

# KIC 005801571

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005801571-01	OBS	0225.01	0.838594	132.316161	2243.1	1.478	298.3	294.0	1.24	6366	6.93	6382.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005801571-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

**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.

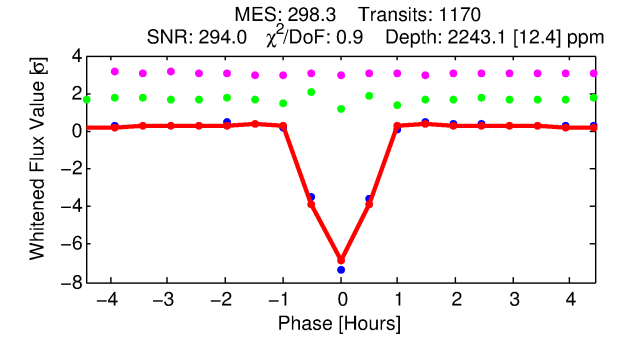
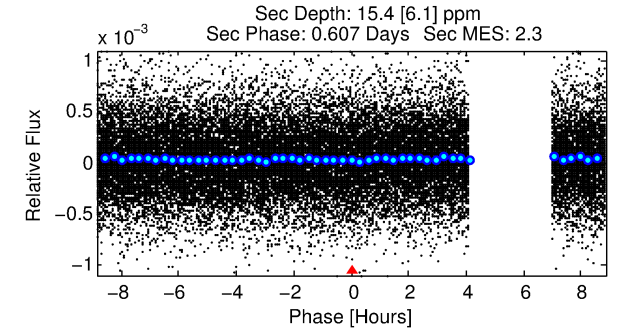
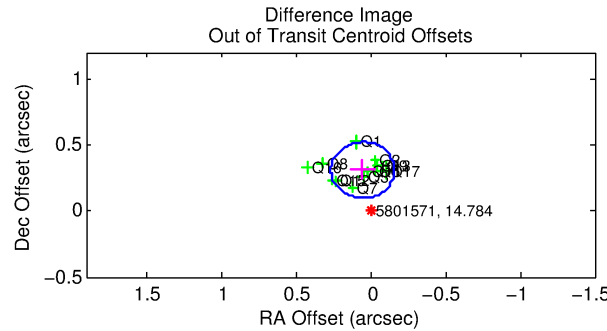
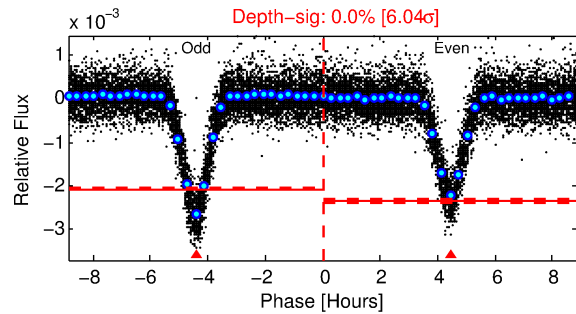
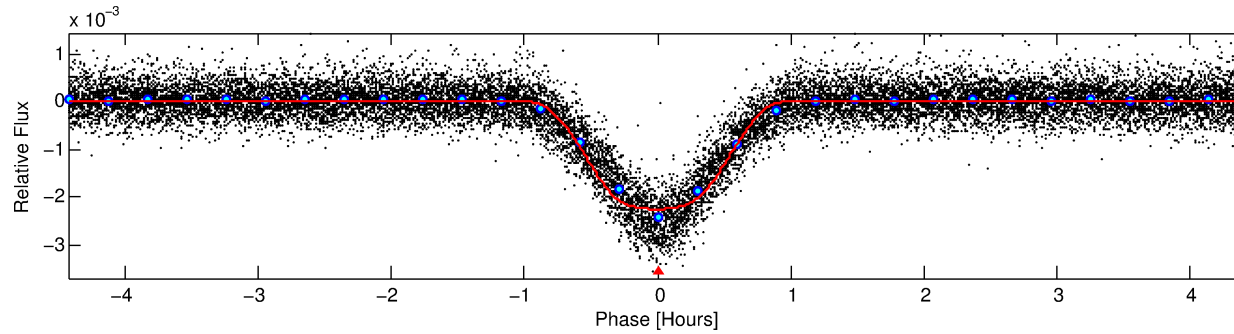
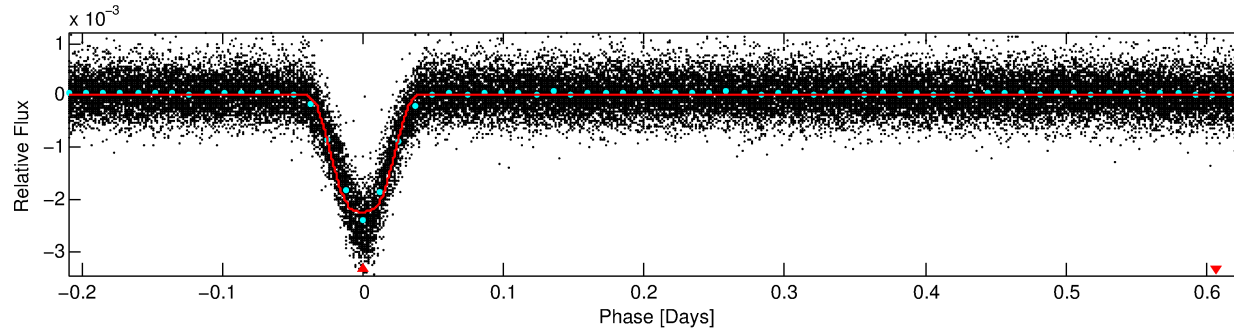
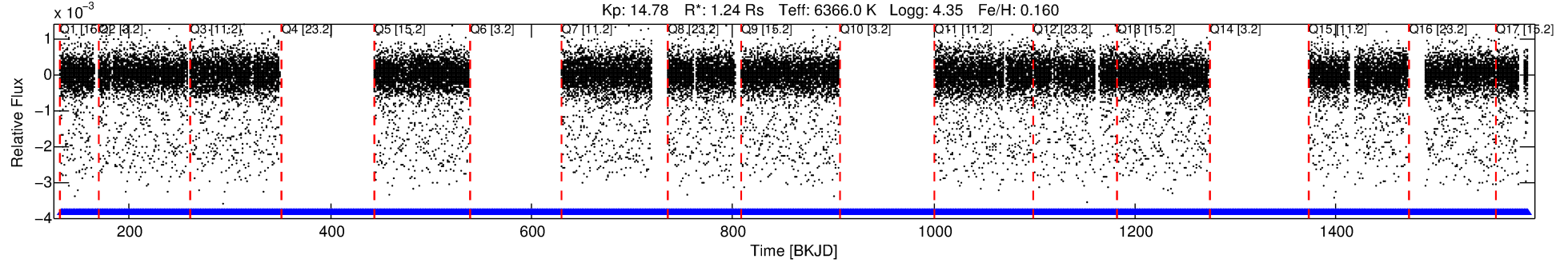
## Ephemeris Match Information For 005801571-01

No Significant Match Found

# DV One-Page Summary

KIC: 5801571 Candidate: 1 of 1 Period: 0.839 d  
KOI: K00225.01 Corr: 0.931

Kp: 14.78 R\*: 1.24 Rs Teff: 6366.0 K Logg: 4.35 Fe/H: 0.160



## DV Fit Results:

Period = 0.83859 [0.00000] d  
Epoch = 132.3162 [0.0001] BKJD  
Rp/R\* = 0.0514 [0.0004]  
a/R\* = 2.54 [0.07]  
b = 0.90 [0.01]  
Seff = 6382.21 [1441.48]  
Teq = 2279 [129] K  
Rp = 6.93 [1.23] Re  
a = 0.0188 [0.0028] AU  
Ag = 0.06 [0.03] [-33.55σ]  
Teffp = 1758 [175] K [-2.40σ]

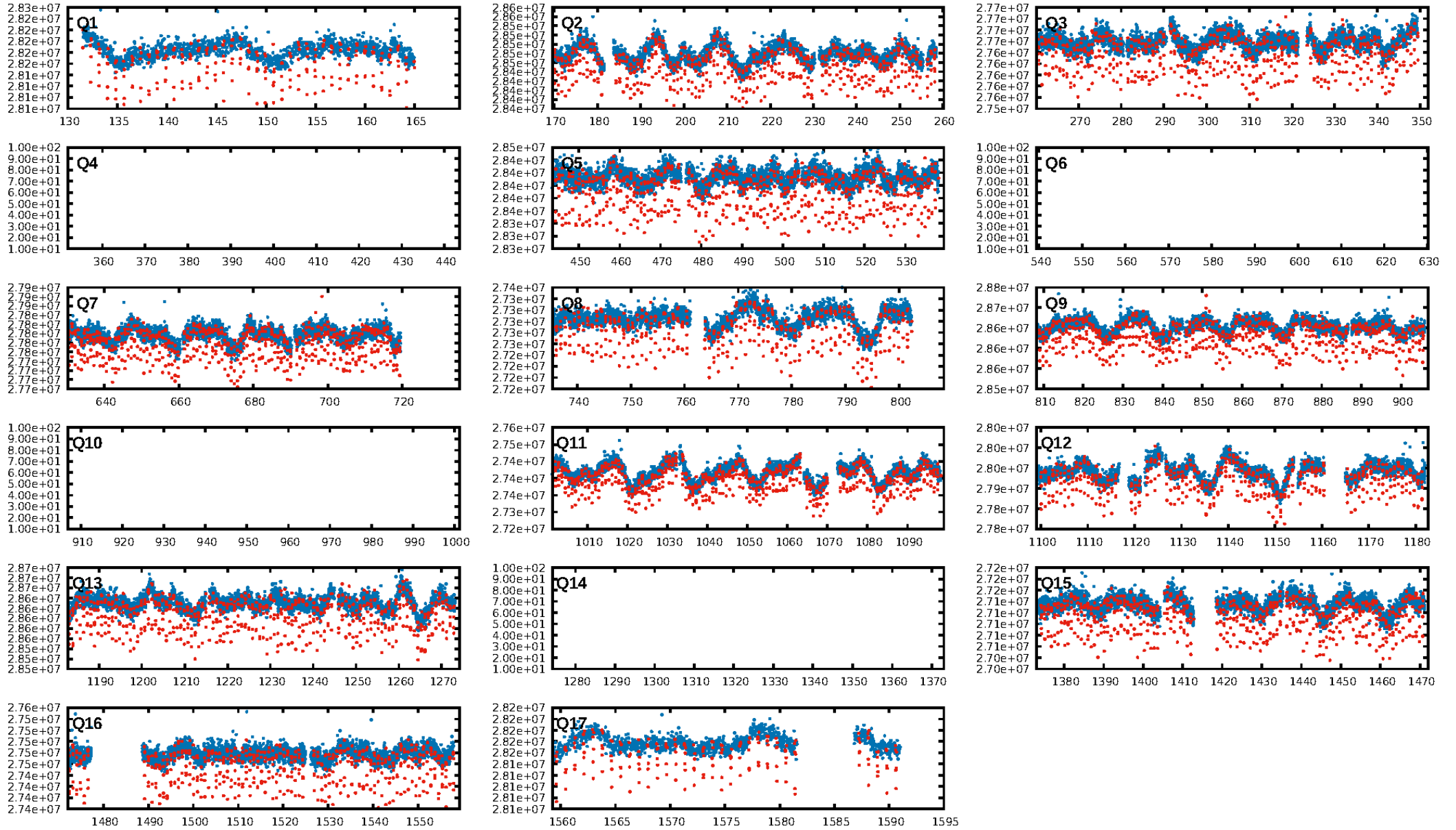
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [1097/1097]  
GhostDiagnostic-chr: 3.718  
Centroid-sig: 0.0%  
Centroid-so: 0.147 arcsec [4.12σ]  
OotOffset-rm: 0.313 arcsec [4.43σ]  
KicOffset-rm: 0.099 arcsec [1.23σ]  
OotOffset-st: 1/4/3/5 [13]  
KicOffset-st: 1/4/3/5 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

