

# KIC 010268907

## 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> )
010268907-01	OBS	1077.01	0.551983	131.582620	193.0	1.108	16.8	20.1	0.75	5409	1.25	2796.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010268907-01	OBS	FP	0.00	0	0	0	1	CENT_FEW_MEAS—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 010268907-01

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>
010268907-01	10268907	3773.01	10268903	1:2	6.0	-1	0	17.36	15.73	497.69	Direct-PRF	0	2.37	0.83

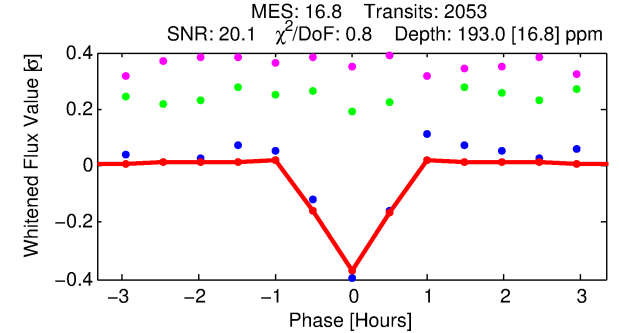
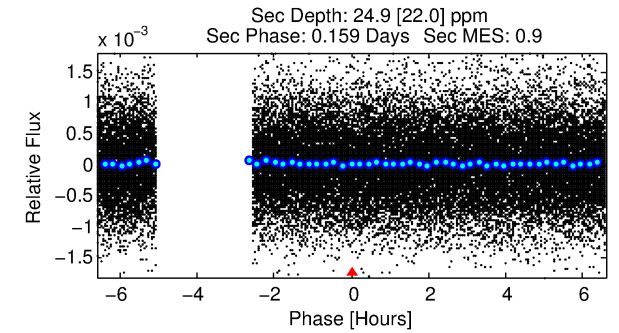
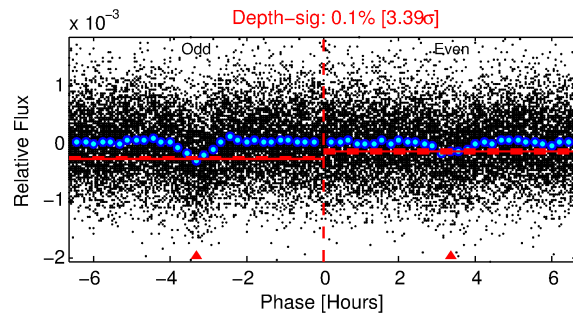
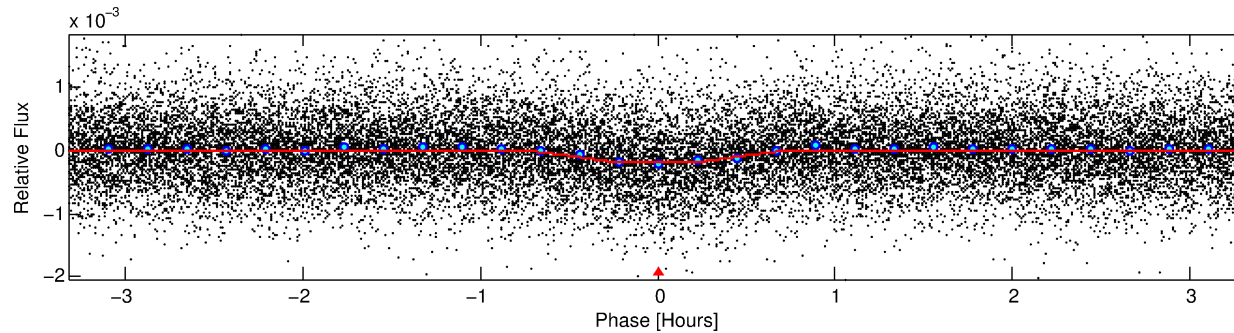
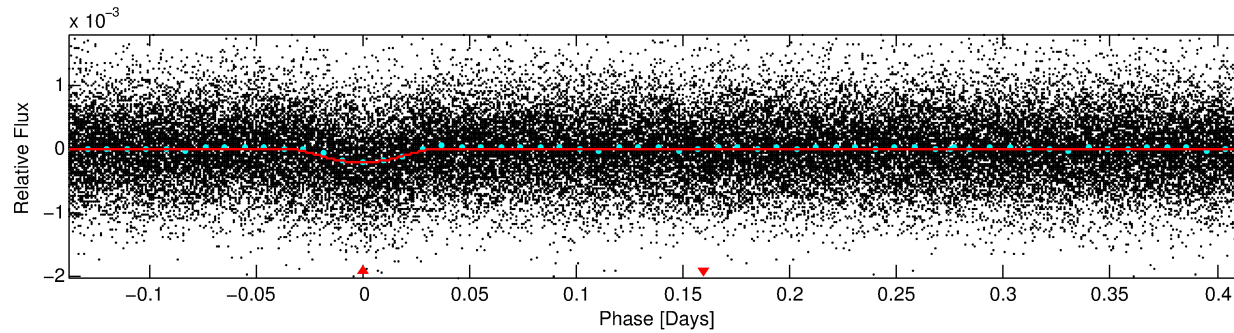
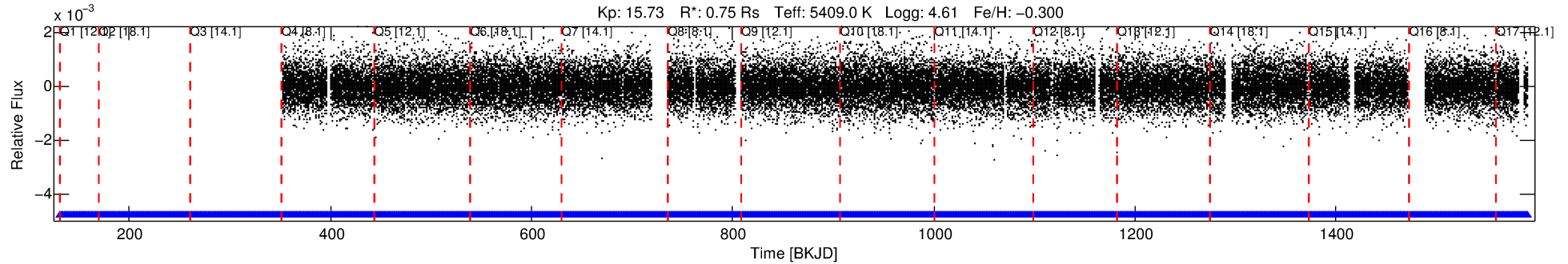
**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided 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: 10268907 Candidate: 1 of 1 Period: 0.552 d

KOI: K01077 Corr: No Ephemeris Match

Kp: 15.73 R\*: 0.75 Rs Teff: 5409.0 K Logg: 4.61 Fe/H: -0.300



## DV Fit Results:

Period = 0.55198 [0.00001] d  
Epoch = 131.5826 [0.0009] BKJD  
Rp/R\* = 0.0154 [0.0058]  
a/R\* = 2.01 [2.55]  
b = 0.90 [0.36]  
Seff = 2796.53 [698.59]  
Teq = 1854 [116] K  
Rp = 1.25 [0.52] Re  
a = 0.0124 [0.0018] AU  
Ag = 1.33 [1.58] [0.21σ]  
Teffp = 3080 [903] K [1.35σ]

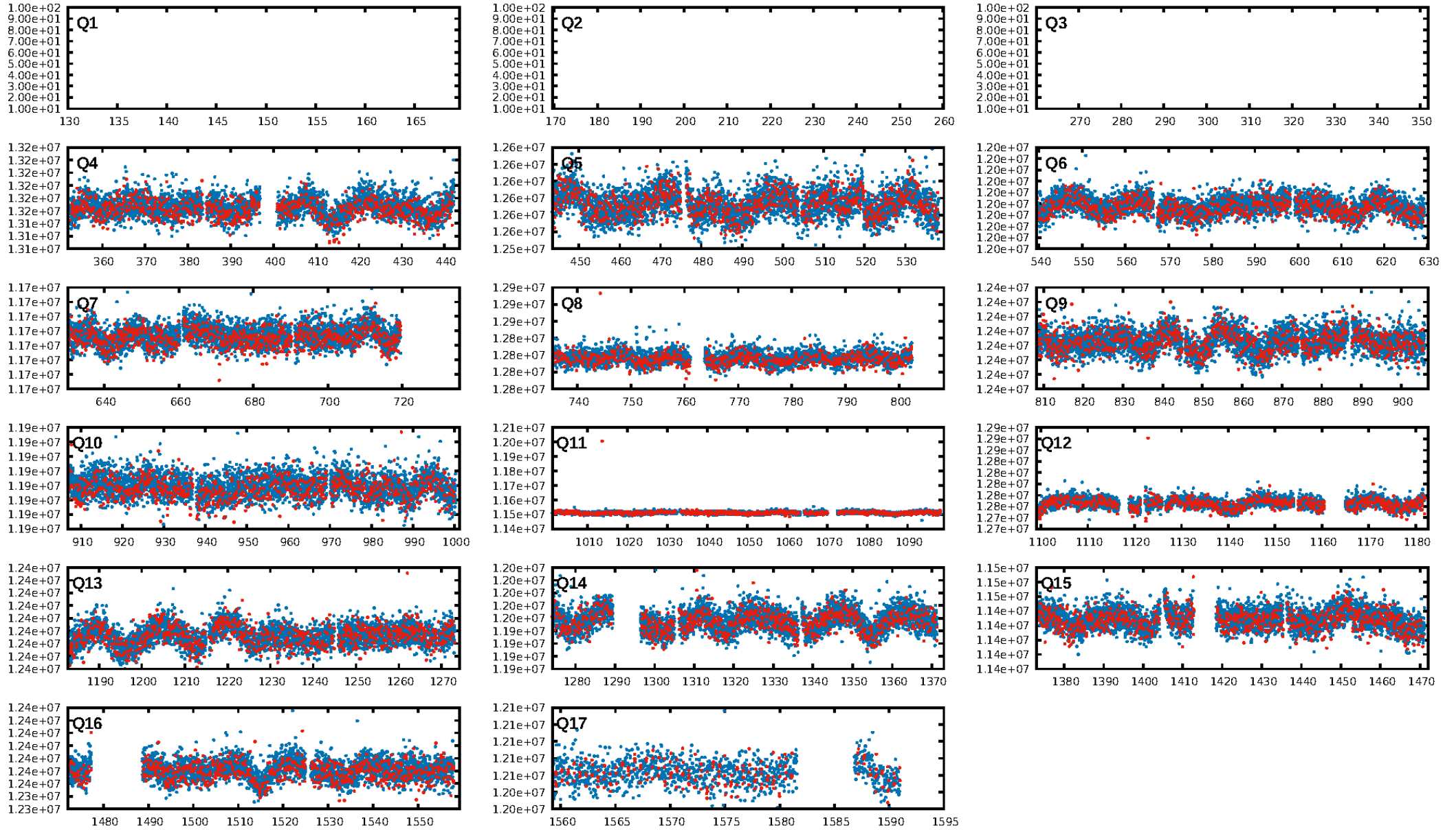
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.31e-63  
RollingBand-fgt: 1.00 [2005/2005]  
GhostDiagnostic-chr: -0.899  
Centroid-sig: 0.0%  
Centroid-so: 5.376 arcsec [11.43σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [14/14]

