

# KIC 007117541

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007117541-01	OBS	6830.01	1.585668	132.015055	37669.7	3.244	2687.6	1032.7	1.02	6117	27.44	1748.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117541-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_UNRESOLVED_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.

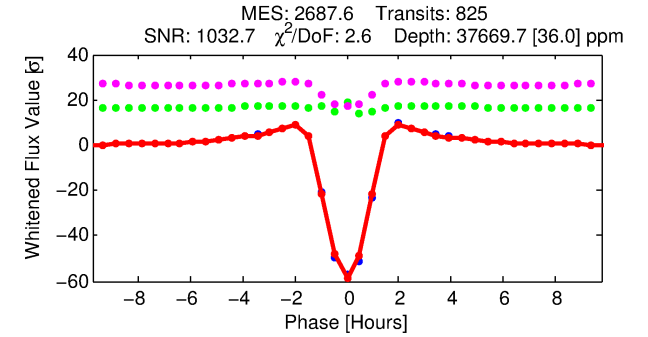
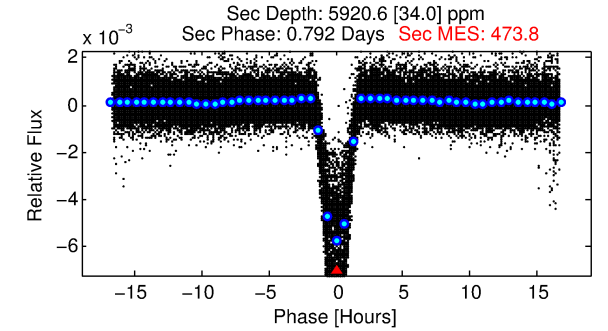
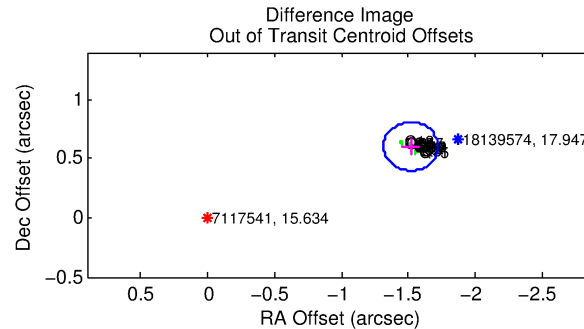
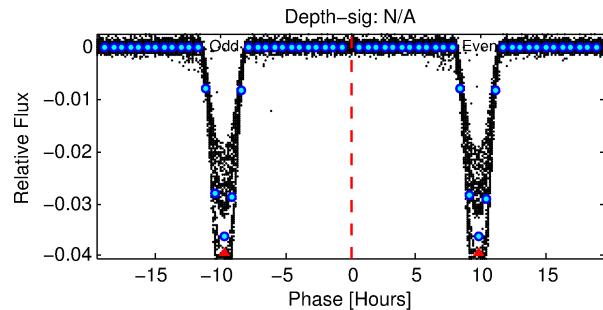
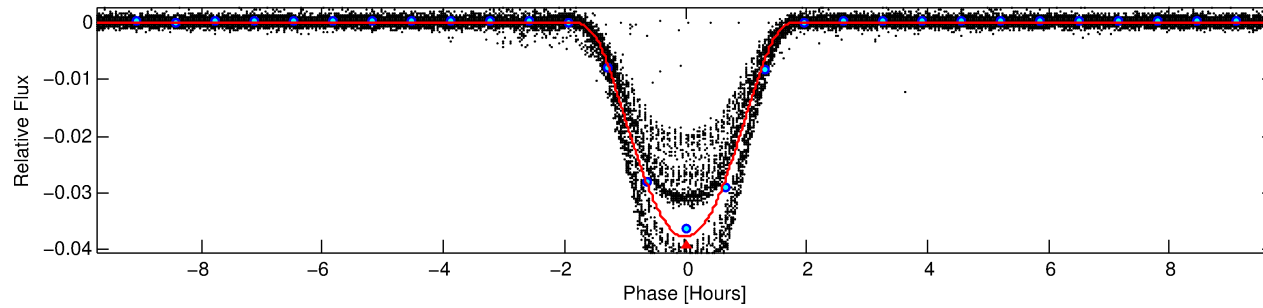
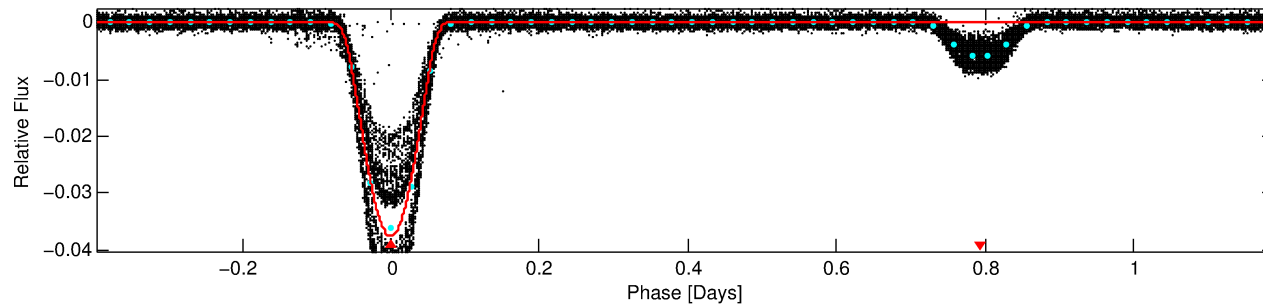
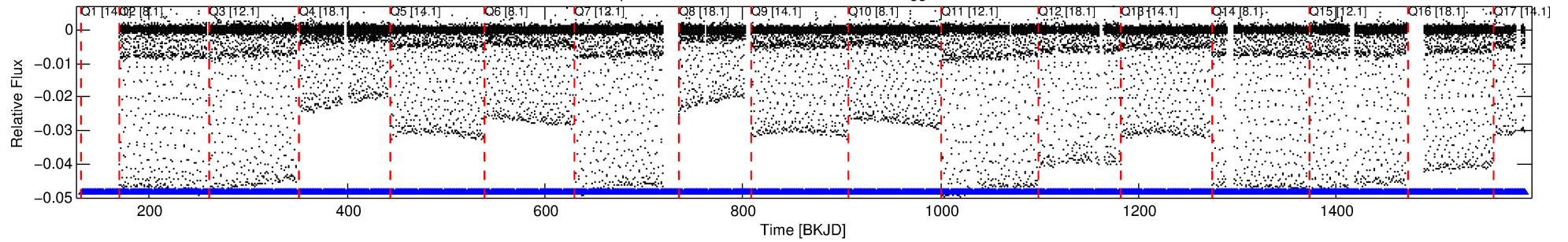
## Ephemeris Match Information For 007117541-01

No Significant Match Found

# DV One-Page Summary

KIC: 7117541 Candidate: 1 of 1 Period: 1.586 d  
KOI: K06830.01 Corr: 0.990

Kp: 15.63 R\*: 1.02 Rs Teff: 6117.0 K Logg: 4.46 Fe/H: -0.020



## DV Fit Results:

Period = 1.58567 [0.00000] d  
Epoch = 132.0151 [0.0000] BKJD  
Rp/R\* = 0.2453 [0.0039]  
a/R\* = 3.36 [0.01]  
b = 0.90 [0.01]  
Seff = 1748.16 [696.08]  
Teff = 1649 [164] K  
Rp = 27.44 [8.10] Re  
a = 0.0275 [0.0069] AU  
Ag = 3.26 [1.20] [1.88σ]  
Teffp = 3426 [135] K [8.36σ]

