

# KIC 003430564

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003430564-01	OBS	No	0.855553	132.210634	27.9	0.850	7.9	11.3	1.91	6343	1.09	13798.31

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003430564-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

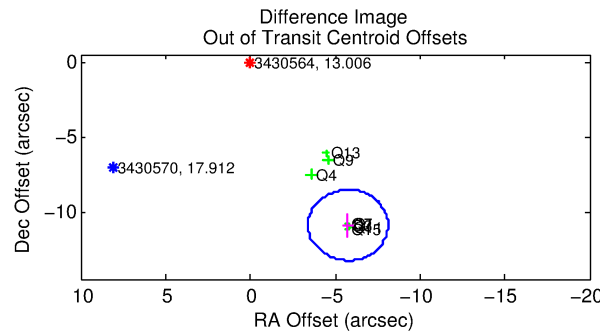
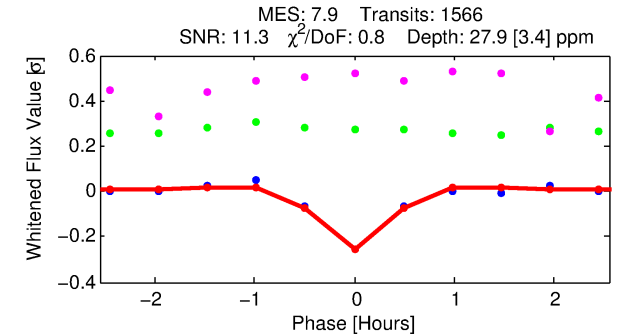
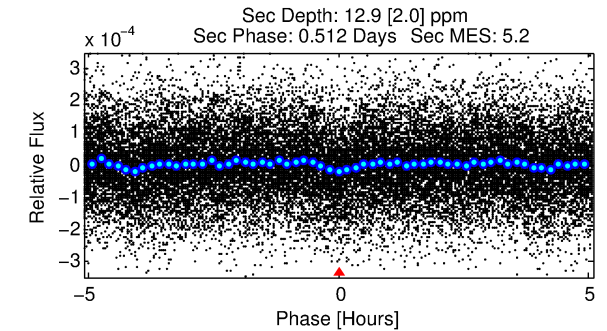
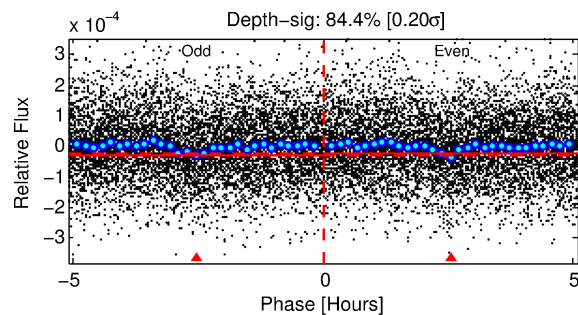
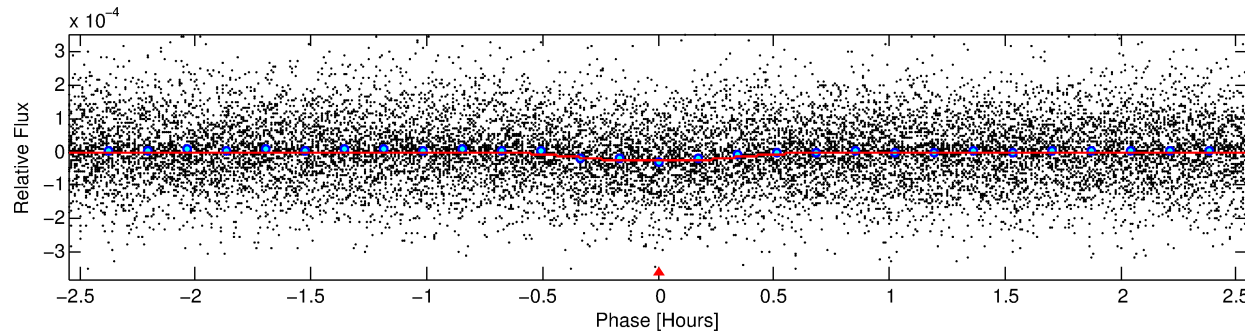
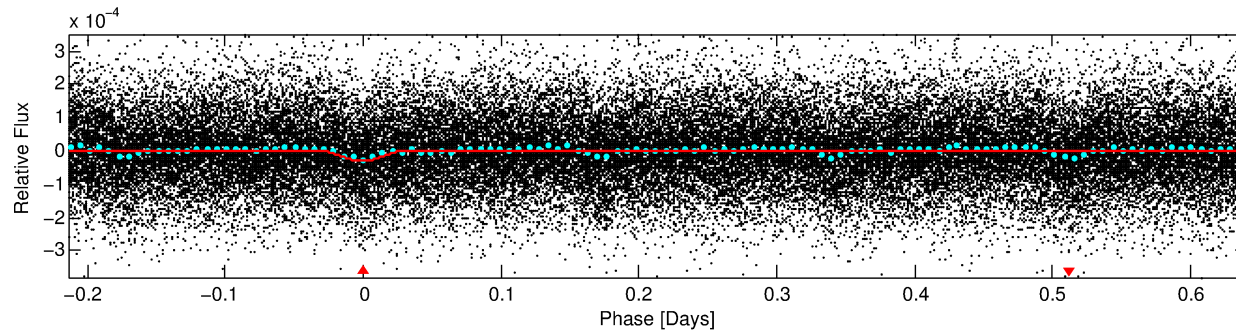
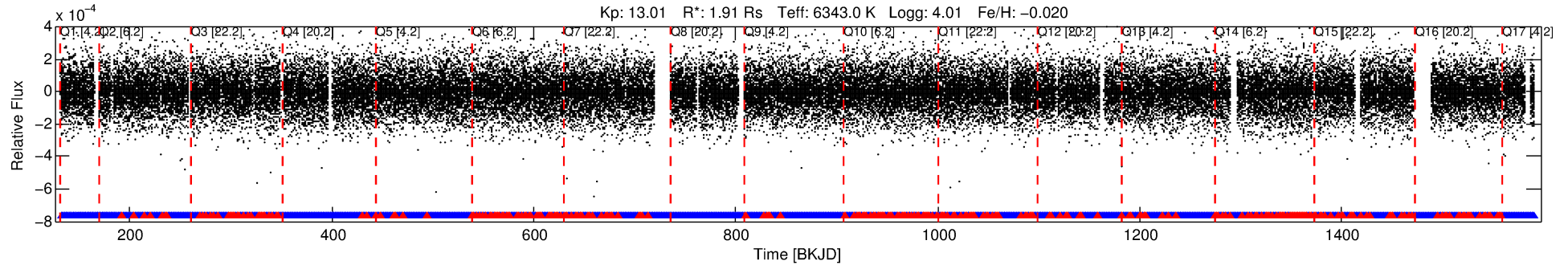
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003430564-01

No Significant Match Found

# DV One-Page Summary

KIC: 3430564 Candidate: 1 of 1 Period: 0.856 d



## DV Fit Results:

Period = 0.8555 [0.00001] d  
Epoch = 132.2106 [0.0013] BKJD  
Rp/R\* = 0.0052 [0.0010]  
a/R\* = 5.71 [5.53]  
b = 0.69 [0.77]  
Seff = 13798.31 [7511.39]  
Teq = 2764 [376] K  
Rp = 1.09 [0.44] Re  
a = 0.0195 [0.0065] AU  
Ag = 2.30 [1.56] [0.84 $\sigma$ ]  
Teff = 5265 [588] K [3.58 $\sigma$ ]

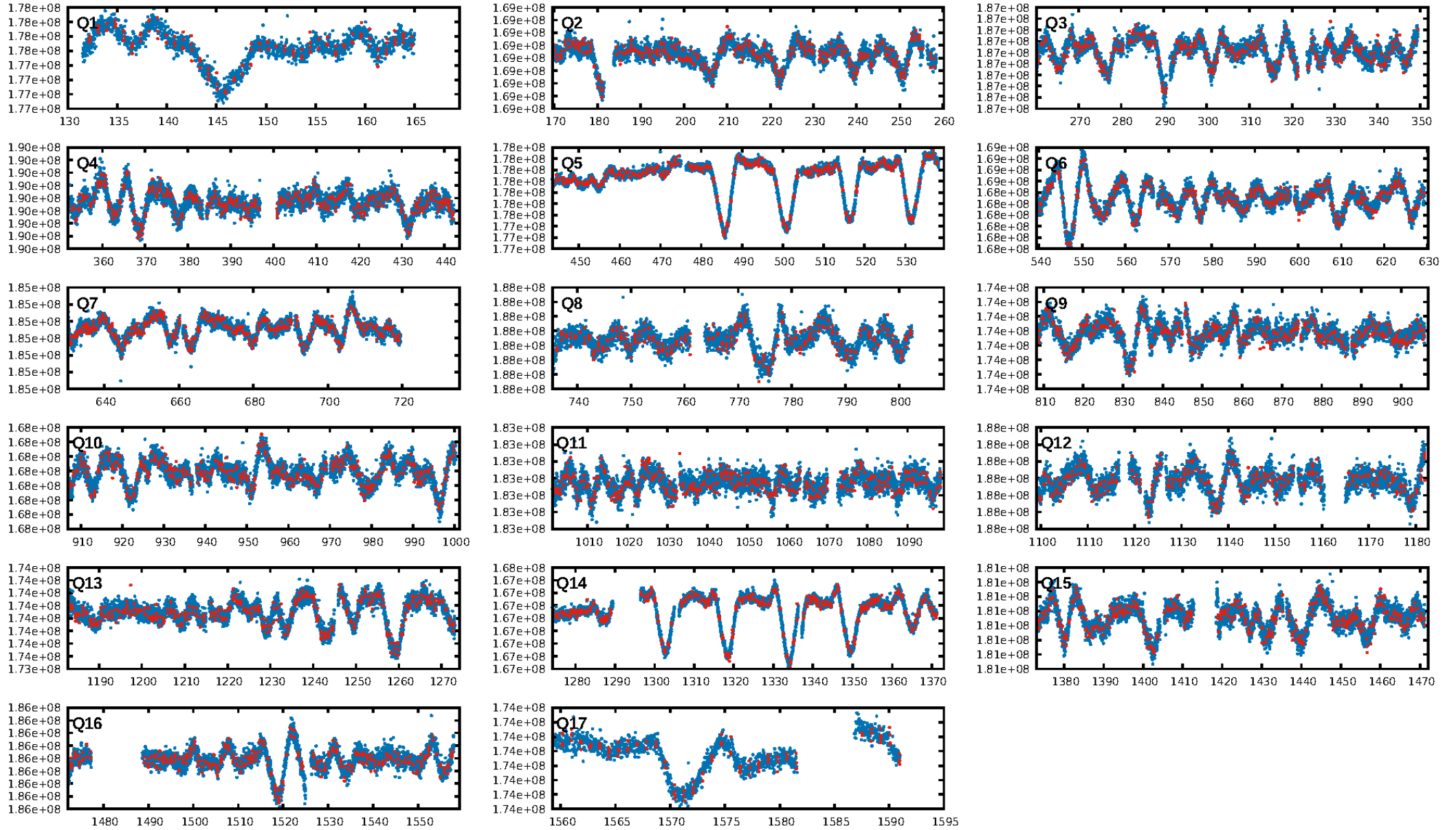
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.95e-15  
RollingBand-fgt: 0.81 [1204/1495]  
GhostDiagnostic-chr: -1.58  
Centroid-sig: 0.5%  
Centroid-so: 1.726 arcsec [1.54 $\sigma$ ]  
OotOffset-rm: 12.333 arcsec [15.69 $\sigma$ ]  
KicOffset-rm: 11.975 arcsec [15.04 $\sigma$ ]  
OotOffset-st: 0/4/1/3 [8]  
KicOffset-st: 0/4/1/3 [8]  
DiffImageQuality-fgm: 0.88 [7/8]  
DiffImageOverlap-fno: 1.00 [17/17]

