

# KIC 007380537

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
007380537-01	OBS	0883.01	2.688897	132.458133	37653.9	2.168	1777.0	1632.3	0.64	4820	12.33	176.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007380537-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

**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.

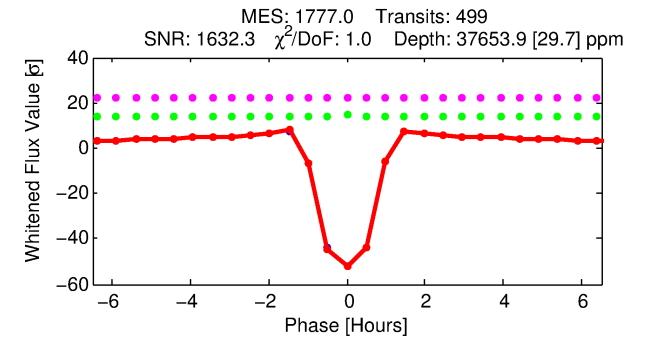
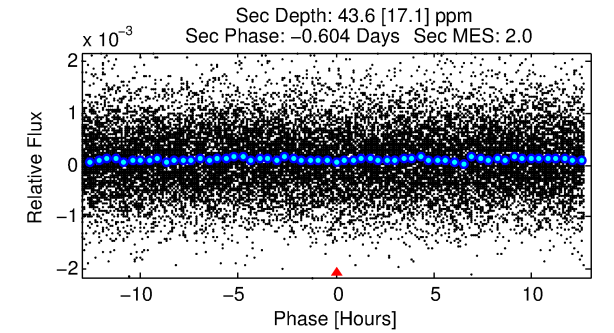
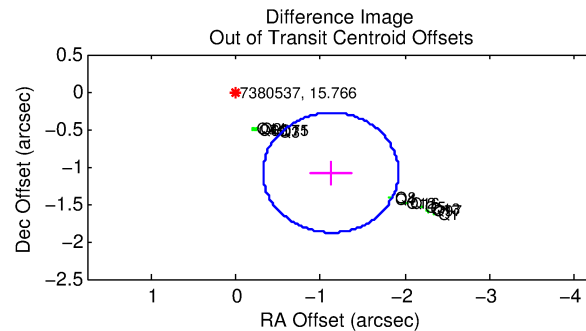
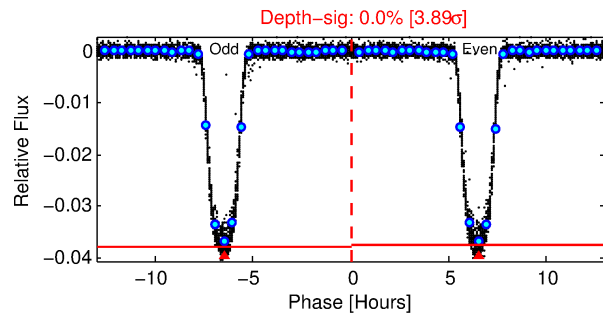
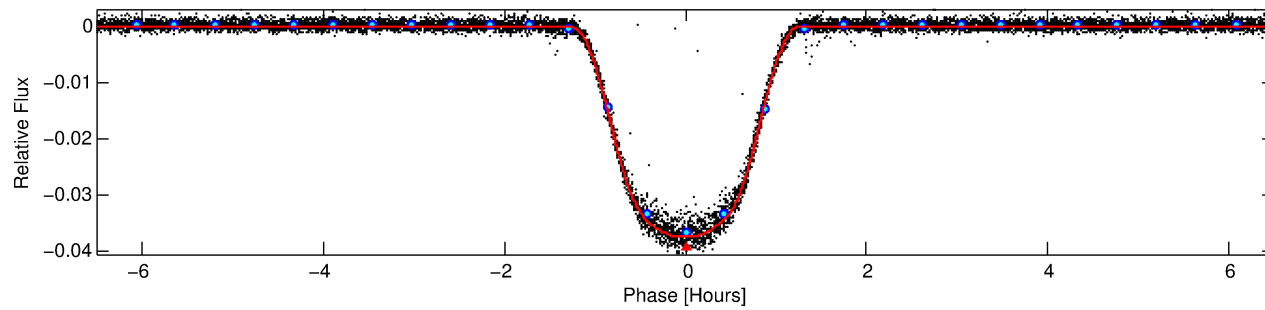
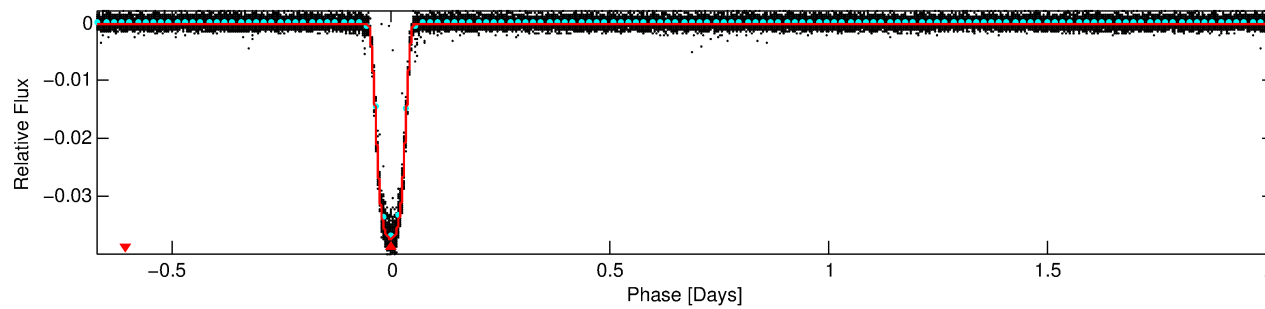
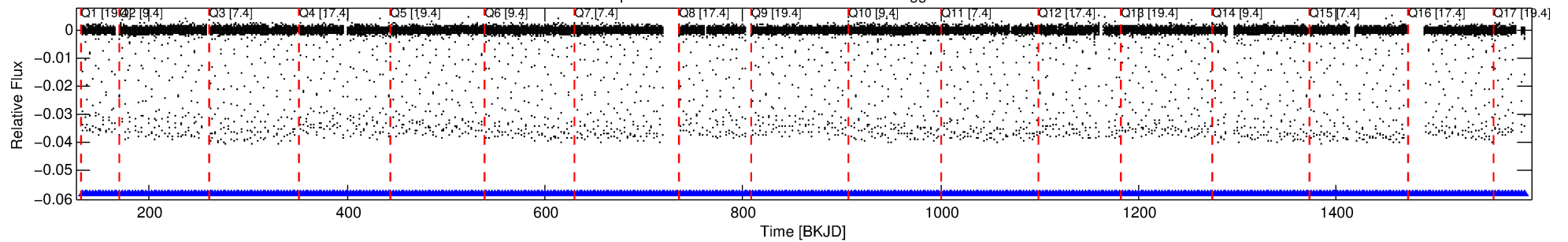
## Ephemeris Match Information For 007380537-01

No Significant Match Found

# DV One-Page Summary

KIC: 7380537 Candidate: 1 of 1 Period: 2.689 d  
KOI: K00883.01 Corr: 0.991

Kp: 15.77 R\*: 0.64 Rs Teff: 4820.0 K Logg: 4.67 Fe/H: -0.400



## DV Fit Results:

Period = 2.68890 [0.00000] d  
Epoch = 132.4581 [0.0000] BKJD  
Rp/R\* = 0.1768 [0.0004]  
a/R\* = 10.59 [0.07]  
b = 0.38 [0.01]  
Seff = 176.19 [30.15]  
Teff = 929 [40] K  
Rp = 12.33 [1.39] Re  
a = 0.0335 [0.0030] AU  
Ag = 0.18 [0.07] [-11.34σ]  
Teffp = 931 [95] K [0.02σ]

