

# KIC 004826439

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004826439-01	OBS	6121.01	1.237149	132.655273	141116.9	3.500	25009.9	-1.0	1.45	6064	54.70	4671.04

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004826439-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—CENT_NOFITS

**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 004826439-01

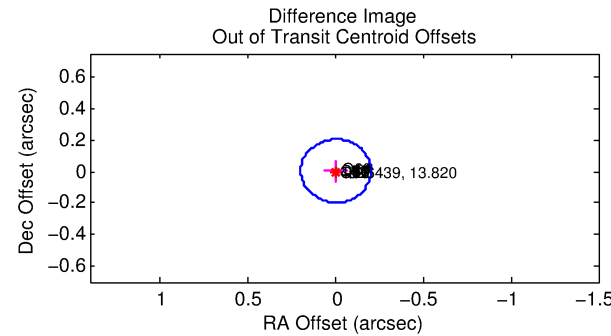
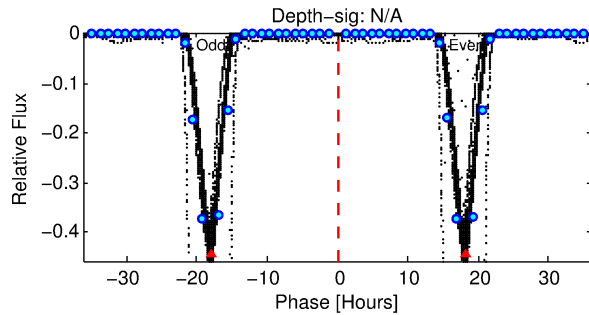
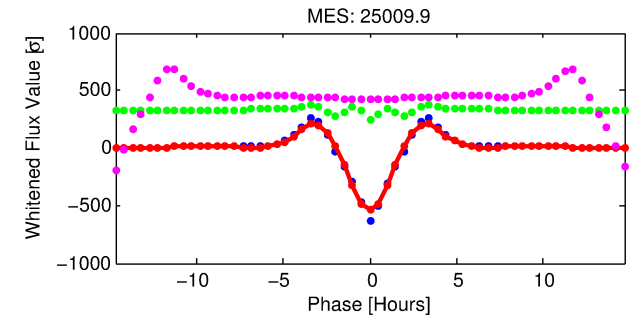
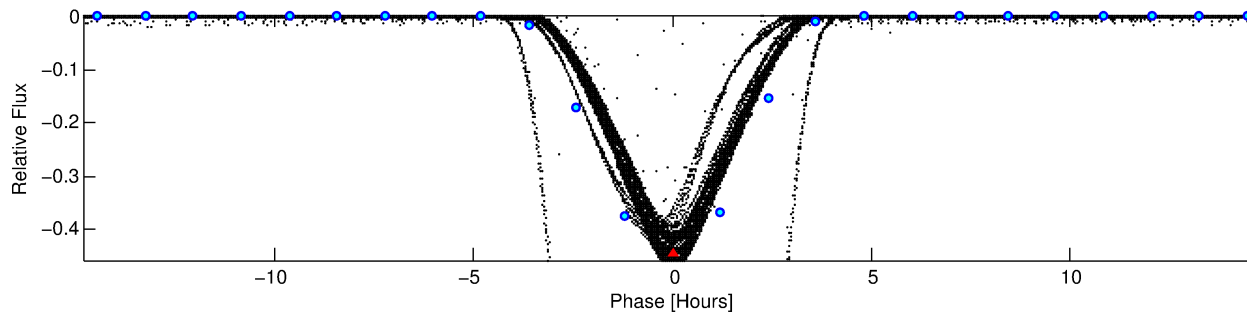
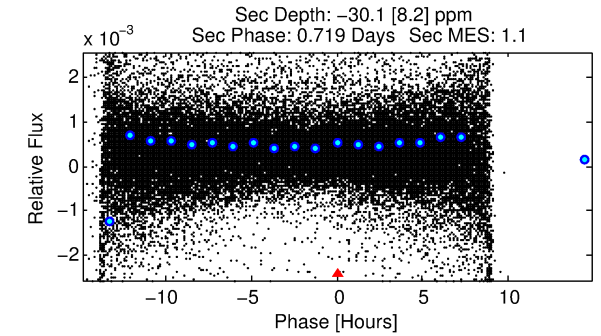
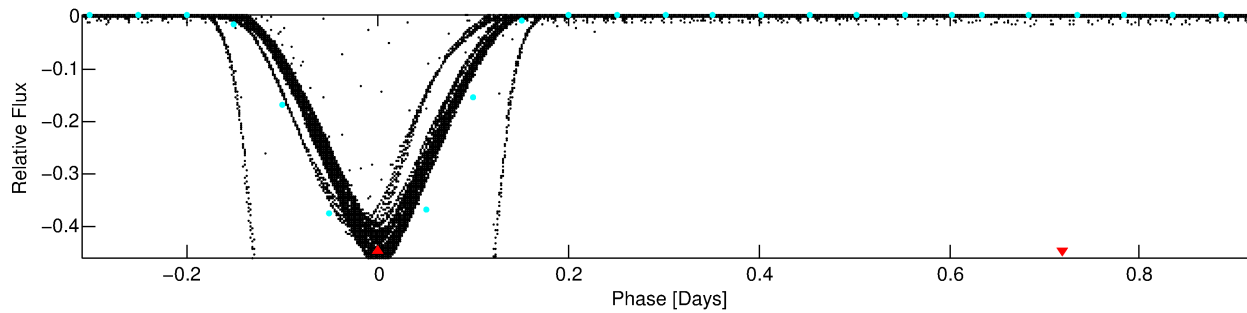
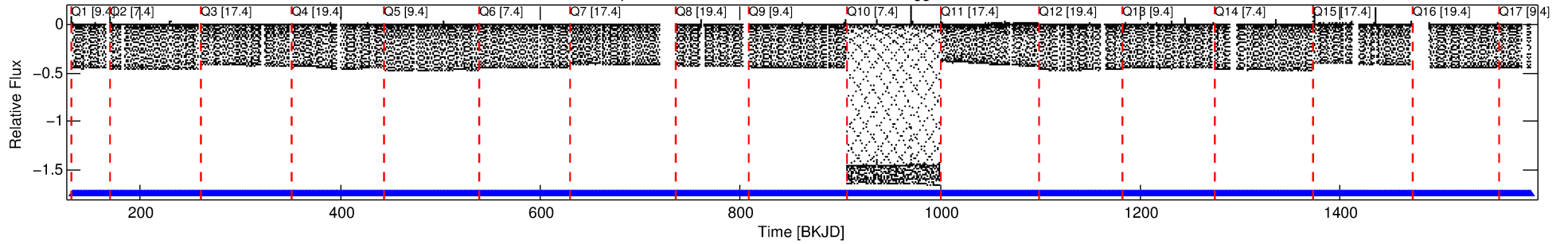
No Significant Match Found

# DV One-Page Summary

KIC: 4826439 Candidate: 1 of 1 Period: 1.237 d

KOI: K06121 Corr: No Ephemeris Match

Kp: 13.82 R\*: 1.45 Rs Teff: 6064.0 K Logg: 4.16 Fe/H: 0.020



TPS TCE Results:

Period = 1.23715 d  
Epoch = 132.6553 BKJD

DV fit results are unavailable

DV Diagnostic Results:

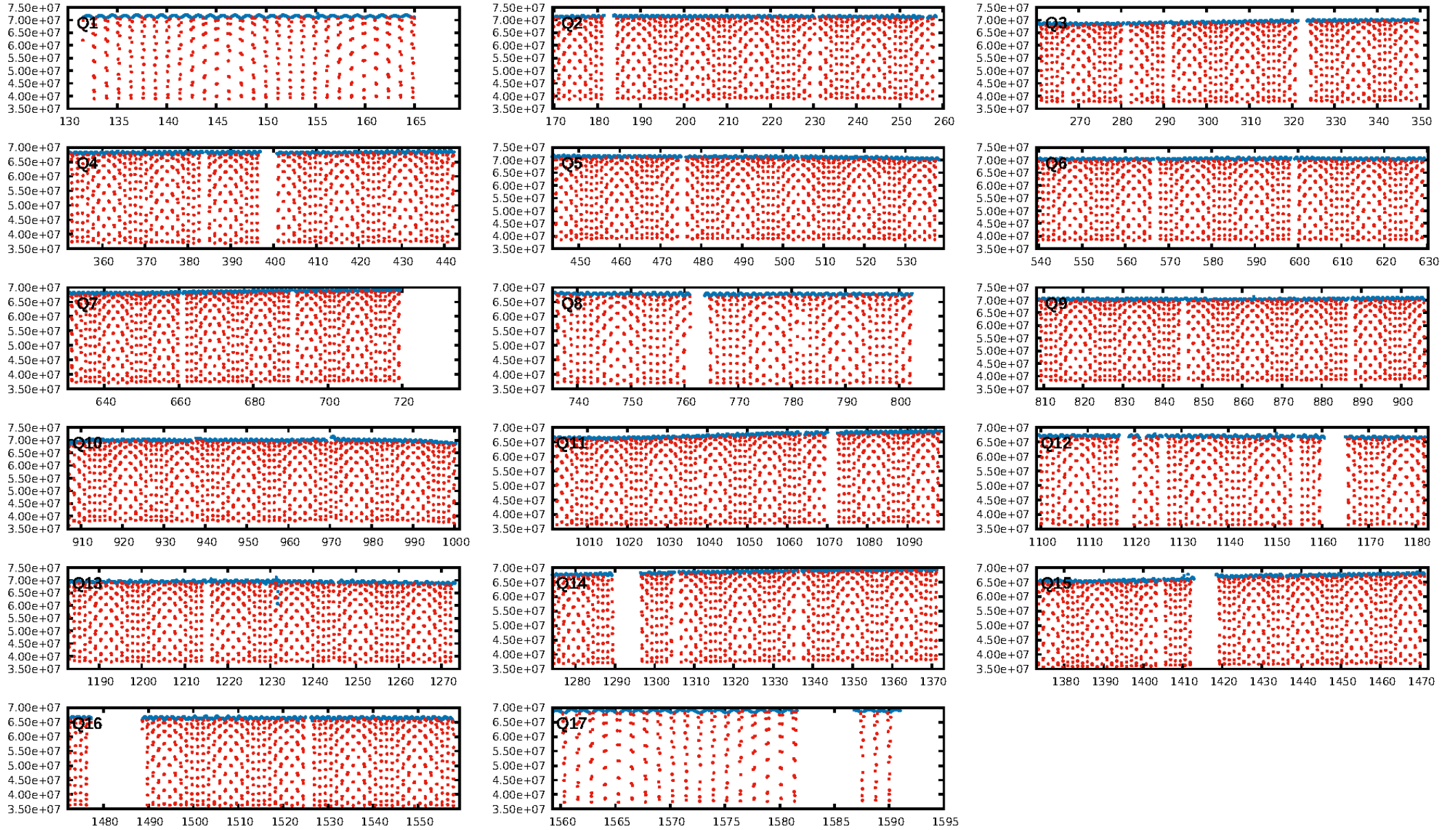
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1039/1039]  
GhostDiagnostic-chr: 1.164

