

# KIC 005857714

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005857714-01	OBS	No	0.769744	131.904904	84.7	4.183	13.3	11.9	2.52	7053	2.42	39616.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005857714-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

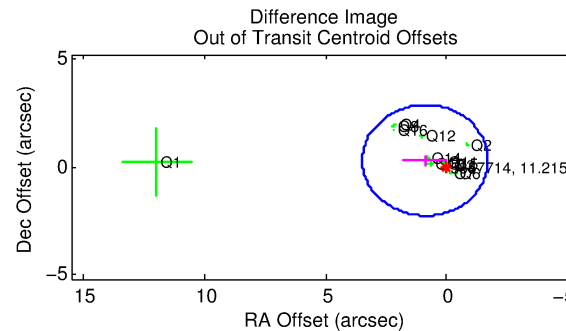
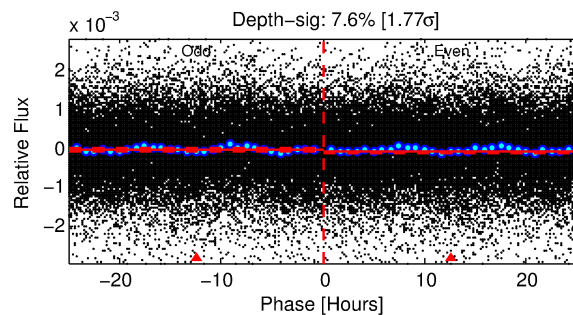
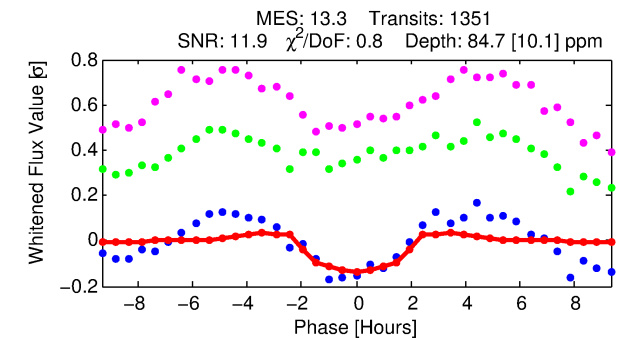
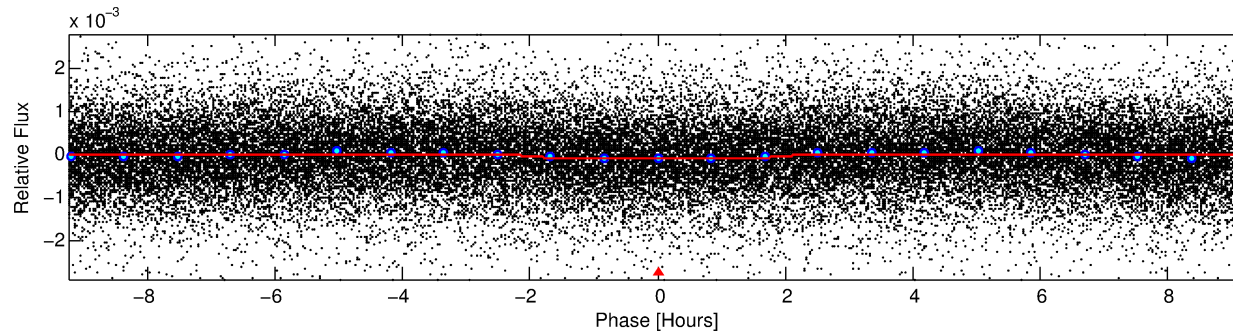
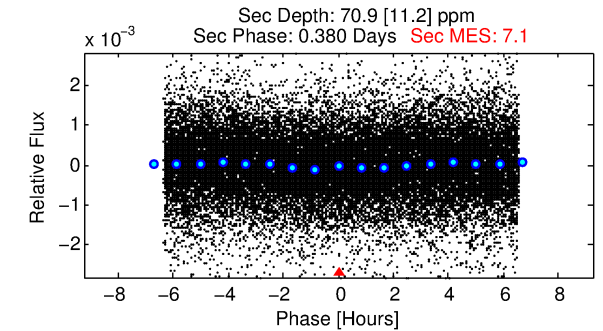
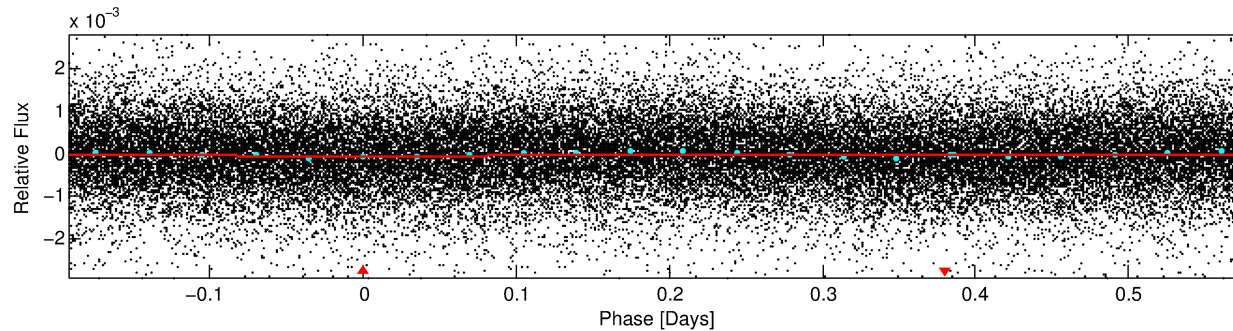
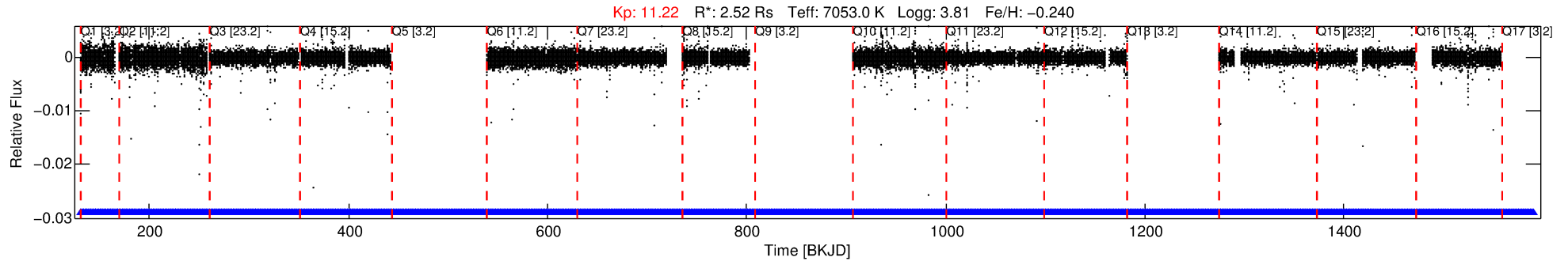
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005857714-01

No Significant Match Found

# DV One-Page Summary

KIC: 5857714 Candidate: 1 of 1 Period: 0.770 d



## DV Fit Results:

Period = 0.76974 [0.00001] d  
Epoch = 131.9049 [0.0041] BKJD  
Rp/R\* = 0.0088 [0.0085]  
a/R\* = 1.41 [3.75]  
b = 0.55 [6.93]  
Seff = 39616.24 [27955.20]  
Teq = 3597 [635] K  
Rp = 2.42 [2.56] Re  
a = 0.0189 [0.0081] AU  
Ag = 2.38 [4.89] [0.28σ]  
Teffp = 6906 [3352] K [0.97σ]

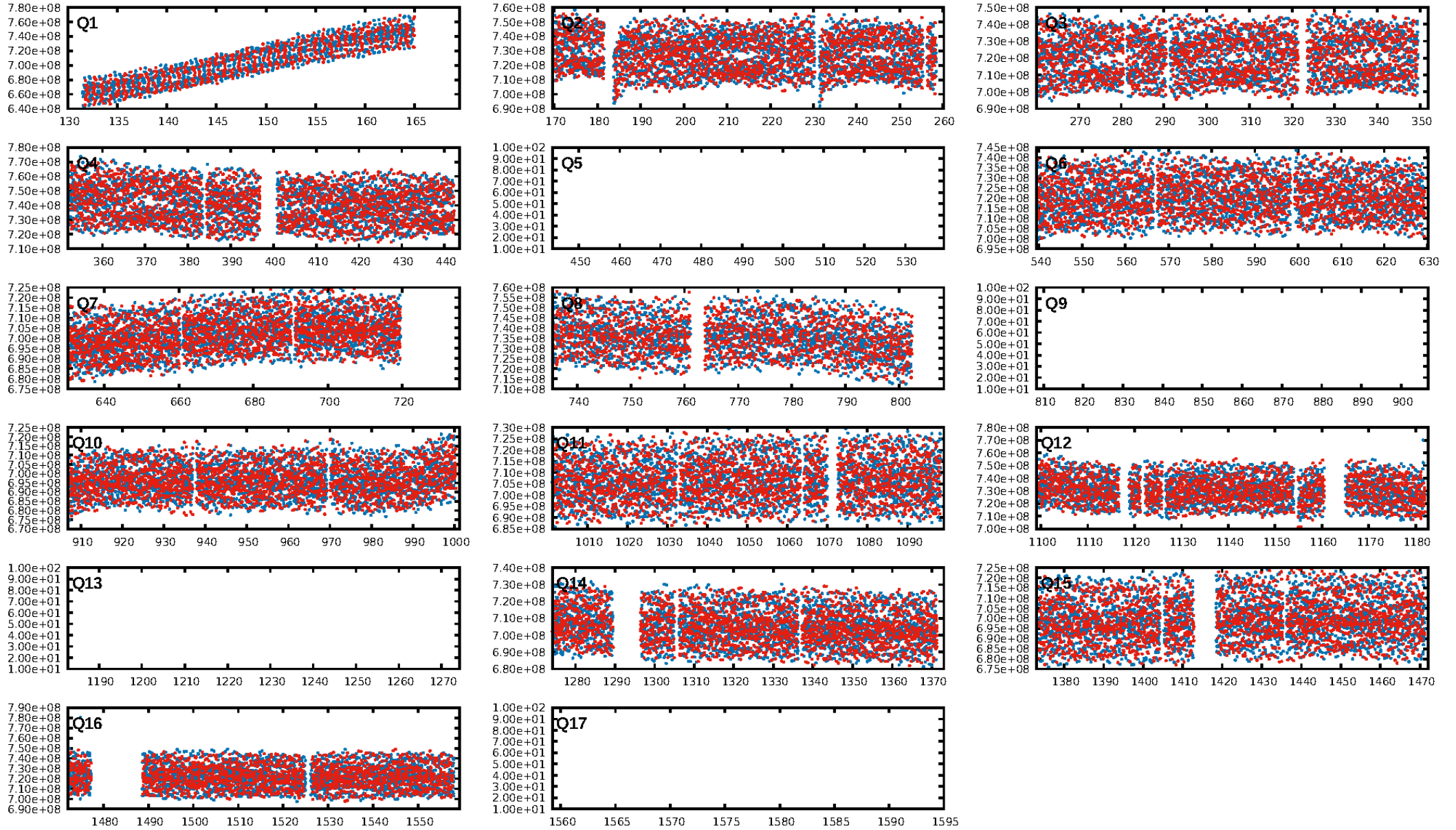
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.20e-27  
RollingBand-fgt: 1.00 [1307/1307]  
GhostDiagnostic-chr: 4.047  
Centroid-sig: 23.9%  
Centroid-so: 0.127 arcsec [0.96σ]  
OotOffset-rm: 0.941 arcsec [1.09σ]  
KicOffset-rm: 0.981 arcsec [1.19σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.38 [5/13]  
DiffImageOverlap-fno: 1.00 [13/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:06:10 Z

