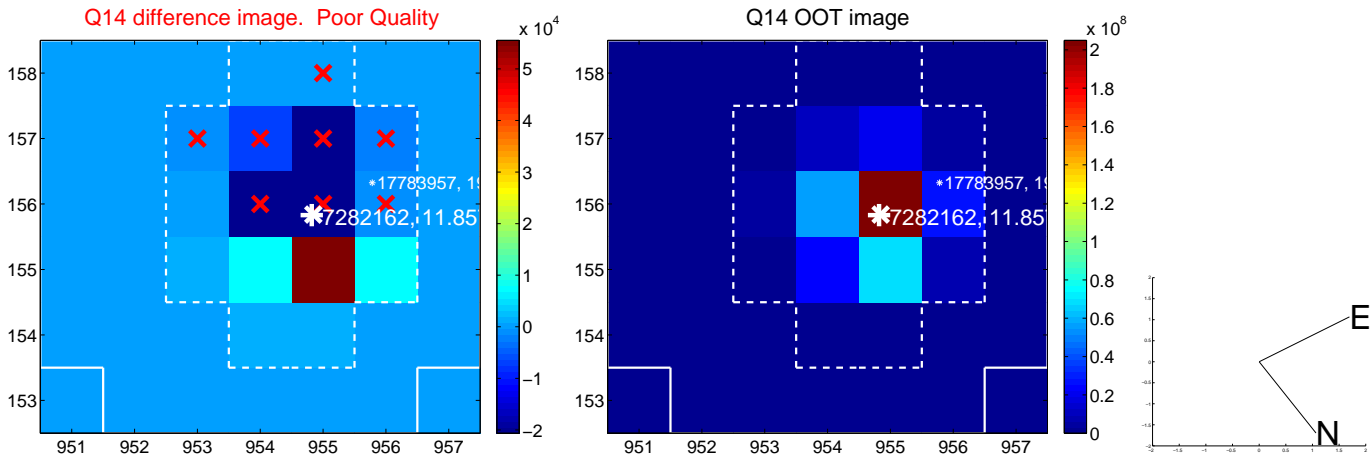
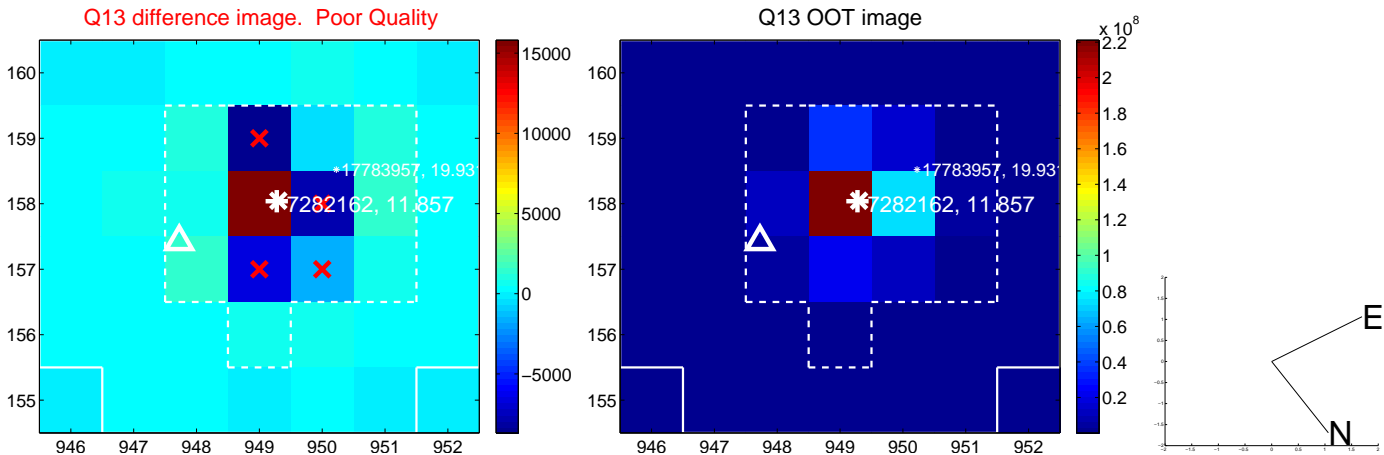




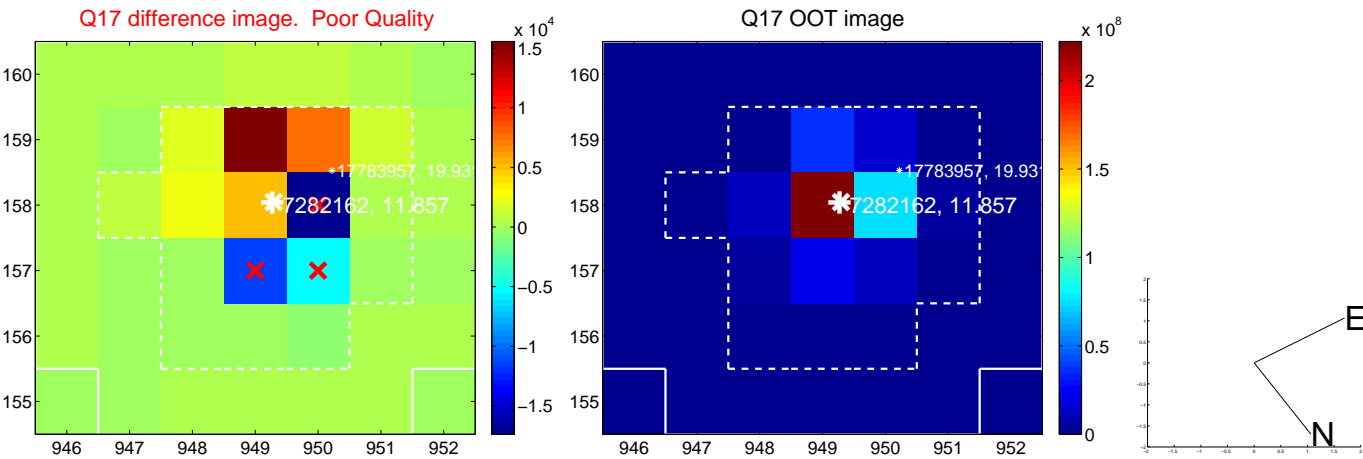
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