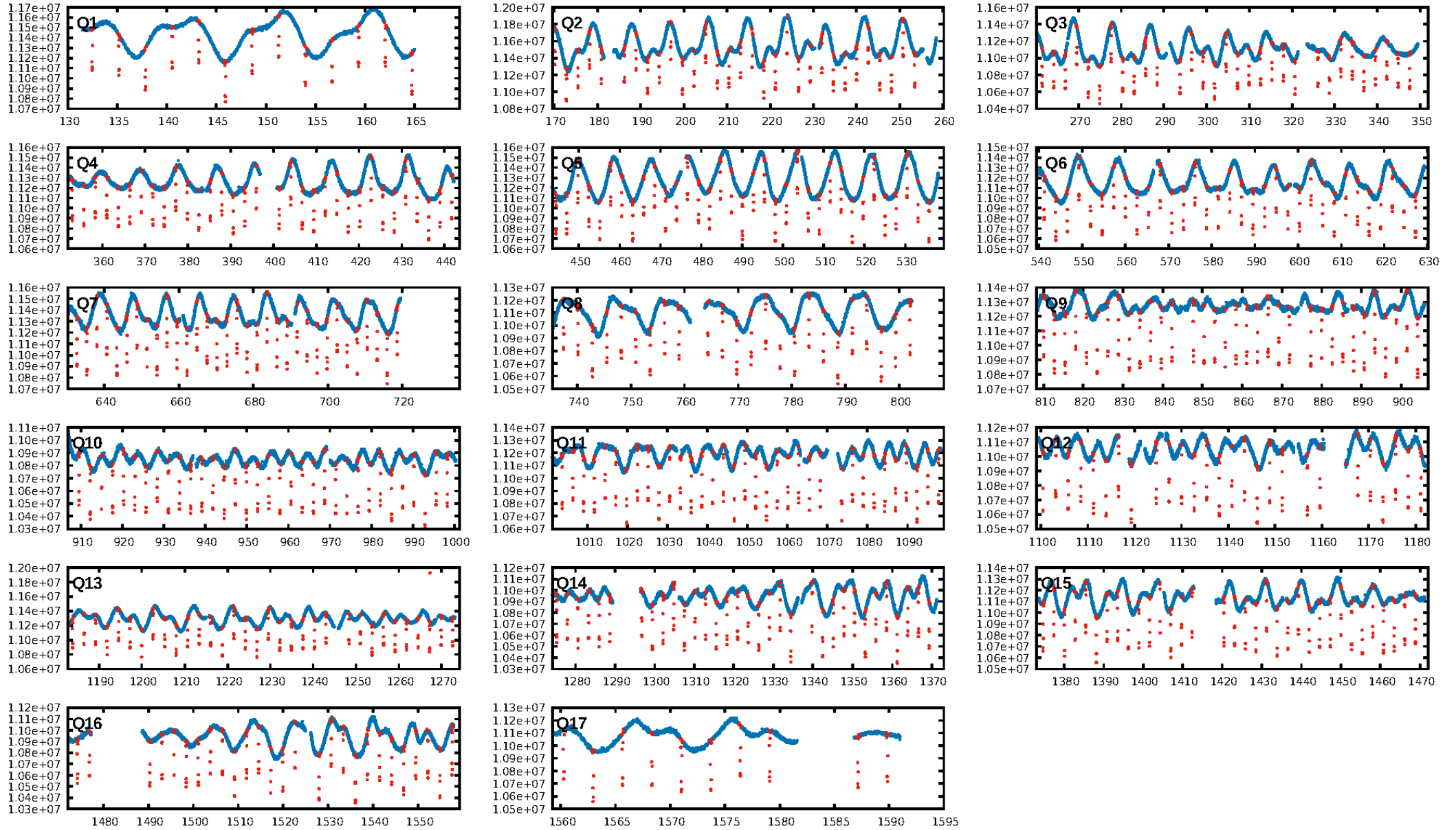
## DV Diagnostic Results:

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 [476/476]  
GhostDiagnostic-chr: 2.957  
Centroid-sig: 0.0%  
Centroid-so: 0.726 arcsec [141.24σ]  
OotOffset-rm: 1.560 arcsec [5.86σ]  
KicOffset-rm: 0.151 arcsec [2.21σ]  
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]

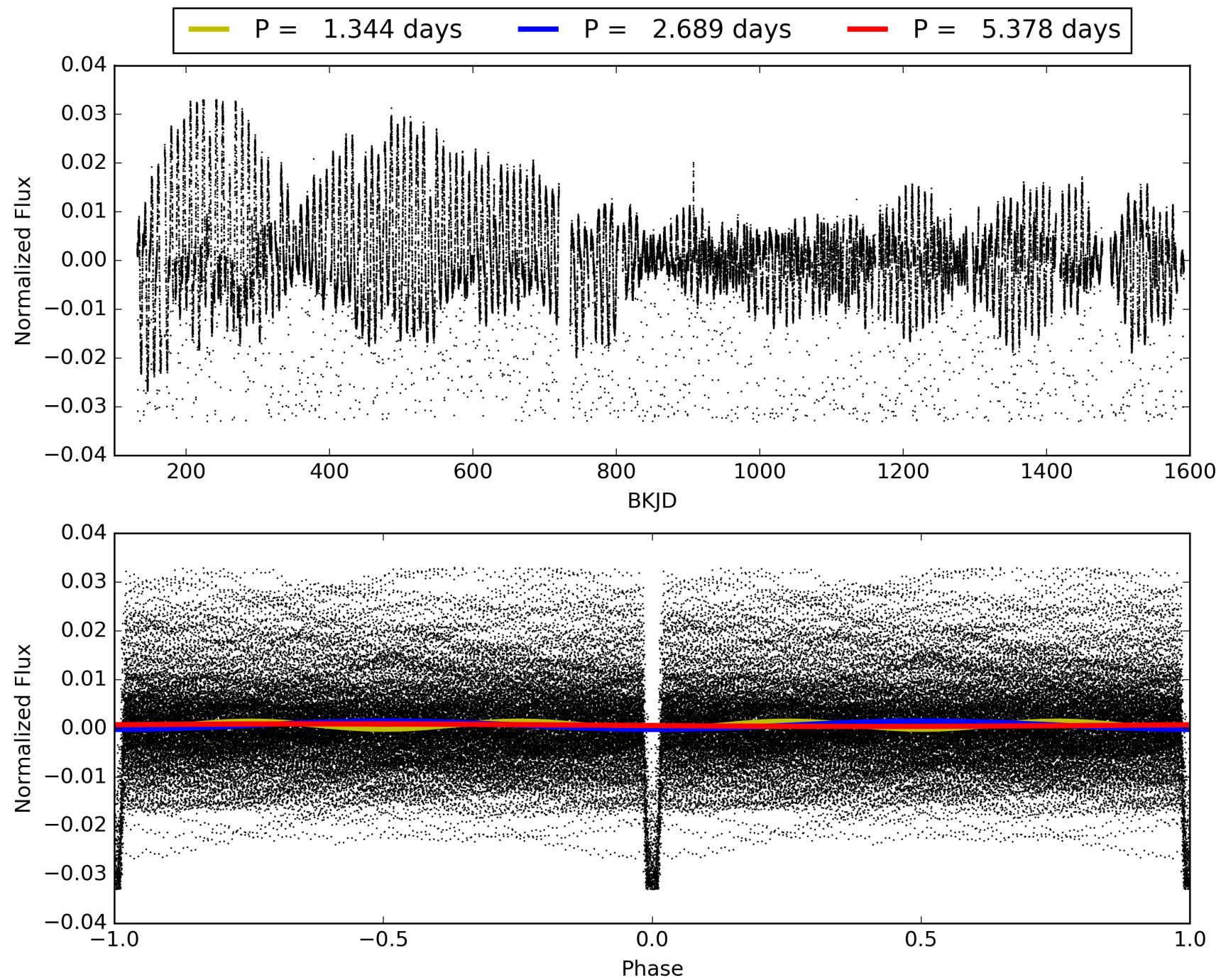
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:26:00 Z

