

# KIC 006955671

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006955671-01	OBS	3329.01	12.687775	136.153859	323.9	5.183	11.0	12.3	1.05	6258	2.76	124.11

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006955671-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_MEAS

**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 006955671-01

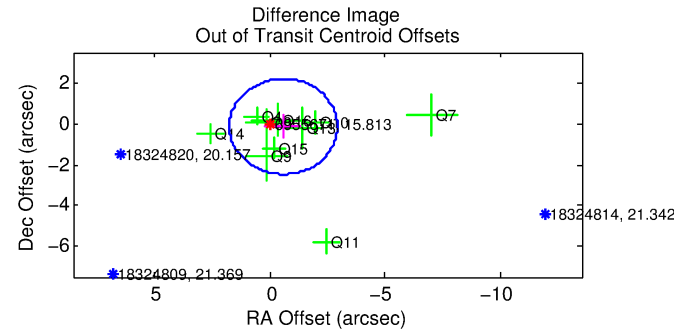
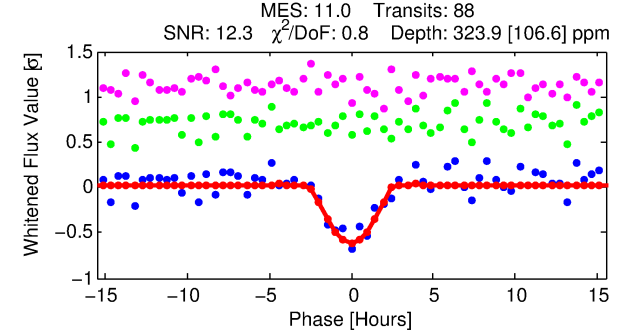
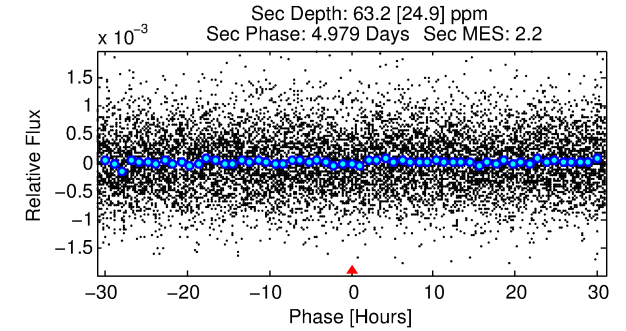
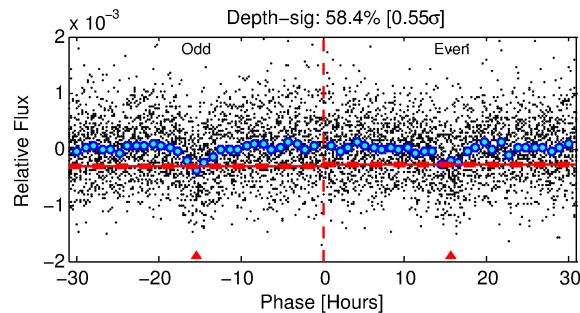
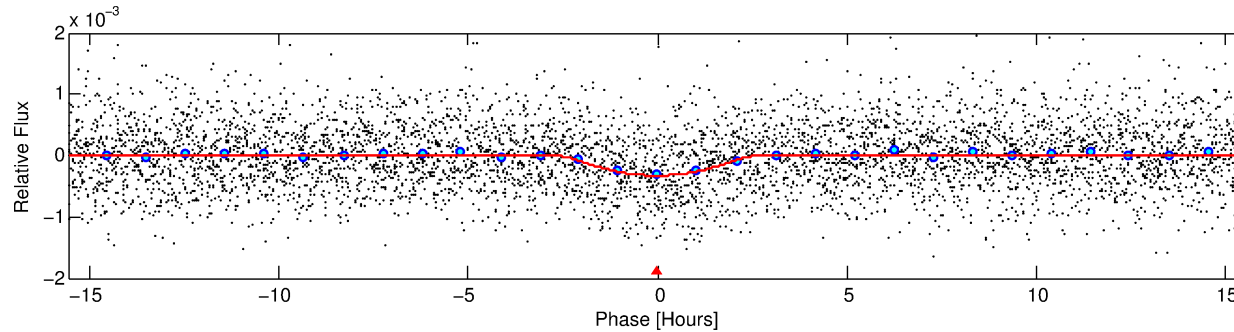
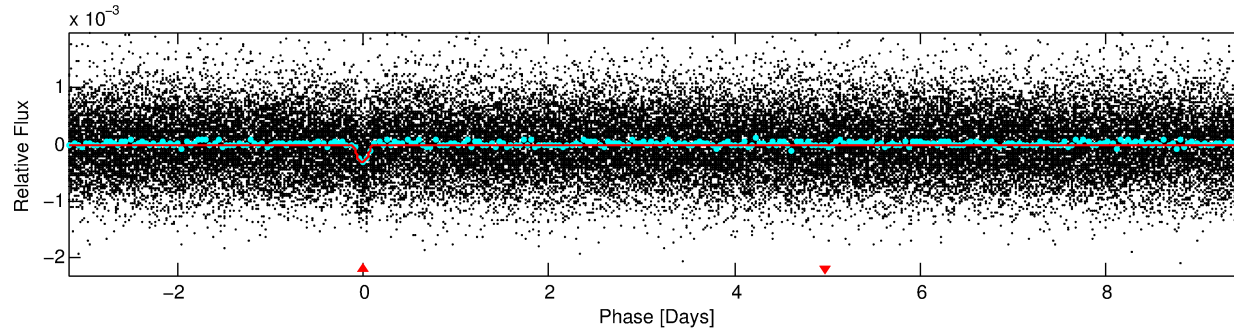
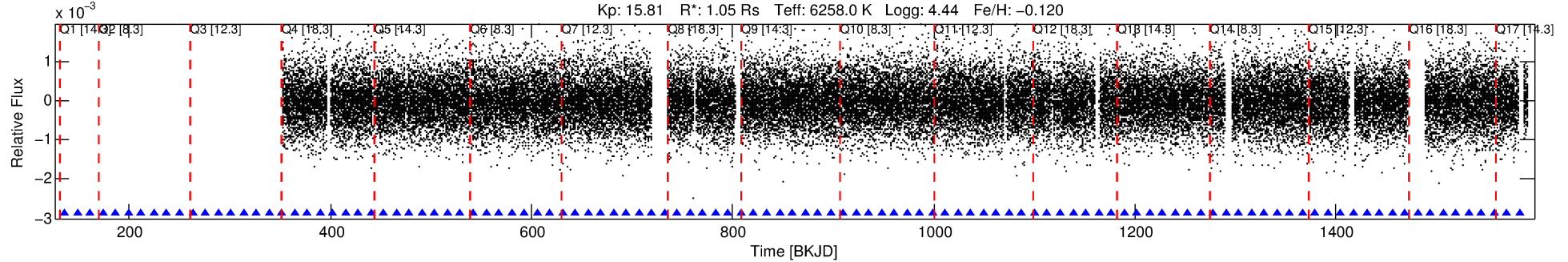
No Significant Match Found

# DV One-Page Summary

KIC: 6955671 Candidate: 1 of 1 Period: 12.688 d

KOI: K03329.01 Corr: 0.923

Kp: 15.81 R\*: 1.05 Rs Teff: 6258.0 K Logg: 4.44 Fe/H: -0.120



## DV Fit Results:

Period = 12.68777 [0.00018] d  
Epoch = 136.1539 [0.0125] BKJD  
Rp/R\* = 0.0242 [0.0175]  
a/R\* = 5.33 [1.97]  
b = 0.99 [0.04]  
Seff = 124.11 [51.11]  
Teff = 851 [88] K  
Rp = 2.76 [2.18] Re  
a = 0.1101 [0.0290] AU  
Ag = 55.24 [85.43] [0.63σ]  
Teffp = 3587 [1354] K [2.02σ]