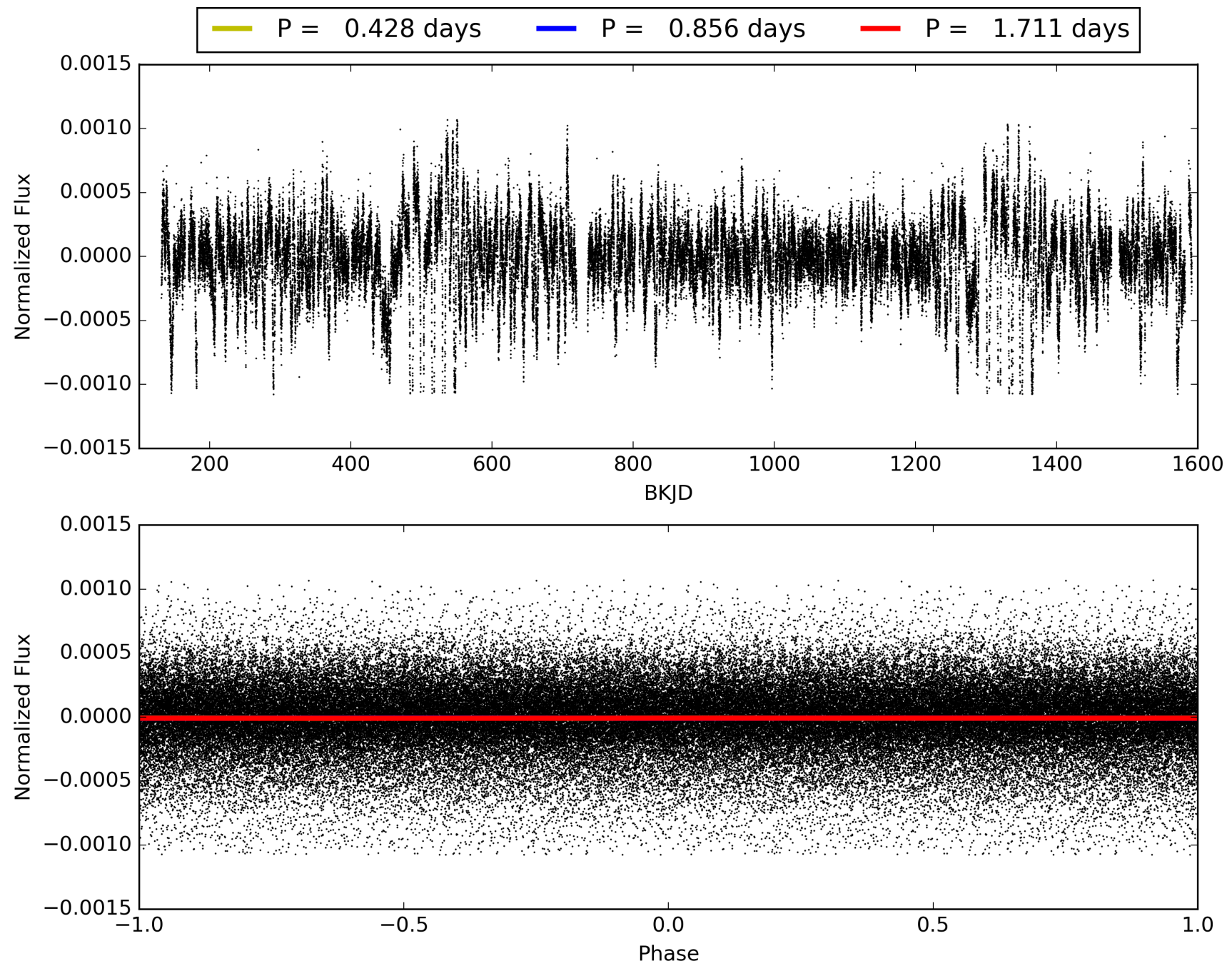
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:05:02 Z

