

# KIC 004660255

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004660255-01	OBS	No	0.821829	132.101773	25.3	6.620	9.7	1.1	0.56	3914	0.28	329.11

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004660255-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

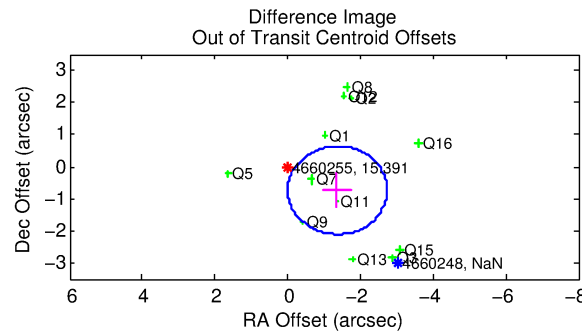
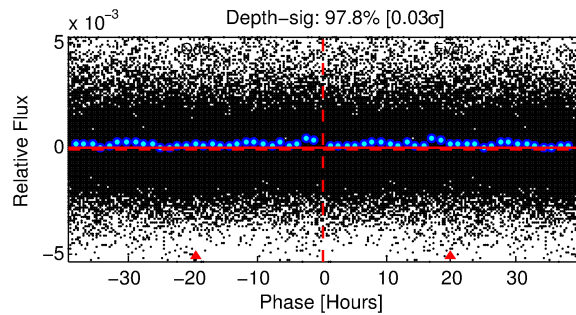
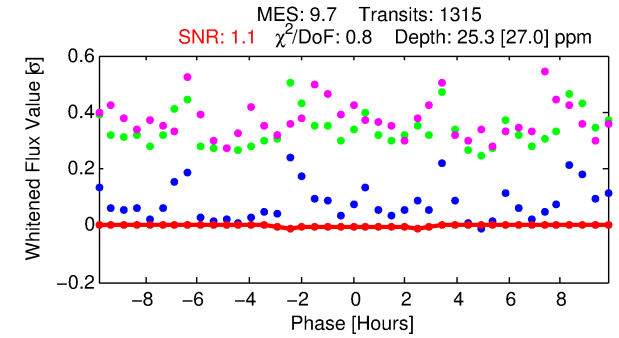
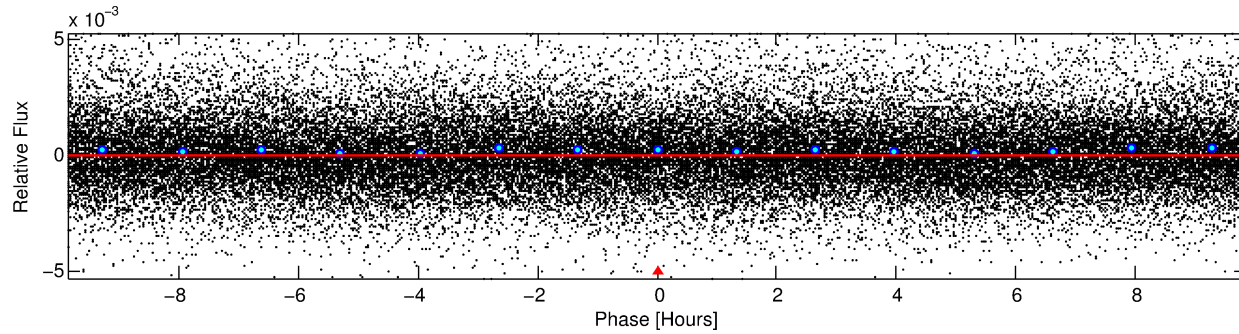
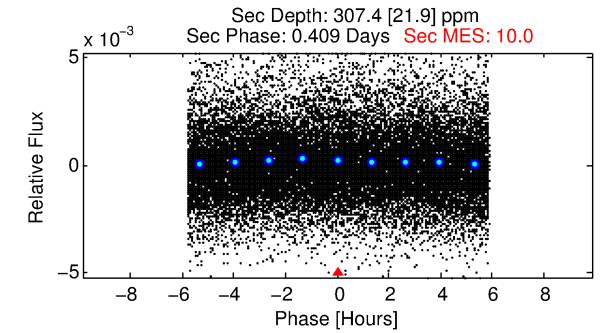
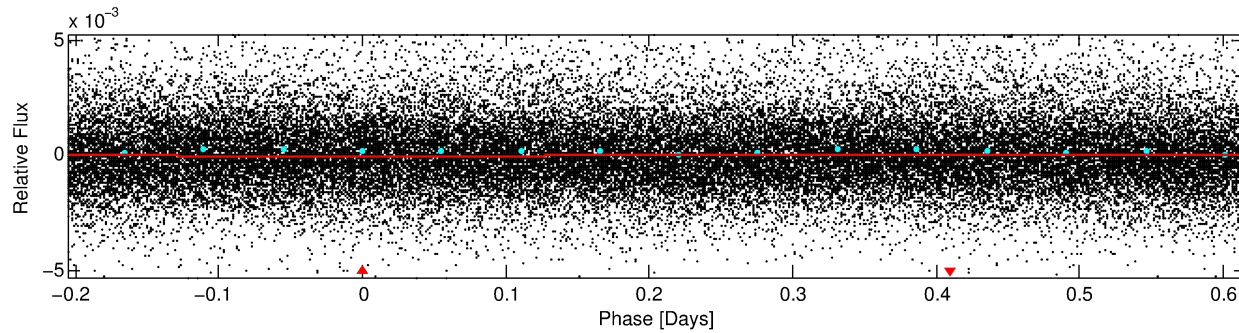
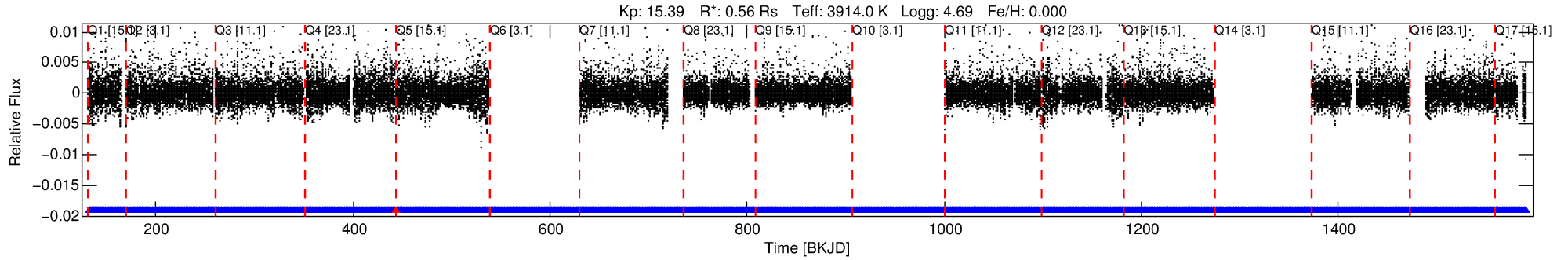
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004660255-01

No Significant Match Found

# DV One-Page Summary

KIC: 4660255 Candidate: 1 of 1 Period: 0.822 d



## DV Fit Results:

Period = 0.82183 [0.00011] d  
Epoch = 132.1018 [0.0234] BKJD  
Rp/R\* = 0.0045 [0.0174]  
a/R\* = 1.15 [4.23]  
b = 0.05 [281.19]  
Seff = 329.11 [34.69]  
Teq = 1086 [29] K  
Rp = 0.28 [1.07] Re  
a = 0.0142 [0.0006] AU  
Ag = 448.34 [3463.96] [0.13σ]  
Teff = 7727 [14925] K [0.44σ]

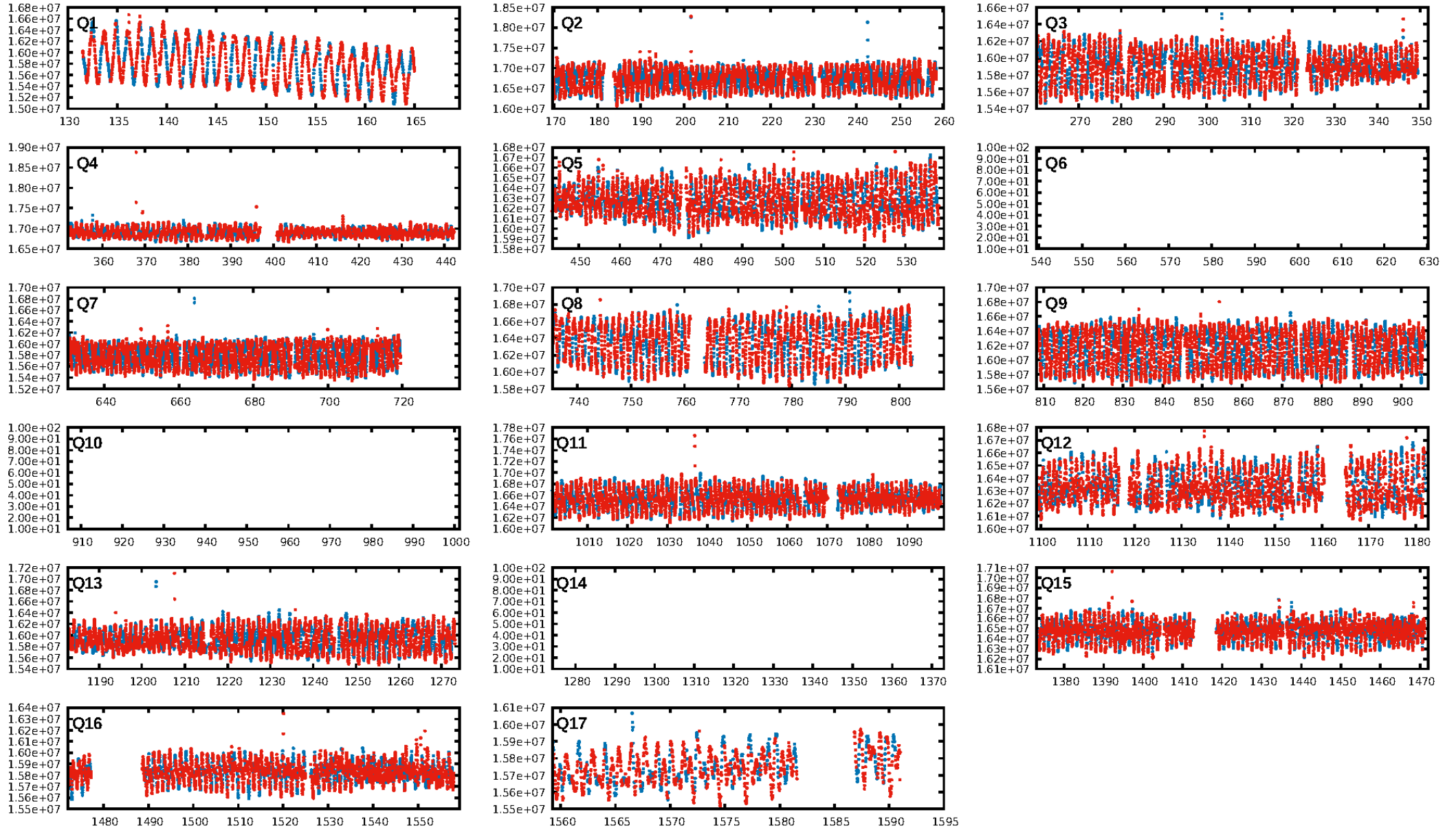
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1240/1241]  
**GhostDiagnostic-chr: 0.4117**  
Centroid-sig: 8.4%  
Centroid-so: 4.868 arcsec [1.43σ]  
**OotOffset-rm: 1.547 arcsec [3.38σ]**  
**KicOffset-rm: 2.150 arcsec [4.24σ]**  
OotOffset-st: 1/4/3/4 [12]  
KicOffset-st: 1/4/3/4 [12]  
DiffImageQuality-fgm: 0.25 [3/12]  
DiffImageOverlap-fno: 1.00 [14/14]