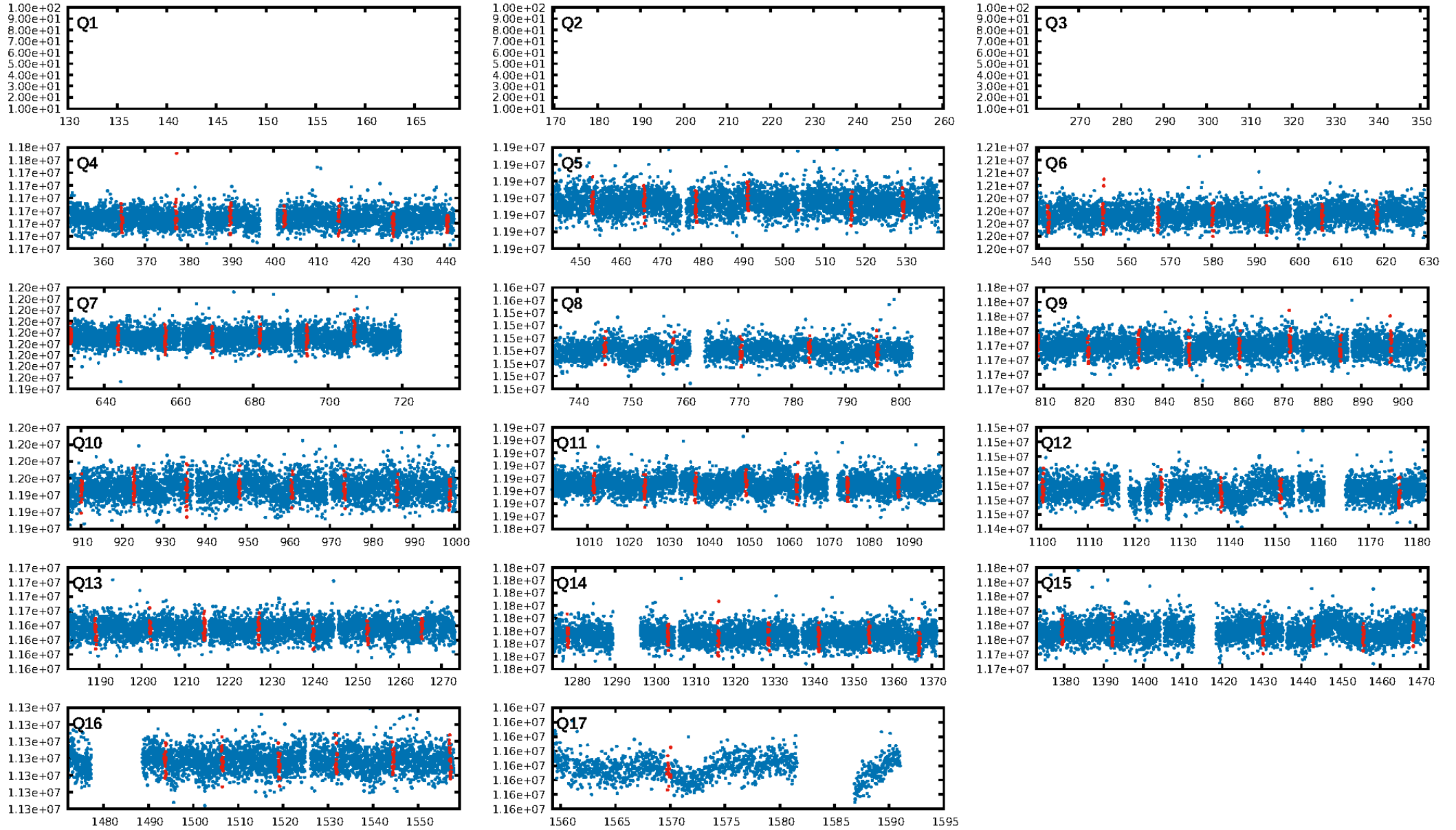
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.35e-27  
RollingBand-fgt: 1.00 [87/87]  
GhostDiagnostic-chr: -4.468  
Centroid-sig: 1.2%  
Centroid-so: 2.001 arcsec [1.74σ]  
OotOffset-rm: 0.600 arcsec [0.77σ]  
OotOffset-st: 2/3/3/2 [10]  
KicOffset-rm: 0.672 arcsec [0.92σ]  
KicOffset-st: 2/3/3/2 [10]  
DiffImageQuality-fgm: 0.60 [6/10]  
DiffImageOverlap-fno: 1.00 [14/14]

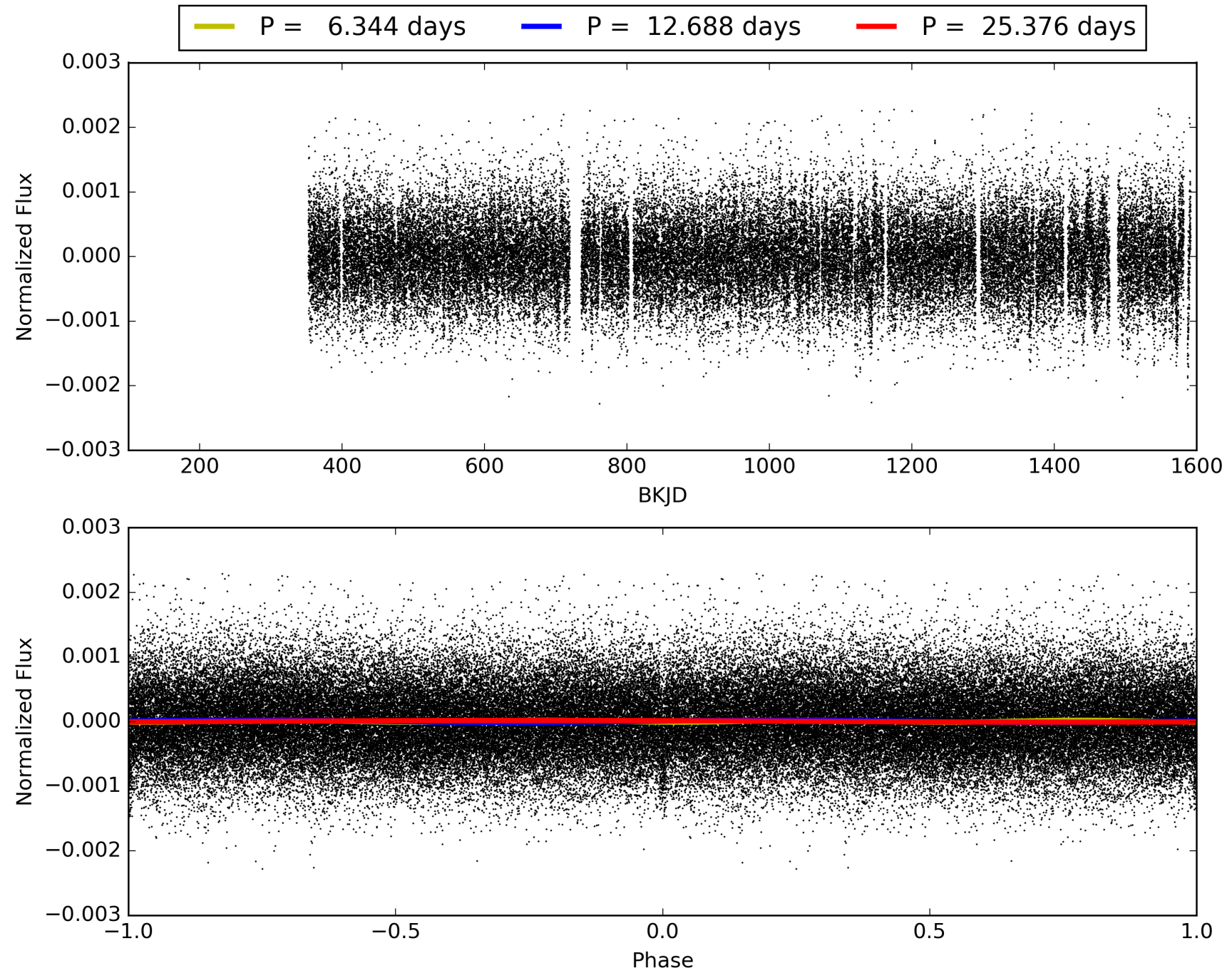
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:55:08 Z

