

# KIC 007032687

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
007032687-01	OBS	7577.01	0.566748	131.856252	18.6	3.644	9.0	3.7	0.87	6215	0.38	5778.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032687-01	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 007032687-01

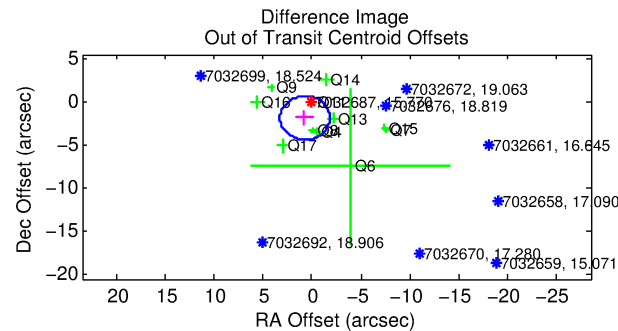
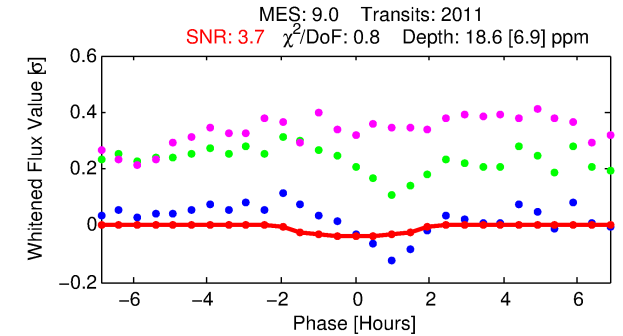
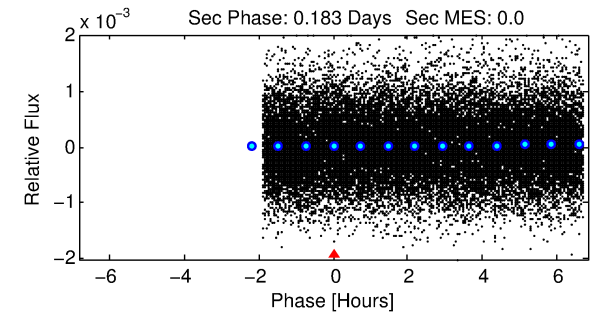
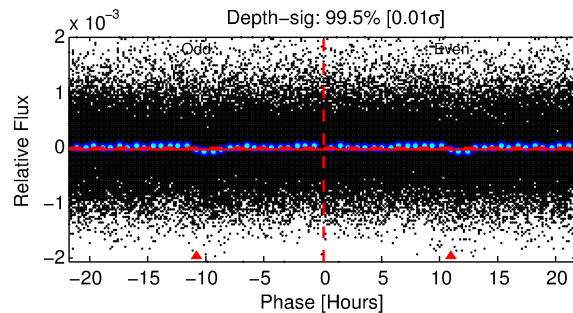
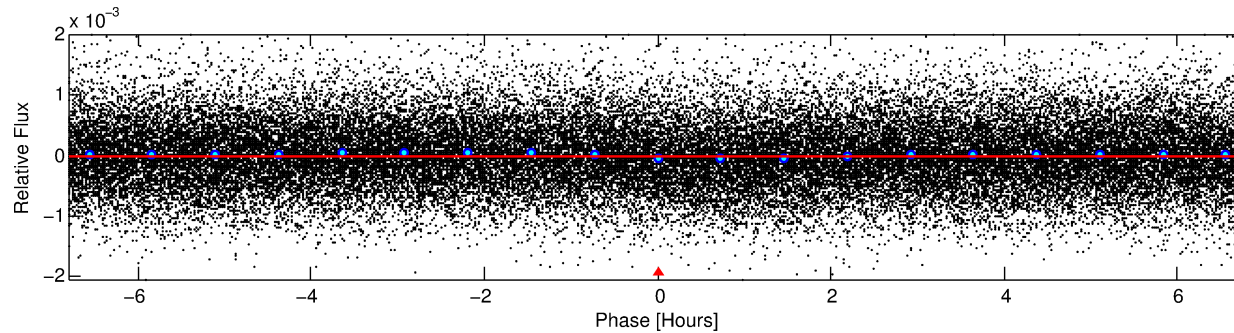
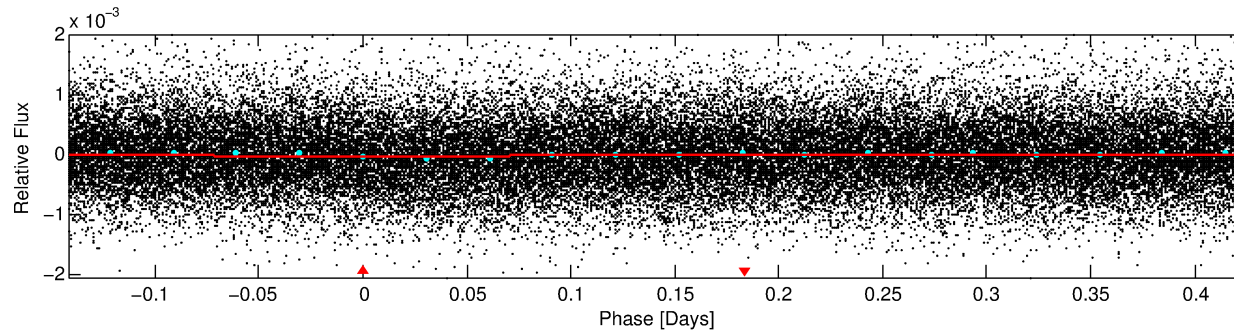
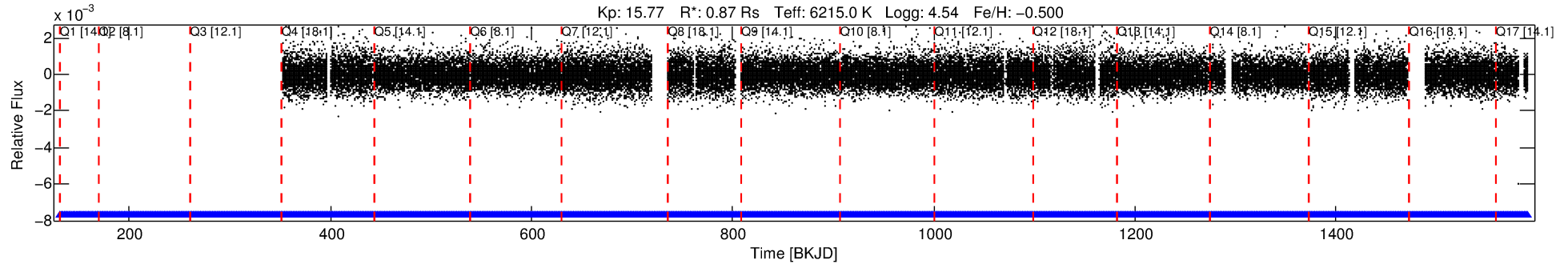
TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	ΔRow	ΔCol	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	σ <sub>P</sub>	σ <sub>T</sub>
007032687-01	7032687	RR-Lyr-pri	7198959	1:1	965.8	238	-50	7.86	15.77	32805.00	Direct-PRF	0	0.01	22.71

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's. σ<sub>P</sub> and σ<sub>T</sub> are the significance of the match in period and epoch. For a match to be considered significant σ<sub>P</sub> < 5.0 and σ<sub>T</sub> < 5.0. Matches which have σ<sub>P</sub> and σ<sub>T</sub> very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7032687 Candidate: 1 of 1 Period: 0.567 d  
KOI: K07577 Corr: No Ephemeris Match

Kp: 15.77 R\*: 0.87 Rs Teff: 6215.0 K Logg: 4.54 Fe/H: -0.500



## DV Fit Results:

Period = 0.56675 [0.00003] d  
Epoch = 131.8563 [0.0121] BKJD  
Rp/R\* = 0.0040 [0.0111]  
a/R\* = 1.31 [7.97]  
b = 0.33 [38.94]  
Seff = 5778.52 [2478.68]  
Teq = 2223 [238] K  
Rp = 0.38 [1.06] Re  
a = 0.0133 [0.0036] AU  
Ag = N/A  
Teffp = N/A