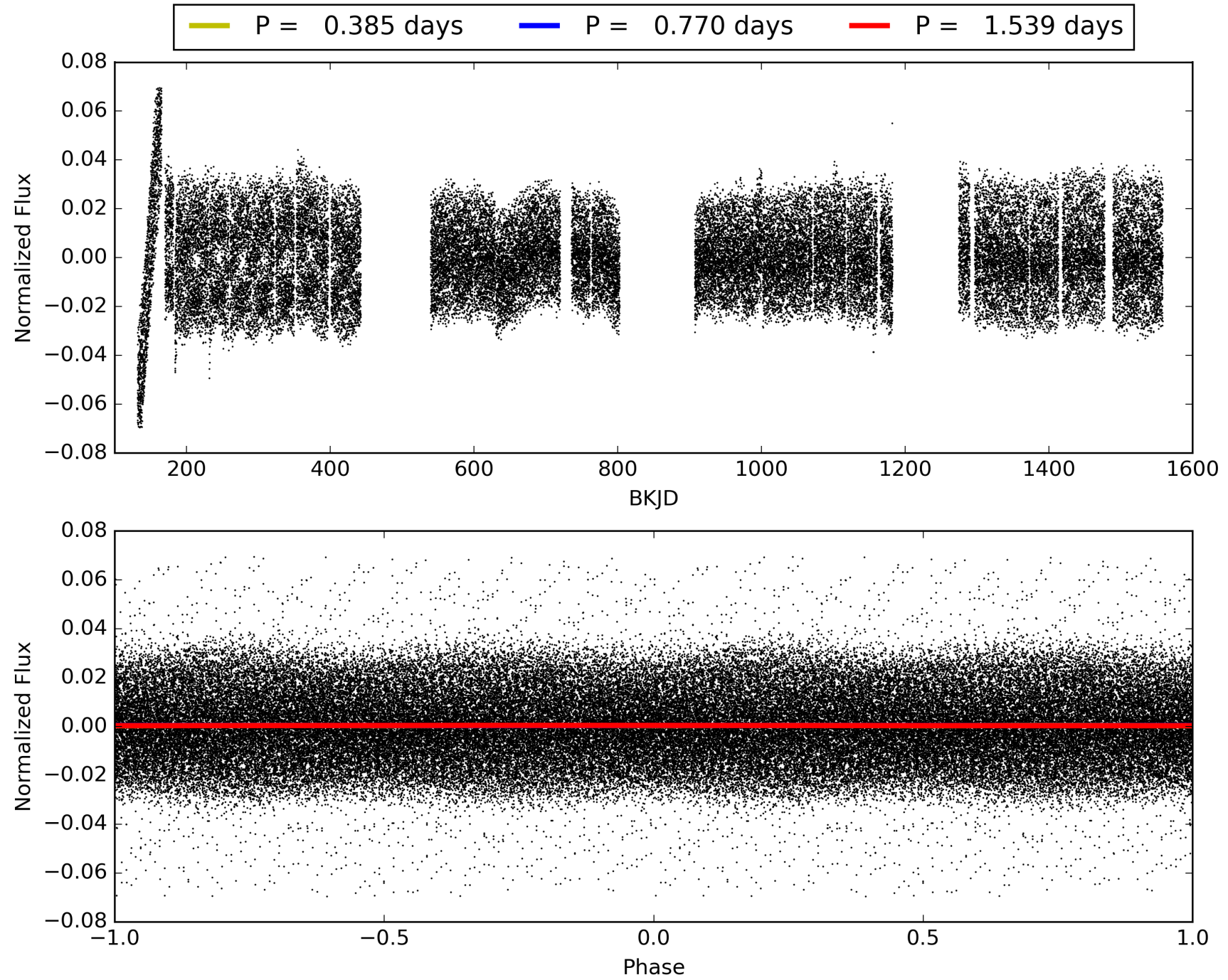
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005857714-01, PDC Light Curves