Centroid-sig: 0.0%  
Centroid-so: 0.046 arcsec [181.87σ]  
OotOffset-rm: 0.006 arcsec [0.09σ]  
KicOffset-rm: 0.032 arcsec [0.47σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

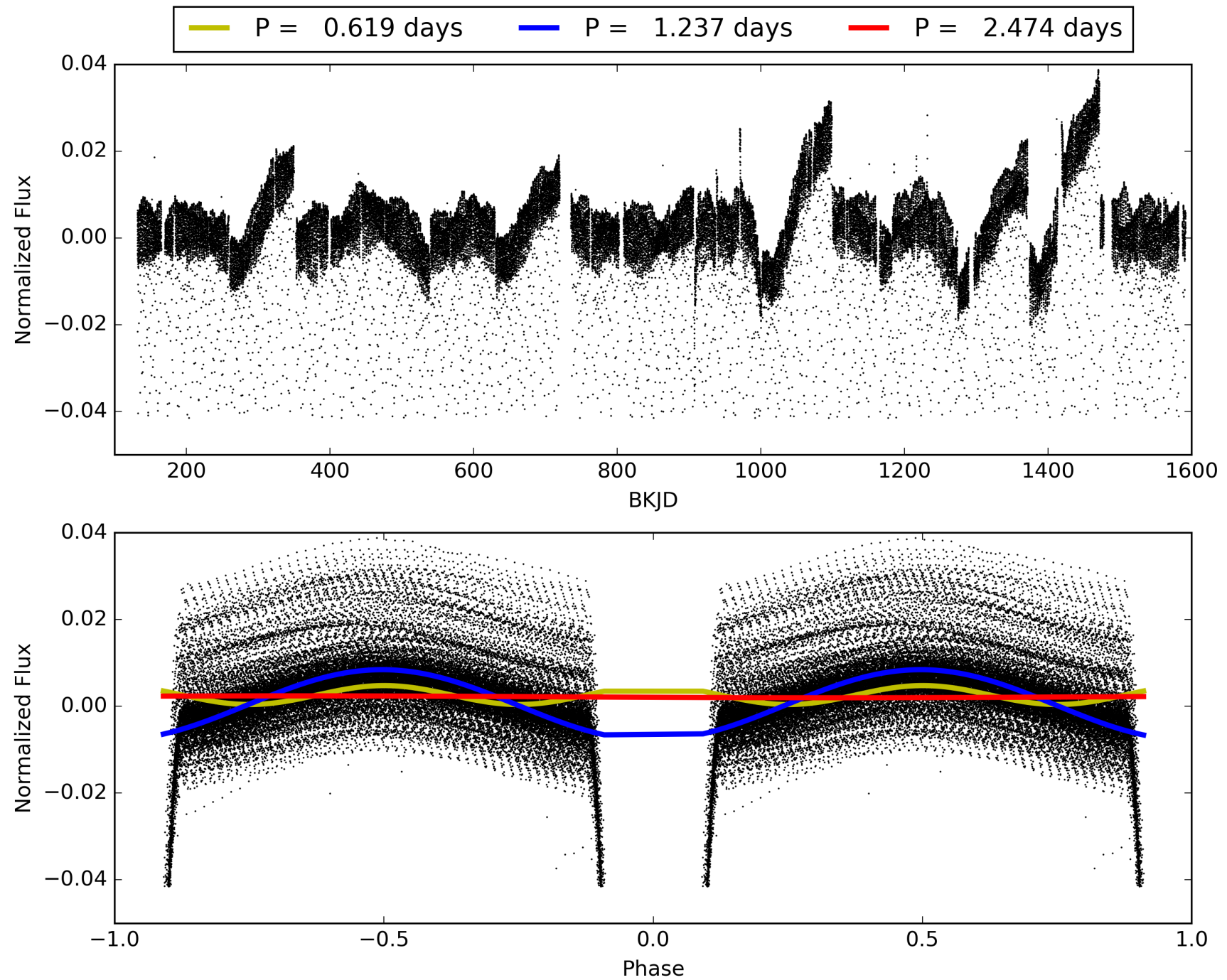
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:13:33 Z