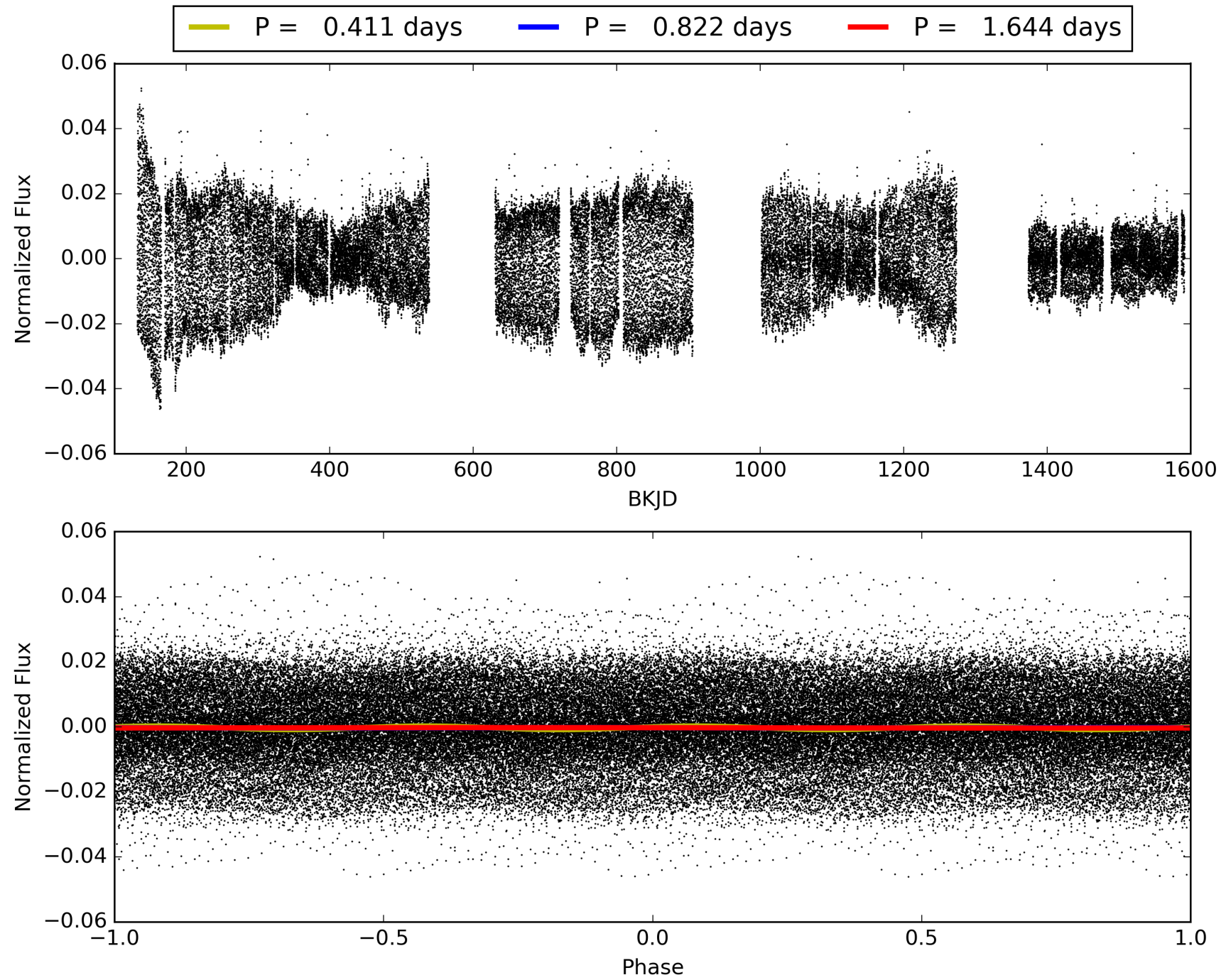
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:29:41 Z