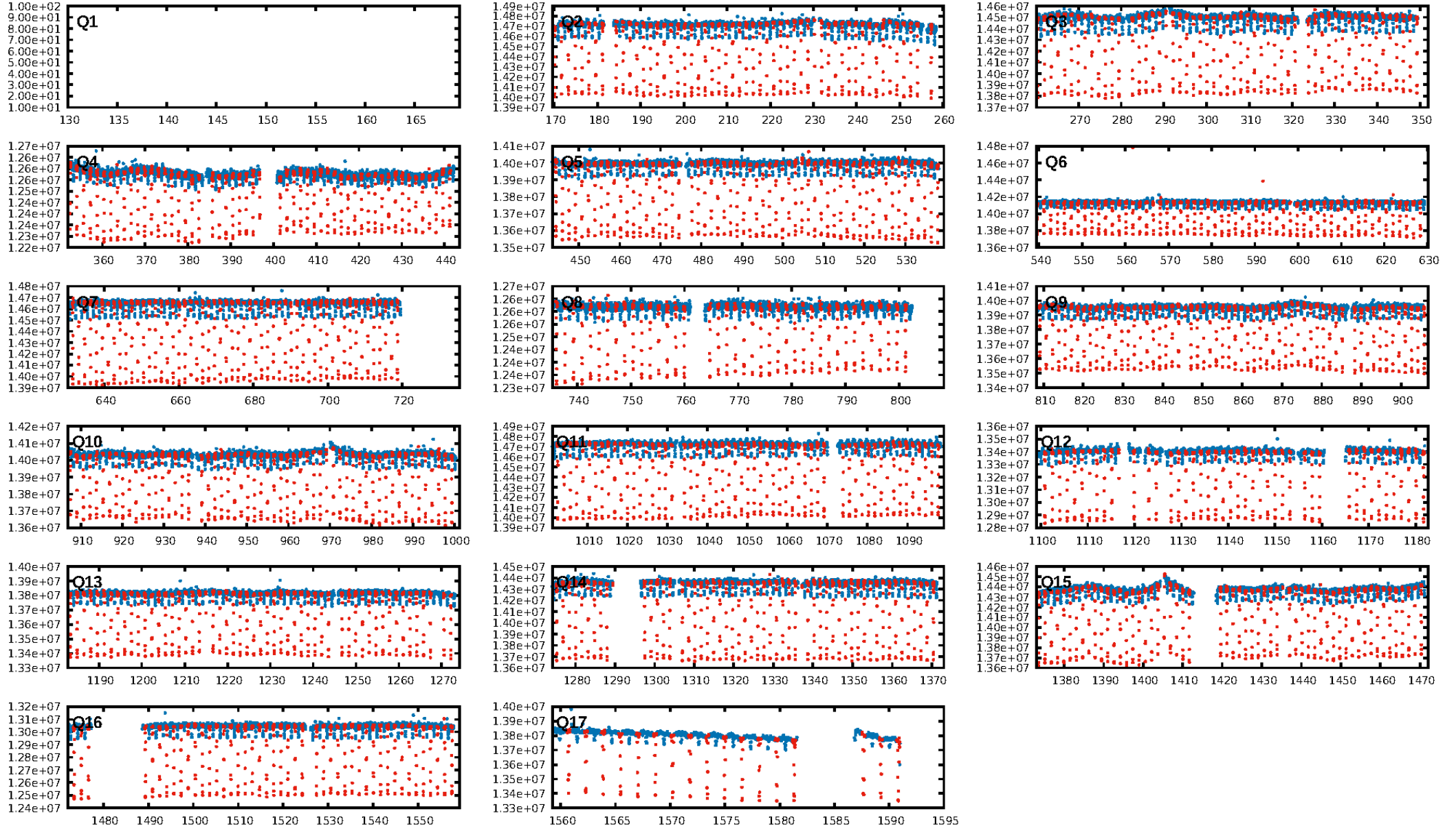
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [808/808]  
GhostDiagnostic-chr: 0.8279  
Centroid-sig: 0.0%  
Centroid-so: 2.408 arcsec [509.73σ]  
OotOffset-rm: 1.633 arcsec [23.99σ]  
KicOffset-rm: 1.959 arcsec [29.25σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [16/16]

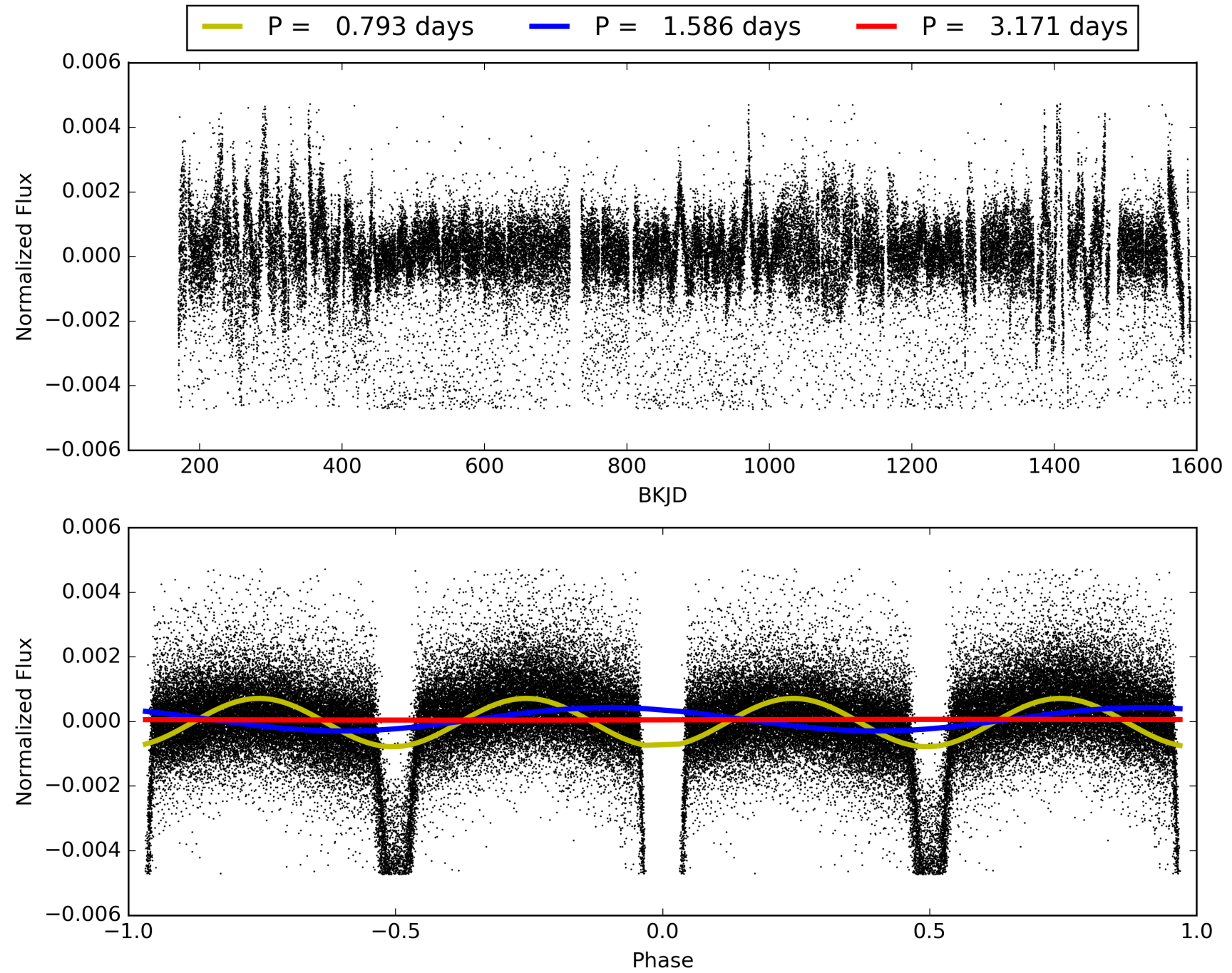
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:22:07 Z