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

# TCE 004826439-01, PDC Light Curves

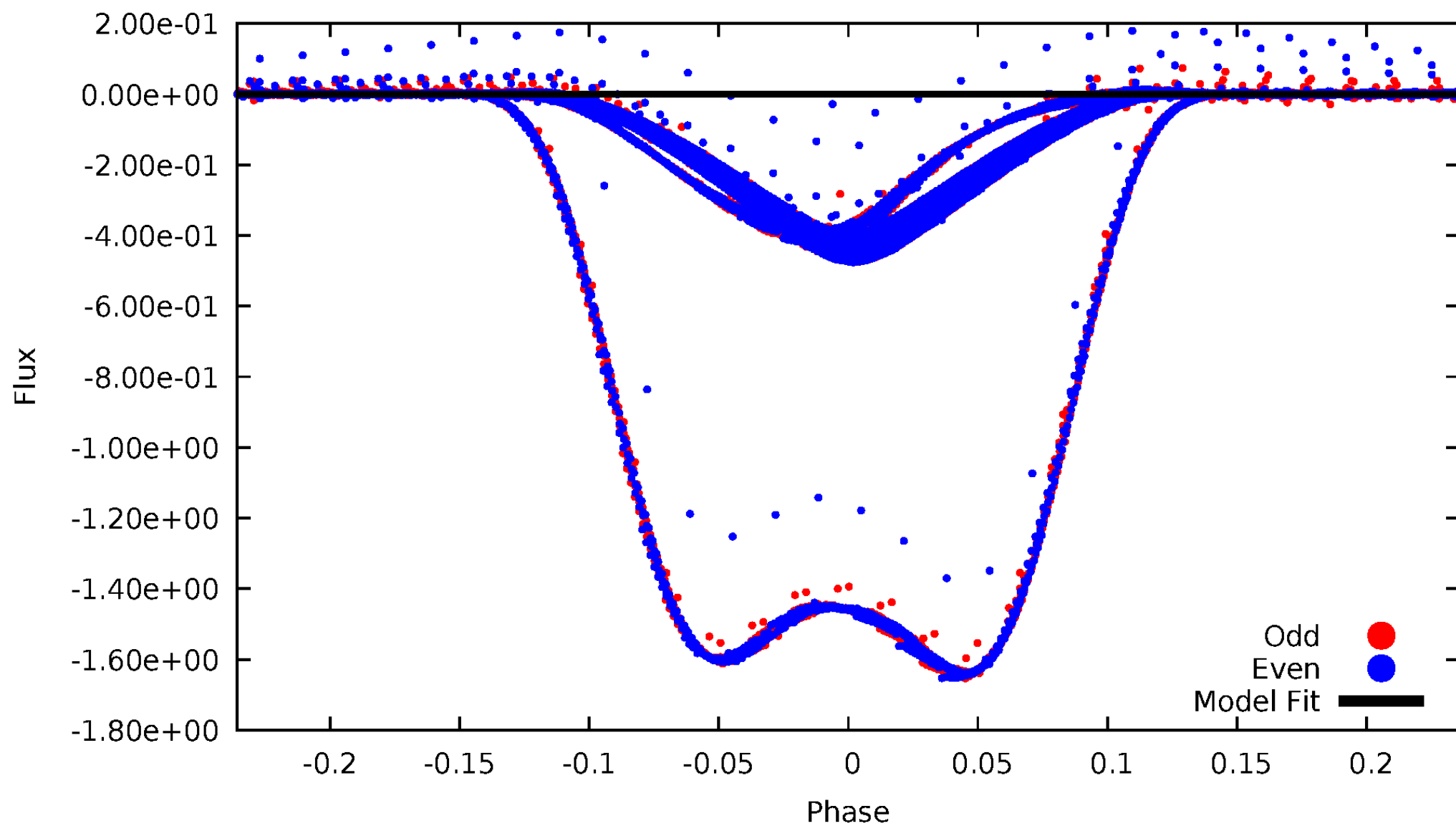


TCE 004826439-01



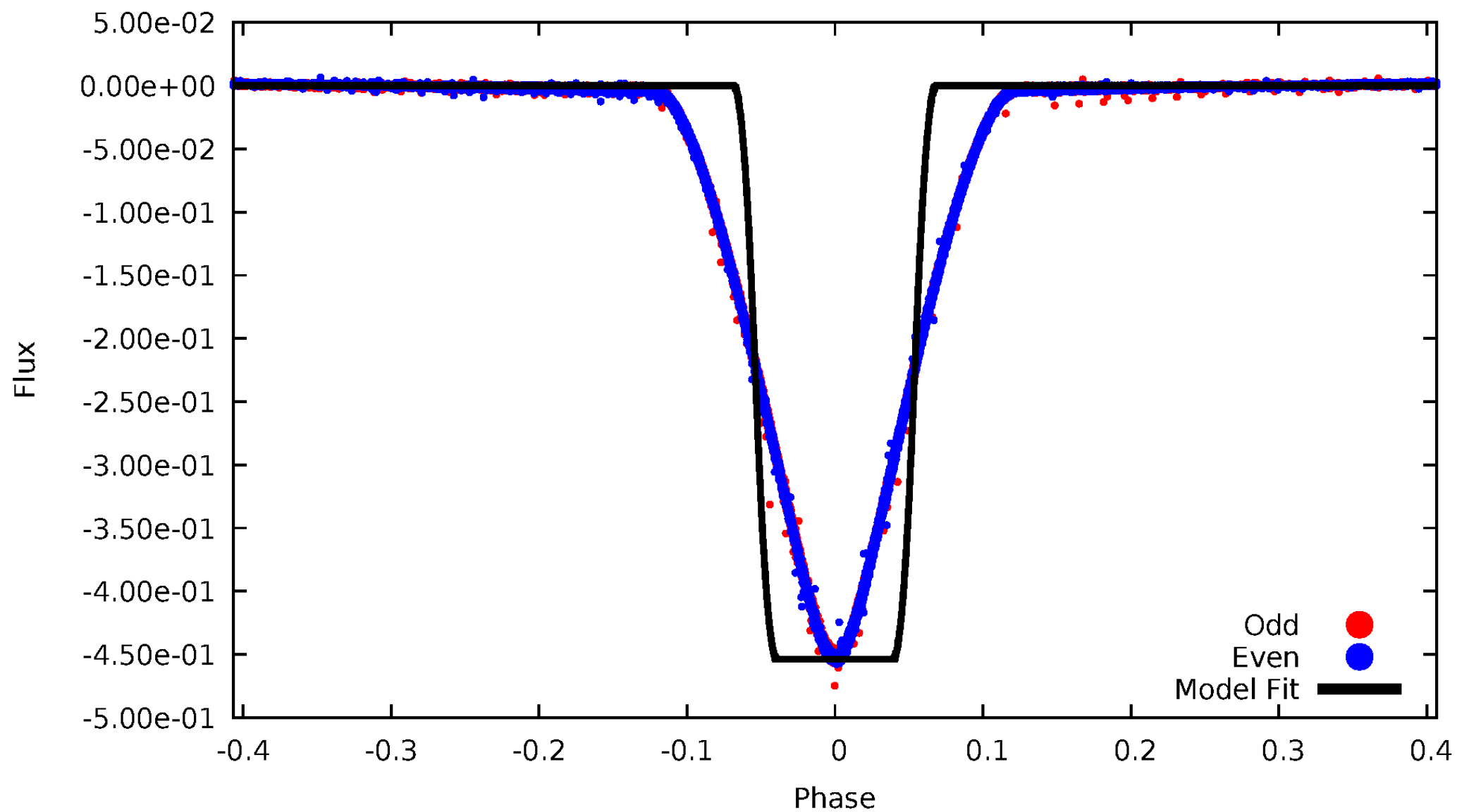
# DV Odd/Even

TCE 004826439-01



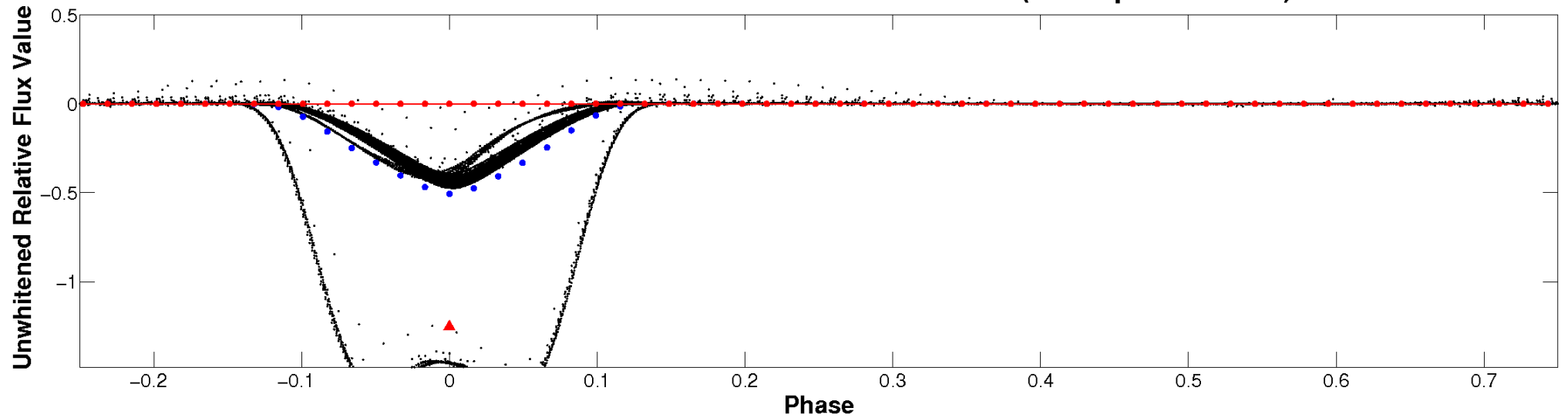
# ALT Odd/Even

TCE 004826439-01



# Non-Whitened Vs. Whitened Light Curve

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

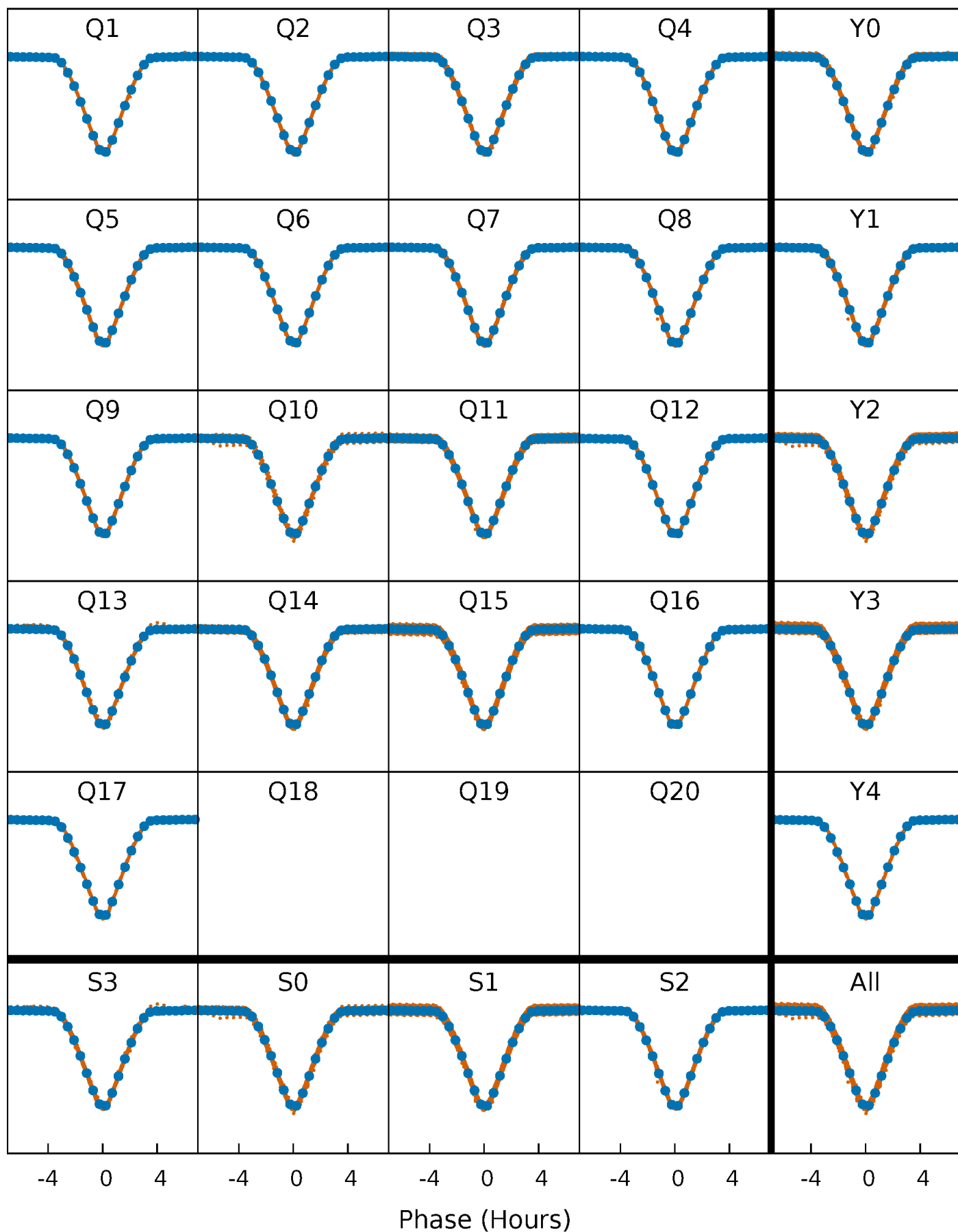


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

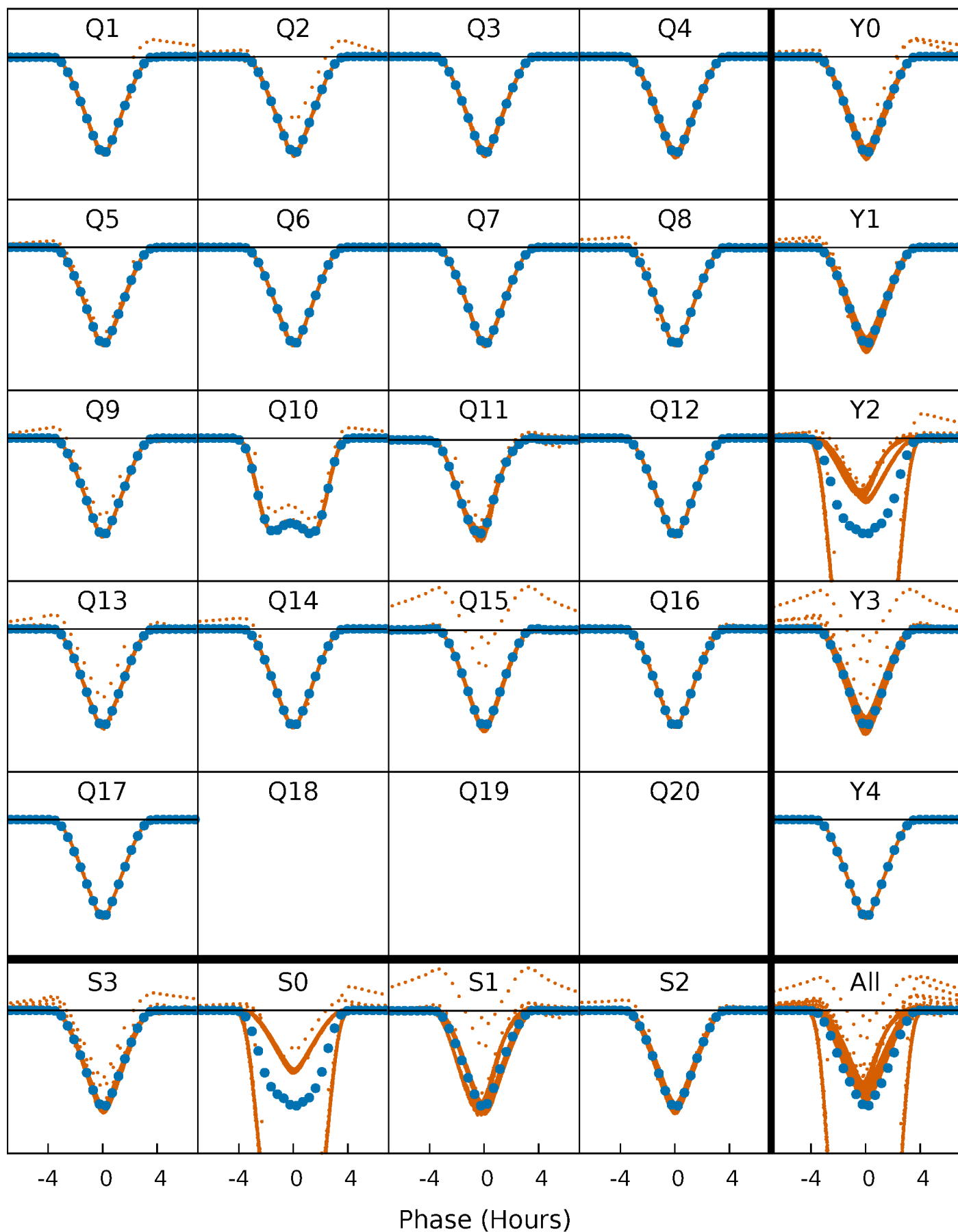
TCE 004826439-01 P= 1.237149 Days  $T_0=132.655273$  (BKJD)