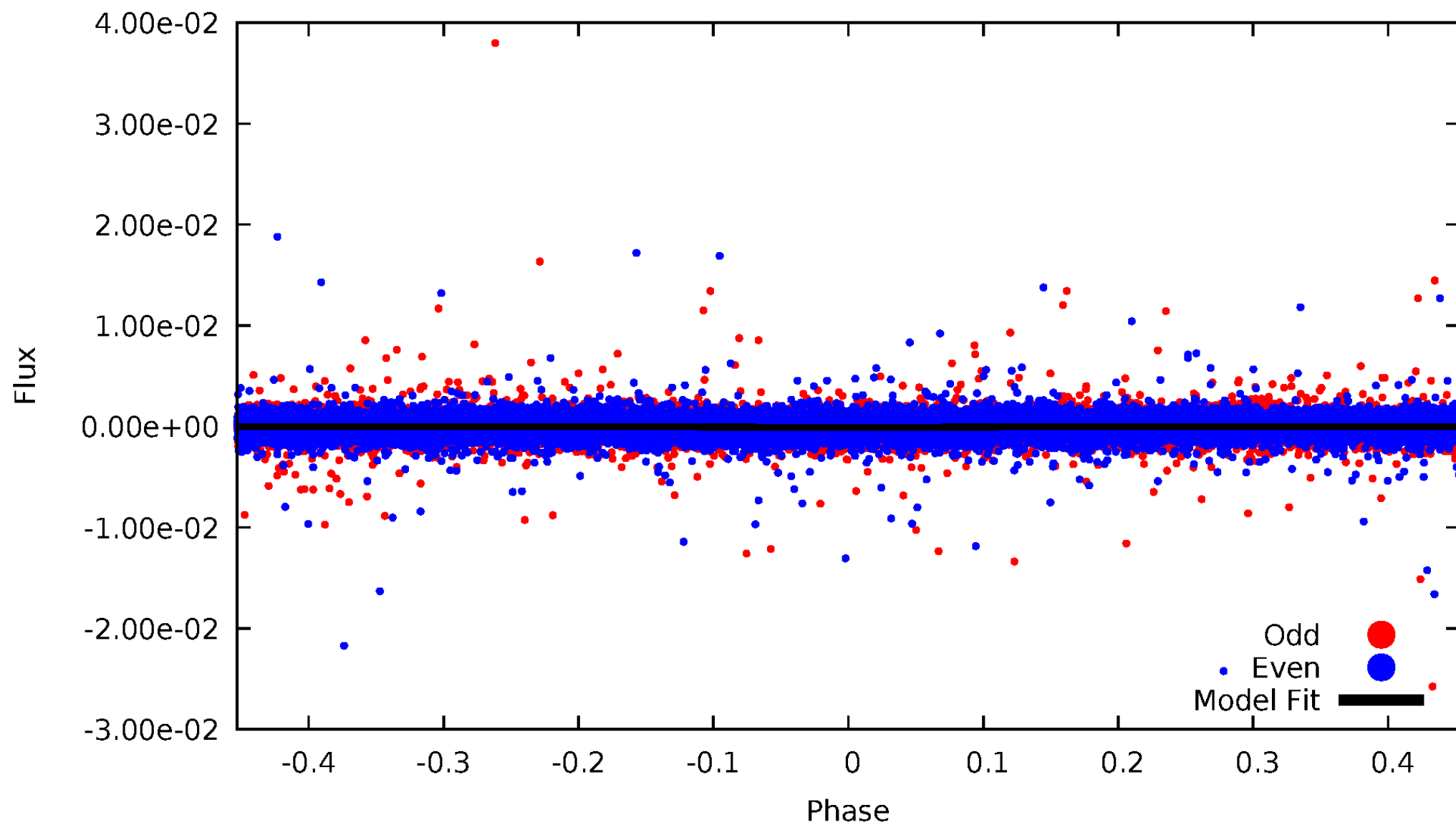


TCE 005857714-01



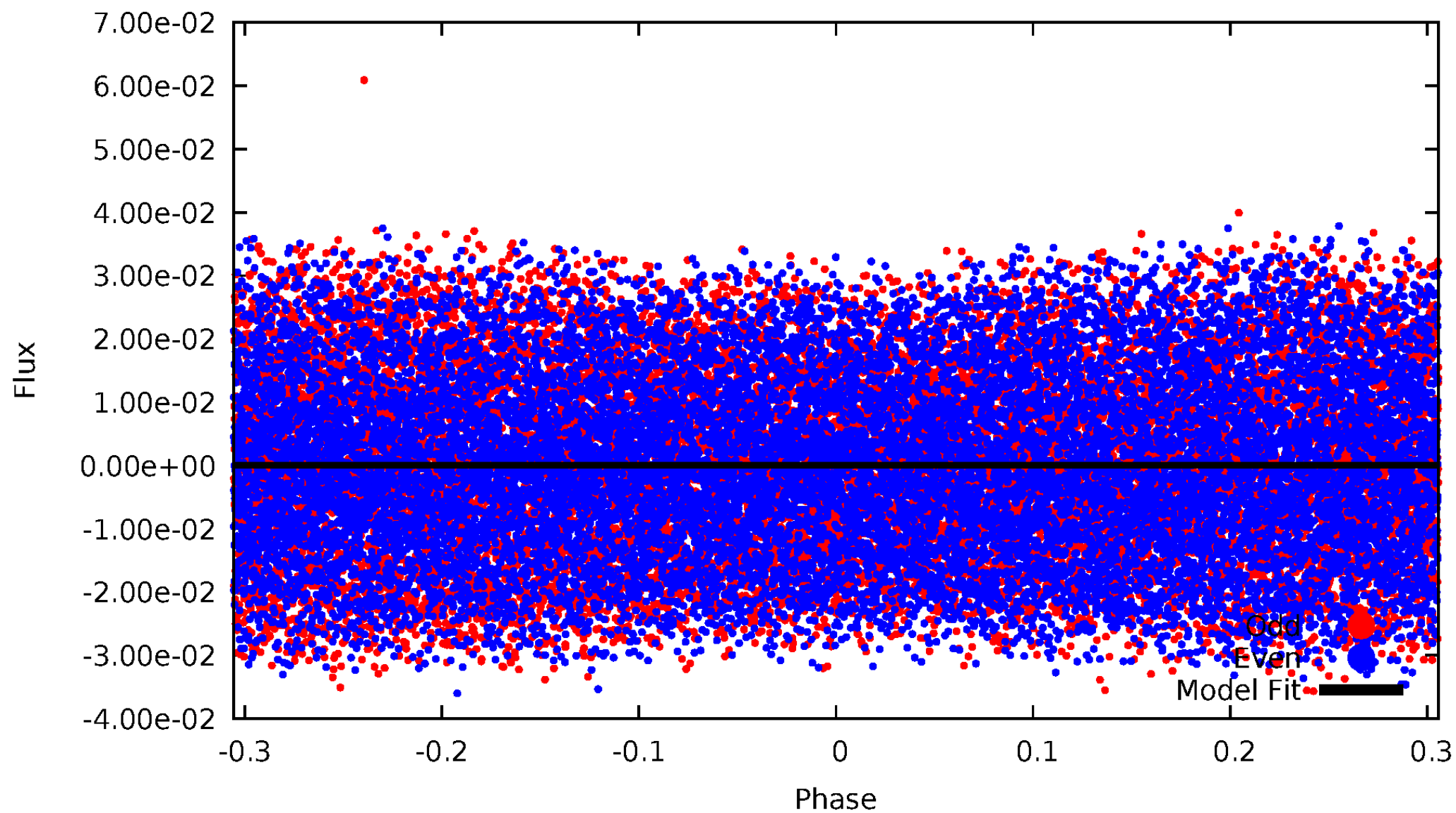
# DV Odd/Even

TCE 005857714-01



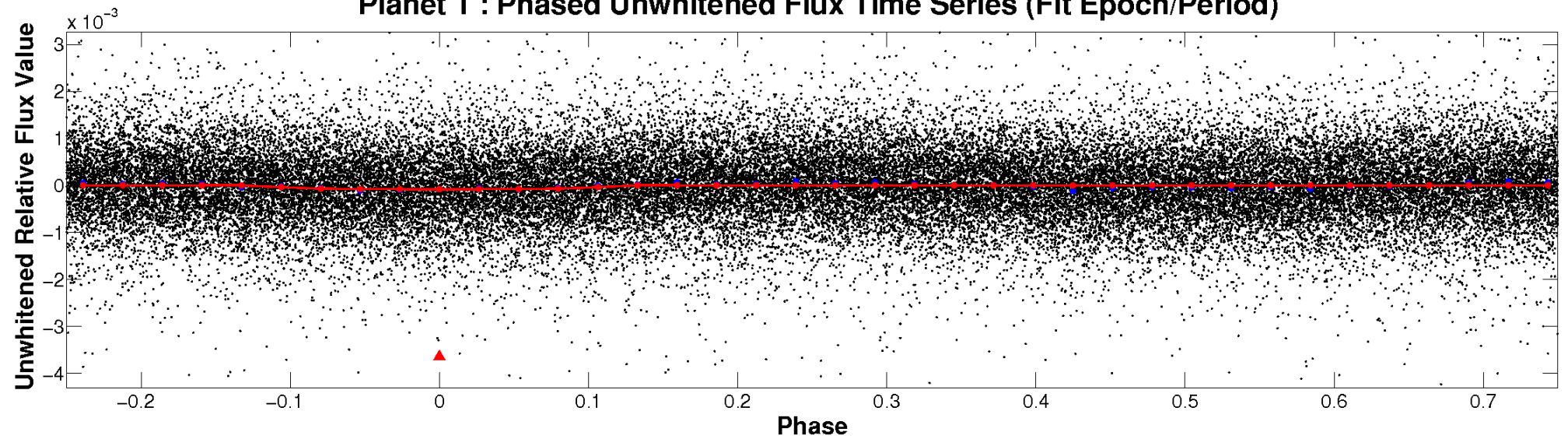
# ALT Odd/Even

TCE 005857714-01

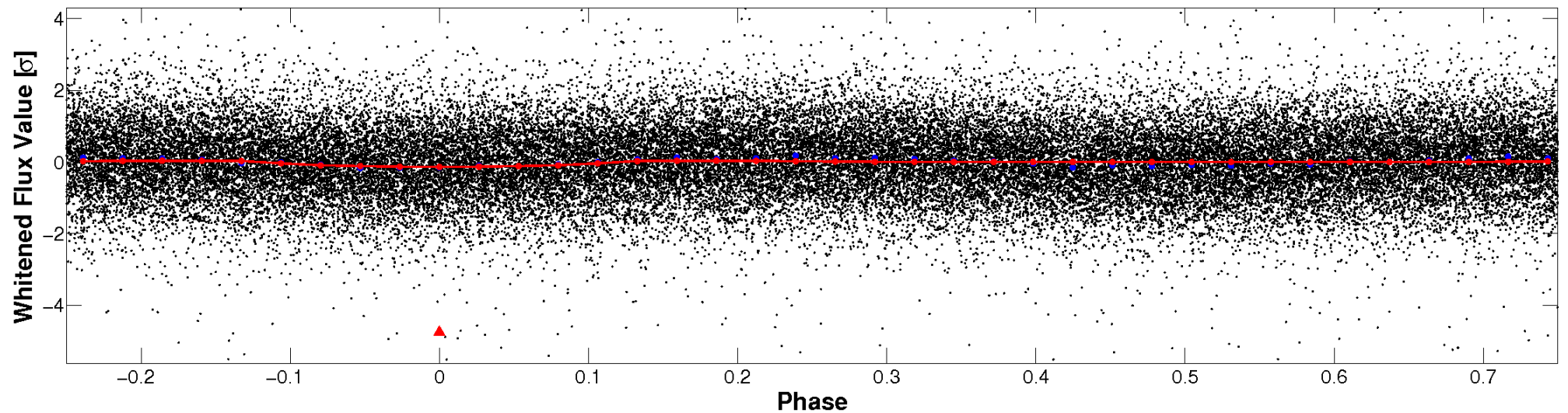


# Non-Whitened Vs. Whitened Light Curve

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

