

# KIC 006604328

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006604328-01	OBS	1736.01	31.003536	143.287454	637.0	5.467	17.3	17.9	1.07	6090	2.96	34.09

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006604328-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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 006604328-01

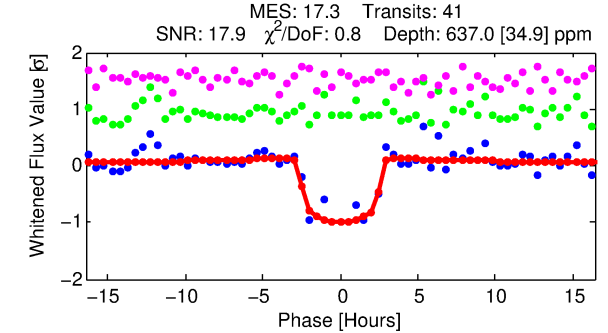
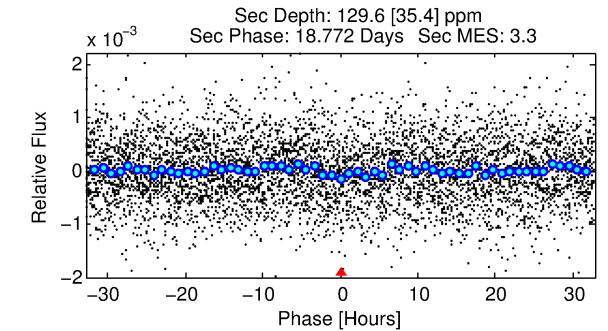
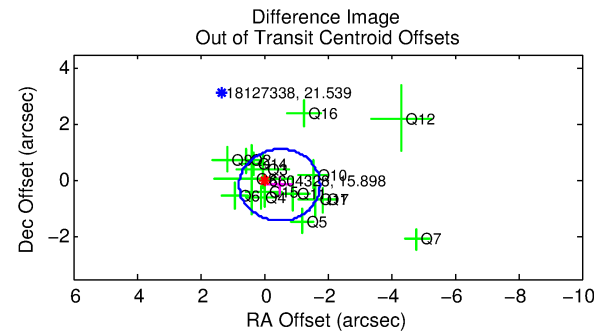
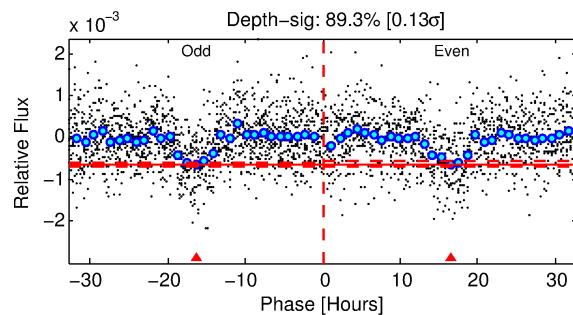
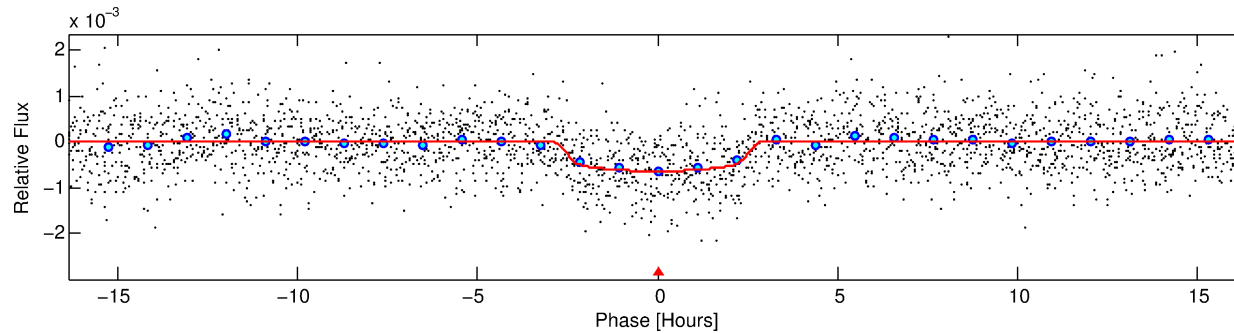
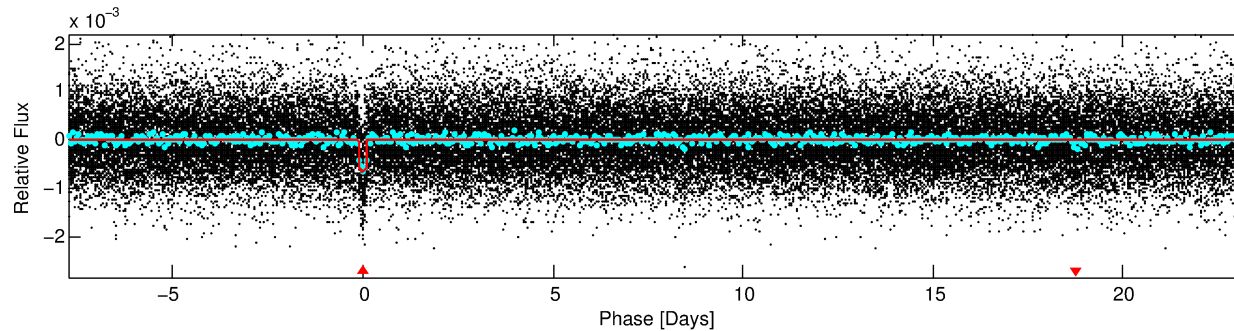
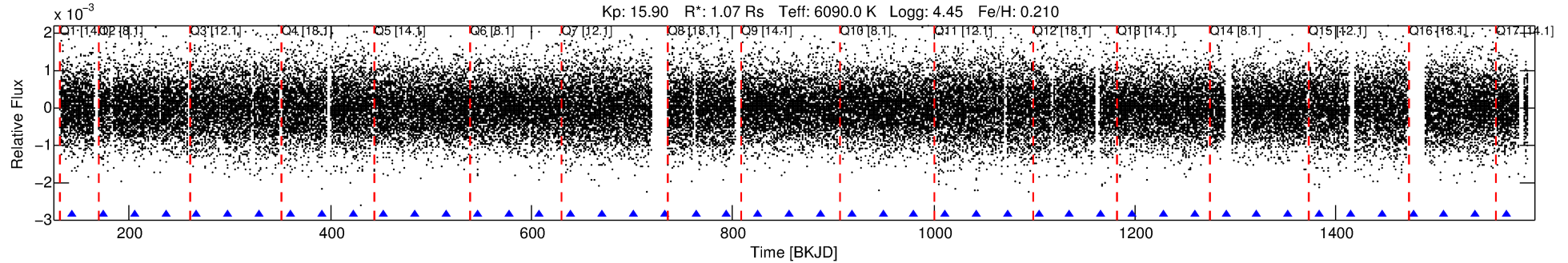
No Significant Match Found

# DV One-Page Summary

KIC: 6604328 Candidate: 1 of 1 Period: 31.004 d

KOI: K01736.01 Corr: 0.976

Kp: 15.90 R\*: 1.07 Rs Teff: 6090.0 K Logg: 4.45 Fe/H: 0.210



## DV Fit Results:

Period = 31.00354 [0.00021] d  
Epoch = 143.2875 [0.0057] BKJD  
Rp/R\* = 0.0254 [0.0064]  
a/R\* = 29.06 [34.17]  
b = 0.78 [0.61]  
Seff = 34.09 [12.11]  
Teq = 616 [55] K  
Rp = 2.96 [1.09] Re  
a = 0.2036 [0.0452] AU  
Ag = 336.44 [220.80] [1.52σ]  
Teffp = 4080 [606] K [5.70σ]

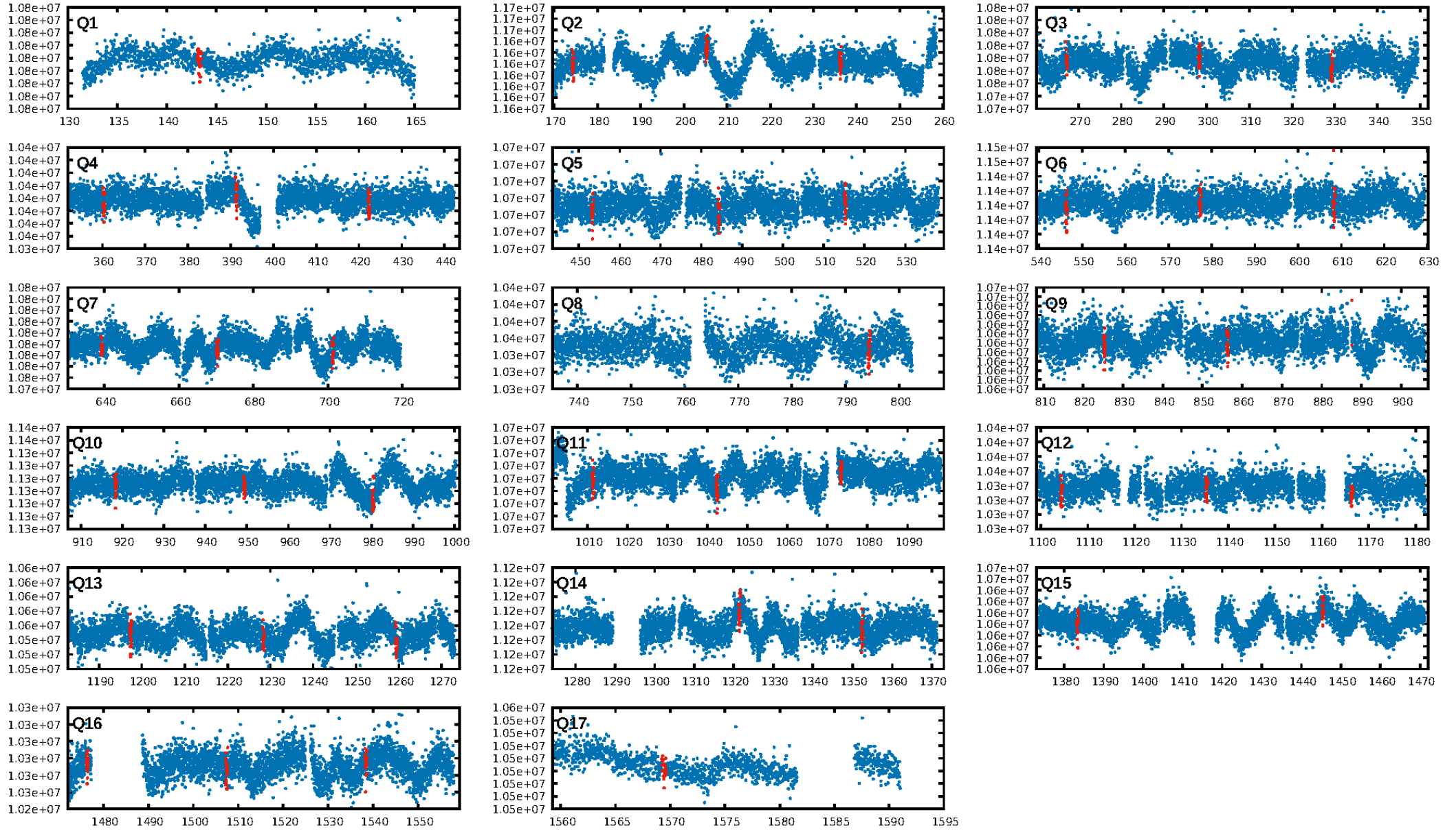
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.72e-65  
RollingBand-fgt: 1.00 [39/39]  
GhostDiagnostic-chr: 4.132  
Centroid-sig: 3.3%  
Centroid-so: 1.210 arcsec [1.56σ]  
OotOffset-rm: 0.516 arcsec [1.22σ]  
KicOffset-rm: 0.479 arcsec [1.12σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.62 [10/16]  
DiffImageOverlap-fno: 1.00 [17/17]