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

# TCE 003430564-01, PDC Light Curves

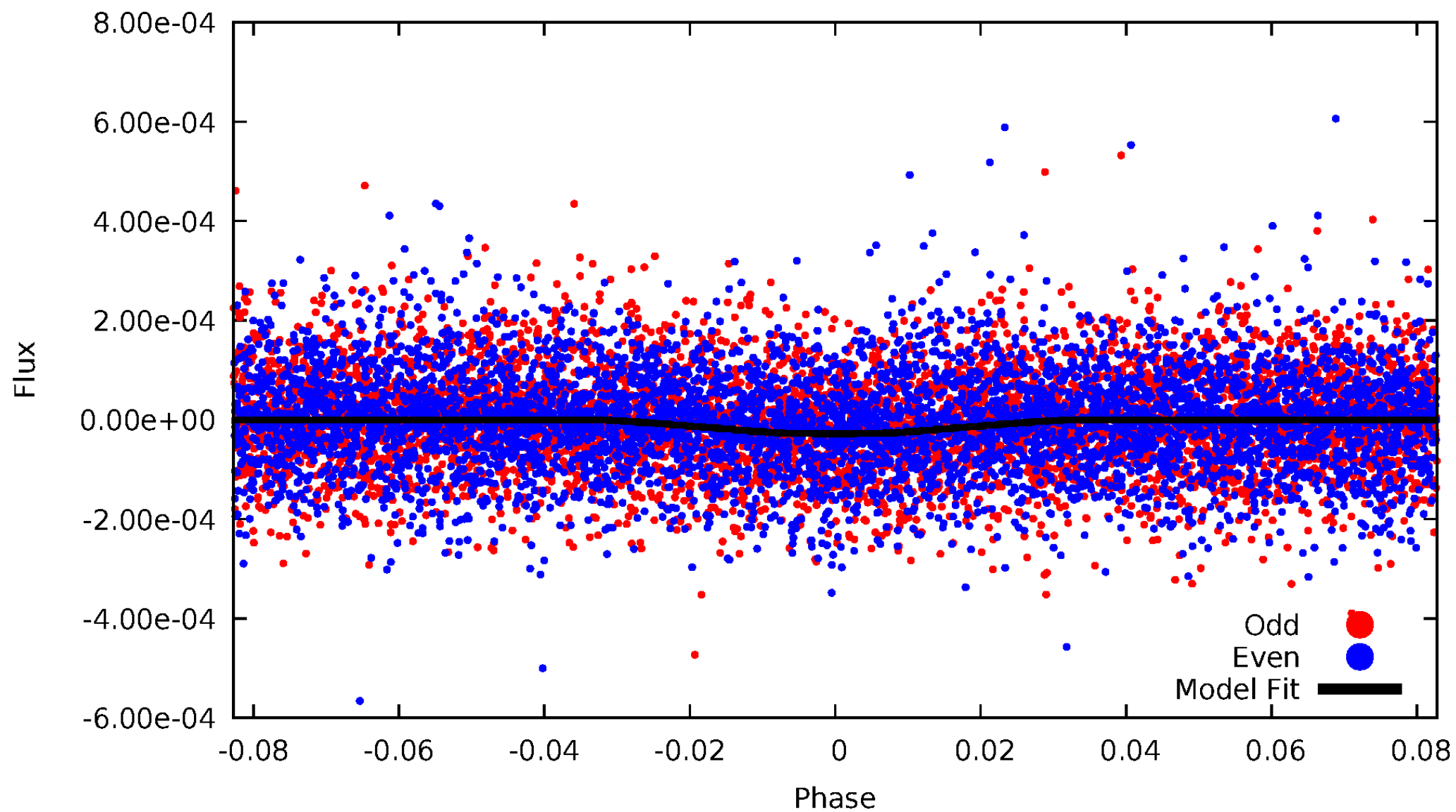


TCE 003430564-01



# DV Odd/Even

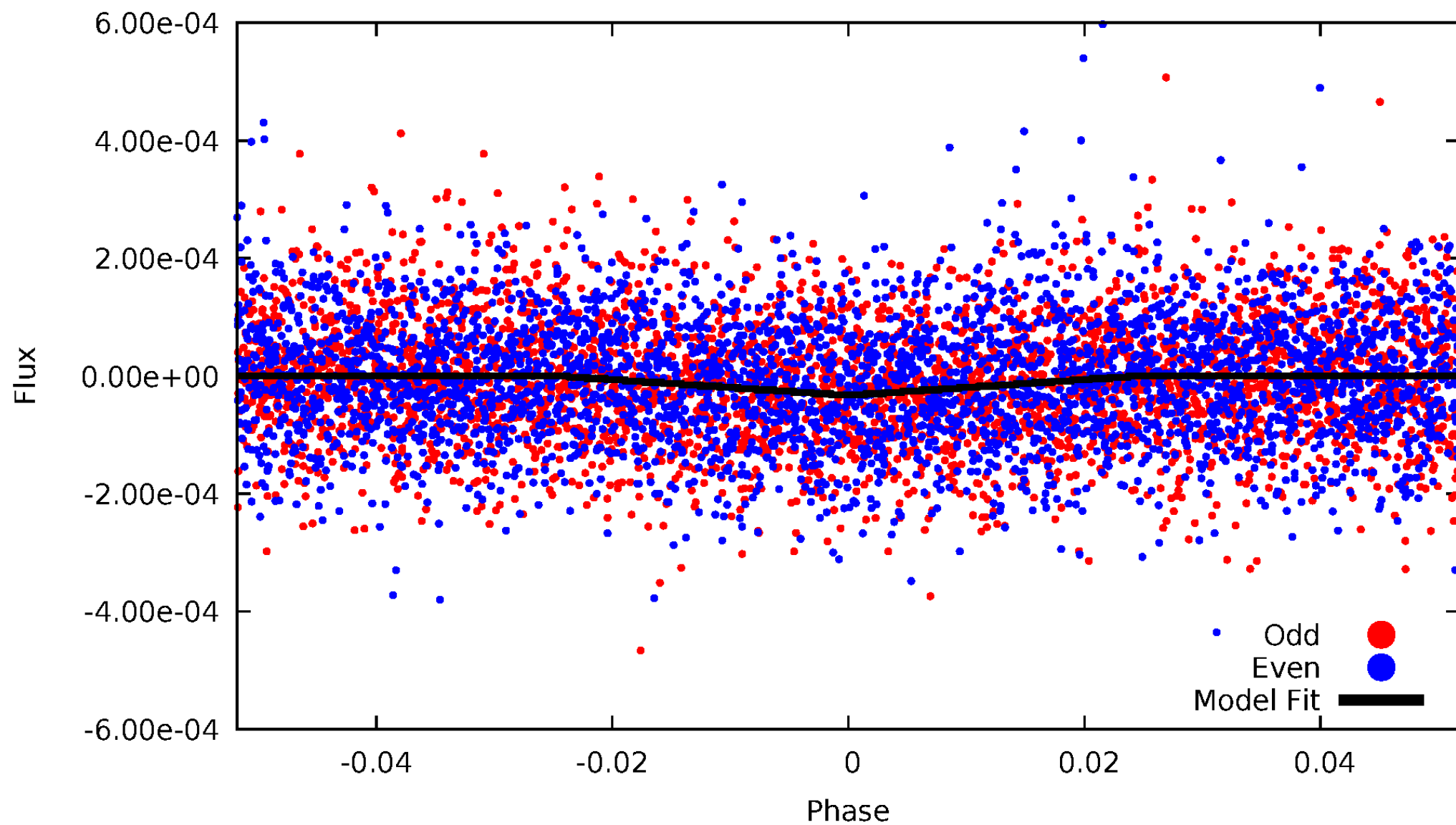
TCE 003430564-01





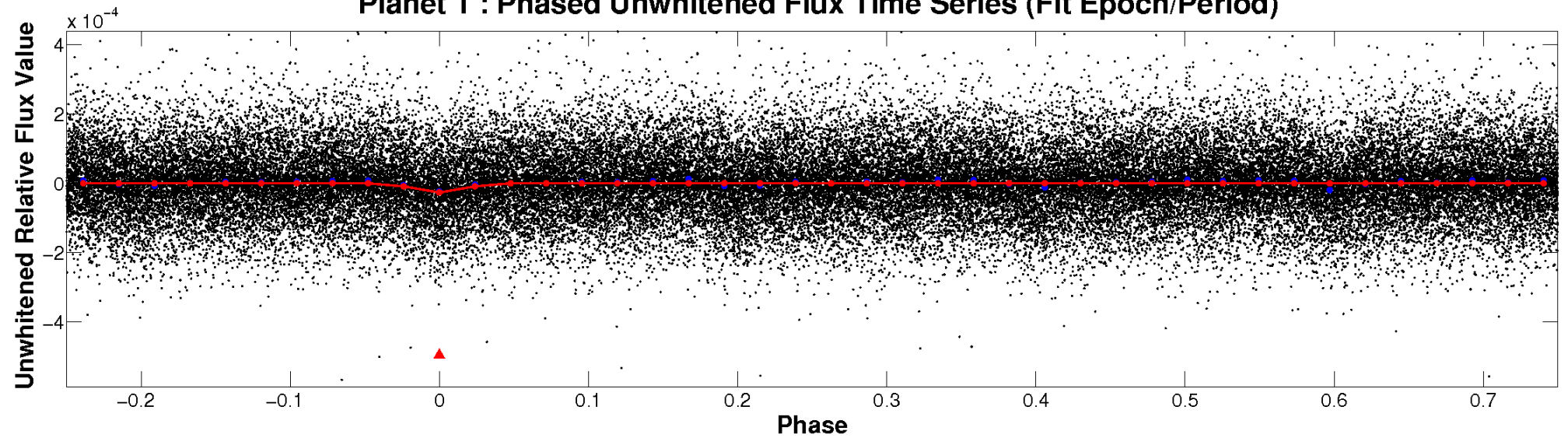
# ALT Odd/Even

TCE 003430564-01

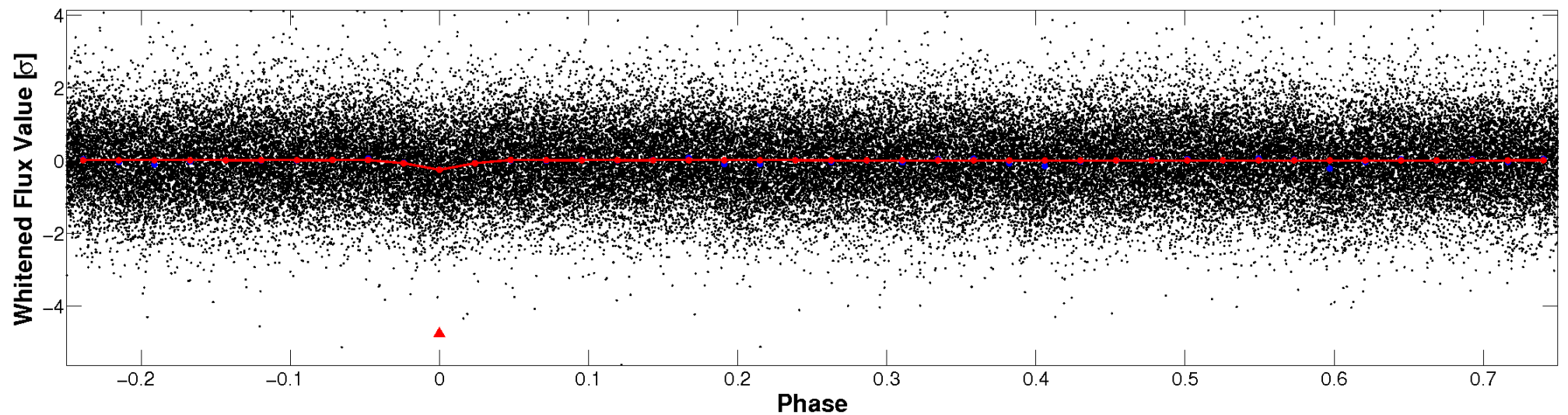


# Non-Whitened Vs. Whitened Light Curve

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