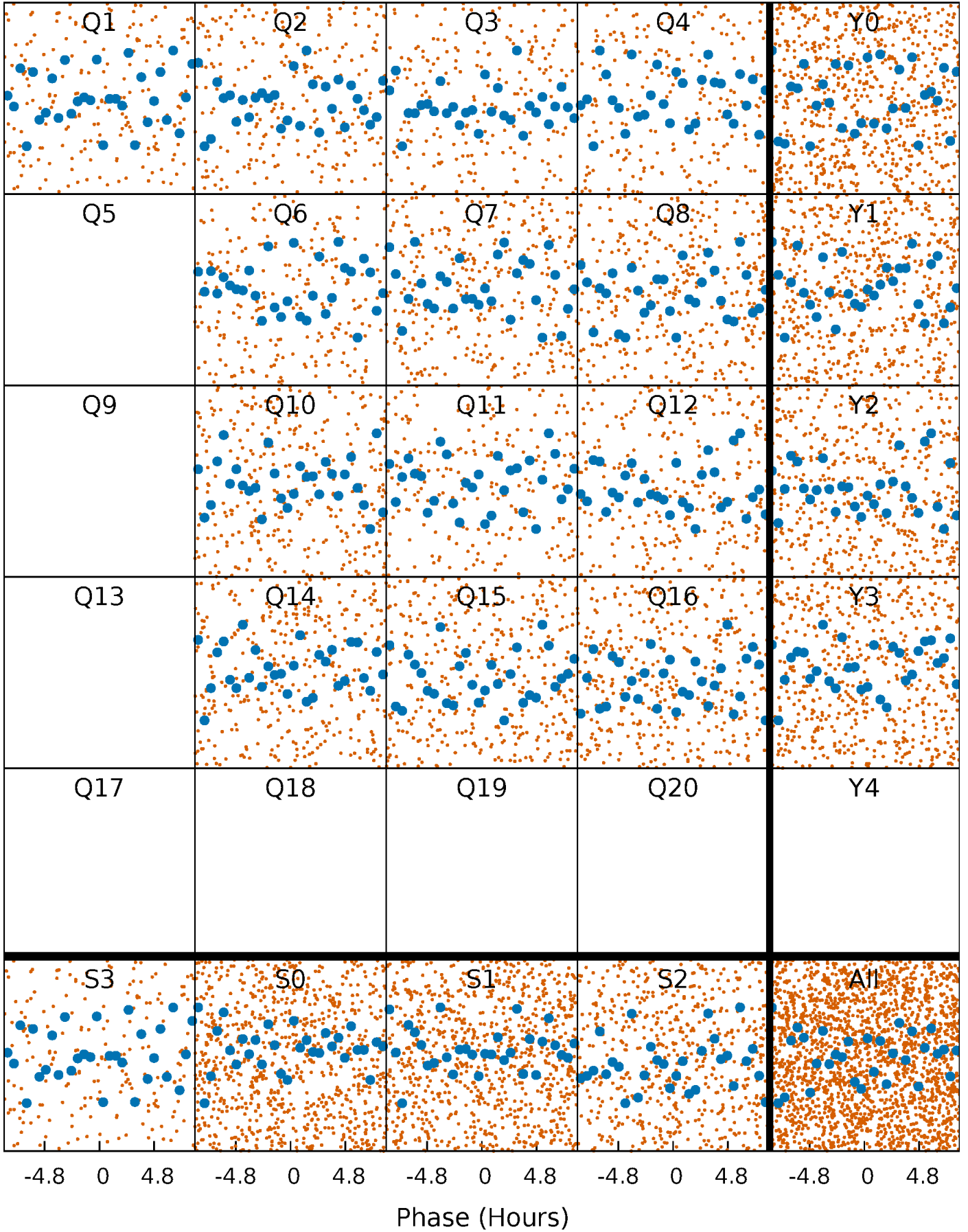


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

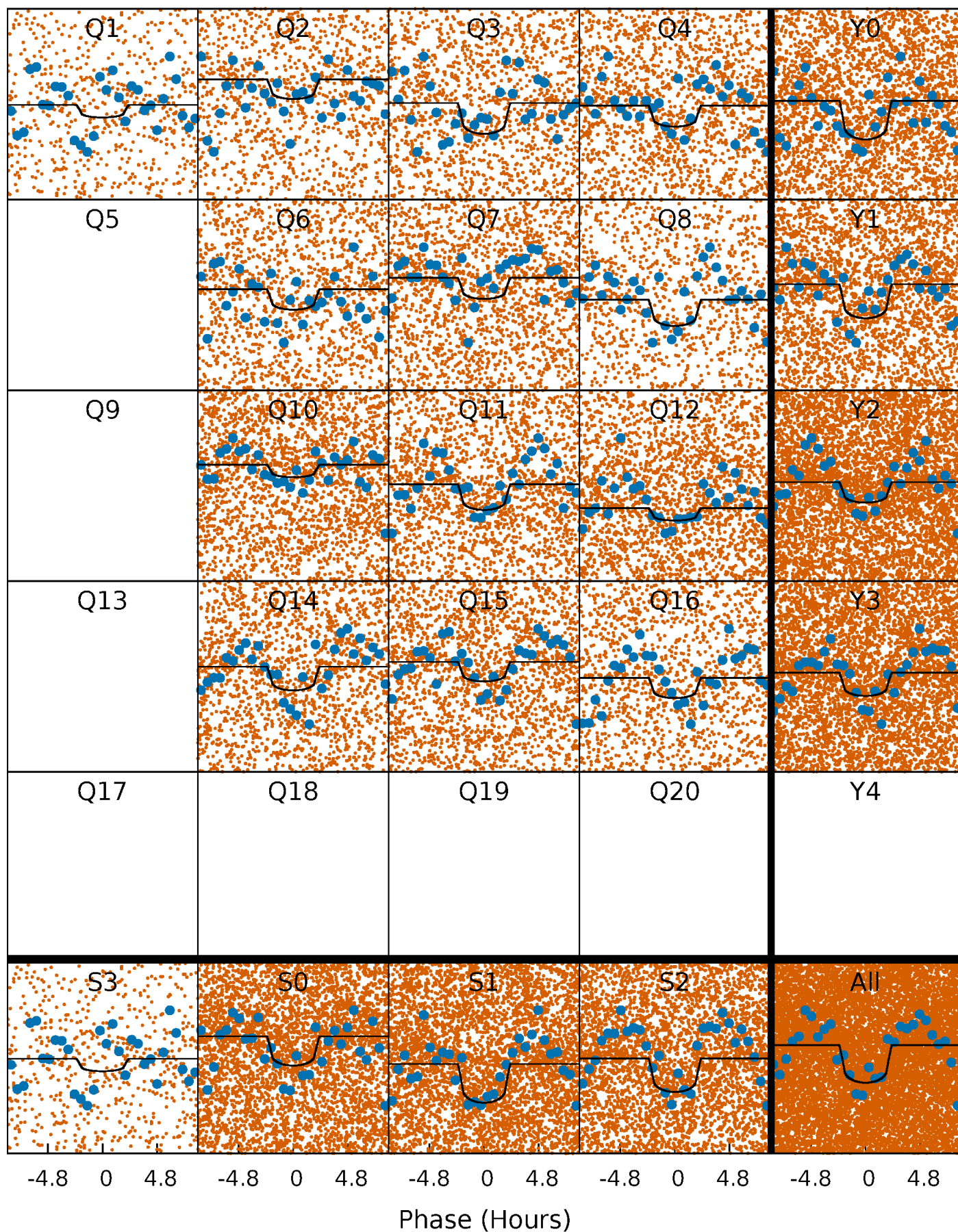
TCE 005857714-01 P= 0.769744 Days  $T_0=131.904904$  (BKJD)





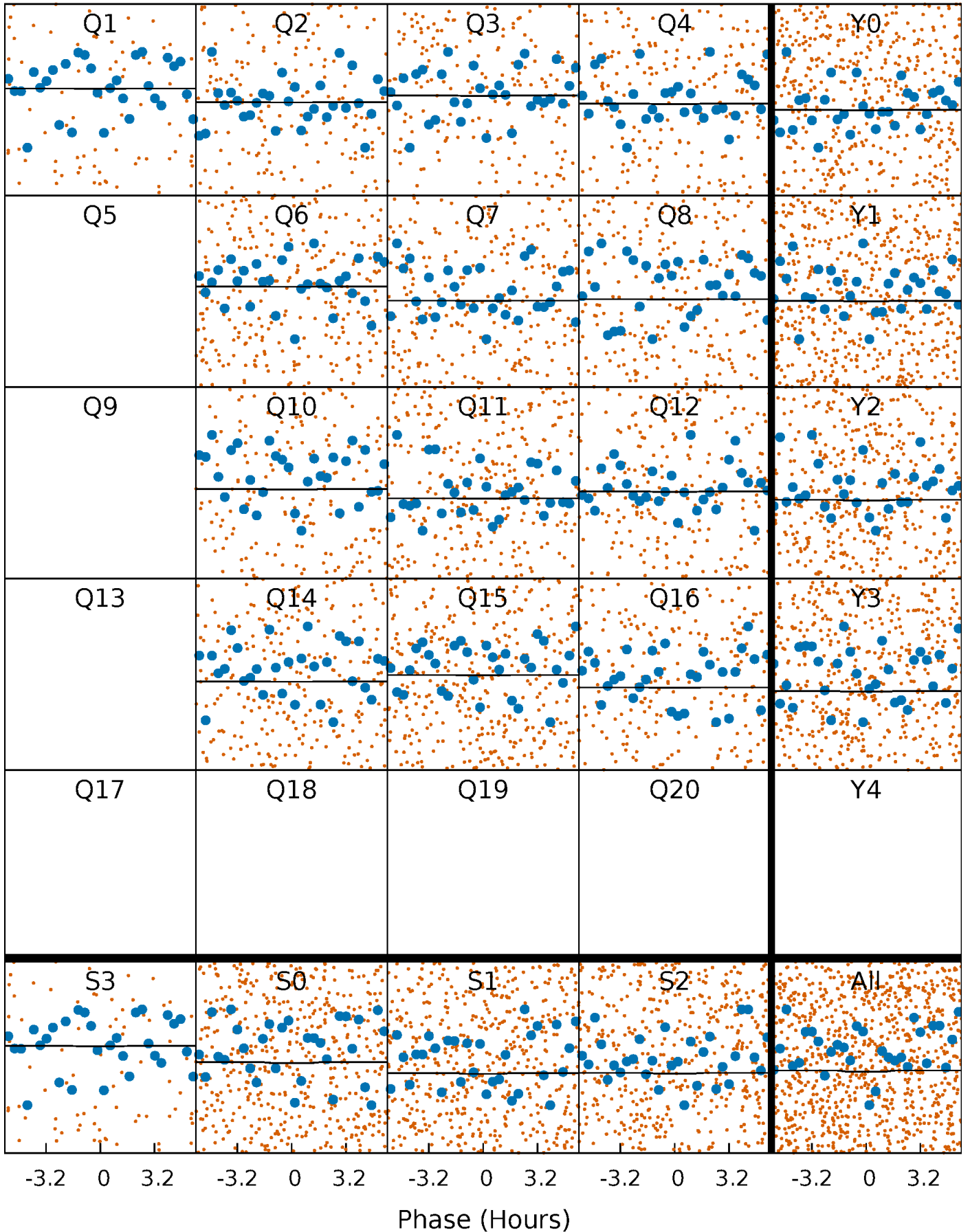
# DV Quarter-Phased Transit Curves

TCE 005857714-01 P= 0.769744 Days  $T_0=131.904904$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