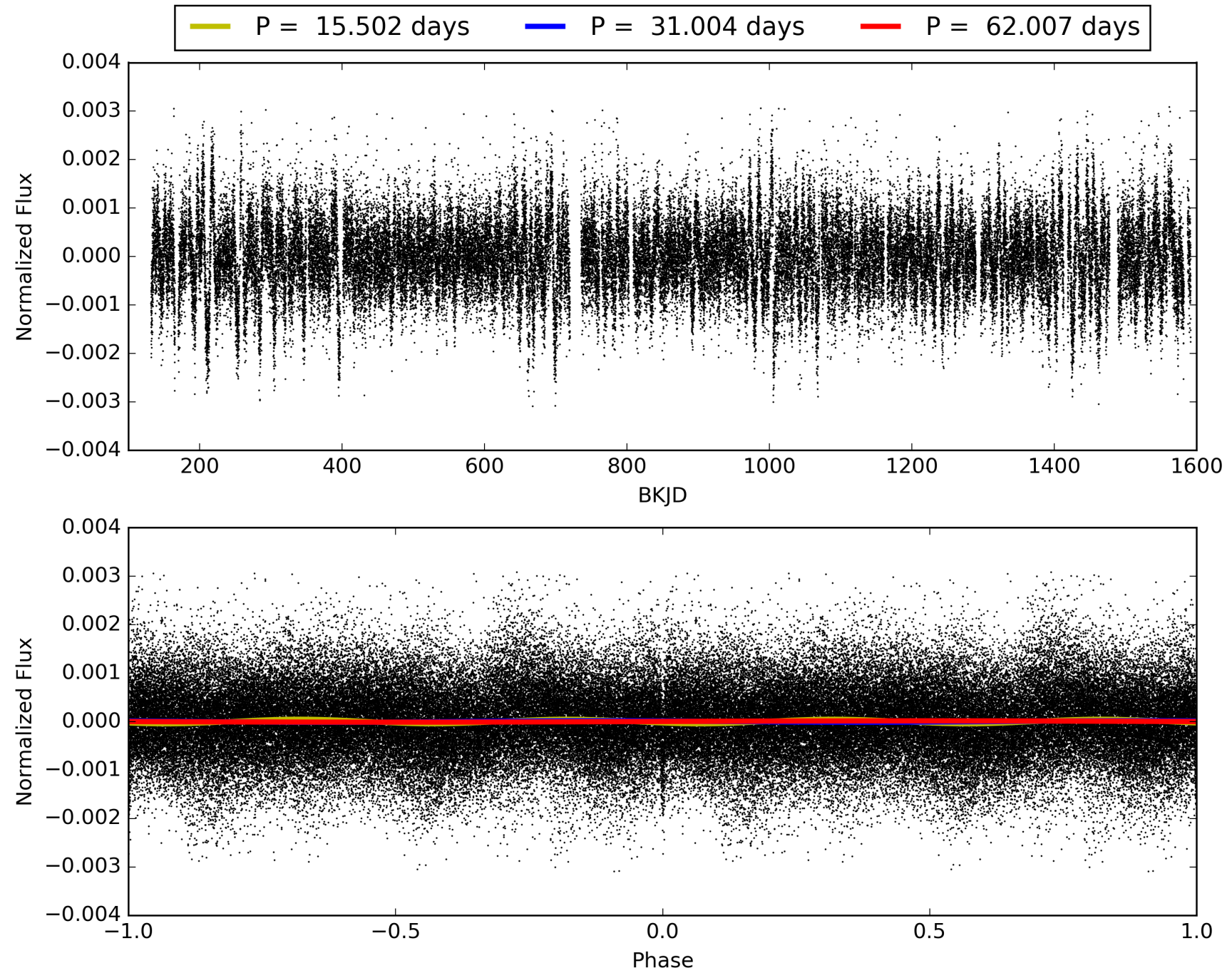
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:43:55 Z