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

# TCE 007117541-01, PDC Light Curves

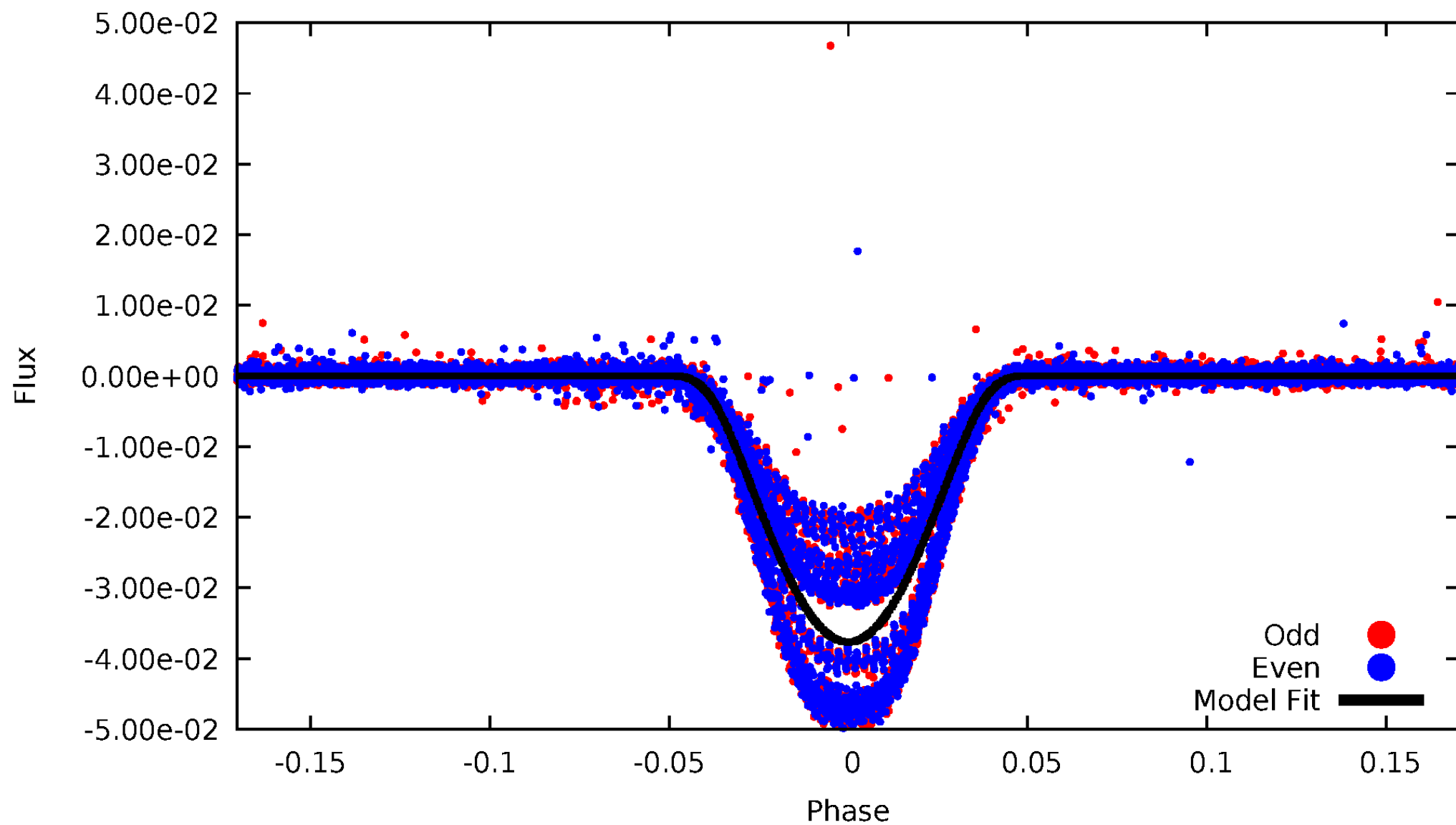


TCE 007117541-01



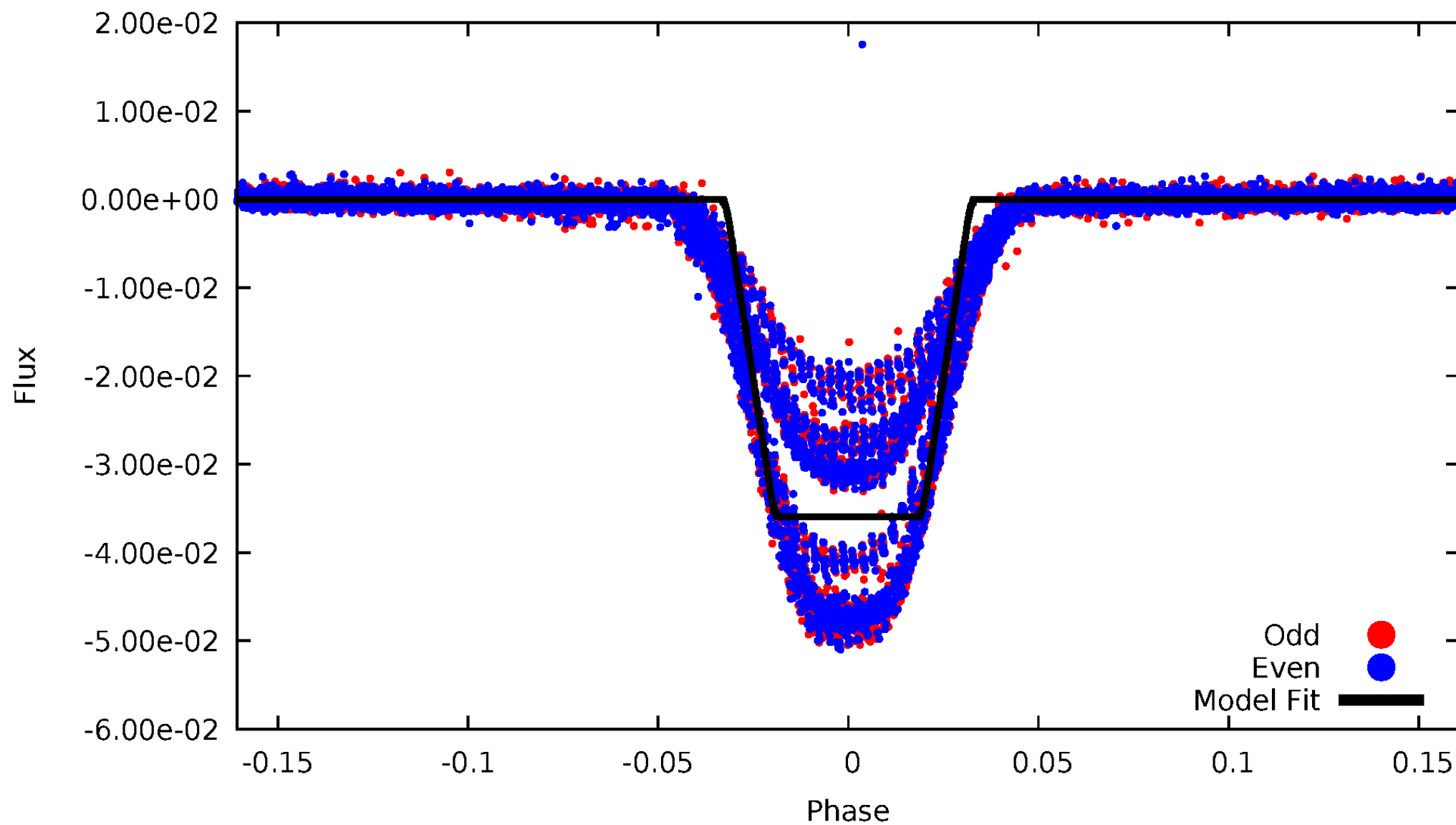
# DV Odd/Even

TCE 007117541-01



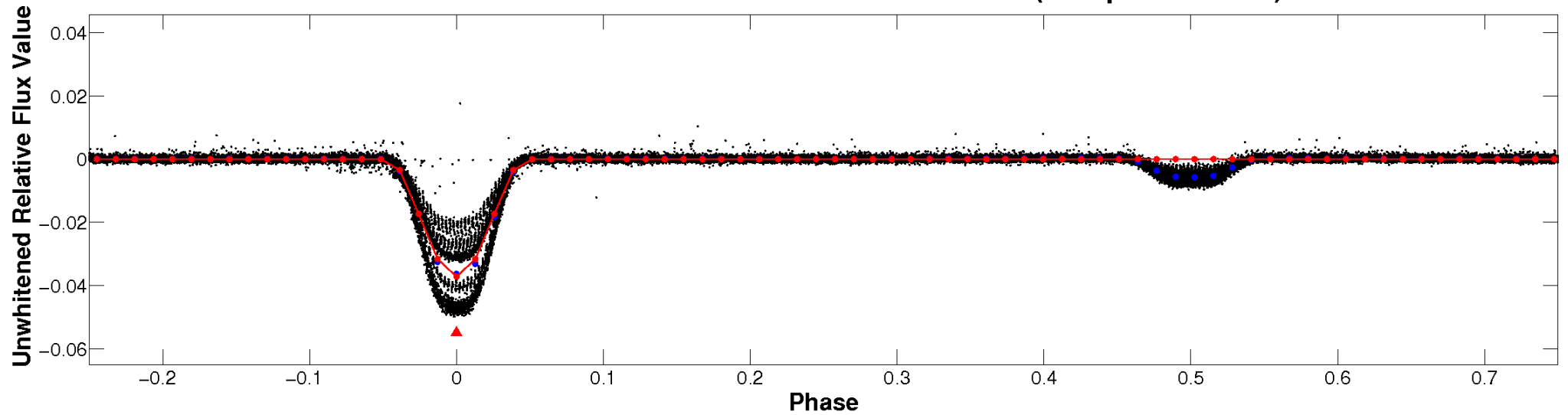
# ALT Odd/Even

TCE 007117541-01