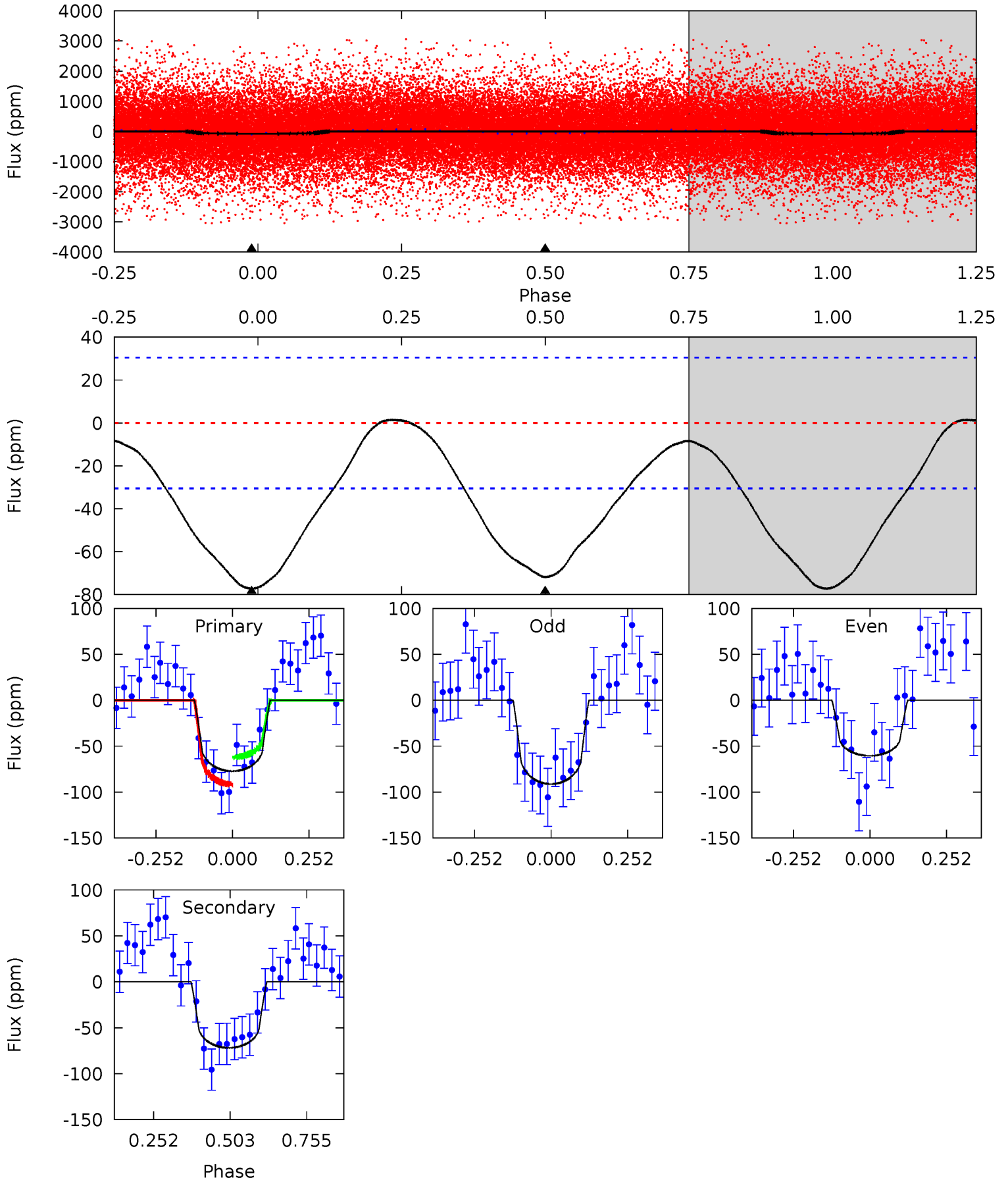
TCE 005857714-01 P= 0.769785 Days  $T_0=131.831347$  (BKJD)



# DV Model-Shift Uniqueness Test

005857714-01, P = 0.769744 Days, E = 131.135160 Days

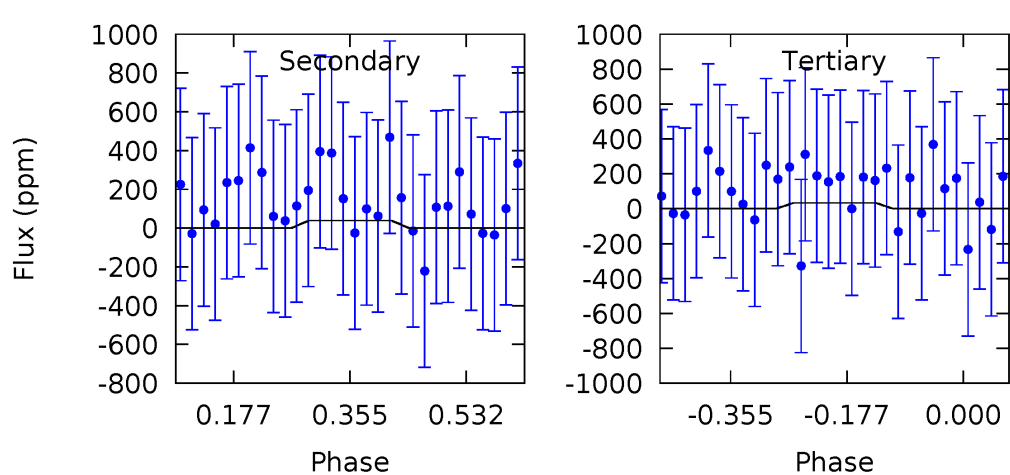
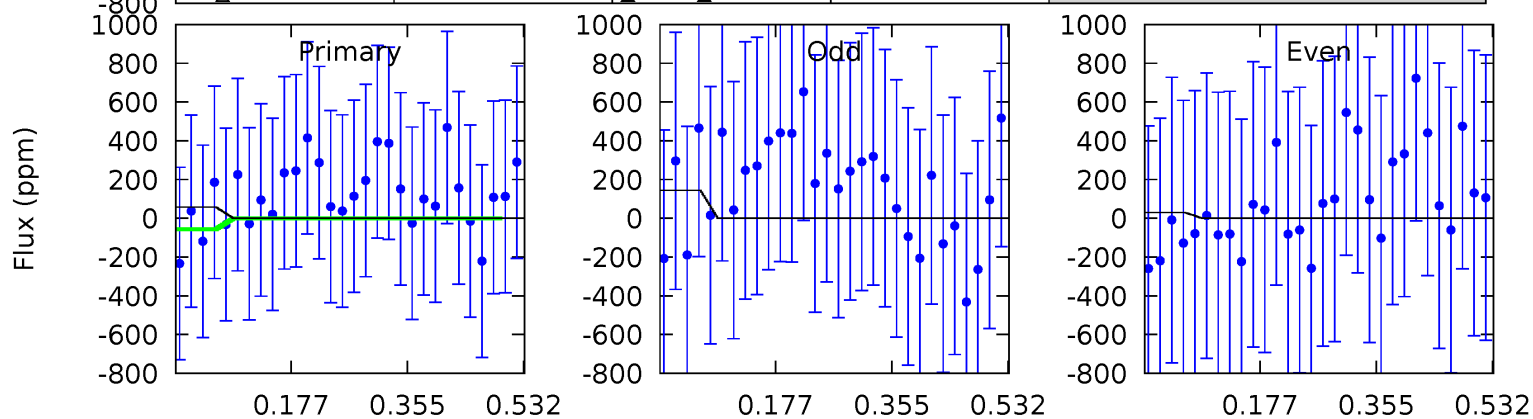
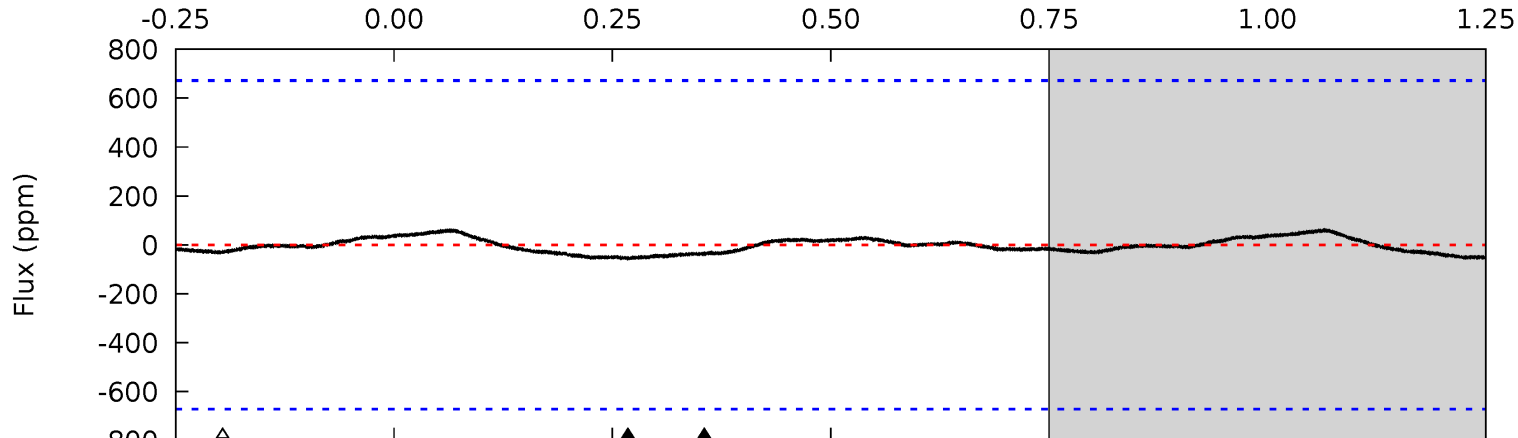
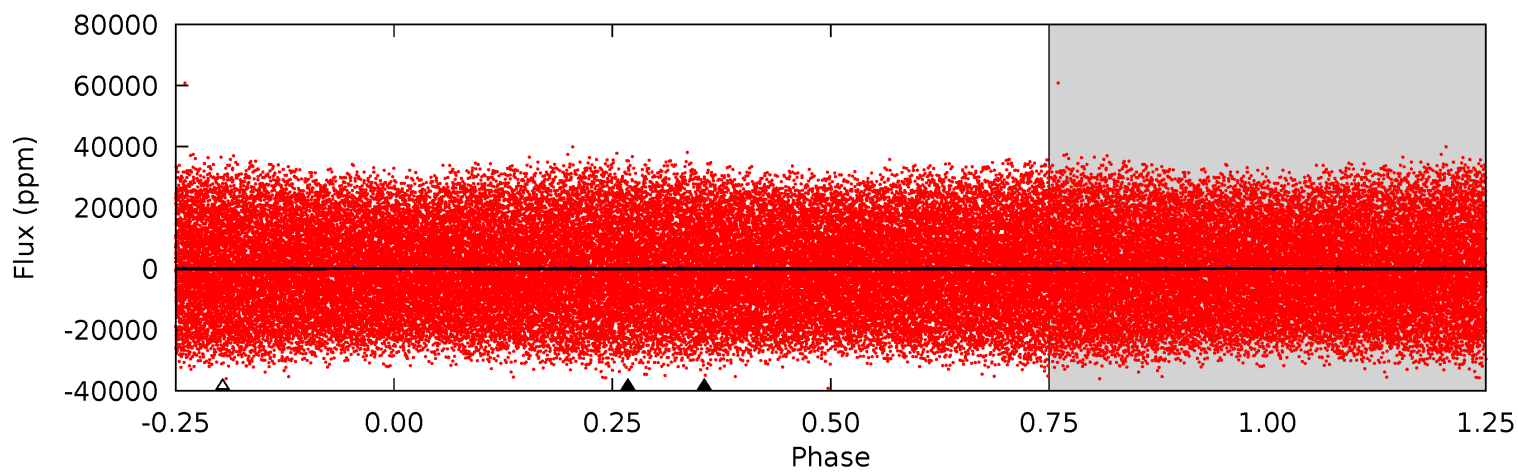
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	10.3	0	0	4.37	1.15	0.69	11.1	11.1	10.3	10.3	2.21	1.02	0.02	2.12