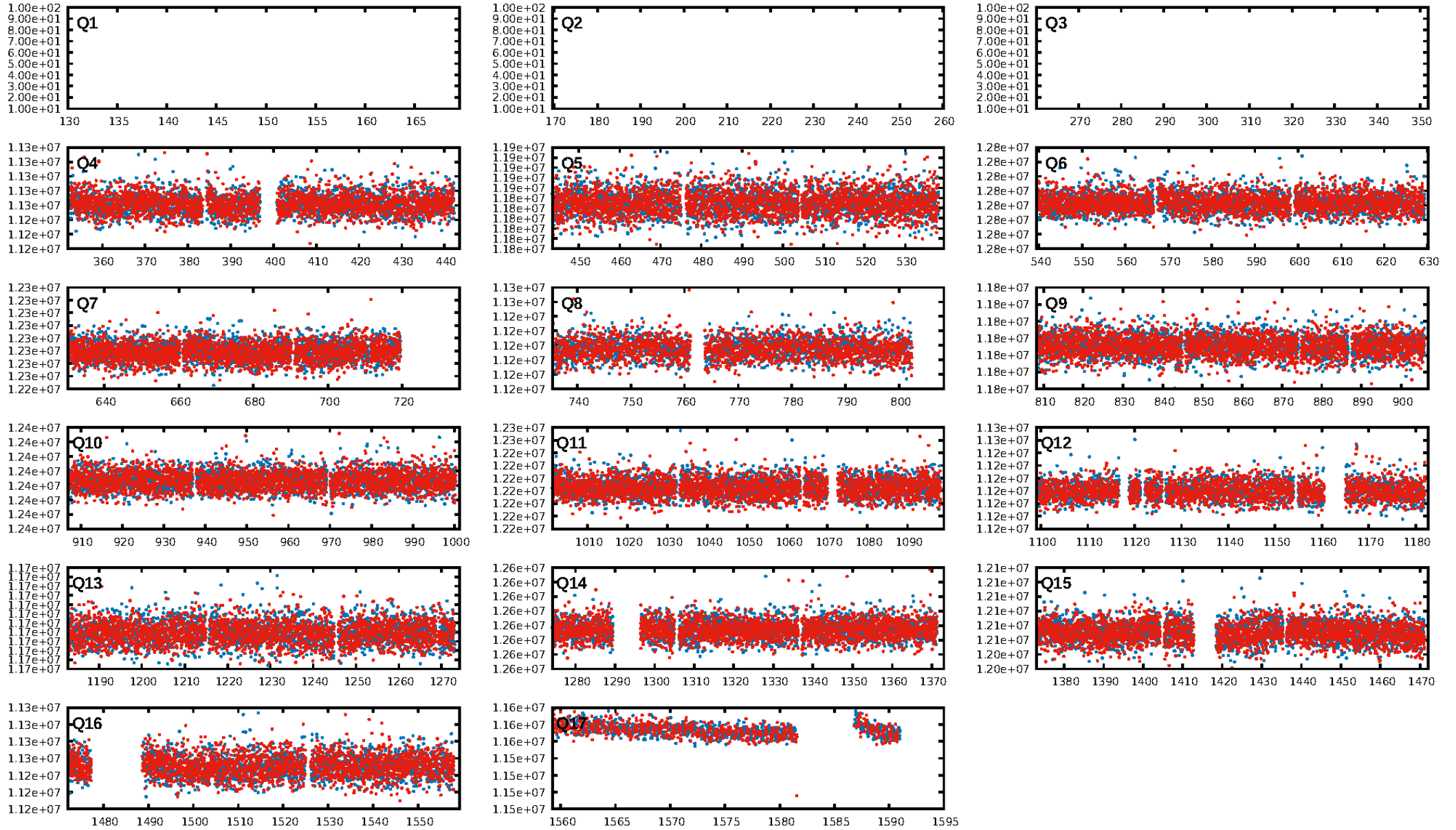
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.44e-13  
RollingBand-fgt: 1.00 [1964/1964]  
GhostDiagnostic-chr: 0.3231  
Centroid-sig: 17.3%  
Centroid-so: 4.924 arcsec [1.15σ]  
OotOffset-rm: 1.996 arcsec [2.36σ]  
KicOffset-rm: 1.976 arcsec [2.35σ]  
OotOffset-st: 2/3/3/3 [11]  
KicOffset-st: 2/3/3/3 [11]  
DiffImageQuality-fgm: 0.18 [2/11]  
DiffImageOverlap-fno: 1.00 [14/14]

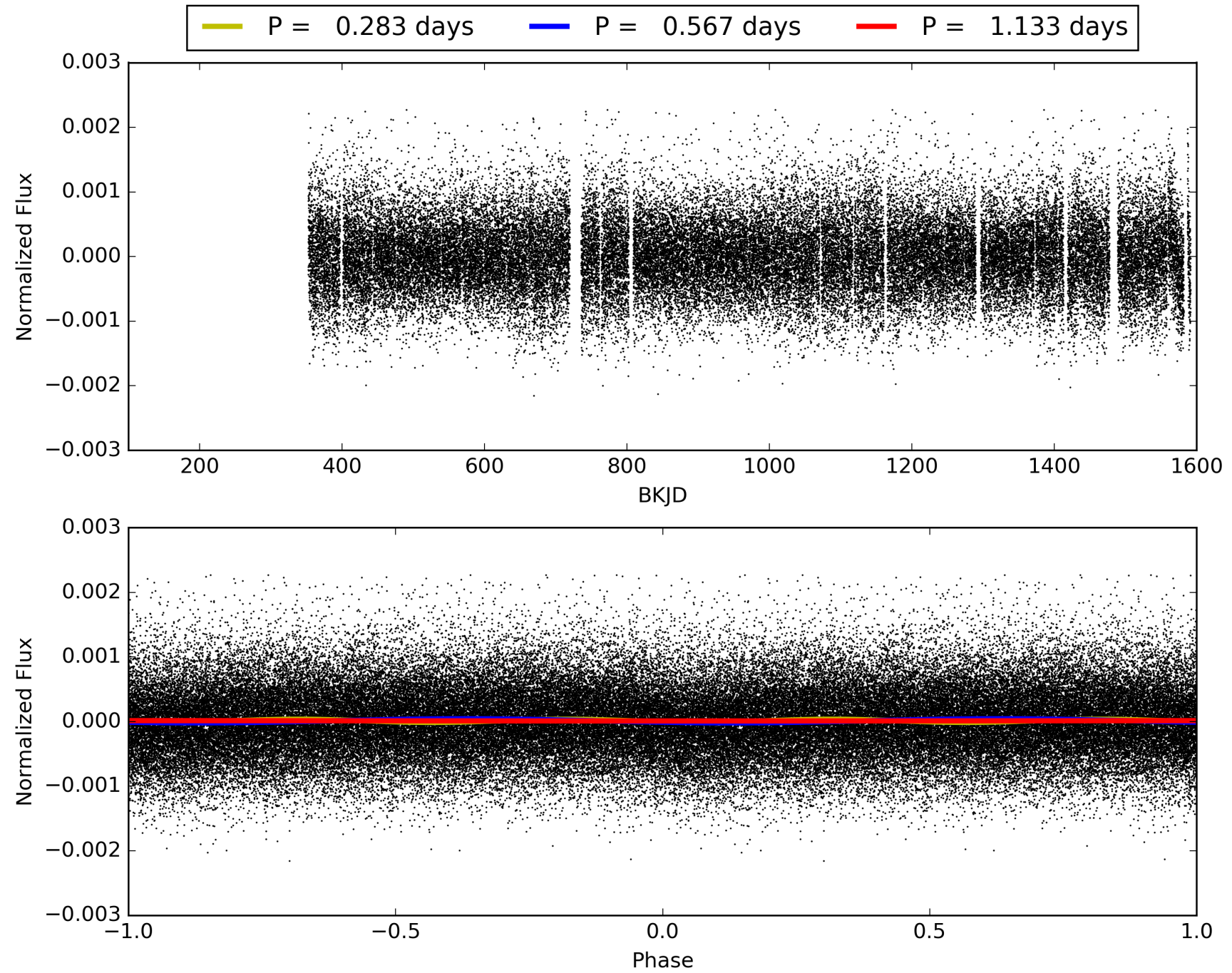
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:15:50 Z