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

# TCE 006955671-01, PDC Light Curves

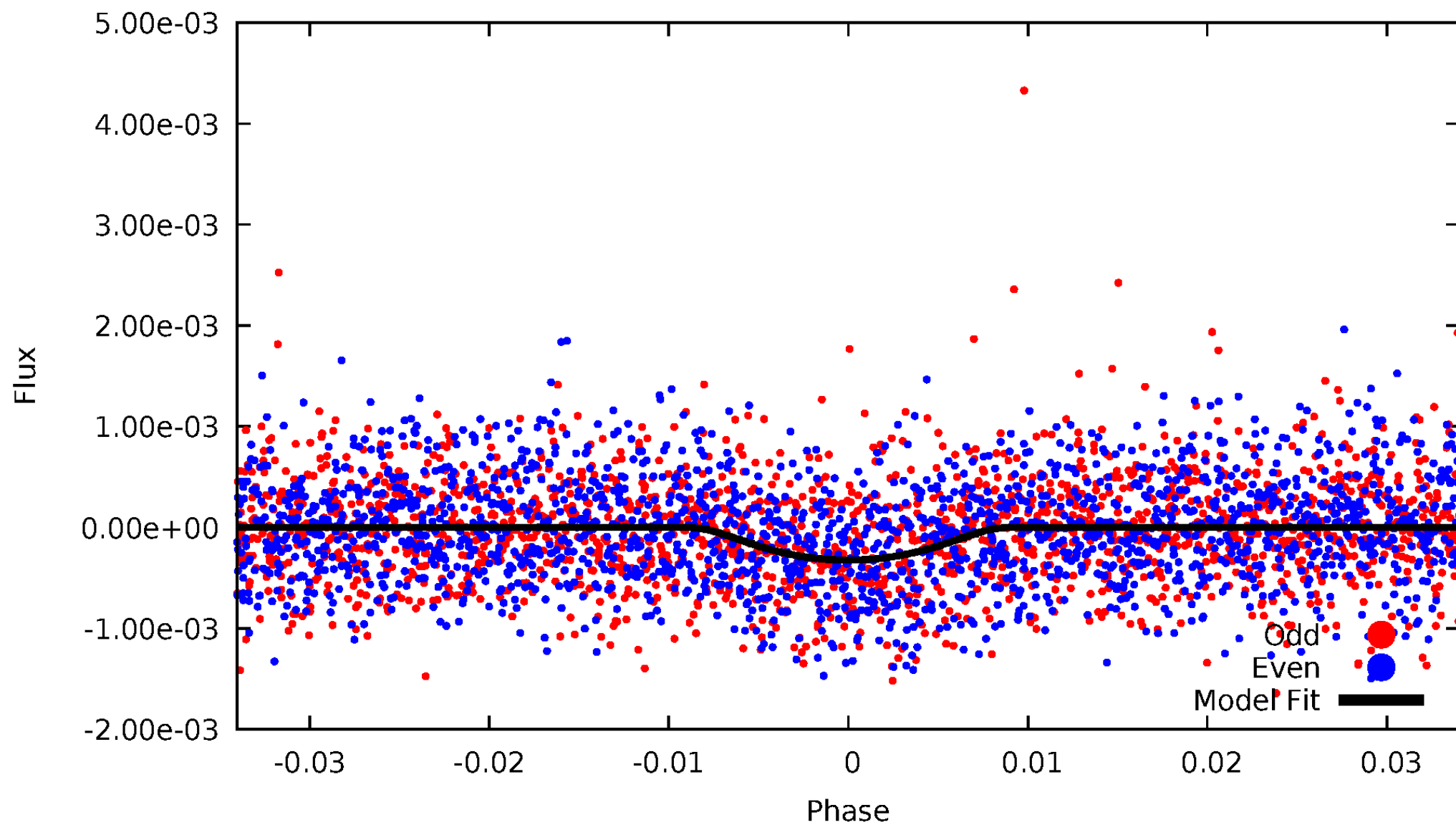


TCE 006955671-01



# DV Odd/Even

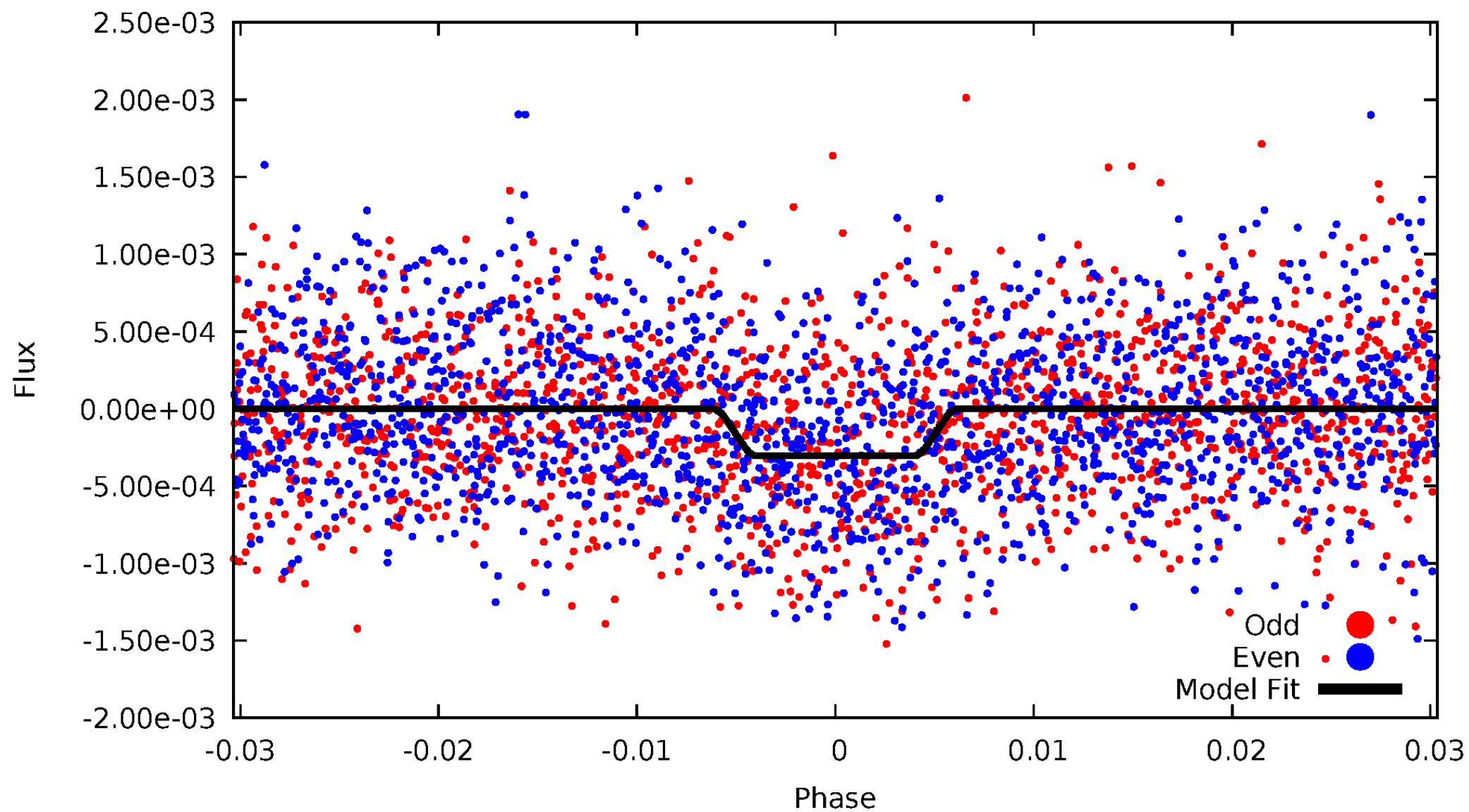
TCE 006955671-01





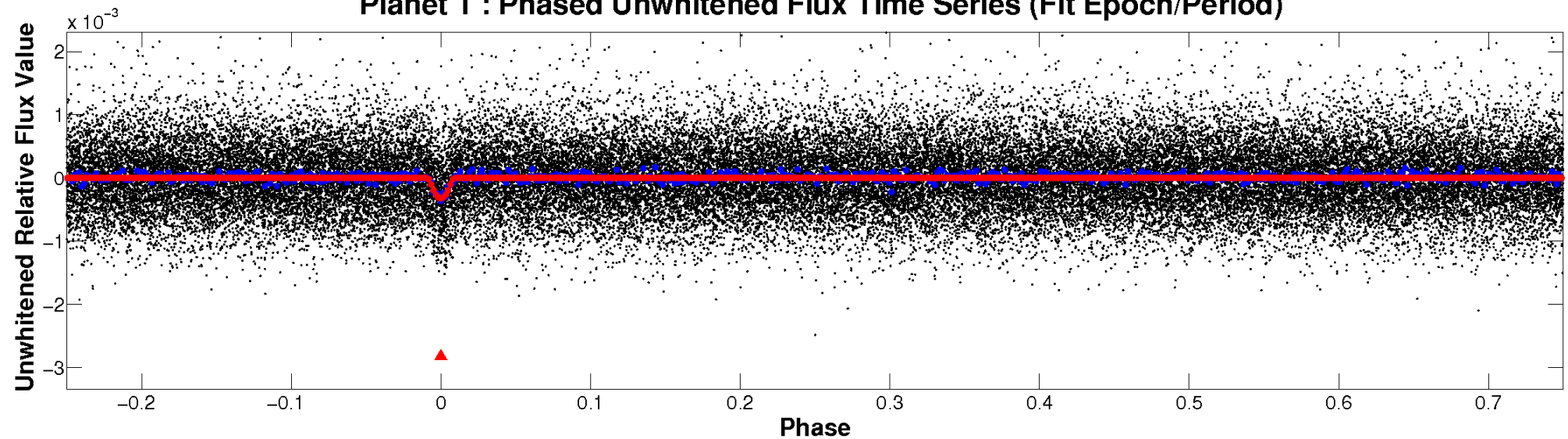
# ALT Odd/Even

TCE 006955671-01

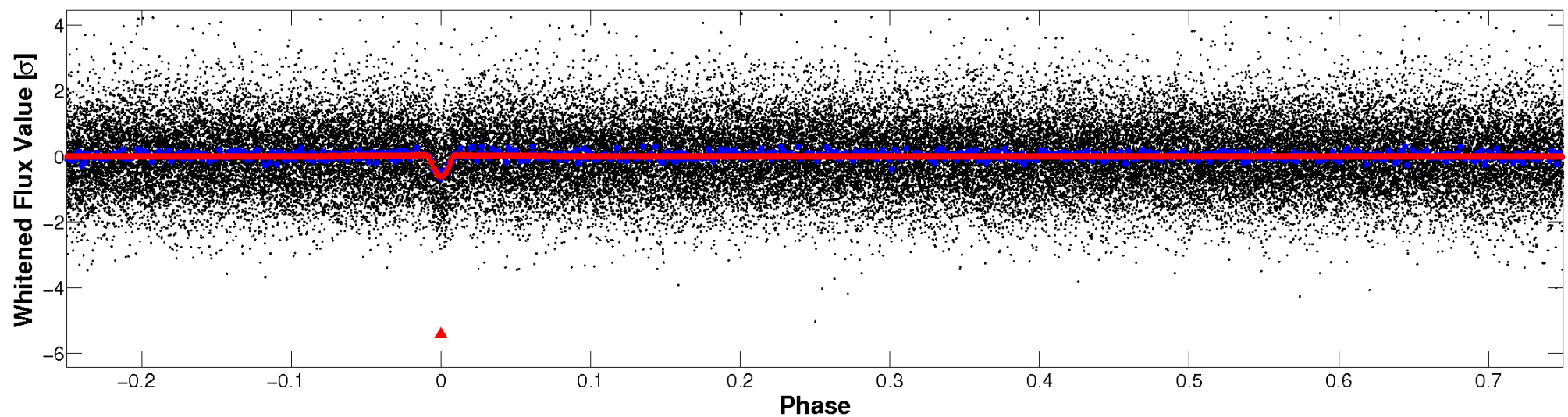