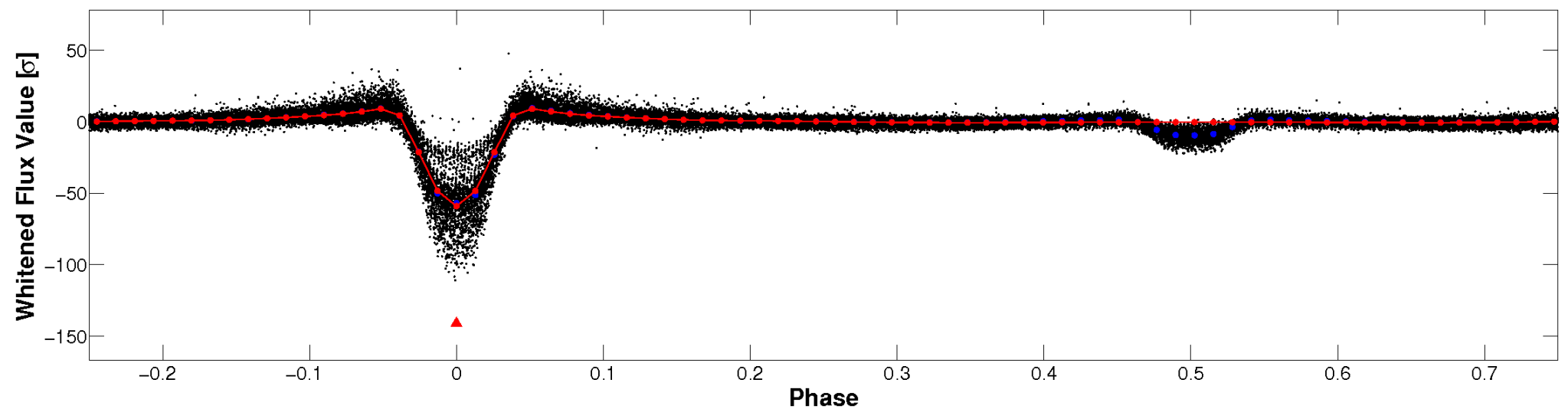


# Non-Whitened Vs. Whitened Light Curve

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



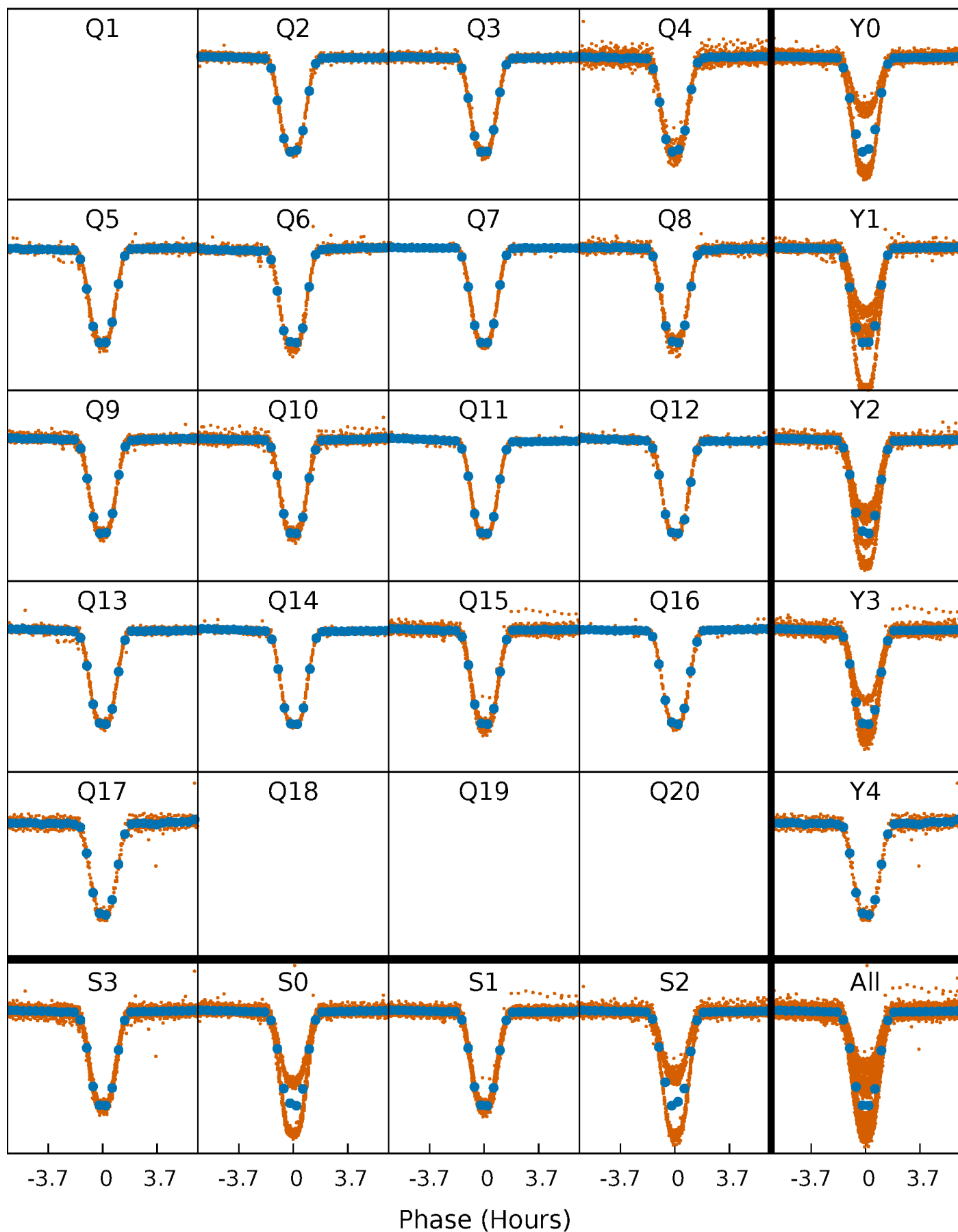
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

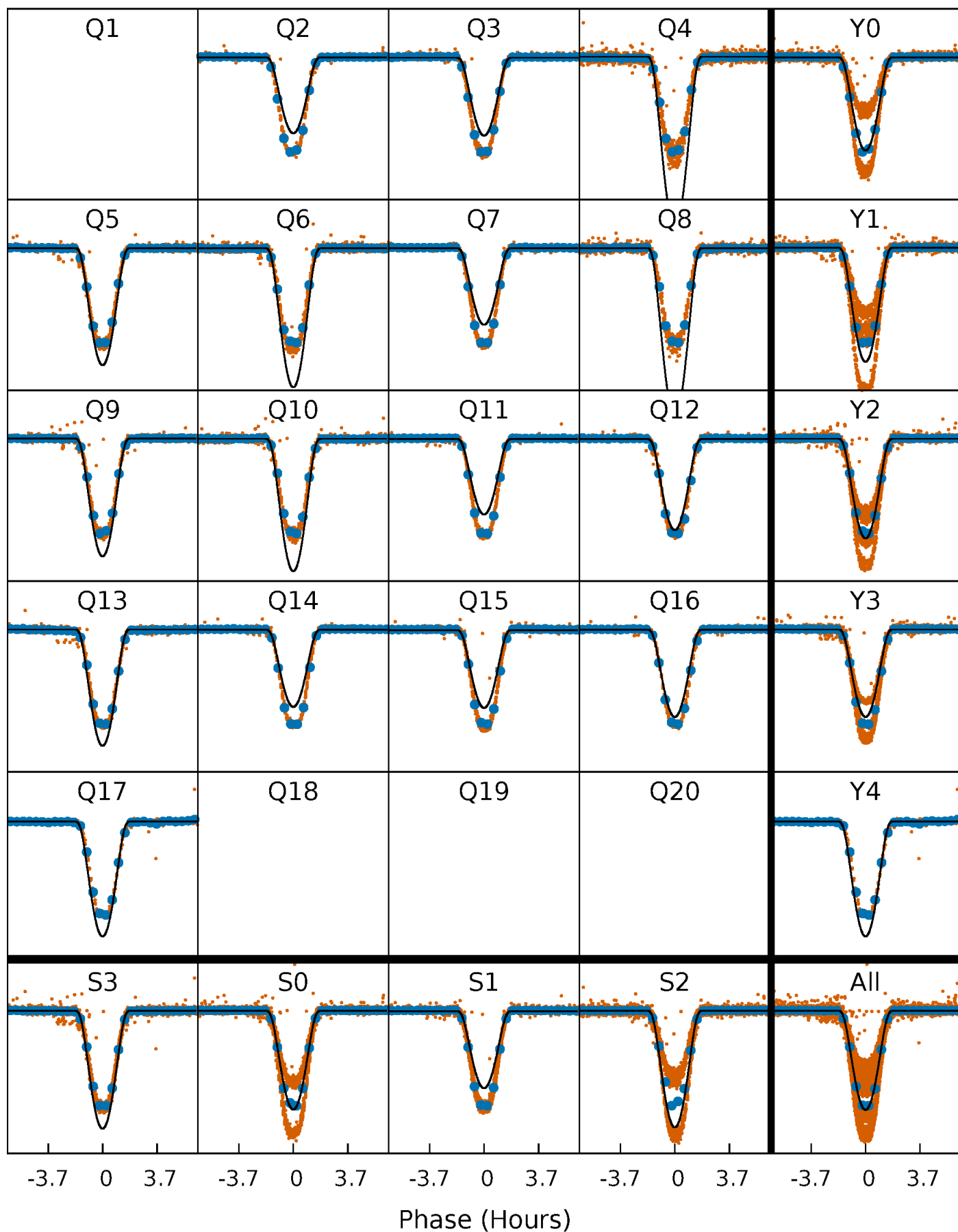
TCE 007117541-01 P= 1.585668 Days  $T_0=132.015055$  (BKJD)