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

# TCE 007380537-01, PDC Light Curves

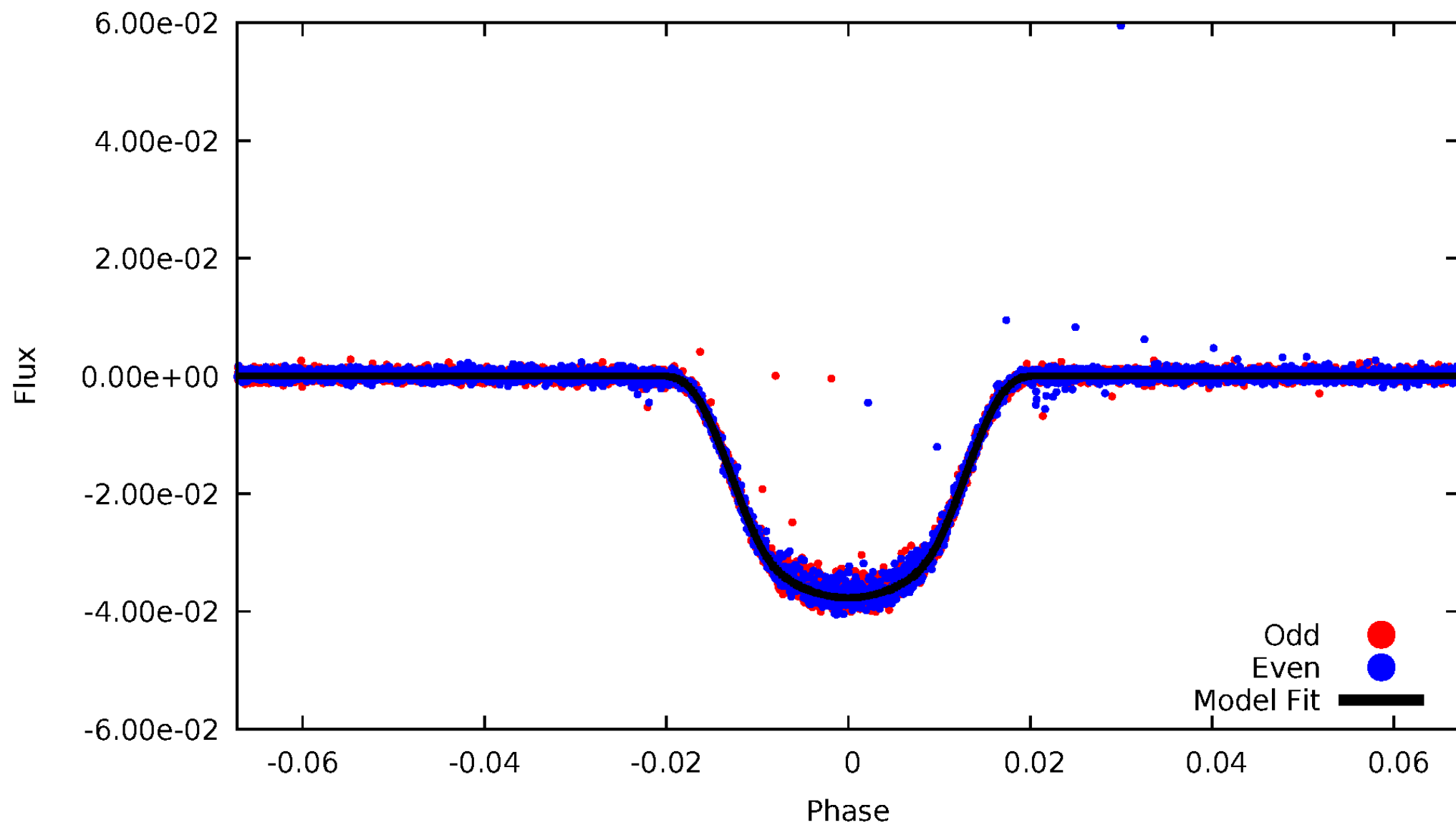


TCE 007380537-01



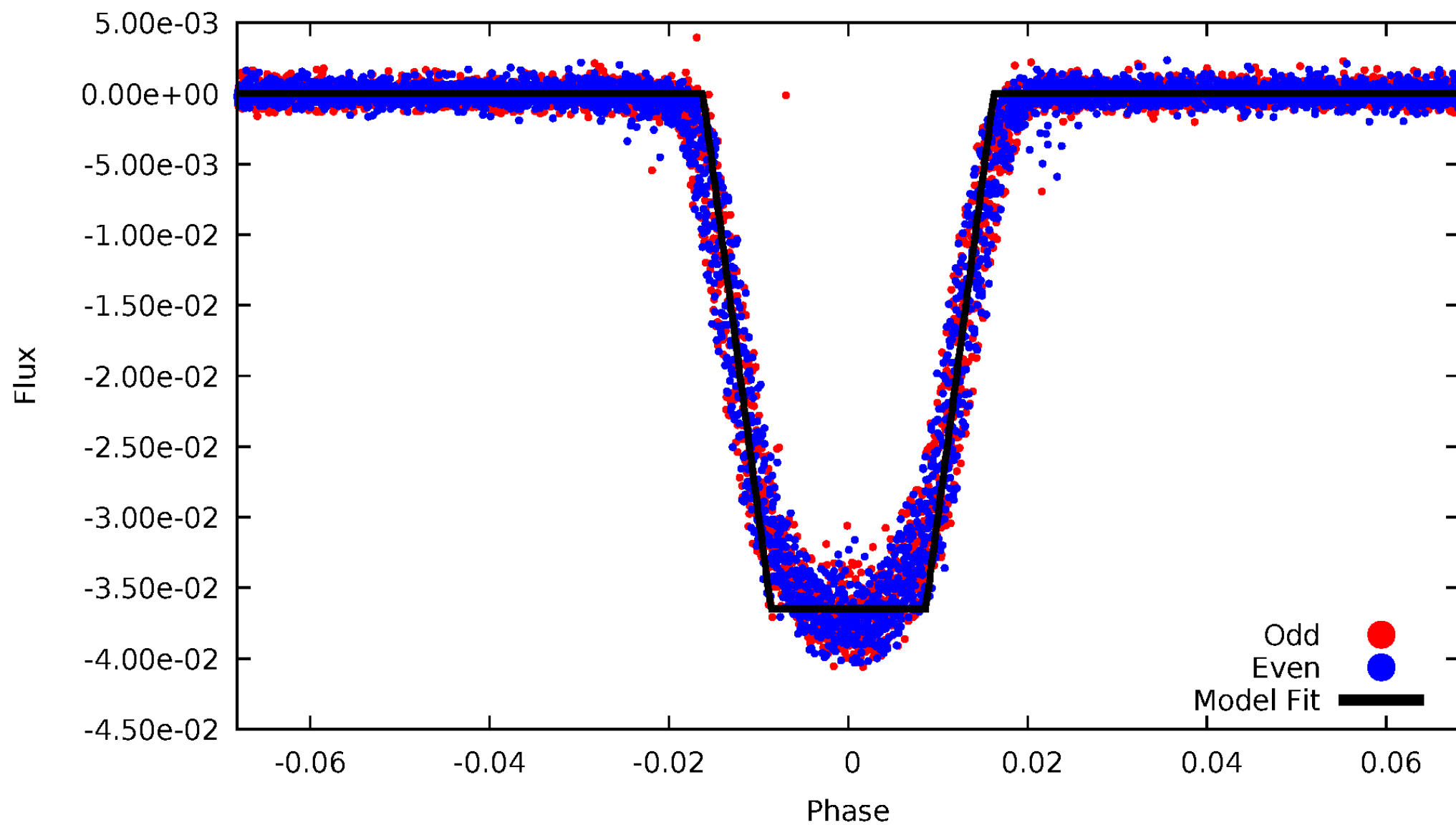
# DV Odd/Even

TCE 007380537-01



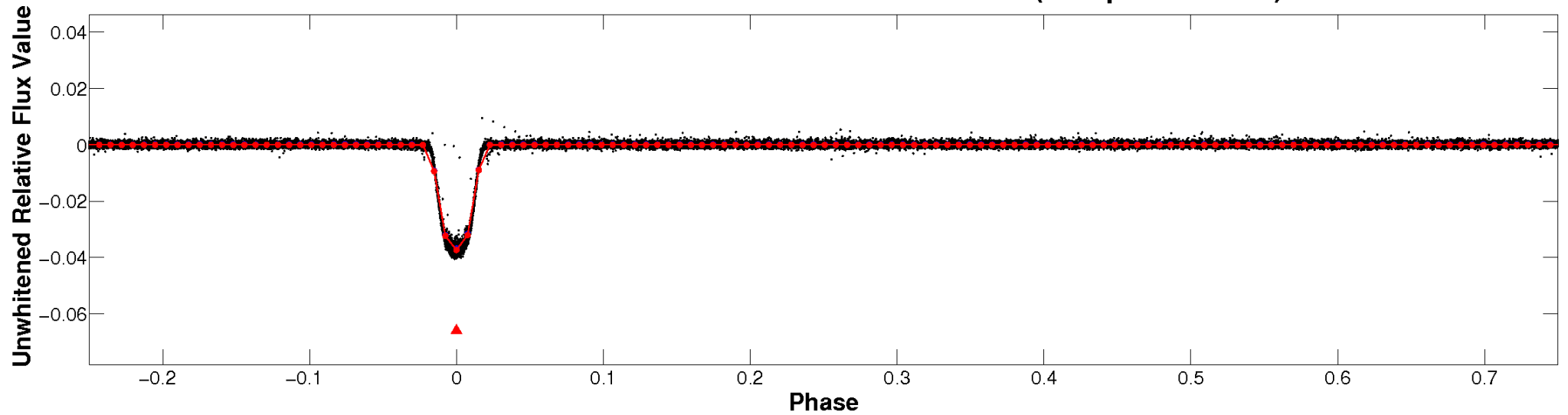
# ALT Odd/Even

TCE 007380537-01