# Non-Whitened Vs. Whitened Light Curve

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

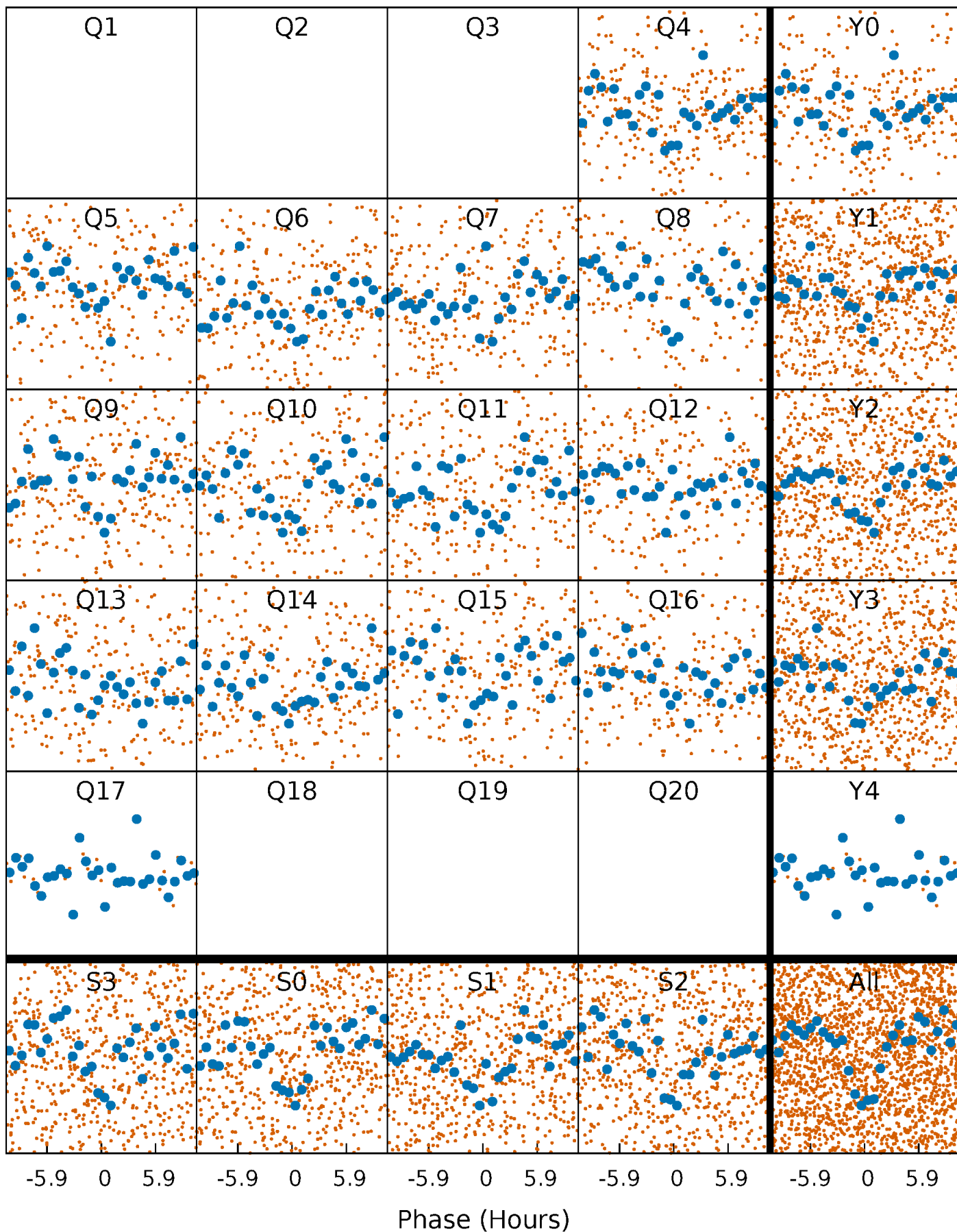


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 006955671-01 P= 12.687775 Days  $T_0=136.153859$  (BKJD)





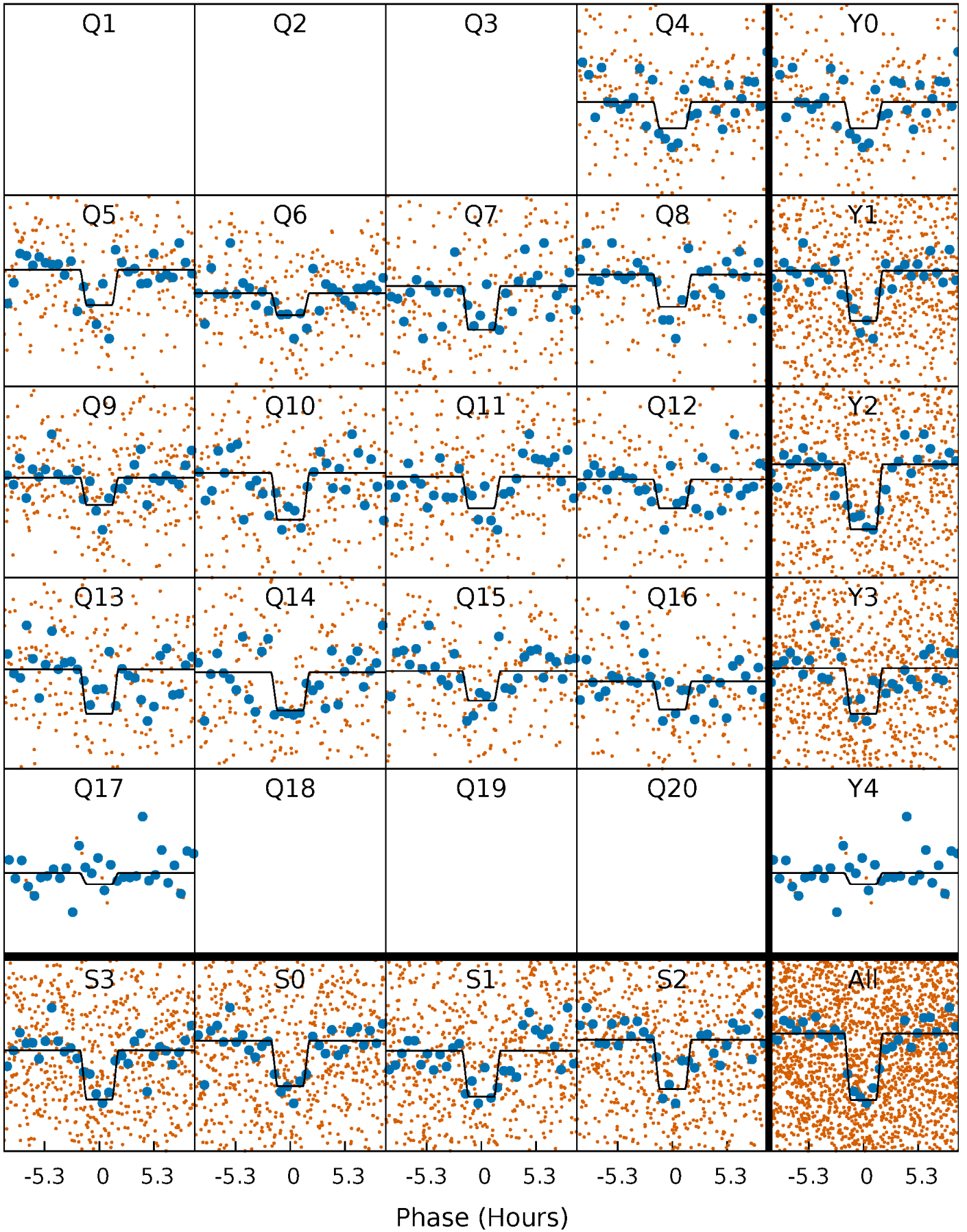
# DV Quarter-Phased Transit Curves

TCE 006955671-01 P= 12.687775 Days  $T_0=136.153859$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