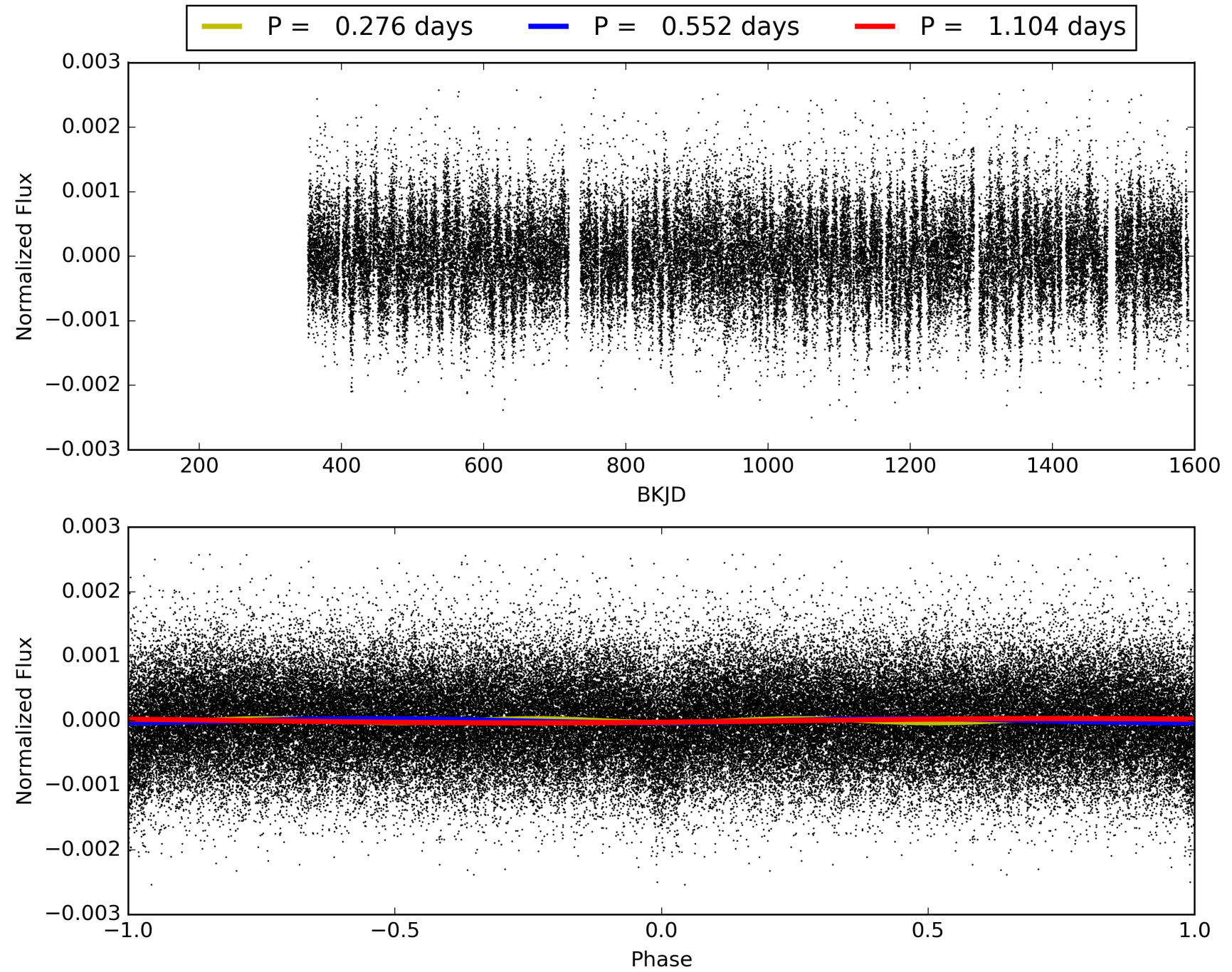
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:54:41 Z