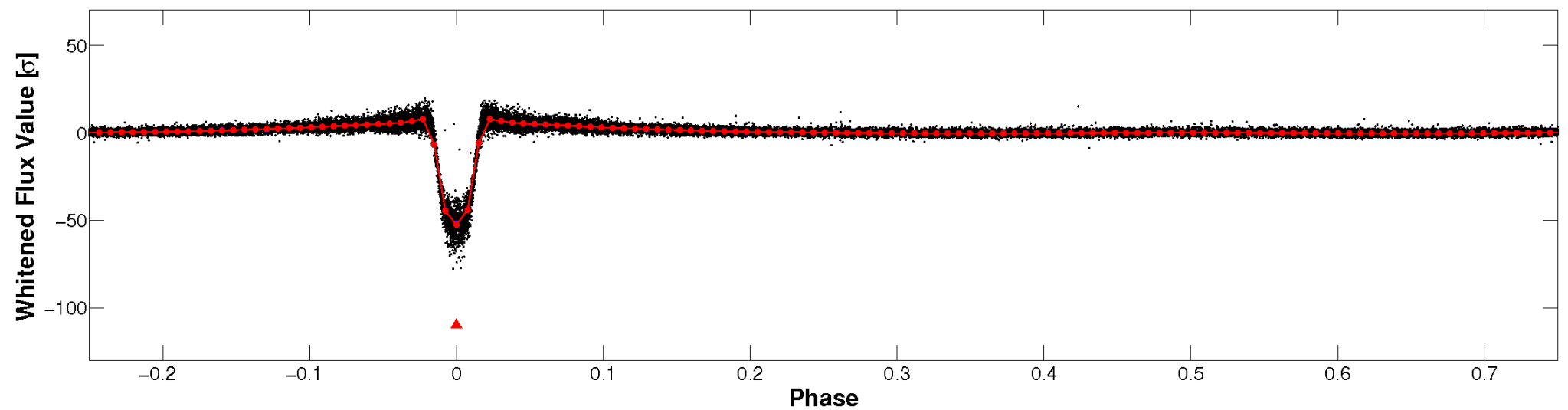


# Non-Whitened Vs. Whitened Light Curve

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



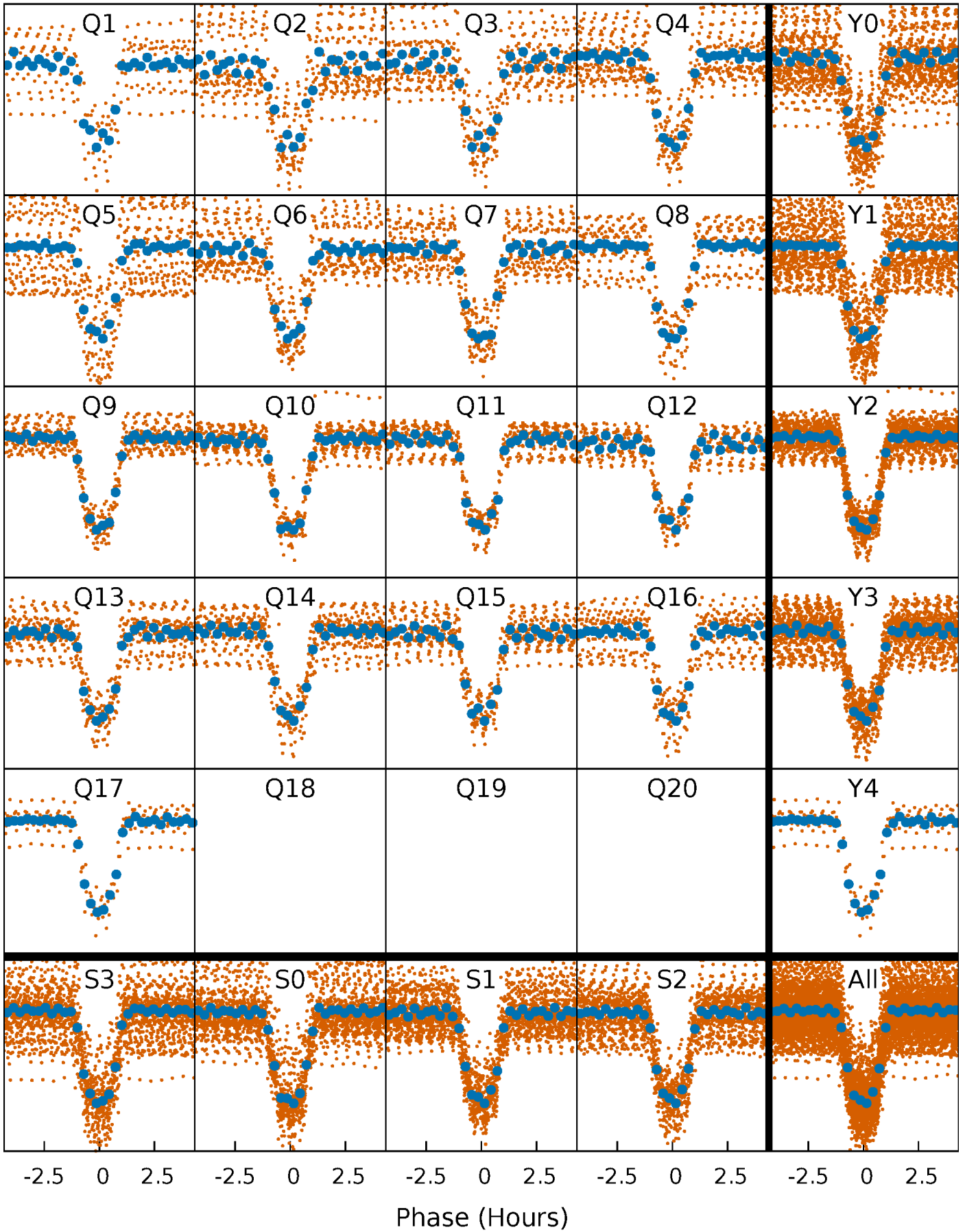
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

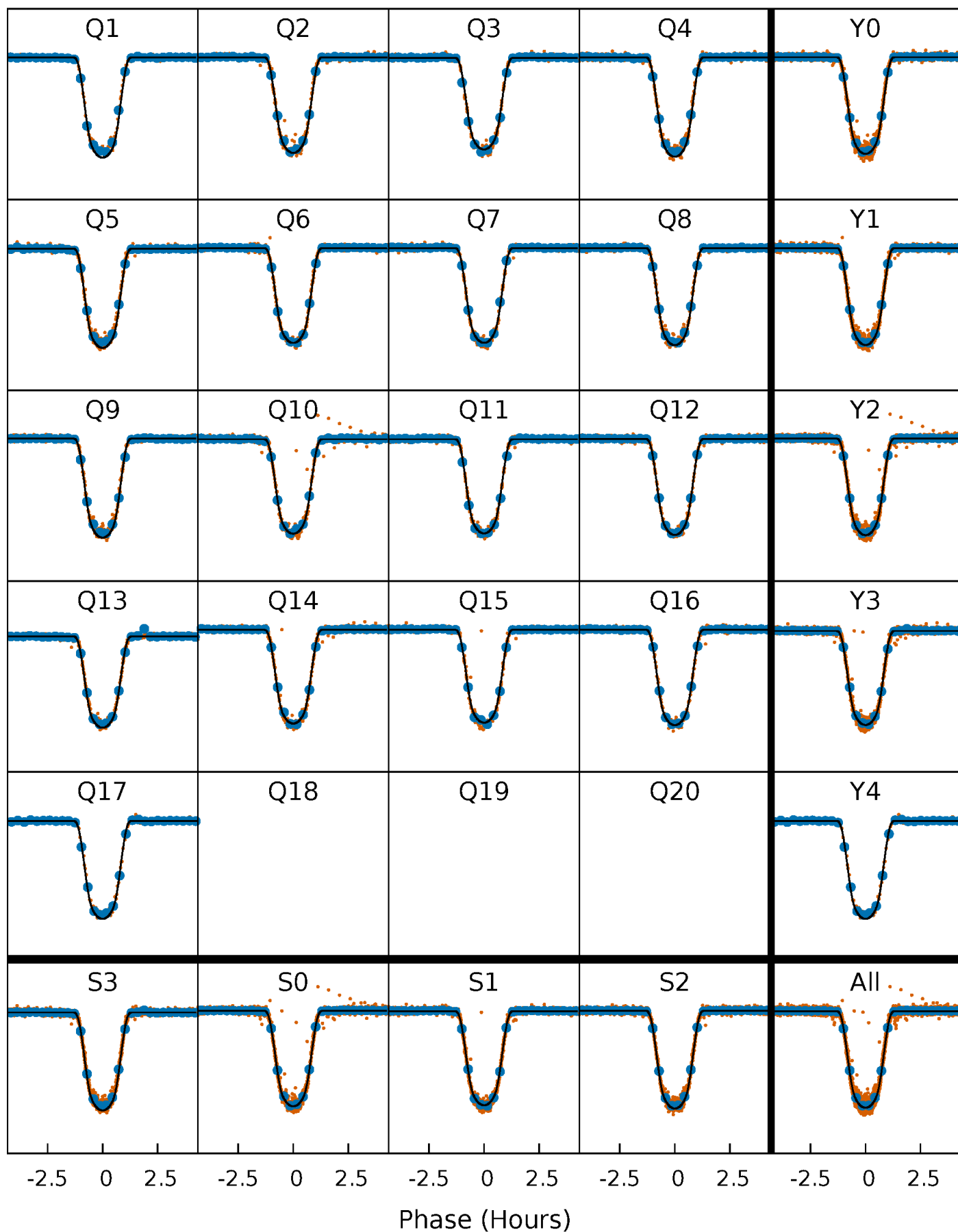
TCE 007380537-01   P= 2.688897 Days    $T_0=132.458133$  (BKJD)