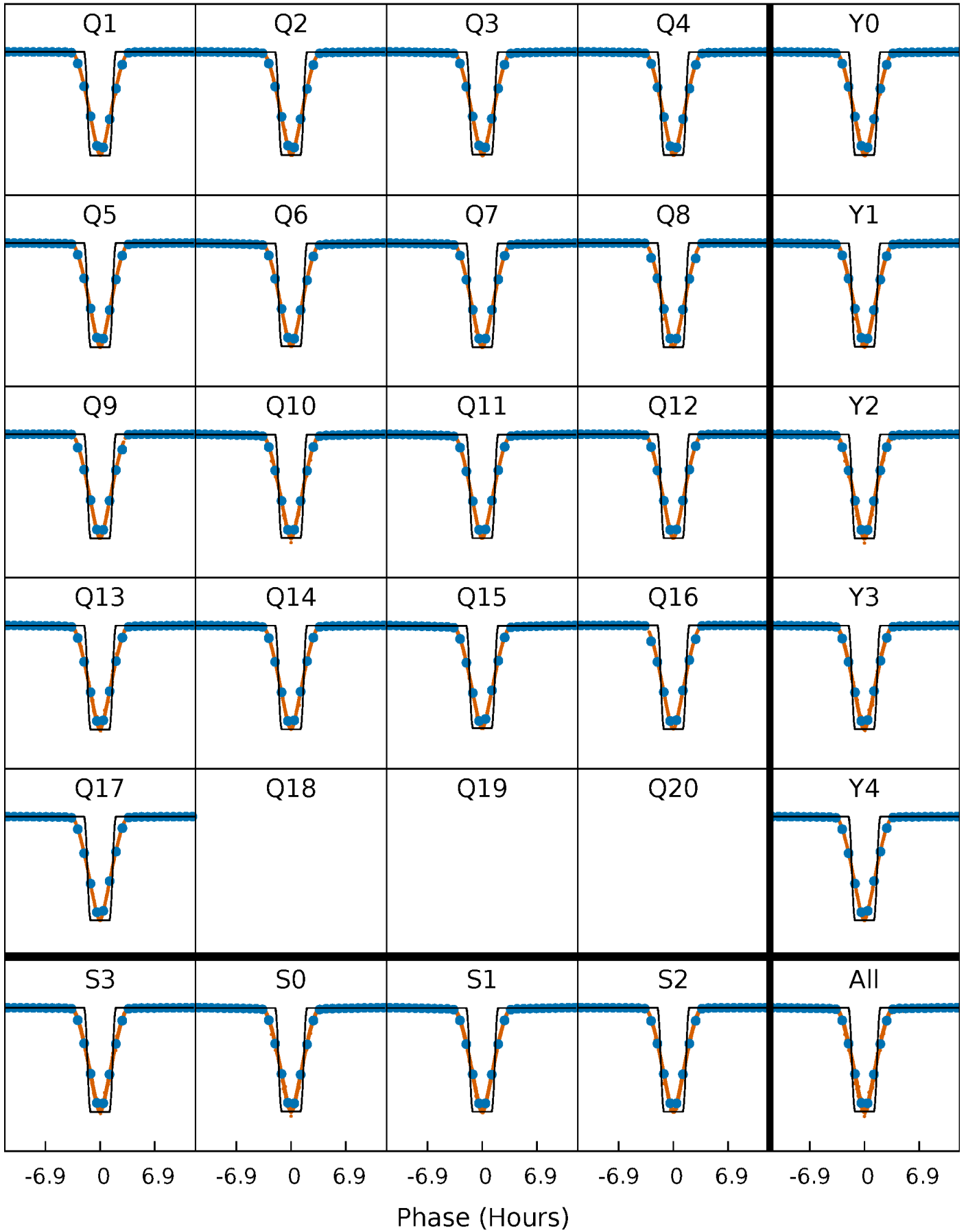
# DV Quarter-Phased Transit Curves

TCE 004826439-01 P= 1.237149 Days  $T_0=132.655273$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

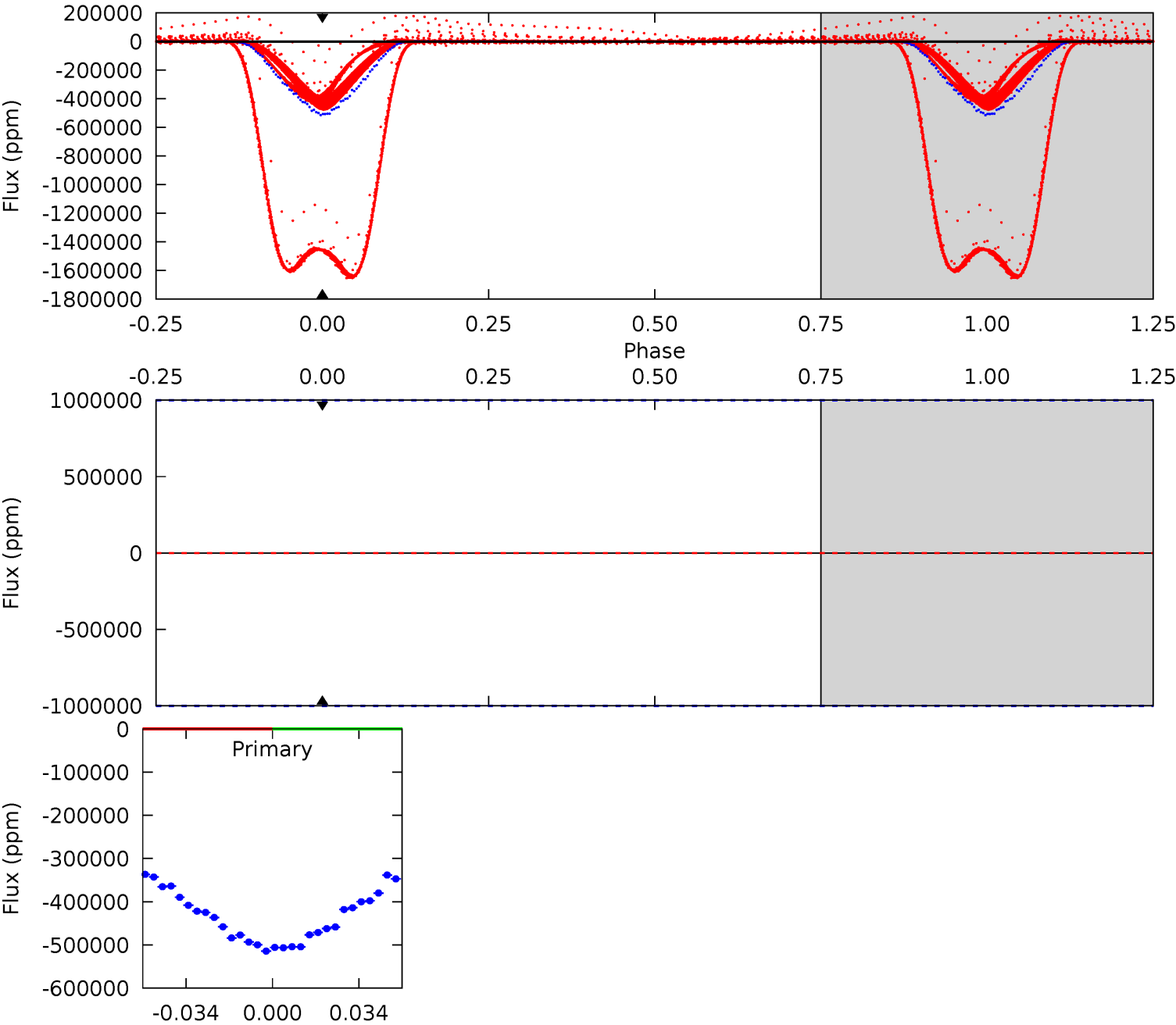
TCE 004826439-01 P= 1.237149 Days  $T_0=132.656698$  (BKJD)



DV Model-Shift Uniqueness Test

004826439-01, P = 1.237149 Days, E = 131.418124 Days

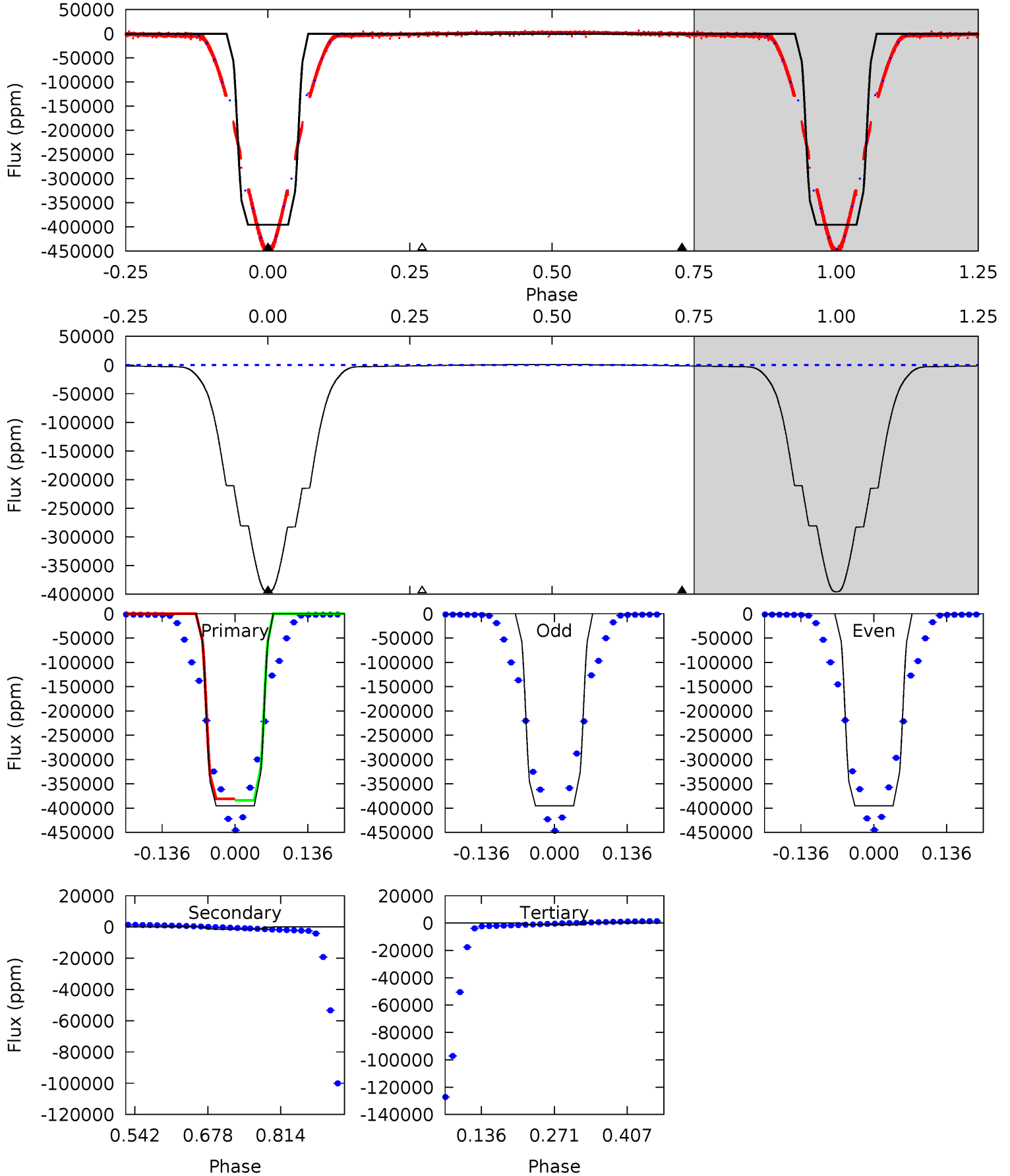
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