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

# TCE 007032687-01, PDC Light Curves

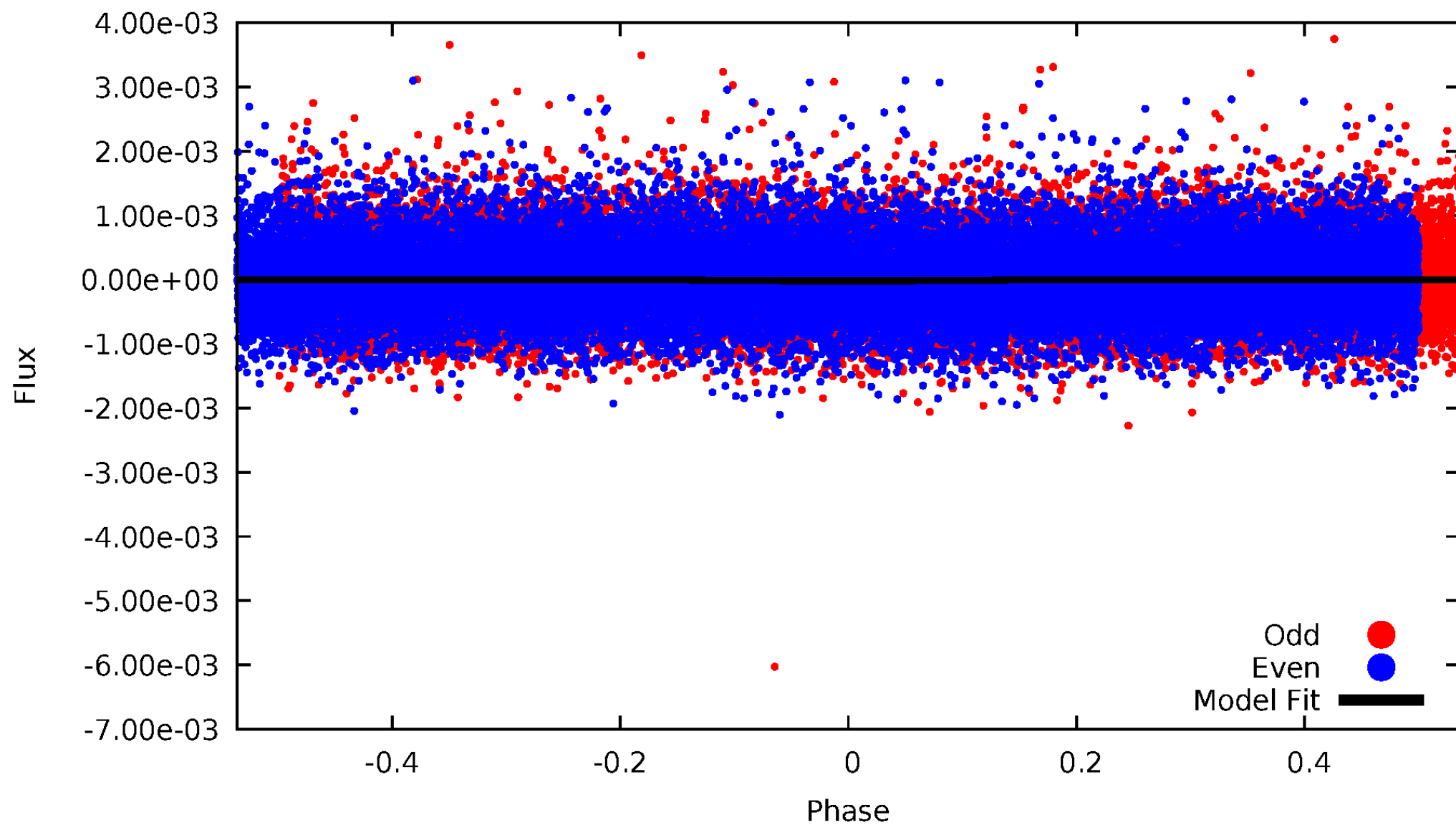


TCE 007032687-01



# DV Odd/Even

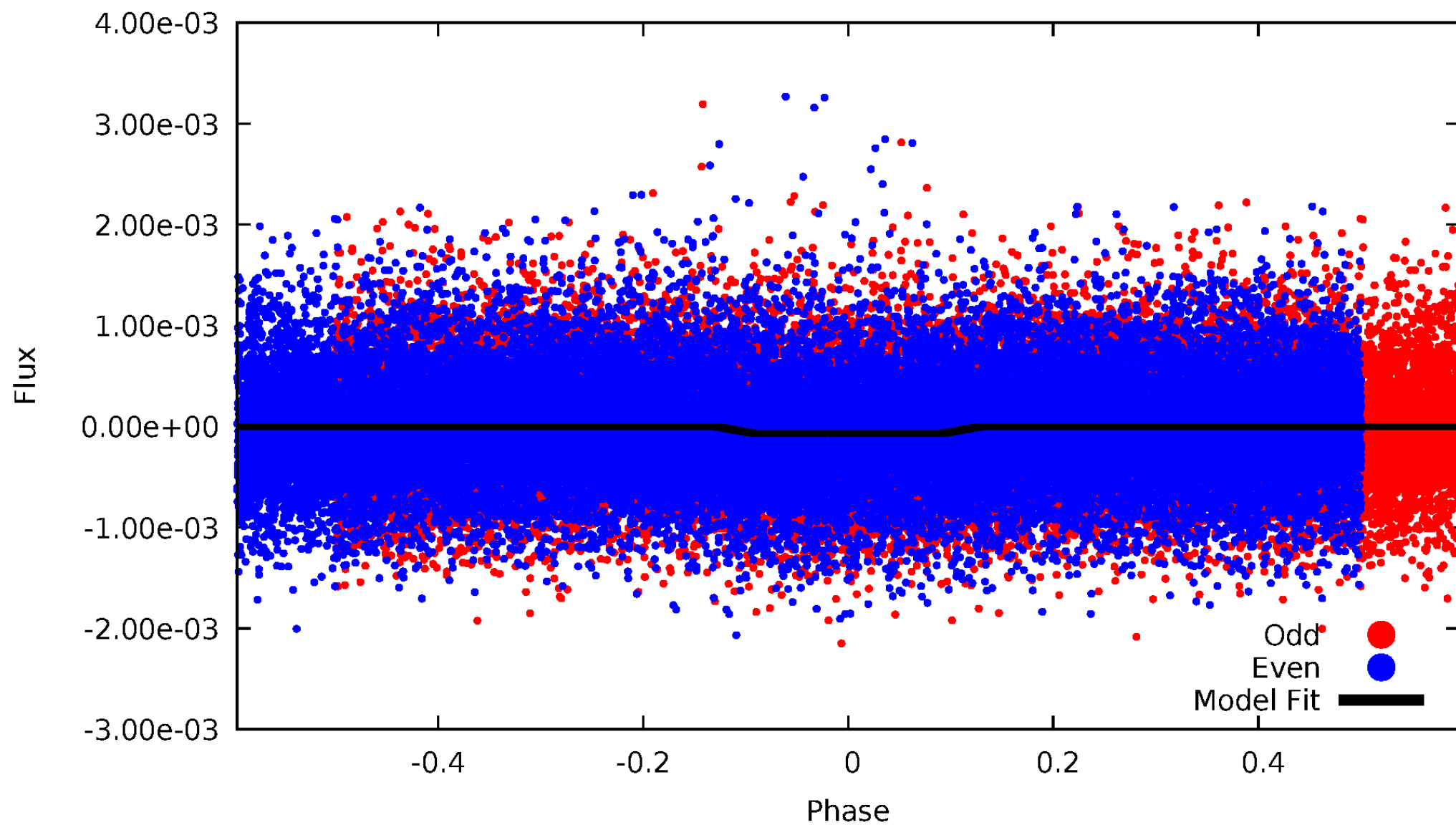
TCE 007032687-01





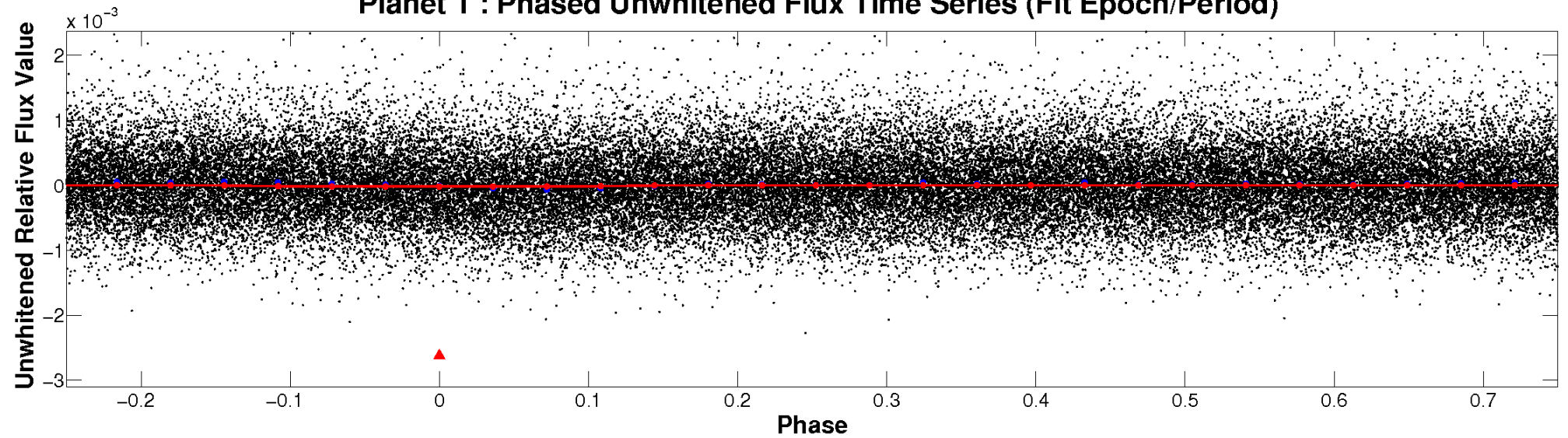
# ALT Odd/Even

TCE 007032687-01

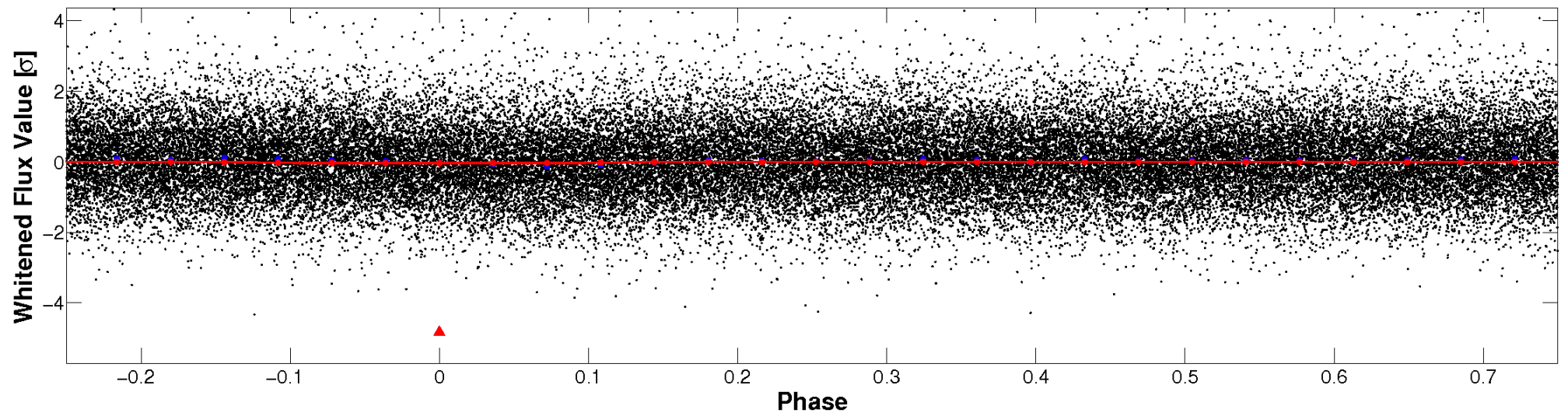


# Non-Whitened Vs. Whitened Light Curve

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