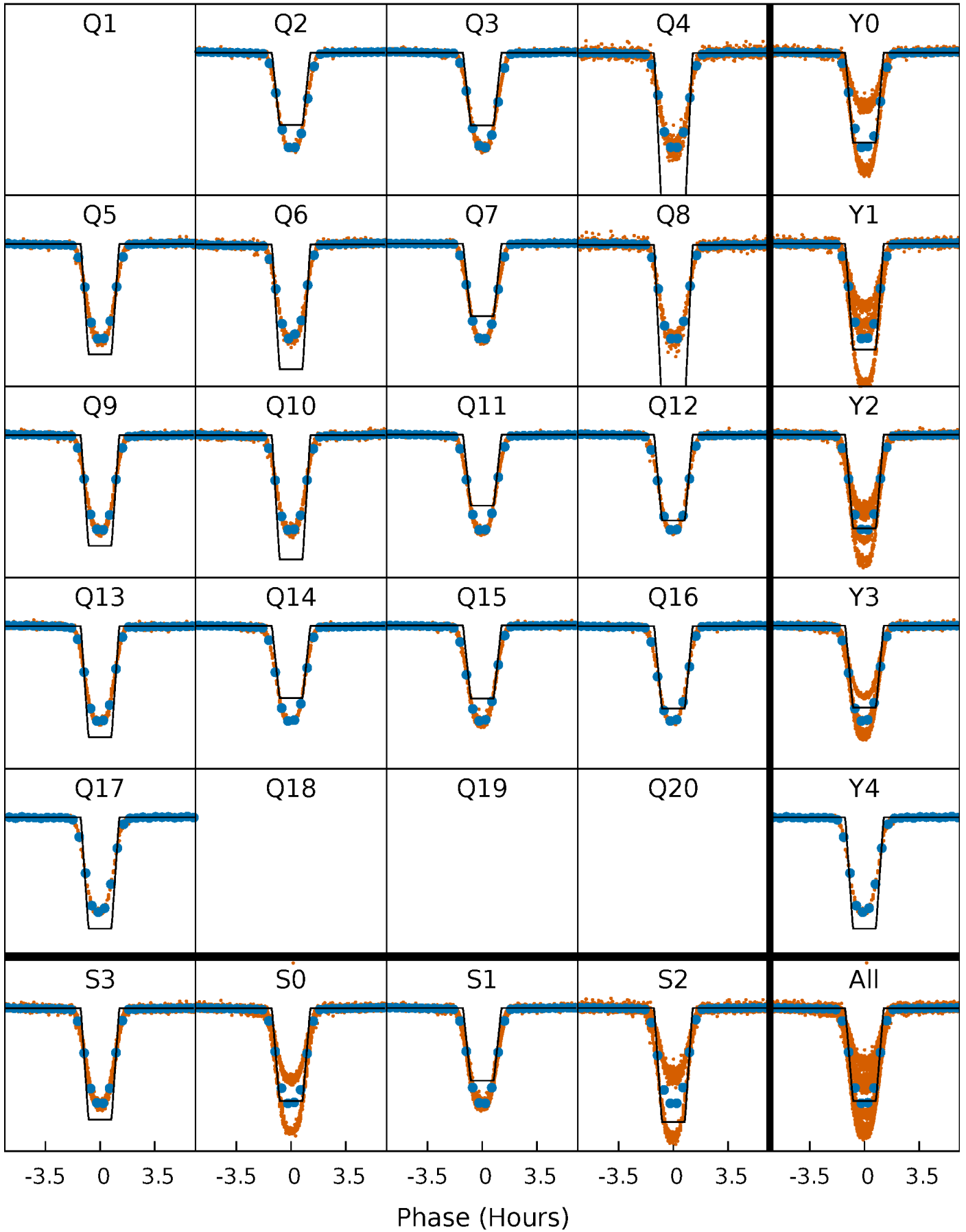
# DV Quarter-Phased Transit Curves

TCE 007117541-01 P= 1.585668 Days  $T_0=132.015055$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

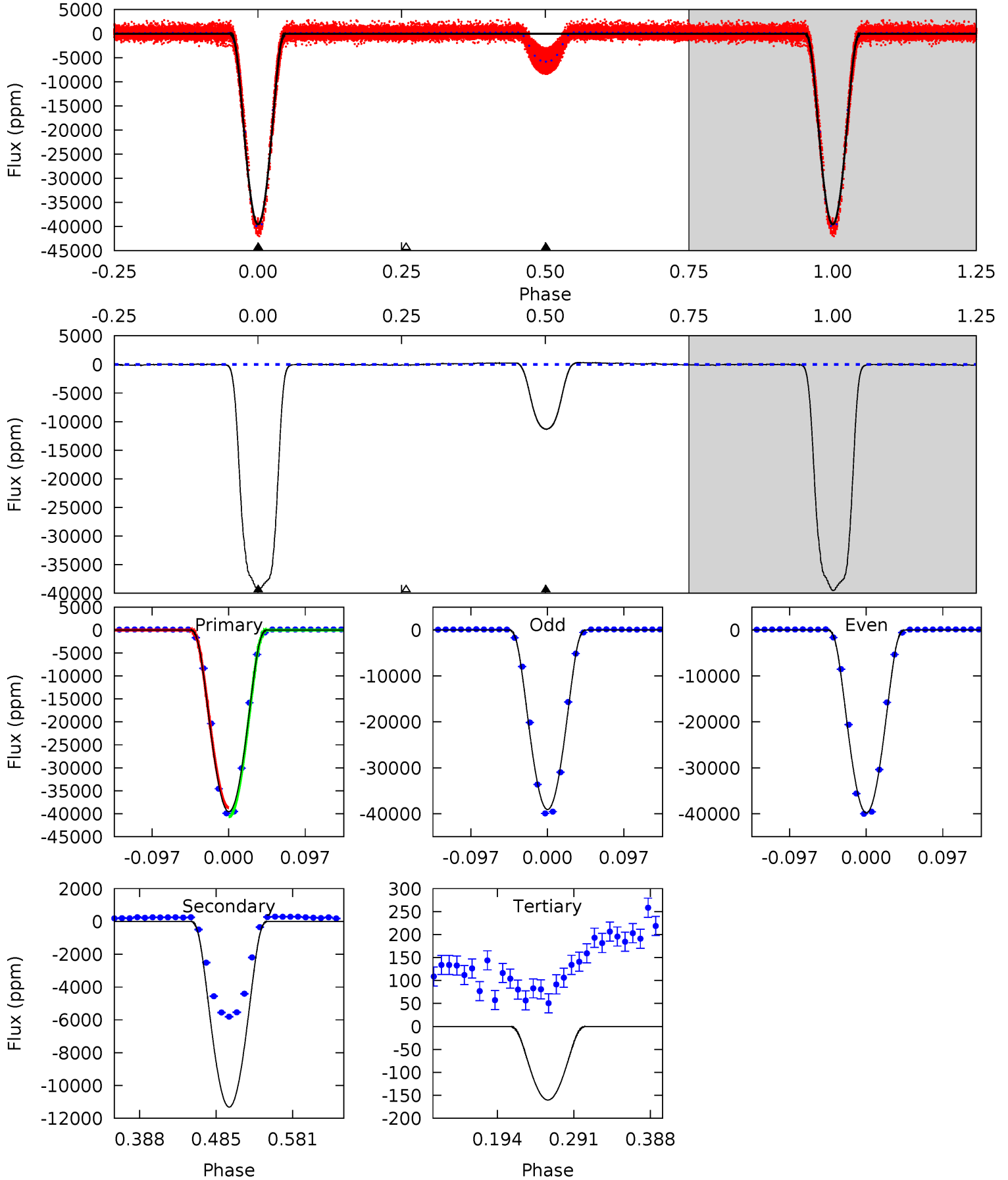
TCE 007117541-01 P= 1.585679 Days  $T_0=132.010200$  (BKJD)



# DV Model-Shift Uniqueness Test

007117541-01, P = 1.585668 Days, E = 132.015055 Days

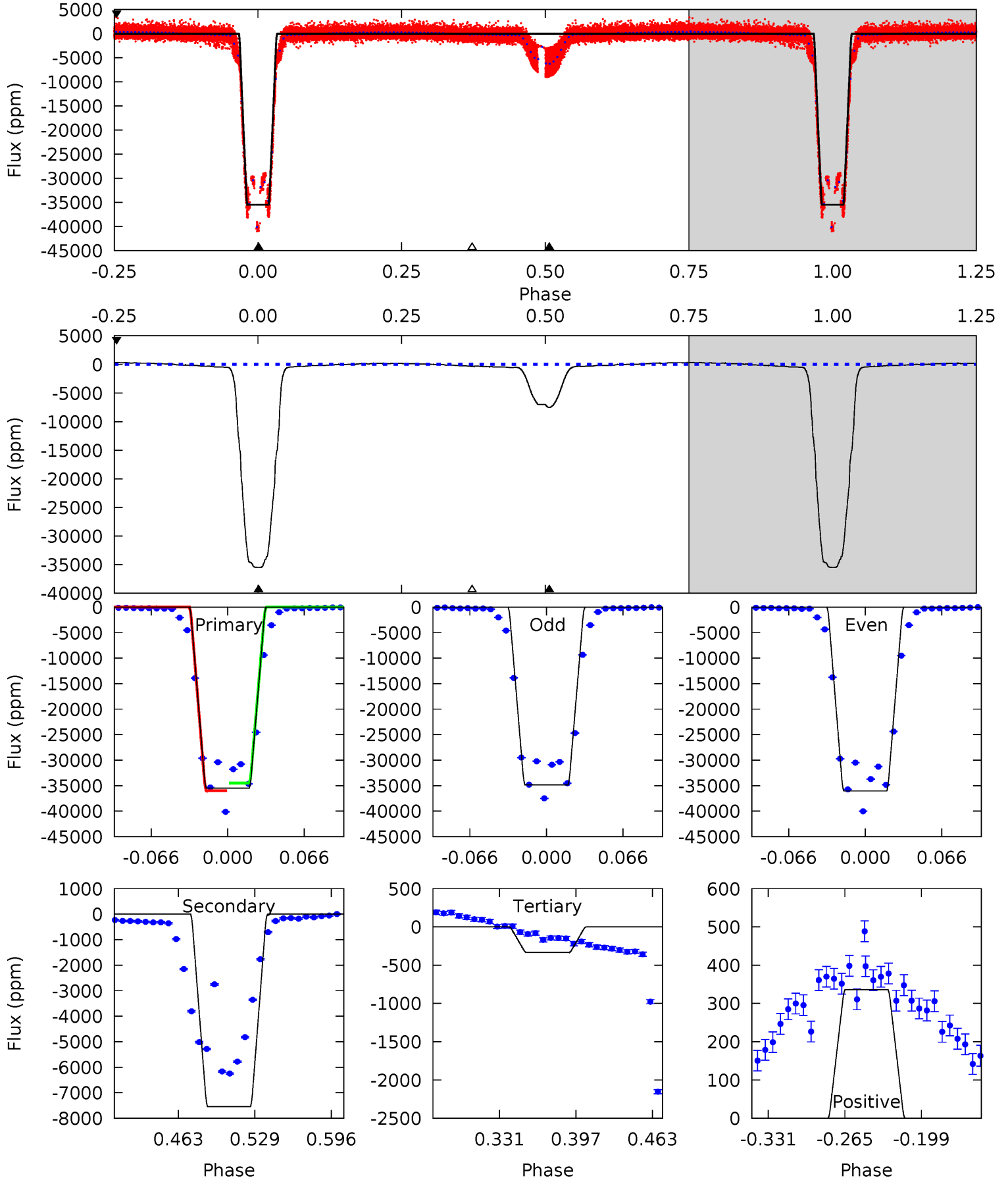
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3464	991.5	14.0	0	4.57	1.66	8.80	3450	3464	977.5	991.5	32.0	0.94	0.01	0