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

# TCE 004660255-01, PDC Light Curves

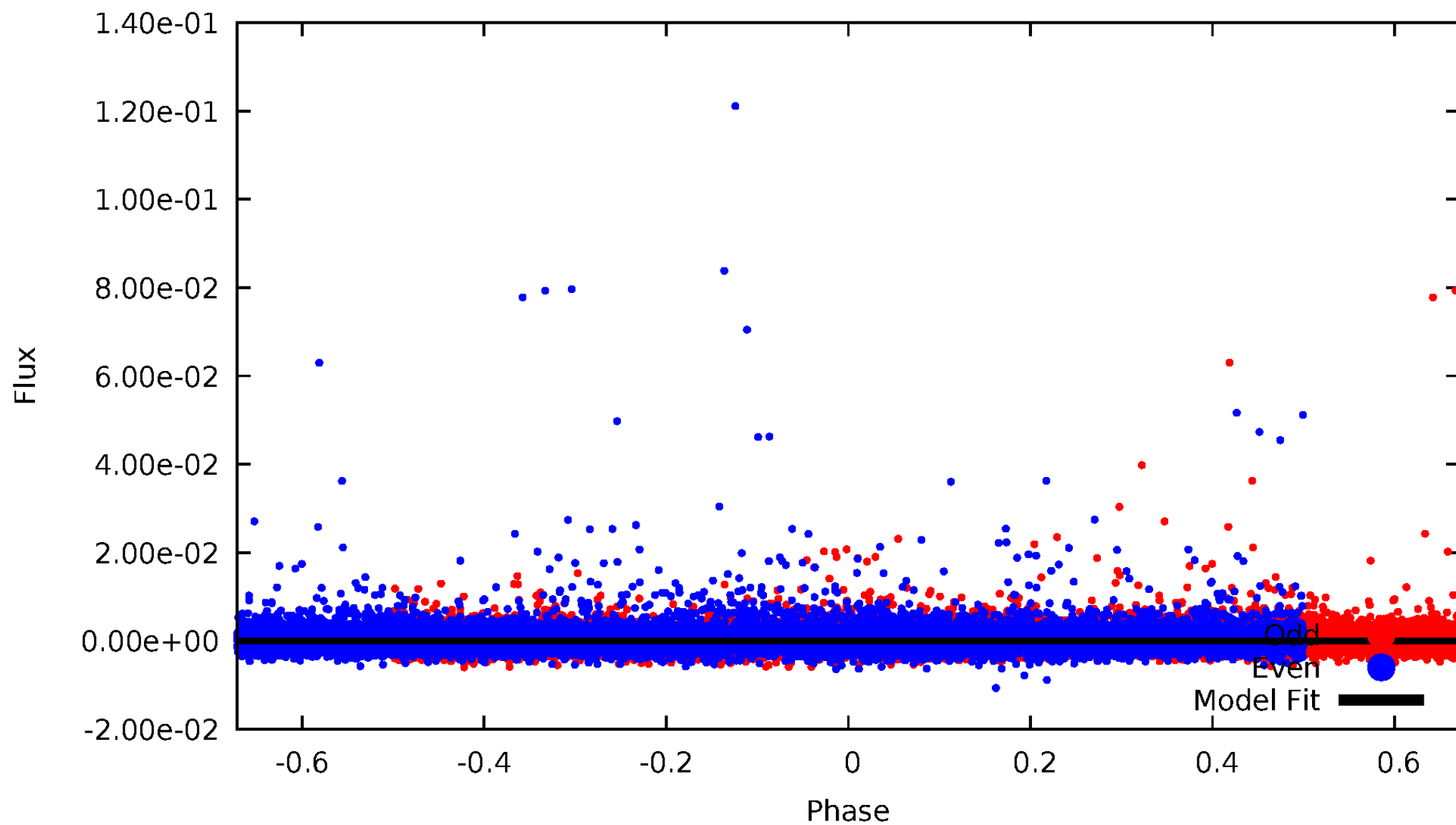


TCE 004660255-01



# DV Odd/Even

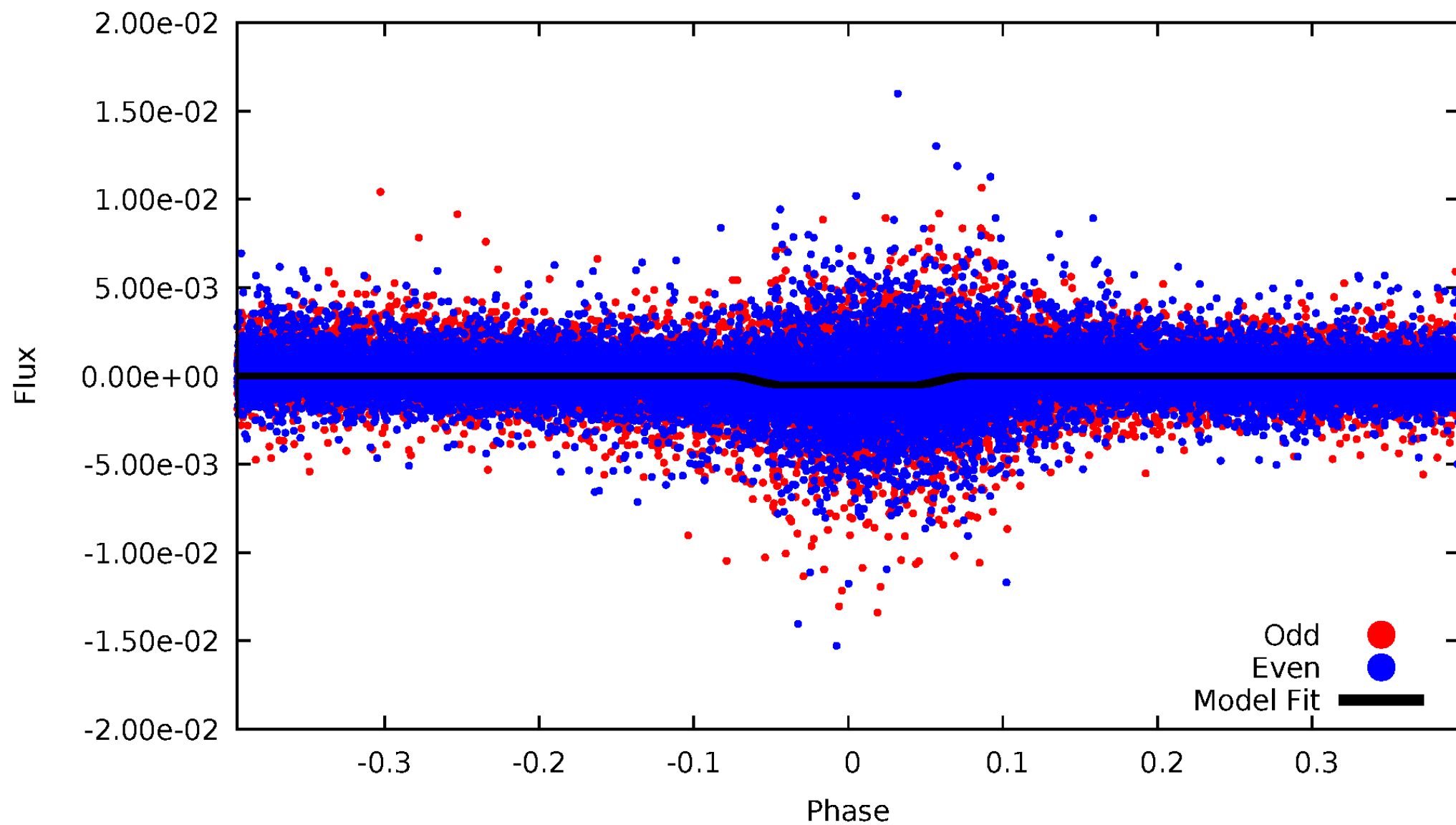
TCE 004660255-01





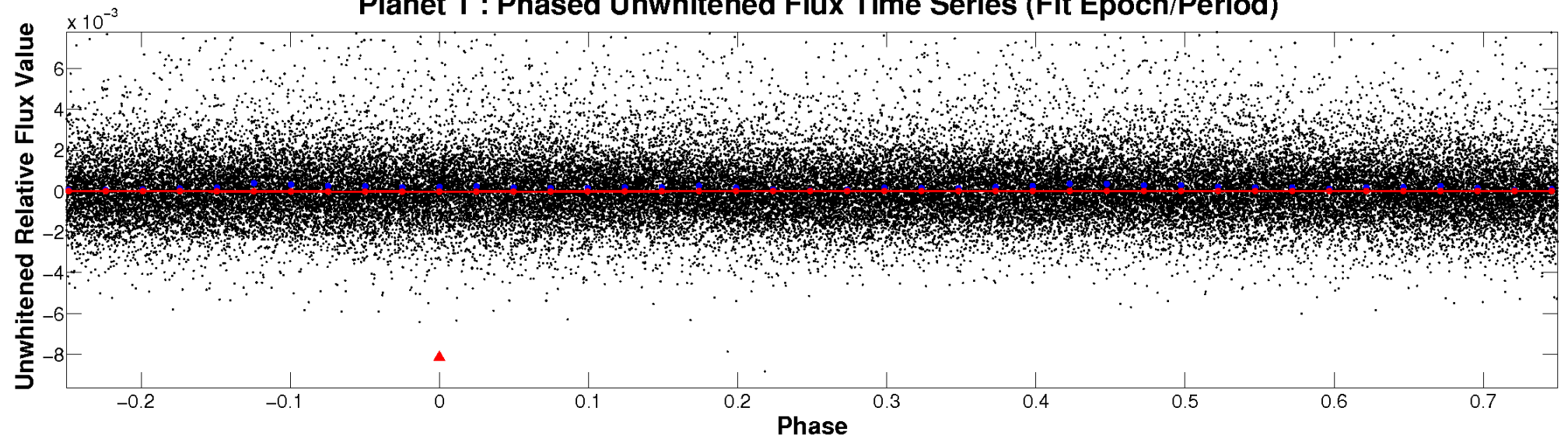
# ALT Odd/Even

TCE 004660255-01

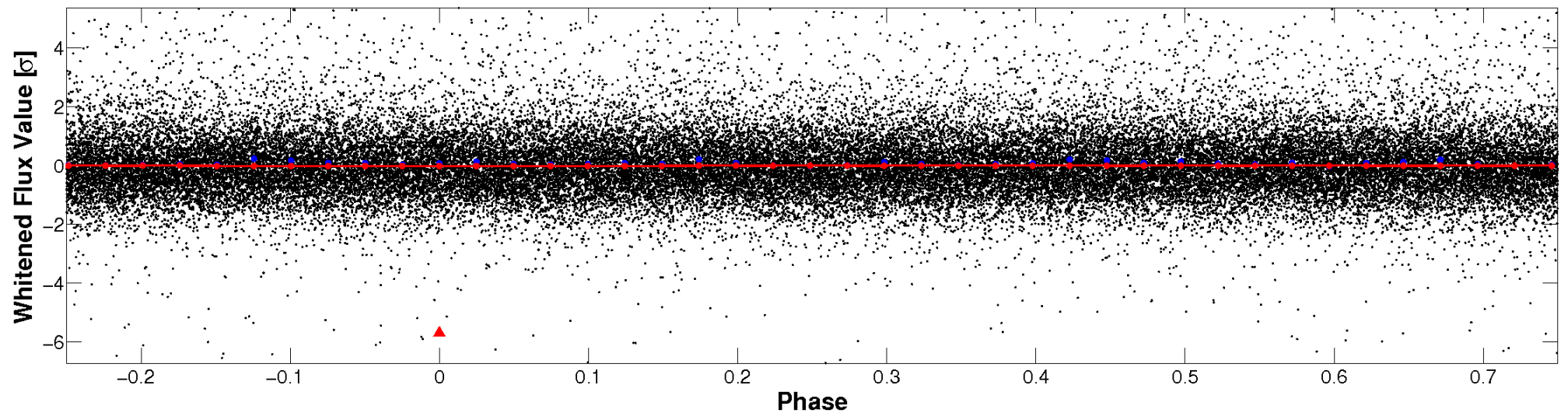


# Non-Whitened Vs. Whitened Light Curve

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