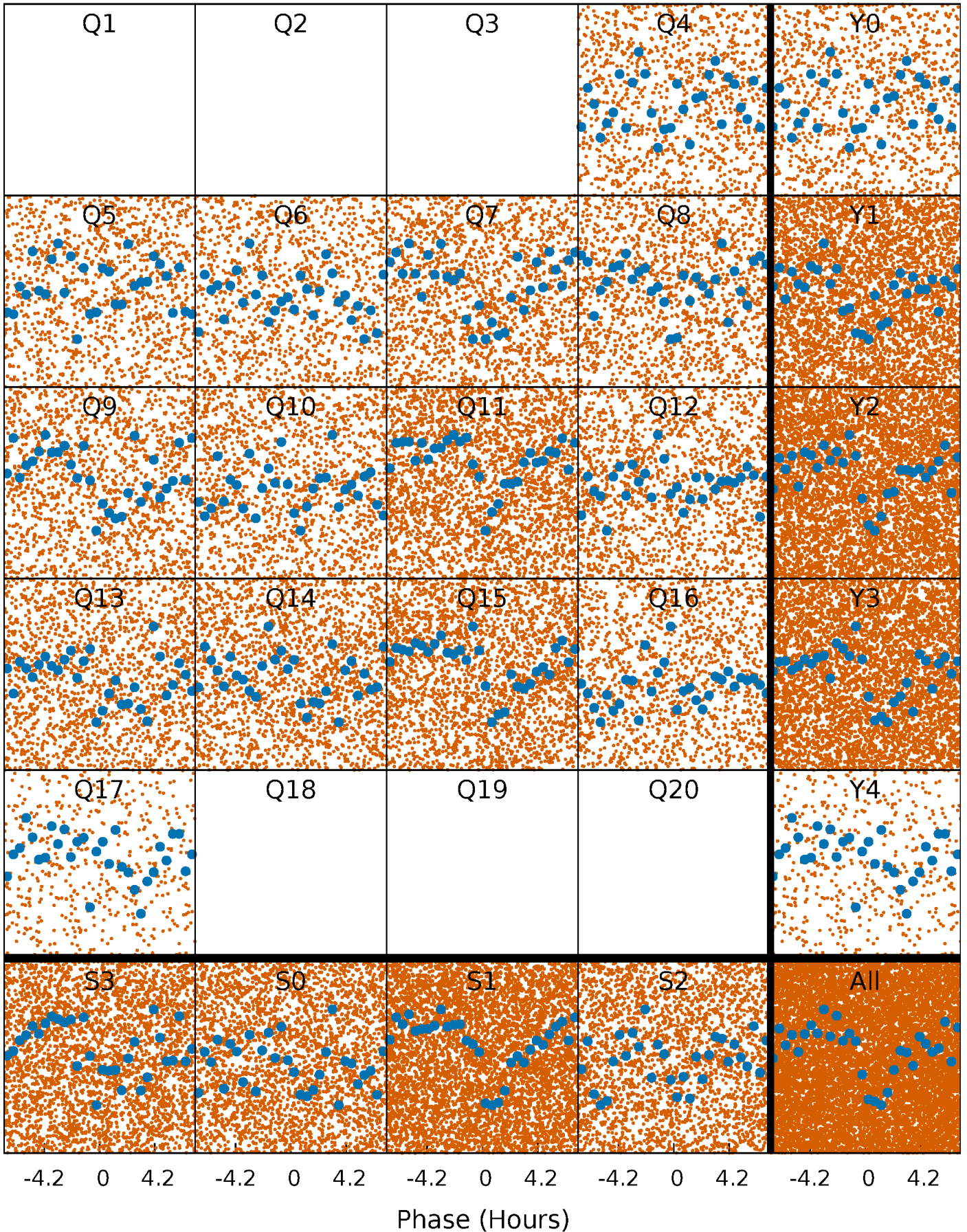


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

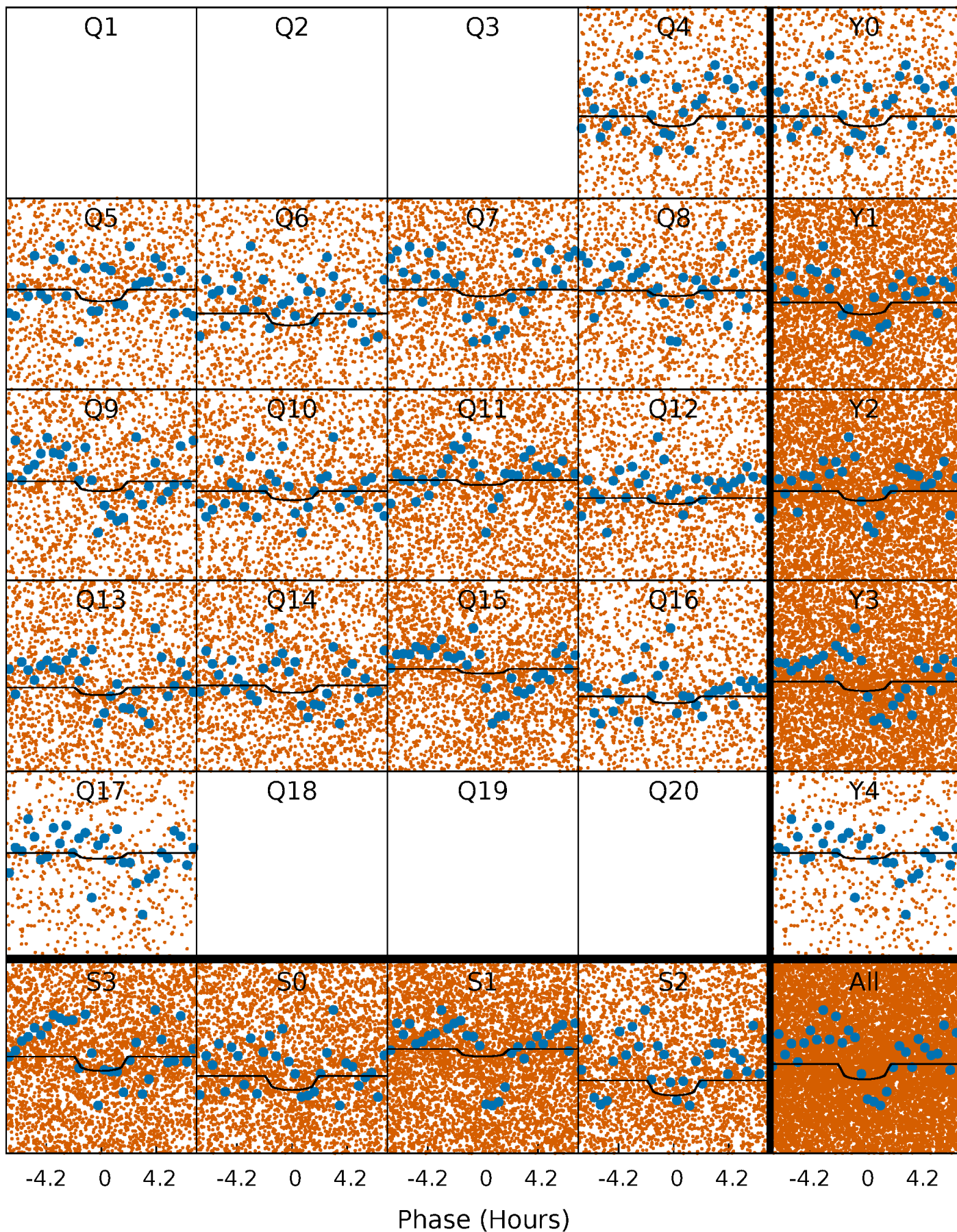
TCE 007032687-01 P= 0.566748 Days  $T_0=131.856252$  (BKJD)





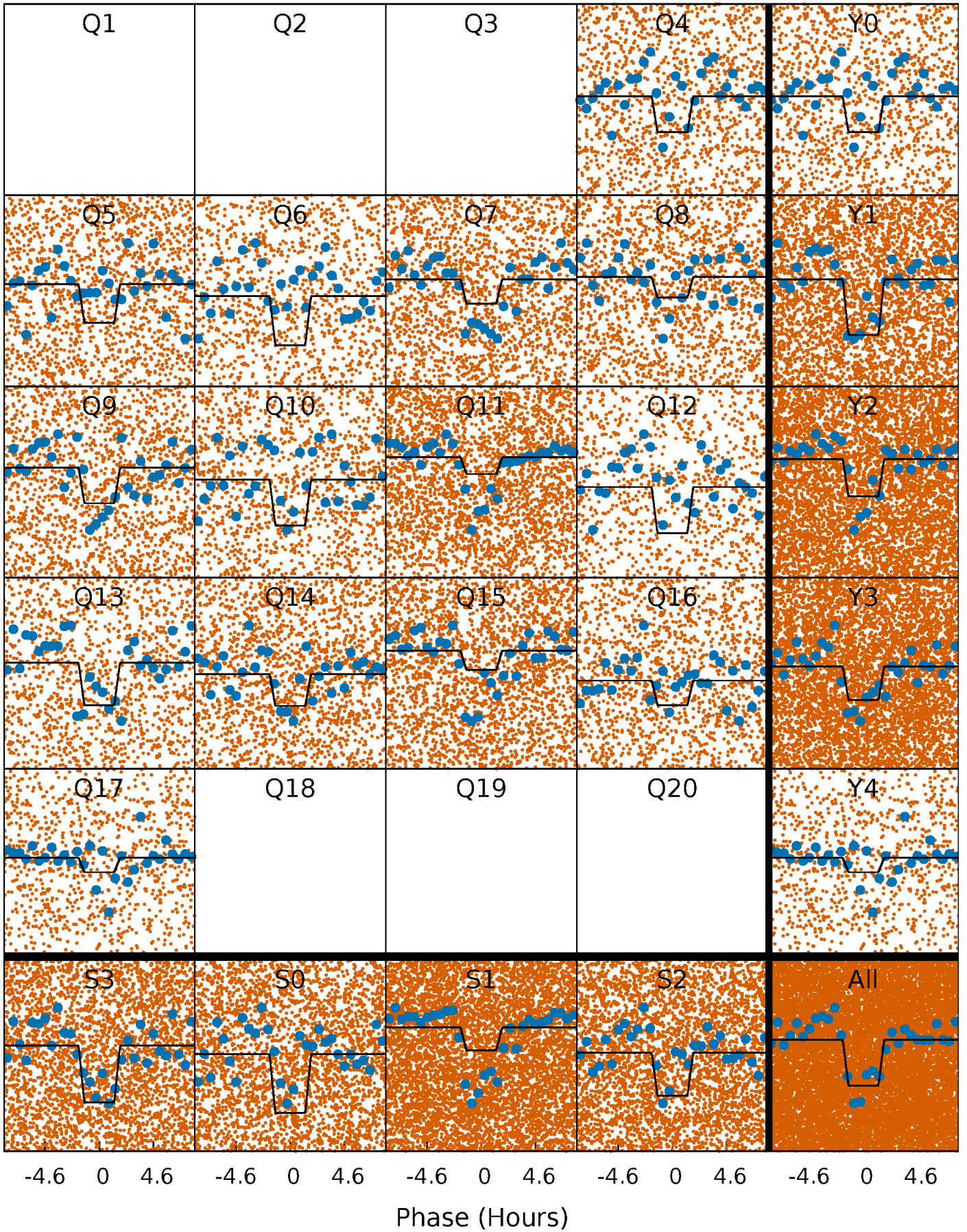
# DV Quarter-Phased Transit Curves

TCE 007032687-01 P= 0.566748 Days  $T_0=131.856252$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007032687-01 P= 0.566801 Days  $T_0=131.817211$  (BKJD)