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

# TCE 006604328-01, PDC Light Curves

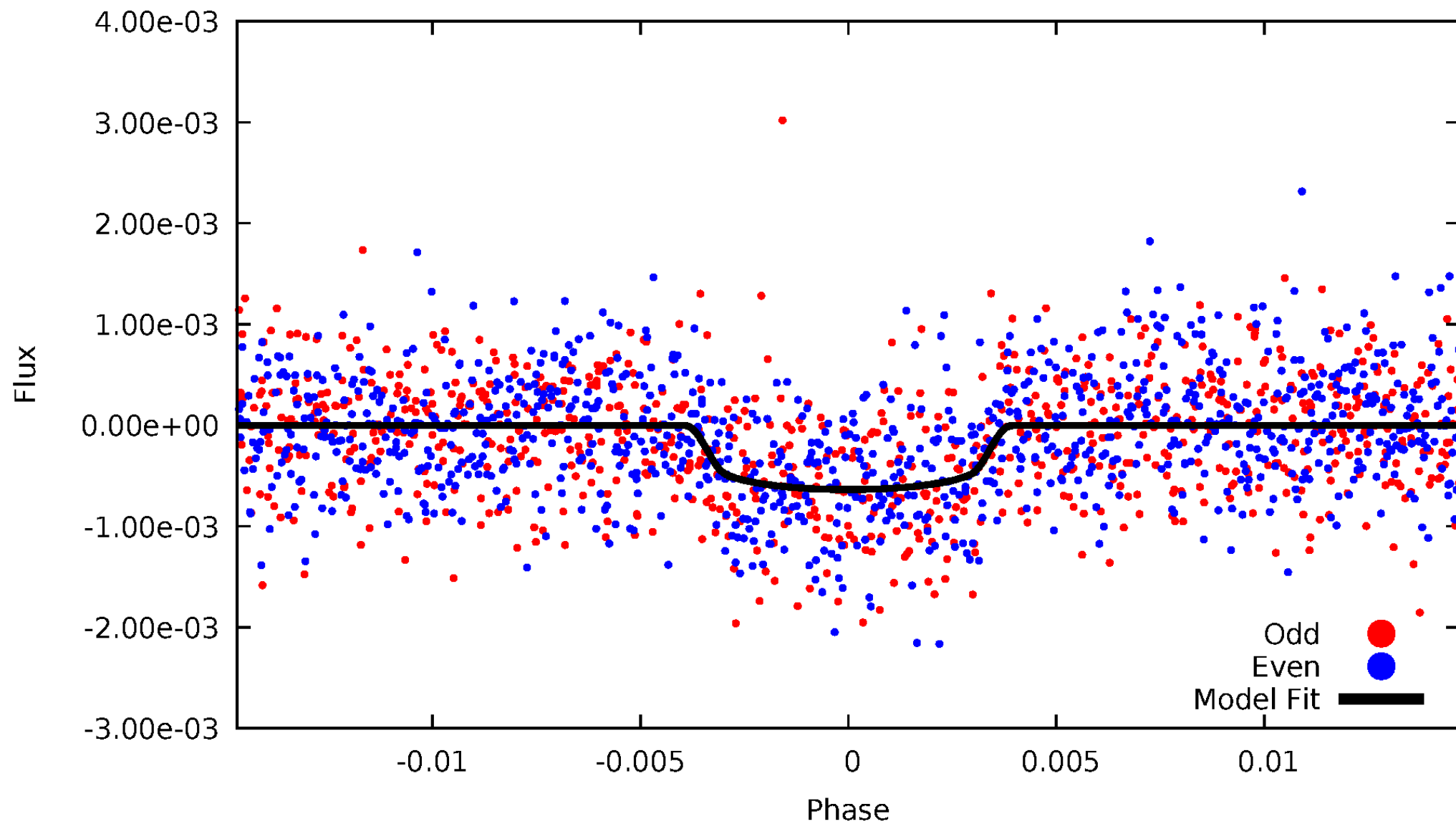


TCE 006604328-01



# DV Odd/Even

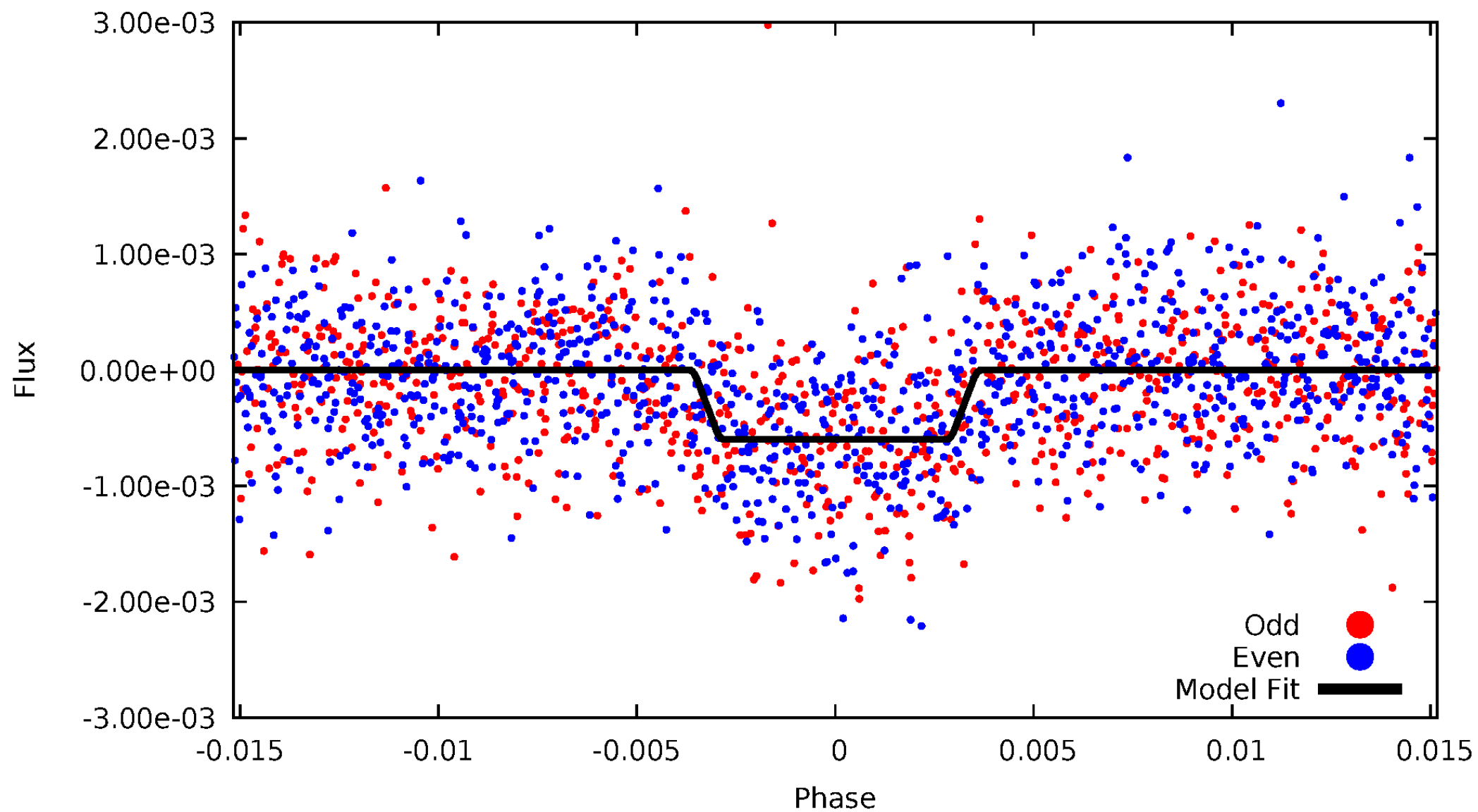
TCE 006604328-01





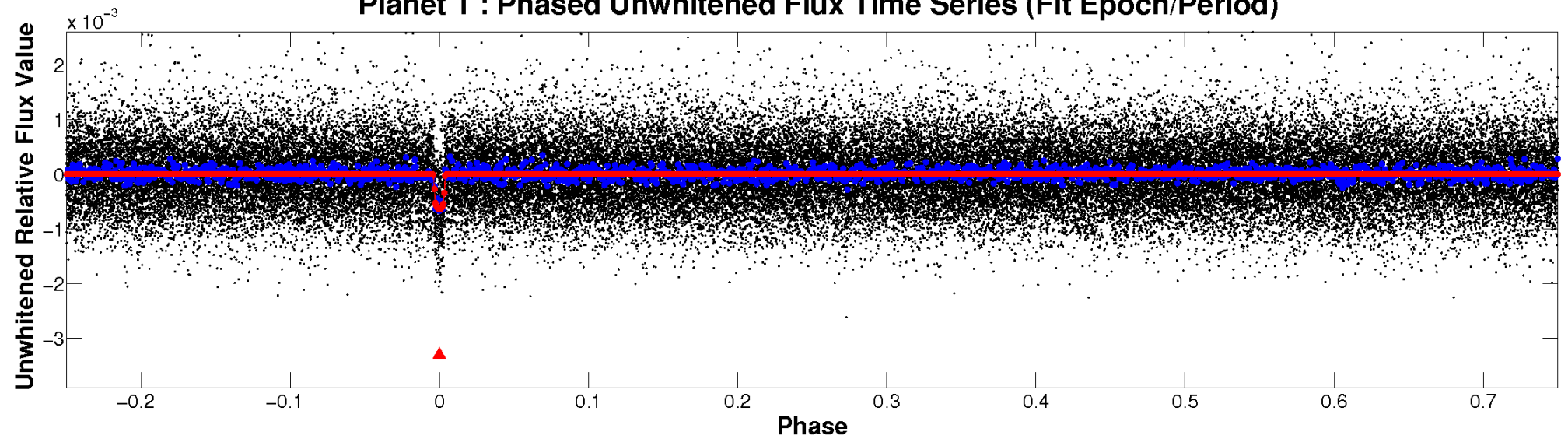
# ALT Odd/Even

TCE 006604328-01

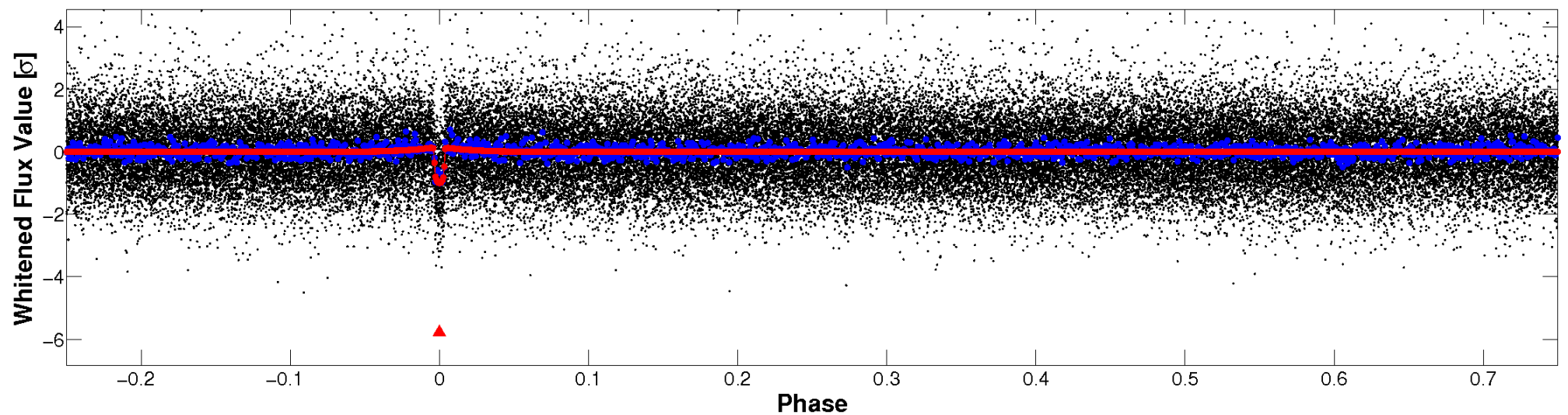


# Non-Whitened Vs. Whitened Light Curve

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

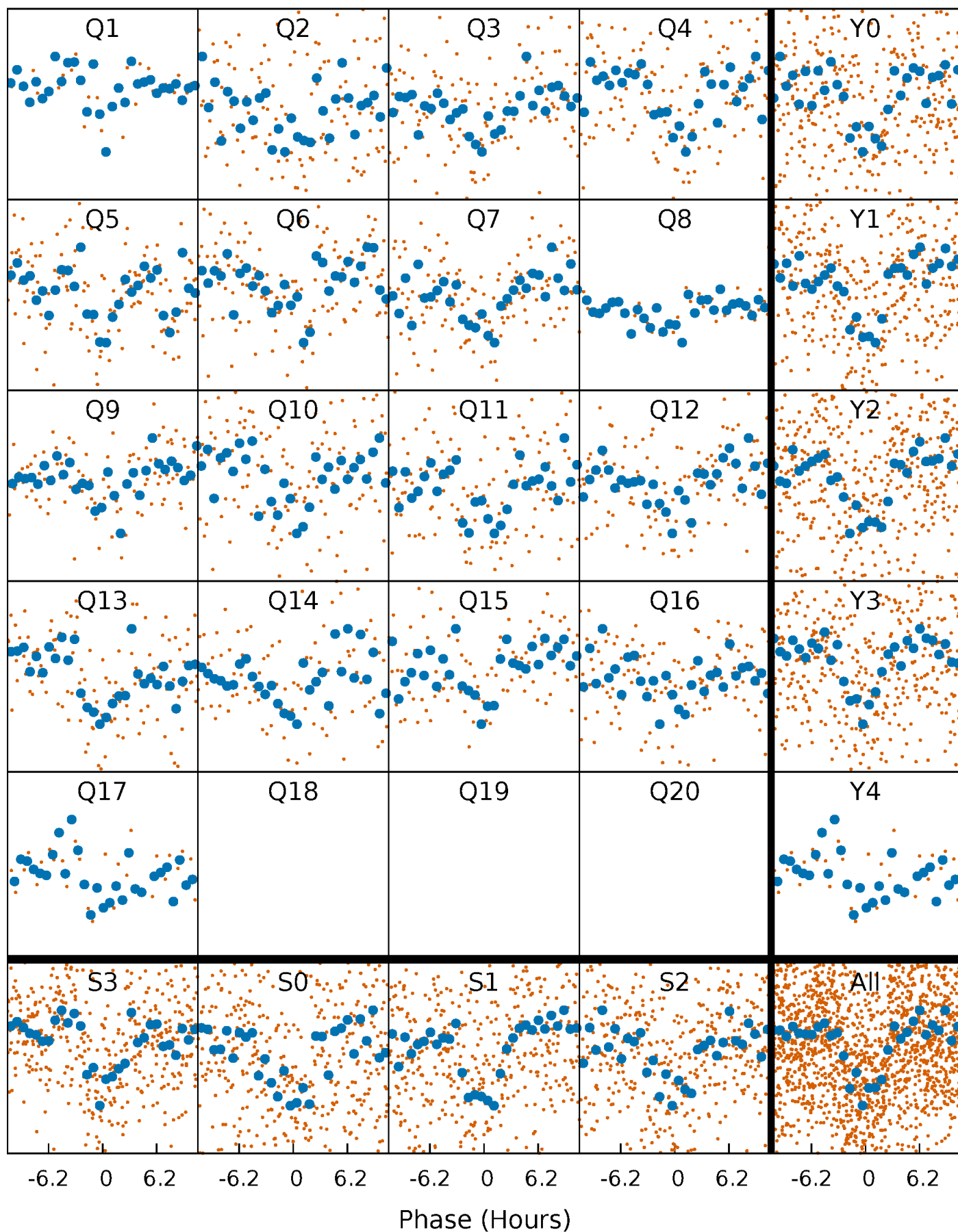


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

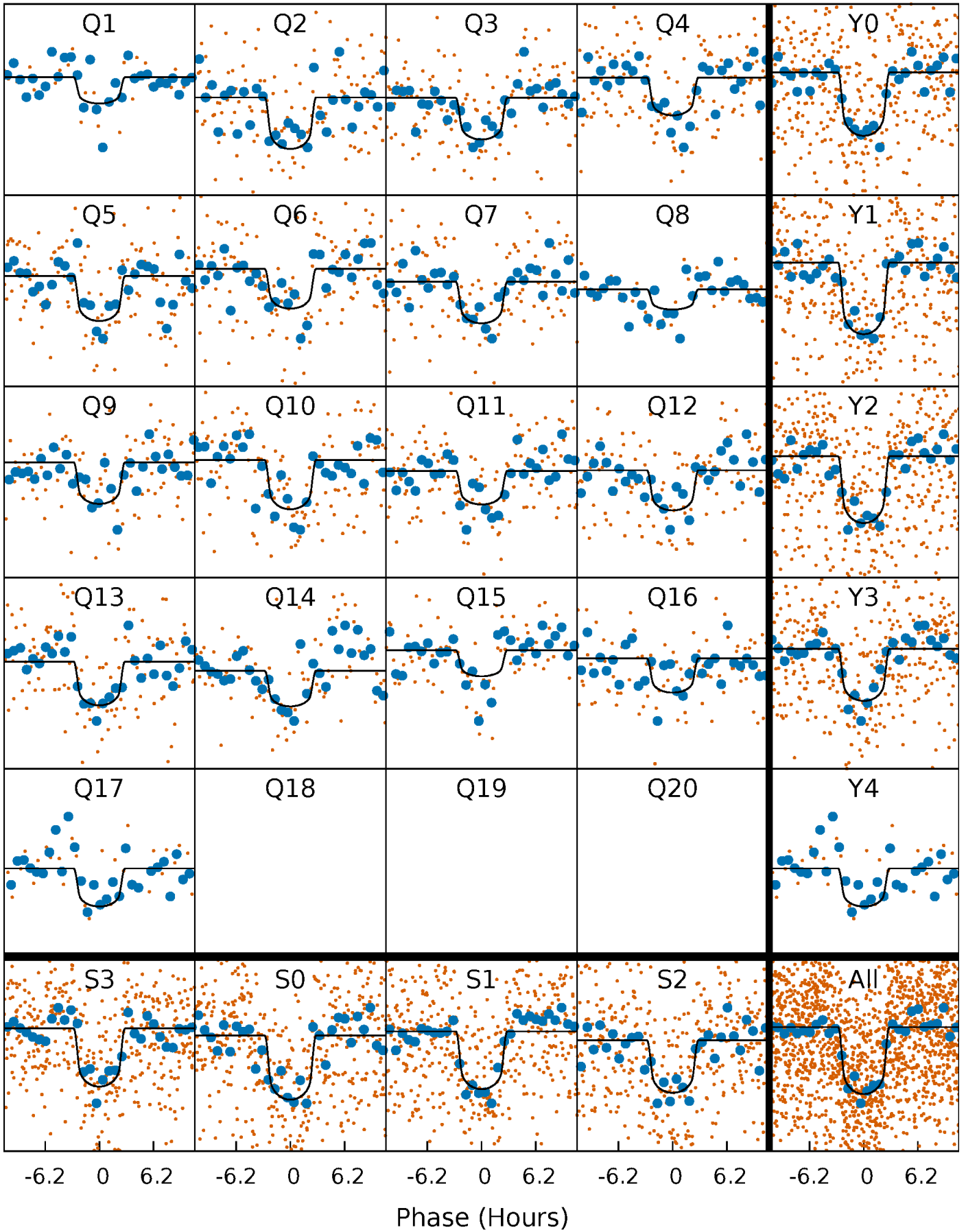
TCE 006604328-01 P= 31.003536 Days  $T_0=143.287454$  (BKJD)