# Alt Model-Shift Uniqueness Test

005857714-01, P = 0.769785 Days, E = 131.061562 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
0.38	0.26	0.22	0	4.44	1.35	0.16	0.16	0.38	0.04	0.26	0.37	-0.13	0.52	0.37





### Stellar Parameters For KIC 005857714

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7053^{+169}_{-253}$	$3.814^{+0.408}_{-0.102}$	$-0.240^{+0.250}_{-0.300}$	$2.523^{+0.552}_{-1.104}$	$1.512^{+0.208}_{-0.312}$	$0.133^{+0.426}_{-0.051}$
	+2%/-4%	+11%/-3%	+104%/-125%	+22%/-44%	+14%/-21%	+321%/-39%
Source	PHO1	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 005857714-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-72 \pm 7$	$2.61^{+2.23}_{-1.64}$	$4879^{+359}_{-534}$	$5957^{+5768}_{-1709}$	$2.080^{+12.567}_{-1.469}$
Alt.	$-39 \pm 151$	$1.65^{+1.74}_{-1.15}$	$4853^{+344}_{-510}$	$5449^{+11000}_{-15346}$	$1.302^{+29.777}_{-11.110}$

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

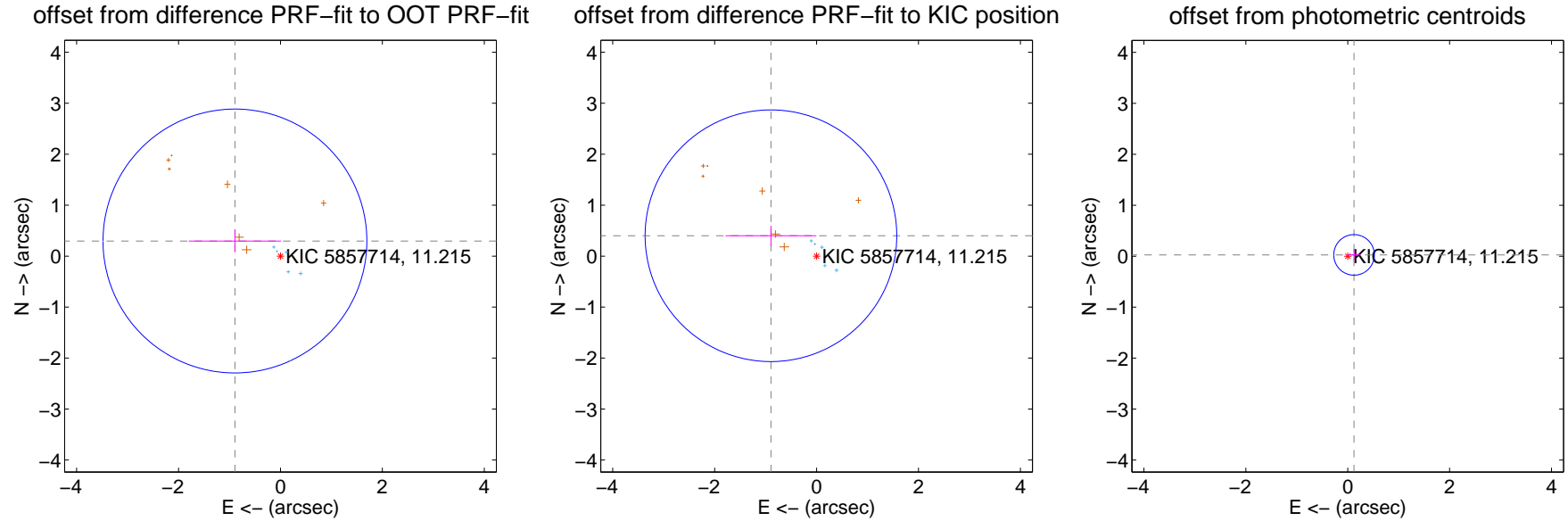
## DV Centroid Data

Supplemental centroid analysis for 005857714-01. **Kepler magnitude: 11.21.** Transit SNR 11.94

There are 5 quarters with good PRF difference image offsets

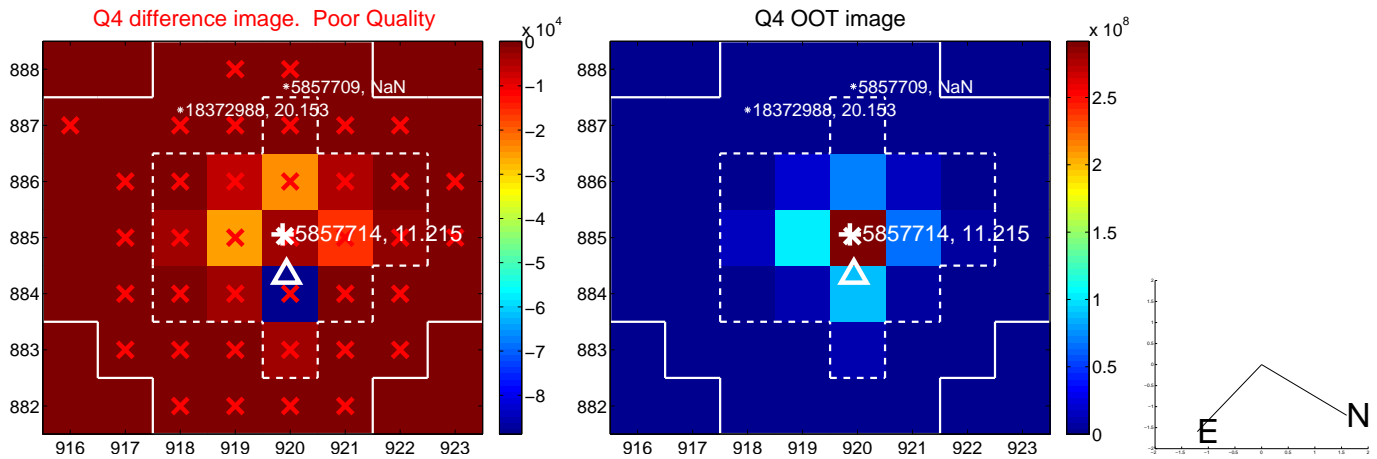
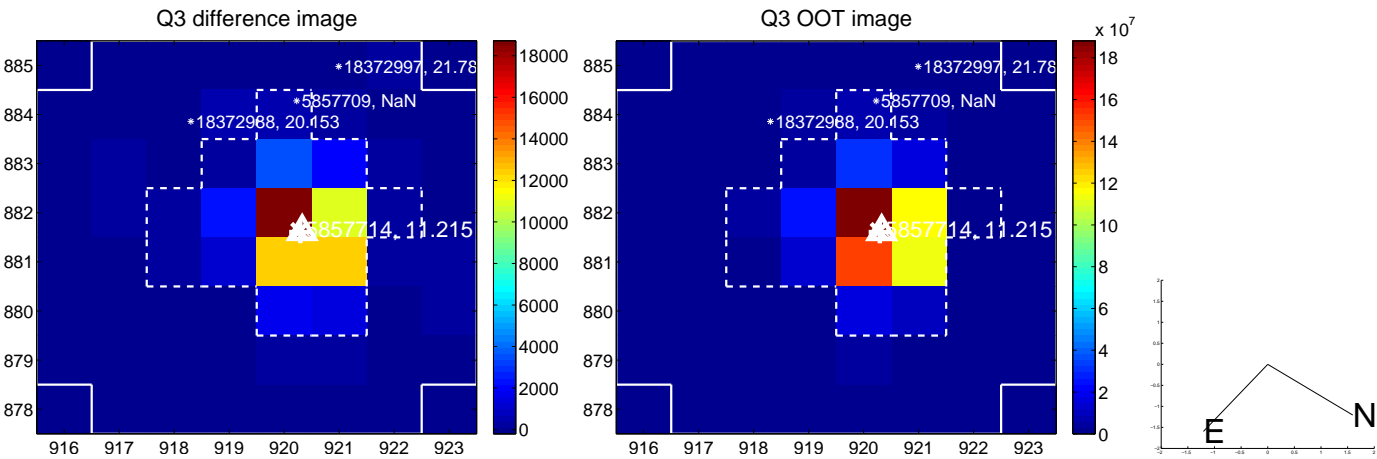
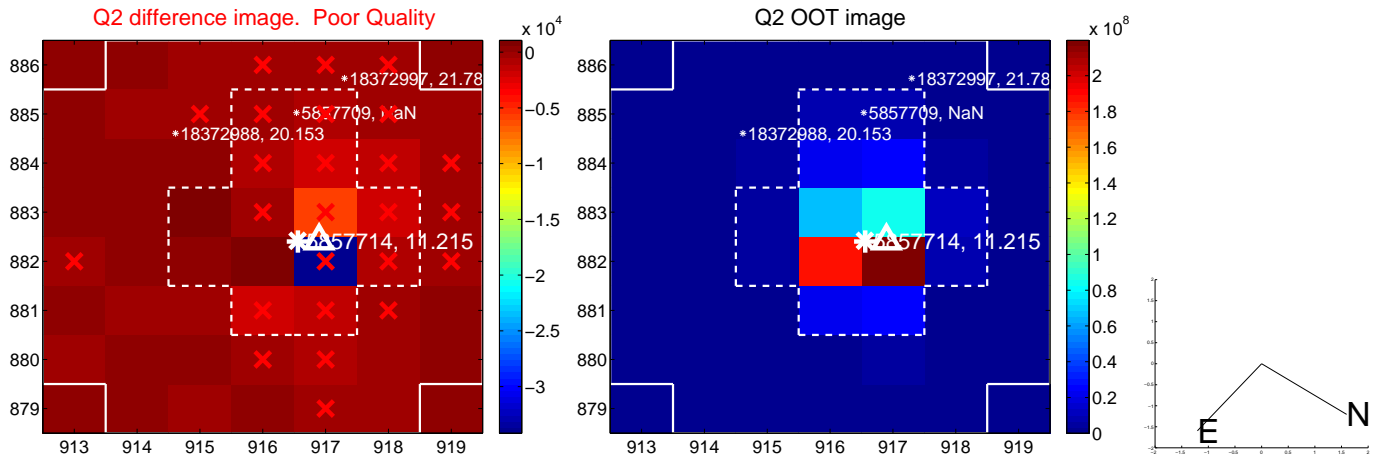
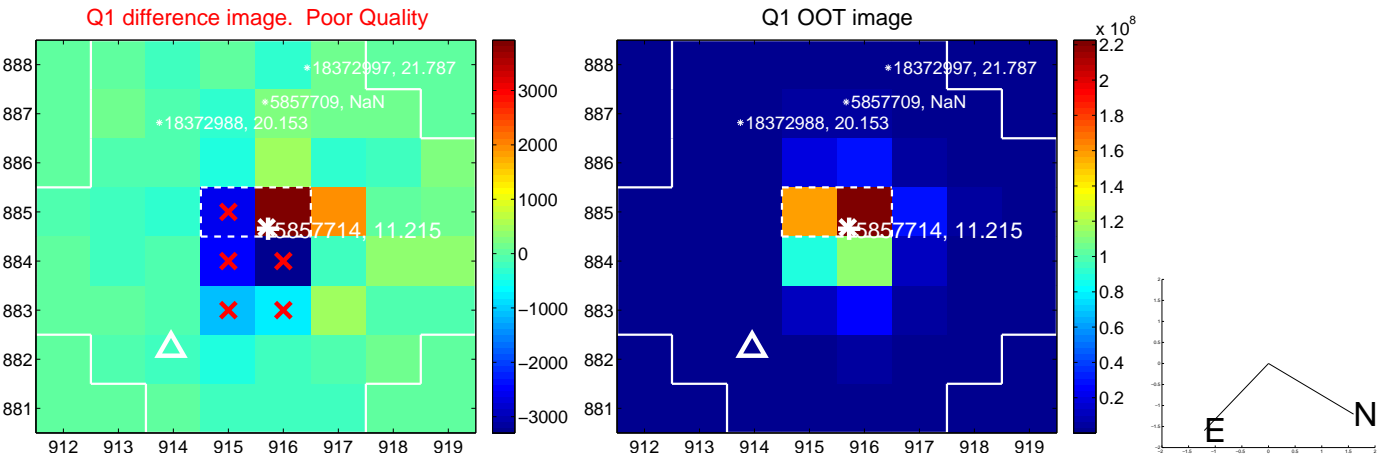
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.941 \pm 0.863$	1.09	$0.893 \pm 0.905$	$0.297 \pm 0.221$
PRF-fit source offset from KIC position	$0.981 \pm 0.823$	1.19	$0.896 \pm 0.890$	$0.400 \pm 0.197$
photometric centroid source offset	$0.13 \pm 0.13$	0.96	$-0.12 \pm 0.13$	$0.03 \pm 0.11$