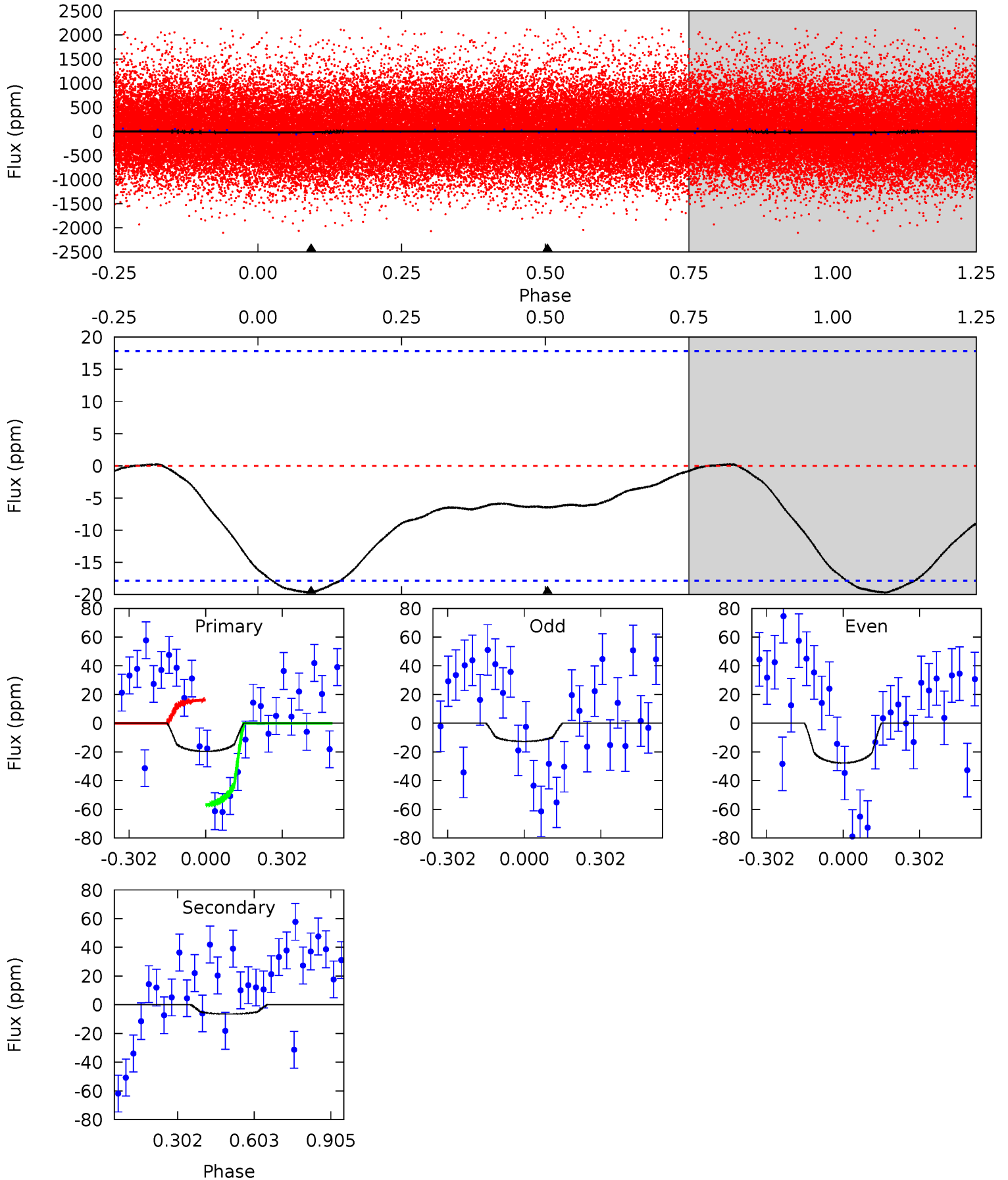




# DV Model-Shift Uniqueness Test

007032687-01, P = 0.566748 Days, E = 131.856252 Days

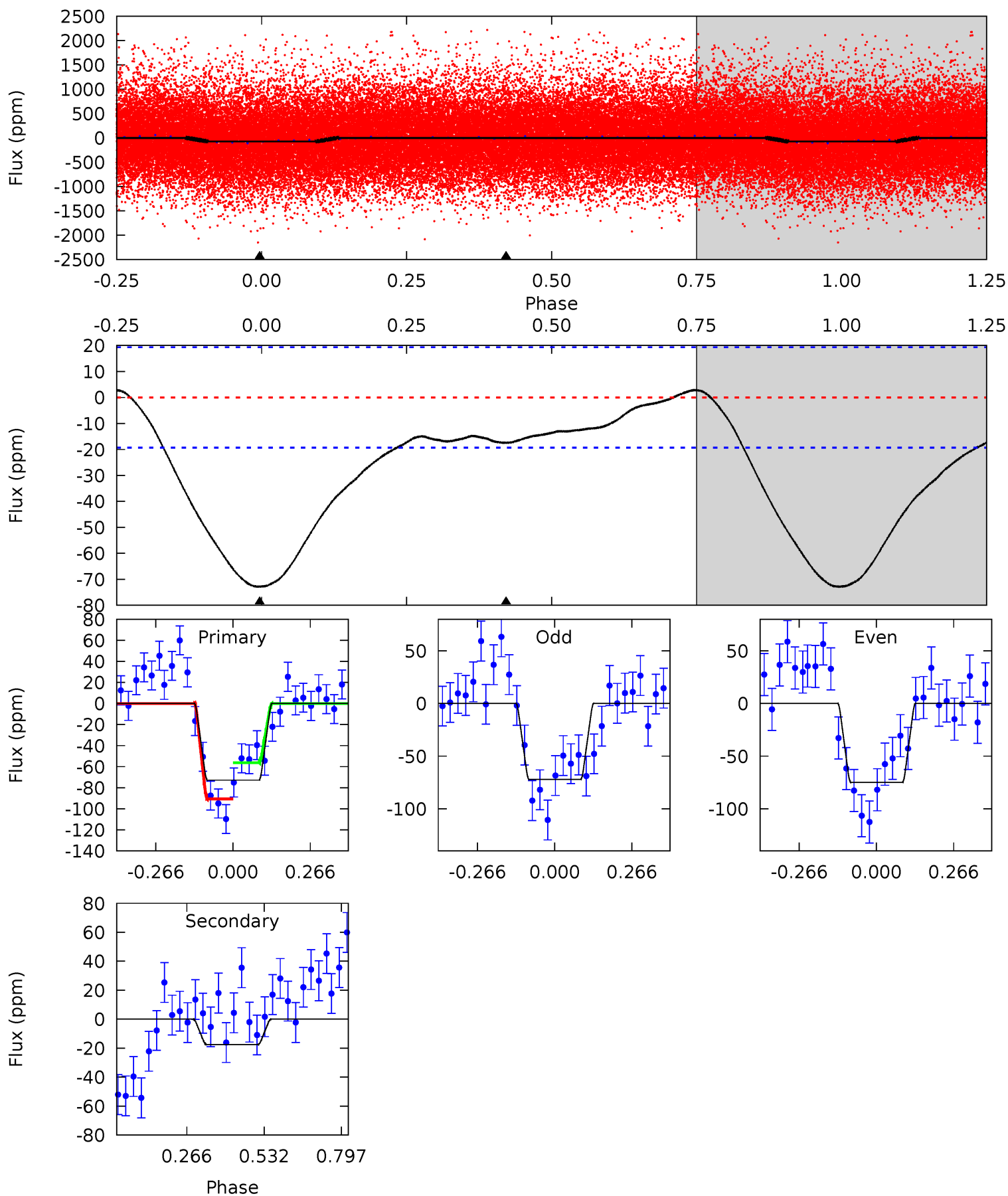
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.78	1.57	0	0	4.33	1.03	0.07	4.78	4.78	1.57	1.57	1.81	0.71	0.01	4.89



# Alt Model-Shift Uniqueness Test

007032687-01, P = 0.566801 Days, E = 131.817211 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
16.4	3.94	0	0	4.36	1.11	0.46	16.4	16.4	3.94	3.94	0.32	0.96	0.04	3.83





### Stellar Parameters For KIC 007032687

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6215^{+197}_{-241}$	$4.543^{+0.039}_{-0.221}$	$-0.500^{+0.300}_{-0.300}$	$0.872^{+0.277}_{-0.086}$	$0.968^{+0.114}_{-0.126}$	$2.056^{+0.445}_{-1.124}$
	+3%/-4%	+1%/-5%	+60%/-60%	+32%/-10%	+12%/-13%	+22%/-55%
Source	KIC0	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 007032687-01 / KOI 7577.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-6 \pm 4$	$0.96^{+0.85}_{-0.64}$	$3178^{+242}_{-156}$	$3090^{+2355}_{-6139}$	$0.539^{+4.904}_{-0.441}$
Alt.	$-17 \pm 4$	$1.15^{+0.98}_{-0.72}$	$3184^{+245}_{-161}$	$3851^{+2229}_{-1321}$	$1.268^{+7.675}_{-0.924}$

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

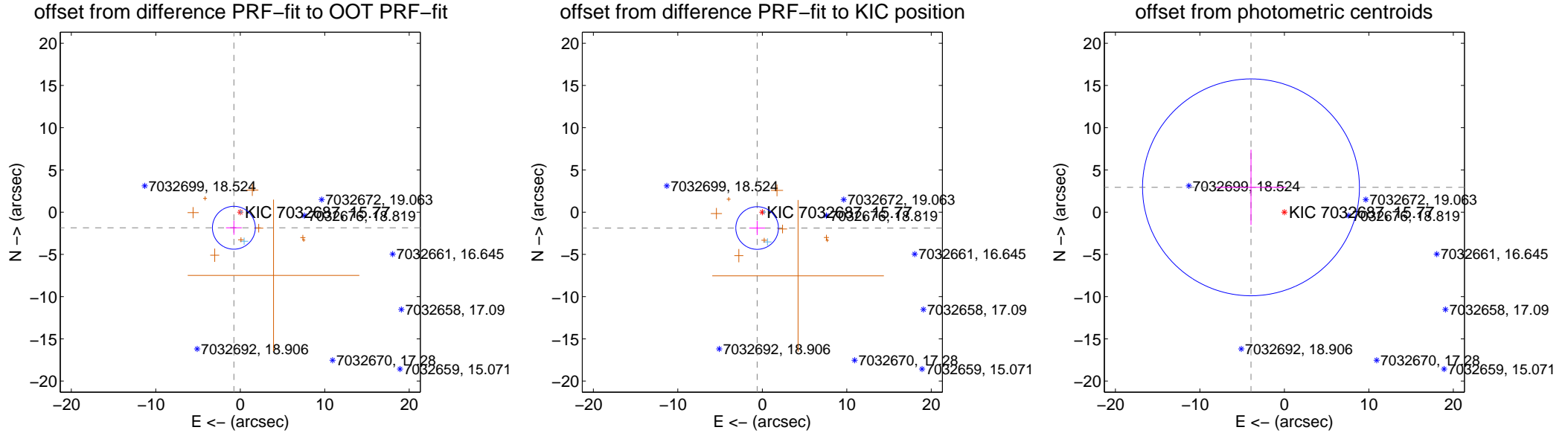
## DV Centroid Data

Supplemental centroid analysis for 007032687-01. Kepler magnitude: 15.77. Transit SNR 3.71