004826439-01, P = 1.237149 Days, E = 131.419549 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
18762	65.8	59.9	0	4.50	1.49	76.7	18702	18762	5.97	65.8	6.54	1.00	0.00	0



### Stellar Parameters For KIC 004826439

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6064^{+82}_{-82}$	$4.160^{+0.168}_{-0.112}$	$0.020^{+0.150}_{-0.150}$	$1.449^{+0.250}_{-0.277}$	$1.107^{+0.113}_{-0.072}$	$0.513^{+0.422}_{-0.168}$
	+1%/-1%	+4%/-3%	+750%/-750%	+17%/-19%	+10%/-7%	+82%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 004826439-01 / KOI 6121.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 1000000$	$54.13^{+18.76}_{-15.39}$	$2934^{+138}_{-151}$	$2072^{+3893}_{-7870}$	$0.315^{+12.020}_{-10.329}$
Alt.	$-1388 \pm 21$	$105.98^{+19.92}_{-18.78}$	$2931^{+138}_{-162}$	$-2991^{+110}_{-96}$	$0.037^{+0.018}_{-0.010}$

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

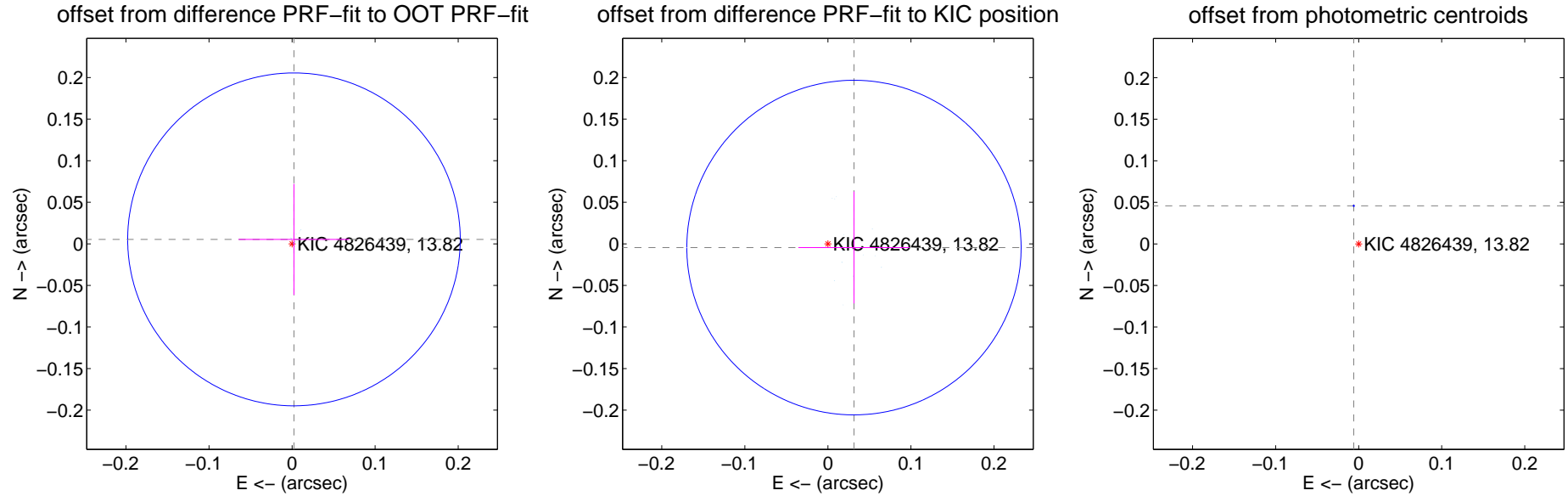
## DV Centroid Data

Supplemental centroid analysis for 004826439-01. Kepler magnitude: 13.82. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

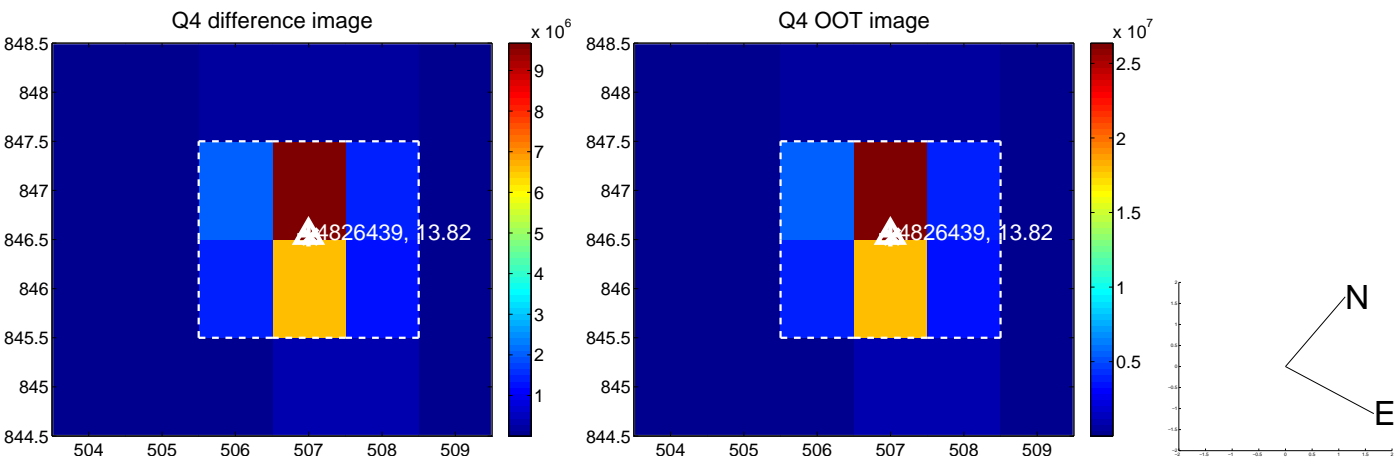
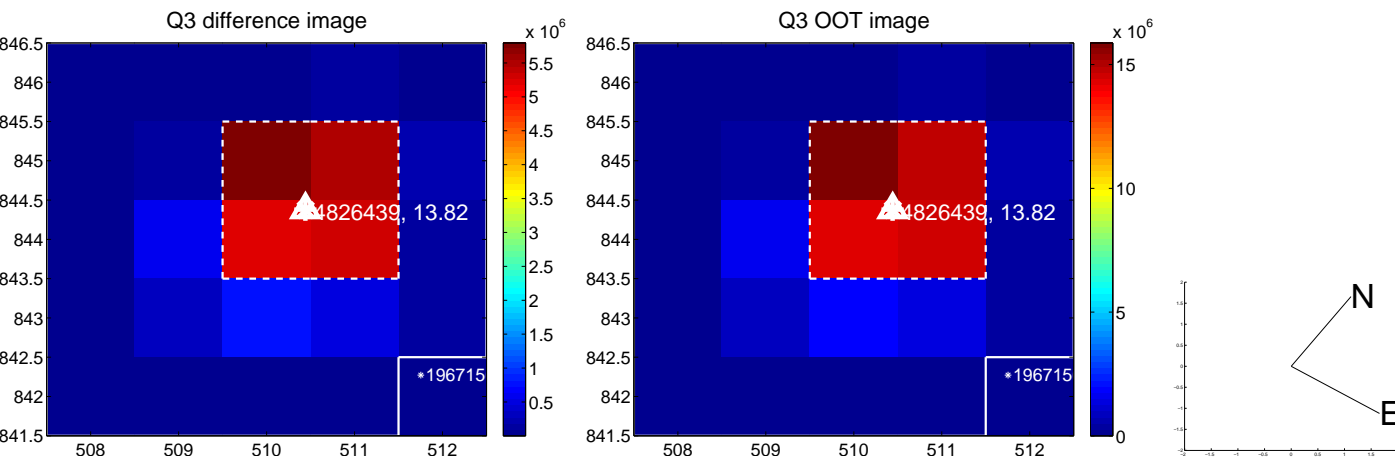
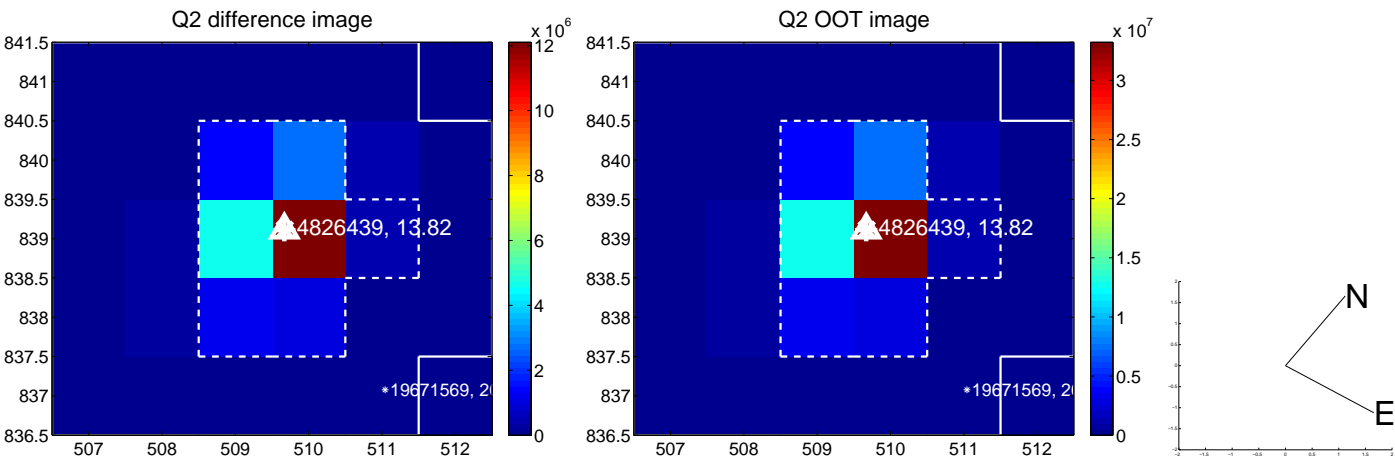
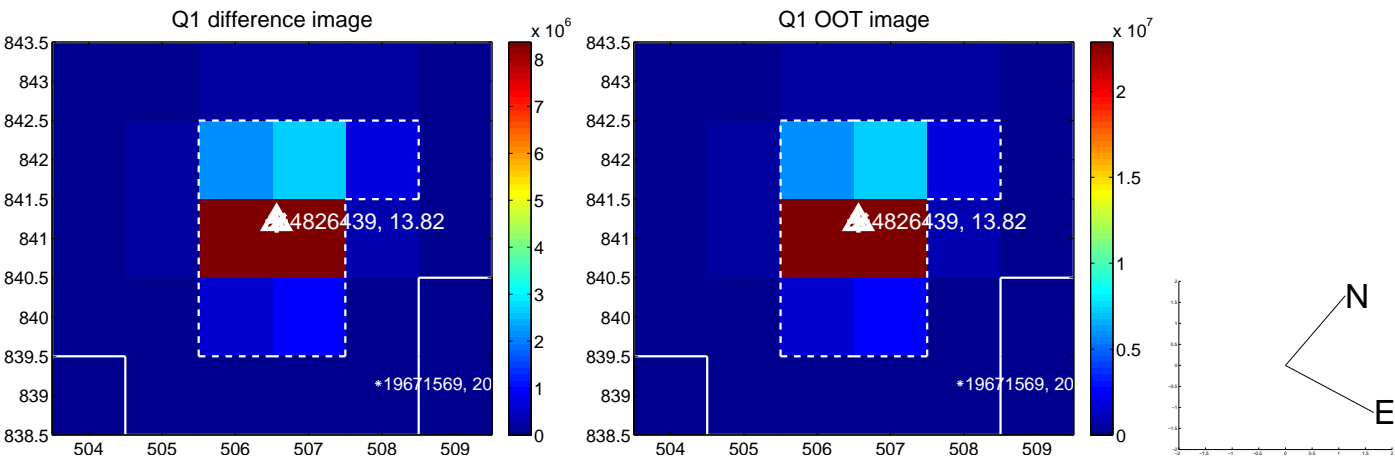
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.006 \pm 0.067$	0.09	$-0.002 \pm 0.067$	$0.005 \pm 0.067$
PRF-fit source offset from KIC position	$0.032 \pm 0.067$	0.47	$-0.031 \pm 0.067$	$-0.004 \pm 0.067$
photometric centroid source offset	$0.05 \pm 0.00$	181.87	$0.01 \pm 0.00$	$0.05 \pm 0.00$