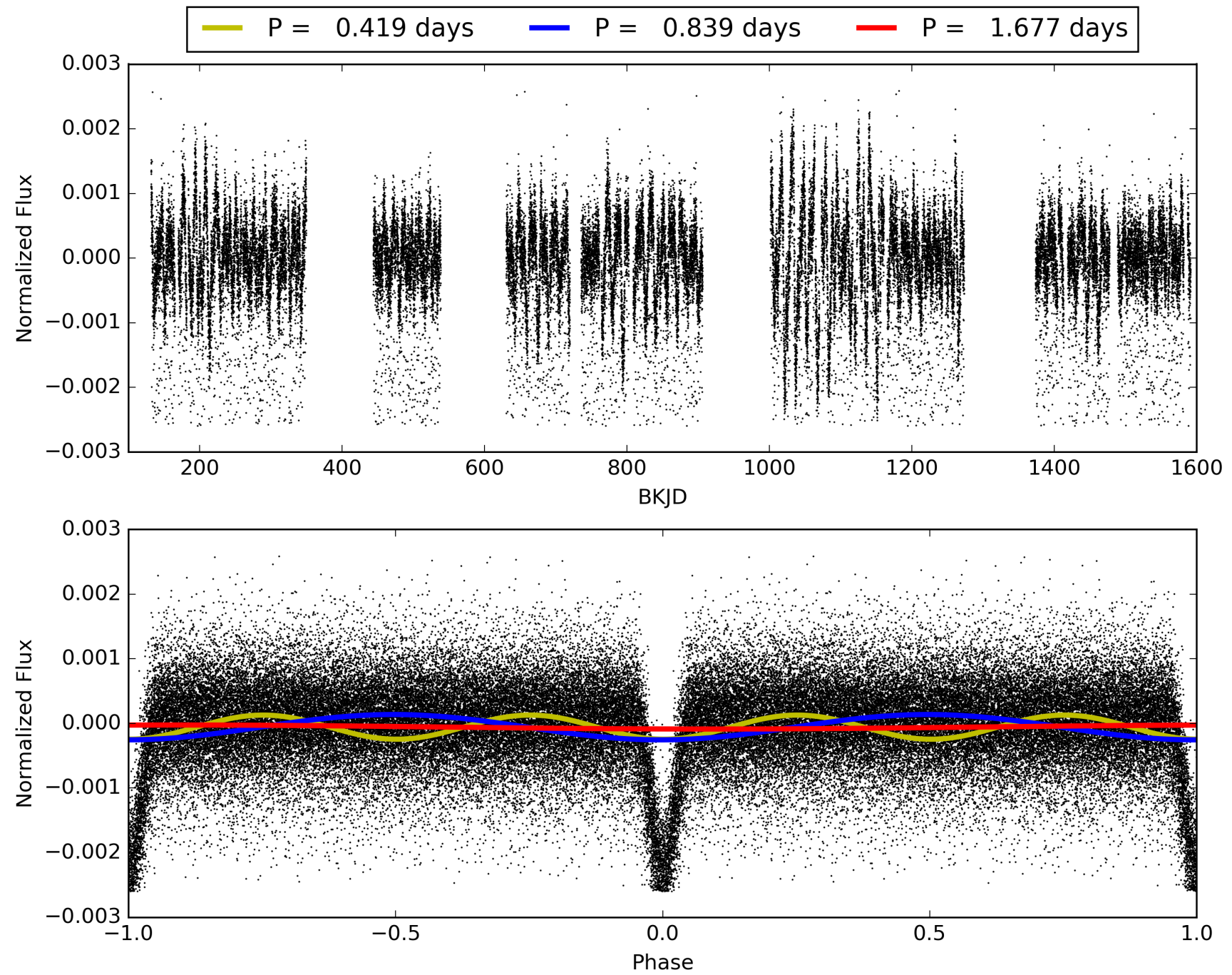
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:20:53 Z