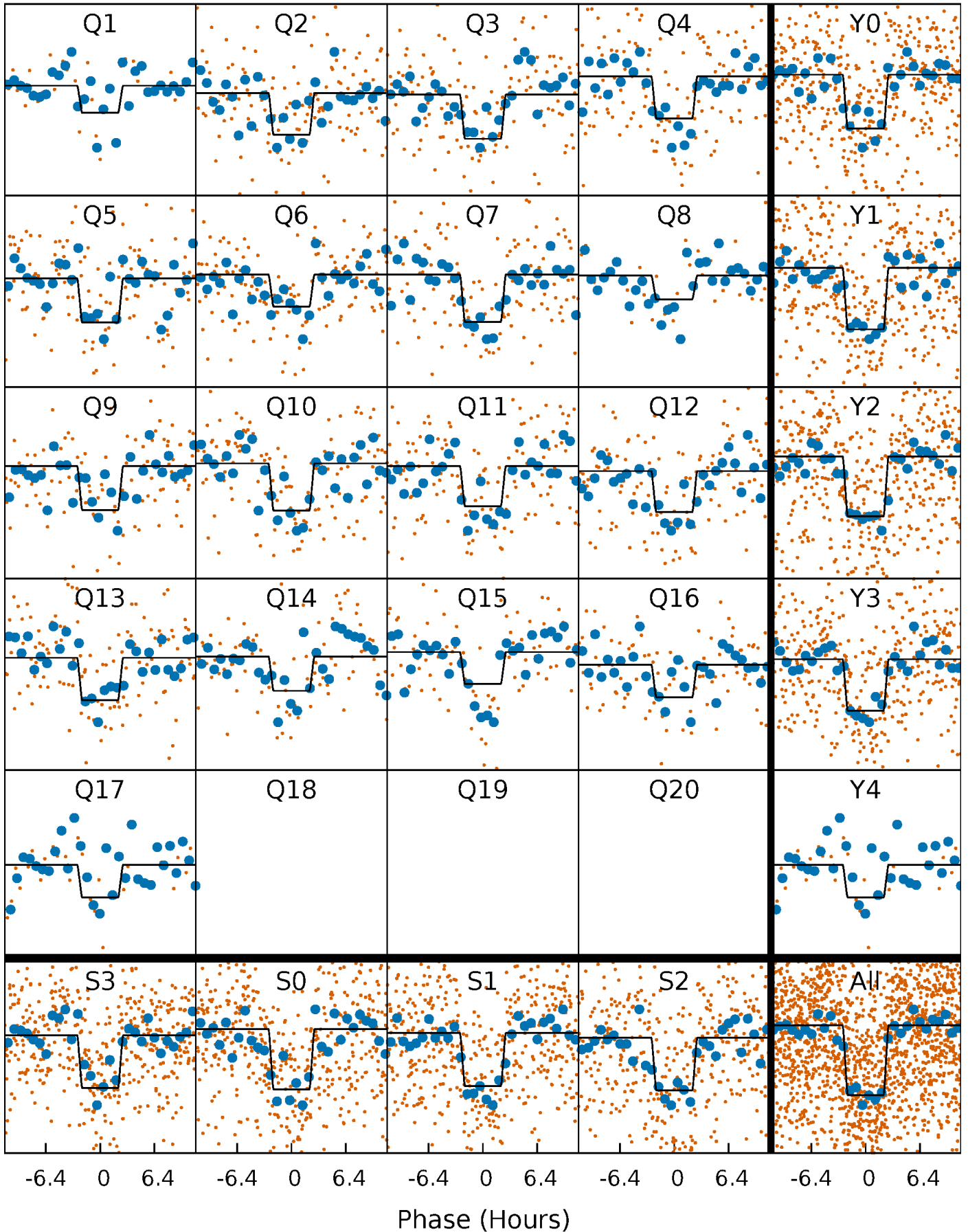
# DV Quarter-Phased Transit Curves

TCE 006604328-01   P= 31.003536 Days    $T_0=143.287454$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

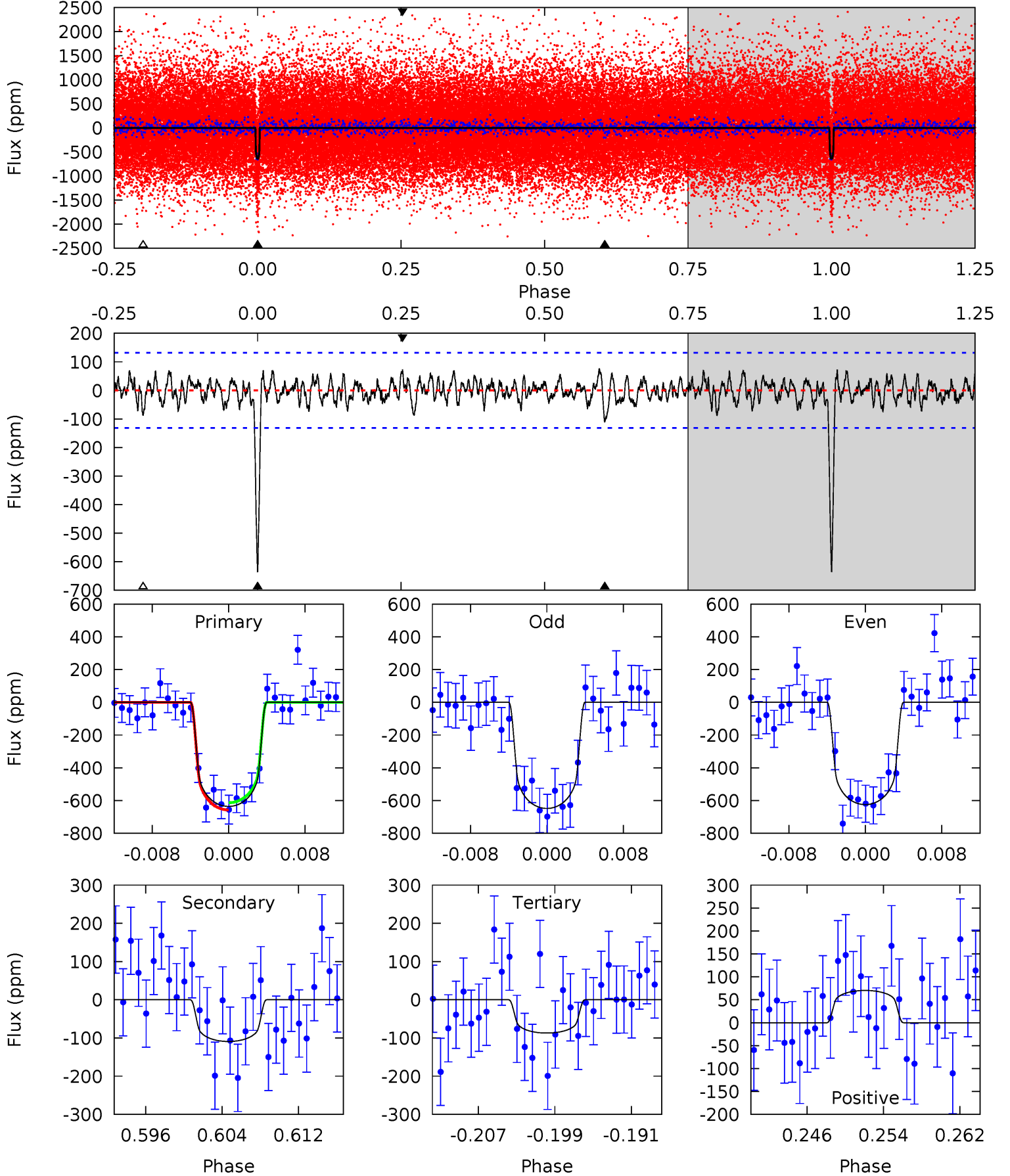
TCE 006604328-01 P= 31.002746 Days  $T_0=143.302694$  (BKJD)



# DV Model-Shift Uniqueness Test

006604328-01, P = 31.003536 Days, E = 112.283918 Days

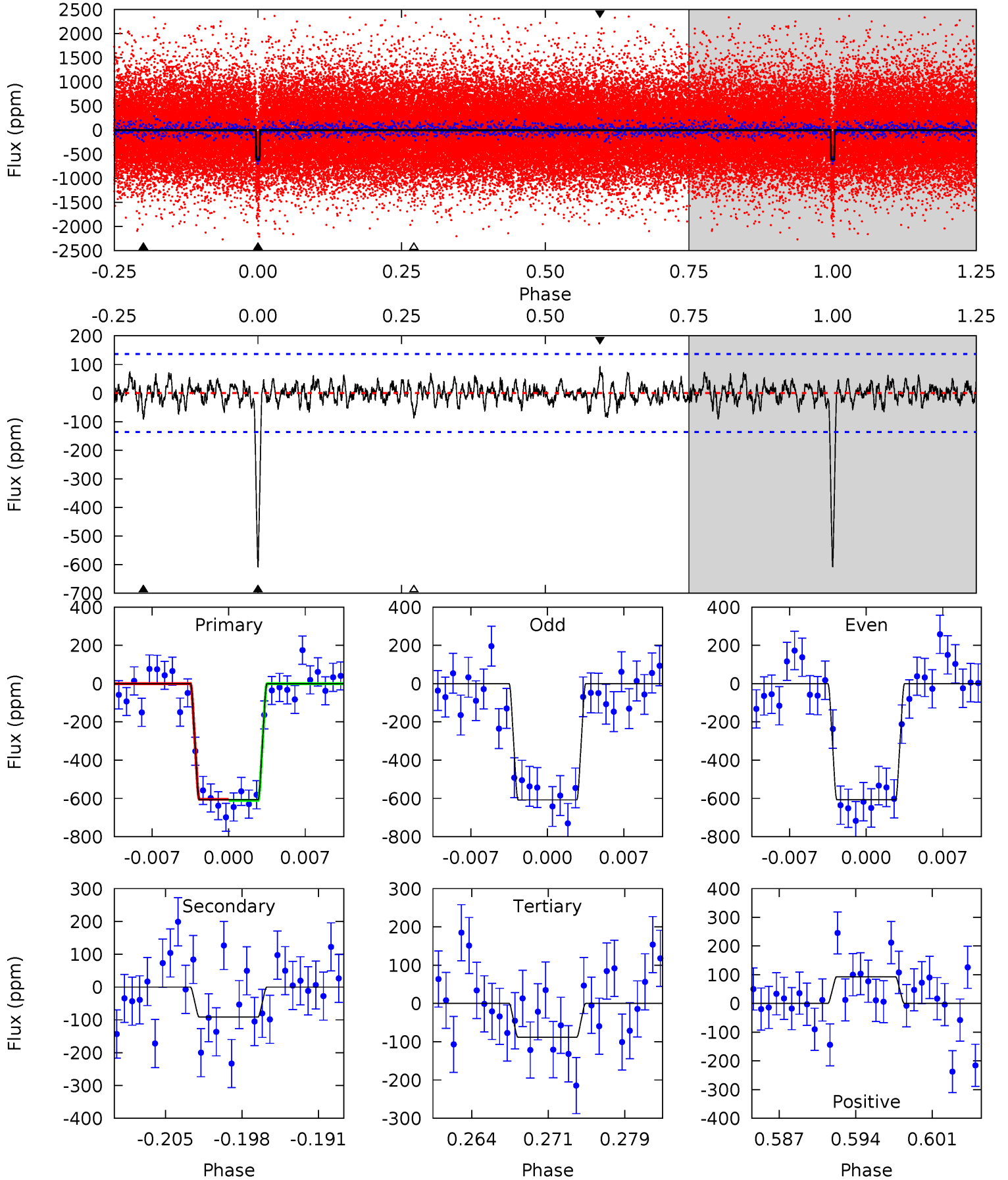
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	4.21	3.36	2.71	5.07	2.65	1.14	21.1	21.8	0.85	1.50	0.45	1.00	0.11	0.85