# Alt Model-Shift Uniqueness Test

007117541-01, P = 1.585679 Days, E = 132.010200 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
1796	381.8	16.9	17.0	4.65	1.84	11.4	1780	1779	364.8	364.8	29.7	0.95	0.01	0



### Stellar Parameters For KIC 007117541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6117^{+193}_{-236}$	$4.457^{+0.054}_{-0.202}$	$-0.020^{+0.250}_{-0.300}$	$1.025^{+0.302}_{-0.130}$	$1.095^{+0.135}_{-0.151}$	$1.433^{+0.393}_{-0.734}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+29%/-13%	+12%/-14%	+27%/-51%
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 007117541-01 / KOI 6830.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-11318 \pm 11$	$28.57^{+4.73}_{-2.52}$	$2354^{+184}_{-122}$	$4233^{+105}_{-120}$	$5.740^{+0.967}_{-1.363}$
Alt.	$-7540 \pm 20$	$21.86^{+3.50}_{-1.89}$	$2357^{+174}_{-130}$	$4324^{+115}_{-129}$	$6.467^{+1.035}_{-1.449}$

$T_{\text{max}}$  = 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

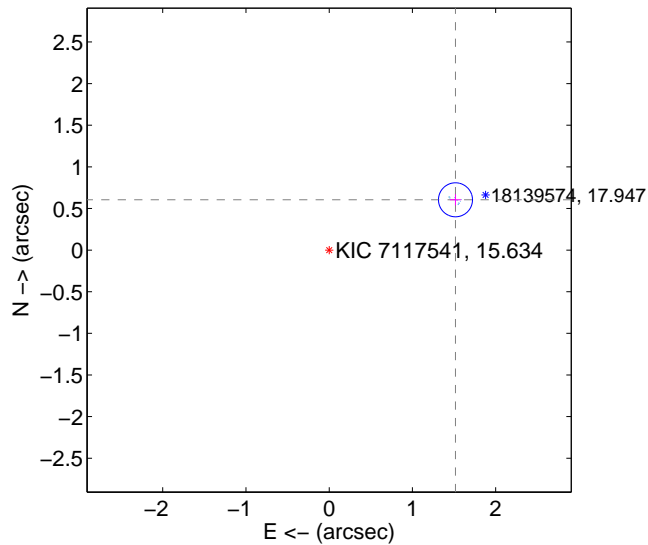
Supplemental centroid analysis for 007117541-01. Kepler magnitude: 15.63. Transit SNR 1032.70

There are 16 quarters with good PRF difference image offsets

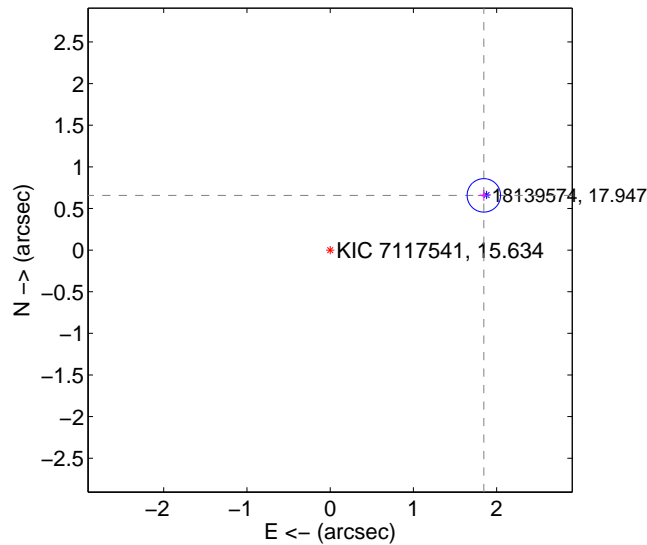
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.633 \pm 0.068$	<b>23.99</b>	$-1.517 \pm 0.068$	$0.604 \pm 0.067$
PRF-fit source offset from KIC position	$1.959 \pm 0.067$	<b>29.25</b>	$-1.846 \pm 0.067$	$0.657 \pm 0.067$
photometric centroid source offset	$2.41 \pm 0.00$	<b>509.73</b>	$-2.25 \pm 0.00$	$0.85 \pm 0.00$

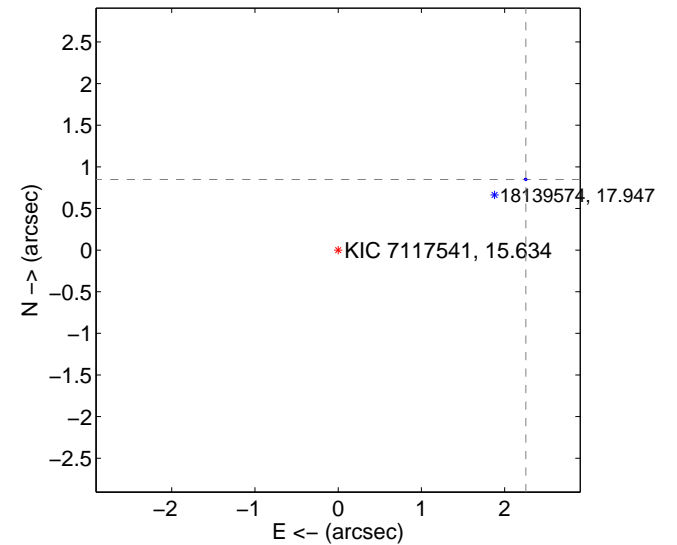
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