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

# TCE 010268907-01, PDC Light Curves

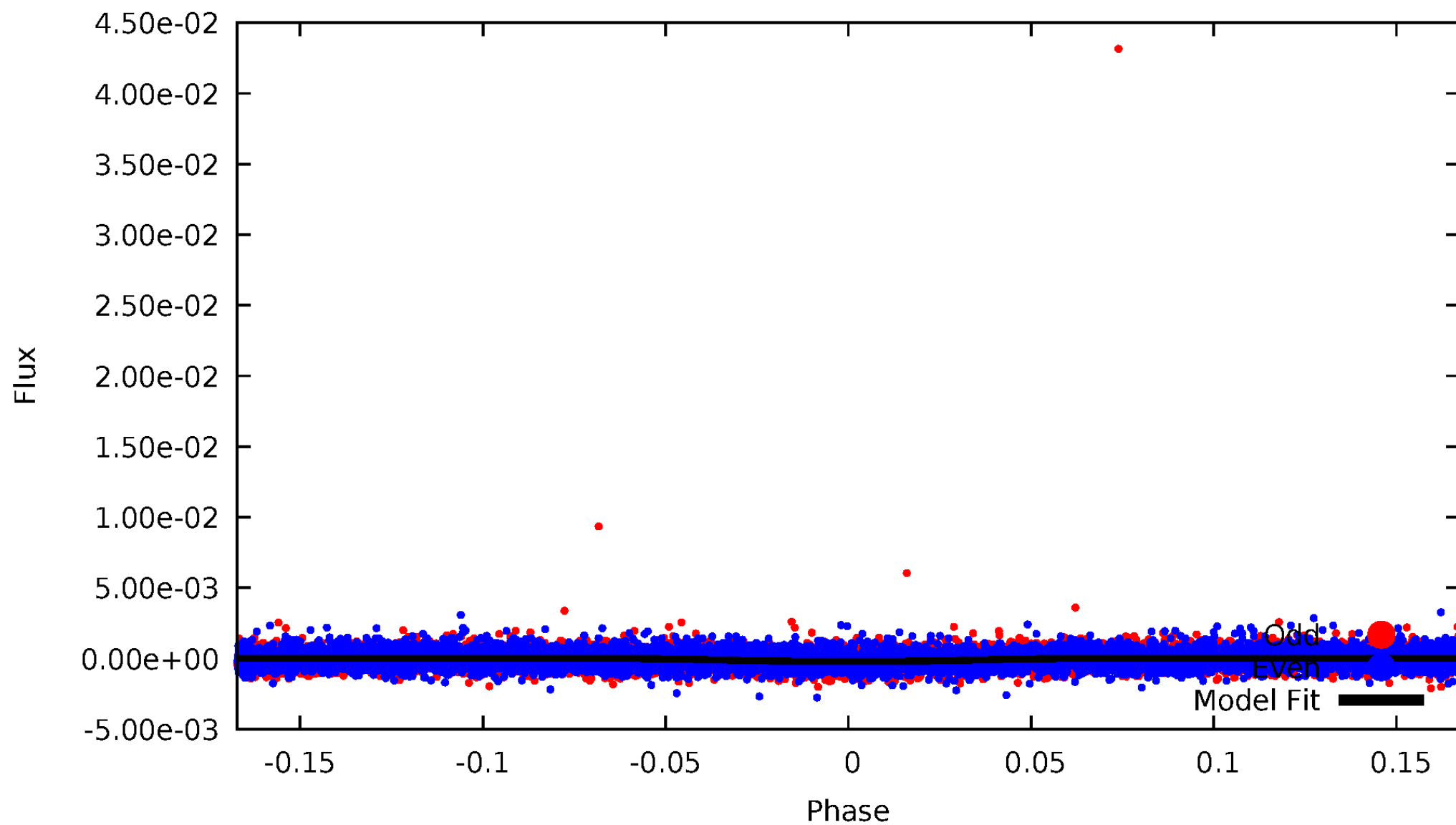


# TCE 010268907-01



# DV Odd/Even

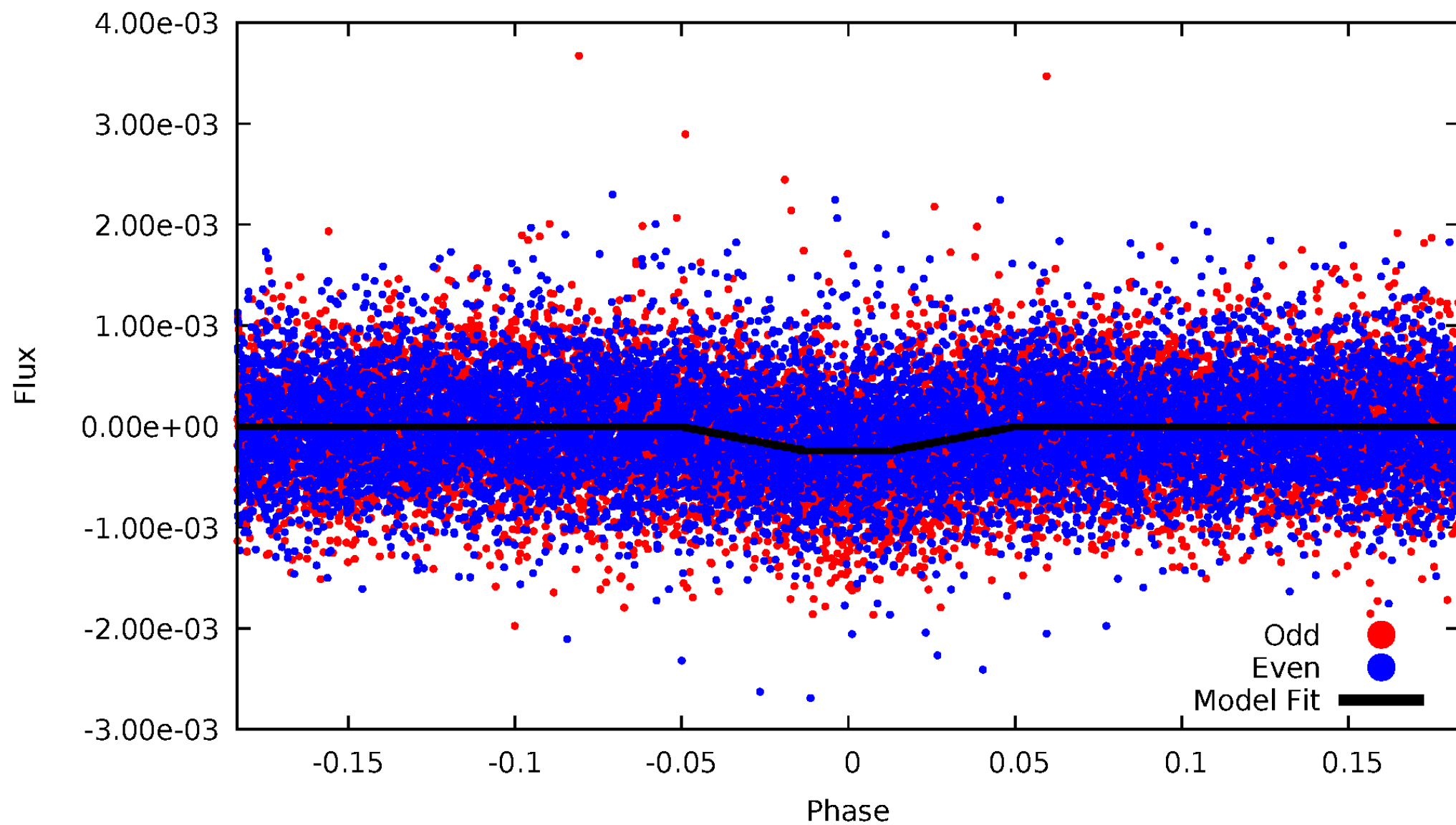
TCE 010268907-01





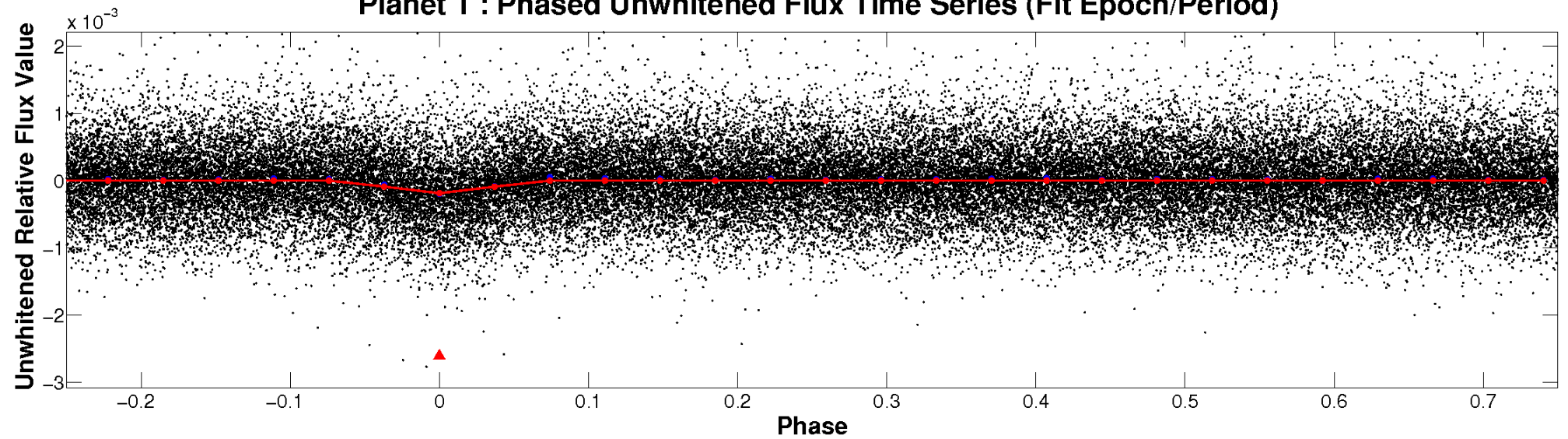
# ALT Odd/Even

TCE 010268907-01

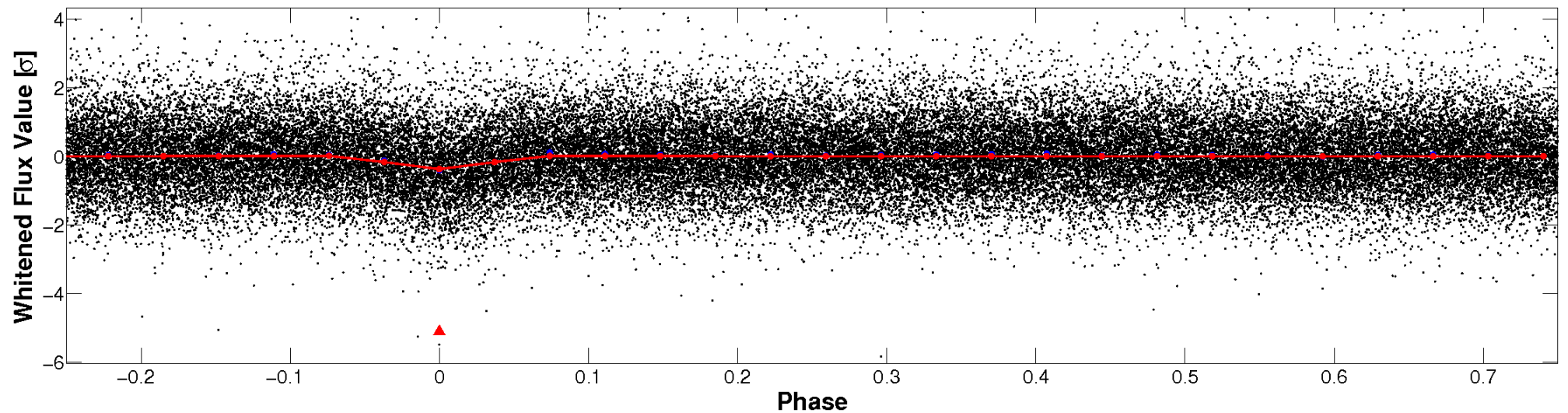


# Non-Whitened Vs. Whitened Light Curve

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

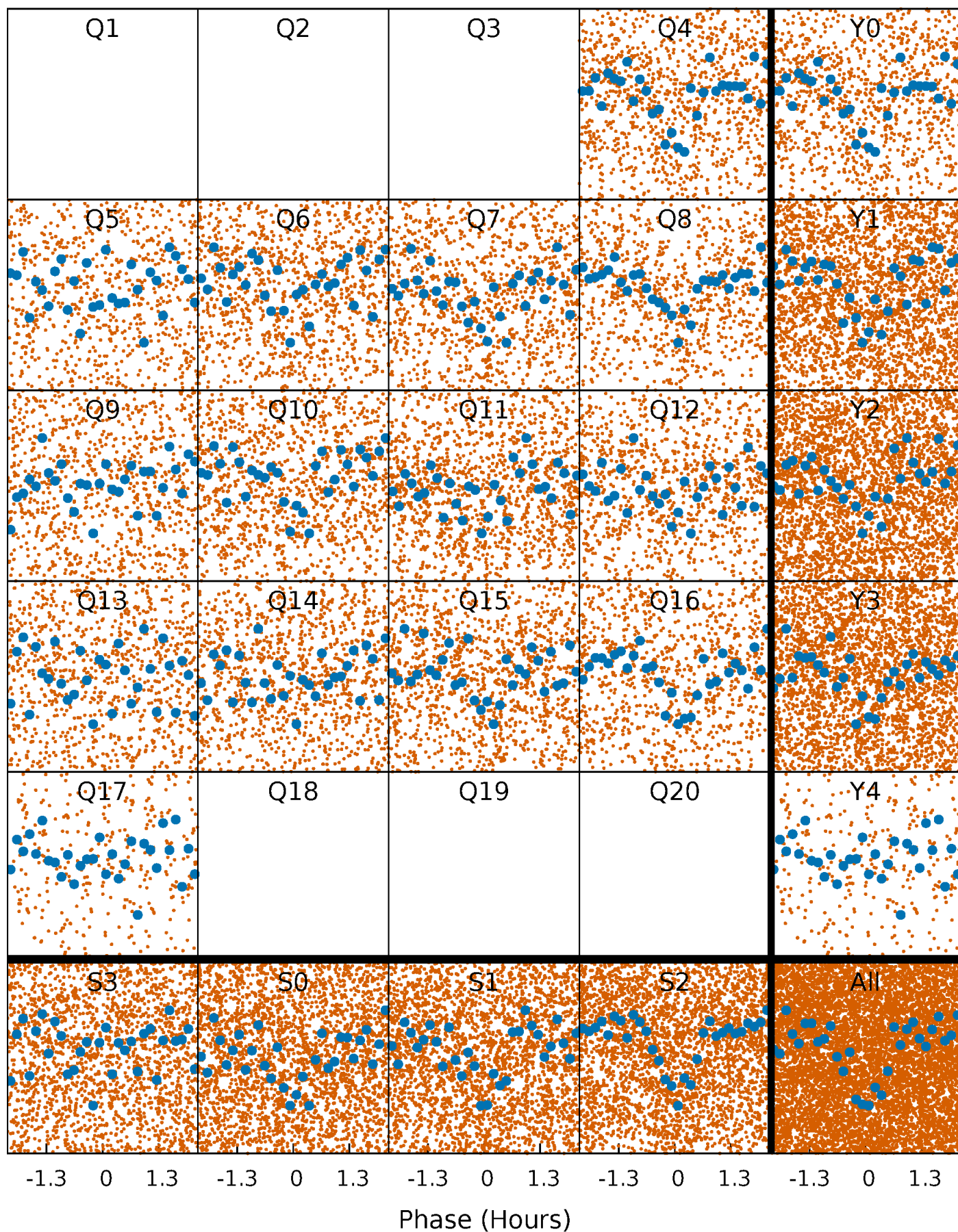


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

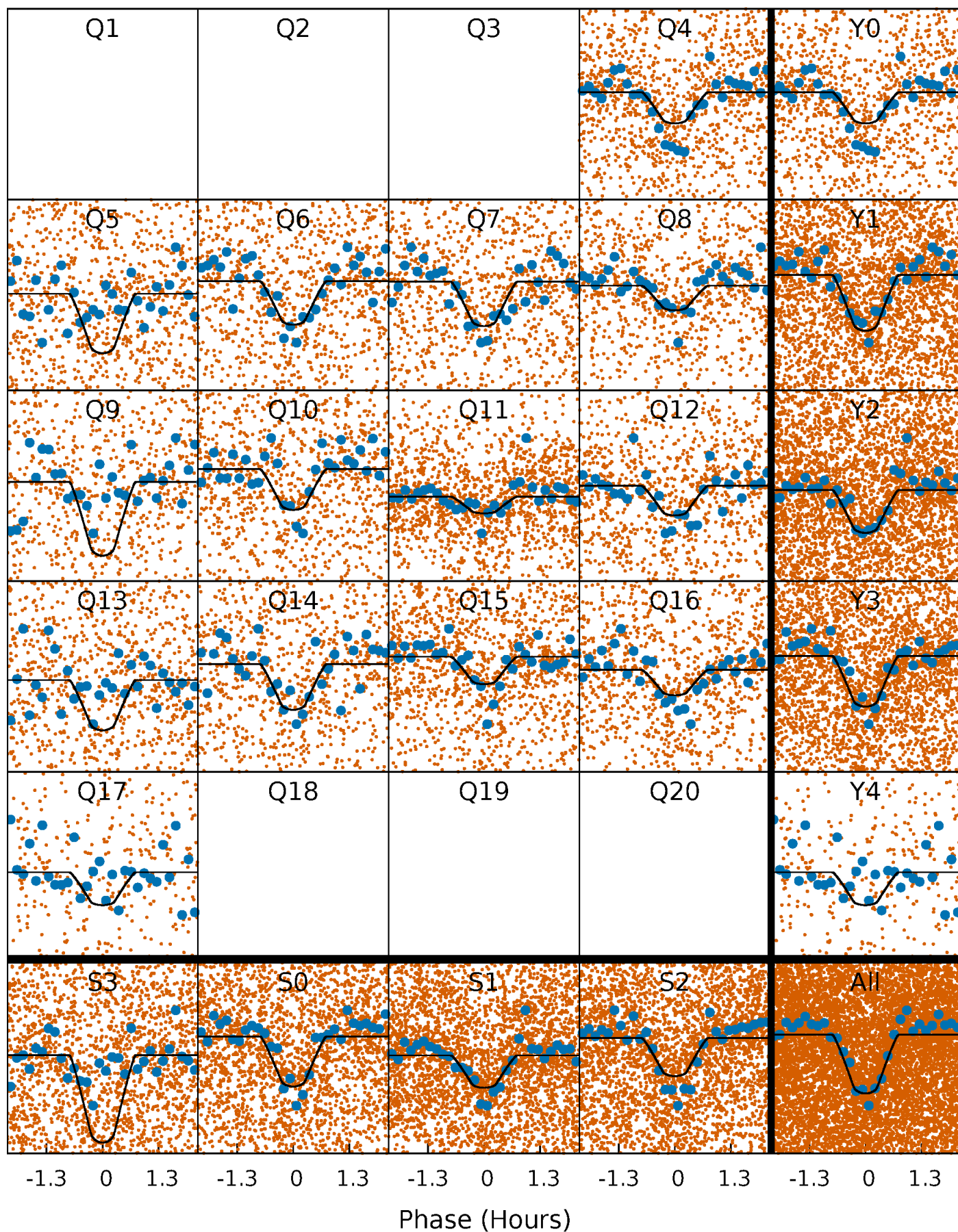