There are 2 quarters with good PRF difference image offsets

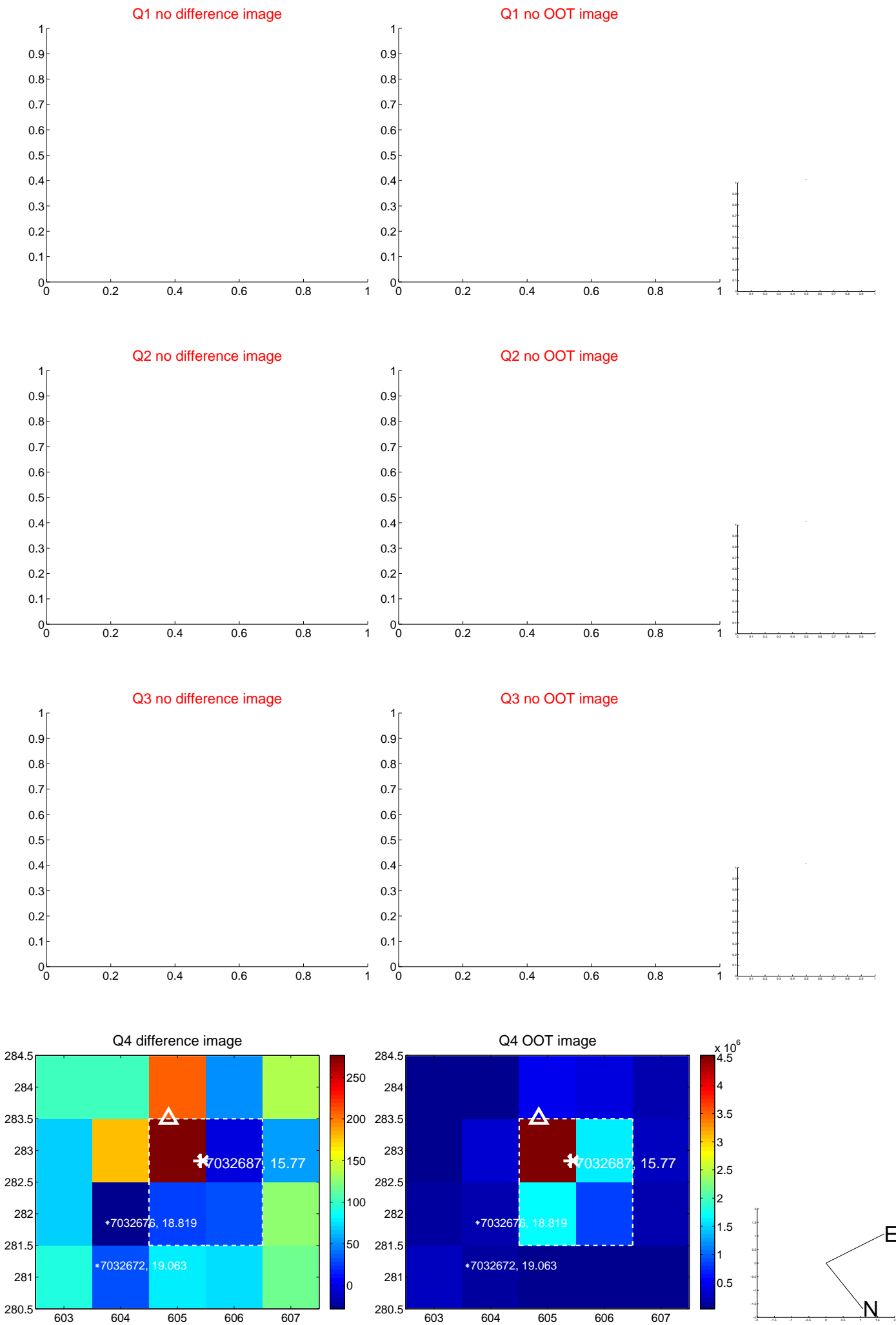
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.996 \pm 0.846$	2.36	$0.755 \pm 0.935$	$-1.848 \pm 0.831$
PRF-fit source offset from KIC position	$1.976 \pm 0.841$	2.35	$0.614 \pm 0.935$	$-1.878 \pm 0.831$
photometric centroid source offset	$4.92 \pm 4.28$	1.15	$3.95 \pm 4.18$	$2.94 \pm 4.46$

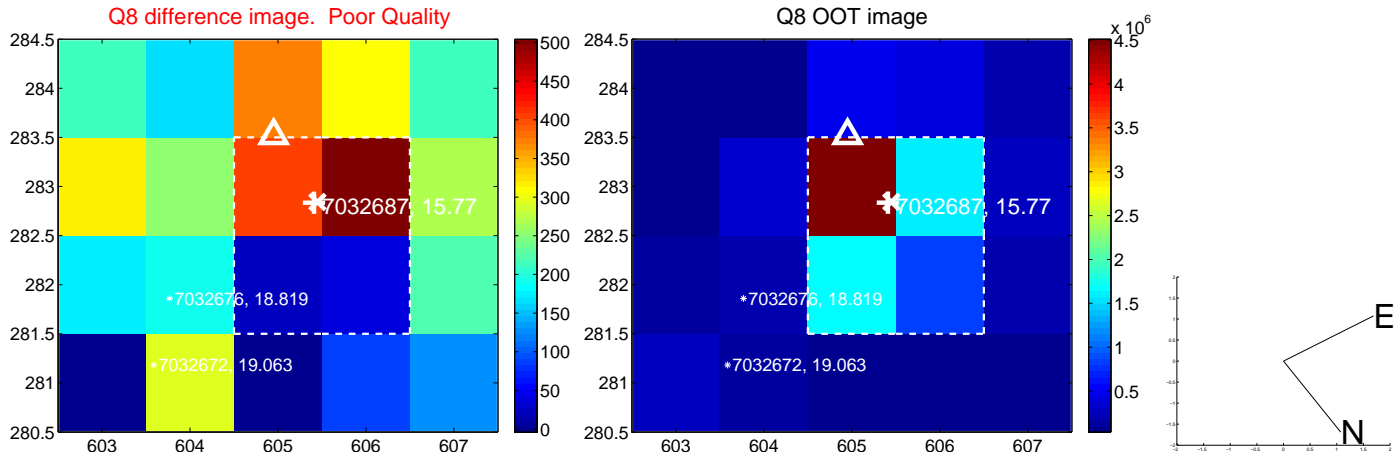
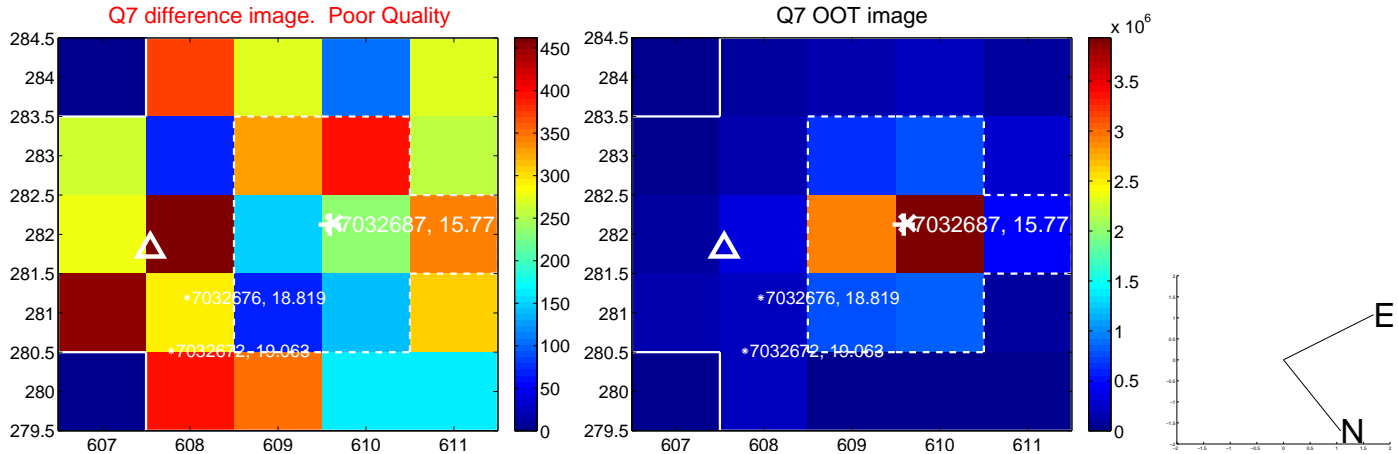
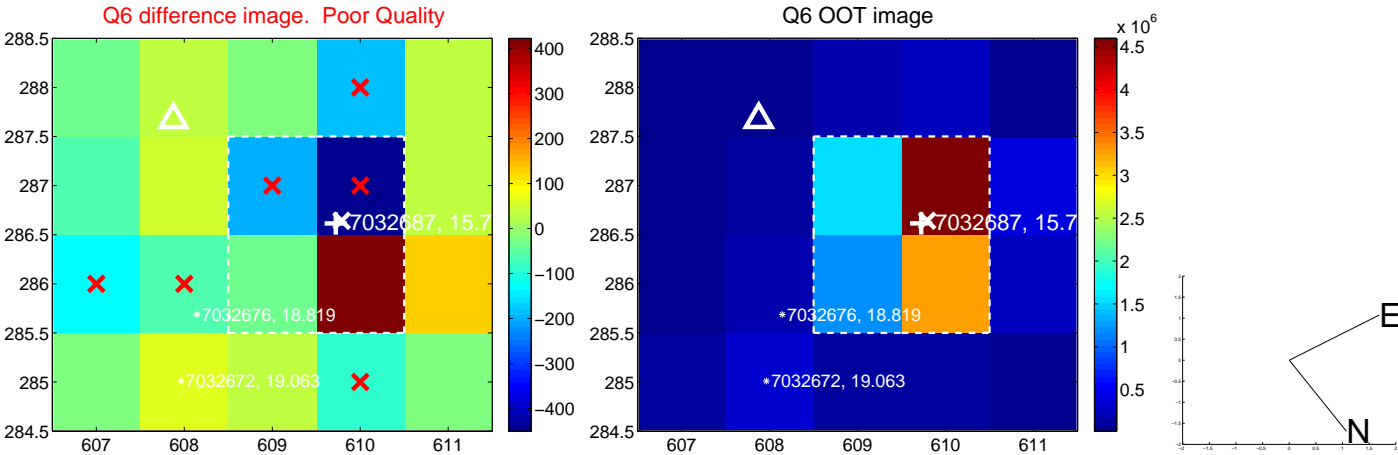
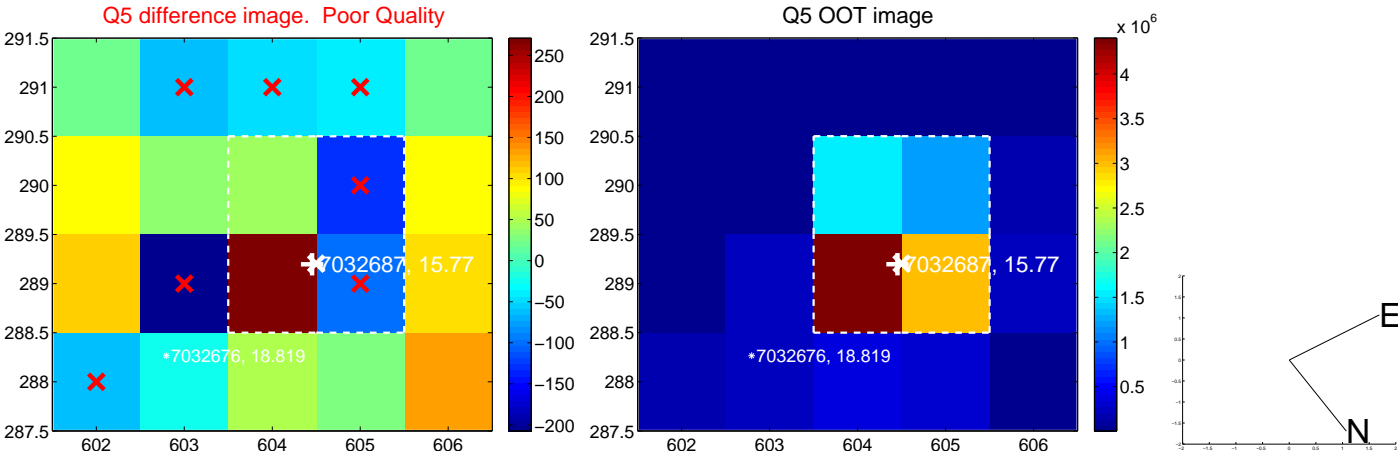