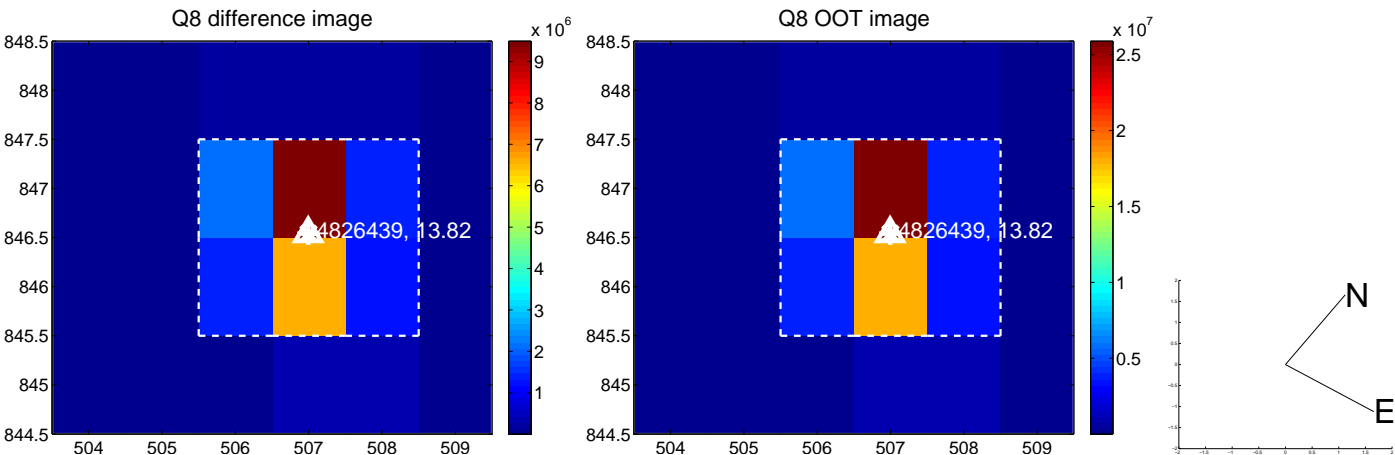
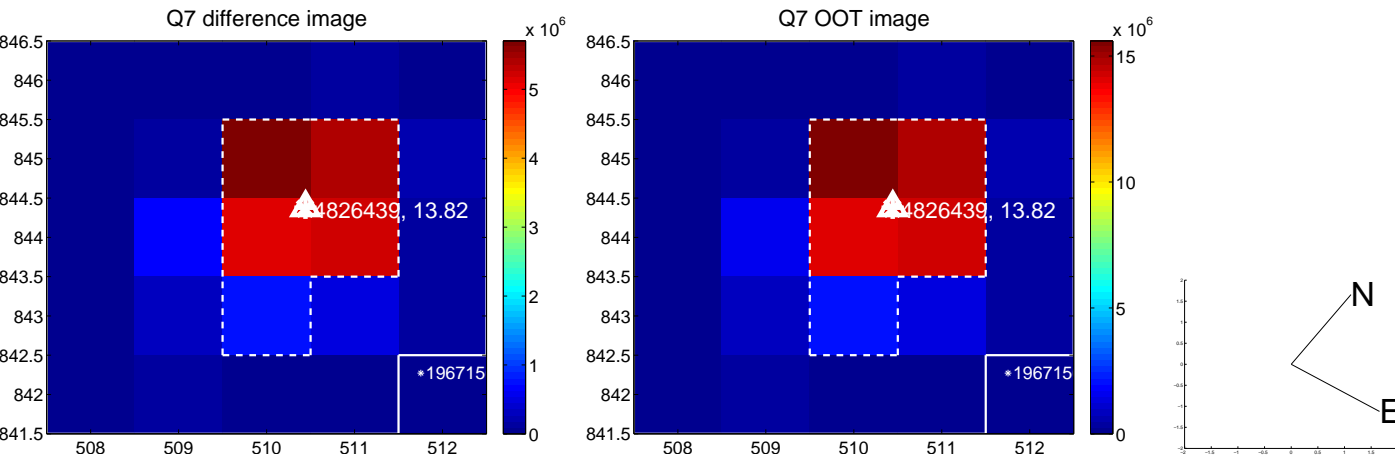
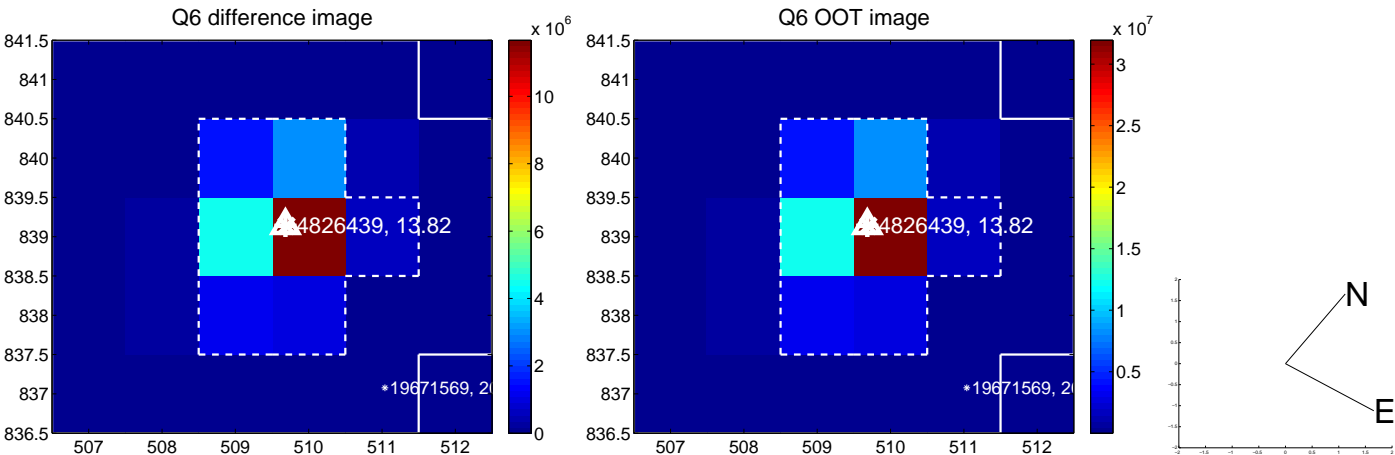
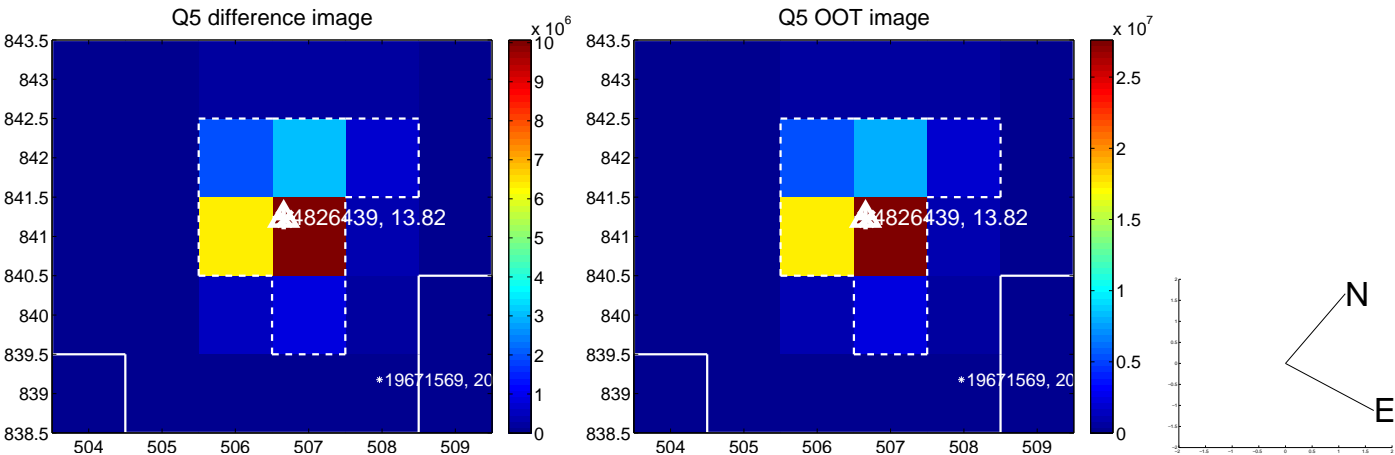