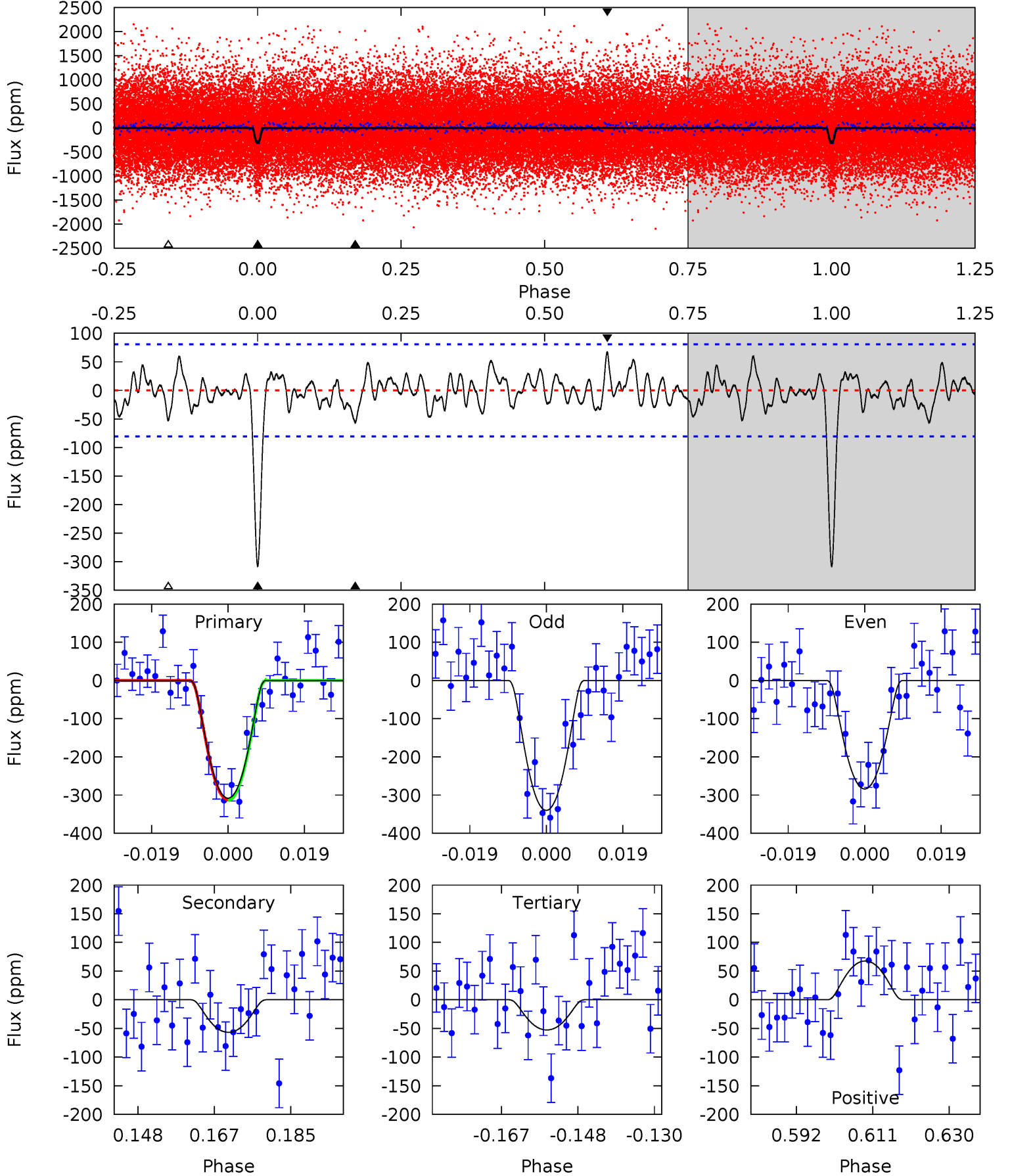
TCE 006955671-01 P= 12.687565 Days  $T_0=136.165887$  (BKJD)



# DV Model-Shift Uniqueness Test

006955671-01, P = 12.687775 Days, E = 136.153859 Days

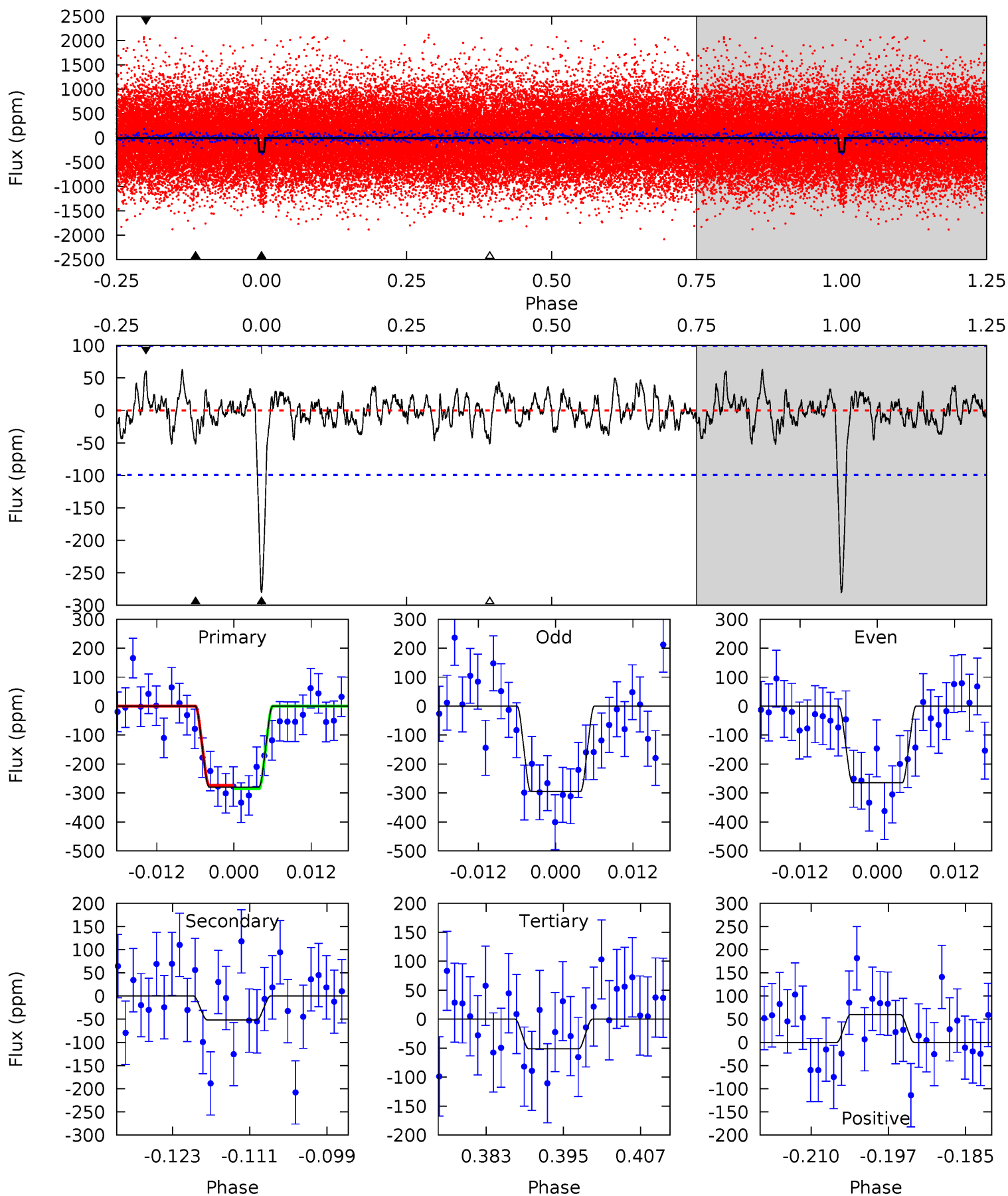
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	3.46	3.21	4.11	4.91	2.36	1.32	15.6	14.6	0.25	-0.66	1.71	0.95	0.18	0.06



# Alt Model-Shift Uniqueness Test

006955671-01, P = 12.687565 Days, E = 136.165887 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
14.0	2.58	2.57	3.02	4.99	2.50	0.97	11.5	11.0	0.01	-0.43	0.76	1.07	0.18	0.31



### Stellar Parameters For KIC 006955671

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6258^{+196}_{-261}$	$4.442^{+0.067}_{-0.202}$	$-0.120^{+0.250}_{-0.300}$	$1.046^{+0.335}_{-0.134}$	$1.102^{+0.159}_{-0.145}$	$1.357^{+0.411}_{-0.752}$
	+3%/-4%	+2%/-5%	+208%/-250%	+32%/-13%	+14%/-13%	+30%/-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 006955671-01 / KOI 3329.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-57 \pm 16$	$3.28^{+1.92}_{-1.88}$	$1208^{+86}_{-69}$	$3697^{+1286}_{-550}$	$34^{+150}_{-22}$
Alt.	$-52 \pm 20$	$2.59^{+1.82}_{-1.50}$	$1208^{+89}_{-63}$	$3913^{+1638}_{-678}$	$52^{+229}_{-37}$

$T_{max}$  = 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

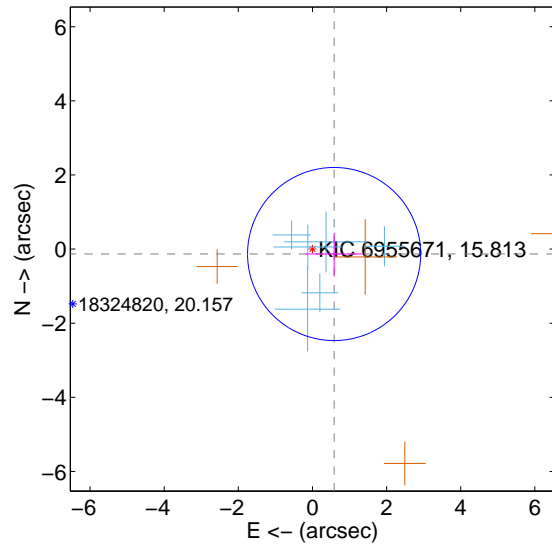
Supplemental centroid analysis for 006955671-01. Kepler magnitude: 15.81. Transit SNR 12.29

There are 6 quarters with good PRF difference image offsets

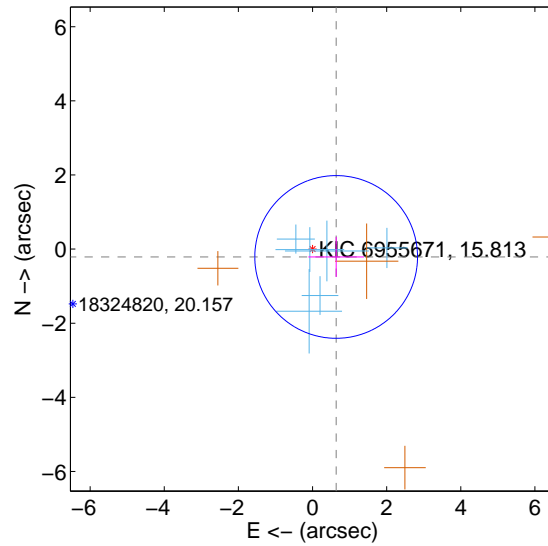
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.600 \pm 0.779$	0.77	$-0.585 \pm 0.768$	$-0.133 \pm 0.576$
PRF-fit source offset from KIC position	$0.672 \pm 0.732$	0.92	$-0.638 \pm 0.750$	$-0.212 \pm 0.541$
photometric centroid source offset	$2.00 \pm 1.15$	1.74	$0.21 \pm 1.11$	$-1.99 \pm 1.15$