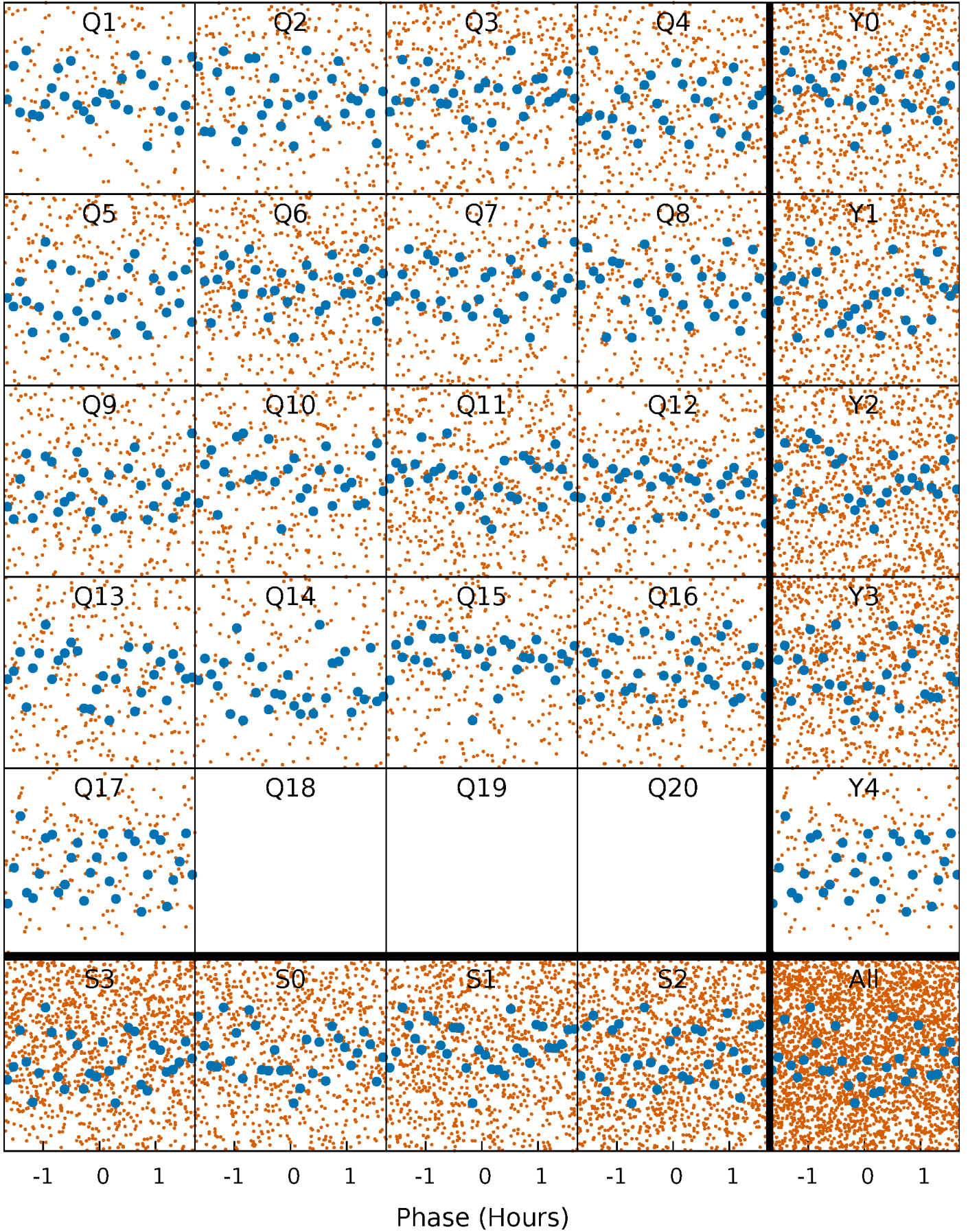


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

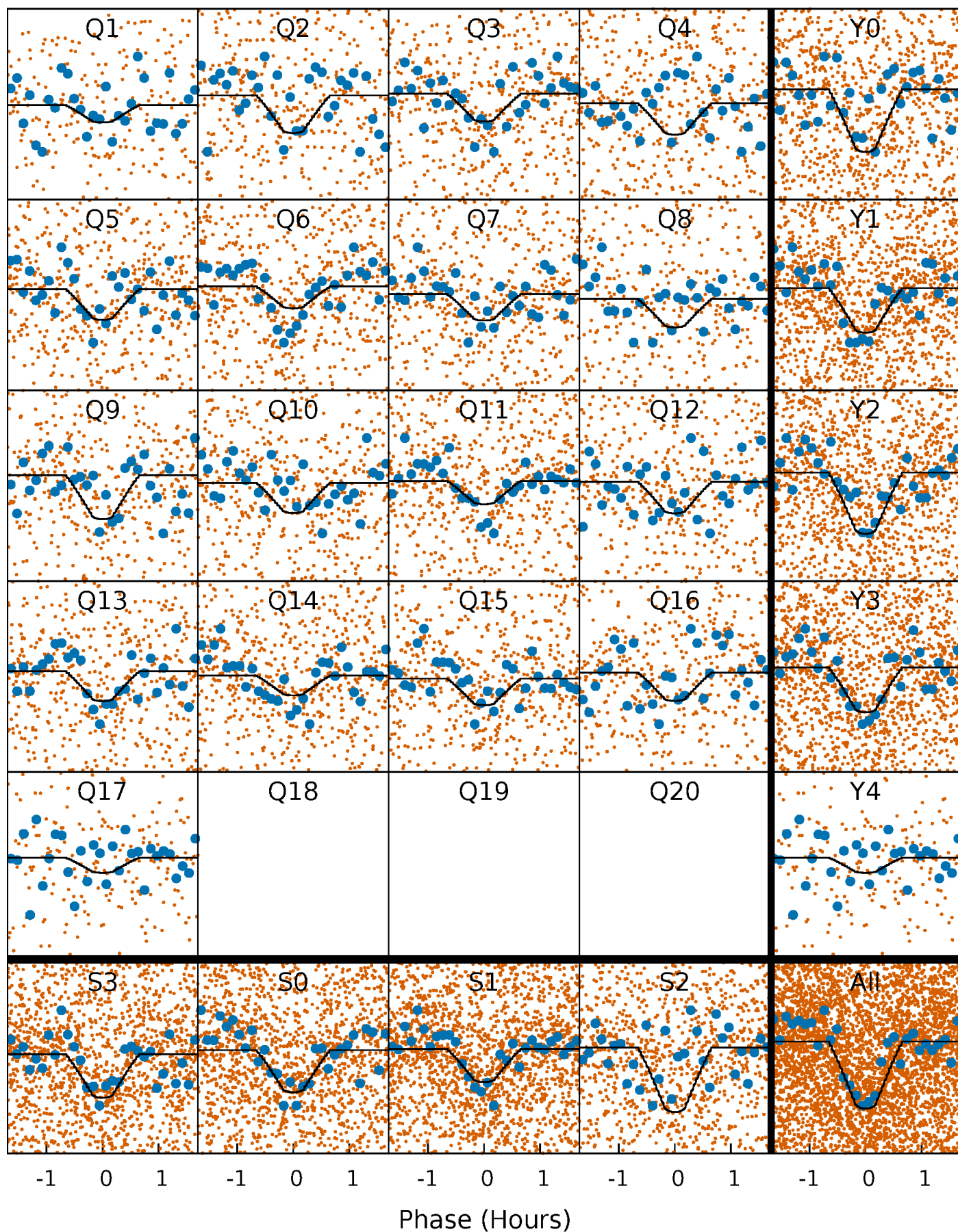
TCE 003430564-01 P= 0.855553 Days  $T_0=132.210634$  (BKJD)





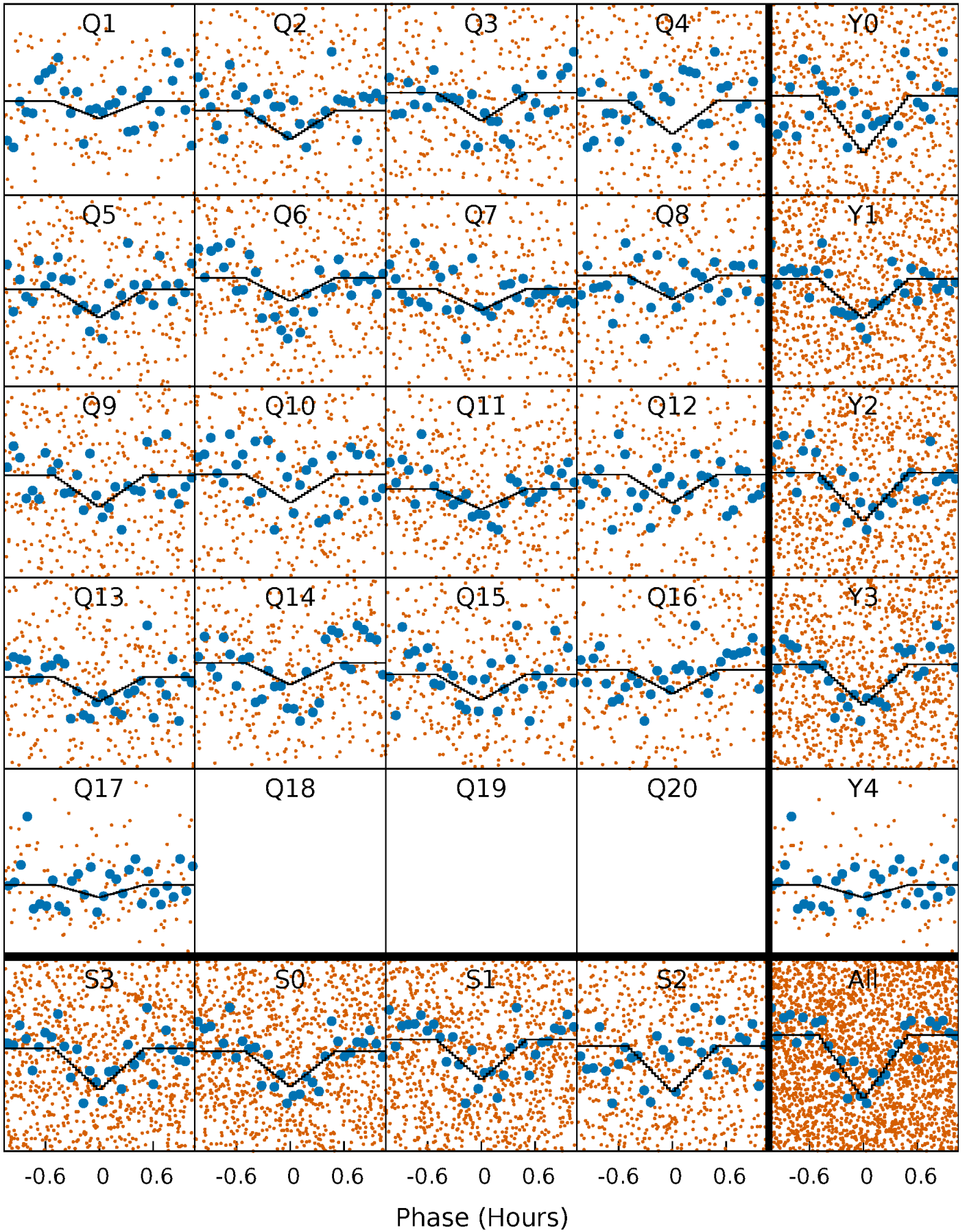
# DV Quarter-Phased Transit Curves

TCE 003430564-01 P= 0.855553 Days  $T_0=132.210634$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