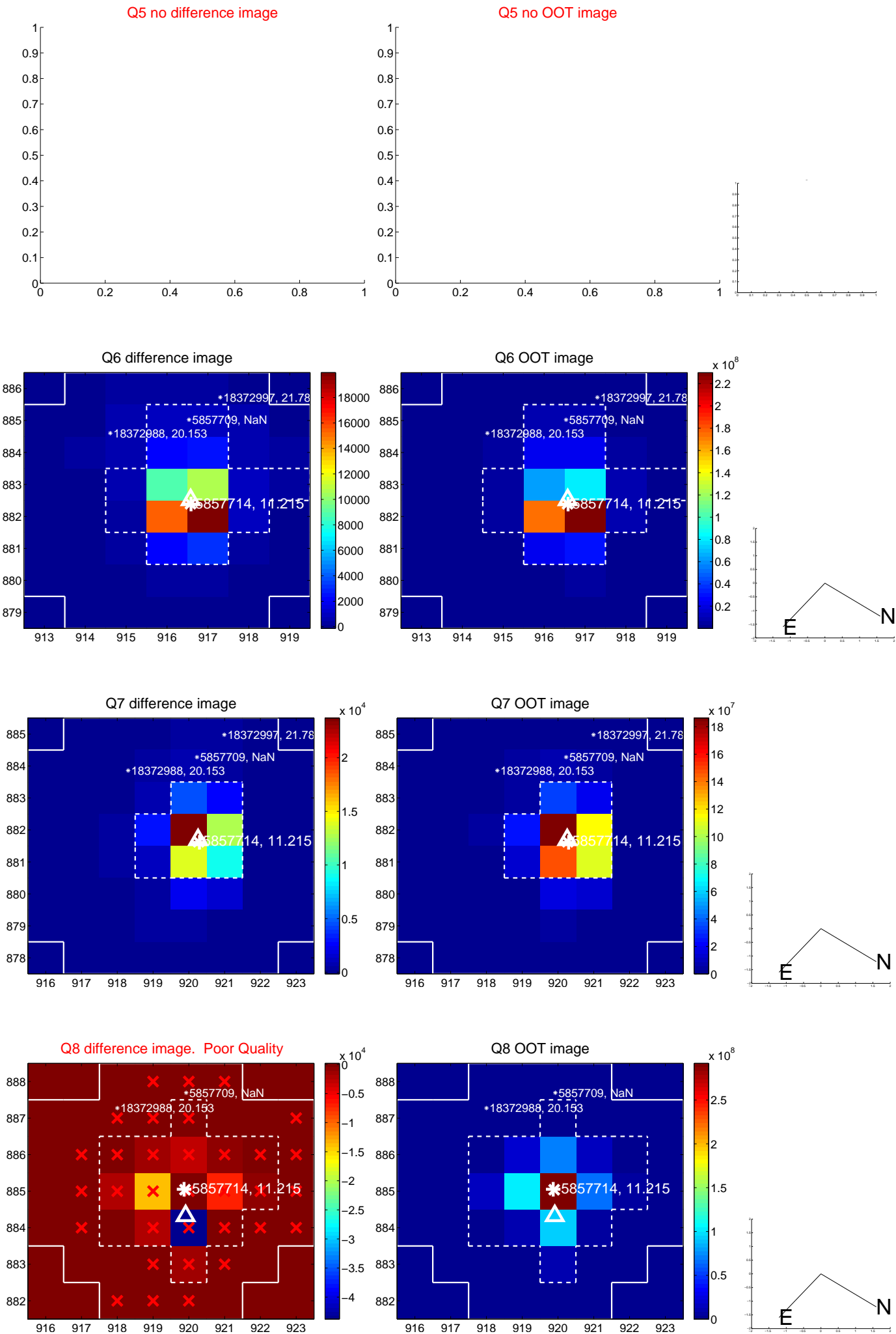


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

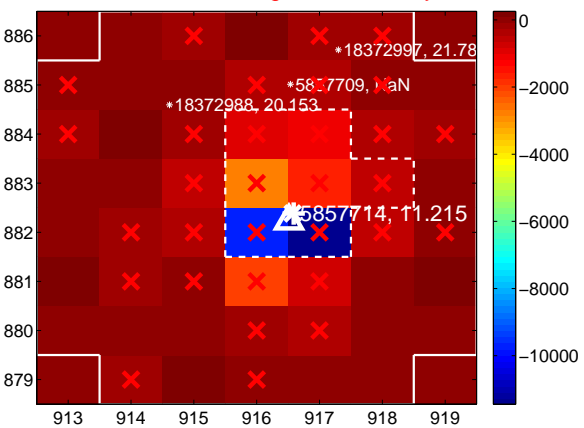
Q9 no difference image



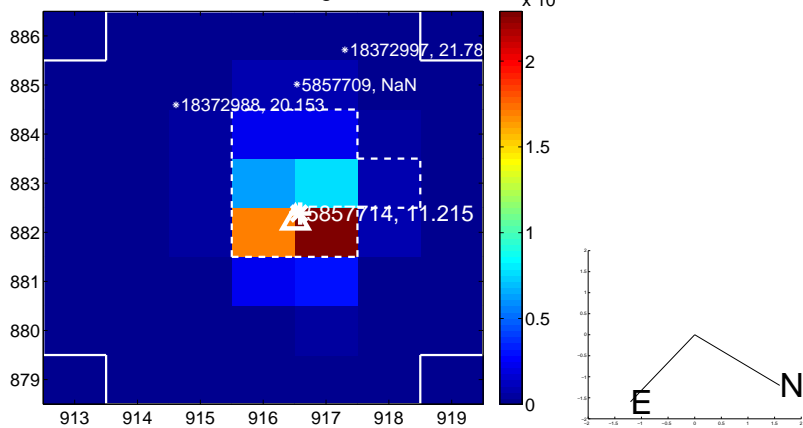
Q9 no OOT image



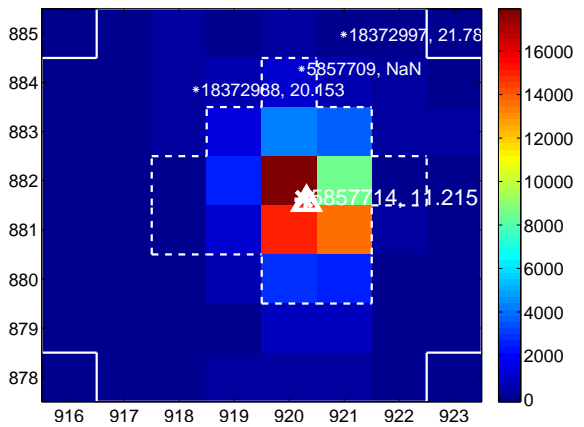
Q10 difference image. Poor Quality



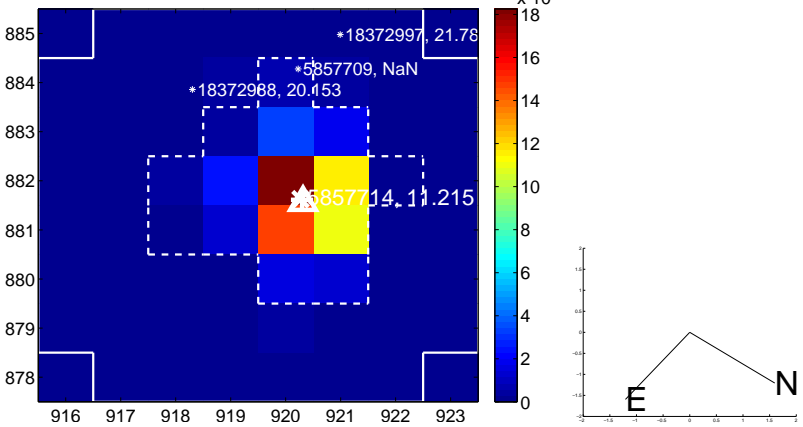