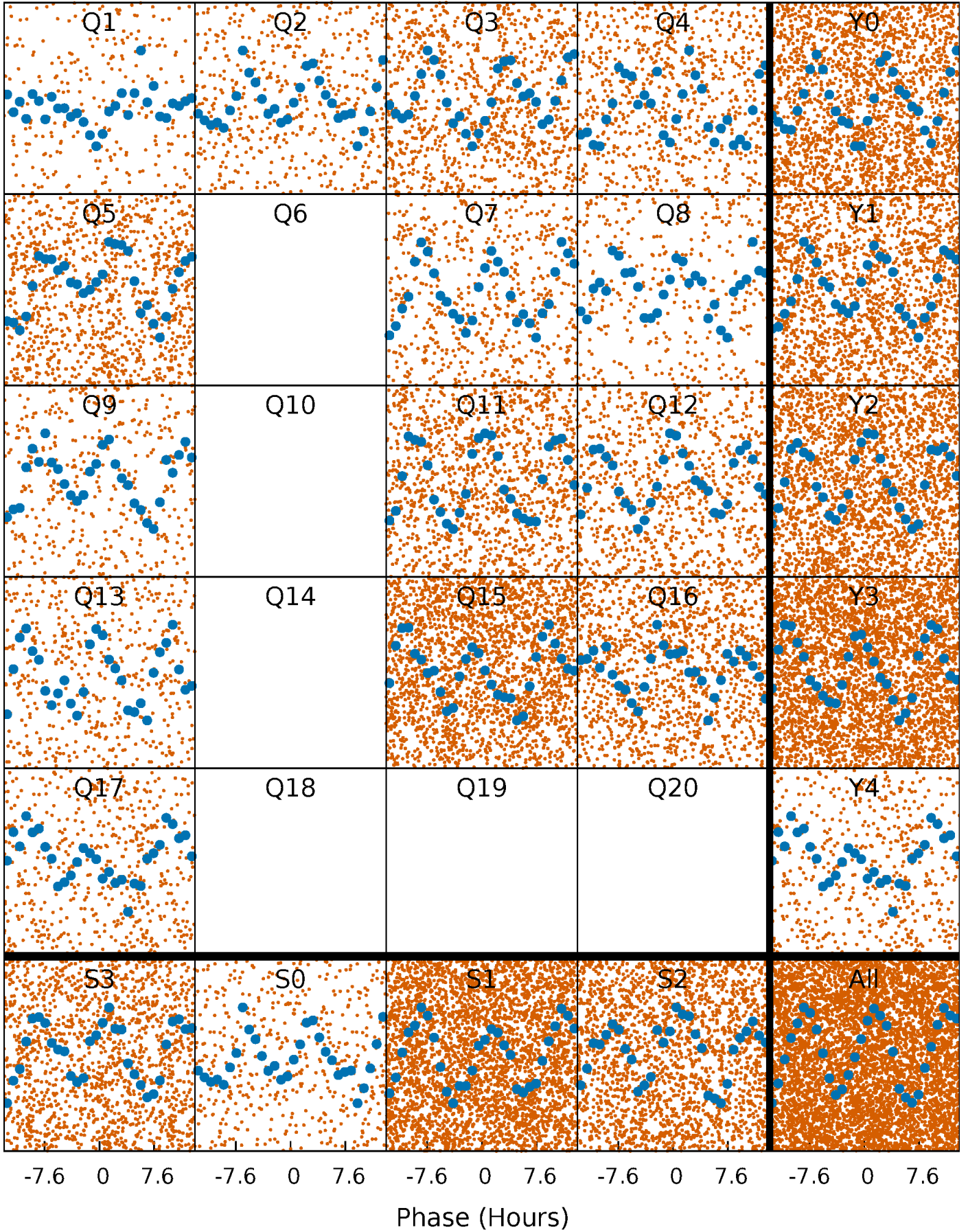


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

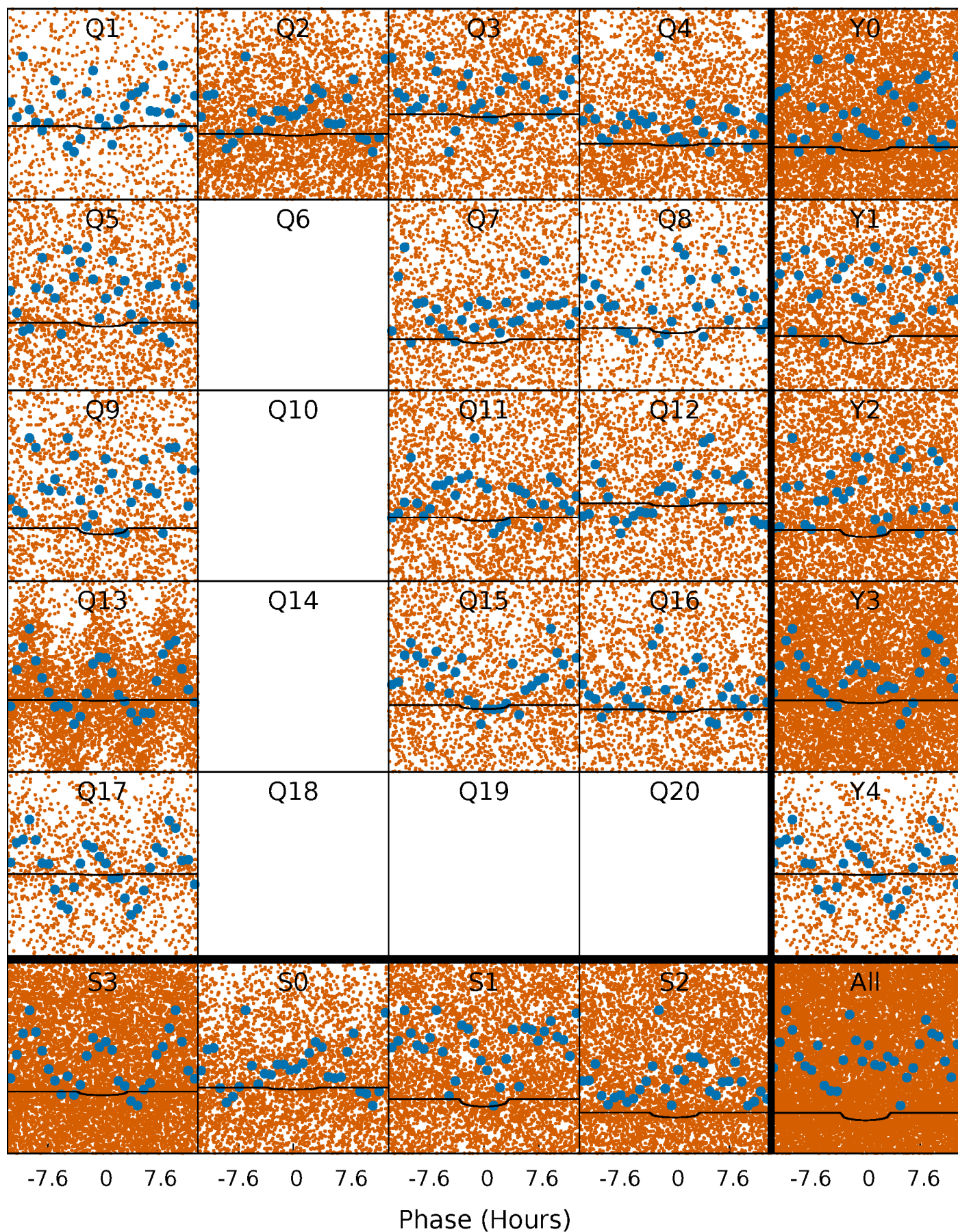
TCE 004660255-01   P= 0.821829 Days    $T_0=132.101773$  (BKJD)





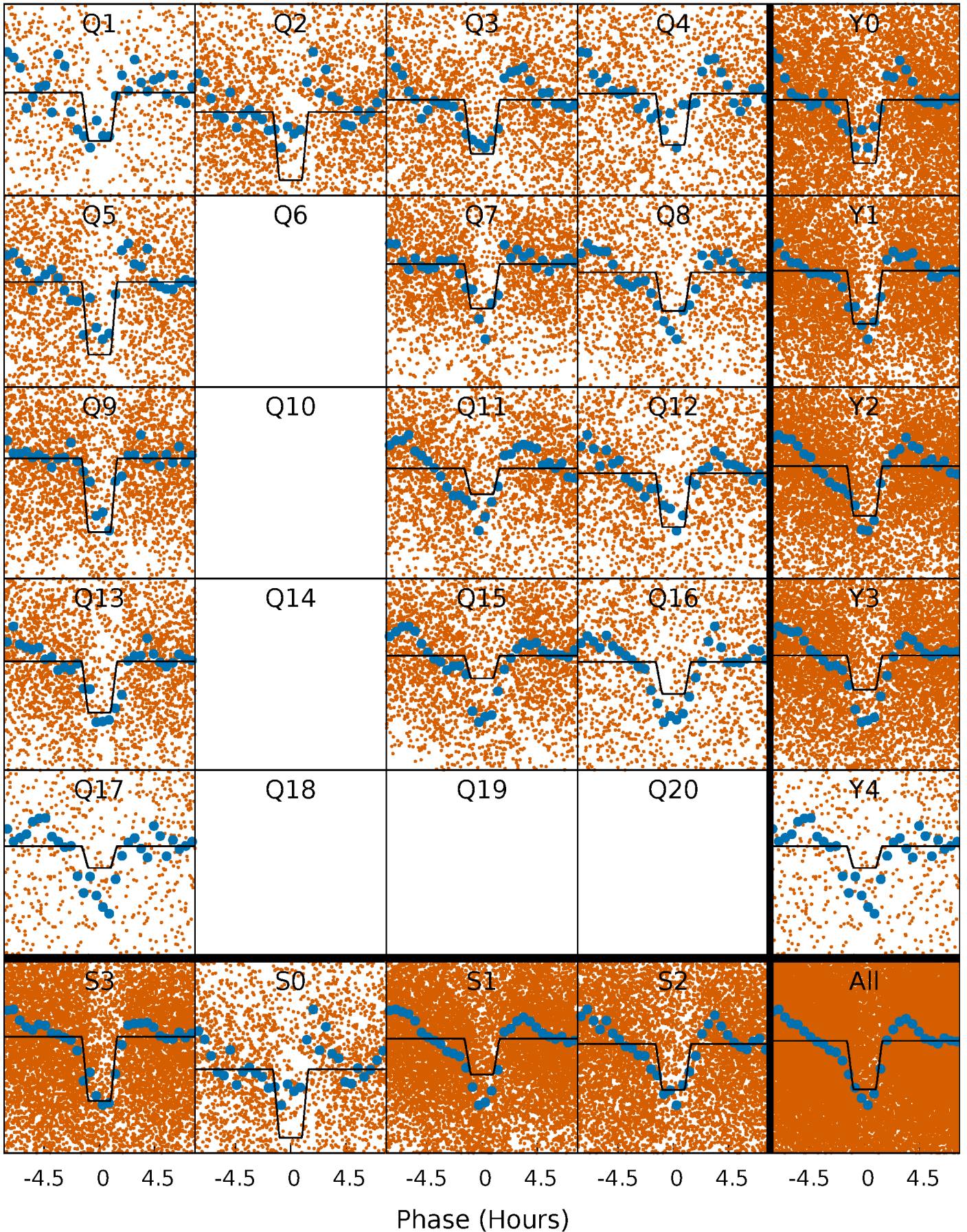
# DV Quarter-Phased Transit Curves

TCE 004660255-01 P= 0.821829 Days  $T_0=132.101773$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004660255-01 P= 0.821676 Days  $T_0=132.143841$  (BKJD)