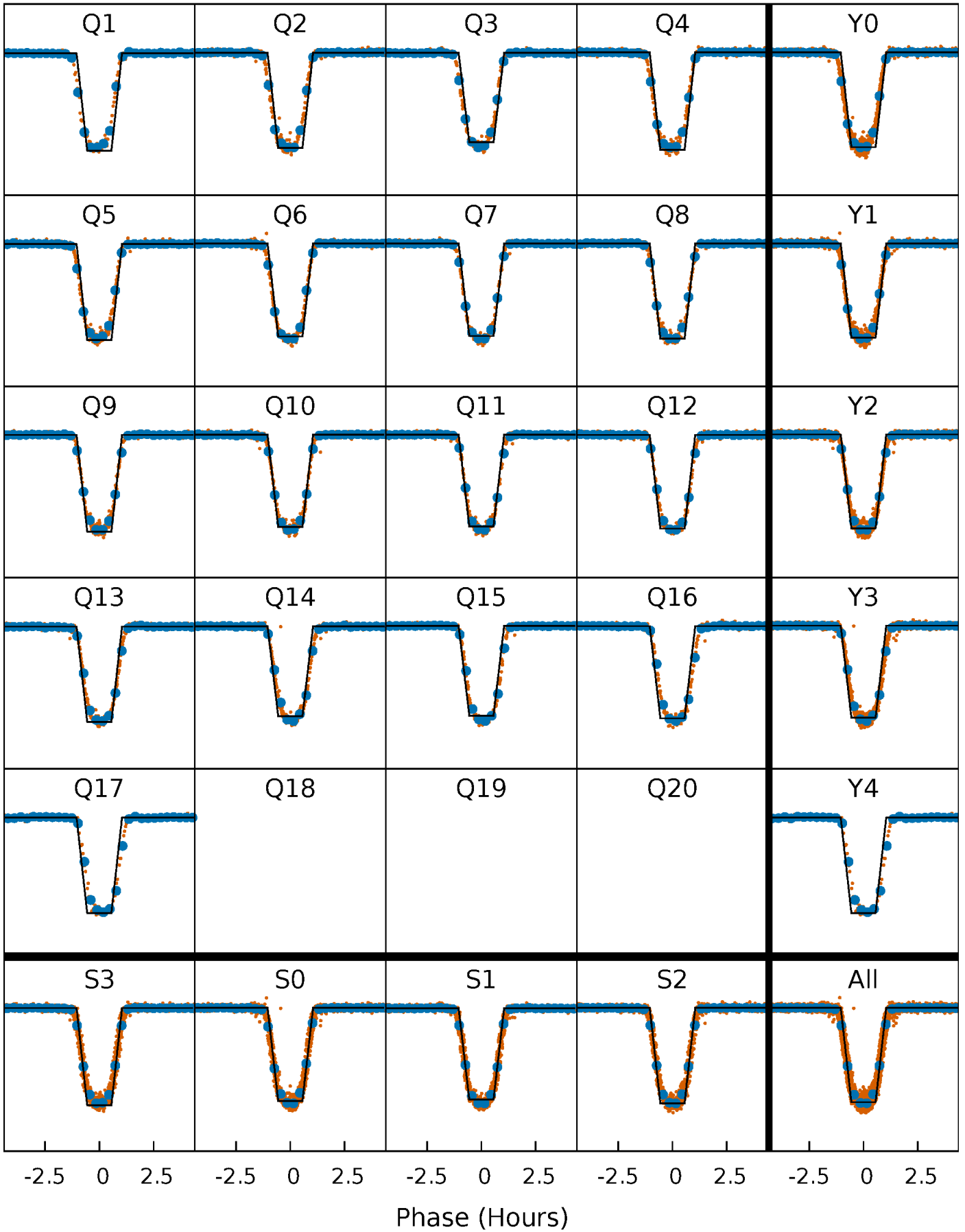
# DV Quarter-Phased Transit Curves

TCE 007380537-01 P= 2.688897 Days  $T_0=132.458133$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

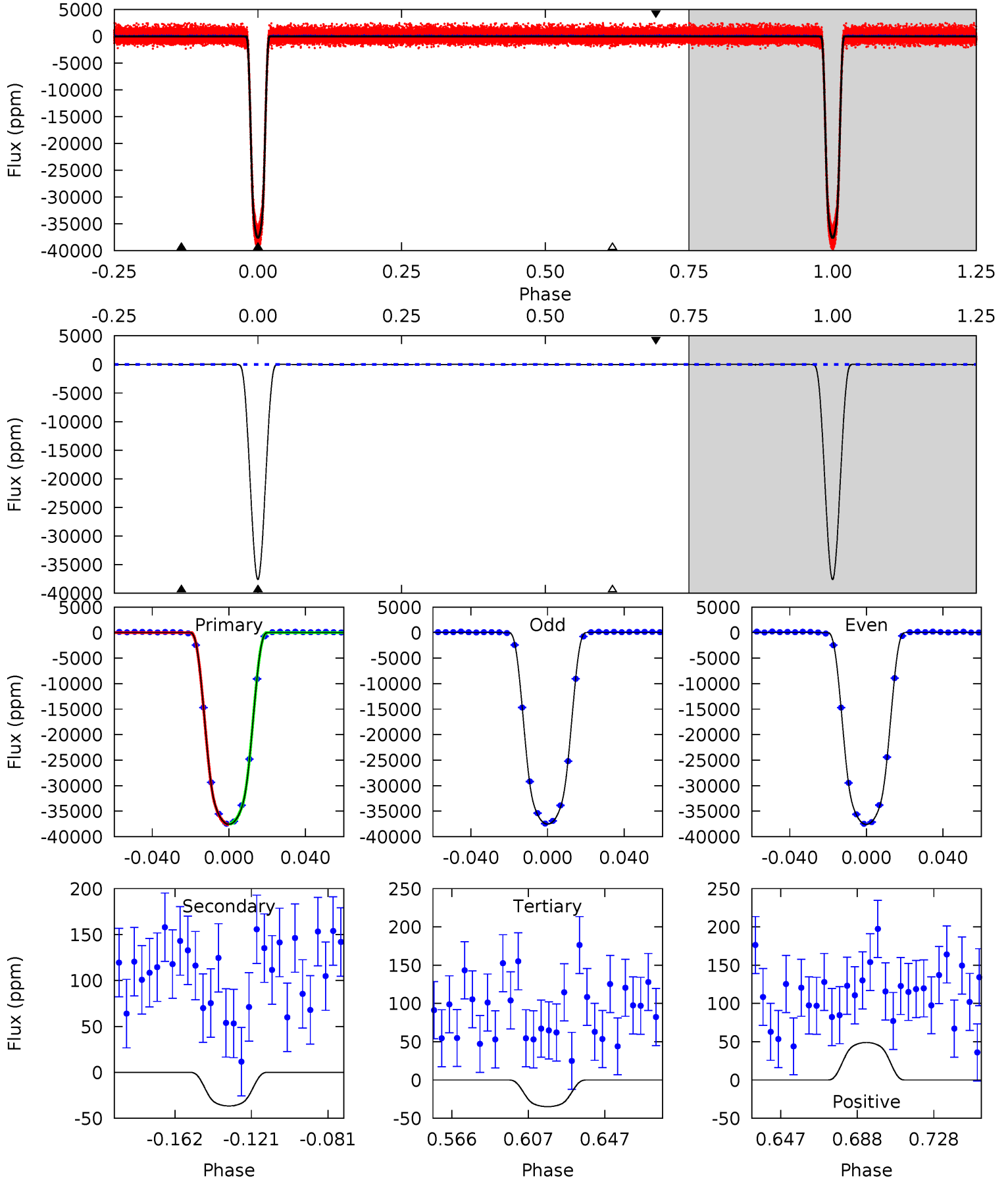
TCE 007380537-01   P= 2.688880 Days    $T_0=132.462756$  (BKJD)



# DV Model-Shift Uniqueness Test

007380537-01, P = 2.688897 Days, E = 129.769236 Days

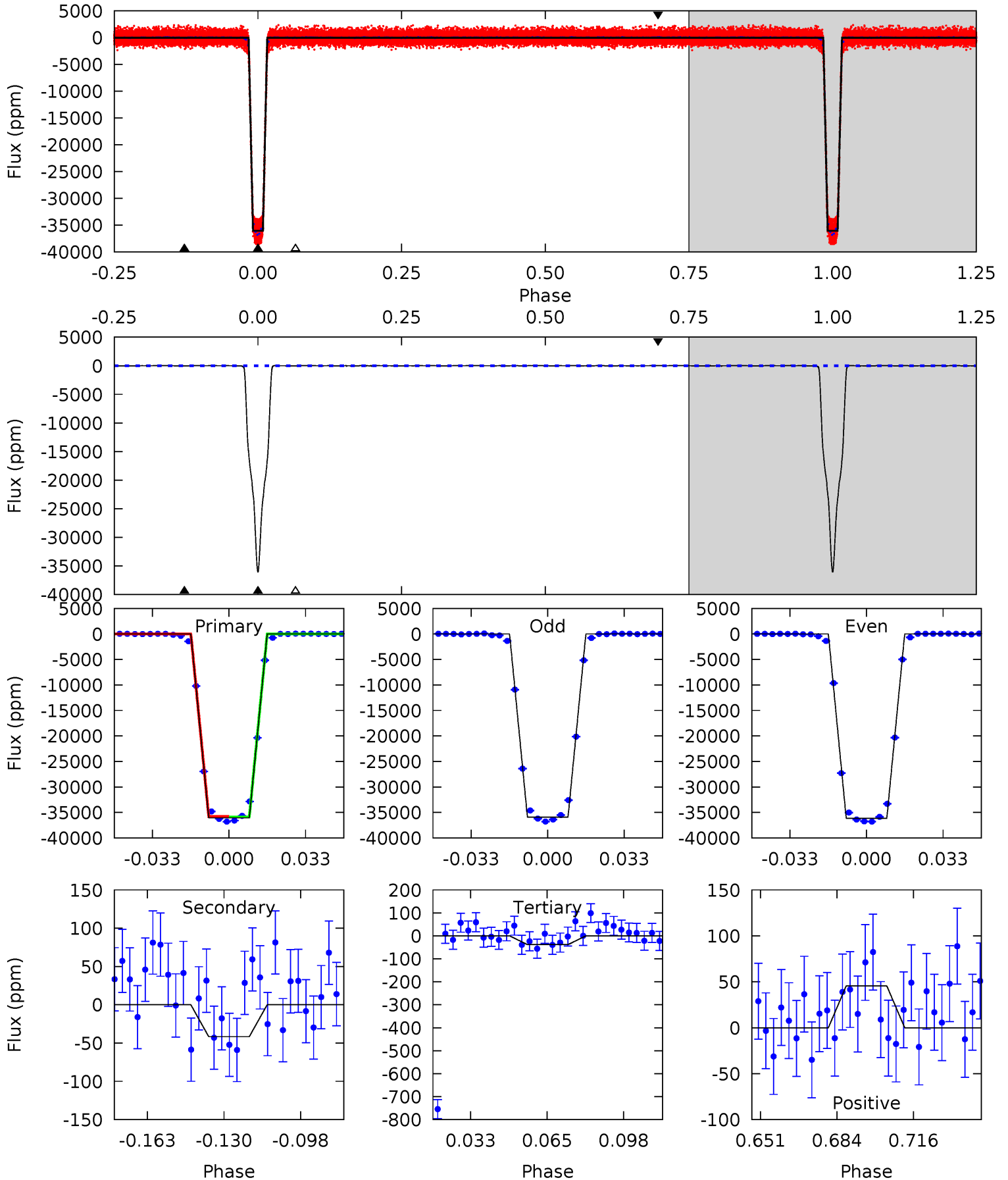
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3084	3.00	2.86	4.02	4.75	2.05	1.38	3081	3080	0.15	-1.02	2.29	0.99	0.00	4.27