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

# TCE 005801571-01, PDC Light Curves

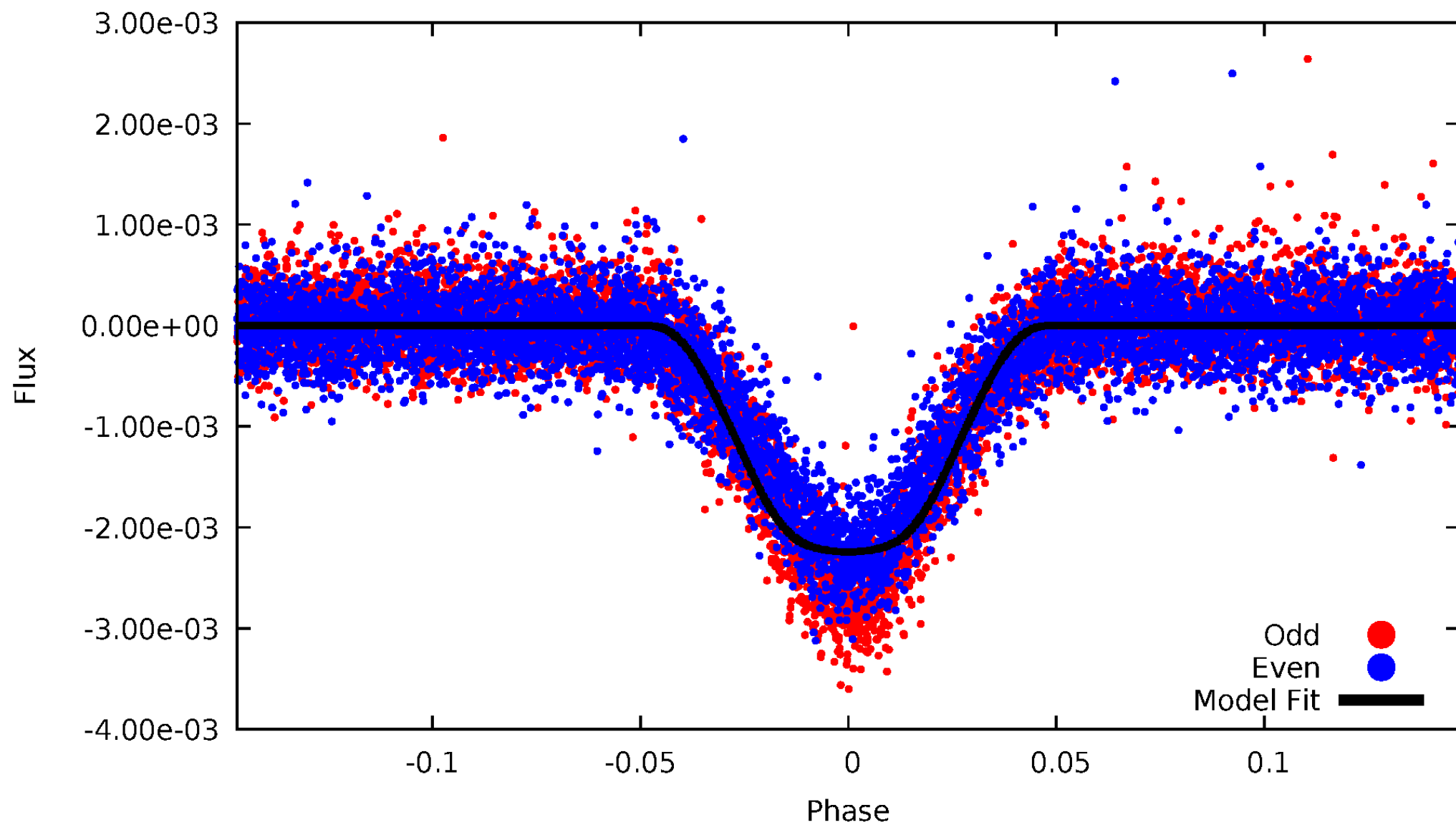


TCE 005801571-01



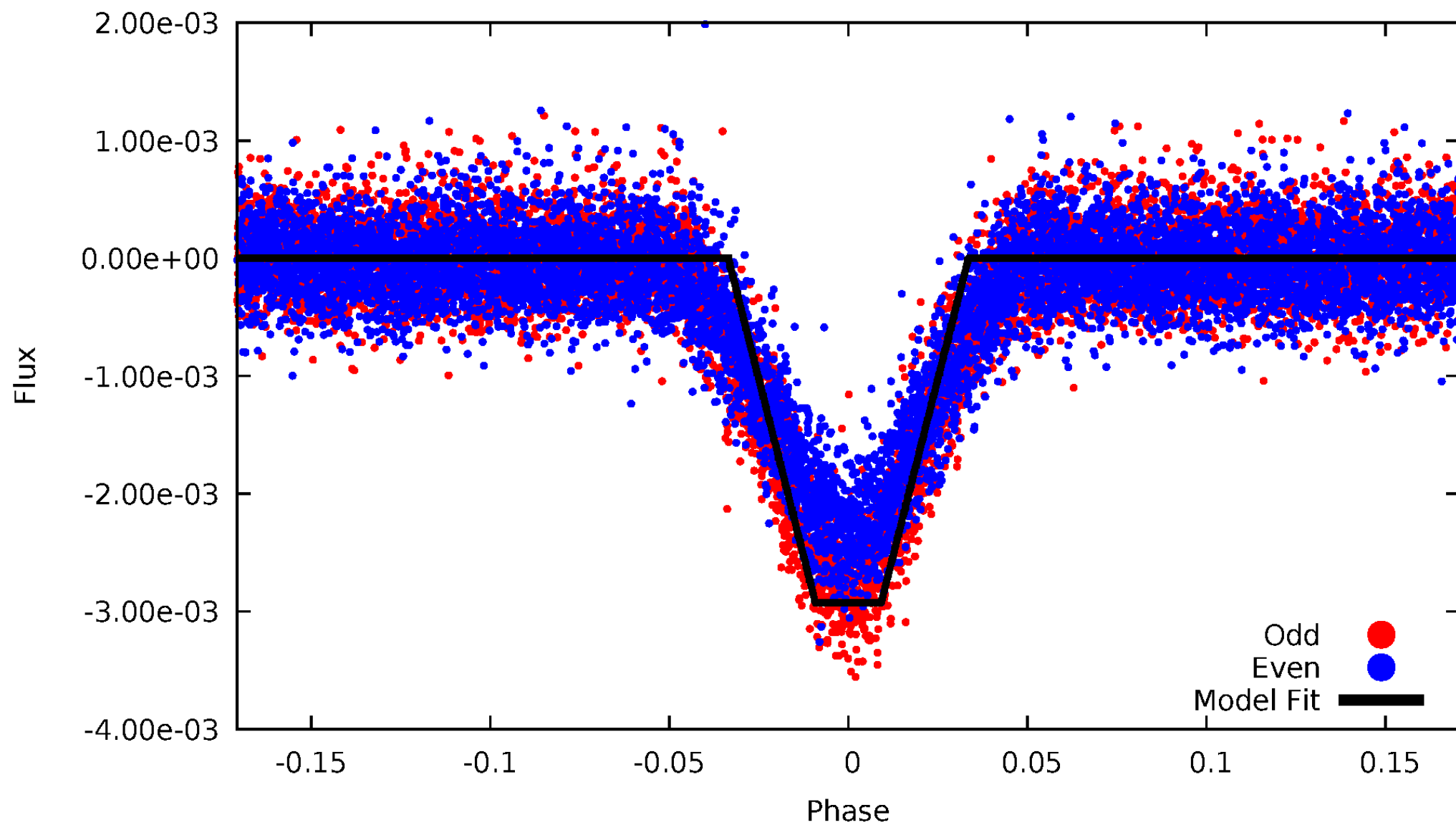
# DV Odd/Even

TCE 005801571-01



# ALT Odd/Even

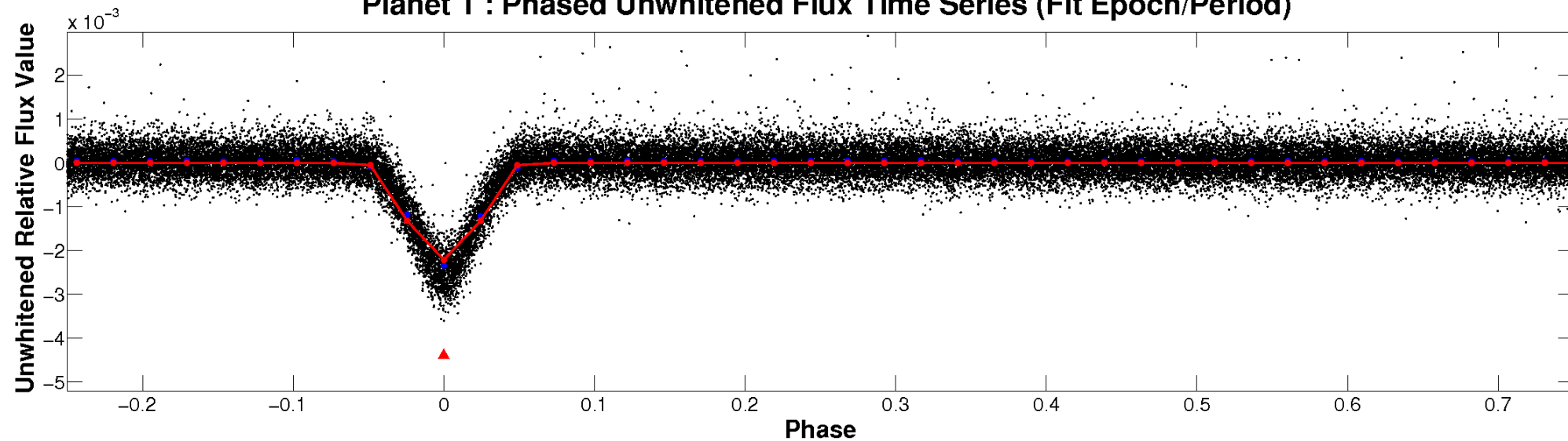
TCE 005801571-01



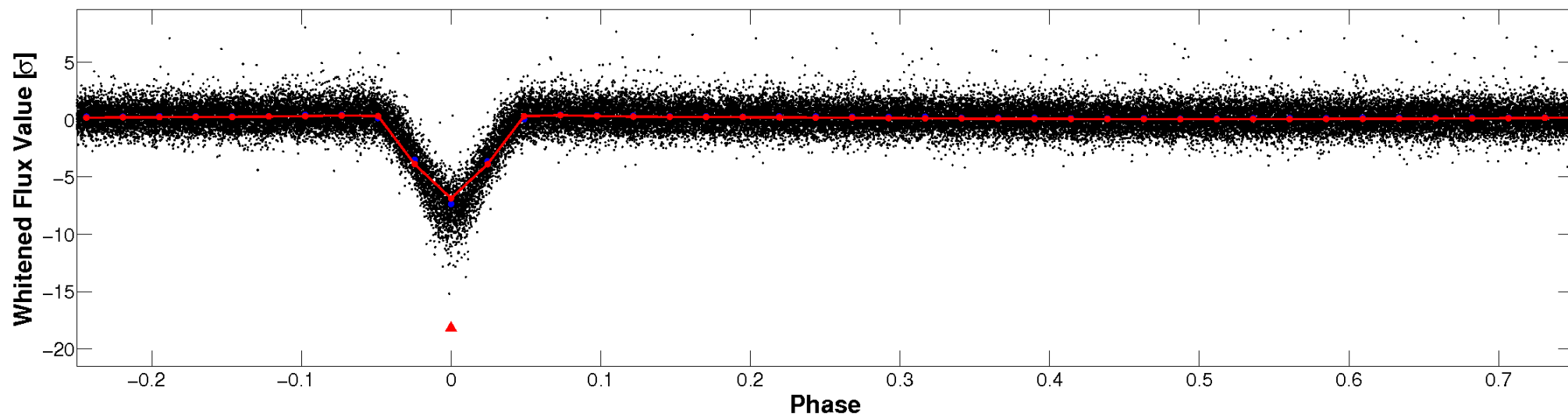


# Non-Whitened Vs. Whitened Light Curve

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