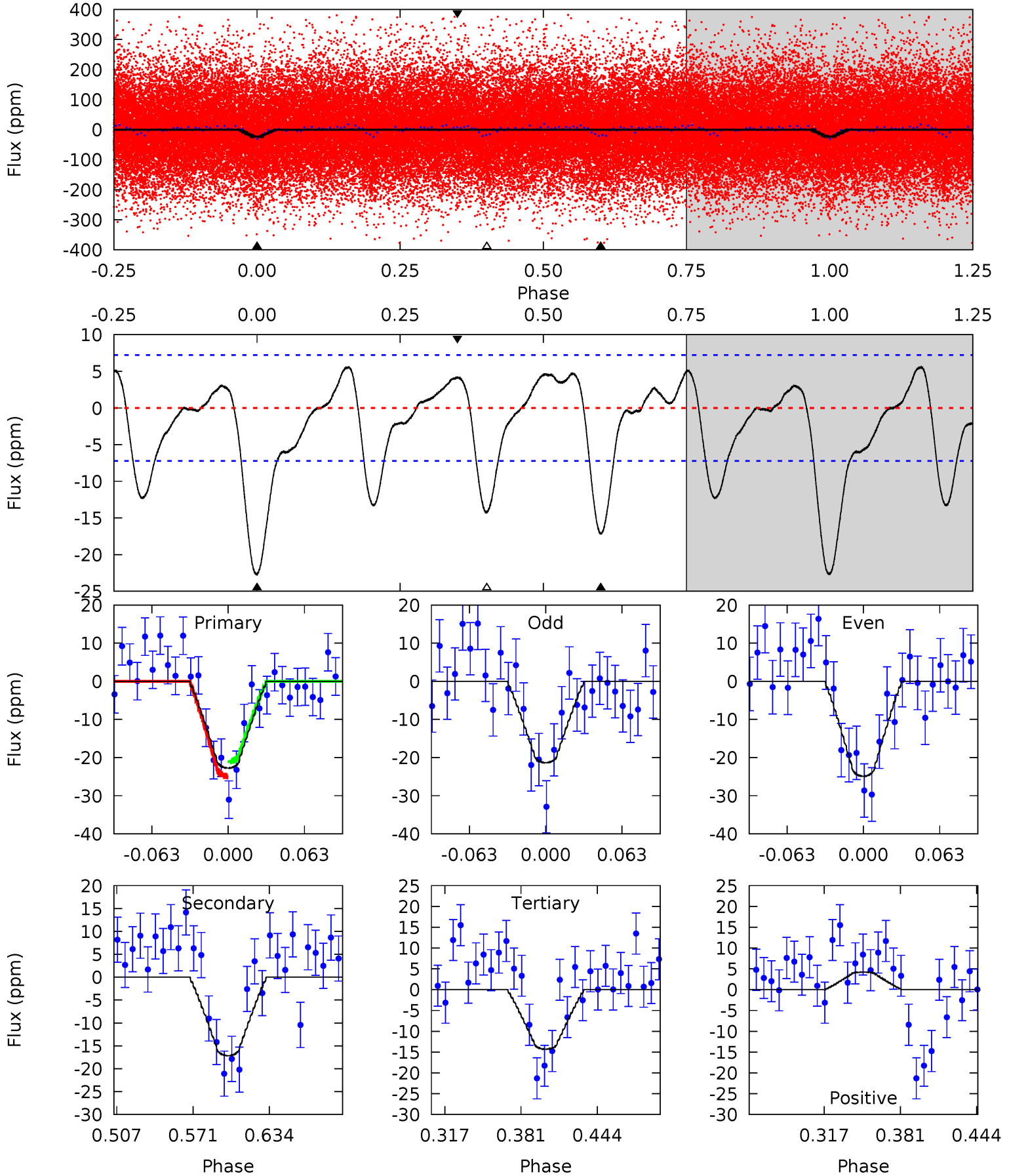
TCE 003430564-01   P= 0.855558 Days    $T_0=132.204488$  (BKJD)



# DV Model-Shift Uniqueness Test

003430564-01, P = 0.855553 Days, E = 131.355081 Days

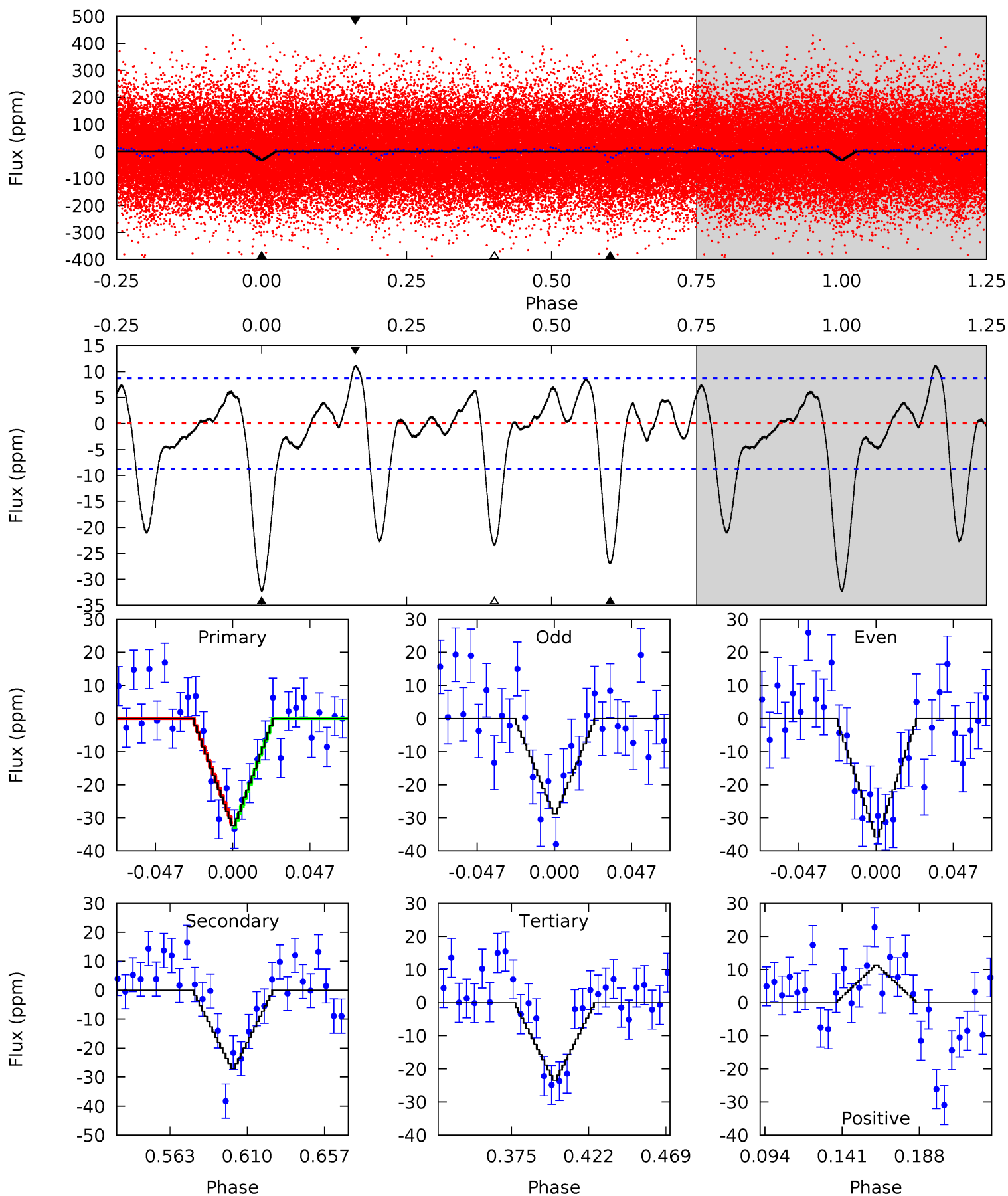
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	11.1	9.24	2.72	4.66	1.86	3.21	5.44	12.0	1.83	8.35	1.15	0.98	0.20	1.25



# Alt Model-Shift Uniqueness Test

003430564-01, P = 0.855558 Days, E = 131.348930 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
17.6	14.7	12.8	6.11	4.72	1.99	3.83	4.80	11.5	1.95	8.60	1.91	1.00	0.26	0.40





### Stellar Parameters For KIC 003430564

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6343^{+179}_{-224}$	$4.011^{+0.306}_{-0.165}$	$-0.020^{+0.250}_{-0.300}$	$1.906^{+0.552}_{-0.675}$	$1.363^{+0.186}_{-0.303}$	$0.277^{+0.627}_{-0.132}$
	+3%/-4%	+8%/-4%	+1250%/-1500%	+29%/-35%	+14%/-22%	+226%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 003430564-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-17 \pm 2$	$1.04^{+0.31}_{-0.26}$	$3806^{+307}_{-369}$	$5480^{+776}_{-486}$	$3.315^{+2.749}_{-1.298}$
Alt.	$-27 \pm 2$	$1.14^{+0.31}_{-0.29}$	$3815^{+299}_{-346}$	$5913^{+695}_{-535}$	$4.309^{+3.142}_{-1.635}$