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

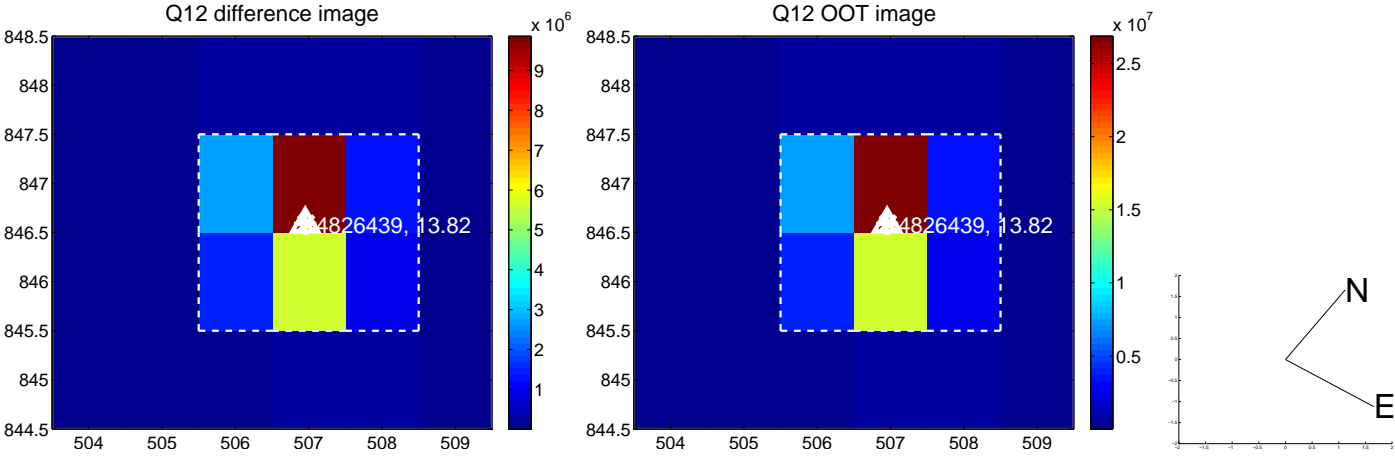
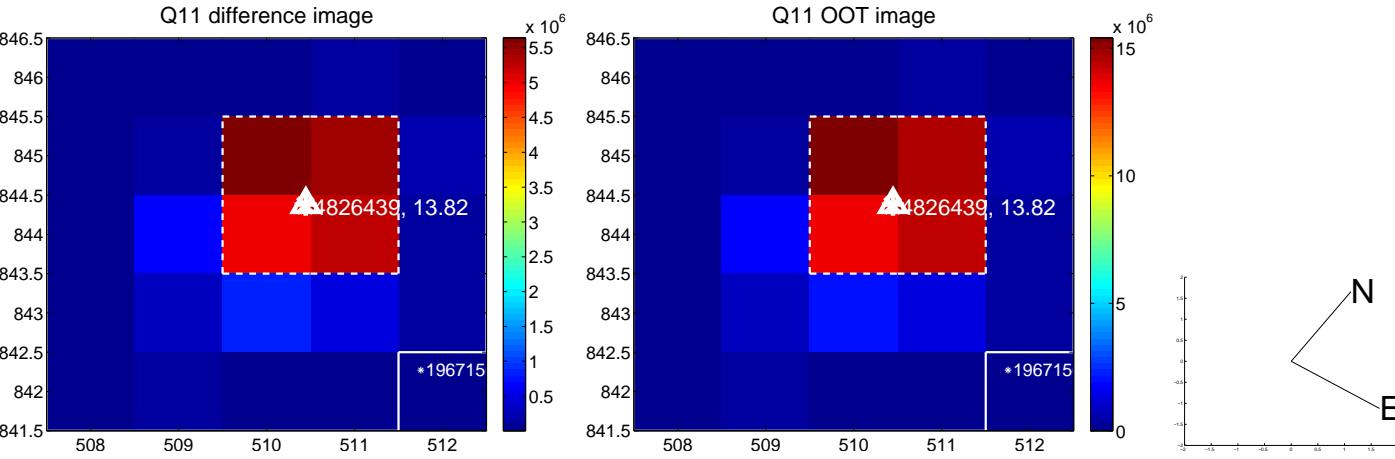
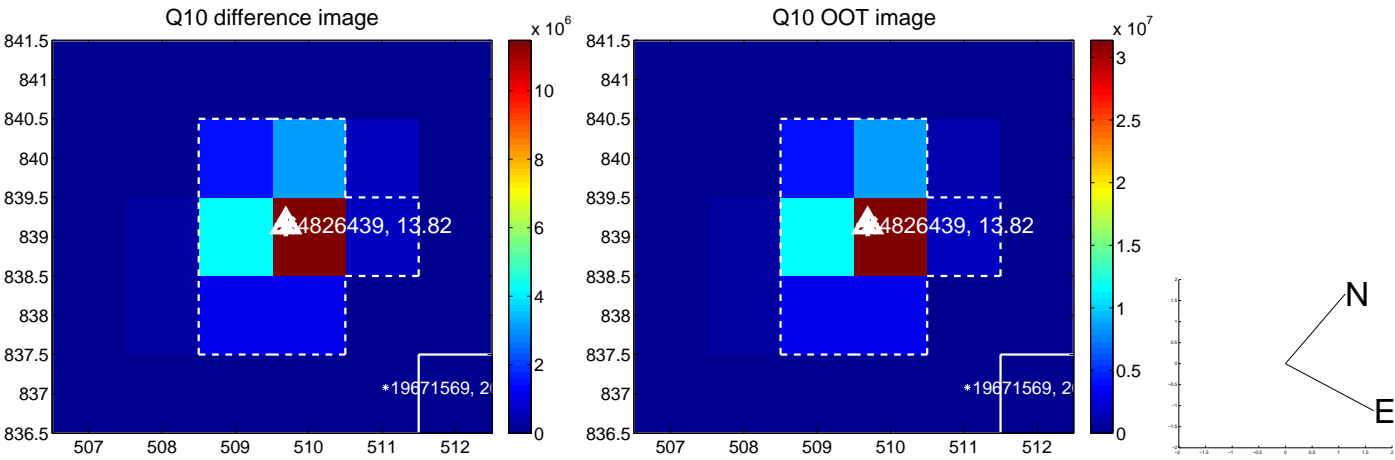
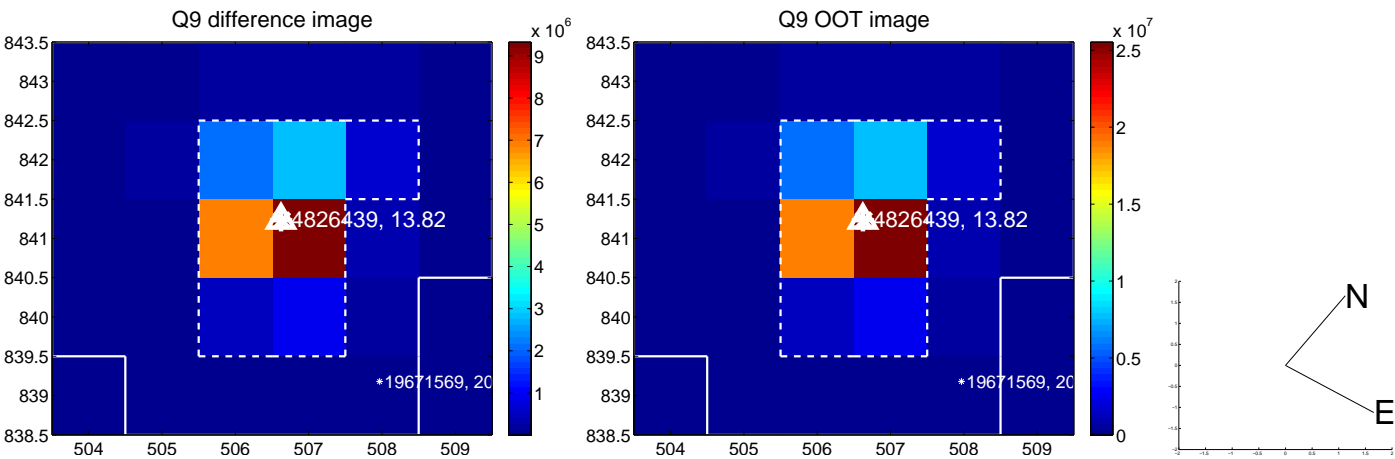