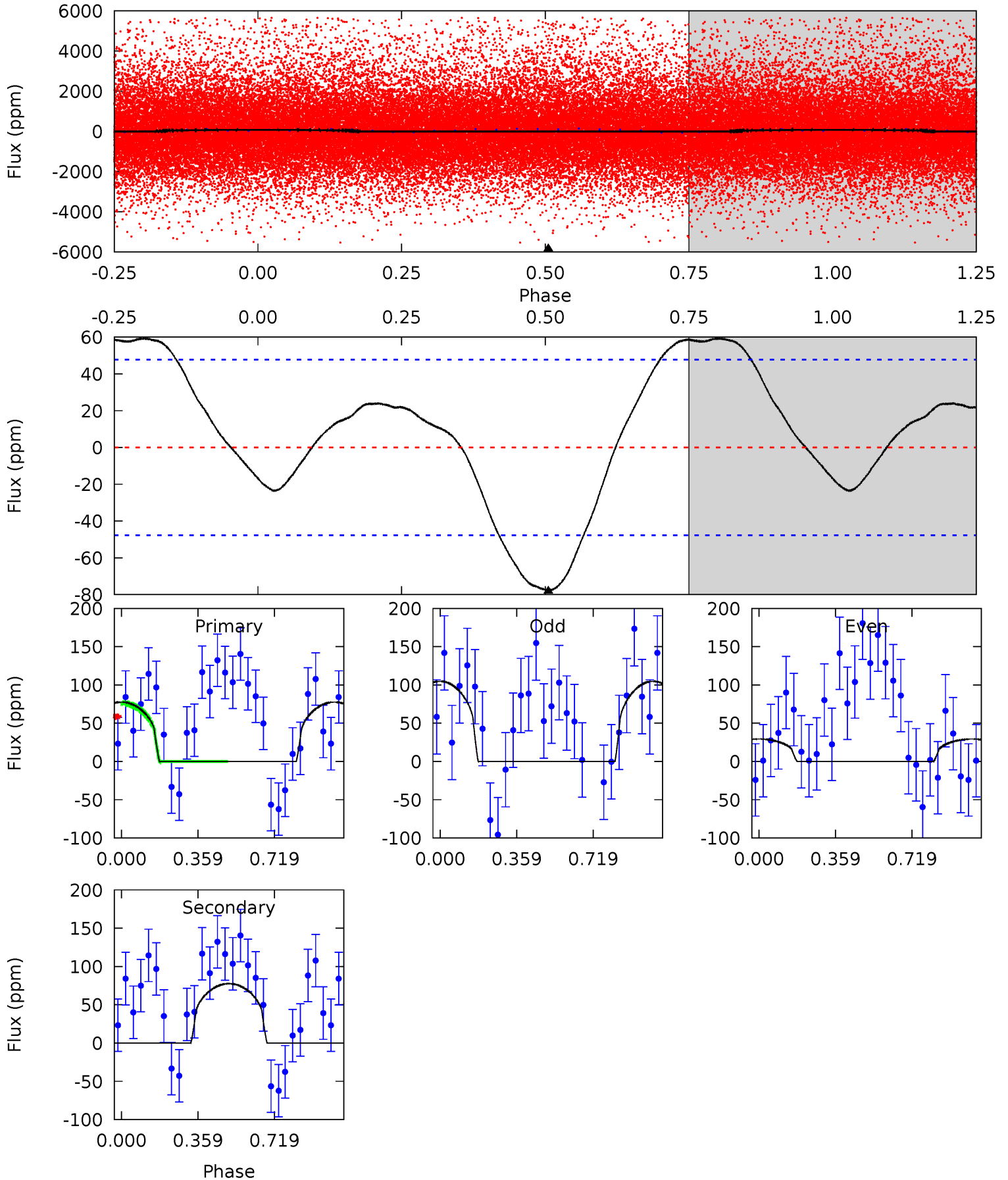




# DV Model-Shift Uniqueness Test

004660255-01, P = 0.821829 Days, E = 131.279944 Days

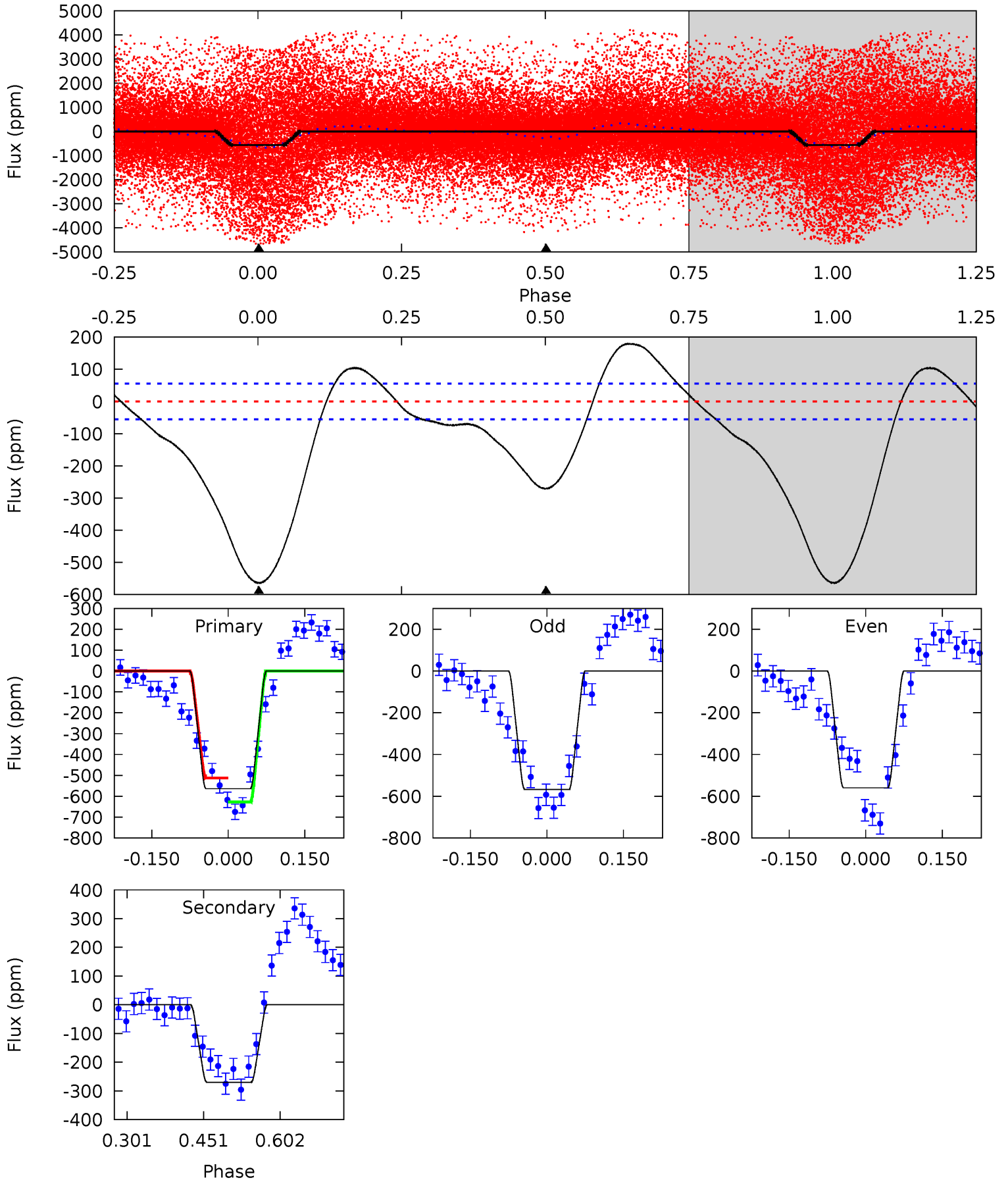
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.97	6.97	0	0	4.29	0.92	1.59	6.97	6.97	6.97	6.97	3.43	2.43	0.43	0.79



# Alt Model-Shift Uniqueness Test

004660255-01, P = 0.821676 Days, E = 131.322165 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
45.7	21.9	0	0	4.48	1.44	6.84	45.7	45.7	21.9	21.9	0.34	1.24	0.24	4.66





### Stellar Parameters For KIC 004660255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3914^{+86}_{-86}$	$4.692^{+0.030}_{-0.020}$	$0.000^{+0.100}_{-0.100}$	$0.563^{+0.025}_{-0.030}$	$0.570^{+0.029}_{-0.029}$	$4.488^{+0.596}_{-0.358}$
	+2%/-2%	+1%/-0%	+inf%/-inf%	+4%/-5%	+5%/-5%	+13%/-8%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 004660255-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-78 \pm 11$	$0.86^{+0.83}_{-0.61}$	$1515^{+37}_{-38}$	$3349^{+1846}_{-627}$	$12^{+121}_{-9}$
Alt.	$-271 \pm 12$	$1.49^{+1.07}_{-0.93}$	$1515^{+38}_{-37}$	$3436^{+1456}_{-526}$	$14^{+84}_{-9}$

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

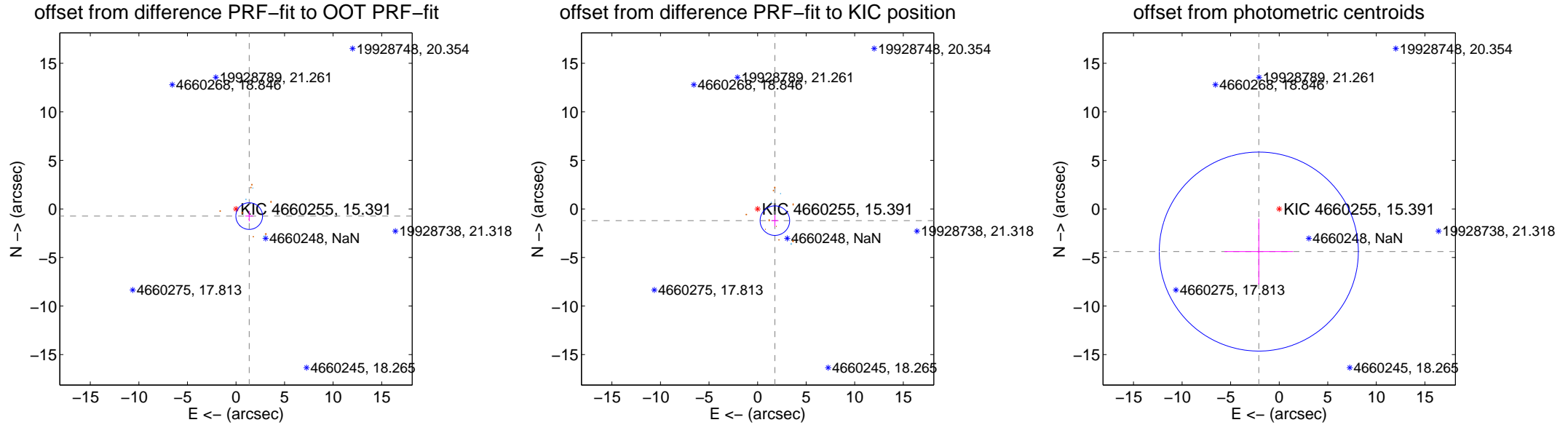
## DV Centroid Data

Supplemental centroid analysis for 004660255-01. Kepler magnitude: 15.39. Transit SNR 1.13