# Alt Model-Shift Uniqueness Test

007380537-01, P = 2.688880 Days, E = 129.773876 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
2178	2.52	2.30	2.75	4.79	2.14	1.03	2176	2176	0.22	-0.24	7.02	1.00	0.00	2.08



### Stellar Parameters For KIC 007380537

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4820^{+130}_{-144}$	$4.667^{+0.027}_{-0.063}$	$-0.400^{+0.350}_{-0.300}$	$0.639^{+0.072}_{-0.042}$	$0.699^{+0.059}_{-0.072}$	$3.773^{+0.551}_{-0.842}$
	+3%/-3%	+1%/-1%	+87%/-75%	+11%/-7%	+8%/-10%	+15%/-22%
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 007380537-01 / KOI 0883.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-37 \pm 12$	$12.48^{+0.73}_{-0.54}$	$1308^{+47}_{-44}$	$-1914^{+74}_{-61}$	$0.141^{+0.049}_{-0.050}$
Alt.	$-42 \pm 17$	$13.49^{+0.81}_{-0.64}$	$1308^{+47}_{-46}$	$-1912^{+79}_{-74}$	$0.140^{+0.054}_{-0.058}$

$T_{max}$  = 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

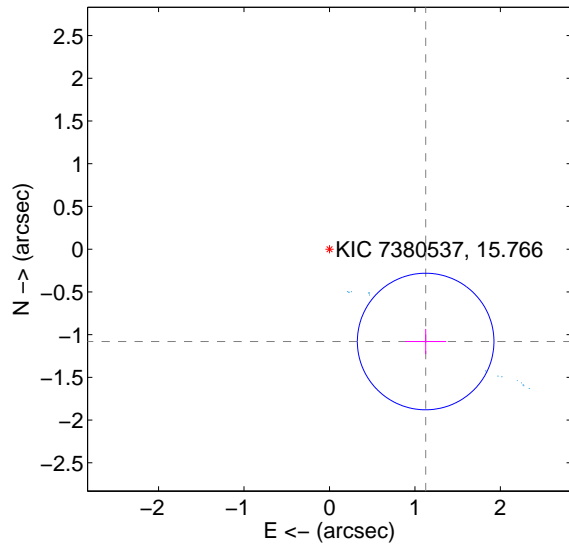
Supplemental centroid analysis for 007380537-01. Kepler magnitude: 15.77. Transit SNR 1632.34

There are 17 quarters with good PRF difference image offsets

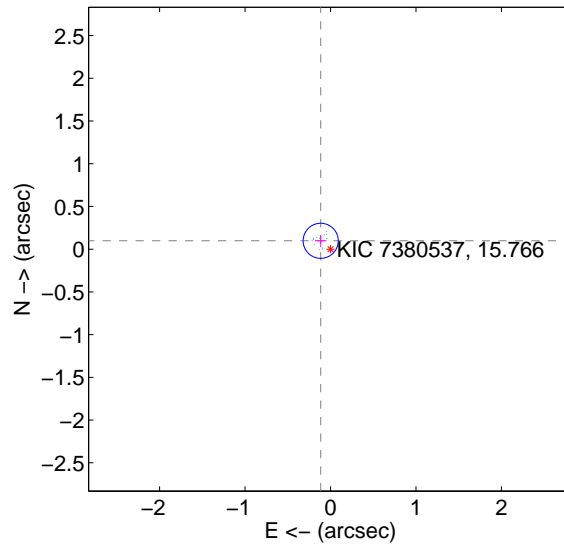
The OOT PRF centroid is offset from the target star catalog position by about 2.92 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.560 \pm 0.266$	5.86	$-1.126 \pm 0.241$	$-1.081 \pm 0.148$
PRF-fit source offset from KIC position	$0.151 \pm 0.068$	2.21	$0.115 \pm 0.068$	$0.098 \pm 0.069$
photometric centroid source offset	$0.73 \pm 0.01$	141.24	$0.53 \pm 0.01$	$0.50 \pm 0.01$

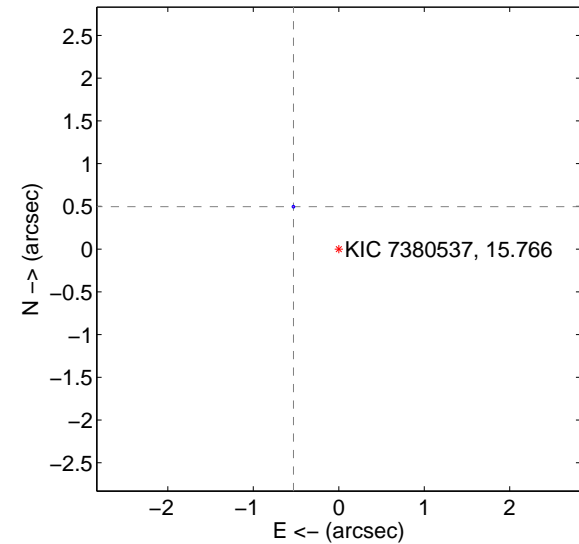
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