TCE 010268907-01 P= 0.551983 Days  $T_0=131.582620$  (BKJD)





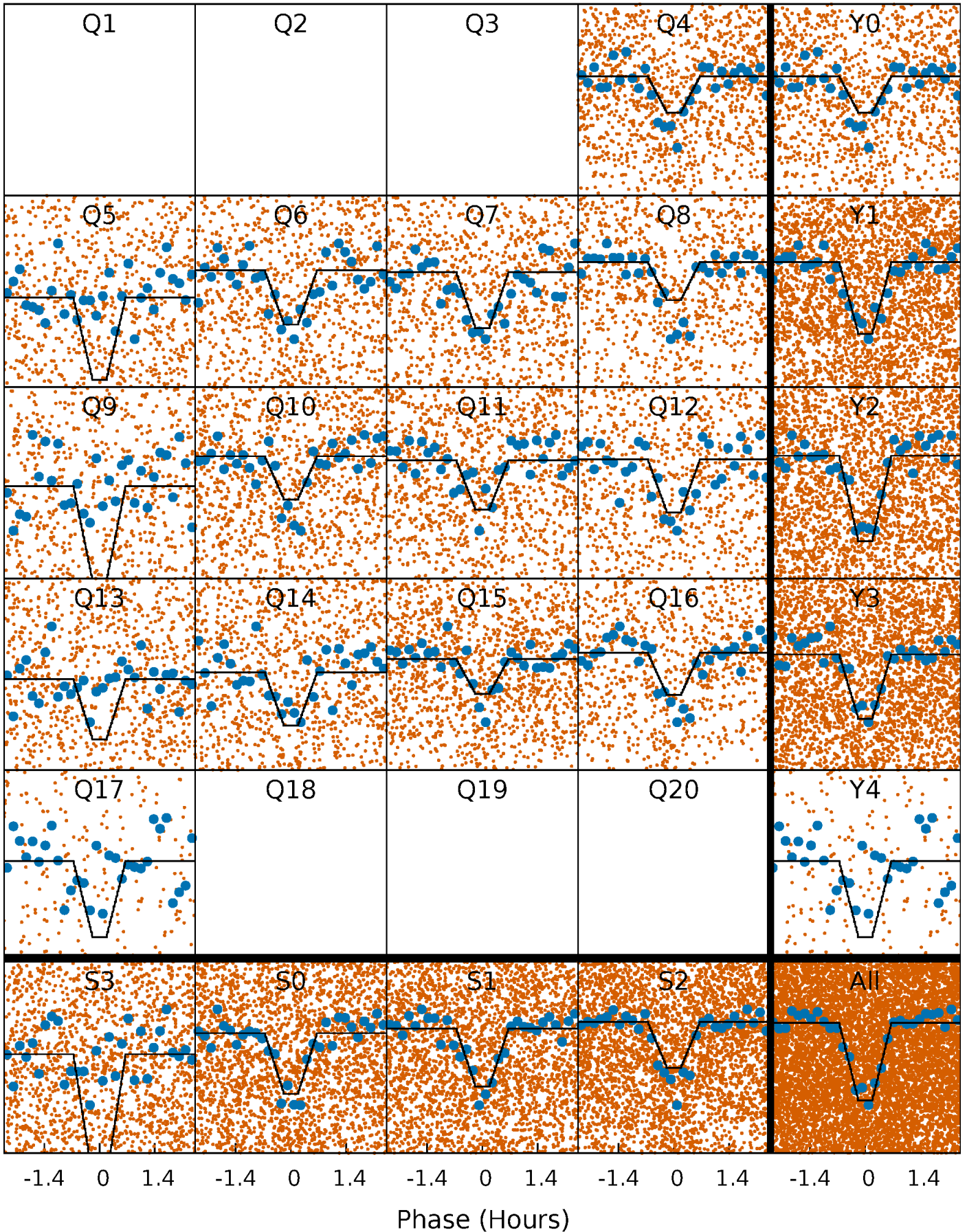
# DV Quarter-Phased Transit Curves

TCE 010268907-01   P= 0.551983 Days    $T_0=131.582620$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

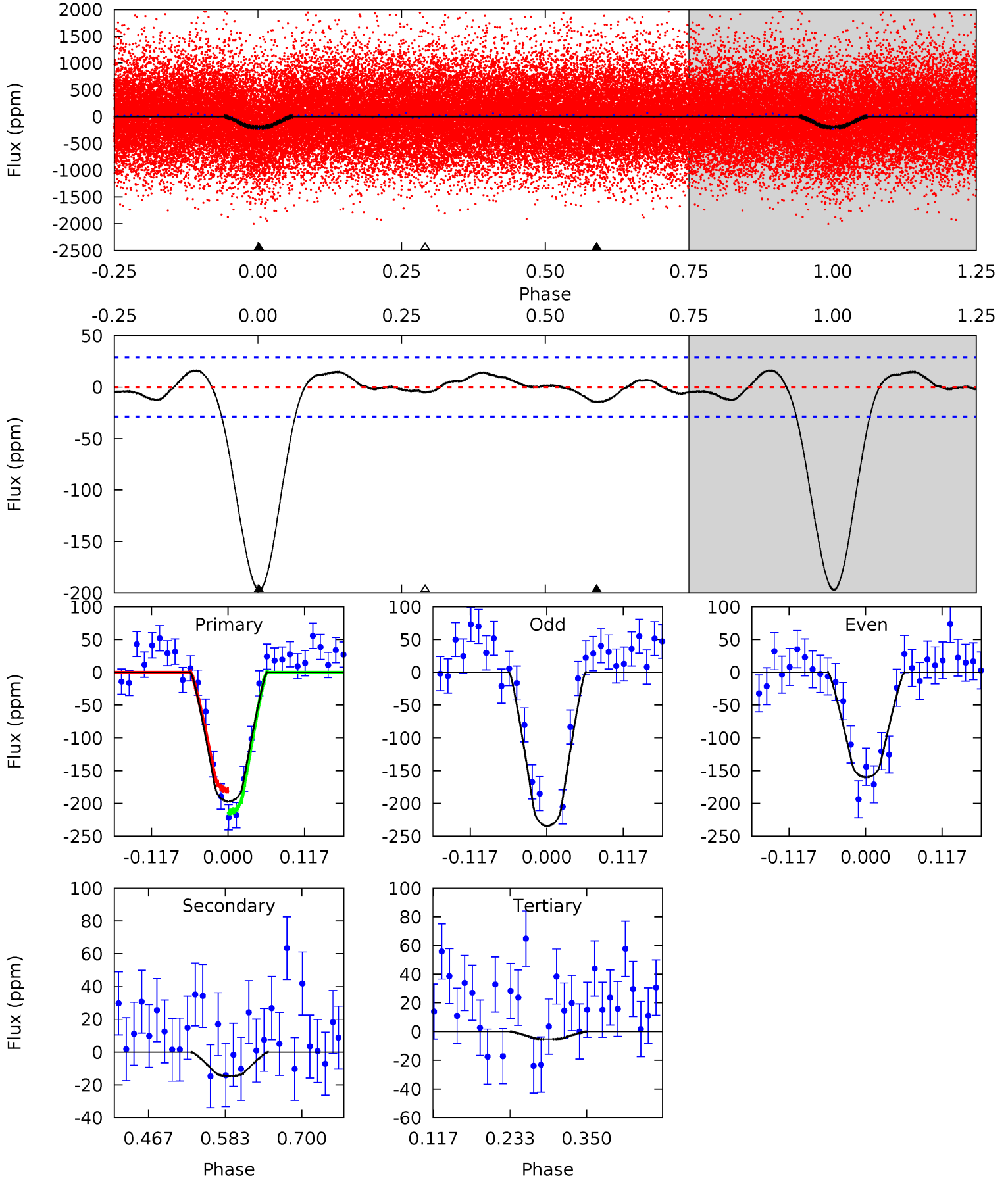
TCE 010268907-01 P= 0.551984 Days  $T_0=131.583292$  (BKJD)



# DV Model-Shift Uniqueness Test

010268907-01, P = 0.551983 Days, E = 131.582620 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
31.2	2.32	0.84	0	4.53	1.57	1.18	30.4	31.2	1.48	2.32	5.87	0.97	0.08	2.62