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

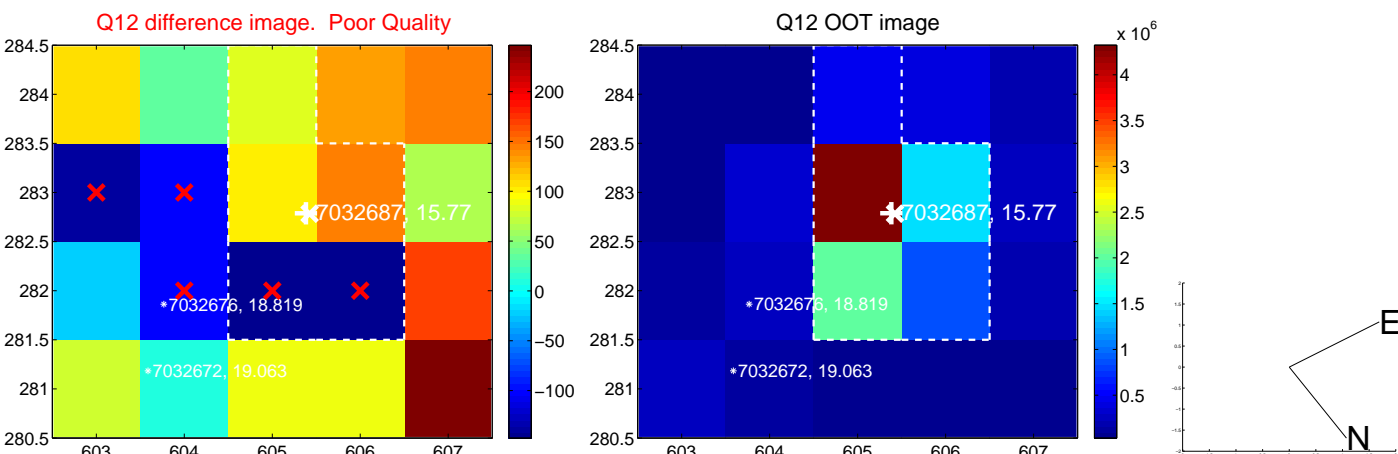
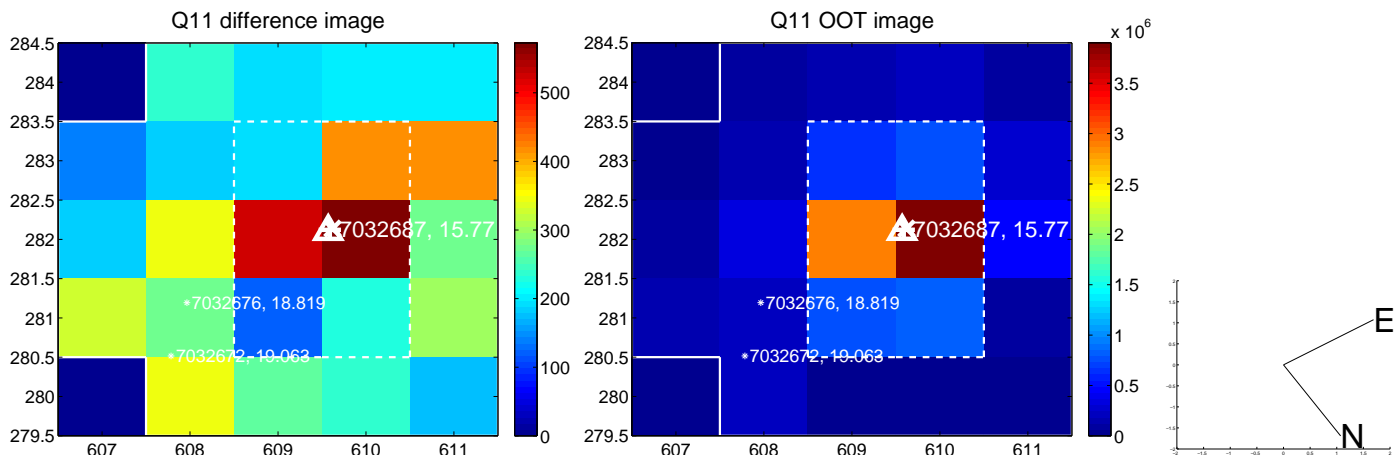
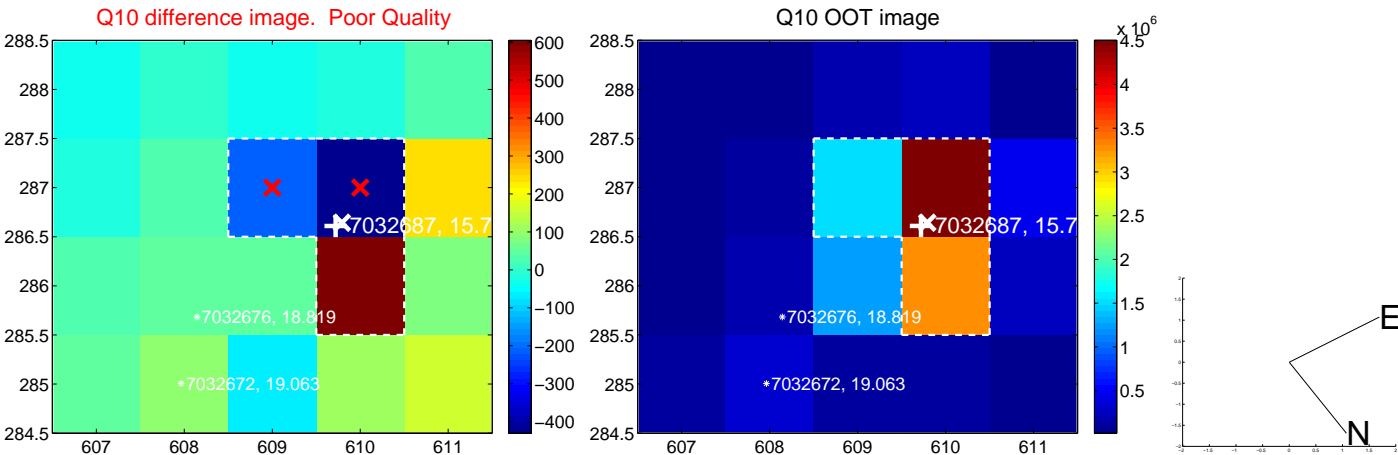
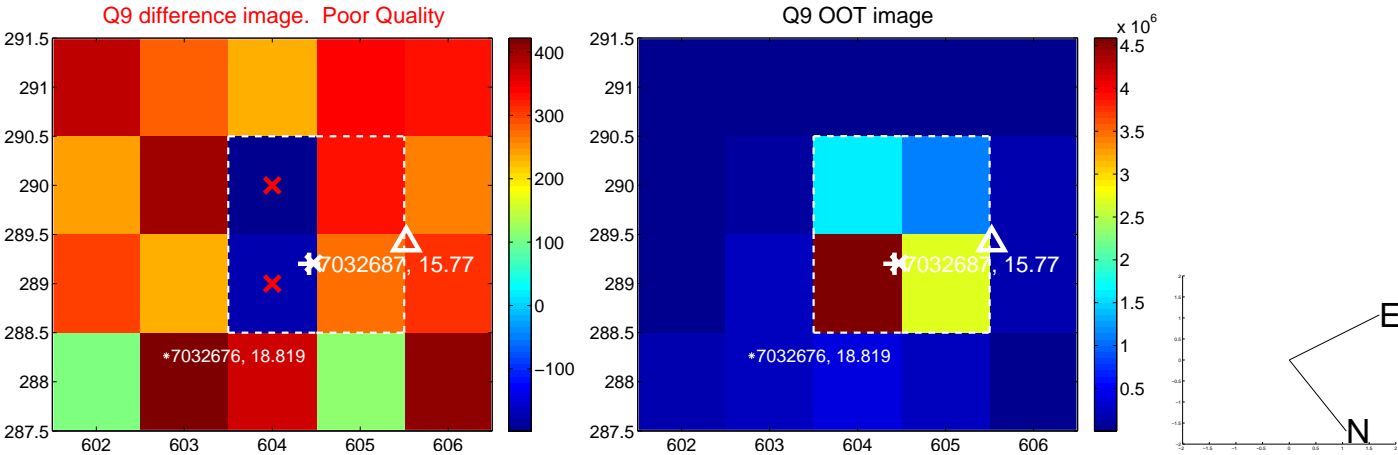