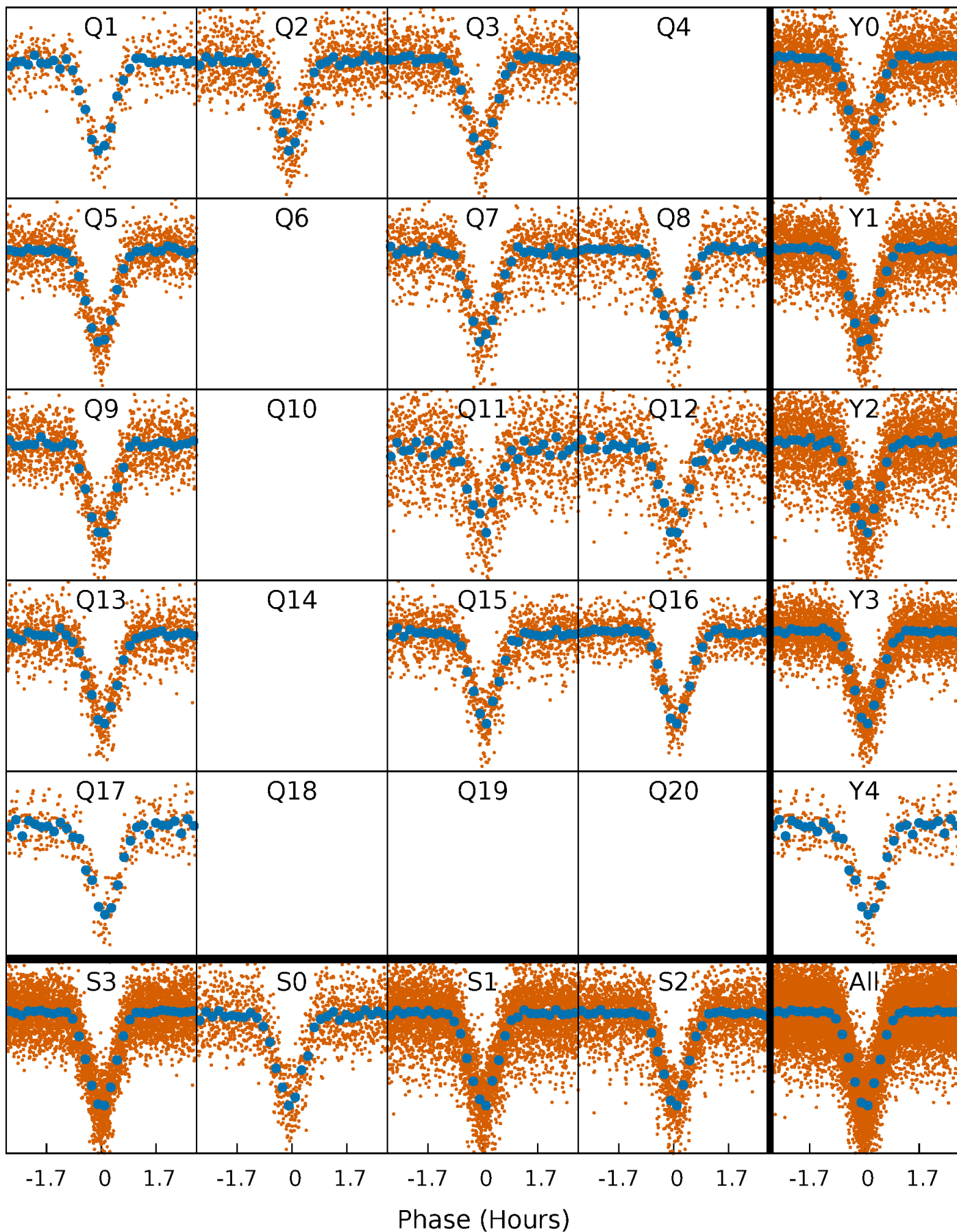


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

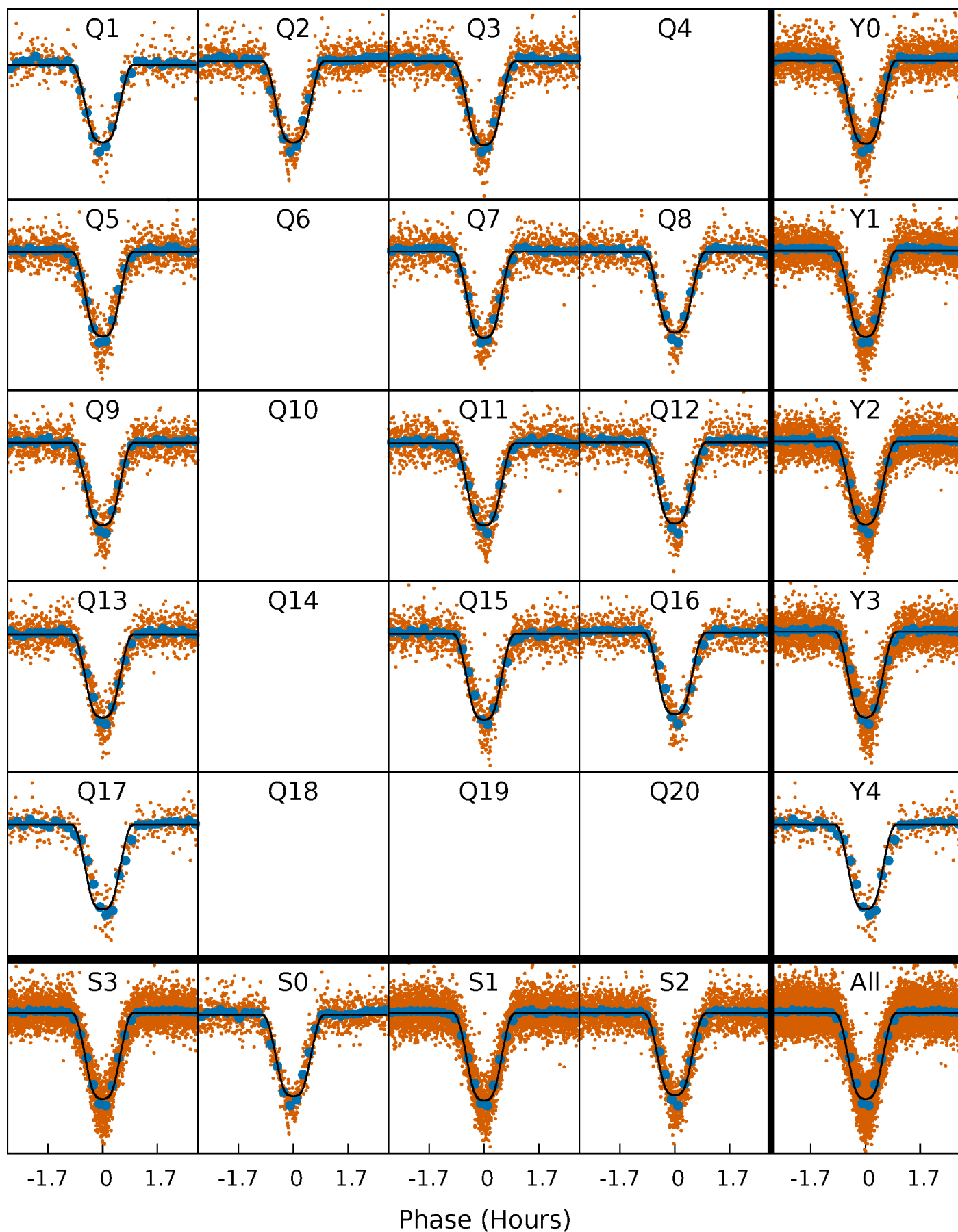
TCE 005801571-01   P= 0.838594 Days    $T_0=132.316161$  (BKJD)





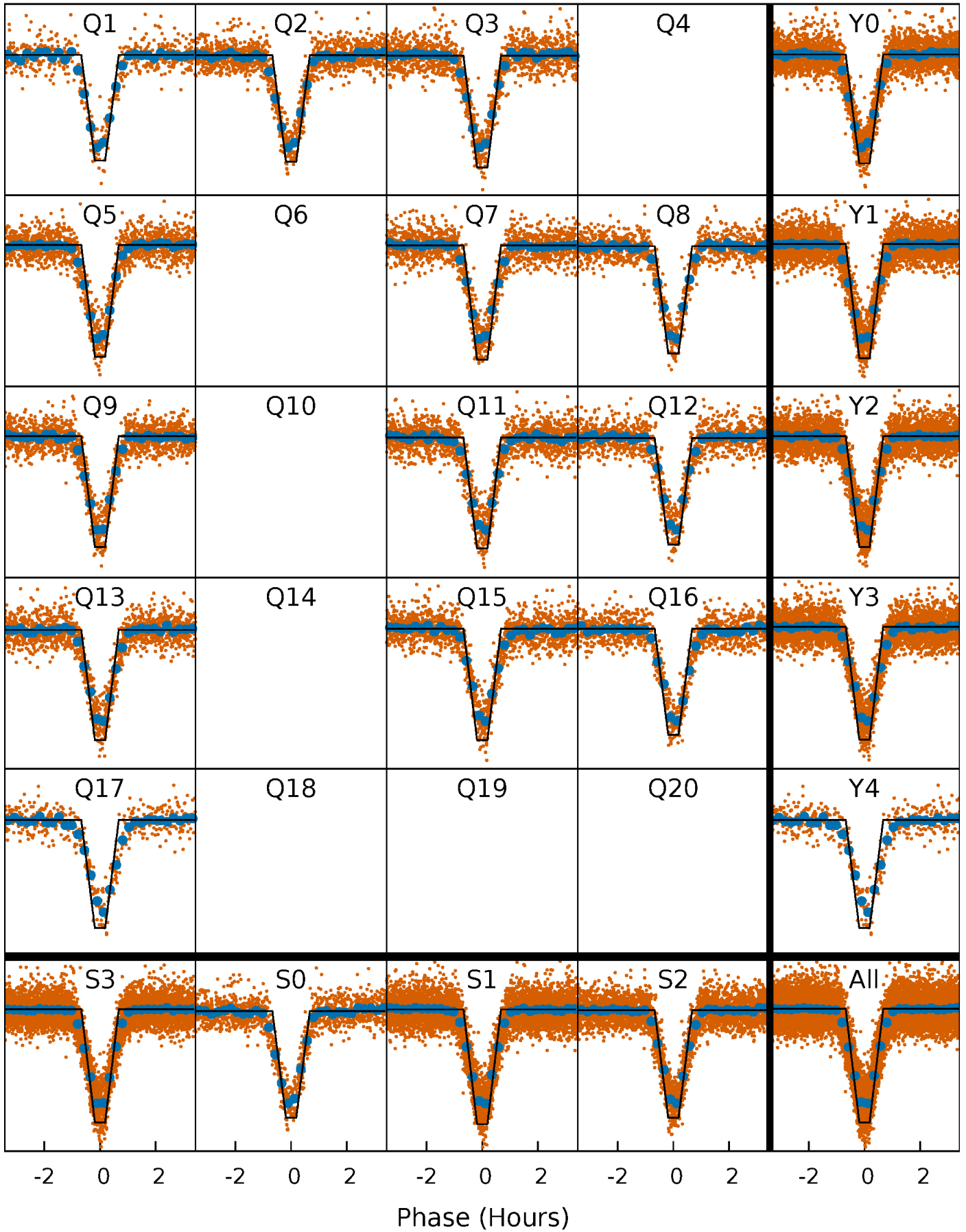
# DV Quarter-Phased Transit Curves

TCE 005801571-01   P= 0.838594 Days    $T_0=132.316161$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