# Alt Model-Shift Uniqueness Test

006604328-01, P = 31.002746 Days, E = 112.299948 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
22.7	3.42	3.30	3.48	5.09	2.68	1.02	19.4	19.2	0.12	-0.06	0.01	1.02	0.13	0.11



### Stellar Parameters For KIC 006604328

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6090^{+193}_{-236}$	$4.447^{+0.058}_{-0.173}$	$0.210^{+0.200}_{-0.350}$	$1.071^{+0.286}_{-0.122}$	$1.173^{+0.113}_{-0.170}$	$1.345^{+0.334}_{-0.657}$
	+3%/-4%	+1%/-4%	+95%/-167%	+27%/-11%	+10%/-14%	+25%/-49%
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 006604328-01 / KOI 1736.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-109 \pm 26$	$3.08^{+0.83}_{-0.78}$	$873^{+62}_{-46}$	$4151^{+534}_{-355}$	$254^{+210}_{-102}$
Alt.	$-91 \pm 27$	$2.97^{+0.83}_{-0.75}$	$877^{+58}_{-47}$	$4067^{+522}_{-382}$	$225^{+218}_{-99}$

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



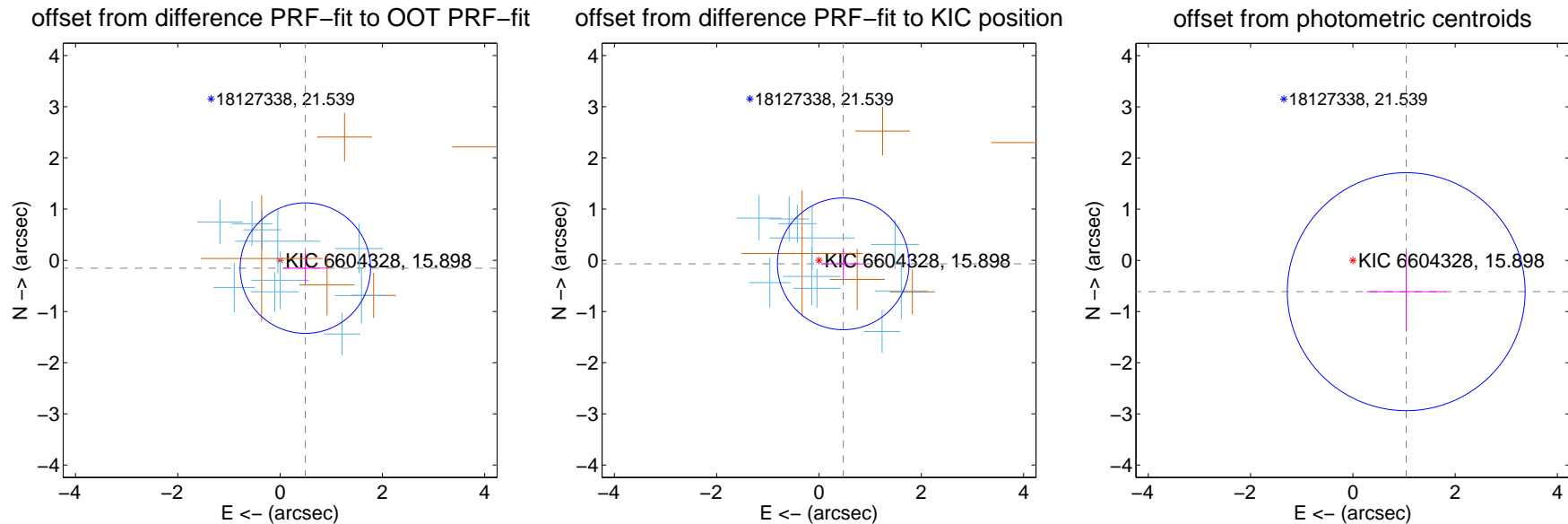
## DV Centroid Data

Supplemental centroid analysis for 006604328-01. Kepler magnitude: 15.90. Transit SNR 17.90

There are 10 quarters with good PRF difference image offsets

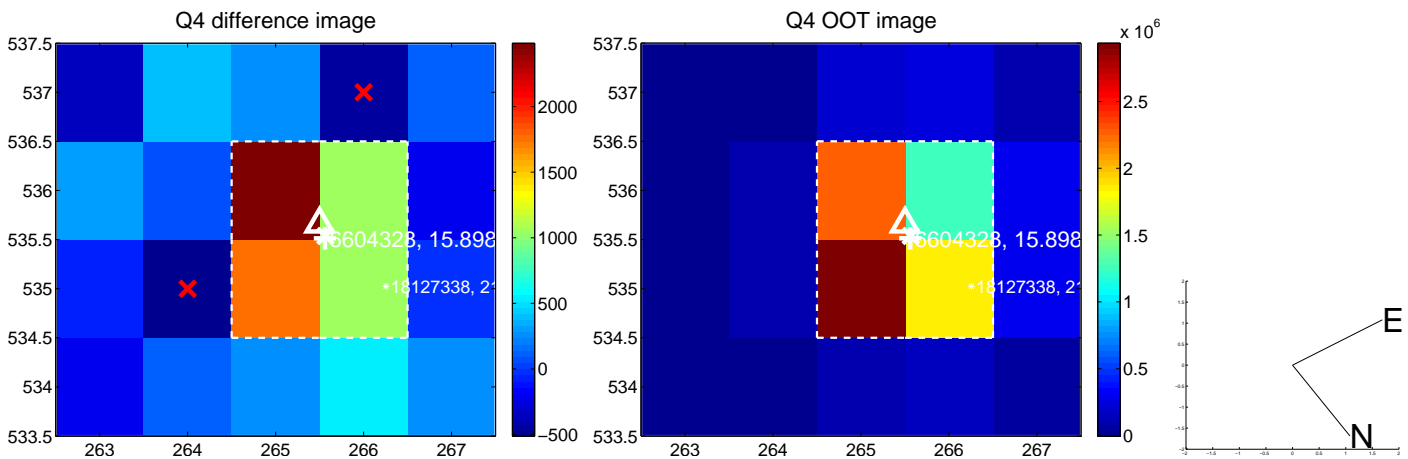
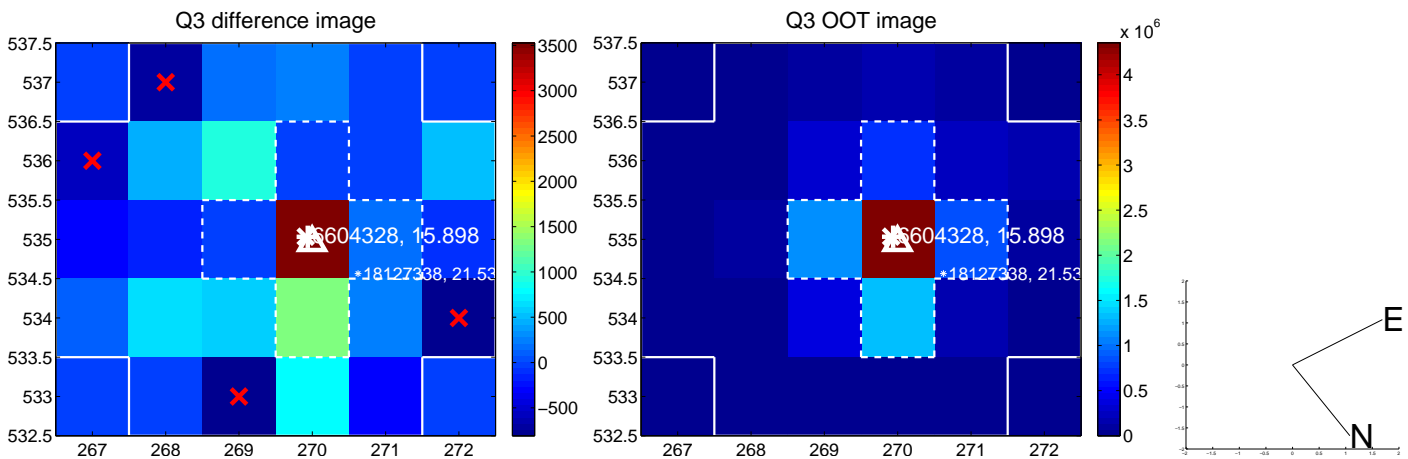
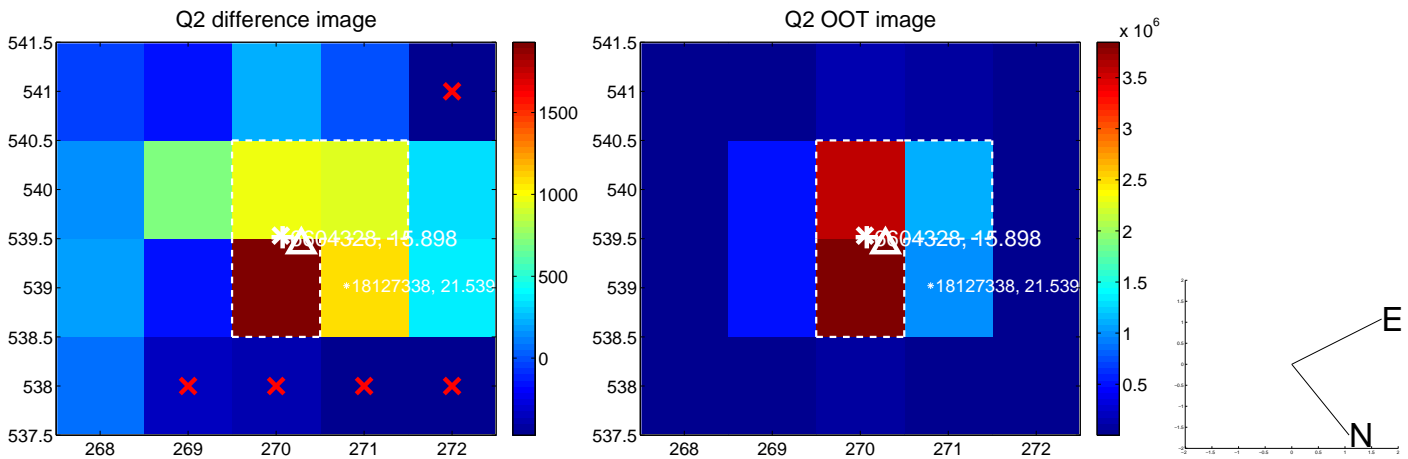
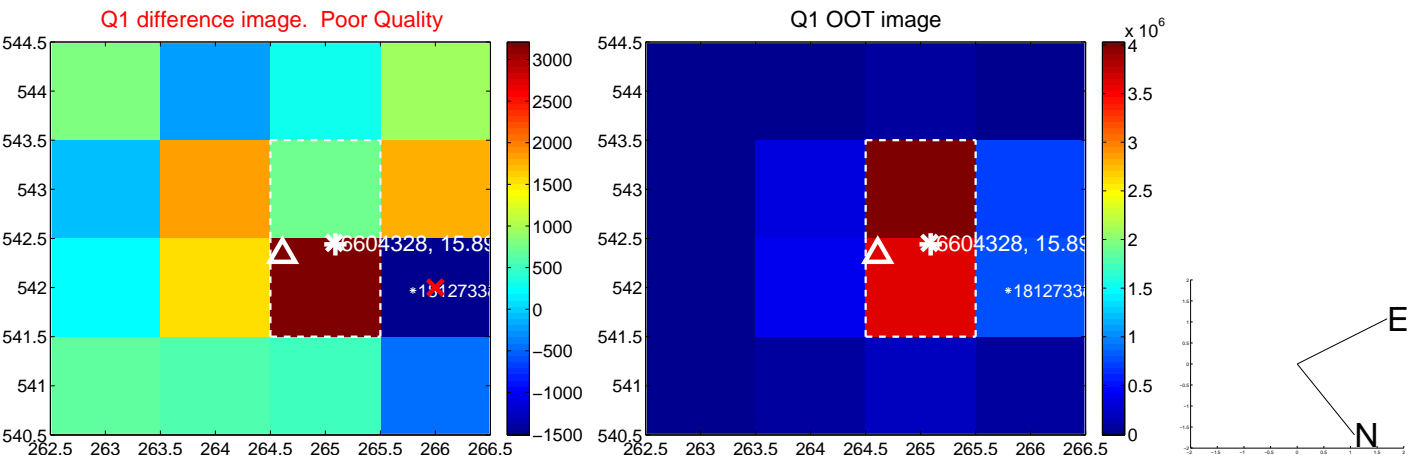
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.516 \pm 0.425$	1.22	$-0.493 \pm 0.432$	$-0.153 \pm 0.298$
PRF-fit source offset from KIC position	$0.479 \pm 0.429$	1.12	$-0.474 \pm 0.426$	$-0.069 \pm 0.290$
photometric centroid source offset	$1.21 \pm 0.78$	1.56	$-1.04 \pm 0.77$	$-0.61 \pm 0.78$