There are 3 quarters with good PRF difference image offsets

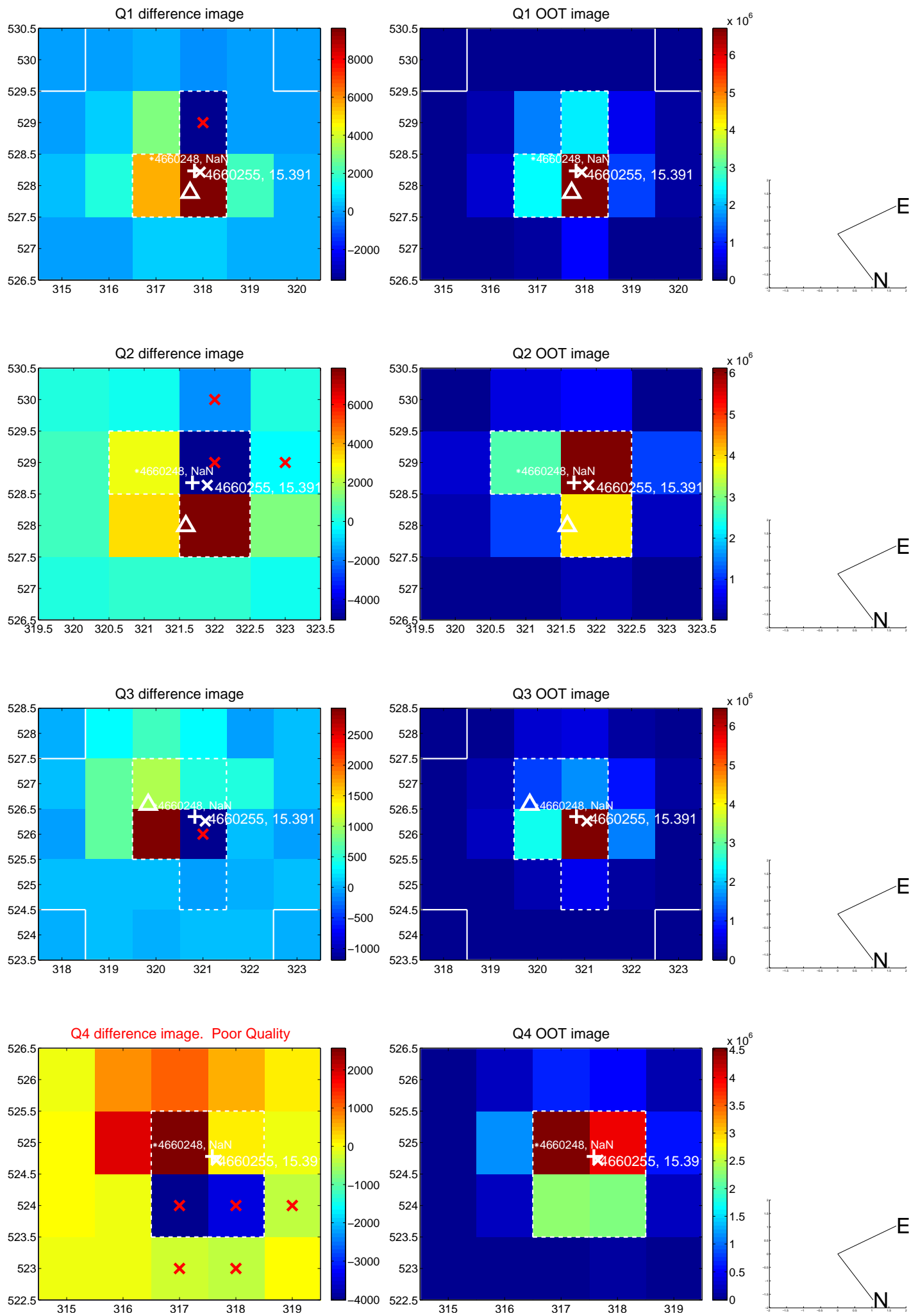
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.547 \pm 0.457$	3.38	$-1.360 \pm 0.402$	$-0.736 \pm 0.536$
PRF-fit source offset from KIC position	$2.150 \pm 0.507$	4.24	$-1.779 \pm 0.368$	$-1.206 \pm 0.580$
photometric centroid source offset	$4.87 \pm 3.42$	1.43	$2.10 \pm 3.53$	$-4.39 \pm 3.39$

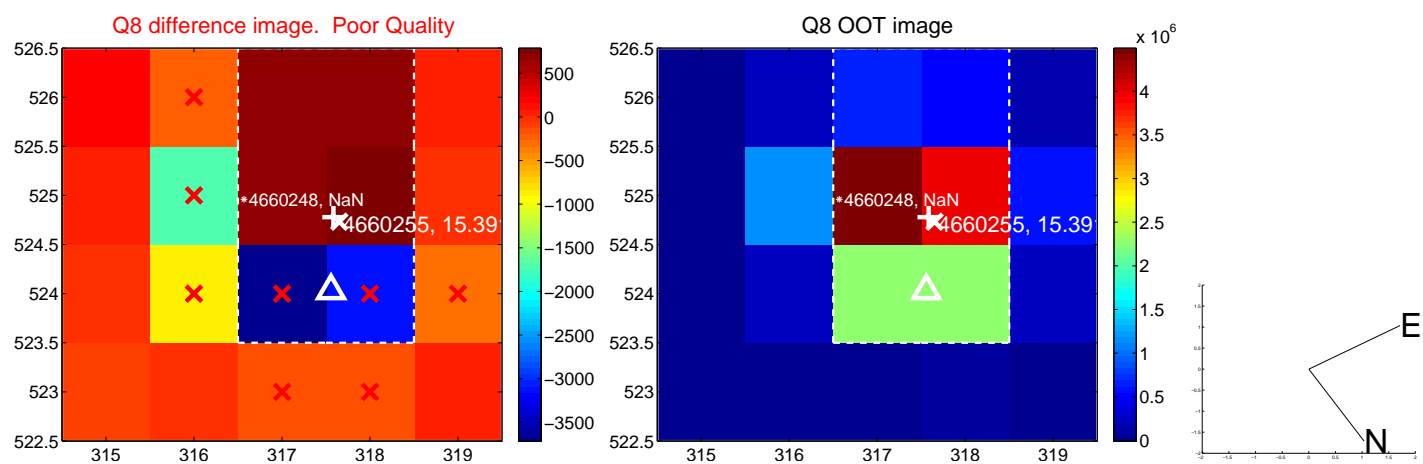
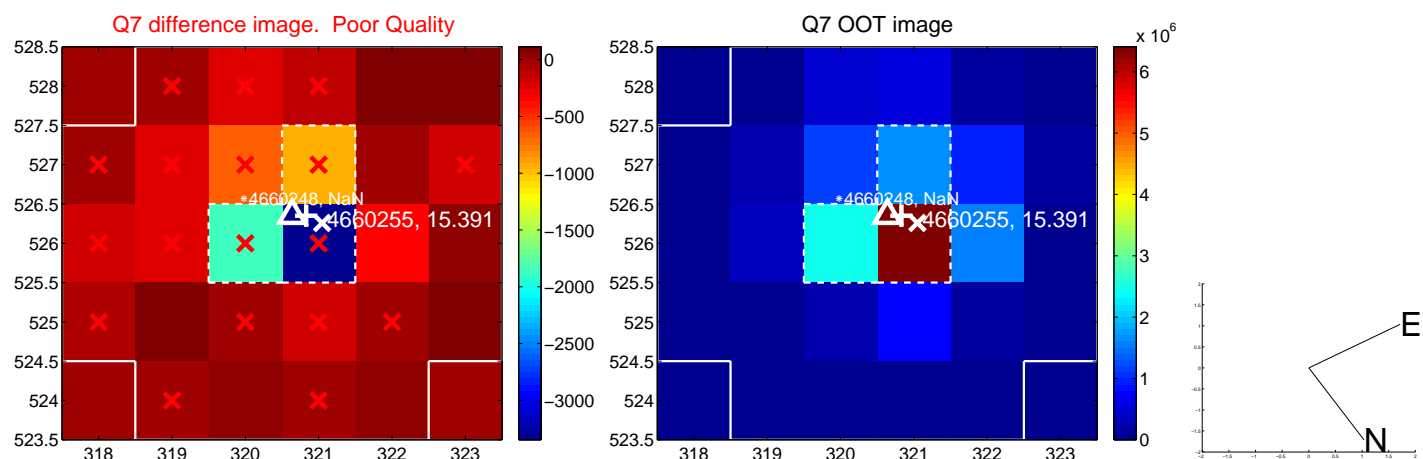
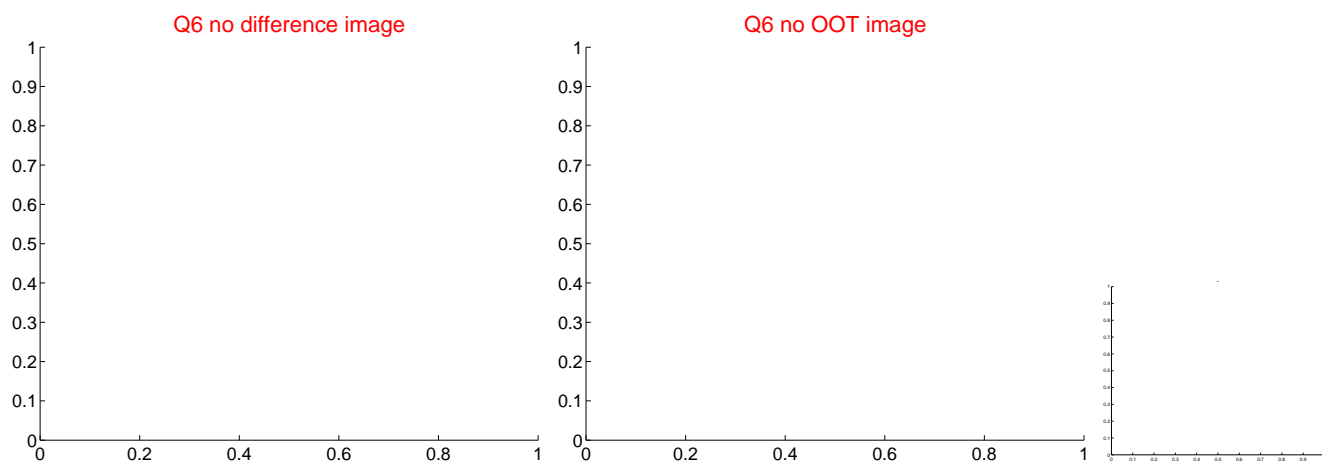
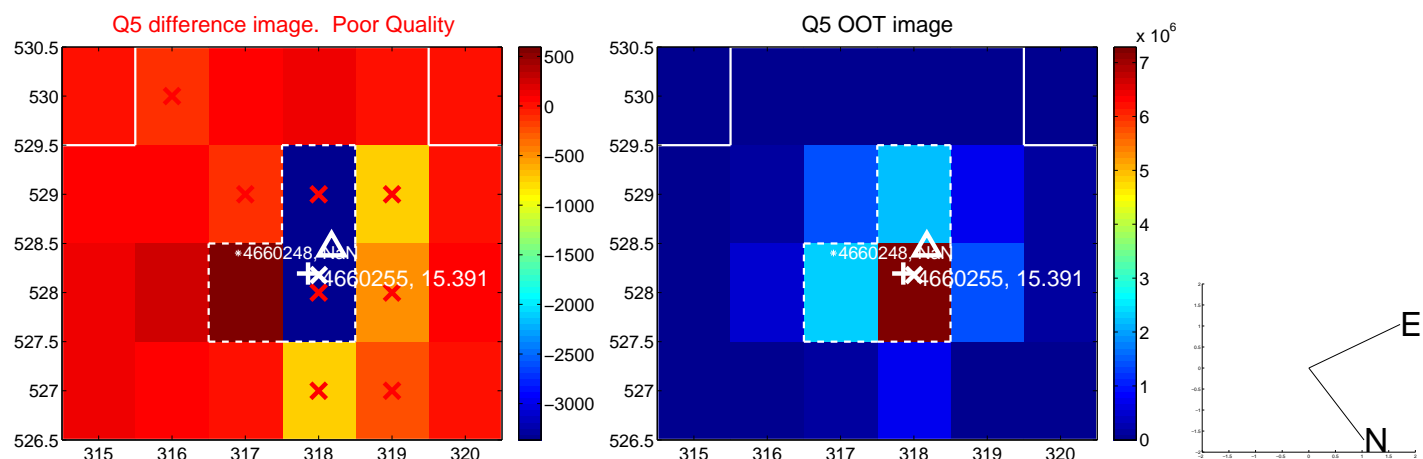