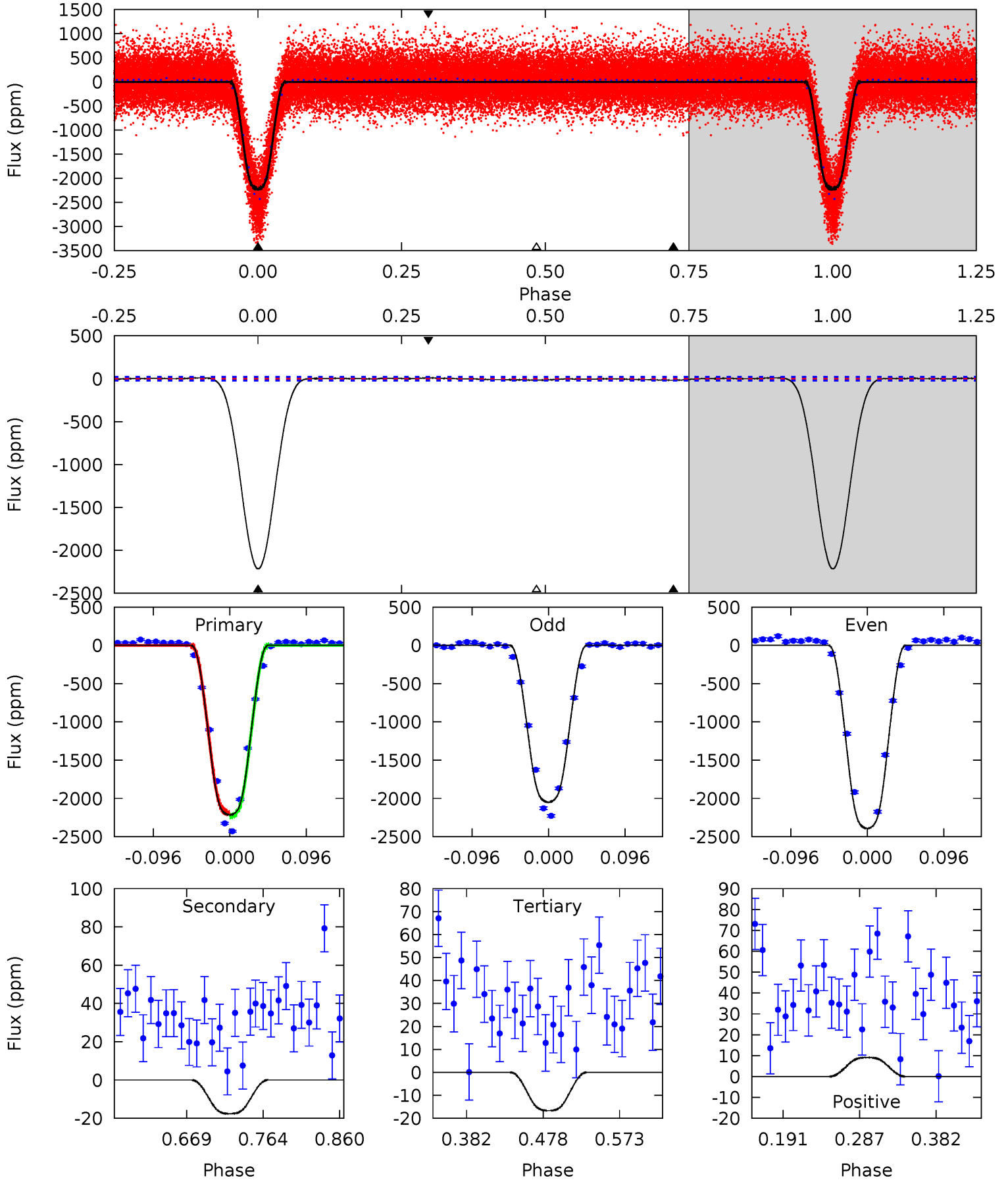
TCE 005801571-01   P= 0.838595 Days    $T_0=132.315418$  (BKJD)



# DV Model-Shift Uniqueness Test

005801571-01, P = 0.838594 Days, E = 131.477567 Days

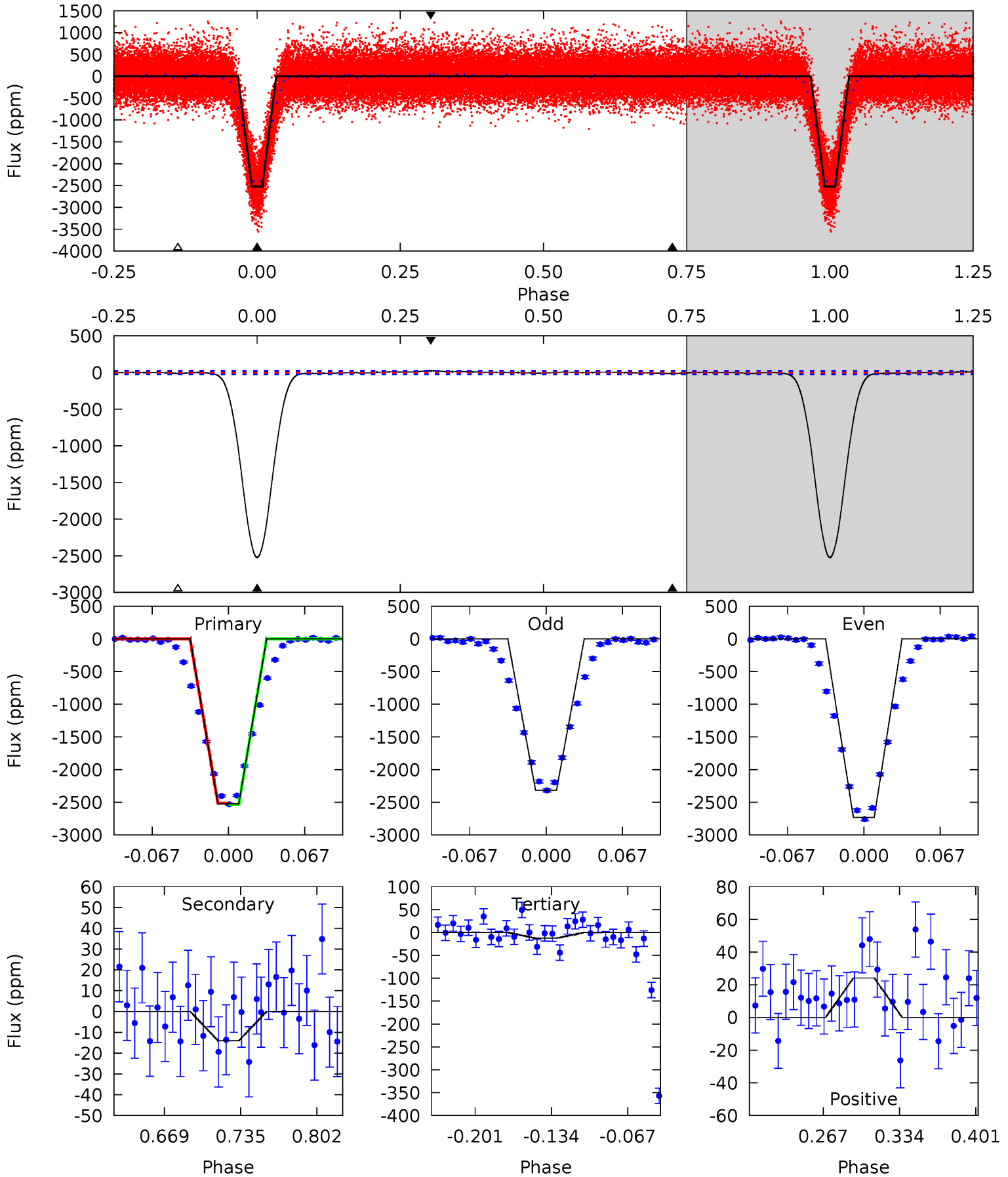
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
493.6	3.93	3.71	2.03	4.57	1.67	1.51	489.9	491.6	0.22	1.90	38.5	1.00	0.00	4.68



# Alt Model-Shift Uniqueness Test

005801571-01, P = 0.838595 Days, E = 131.476823 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
466.6	2.59	2.31	4.46	4.65	1.83	1.80	464.3	462.1	0.28	-1.87	38.4	1.00	0.01	2.02



### Stellar Parameters For KIC 005801571

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6366^{+70}_{-89}$	$4.352^{+0.032}_{-0.120}$	$0.160^{+0.150}_{-0.200}$	$1.236^{+0.219}_{-0.082}$	$1.257^{+0.079}_{-0.105}$	$0.939^{+0.144}_{-0.326}$
	+1%/-1%	+1%/-3%	+94%/-125%	+18%/-7%	+6%/-8%	+15%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 005801571-01 / KOI 0225.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-18 \pm 4$	$7.03^{+0.67}_{-0.33}$	$3216^{+128}_{-78}$	$-3105^{+67}_{-93}$	$0.066^{+0.019}_{-0.019}$
Alt.	$-14 \pm 5$	$7.36^{+0.68}_{-0.33}$	$3211^{+132}_{-74}$	$-3138^{+65}_{-95}$	$0.048^{+0.020}_{-0.018}$

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



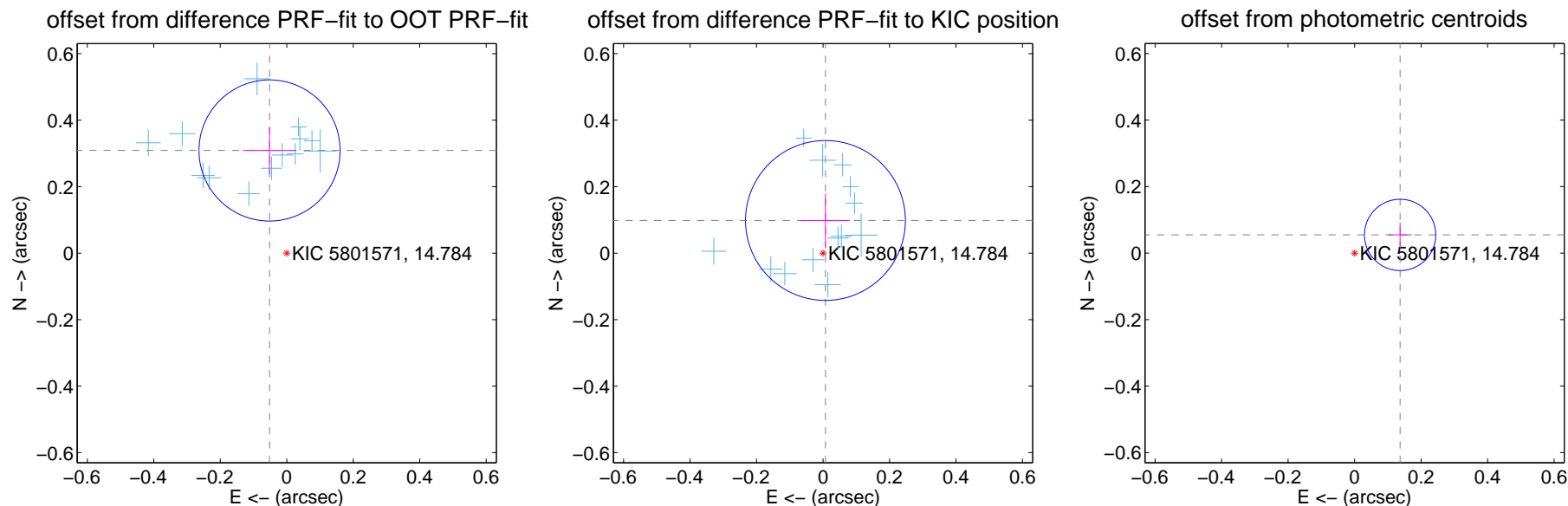
## DV Centroid Data

Supplemental centroid analysis for 005801571-01. Kepler magnitude: 14.78. Transit SNR 293.99