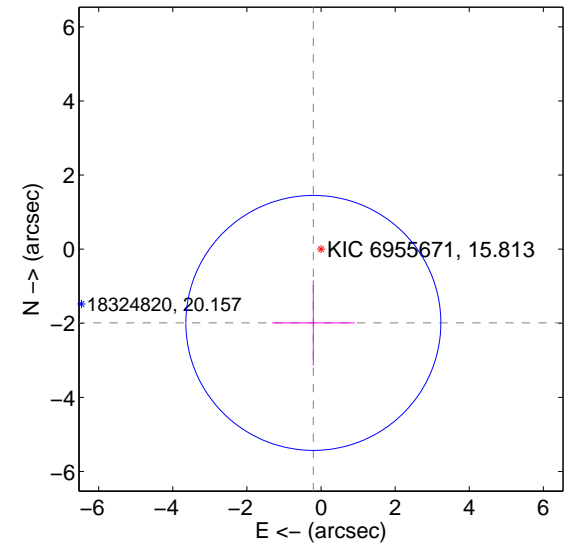
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

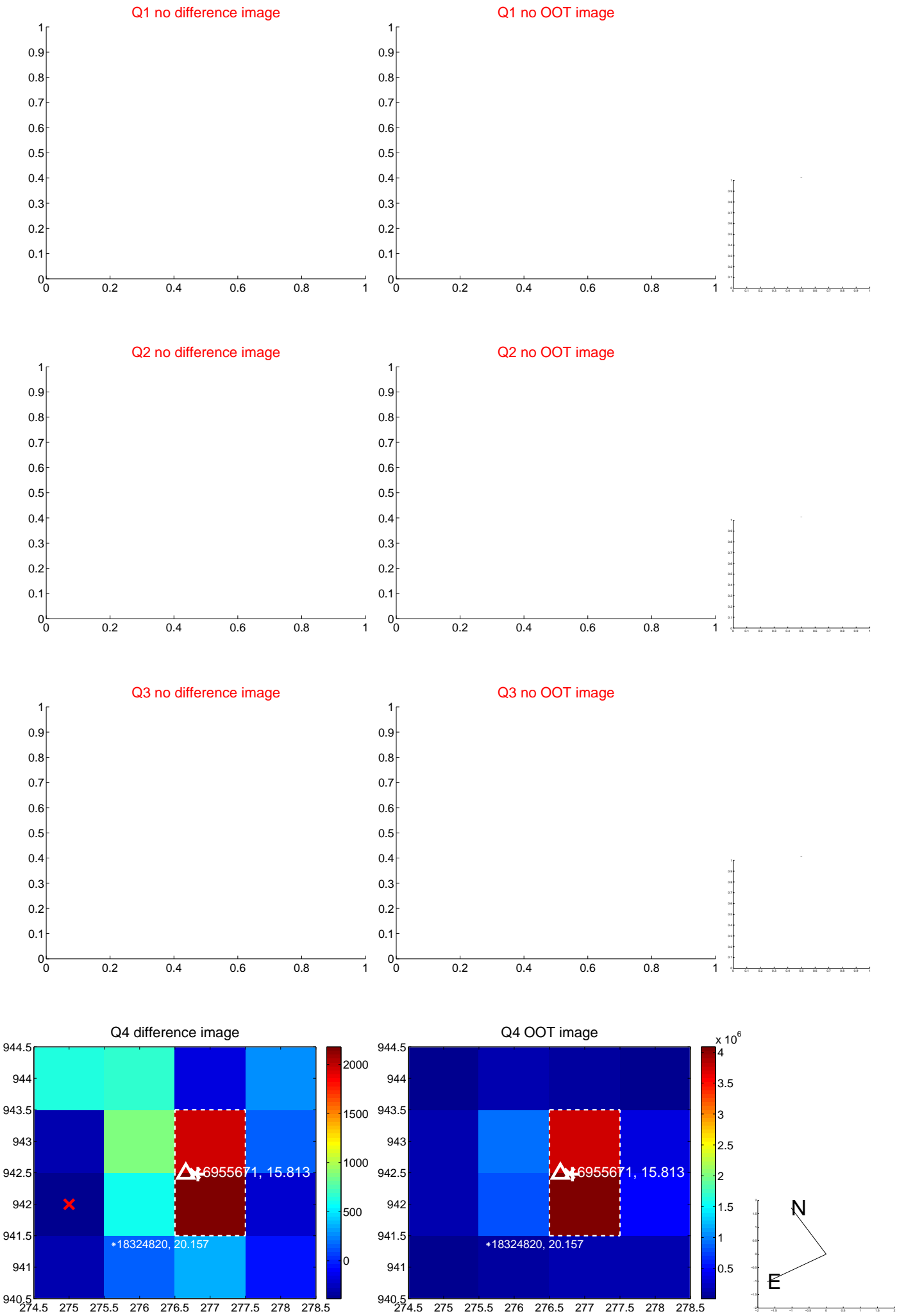


offset from photometric centroids

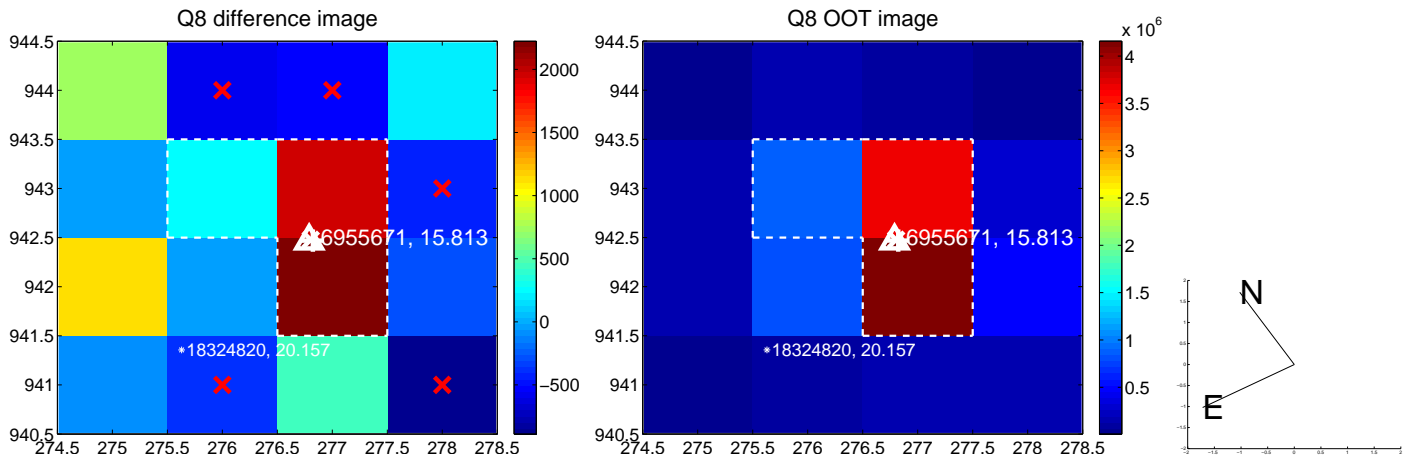
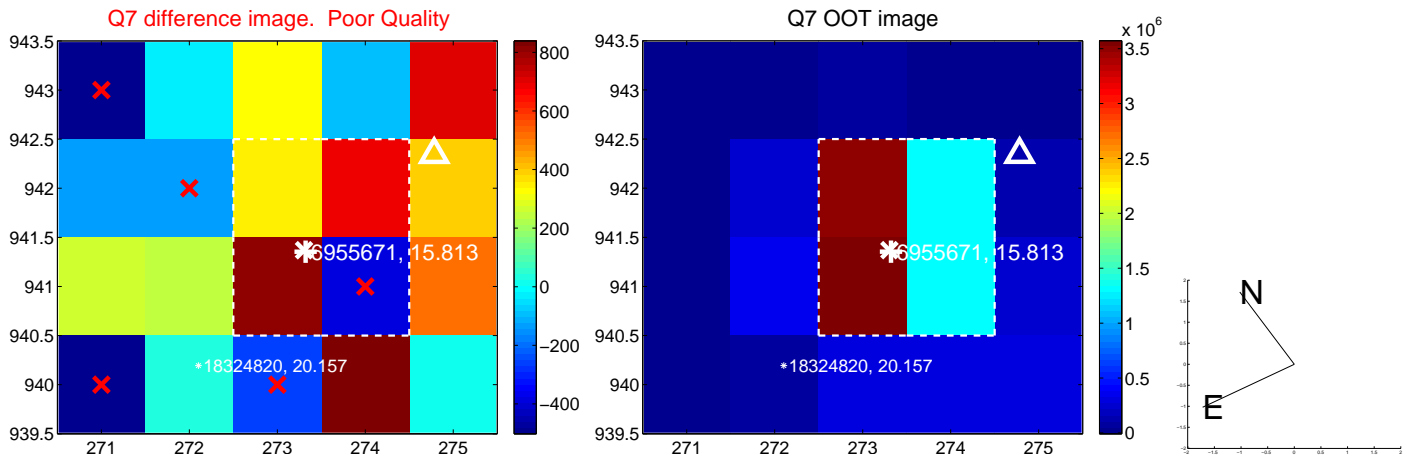
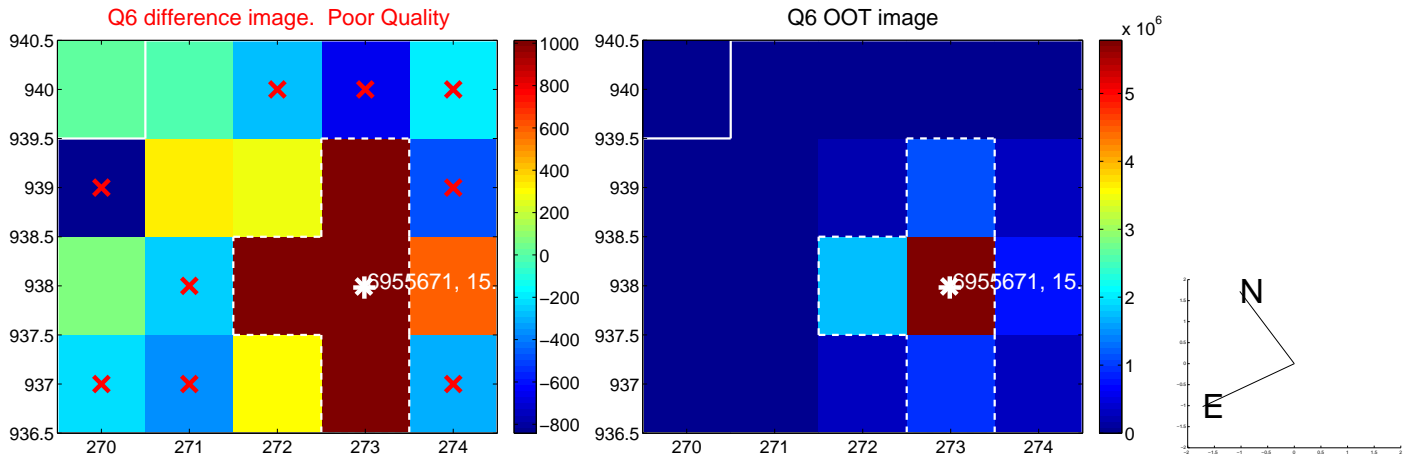