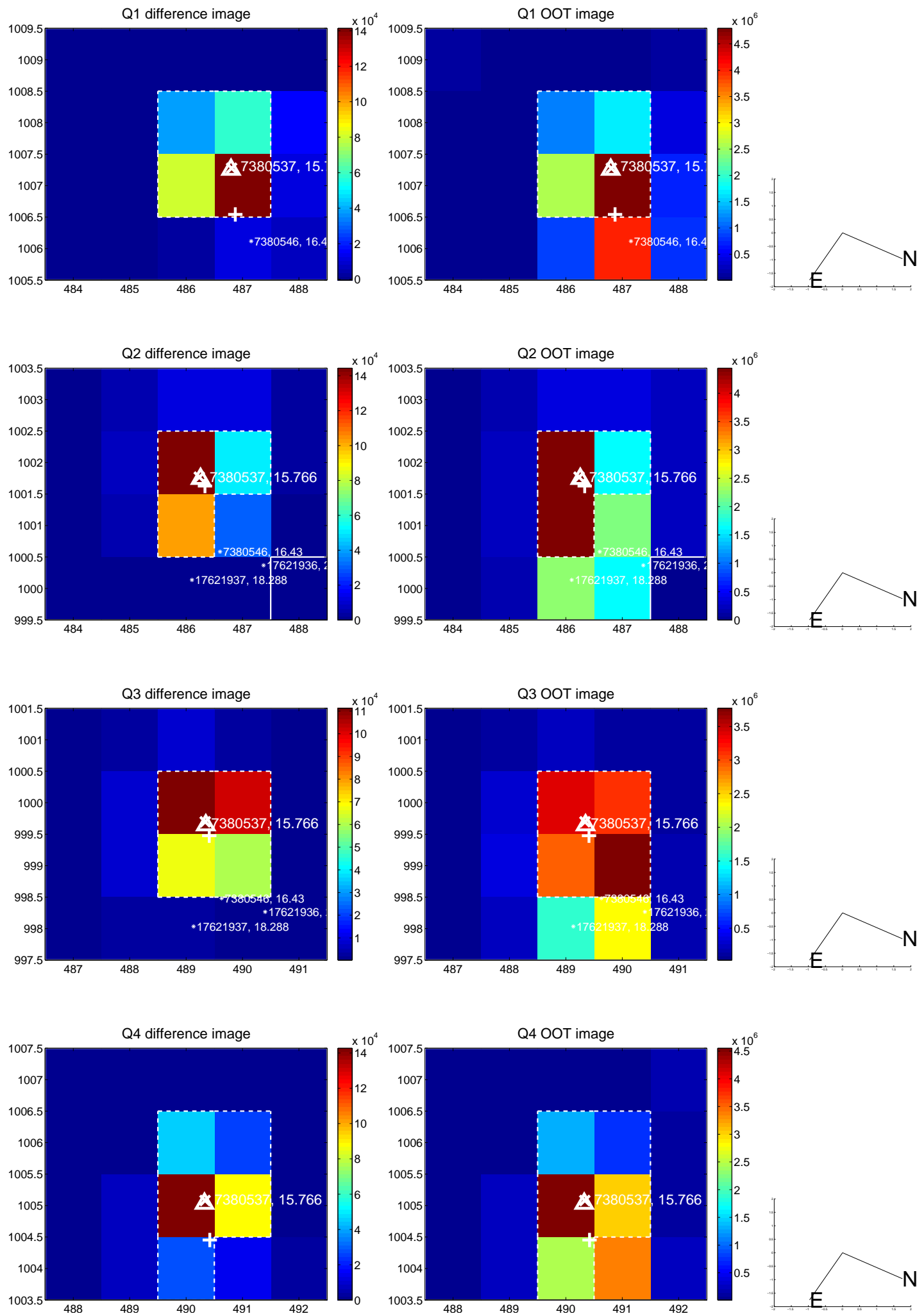


offset from photometric centroids



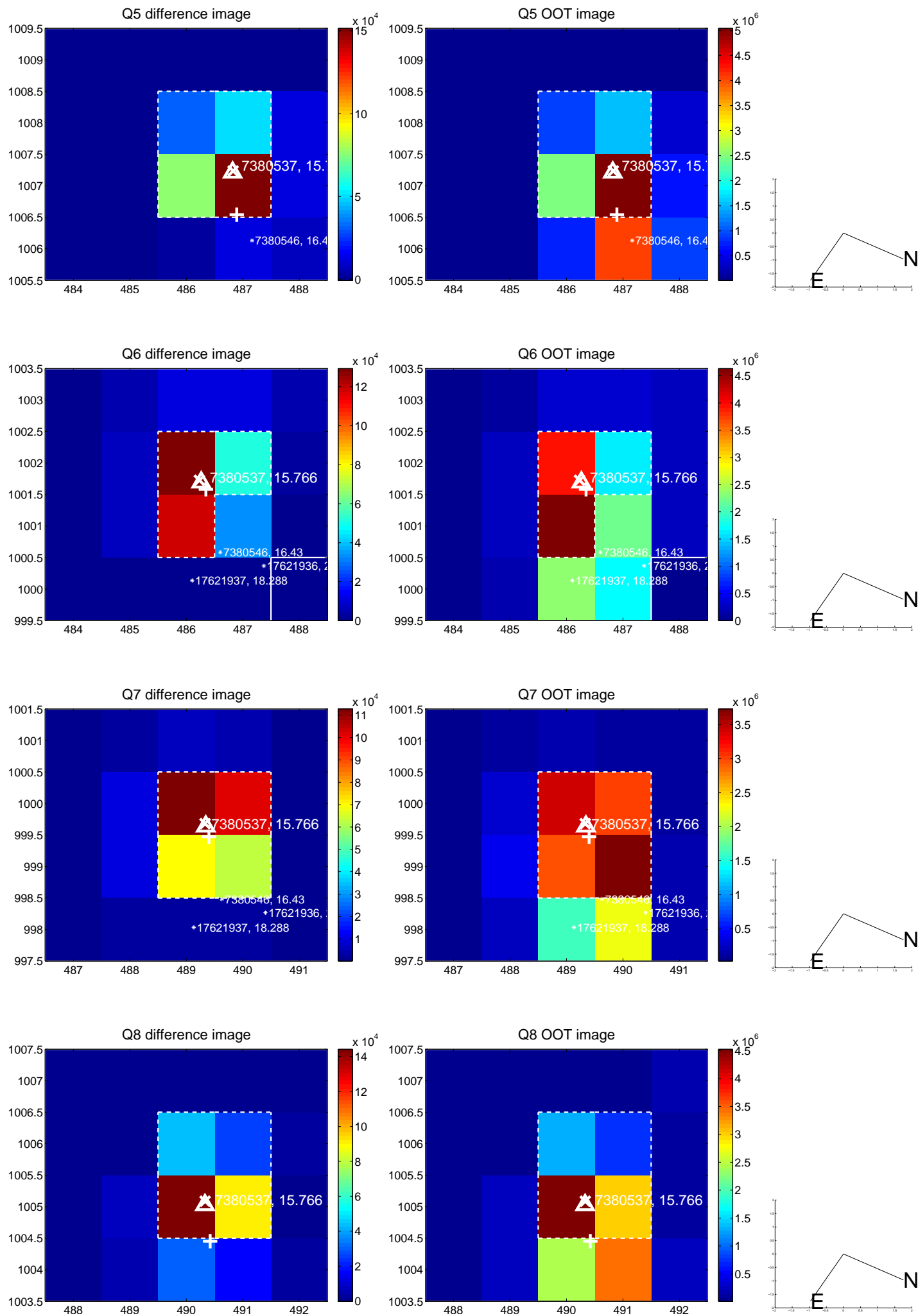
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