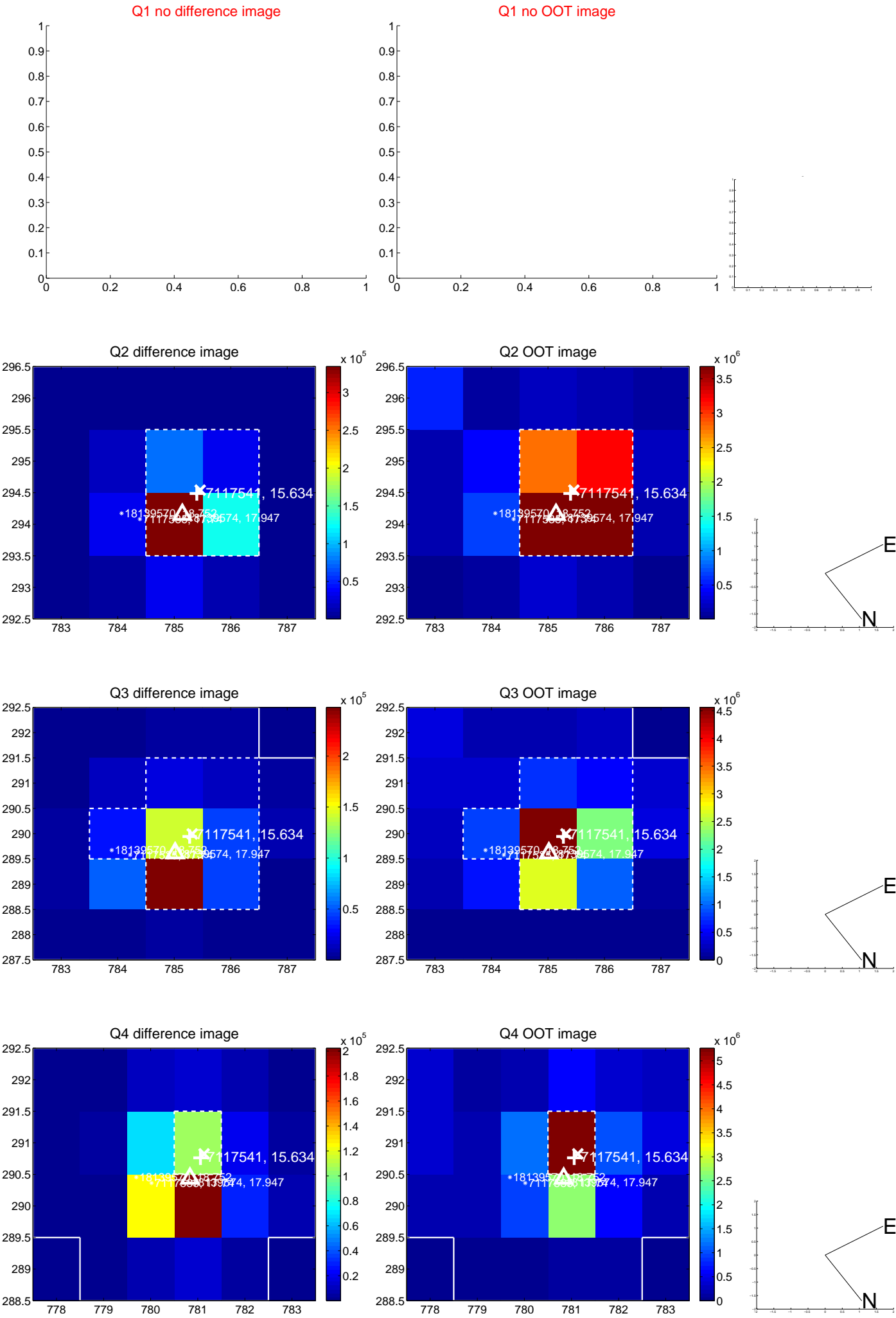


offset from photometric centroids



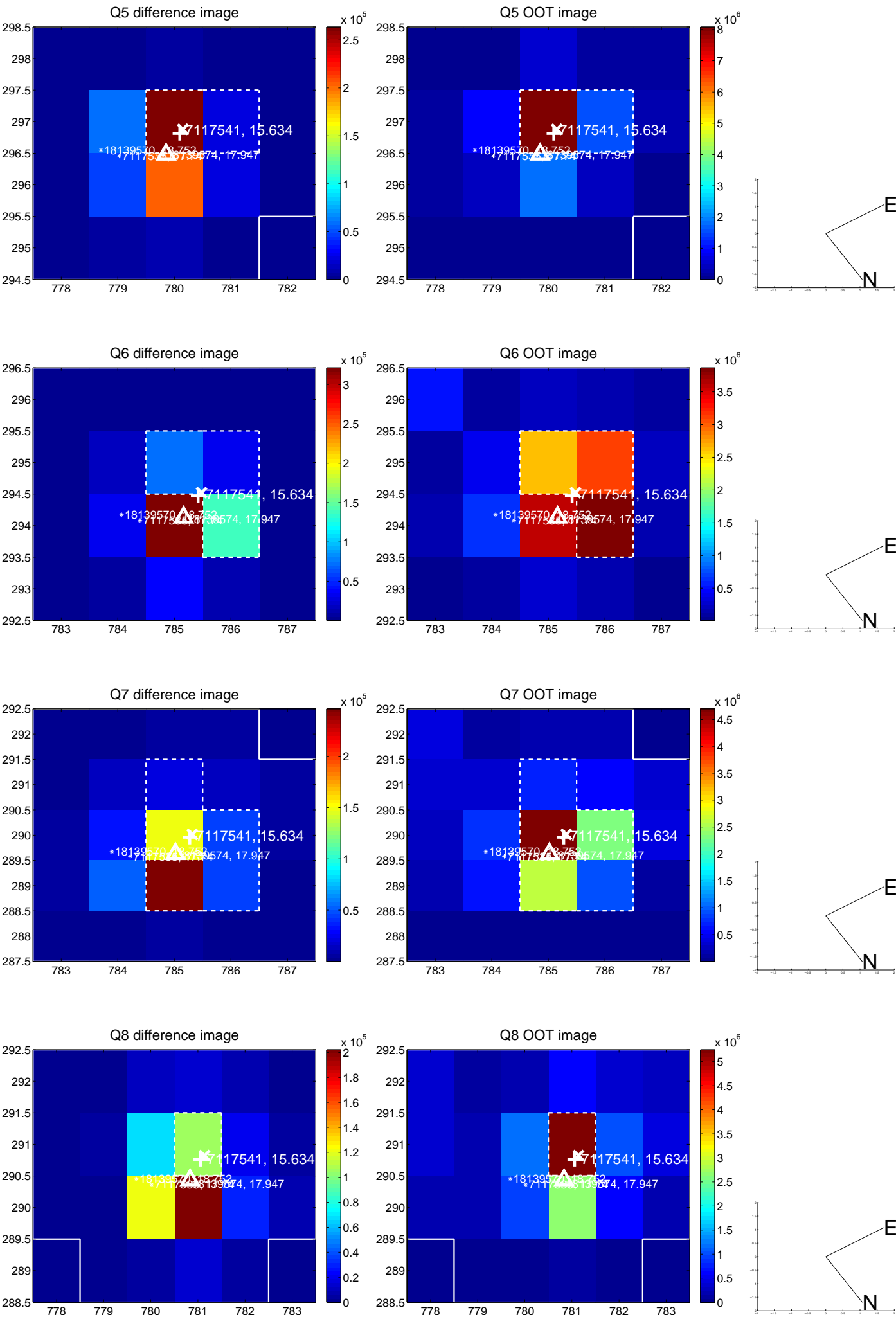
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