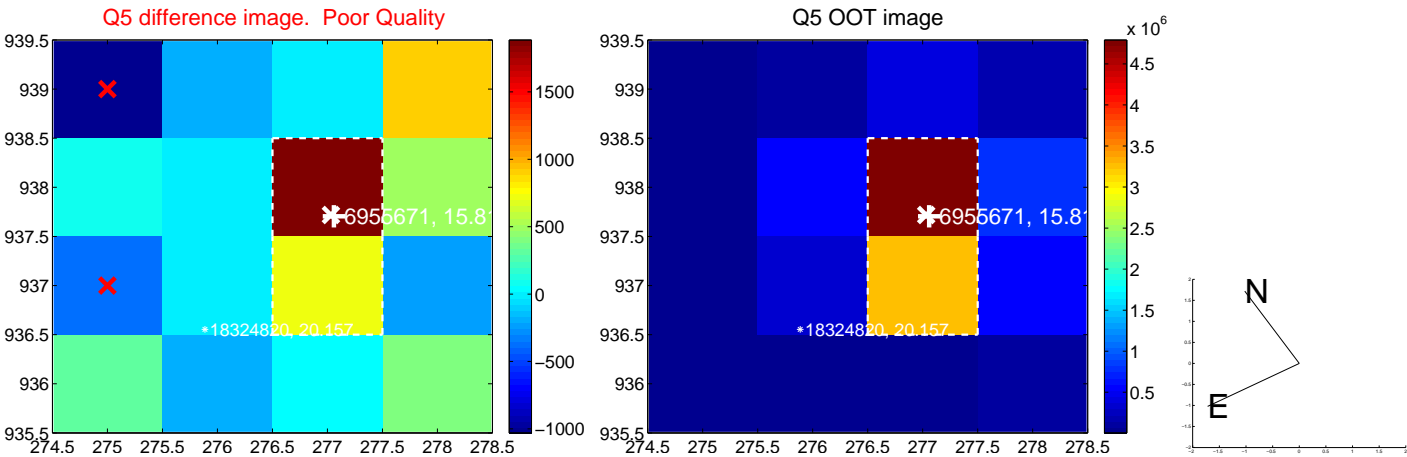


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

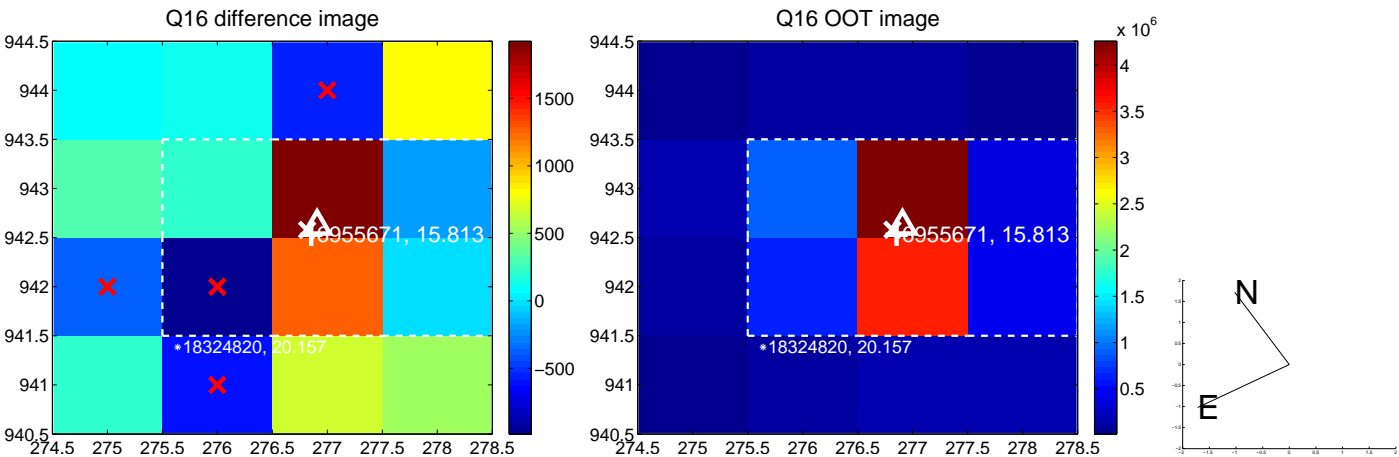
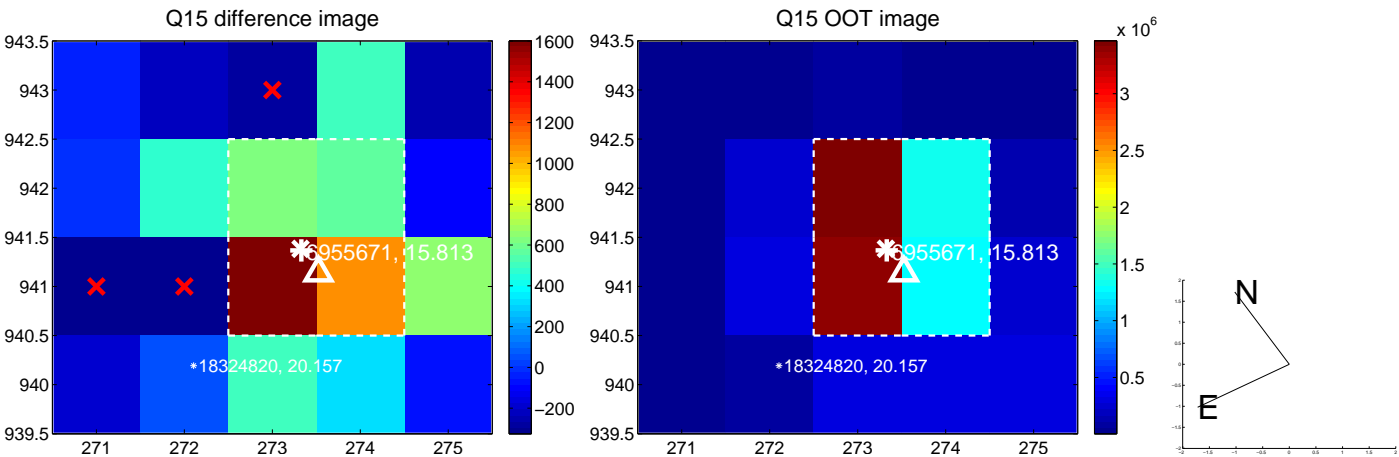
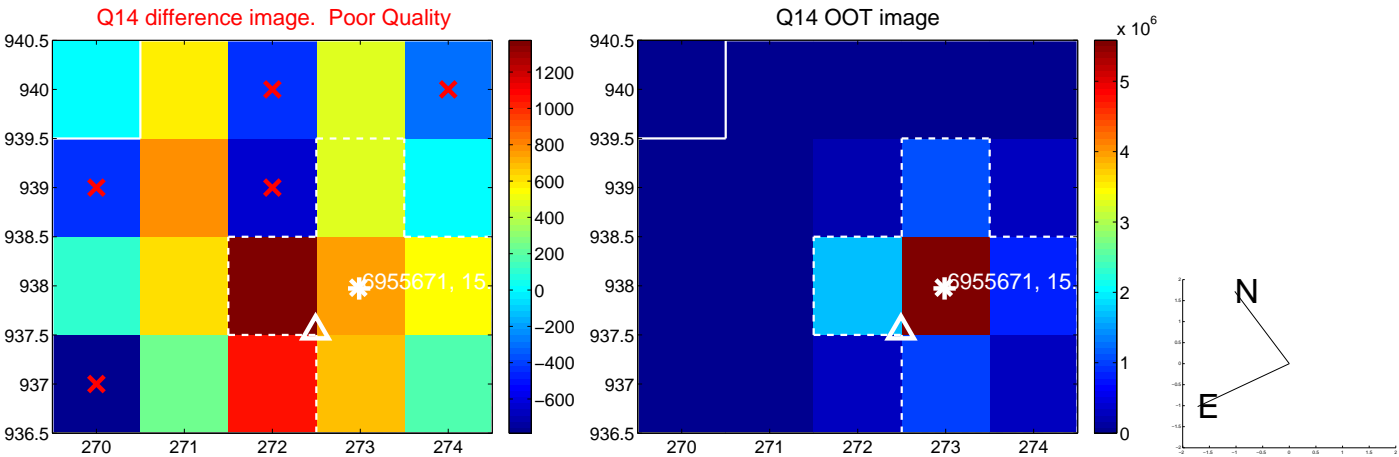
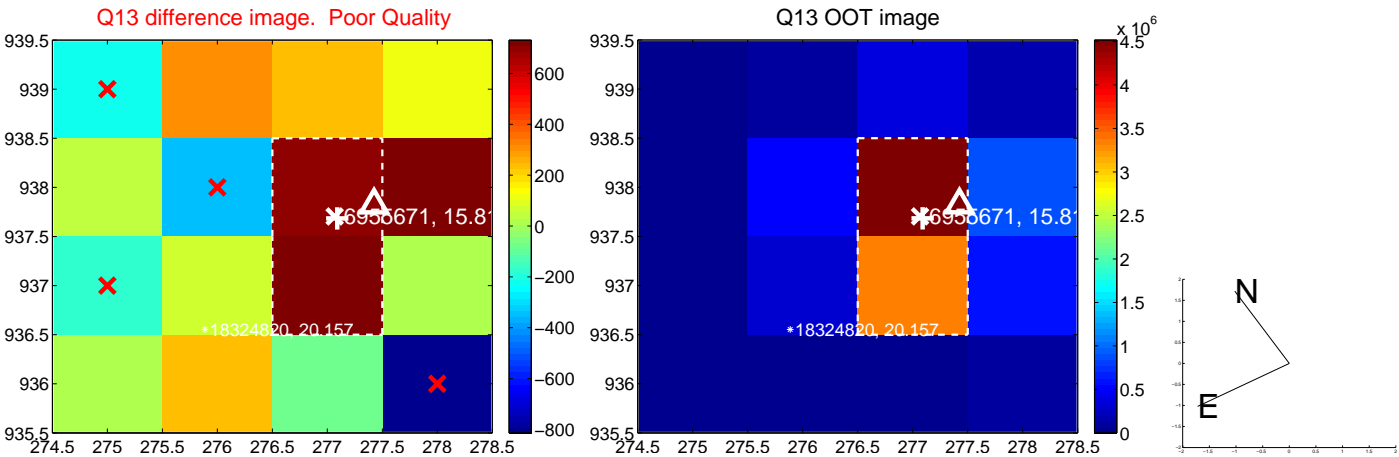