There are 13 quarters with good PRF difference image offsets

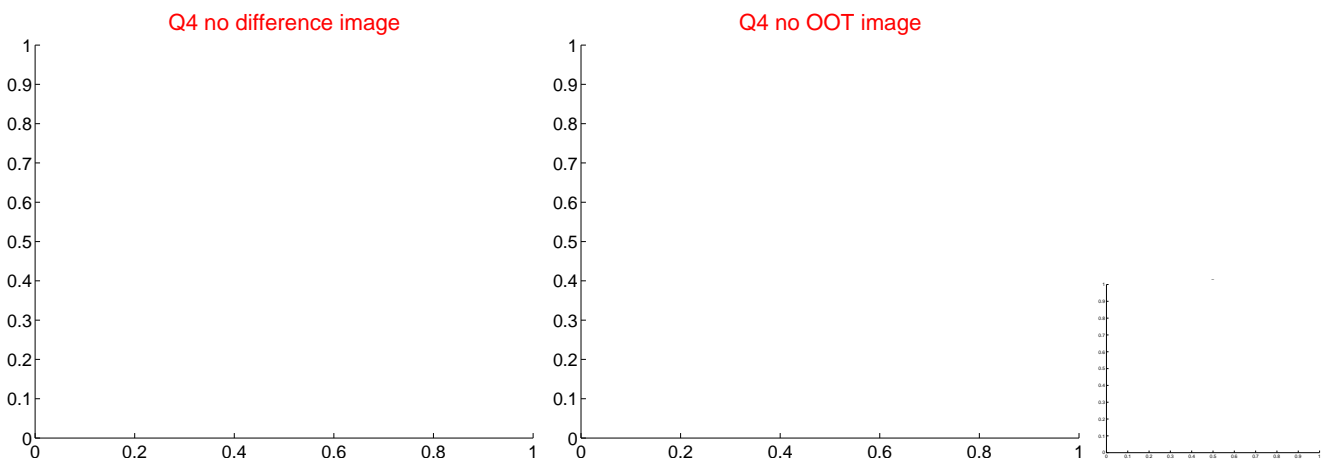
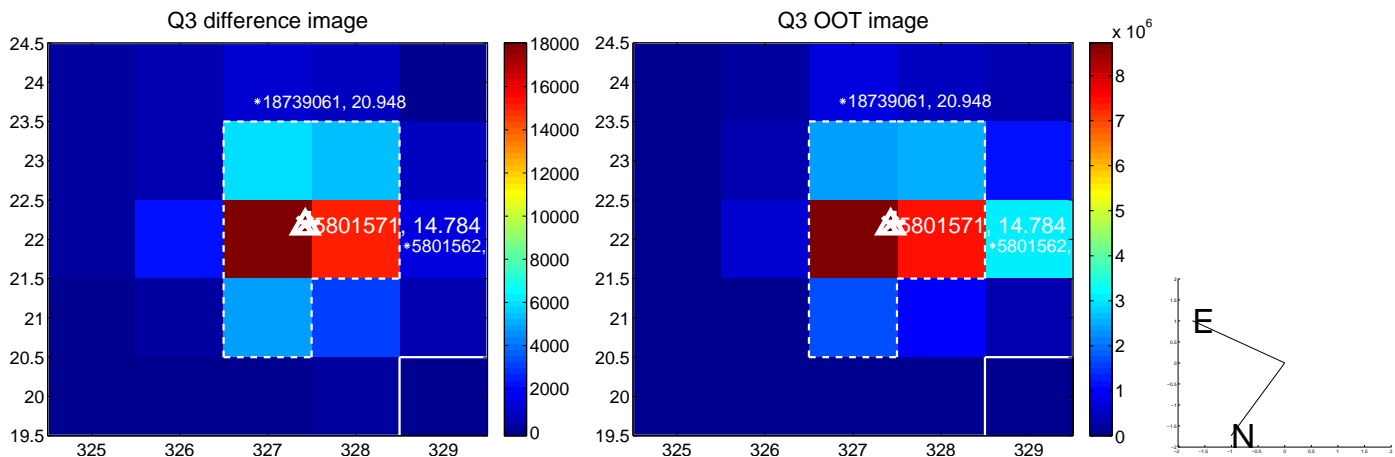
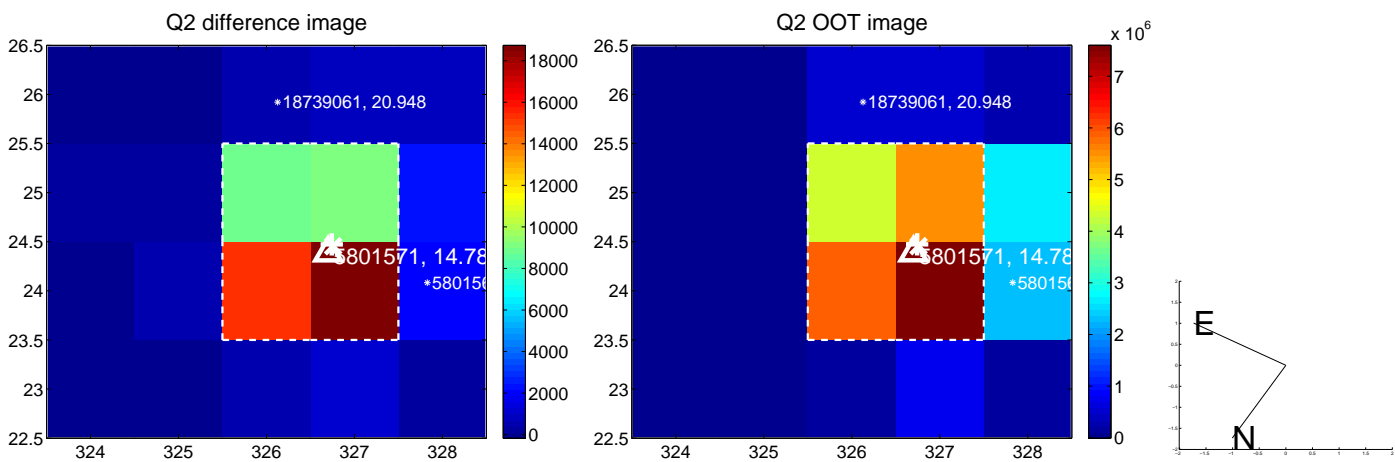
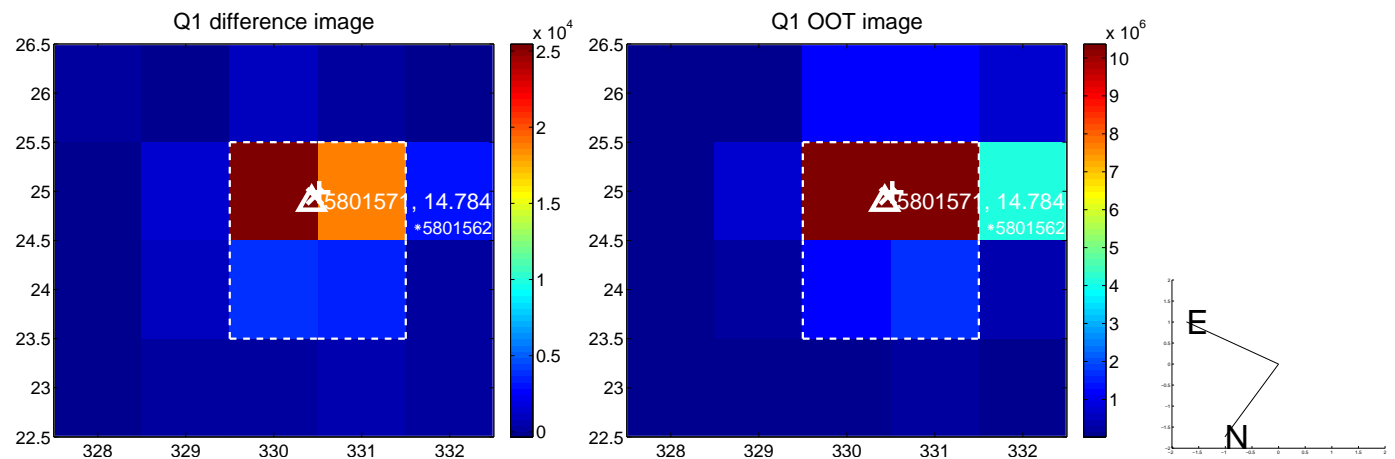
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>0.313 \pm 0.071</math></b>	<b>4.43</b>	$0.052 \pm 0.080$	$0.309 \pm 0.070$
PRF-fit source offset from KIC position	$0.099 \pm 0.080$	1.23	$-0.007 \pm 0.073$	$0.098 \pm 0.080$
photometric centroid source offset	<b><math>0.15 \pm 0.04</math></b>	<b>4.12</b>	$-0.14 \pm 0.04$	$0.05 \pm 0.04$