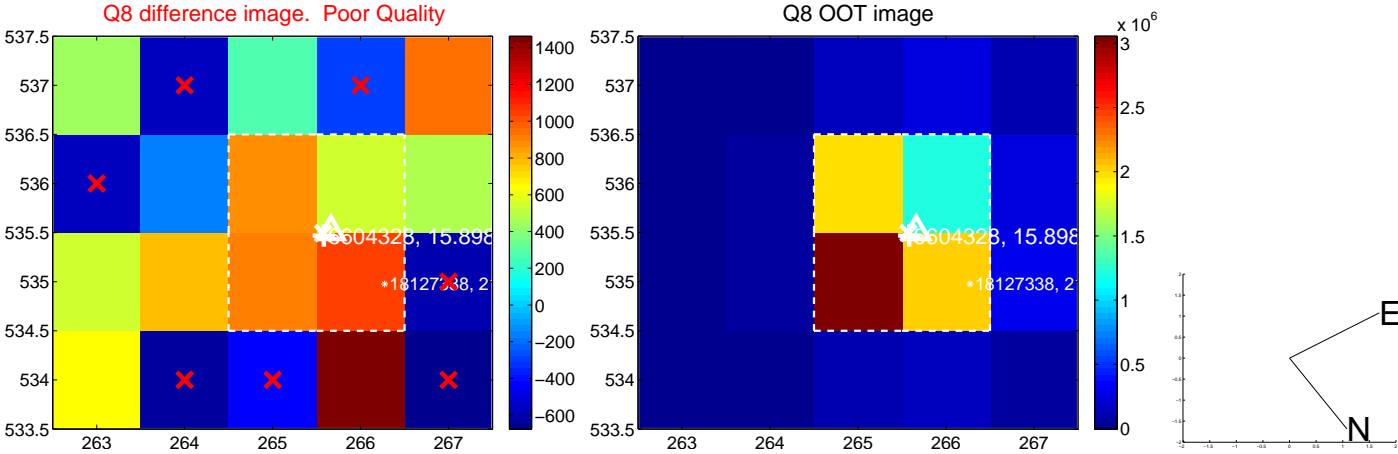
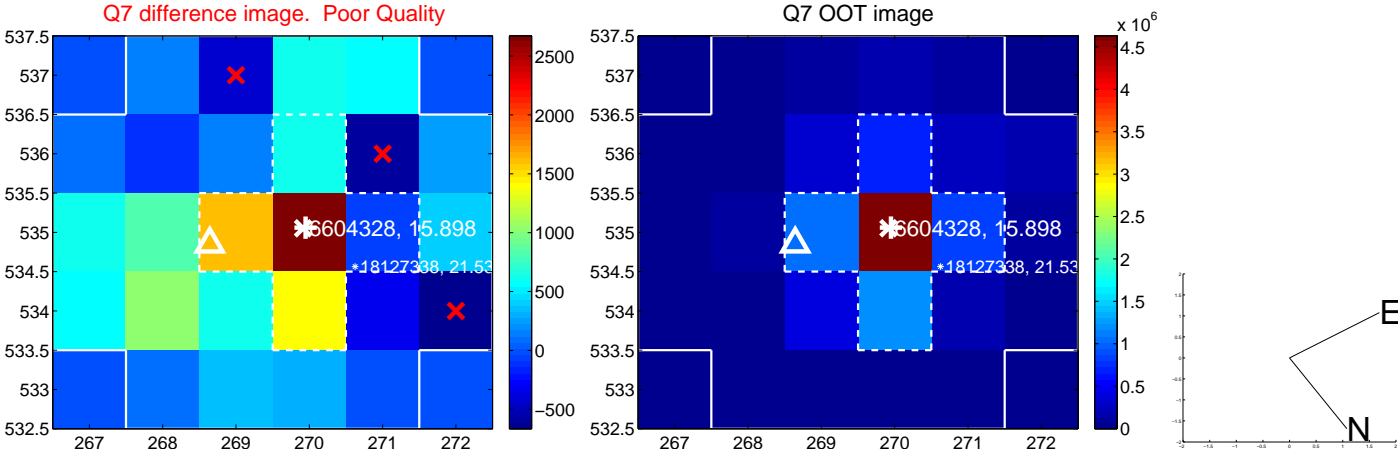
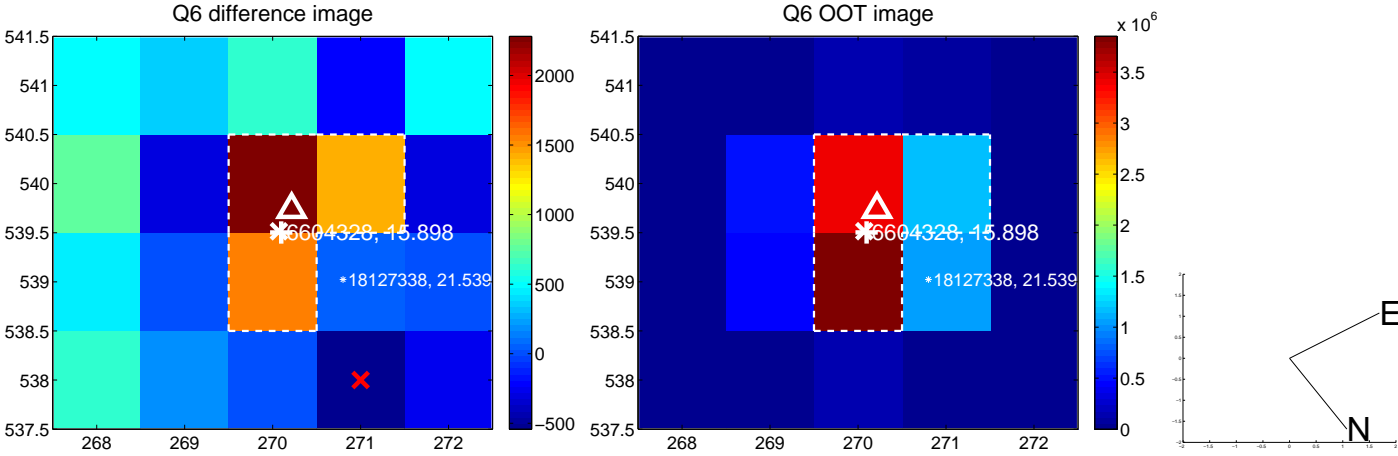
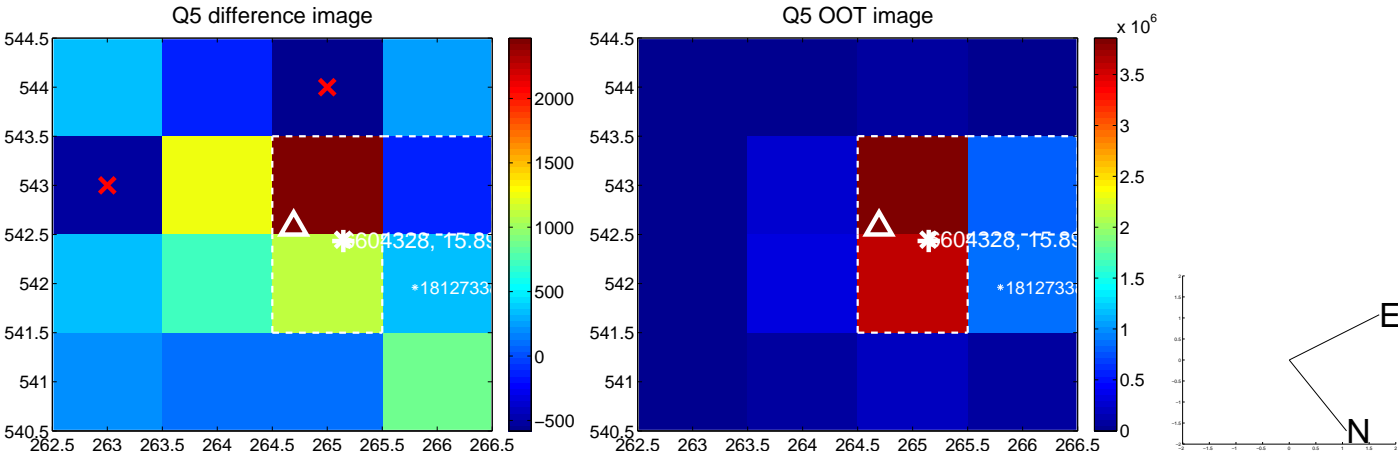