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

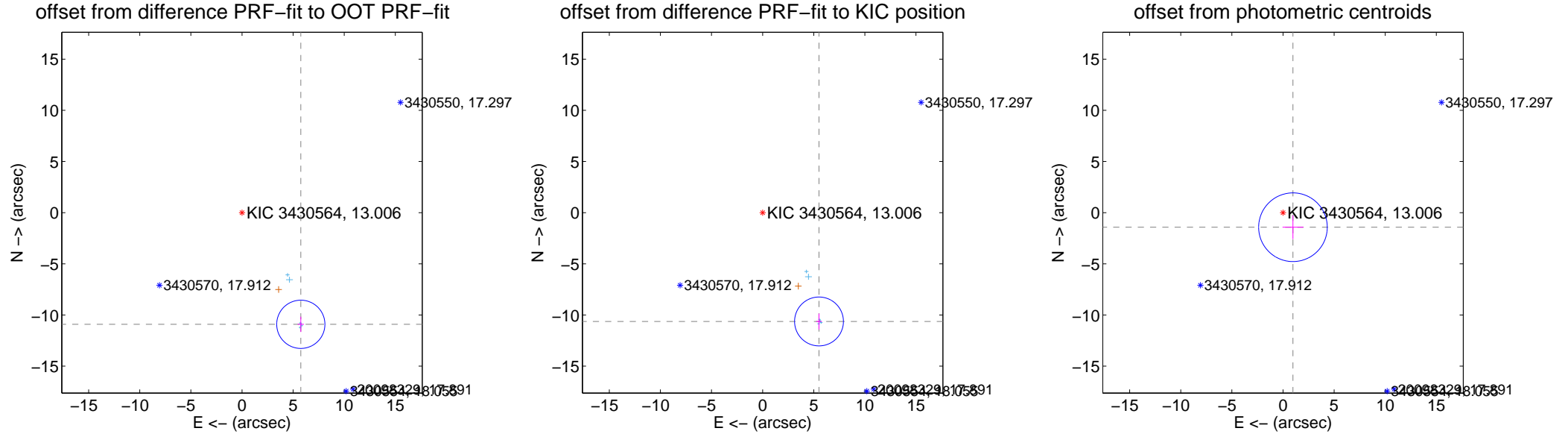
## DV Centroid Data

Supplemental centroid analysis for 003430564-01. Kepler magnitude: 13.01. Transit SNR 11.26

There are 7 quarters with good PRF difference image offsets

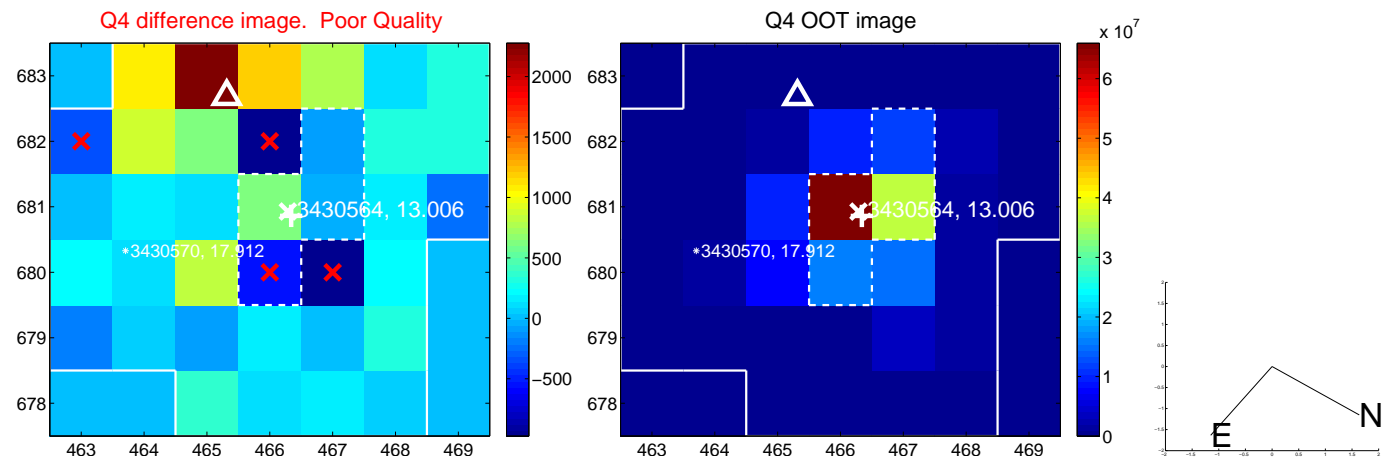
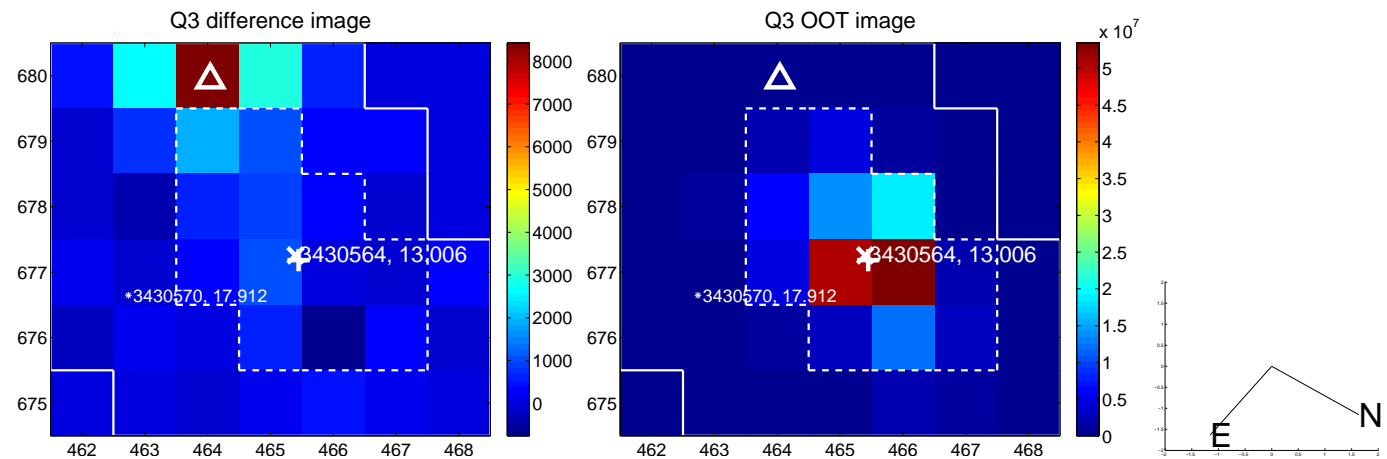
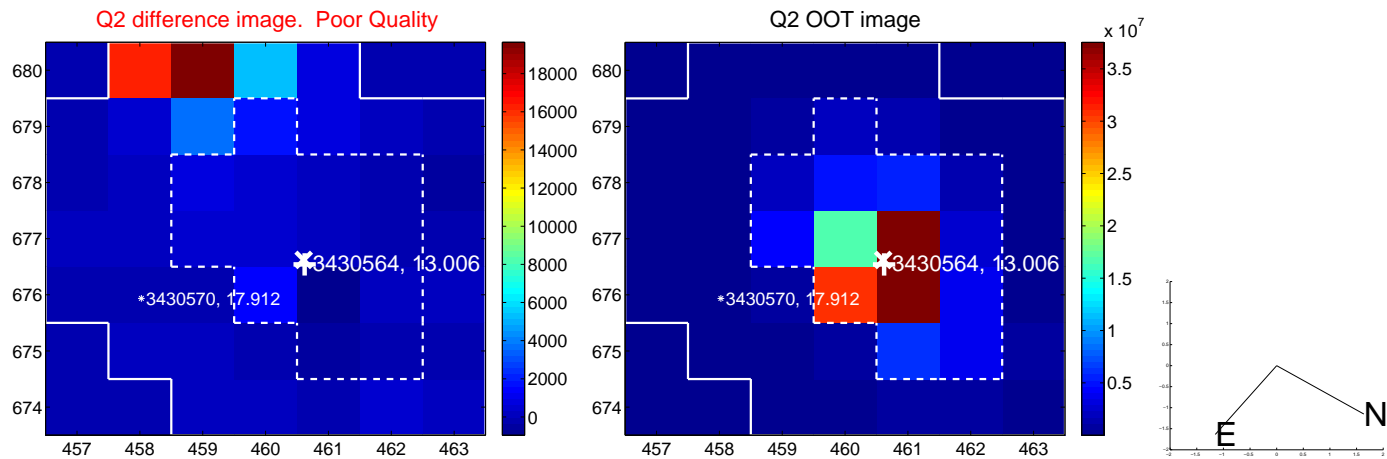
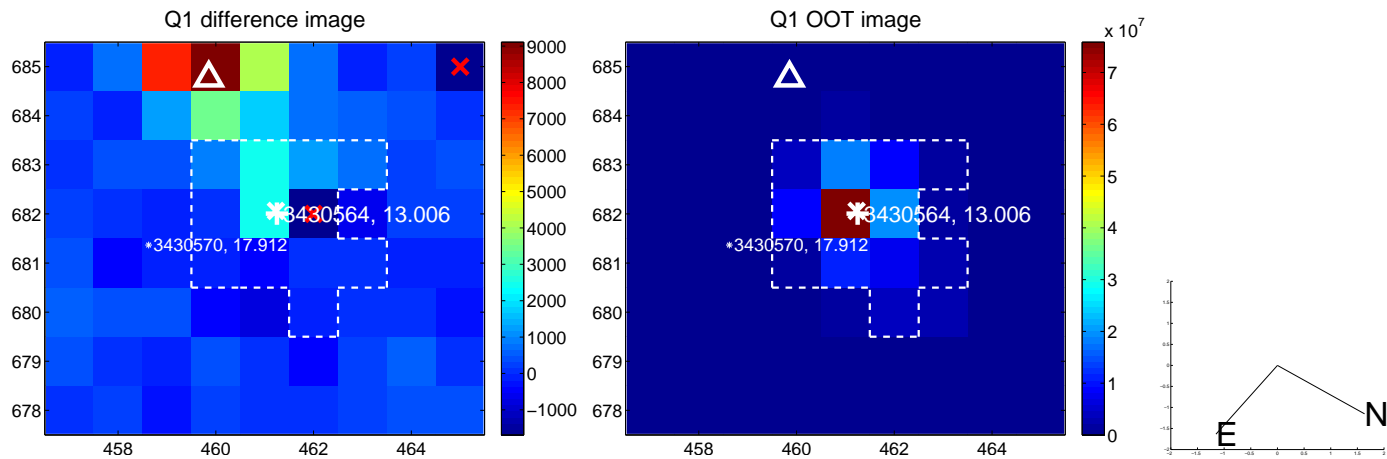
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$12.333 \pm 0.786$	15.69	$-5.752 \pm 0.309$	$-10.909 \pm 0.747$
PRF-fit source offset from KIC position	$11.975 \pm 0.796$	15.04	$-5.513 \pm 0.280$	$-10.631 \pm 0.769$
photometric centroid source offset	$1.73 \pm 1.12$	1.54	$-0.97 \pm 1.02$	$-1.42 \pm 1.16$