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



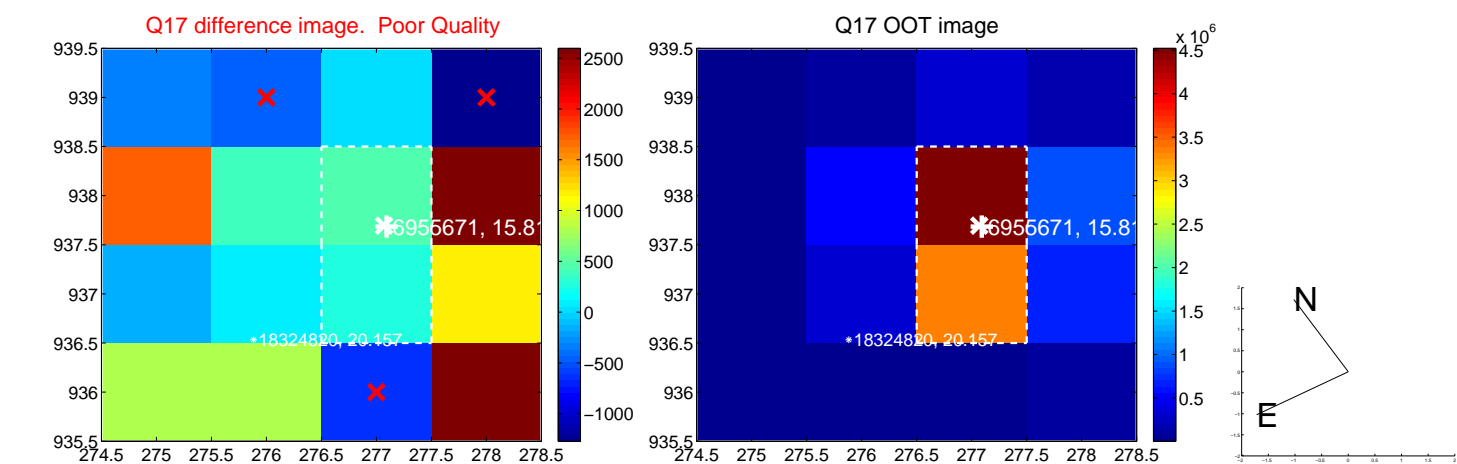


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

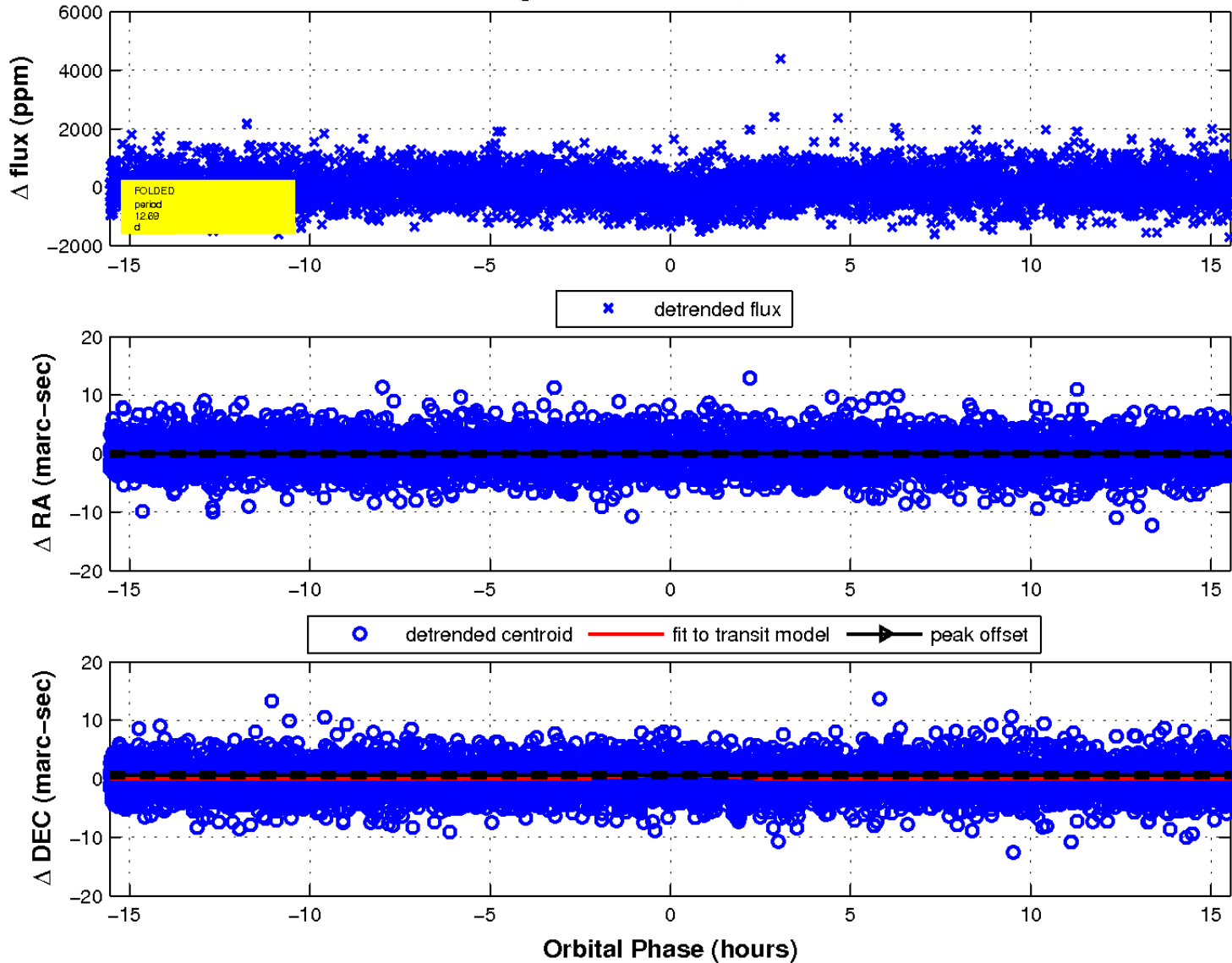




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