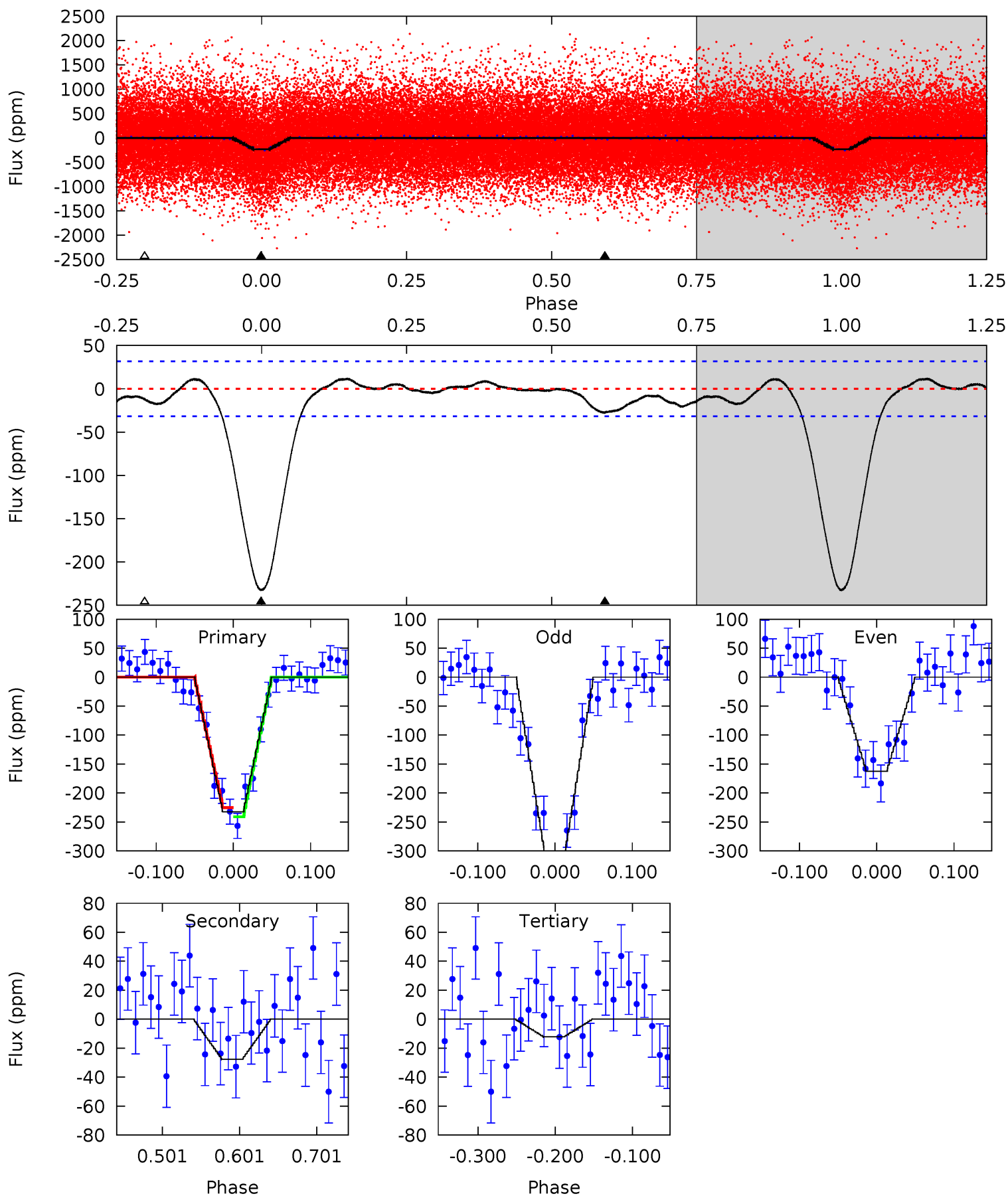




# Alt Model-Shift Uniqueness Test

010268907-01, P = 0.551984 Days, E = 131.583292 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
33.4	3.97	1.75	0	4.56	1.64	1.20	31.7	33.4	2.22	3.97	10.1	1.04	0.05	1.15





### Stellar Parameters For KIC 010268907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5409^{+185}_{-185}$	$4.609^{+0.037}_{-0.112}$	$-0.300^{+0.300}_{-0.300}$	$0.746^{+0.133}_{-0.061}$	$0.835^{+0.086}_{-0.096}$	$2.836^{+0.454}_{-0.962}$
	+3%/-3%	+1%/-2%	+100%/-100%	+18%/-8%	+10%/-11%	+16%/-34%
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 010268907-01 / KOI 1077.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-15 \pm 6$	$1.28^{+0.50}_{-0.50}$	$2620^{+130}_{-106}$	$2999^{+686}_{-1350}$	$0.722^{+1.253}_{-0.420}$
Alt.	$-28 \pm 7$	$1.31^{+0.48}_{-0.49}$	$2632^{+124}_{-119}$	$3414^{+754}_{-484}$	$1.305^{+2.272}_{-0.646}$

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

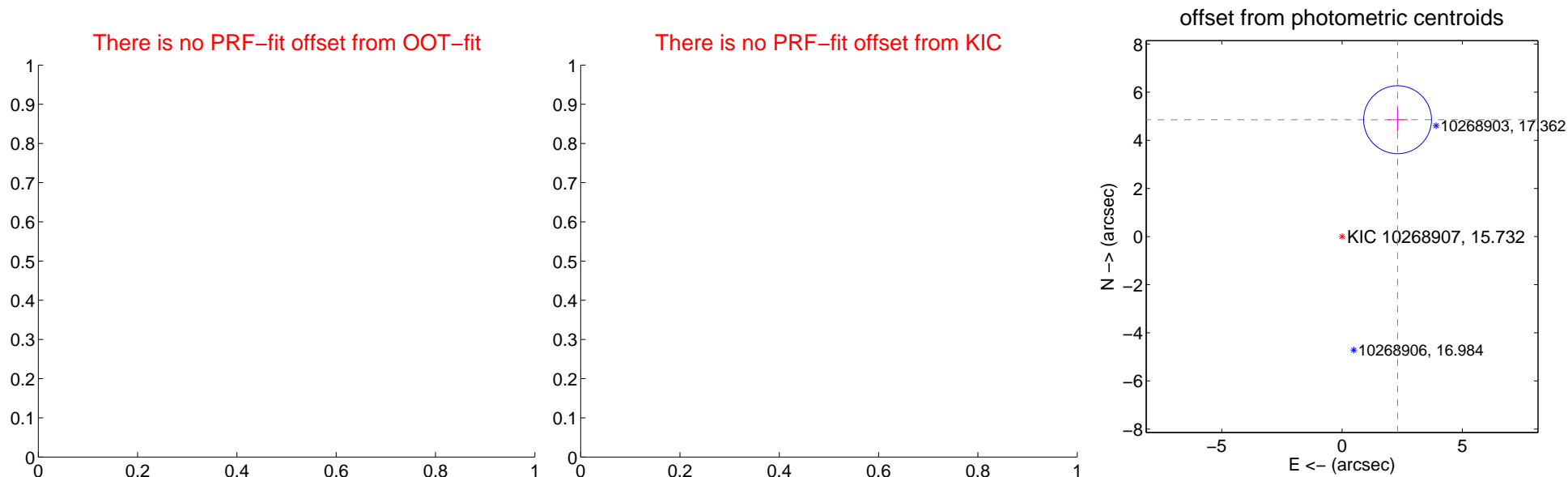
## DV Centroid Data

Supplemental centroid analysis for 010268907-01. Kepler magnitude: 15.73. Transit SNR 20.11

There are 0 quarters with good PRF difference image offsets

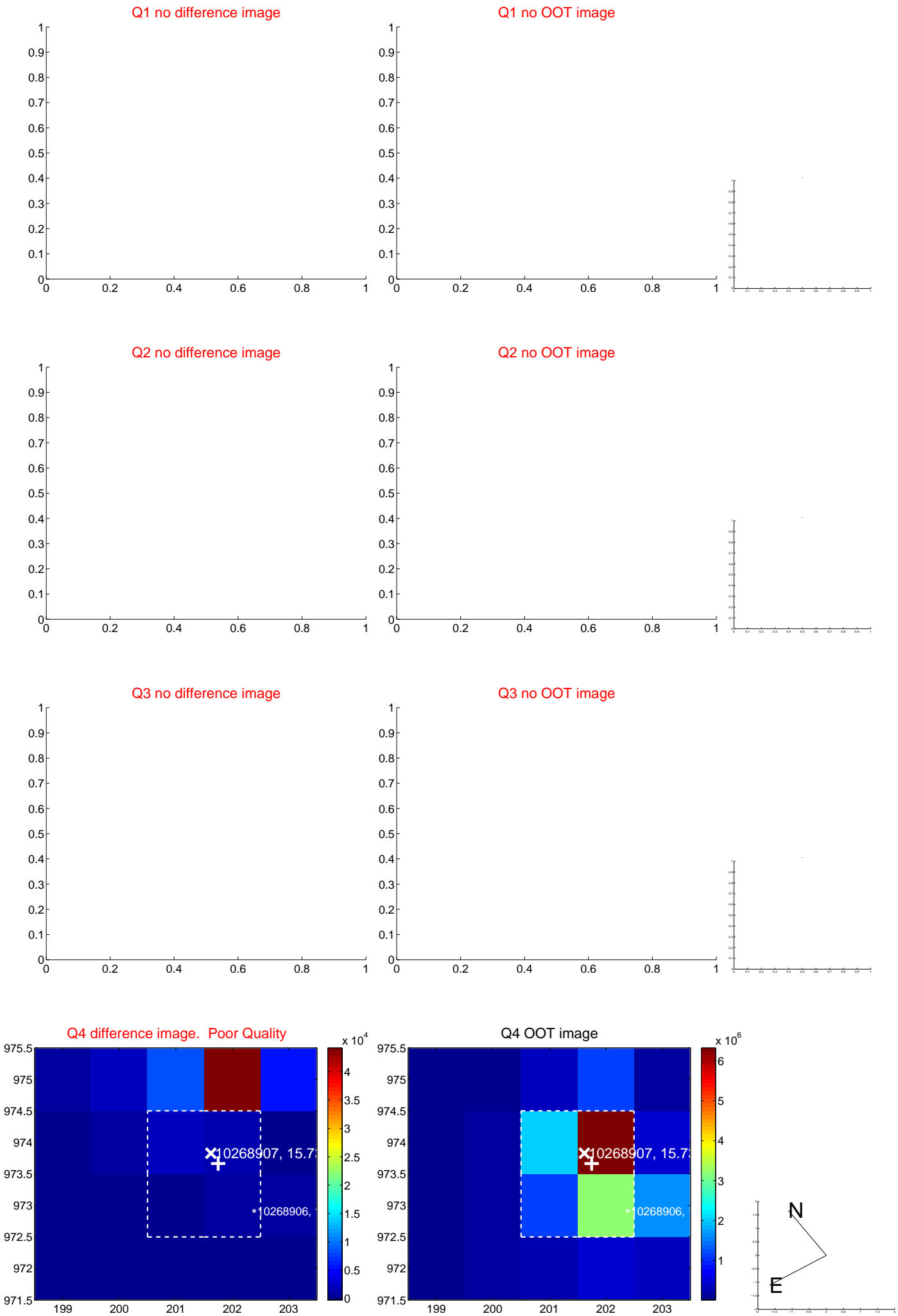
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$5.38 \pm 0.47$	11.43	$-2.31 \pm 0.43$	$4.86 \pm 0.48$