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

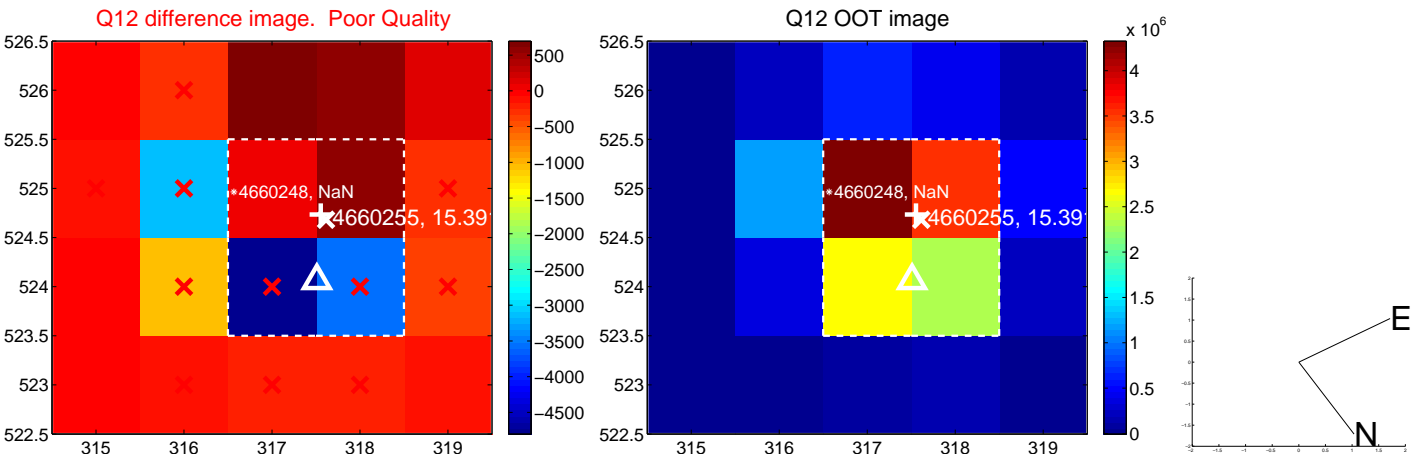
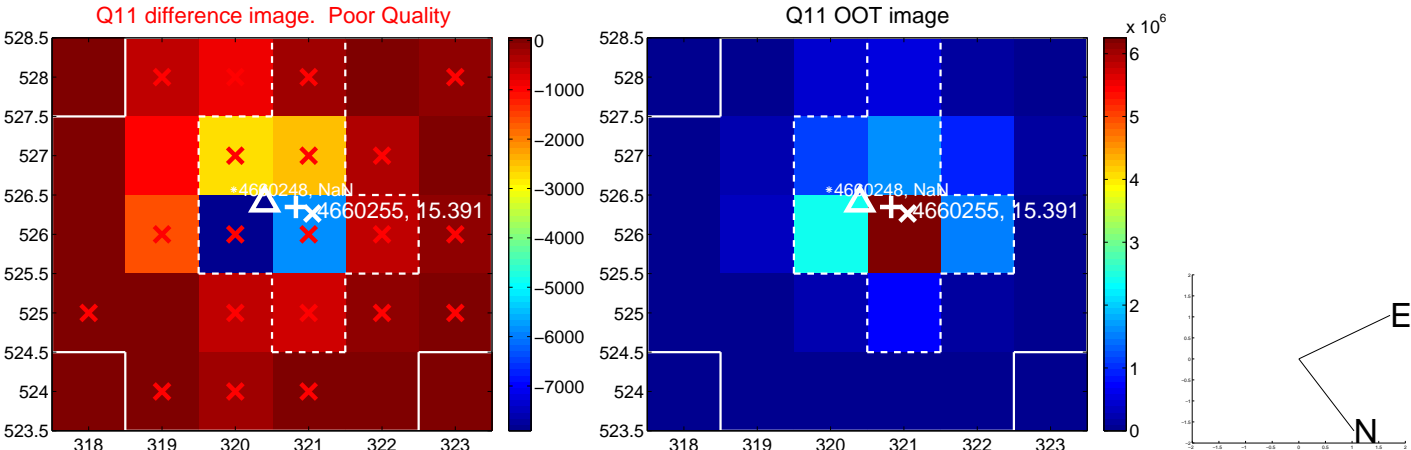
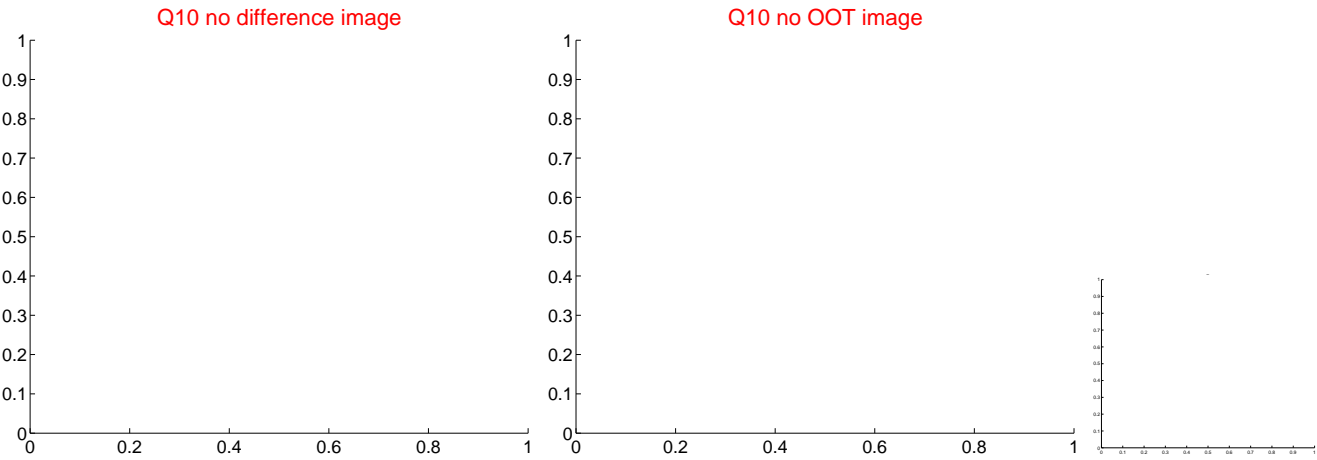
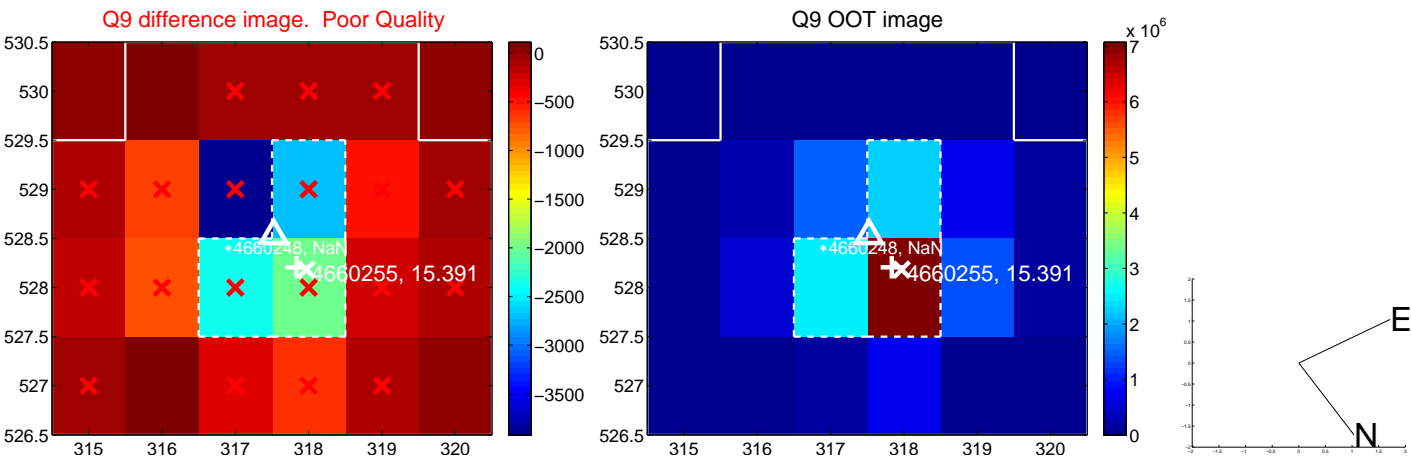