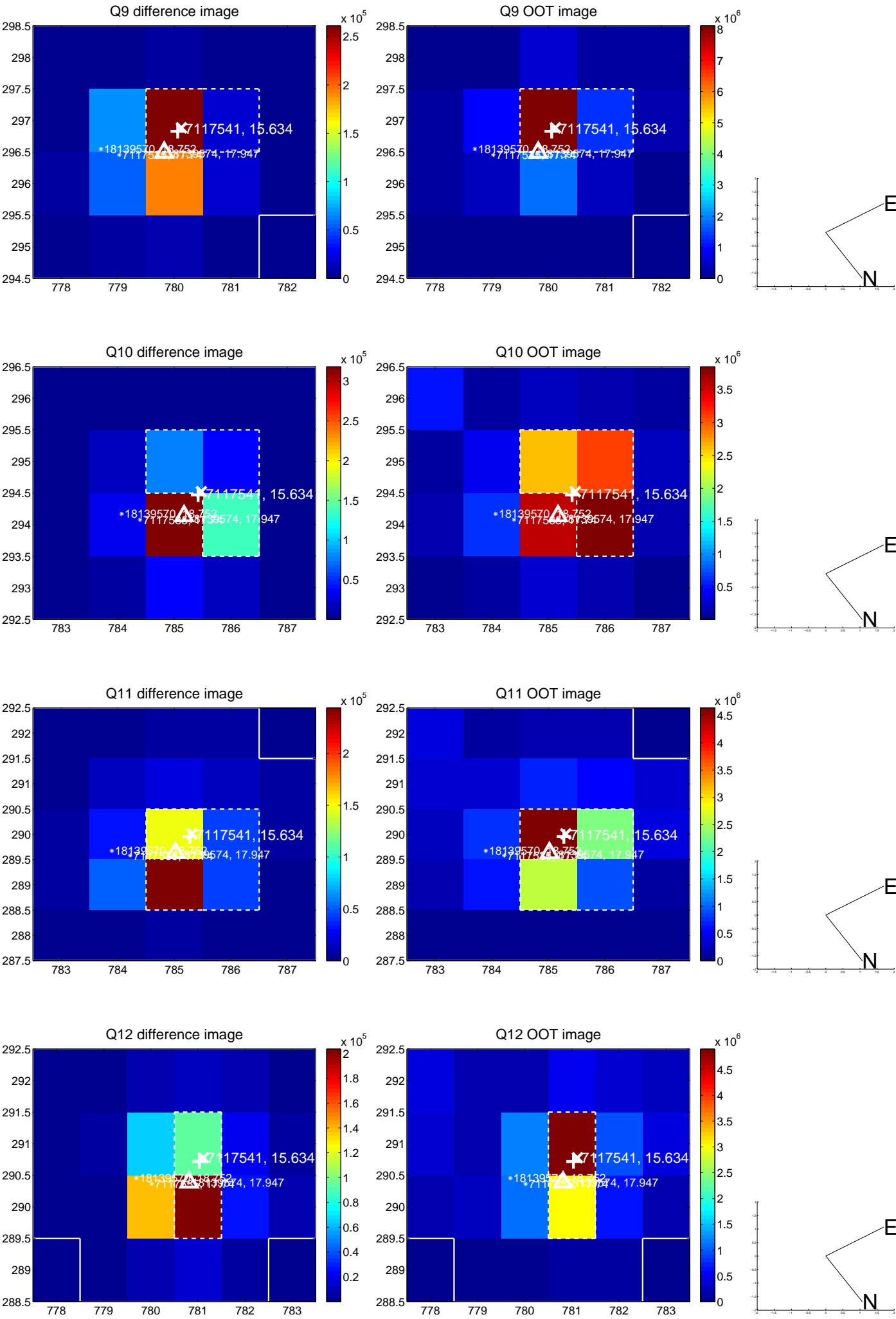




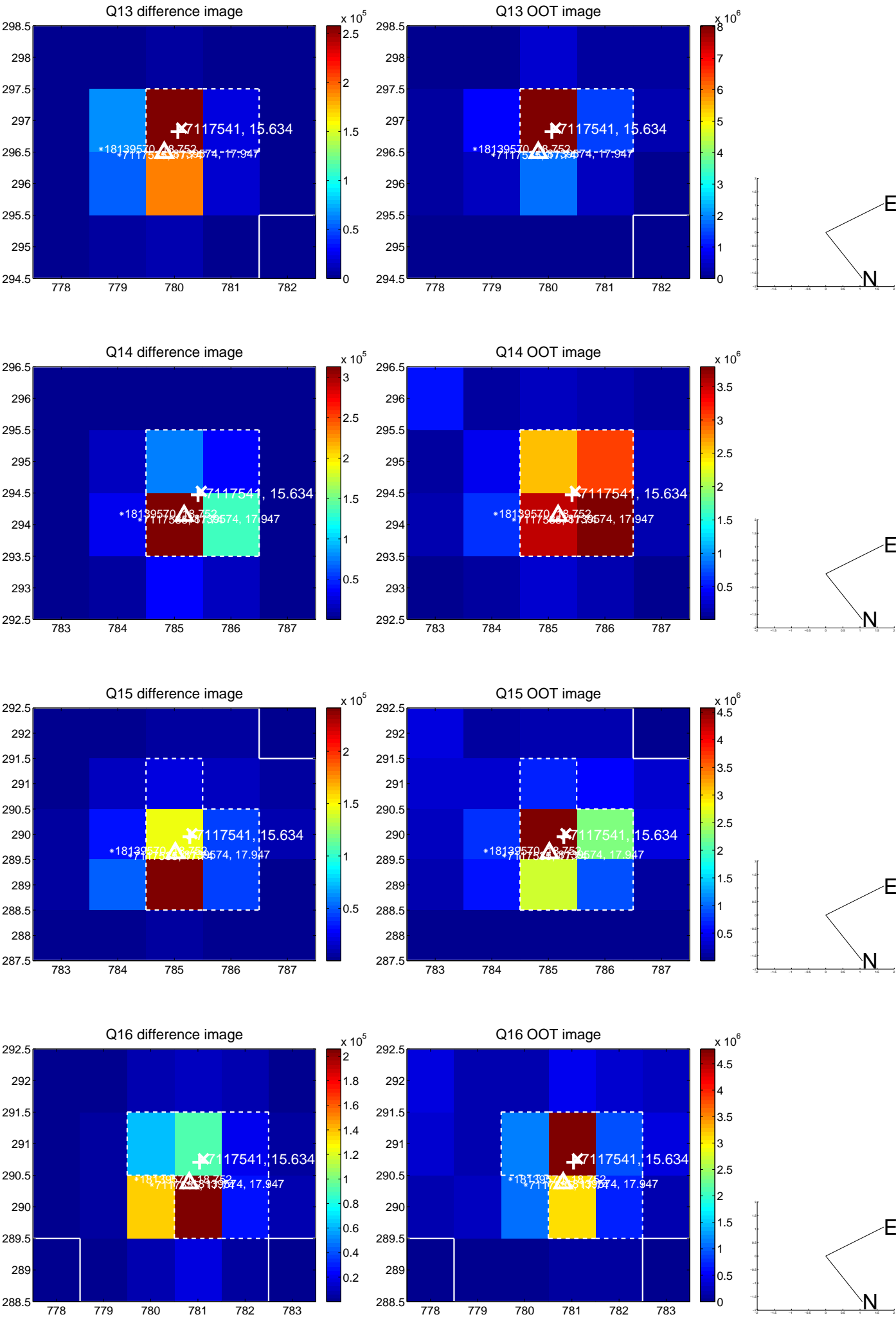
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



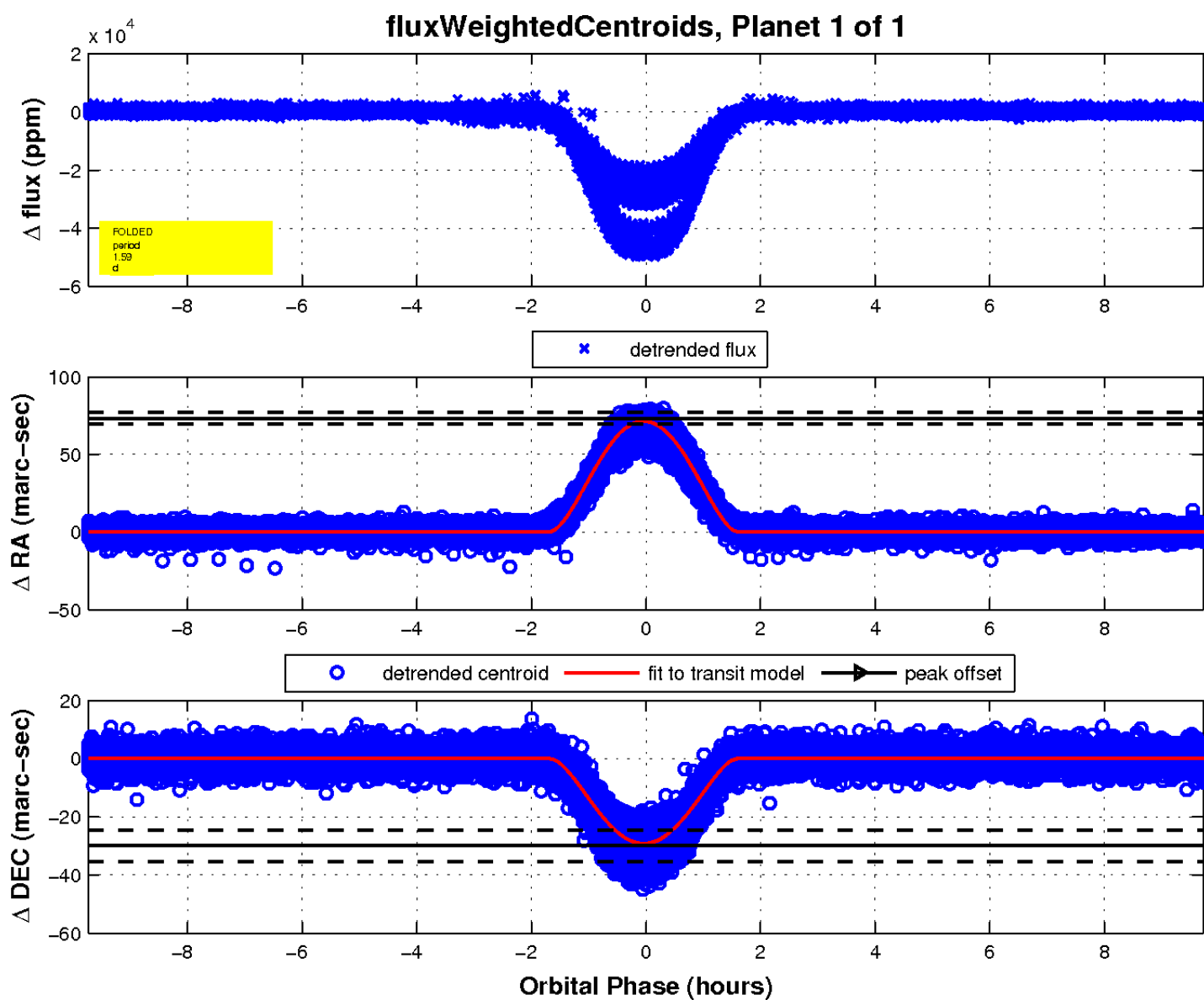
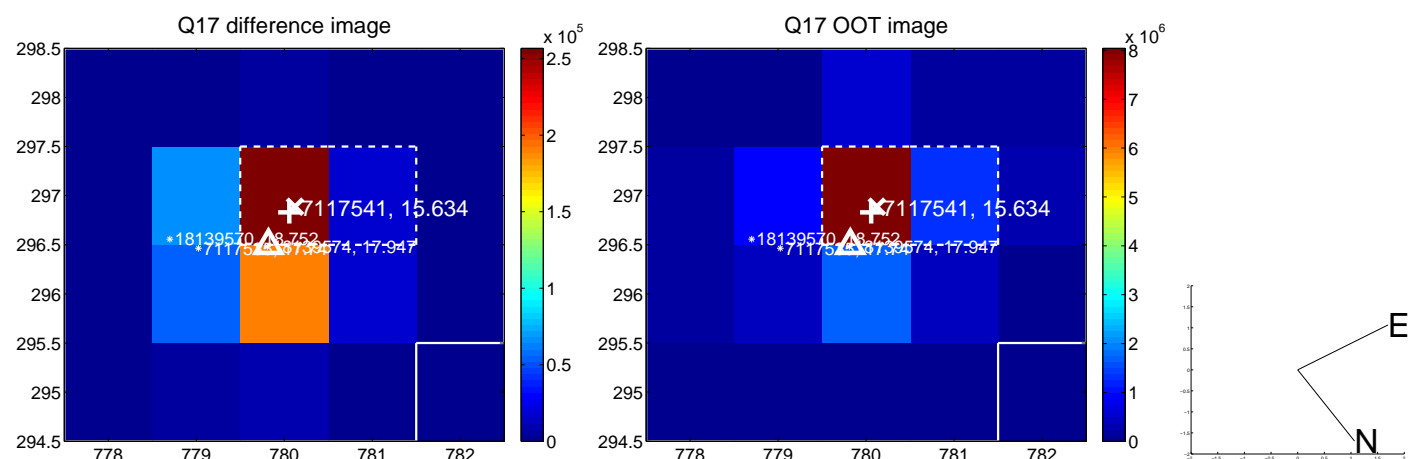
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