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

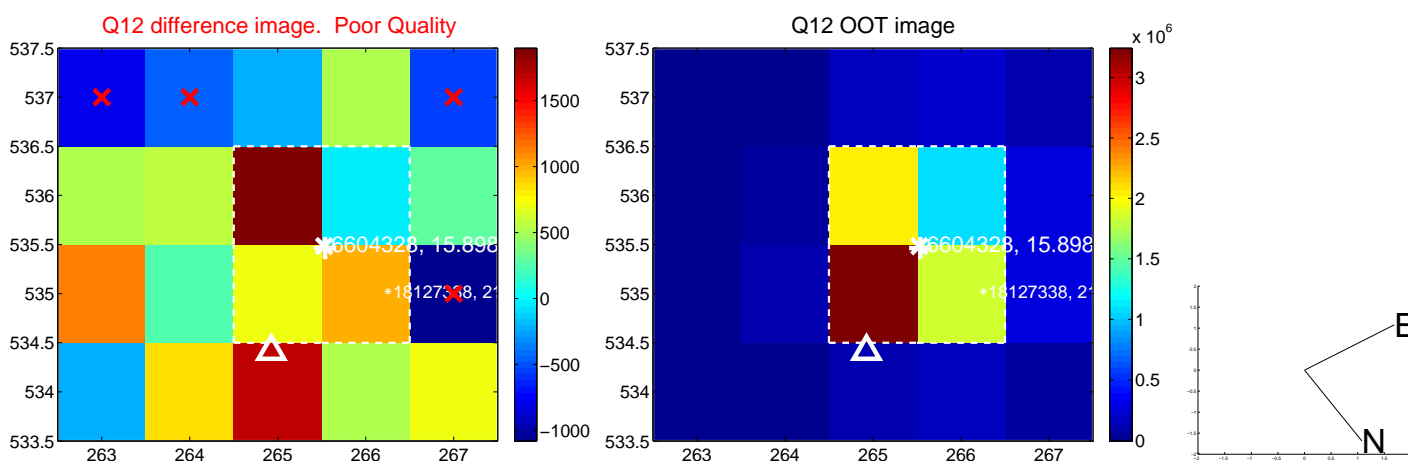
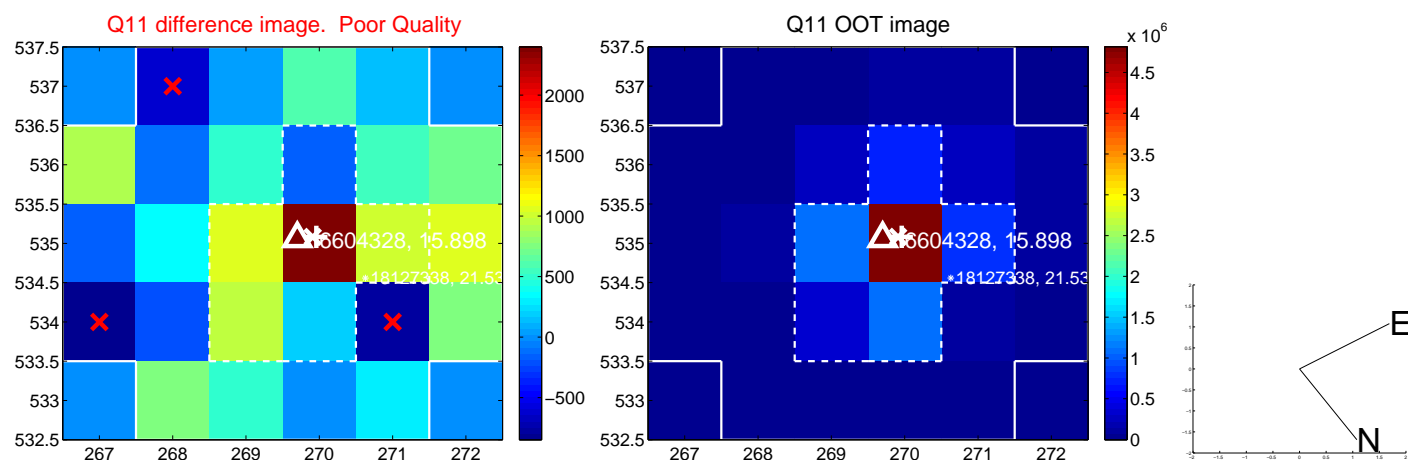
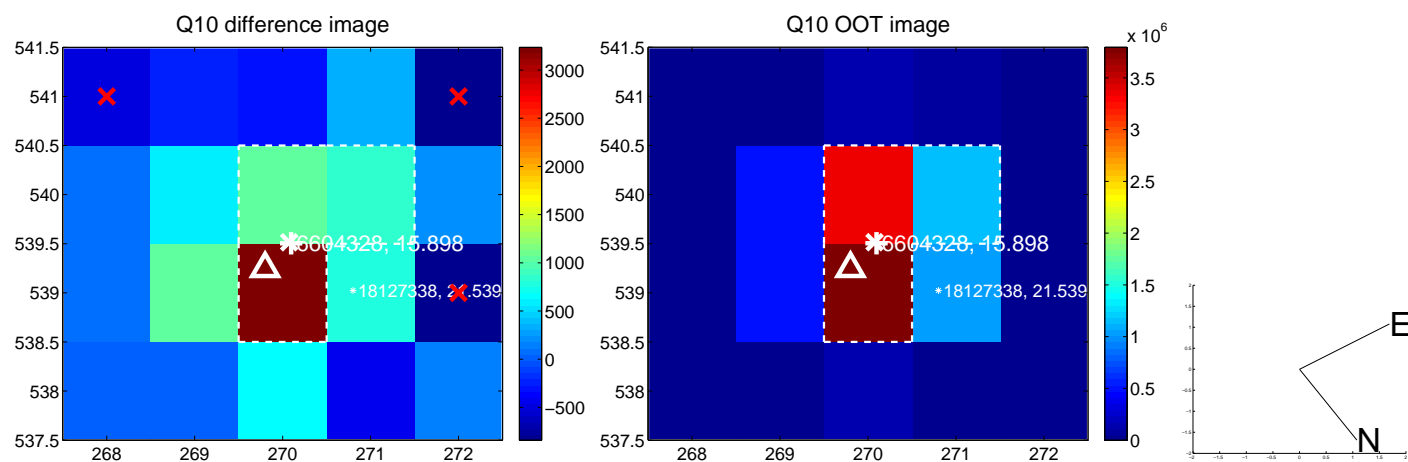
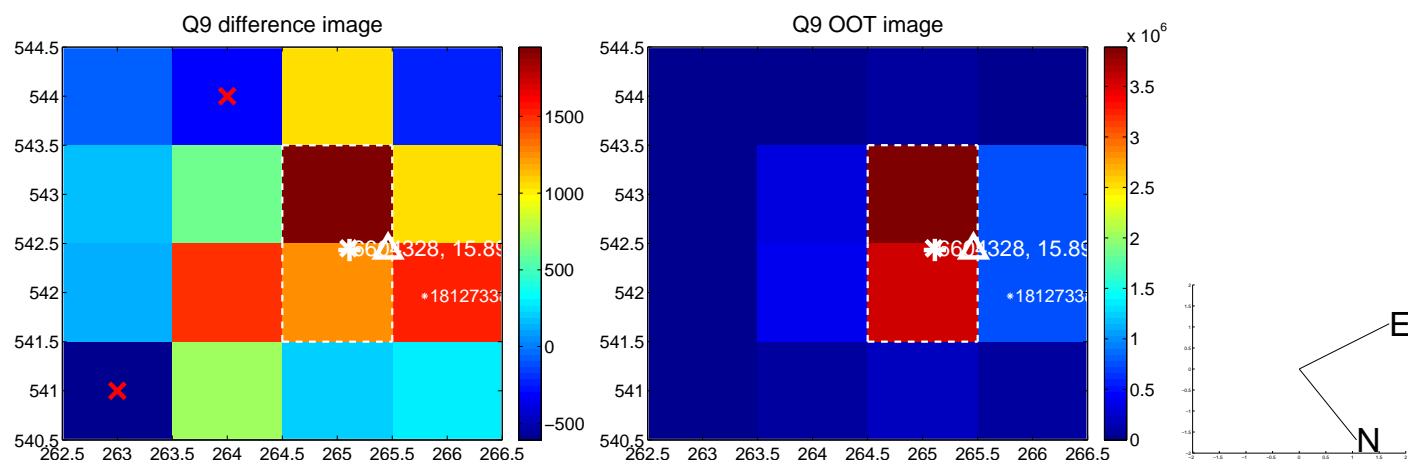
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