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

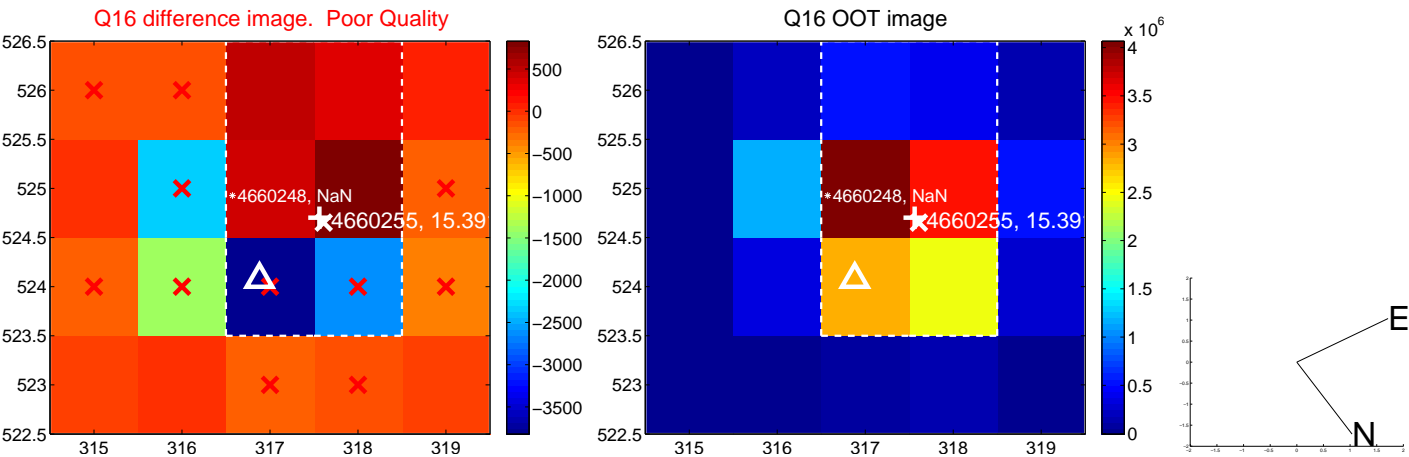
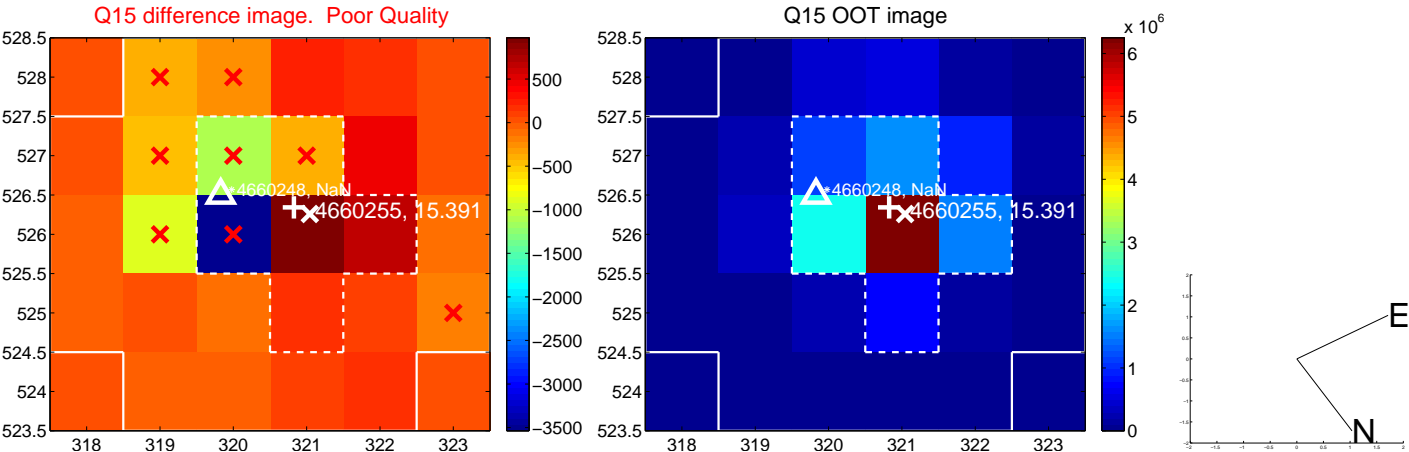
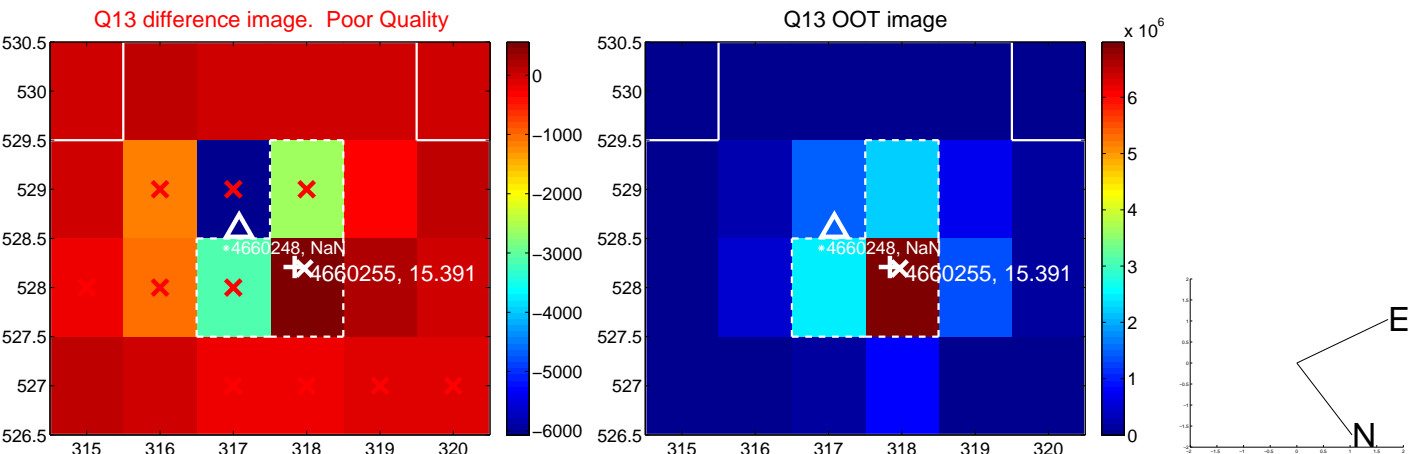




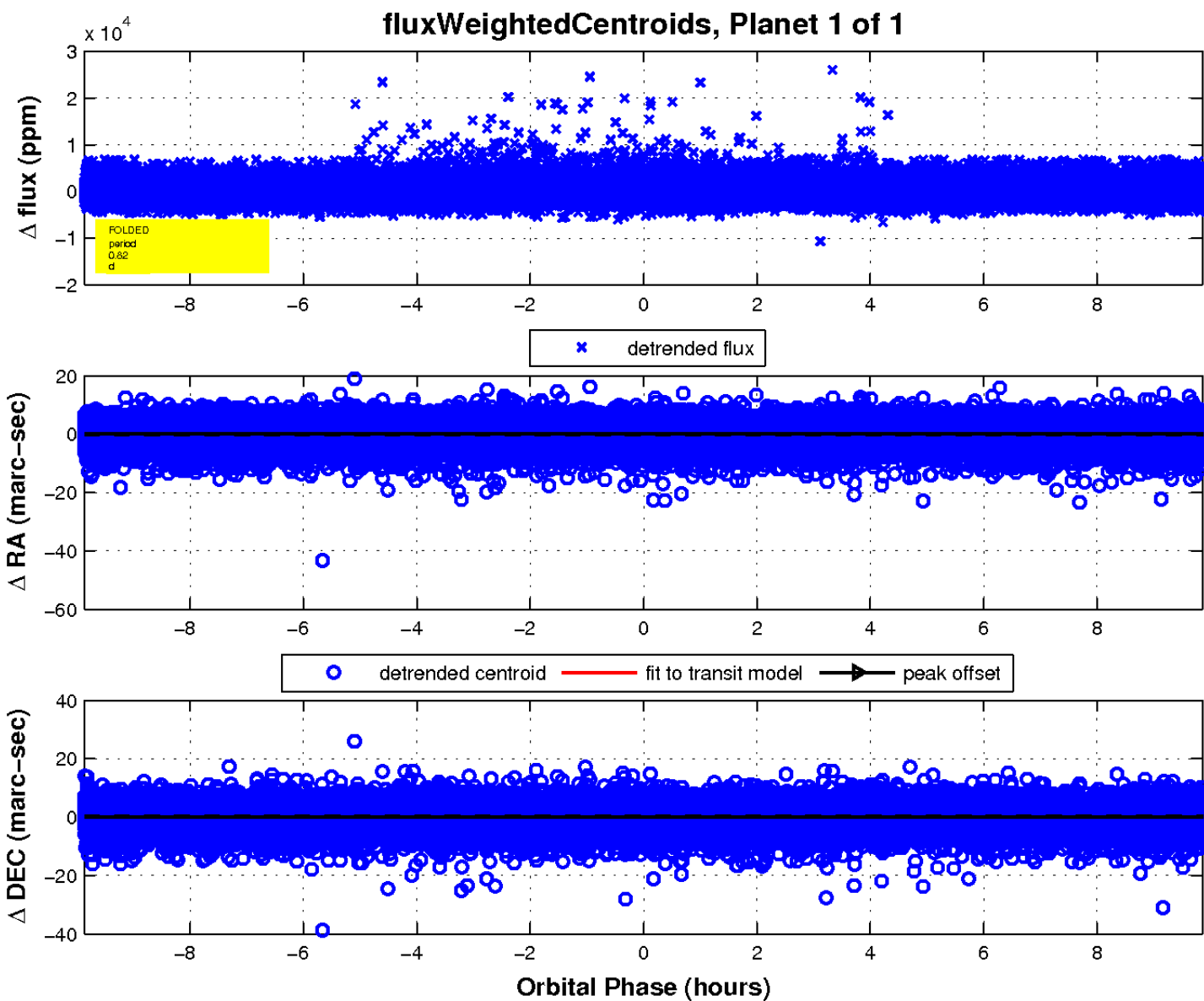
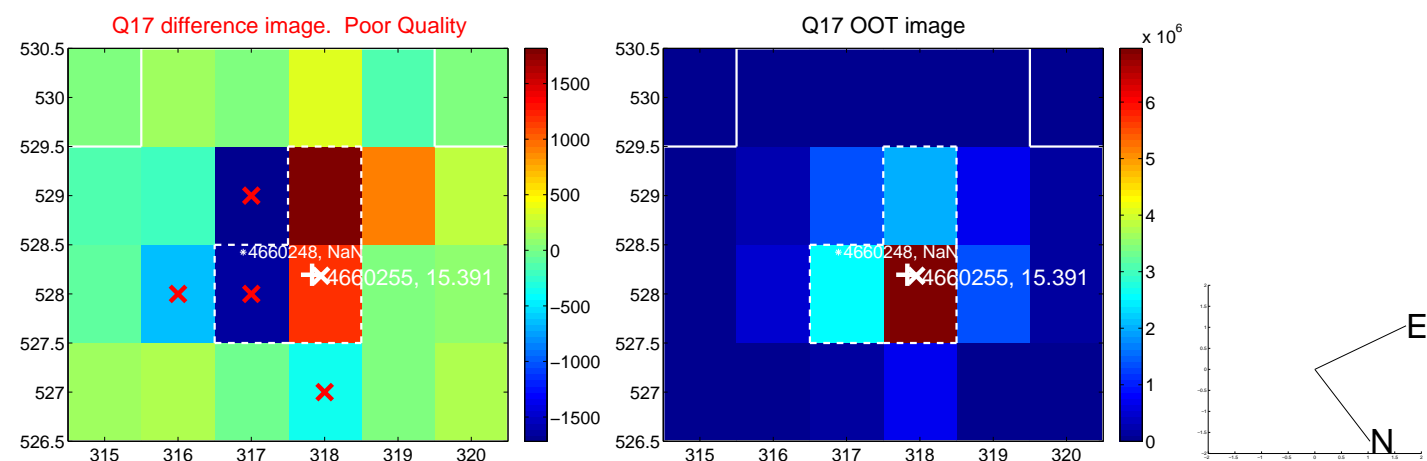
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