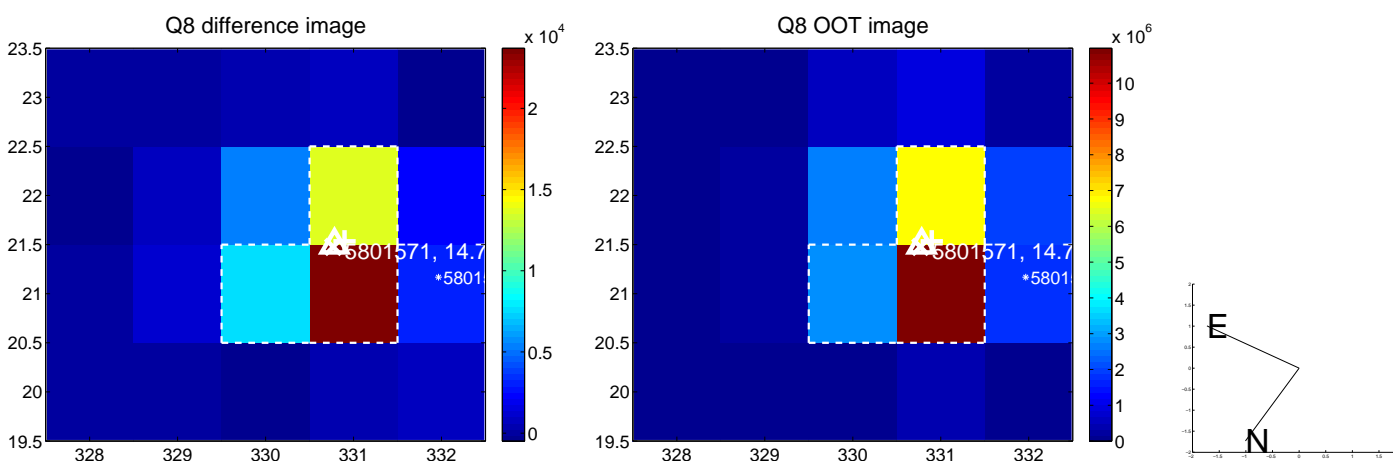
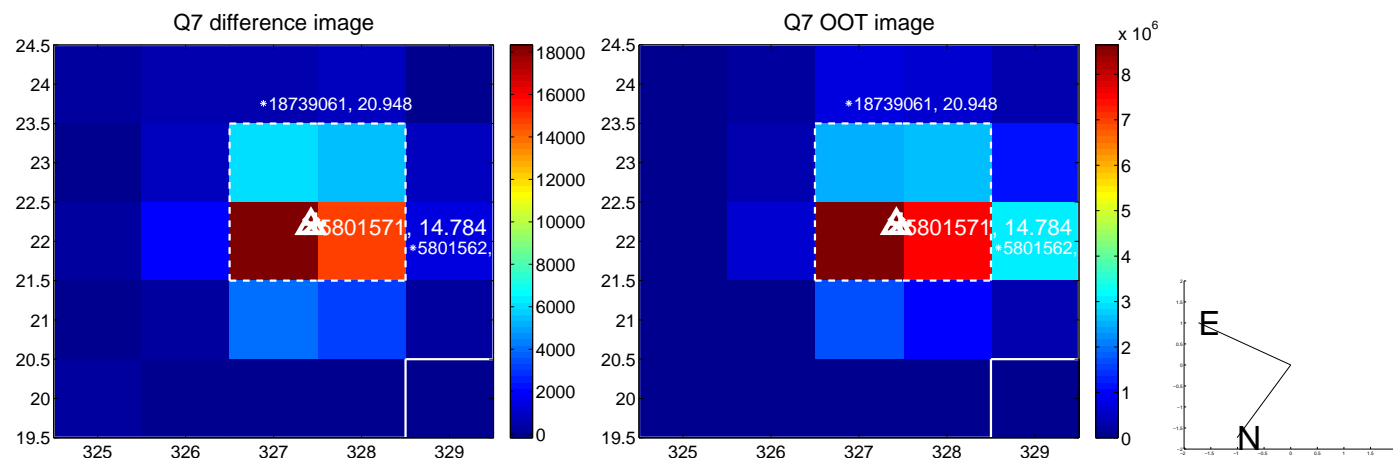
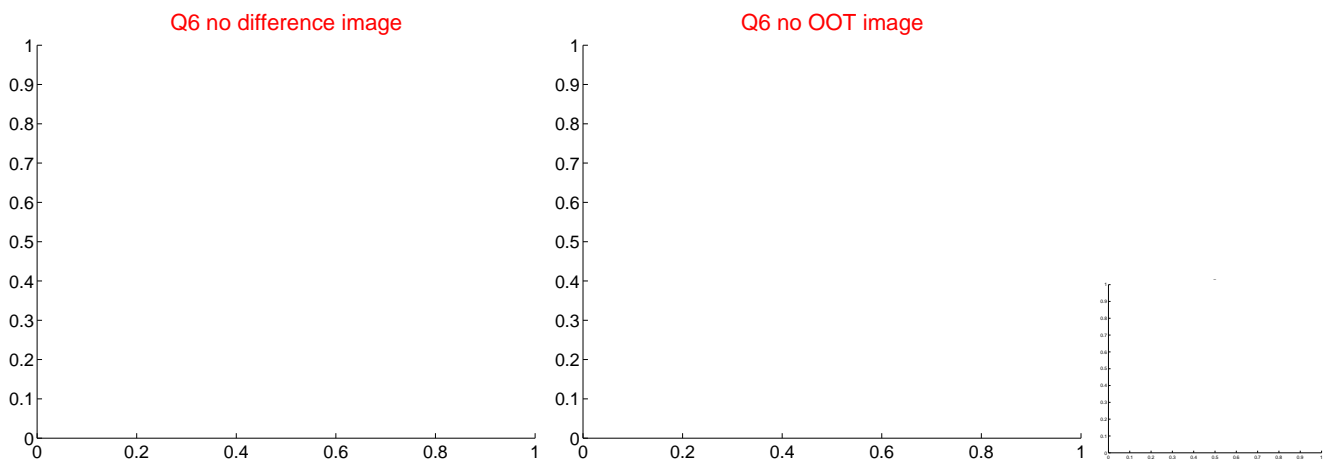
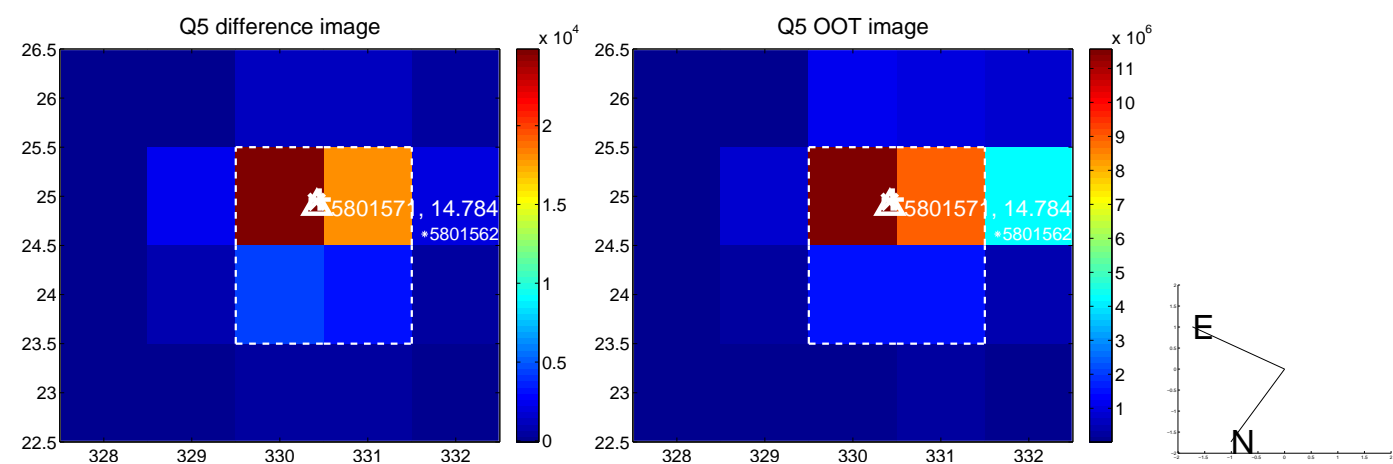


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

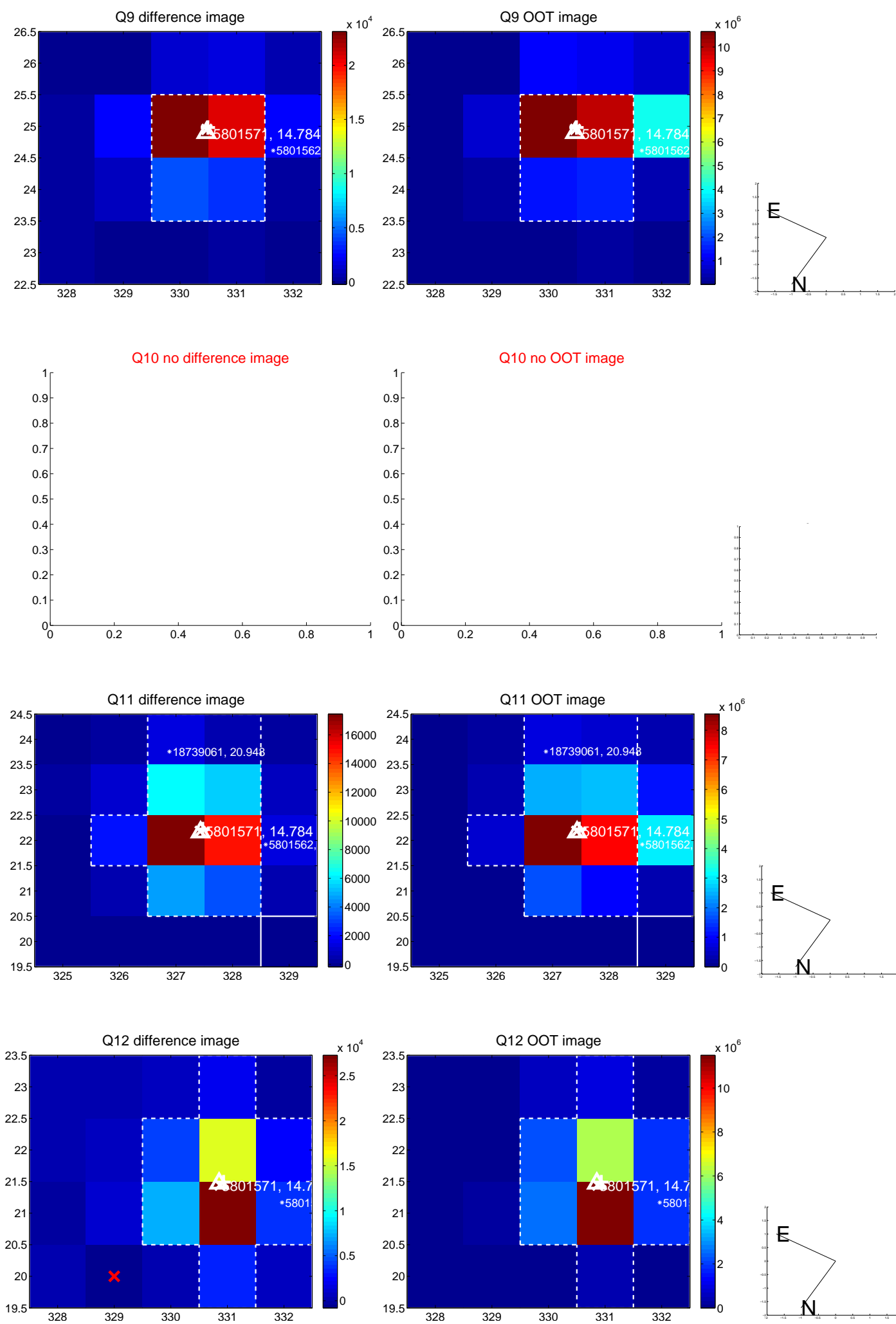
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