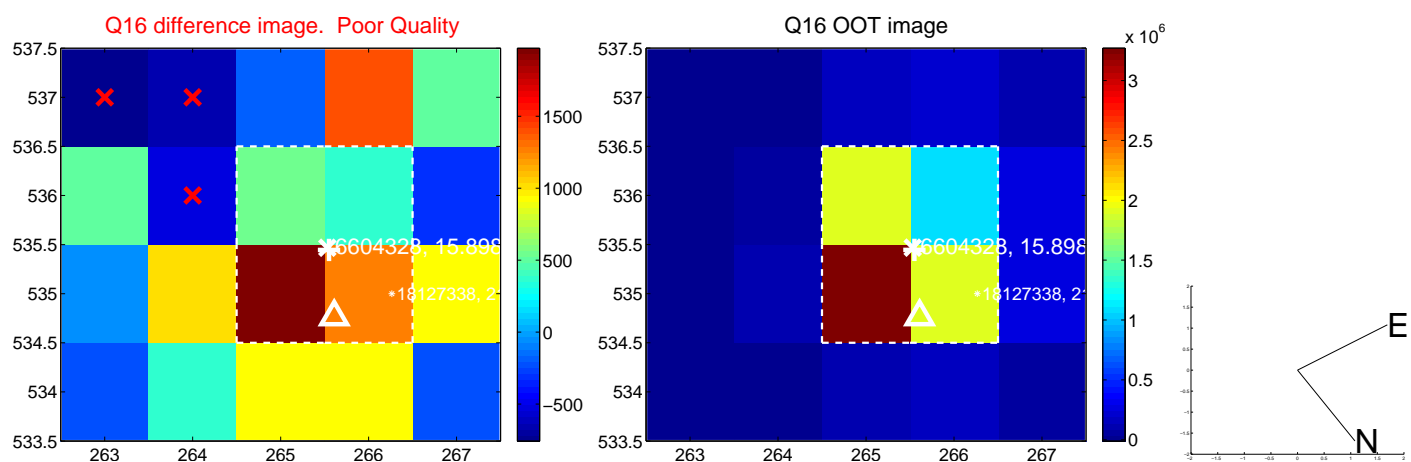
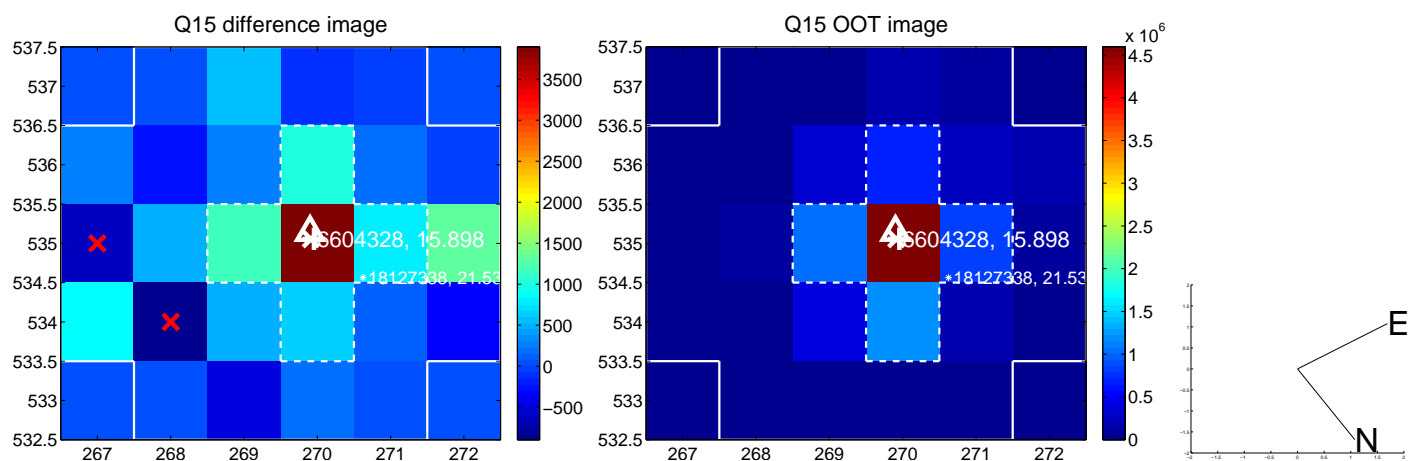
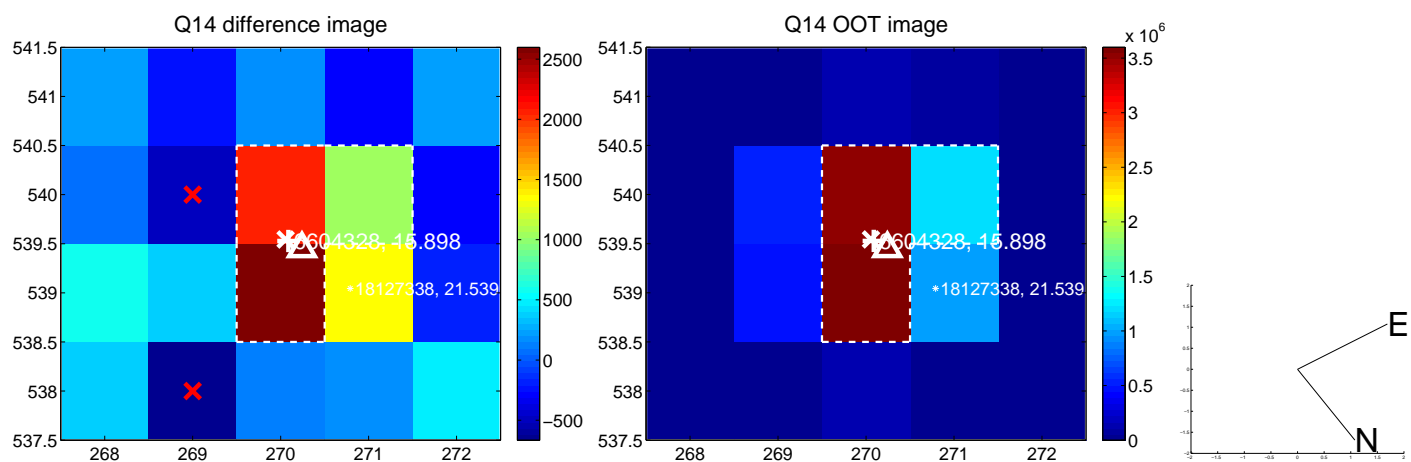
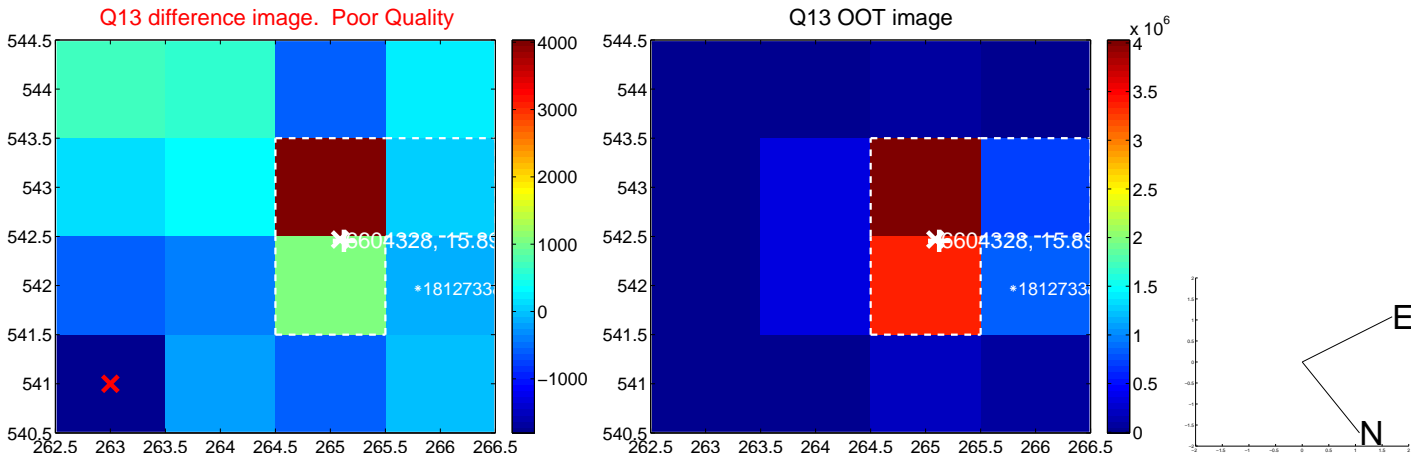
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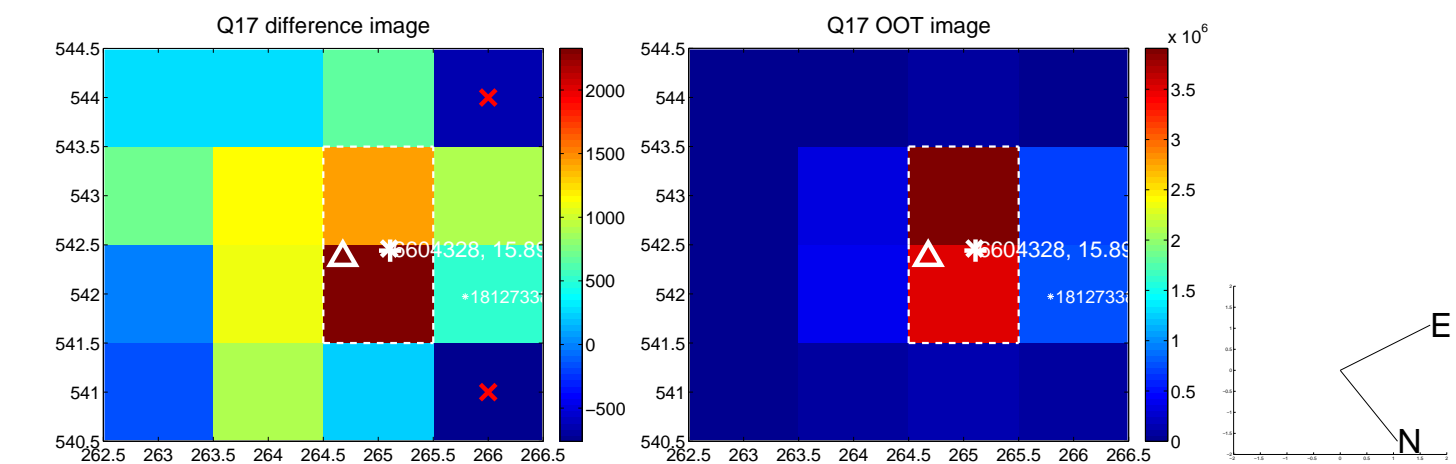


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

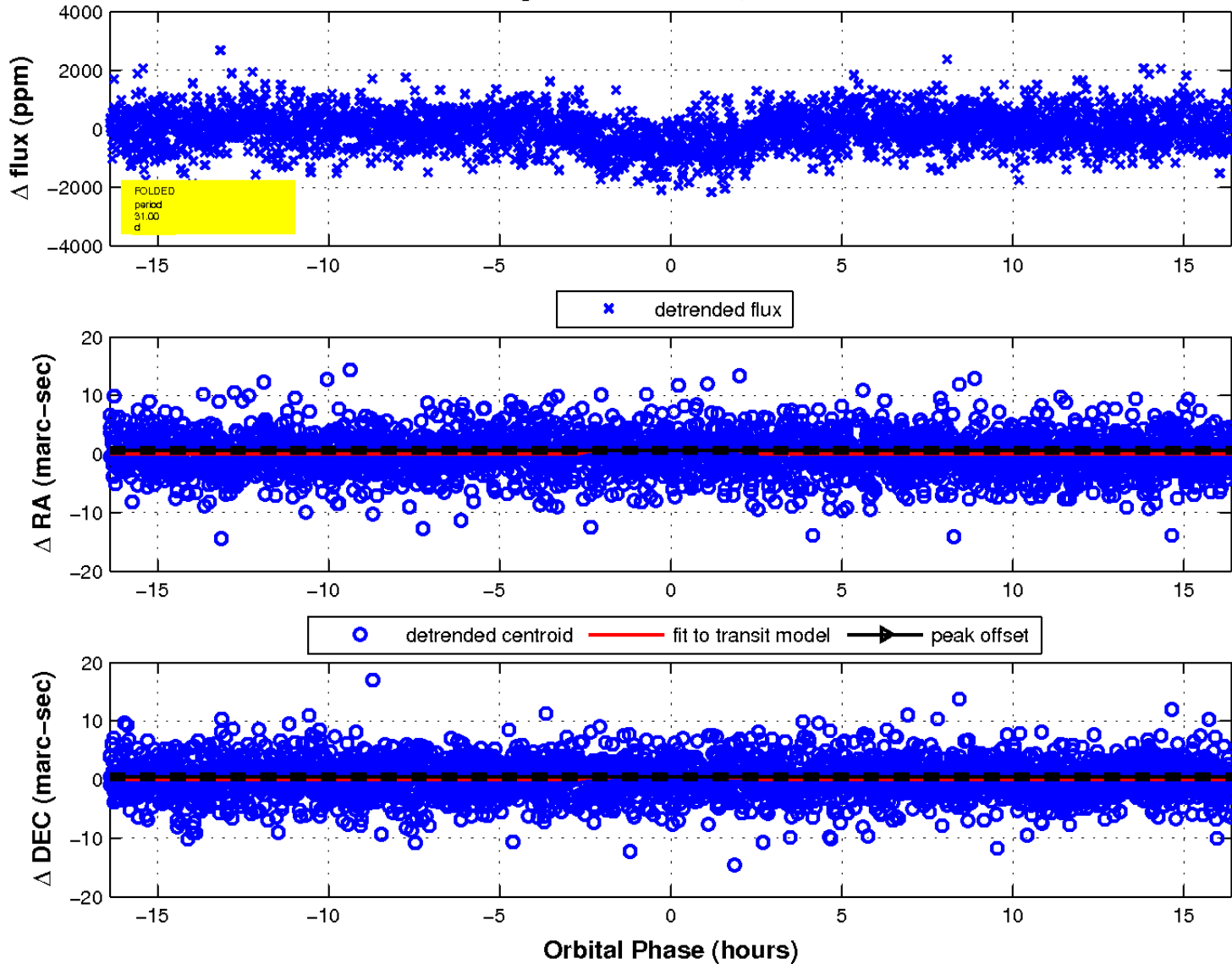




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