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

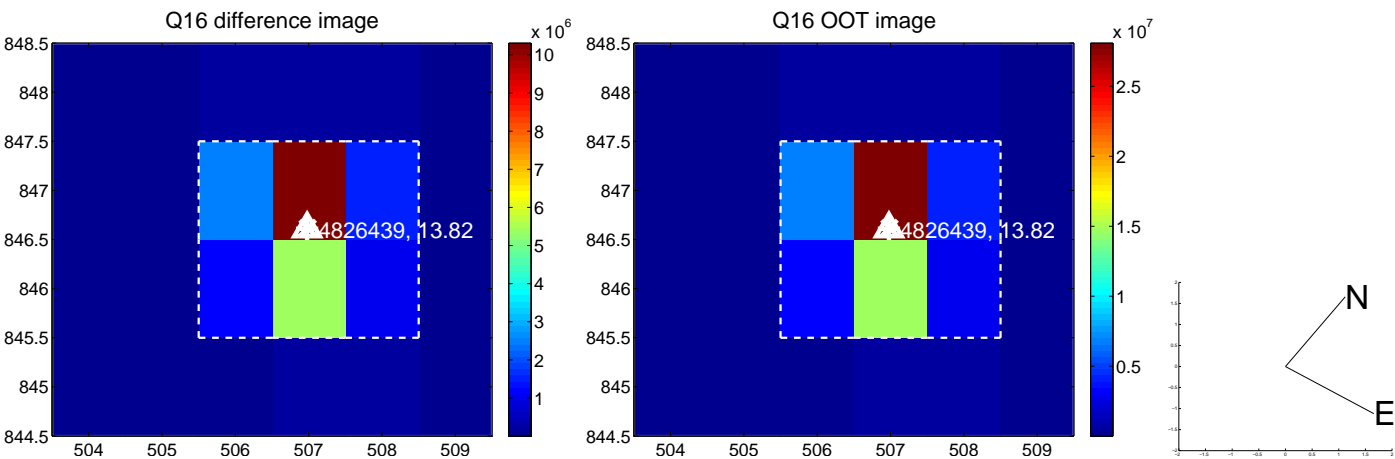
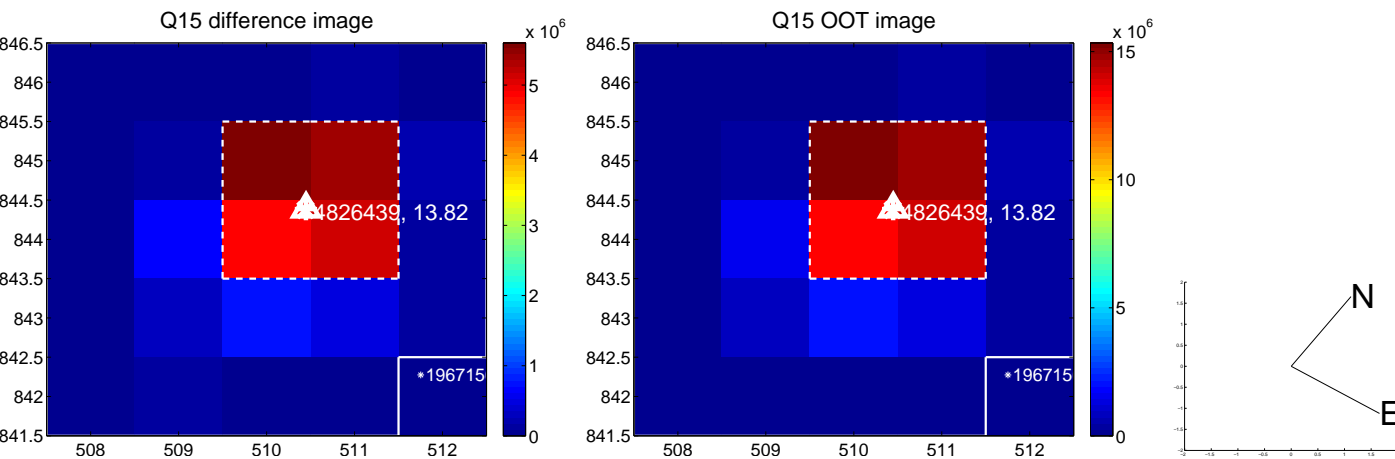
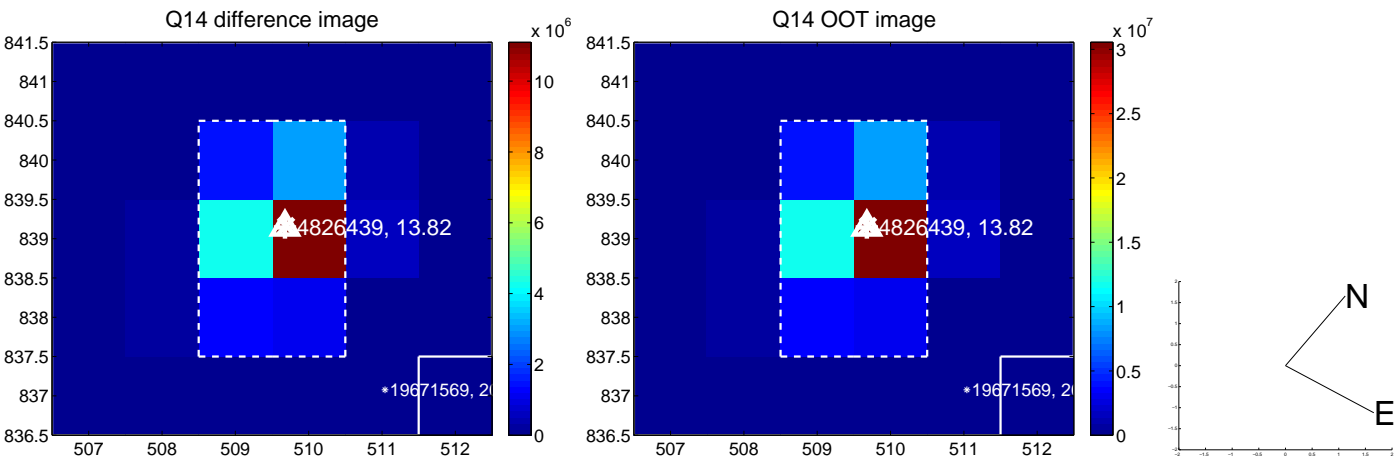
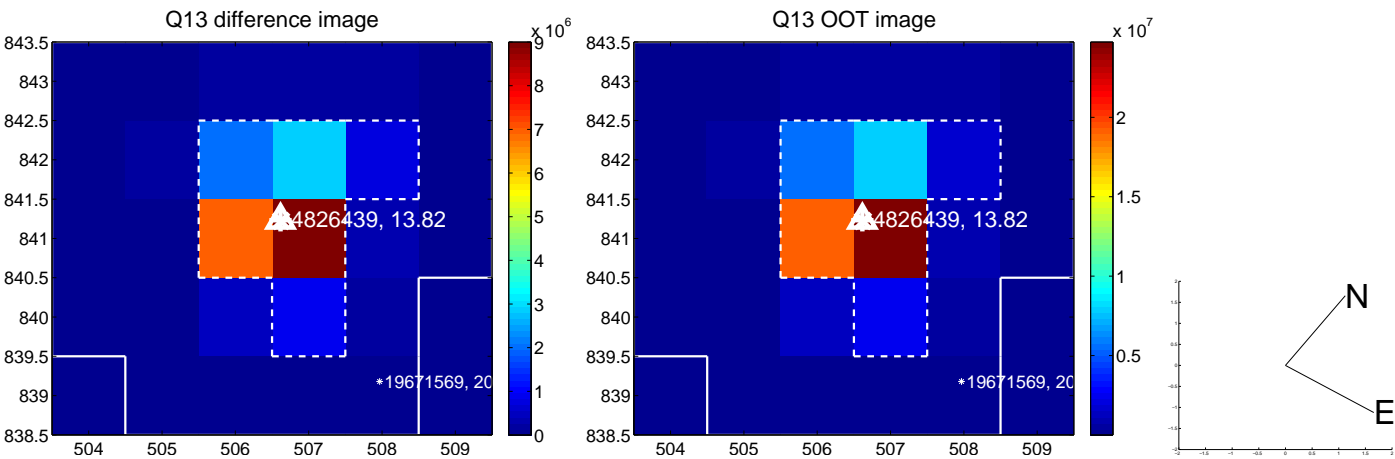




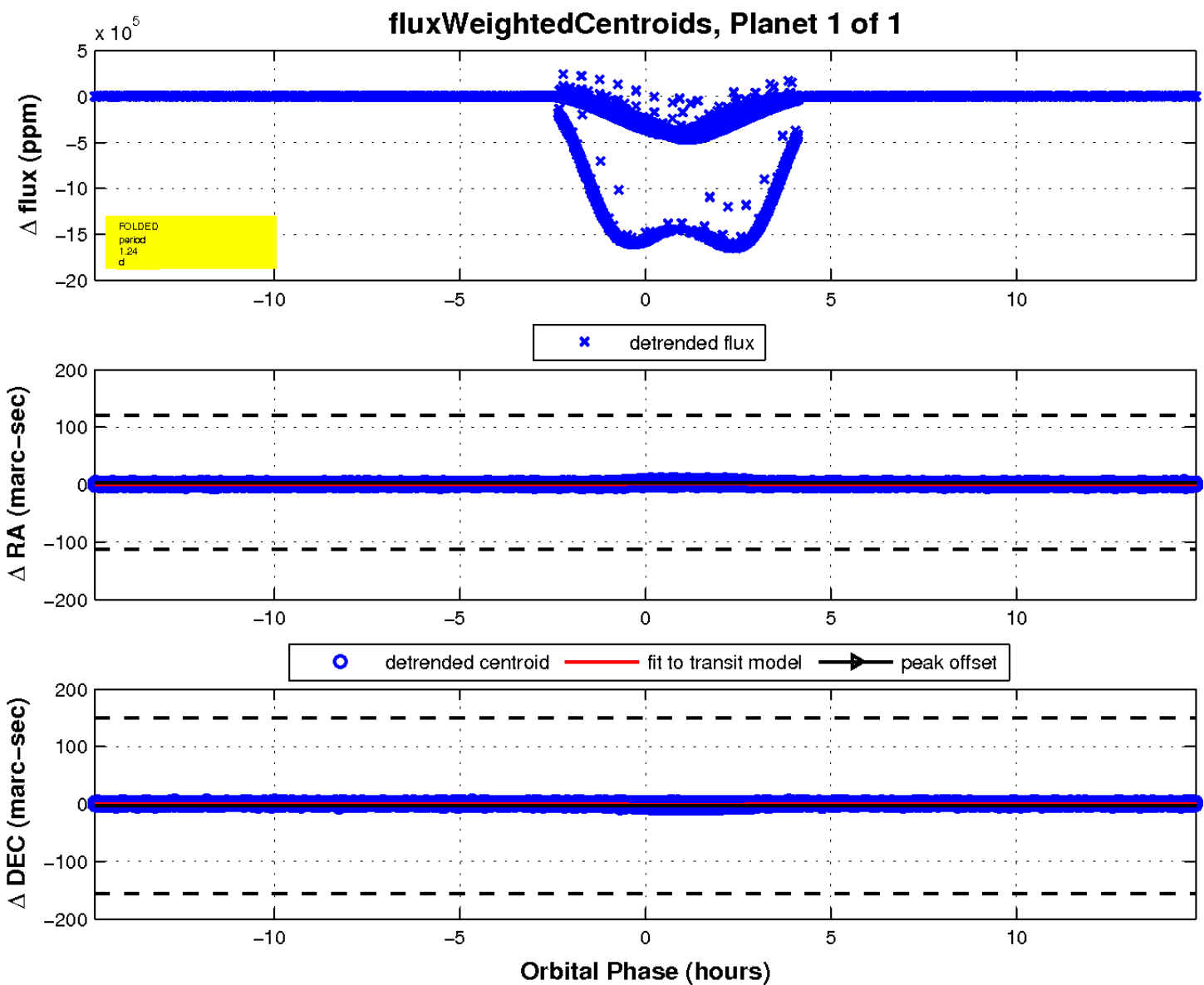
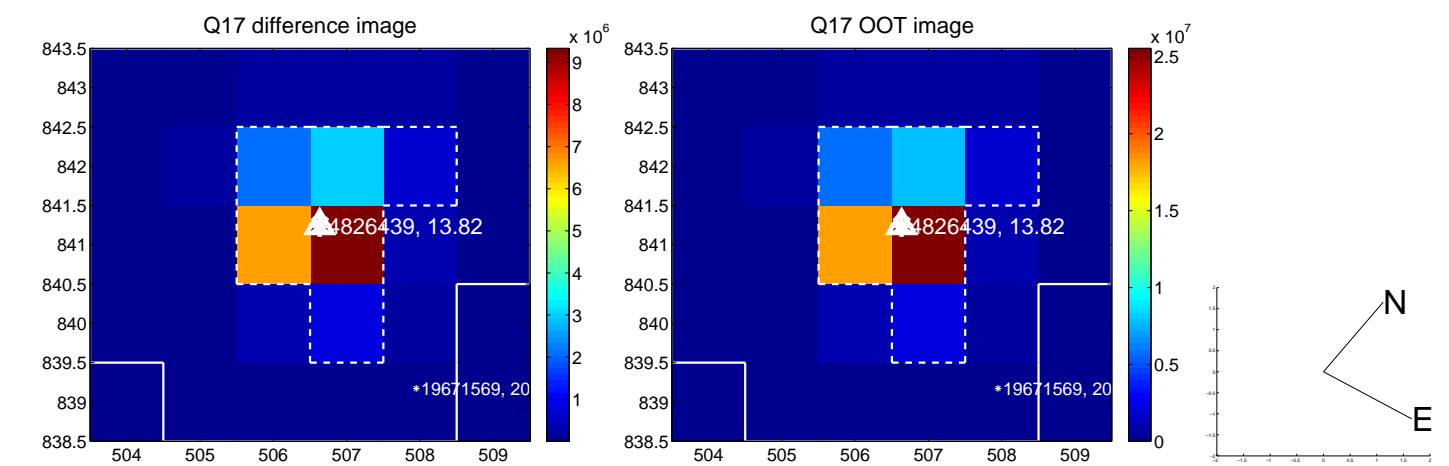
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



# UKIRT Image

Declination