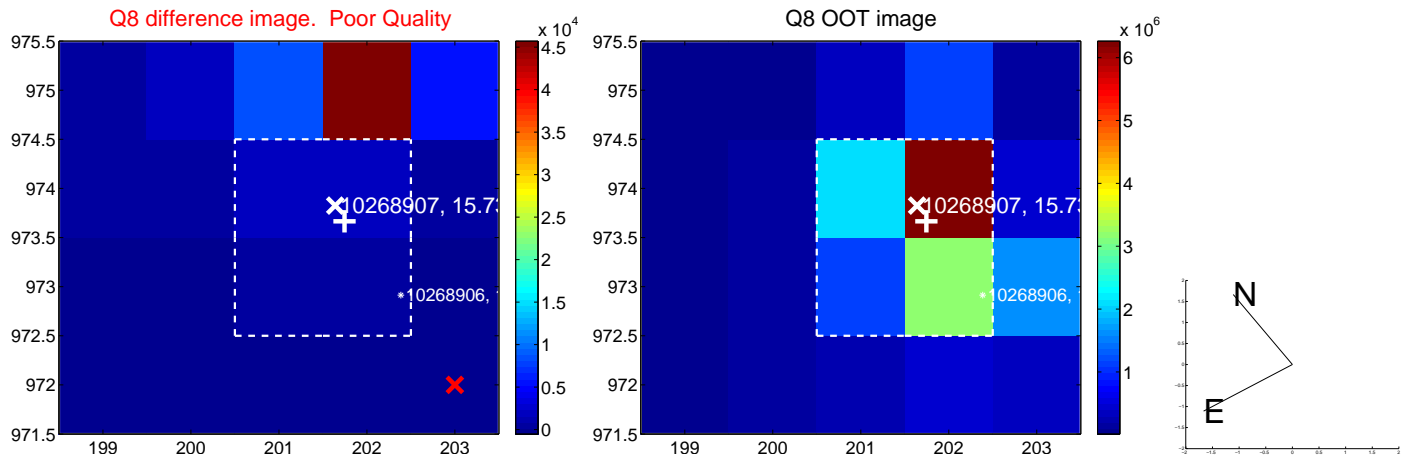
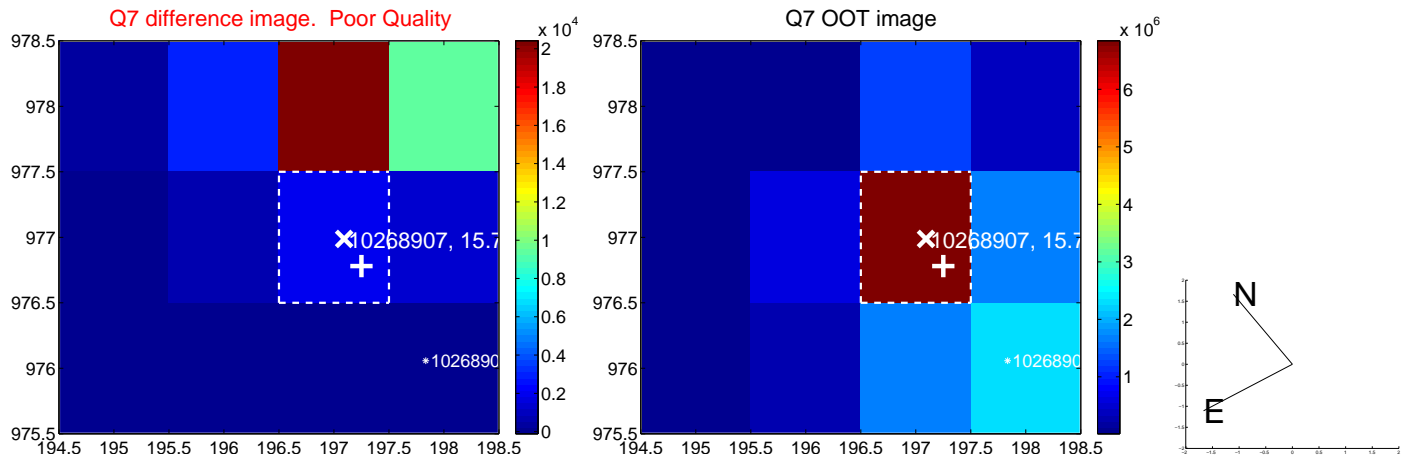
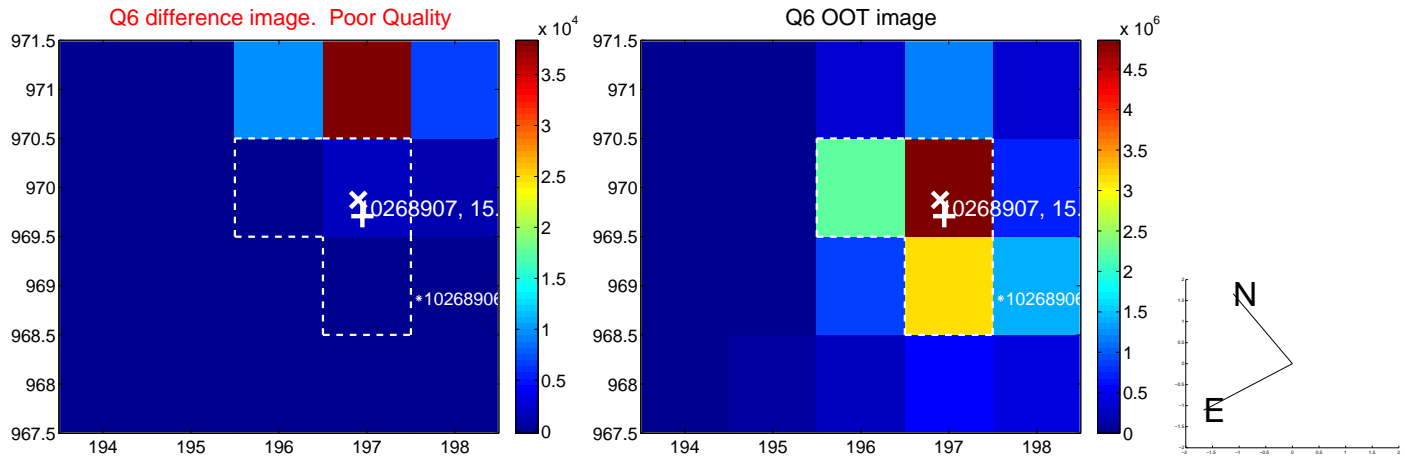
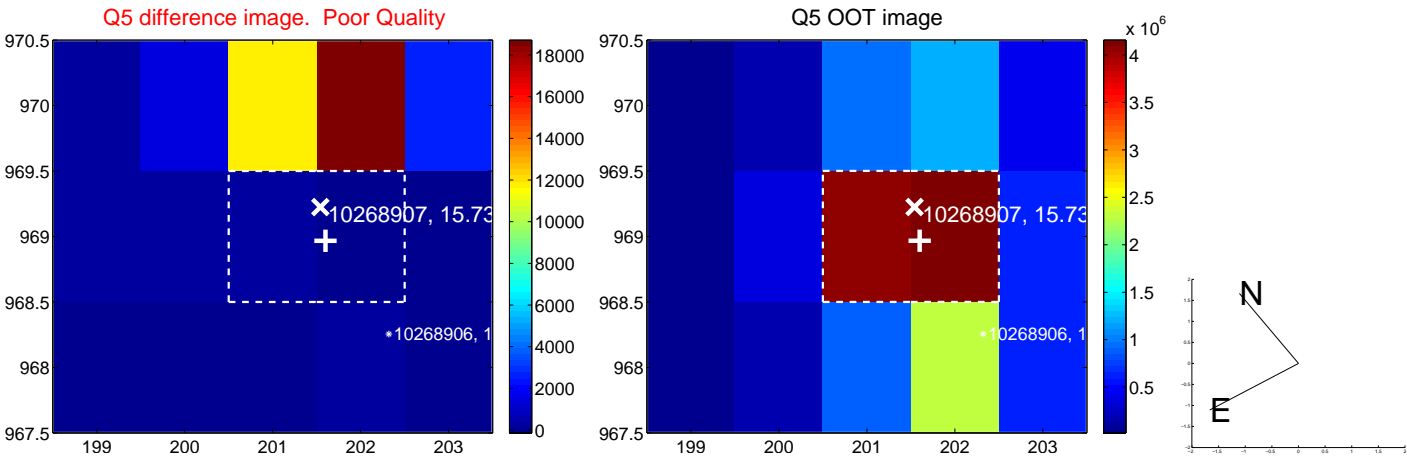