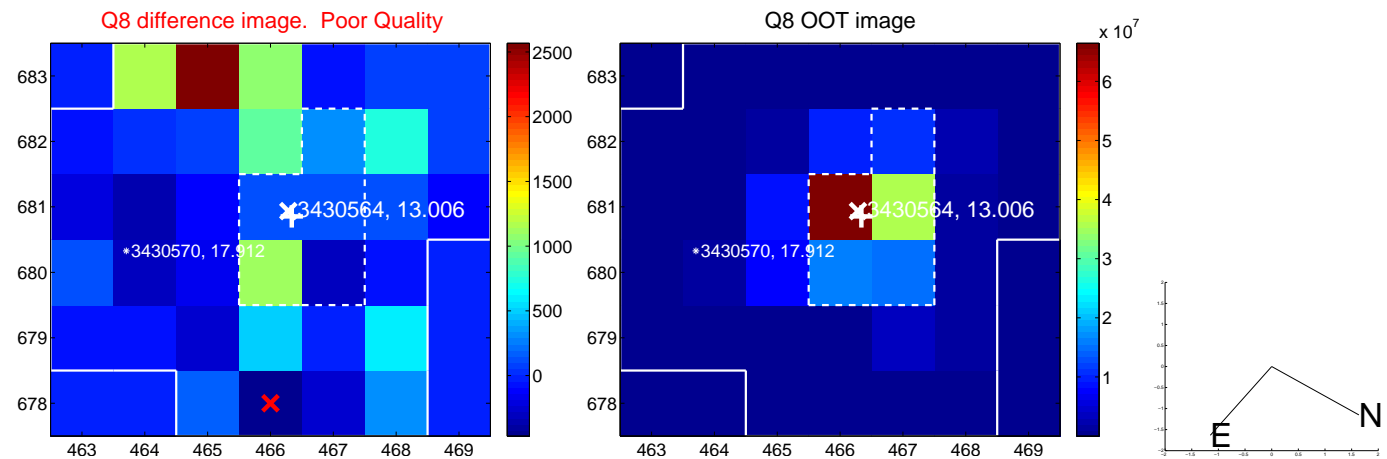
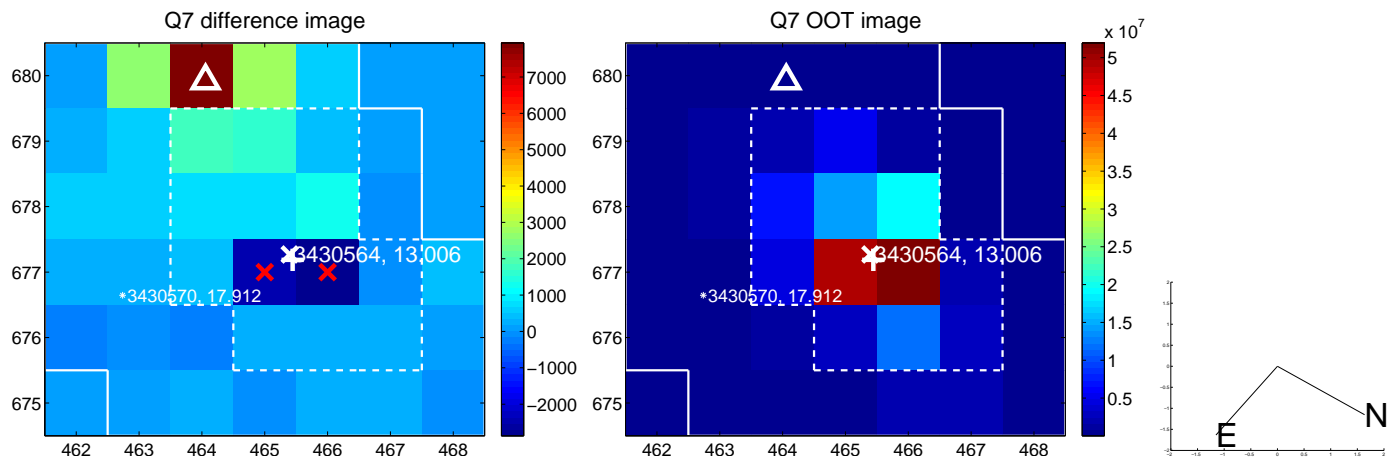
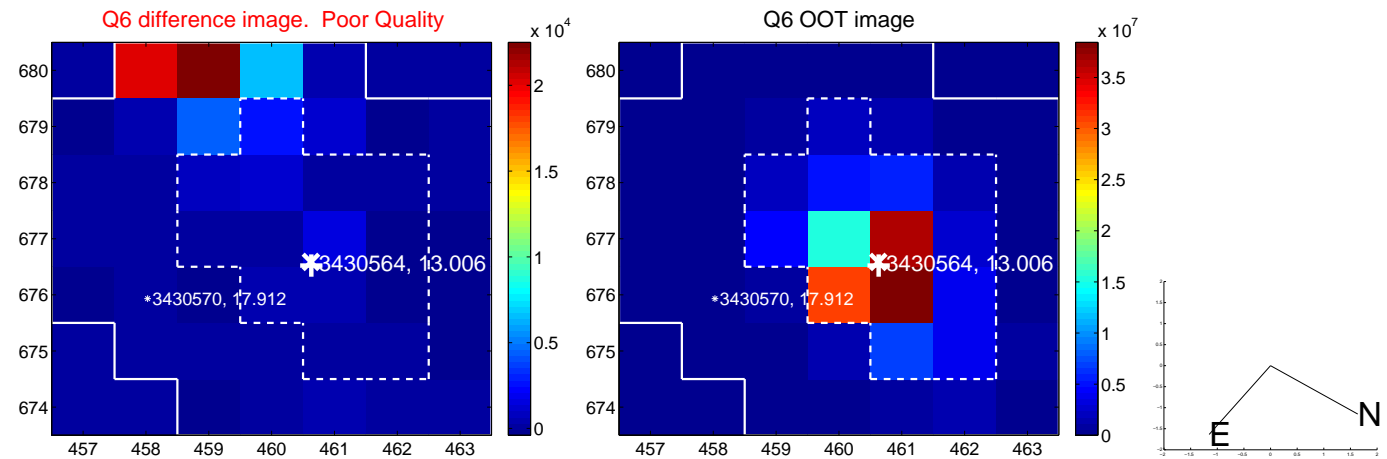
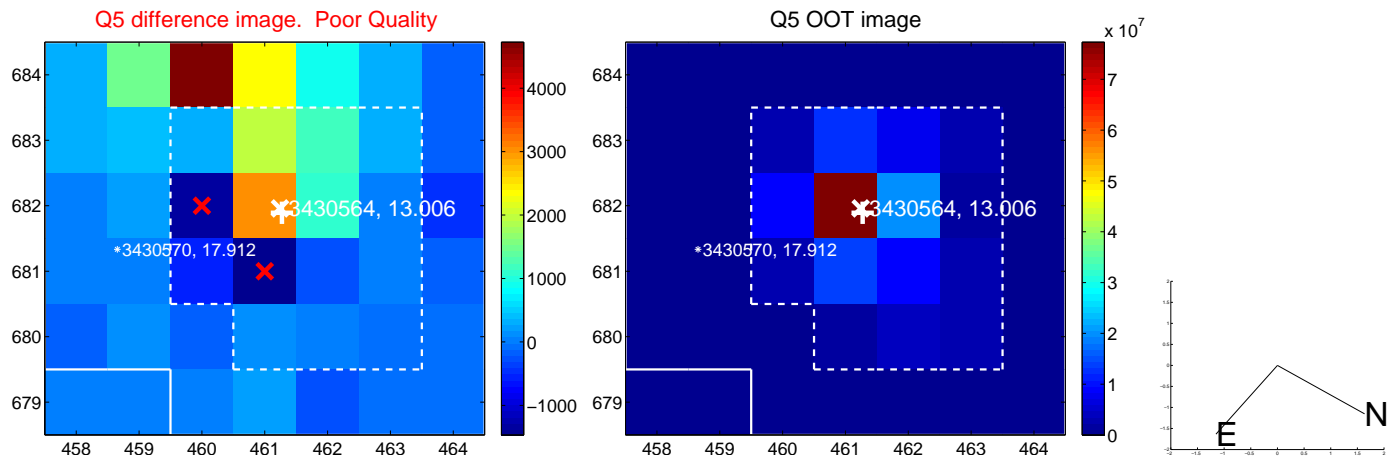