Q10 OOT image



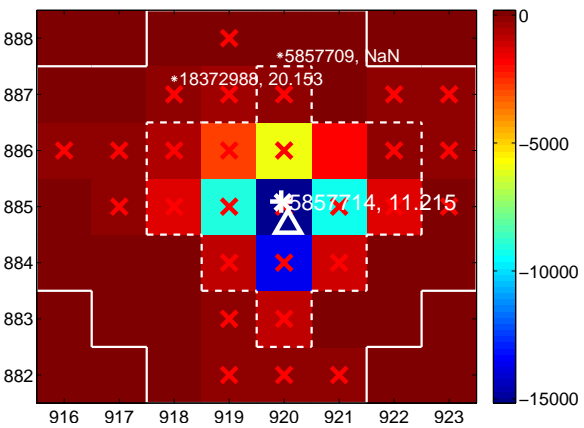
Q11 difference image



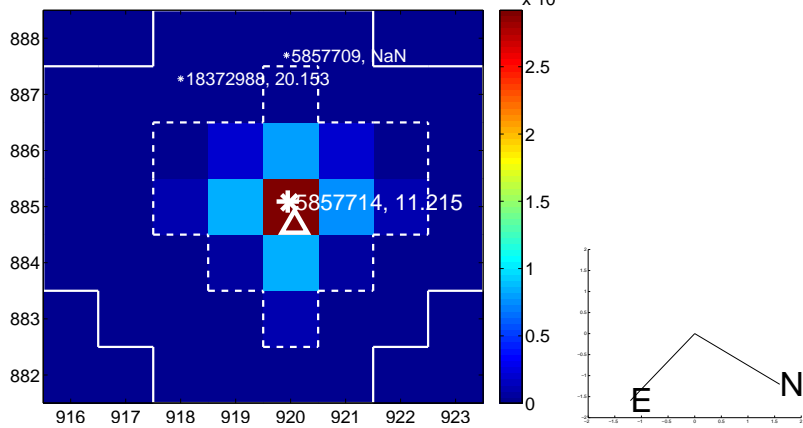
Q11 OOT image



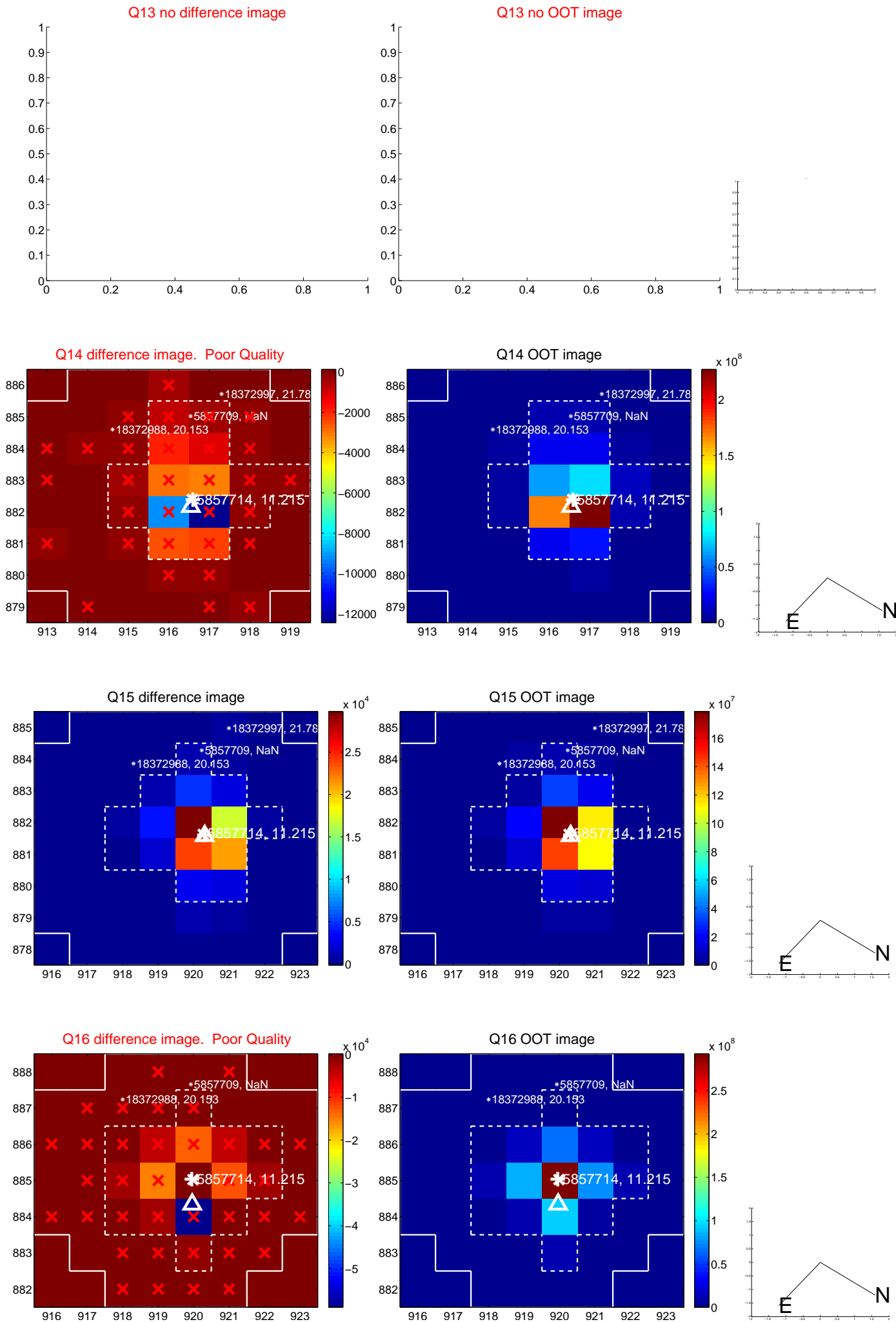
Q12 difference image. Poor Quality



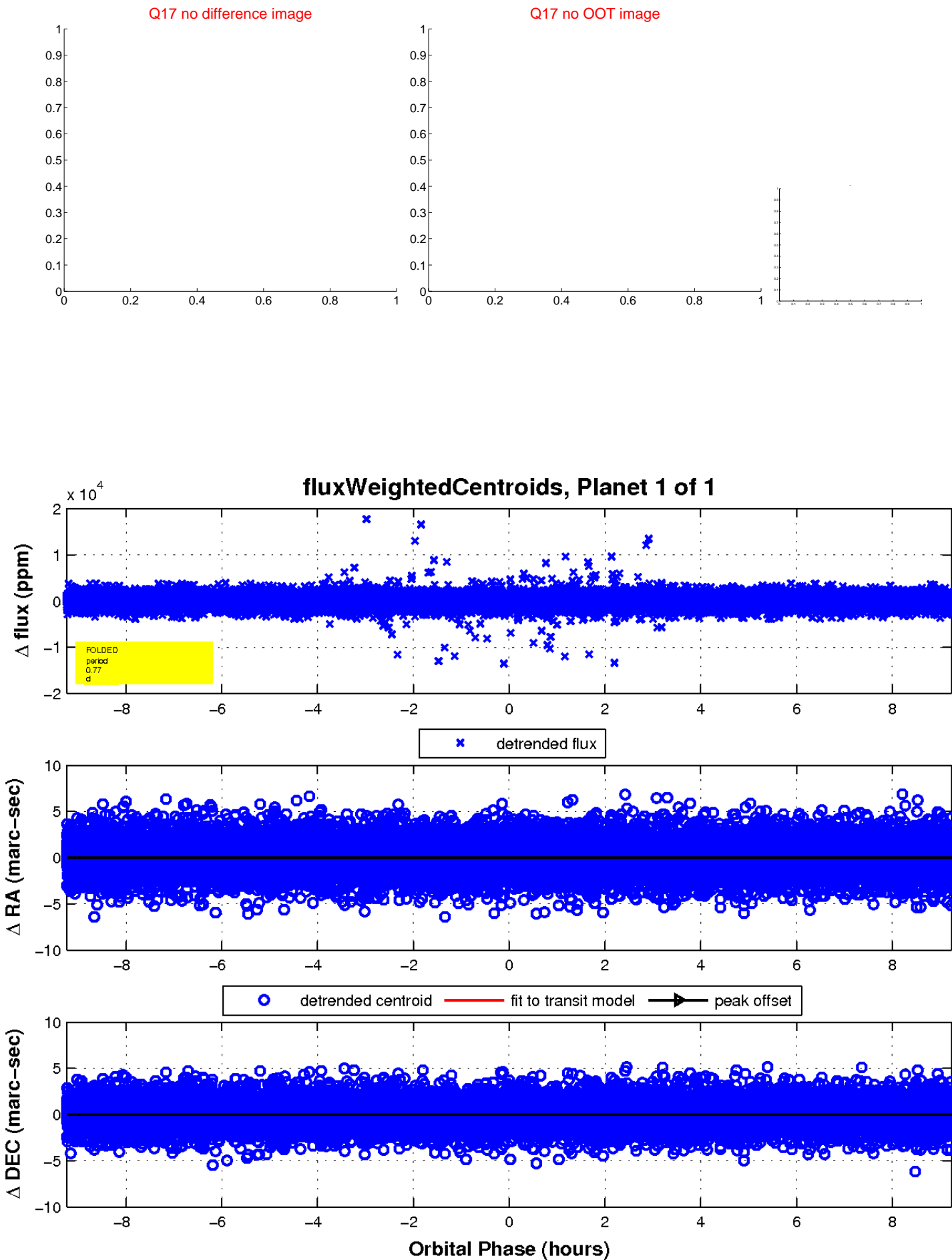
Q12 OOT image



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