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

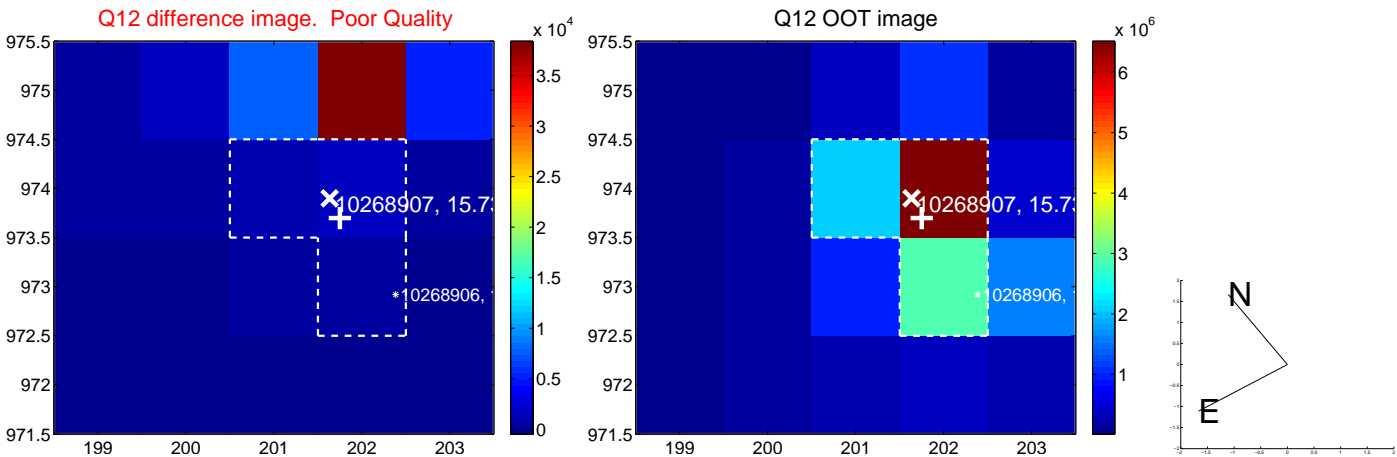
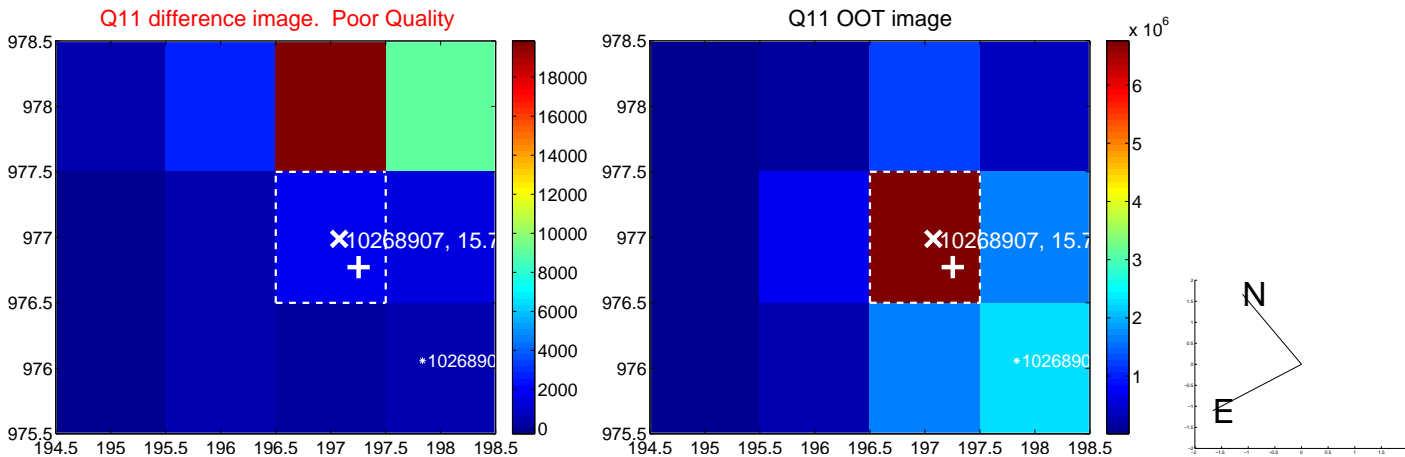
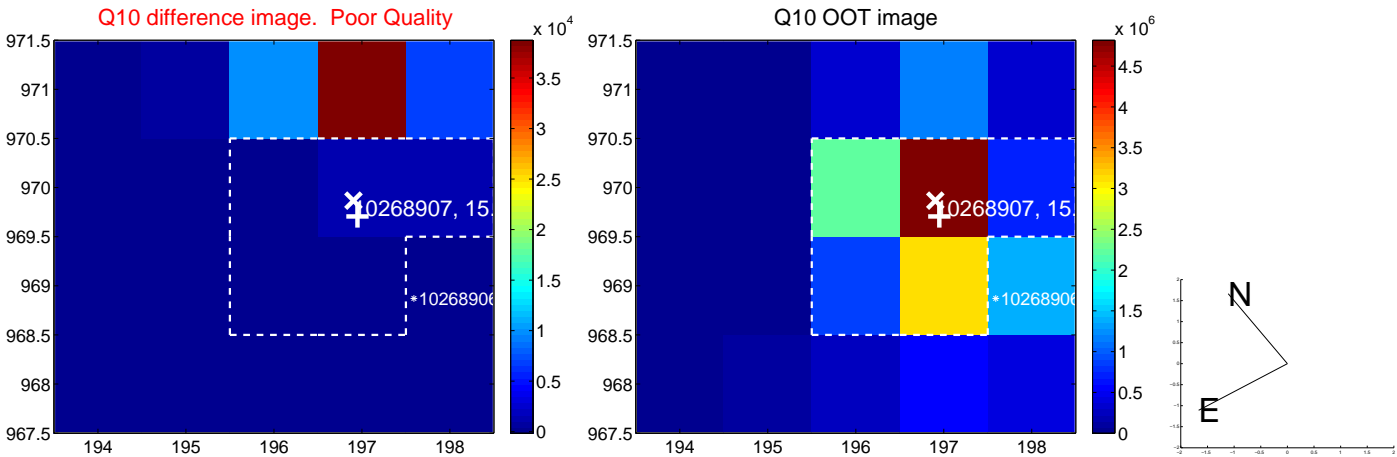
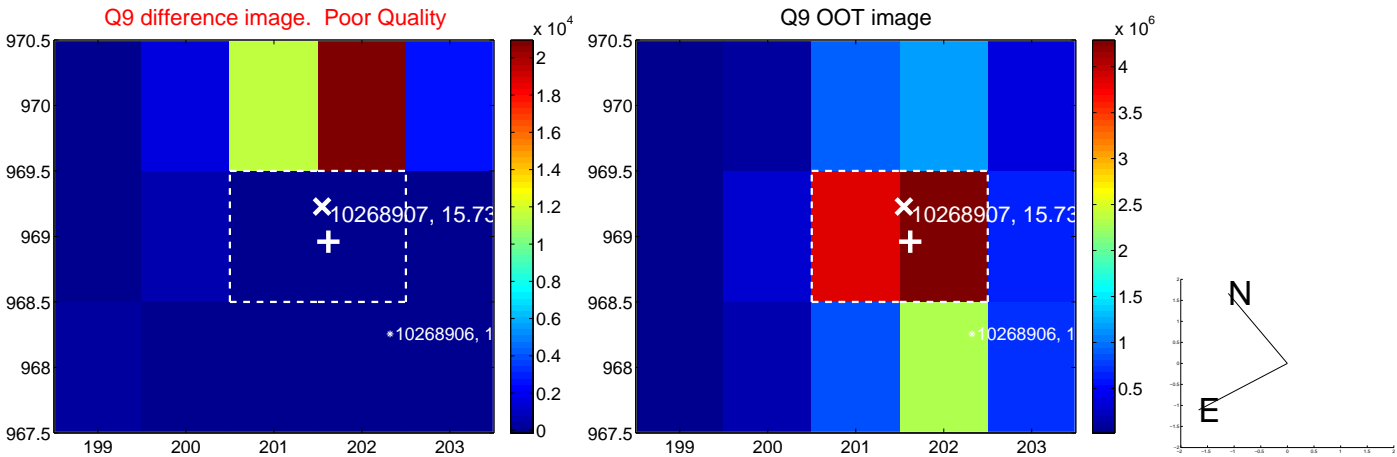