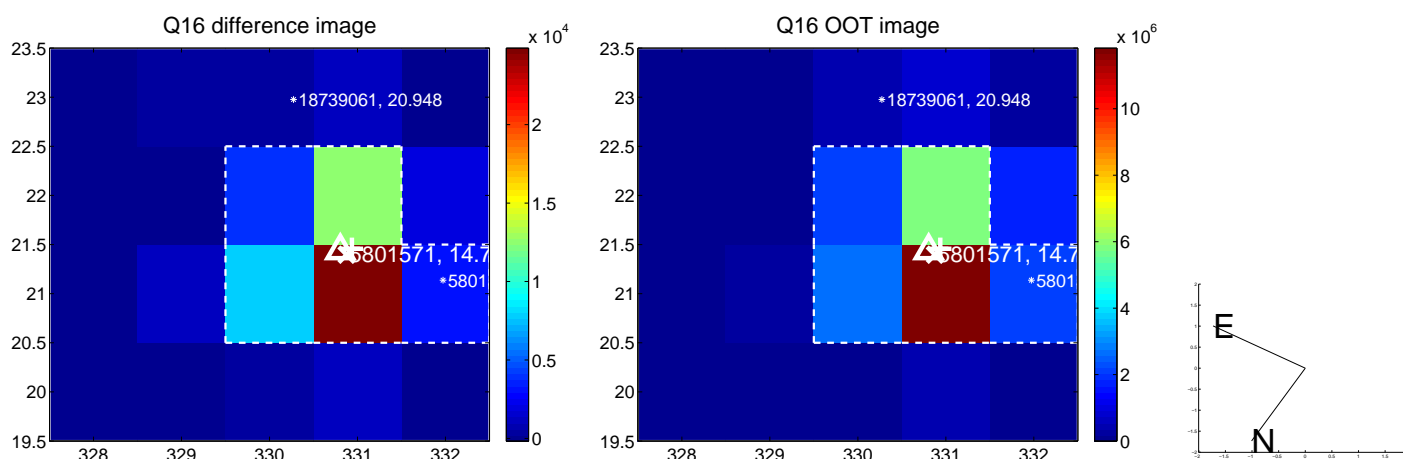
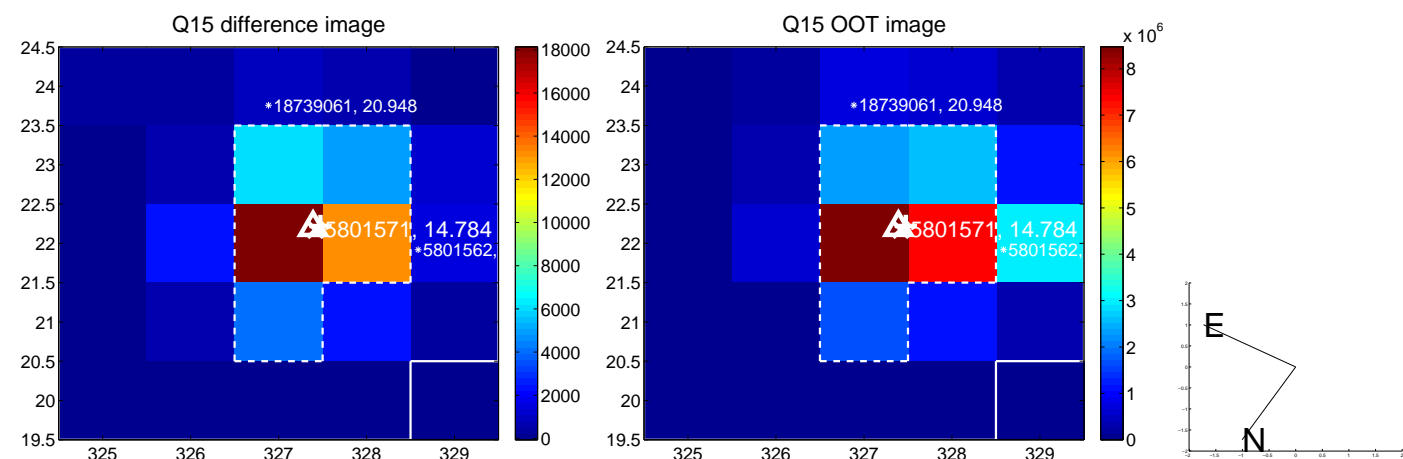
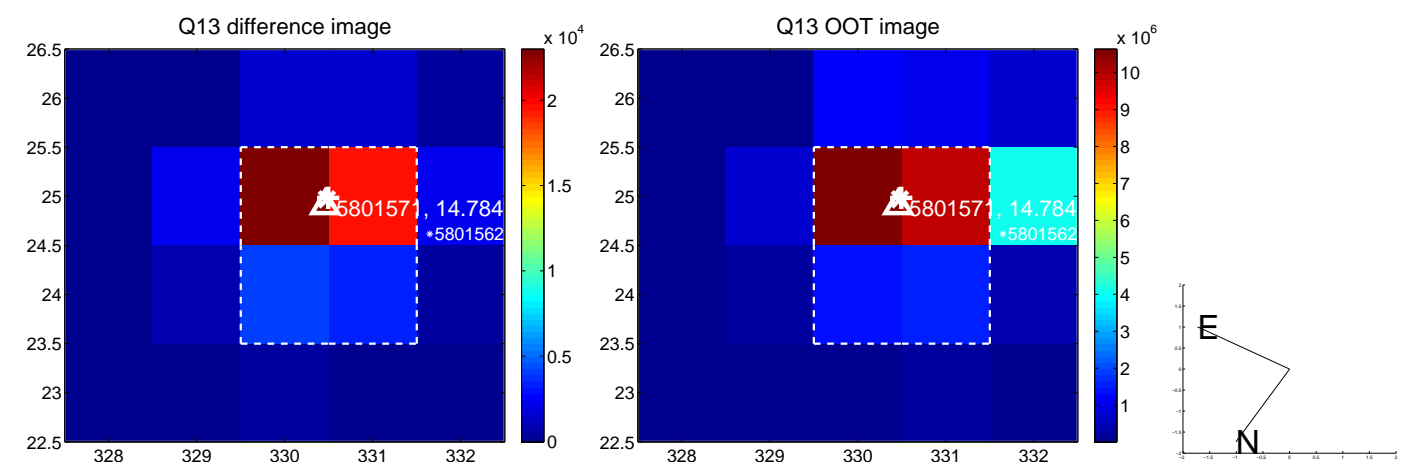
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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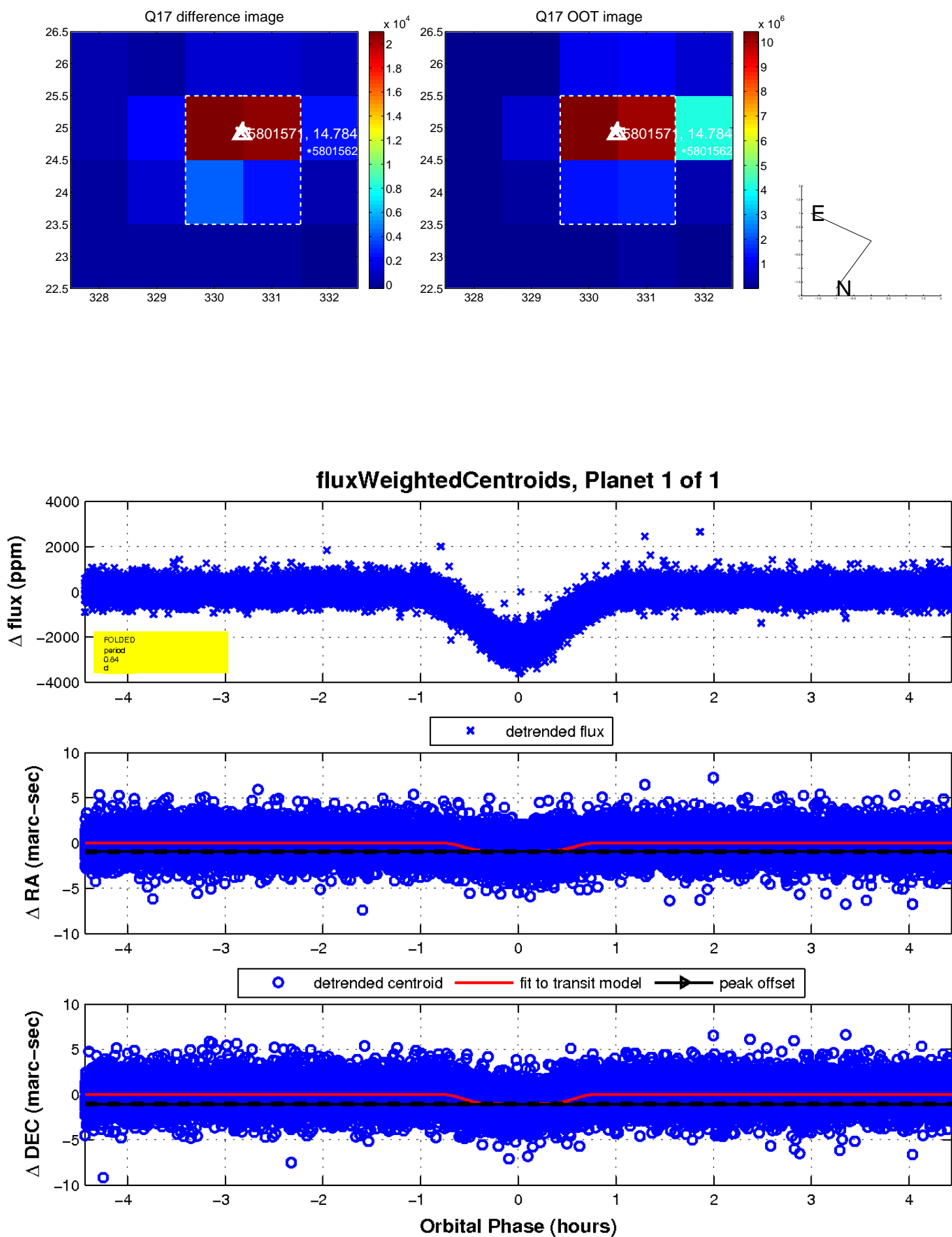


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