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

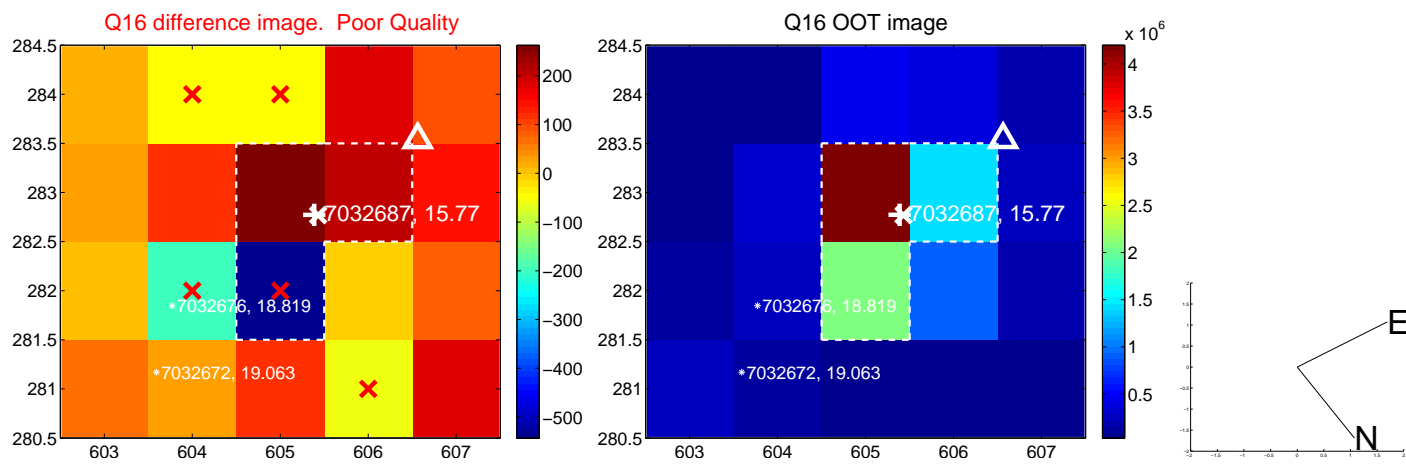
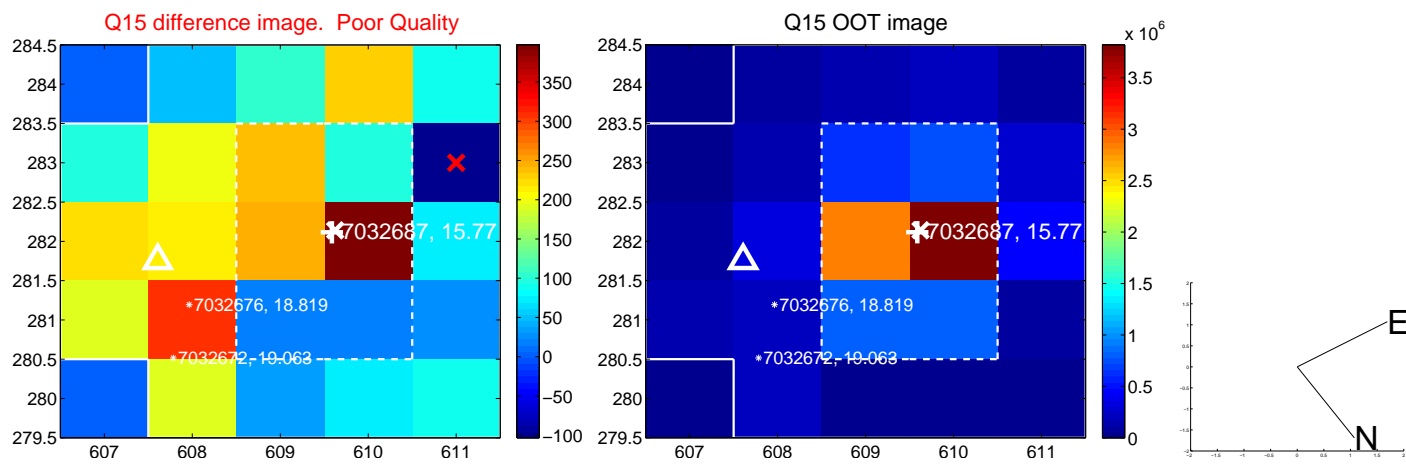
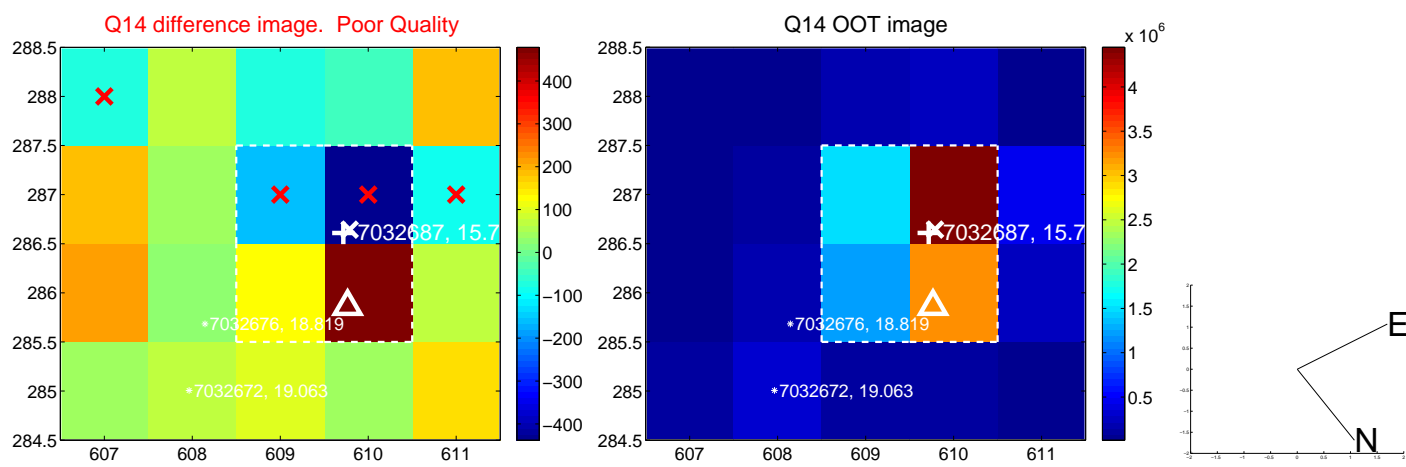
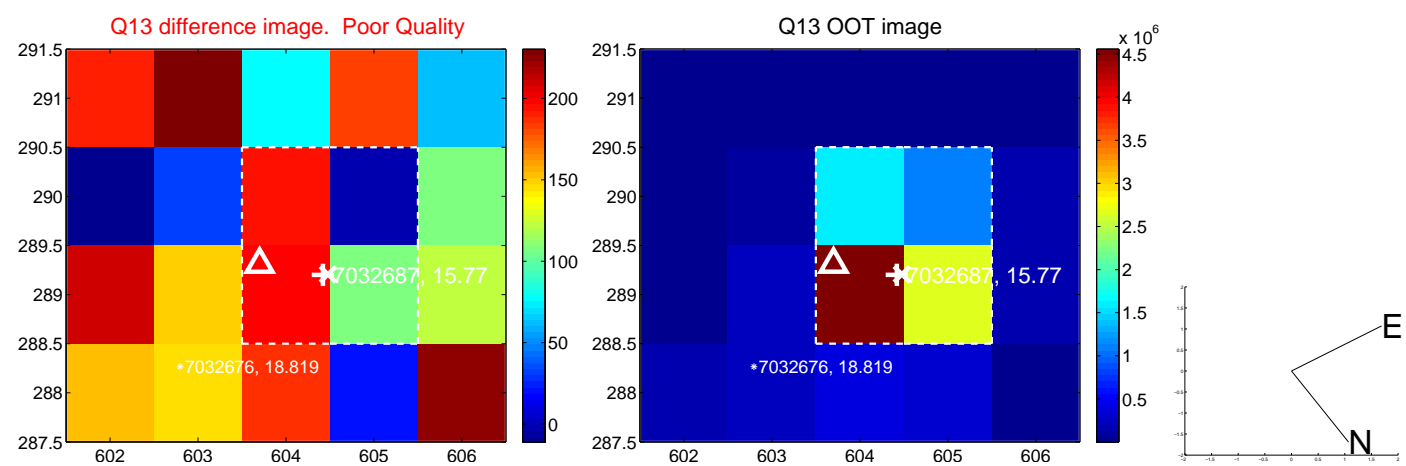




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





# UKIRT Image

Declination