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

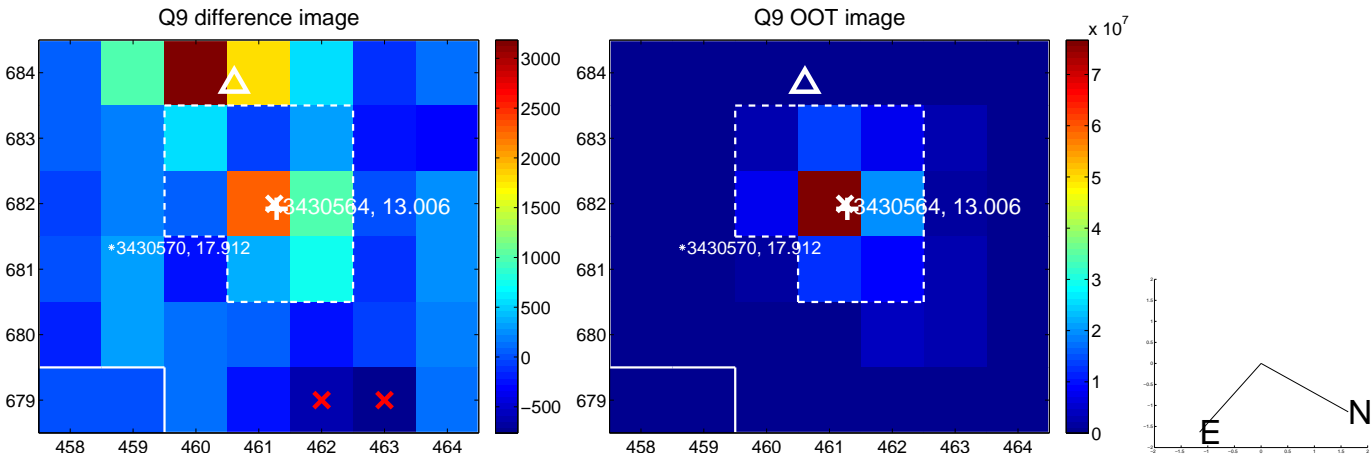


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

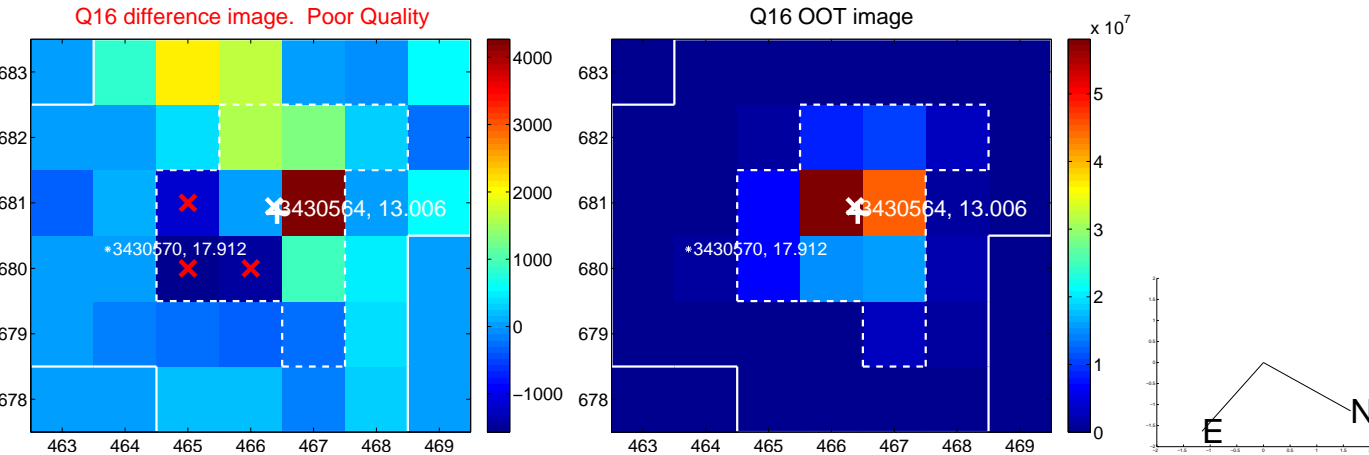
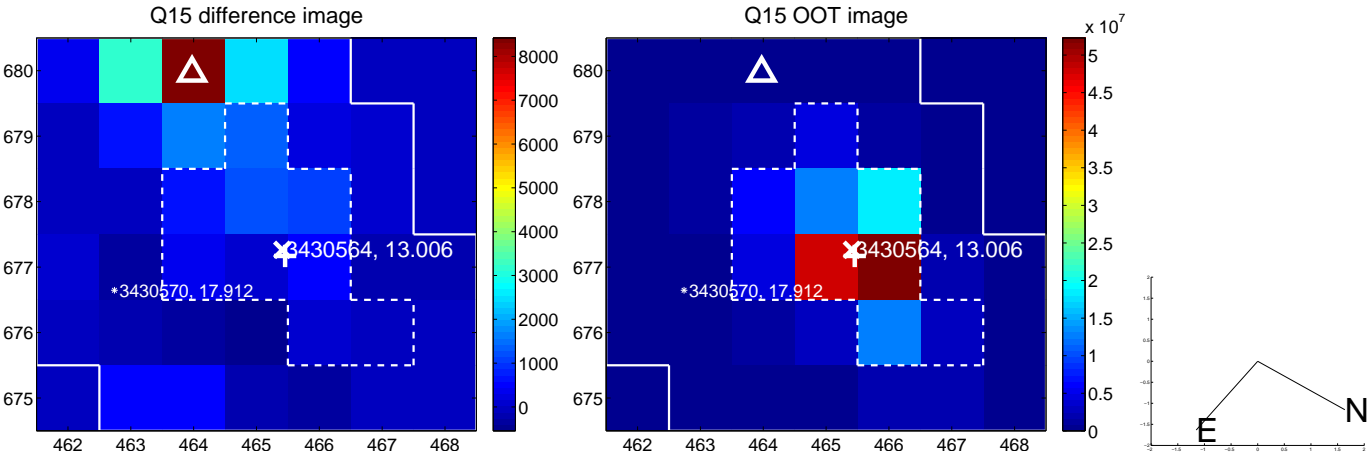
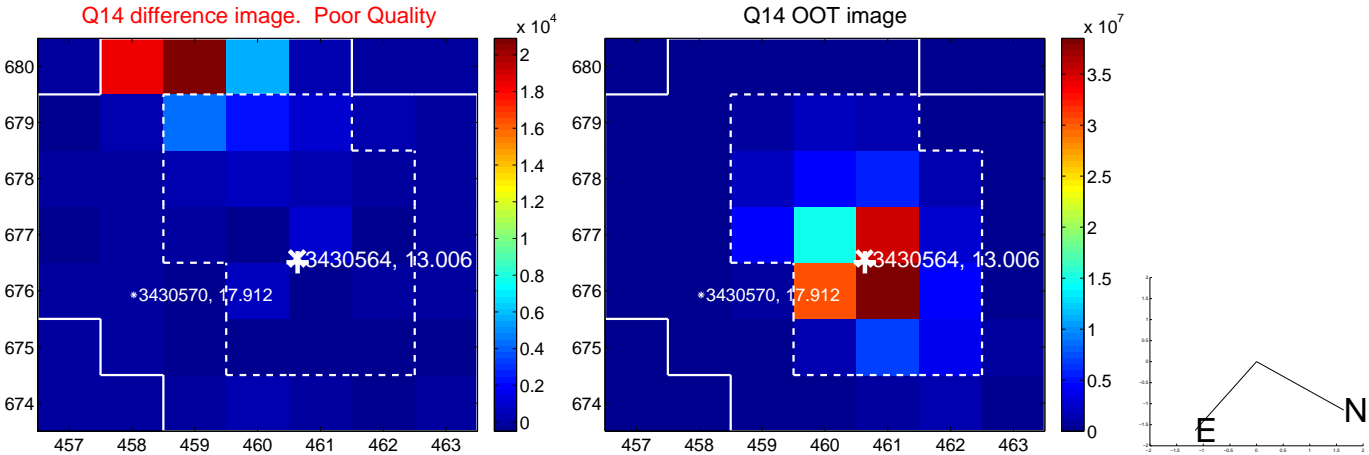
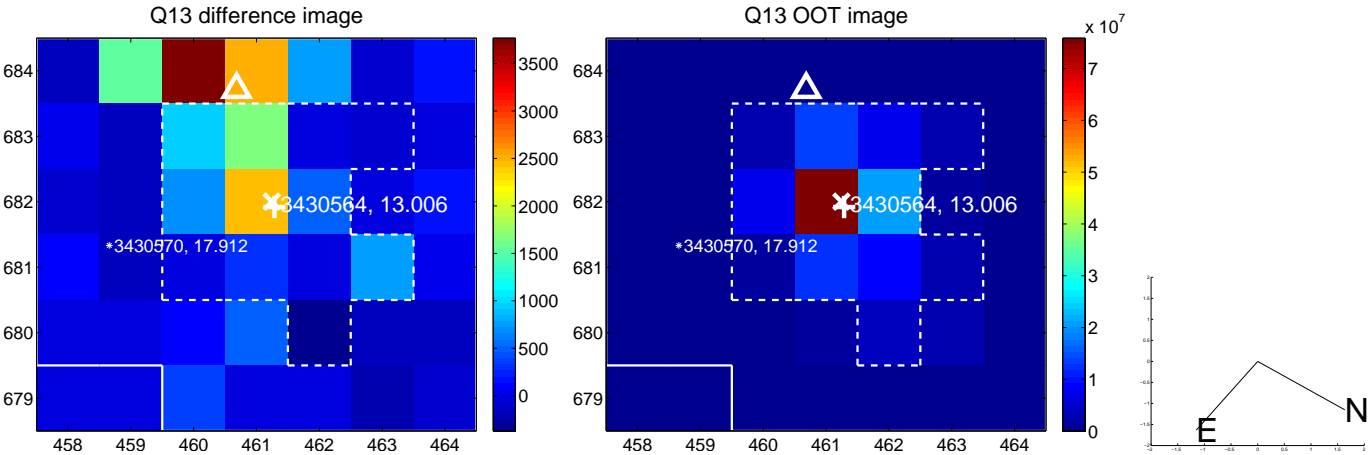




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