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

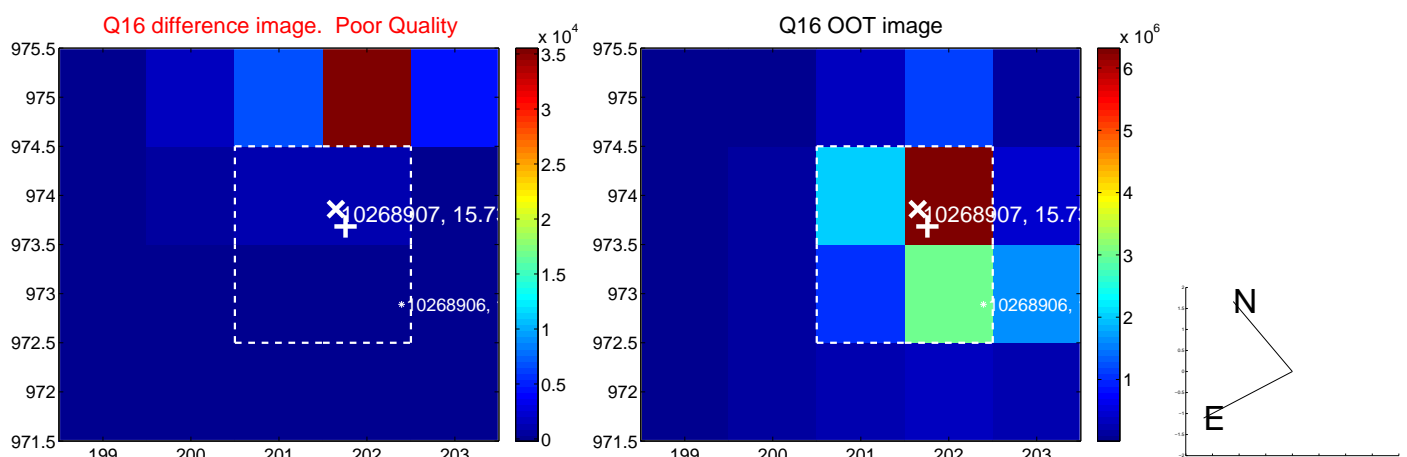
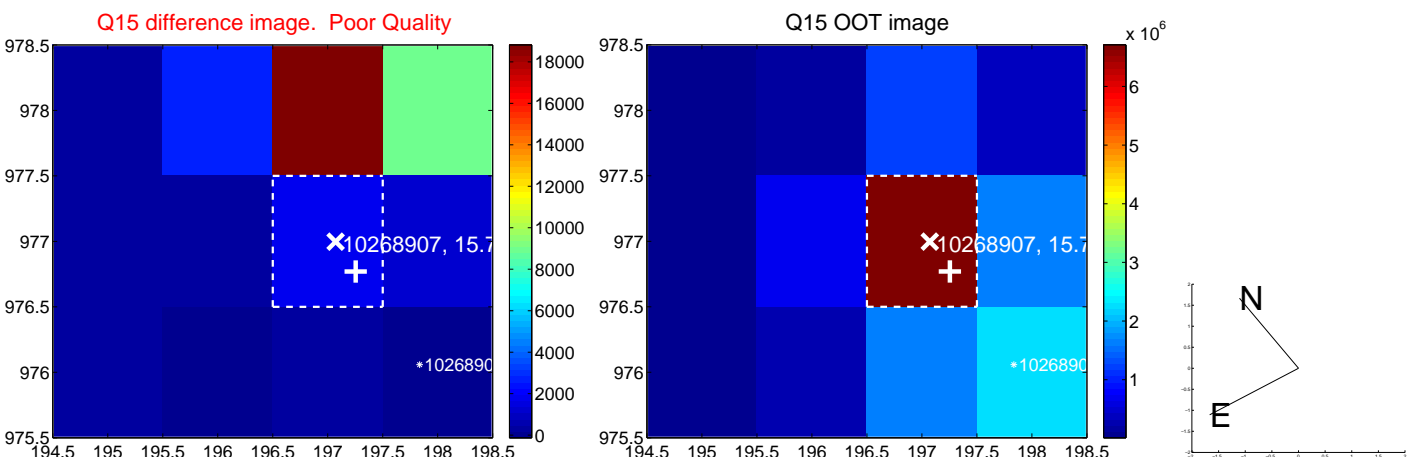
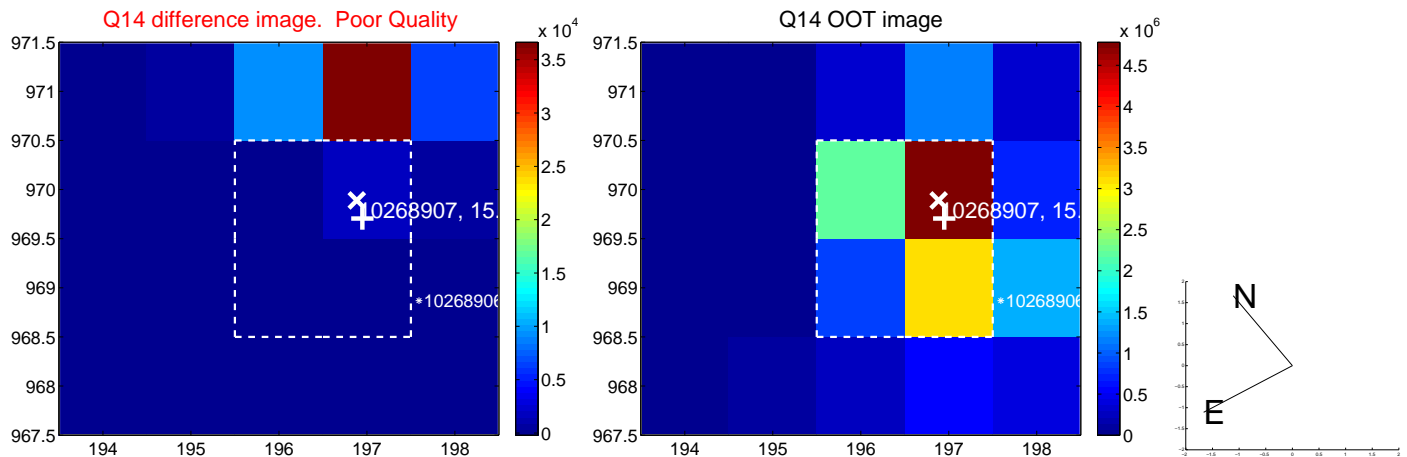
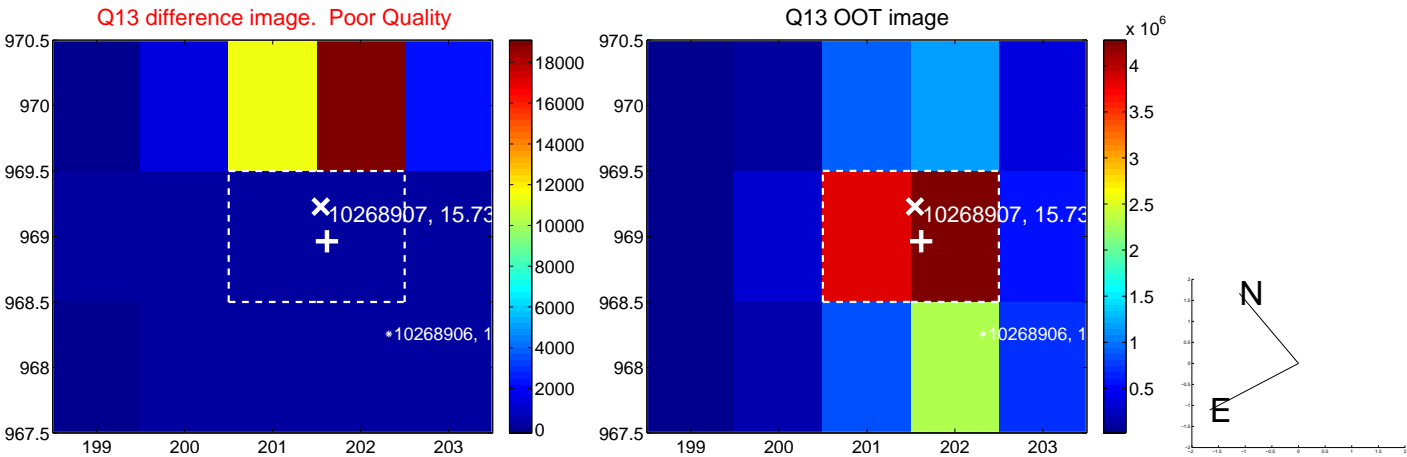




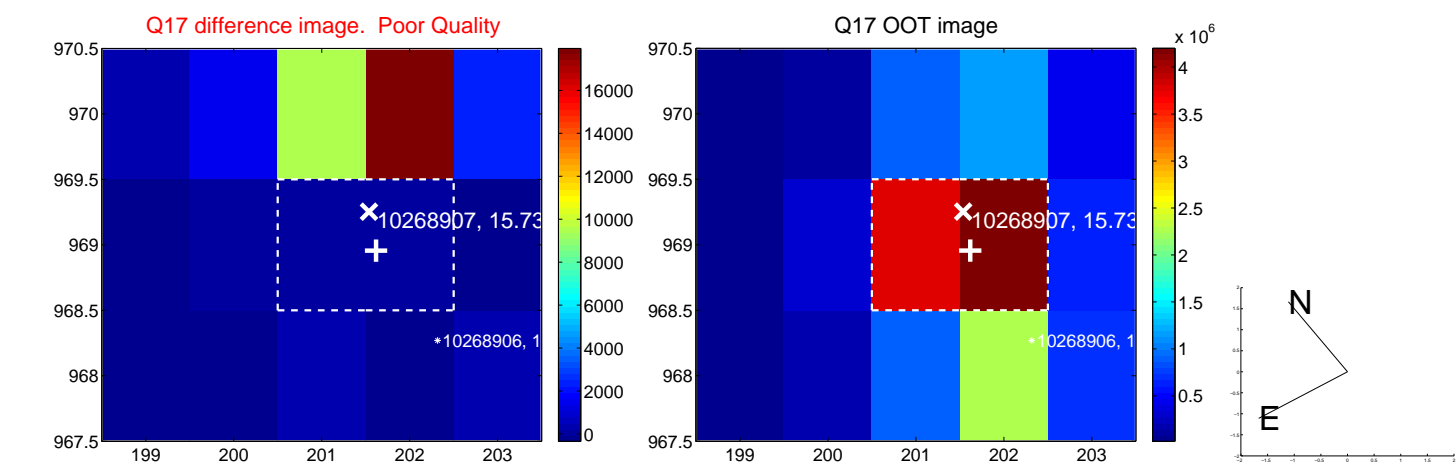
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



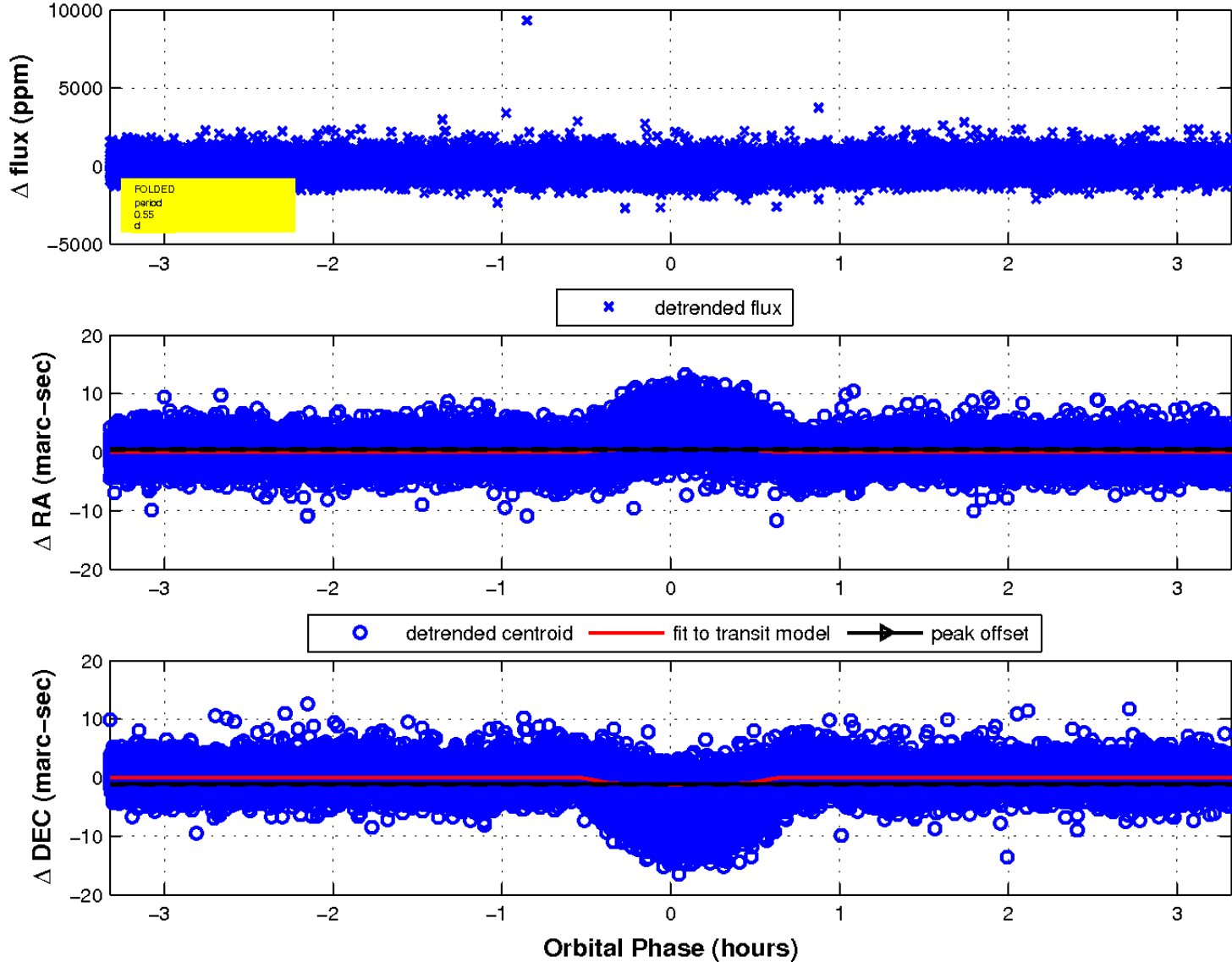
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