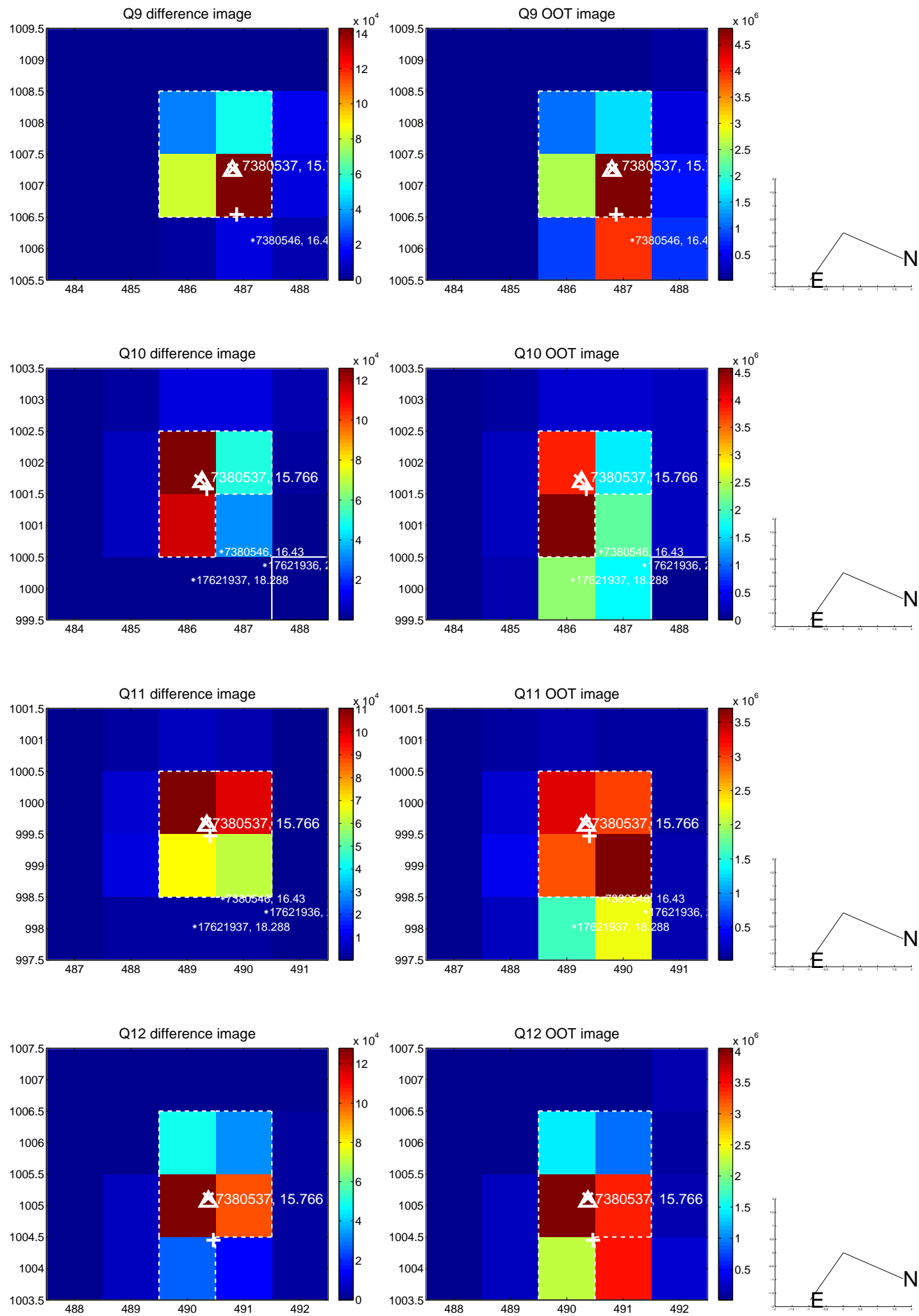




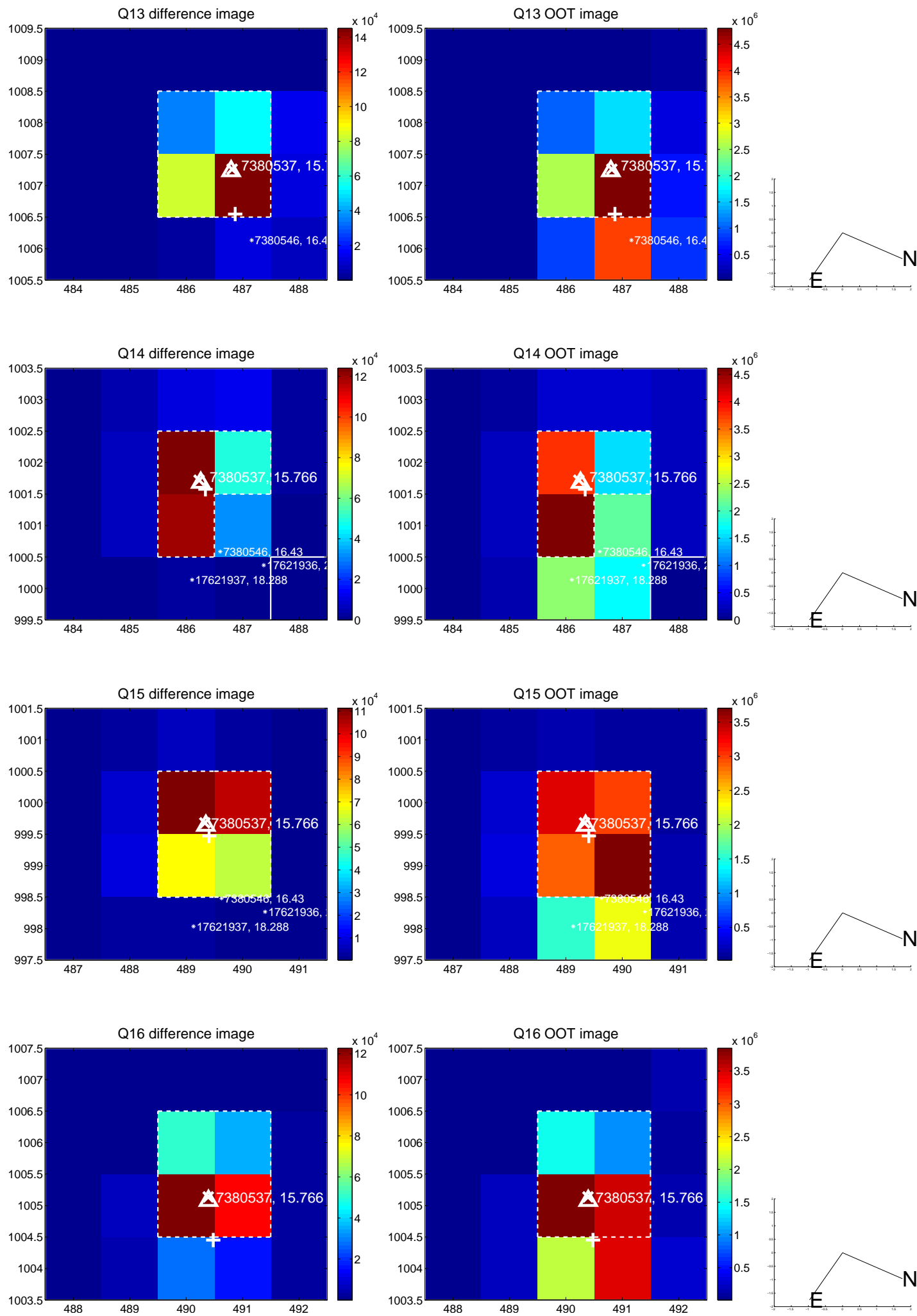
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



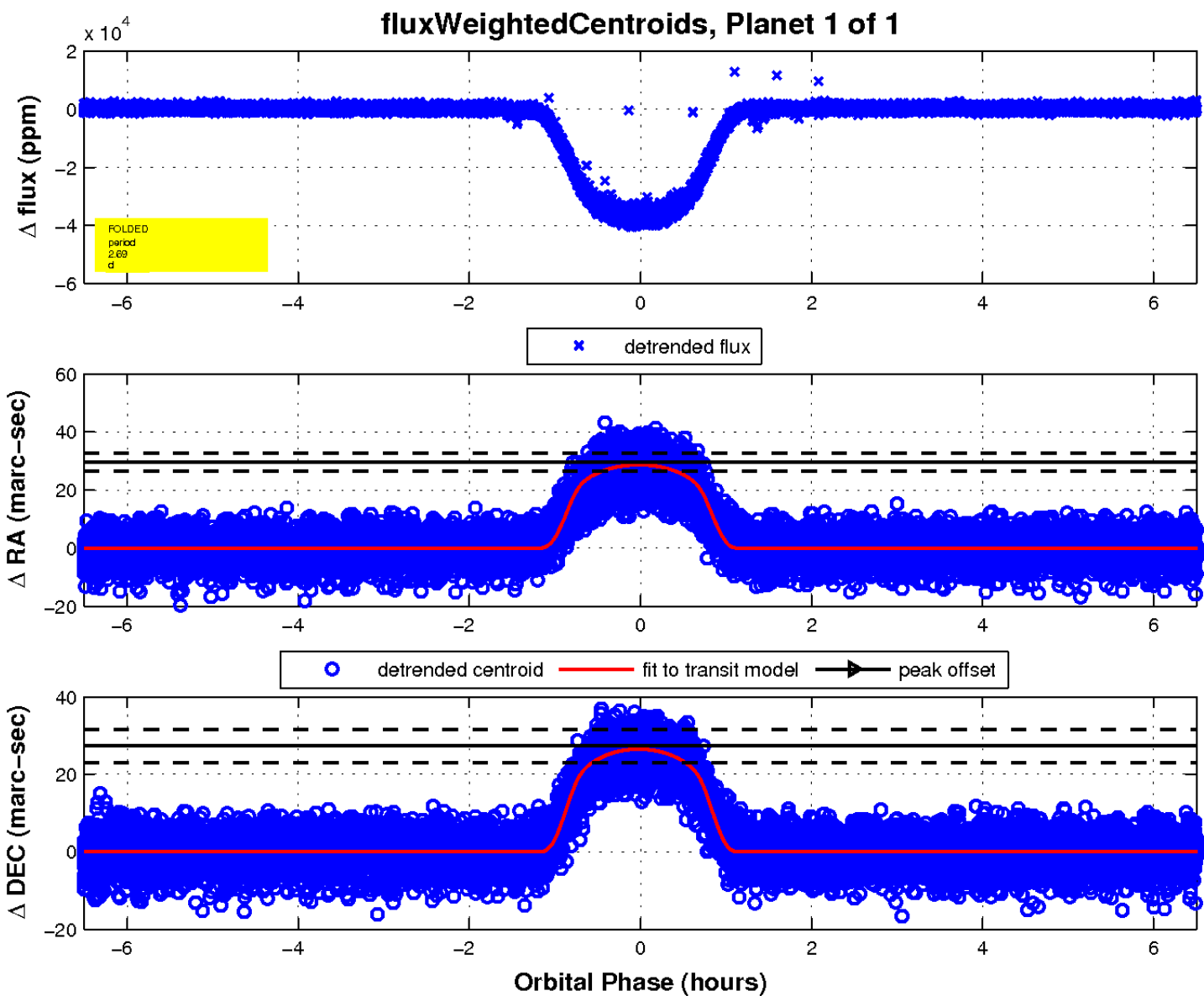
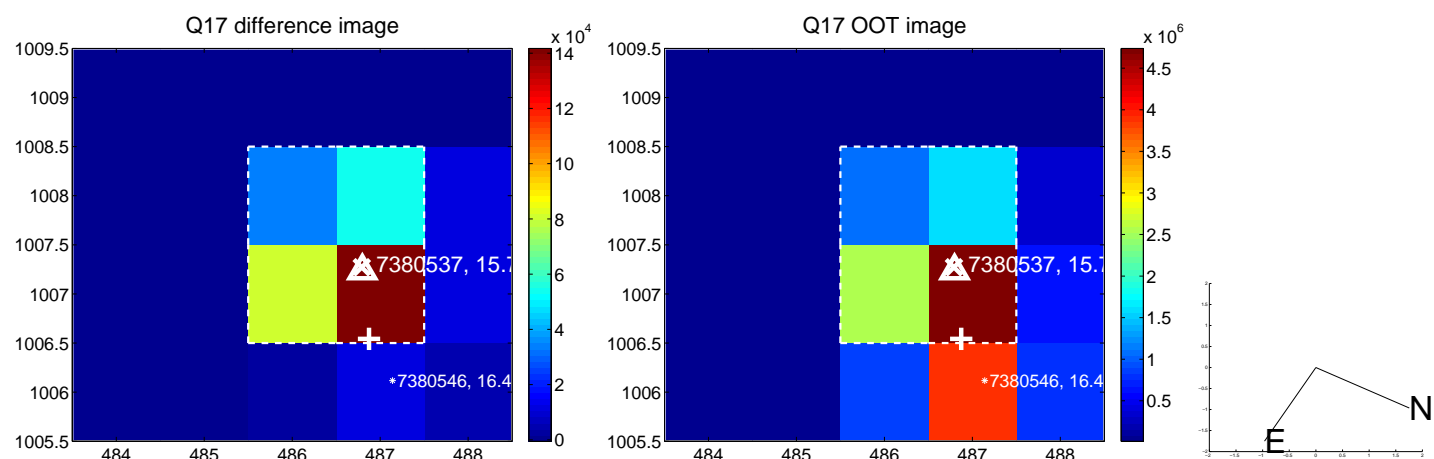
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

