

# KIC 009357275

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009357275-01	OBS	7165.01	1.588291	132.182869	82590.1	2.500	21201.3	-1.0	2.09	7742	61.05	14008.28

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009357275-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—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.

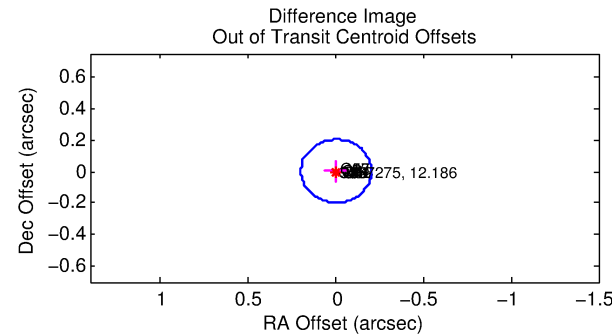
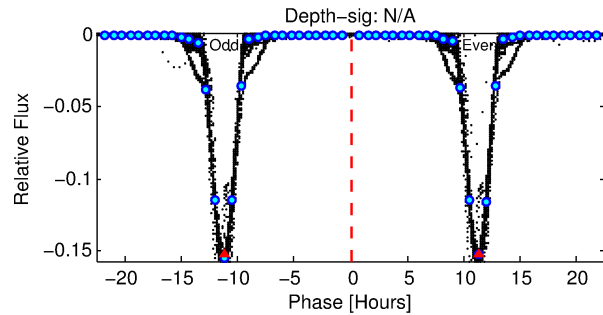
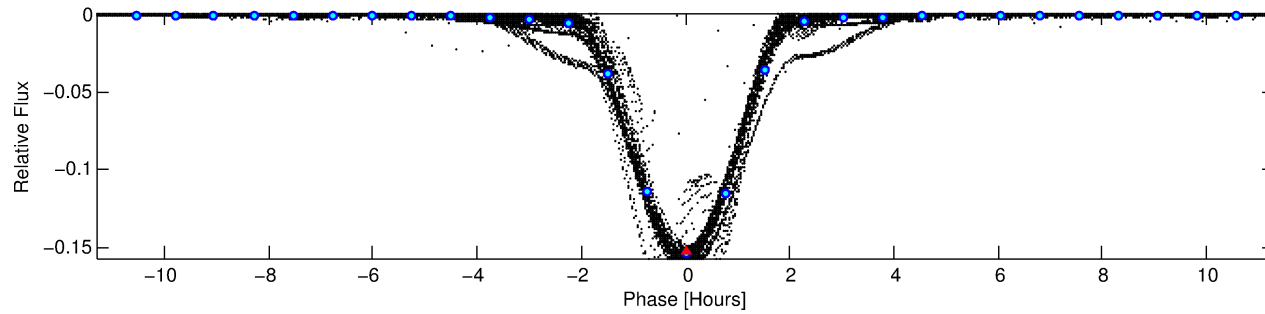
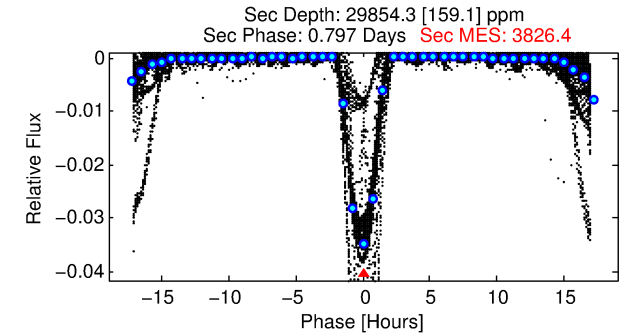
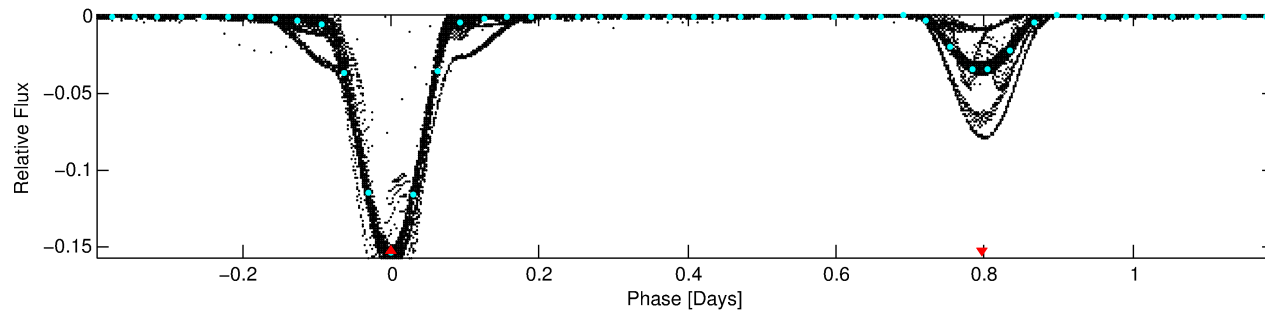
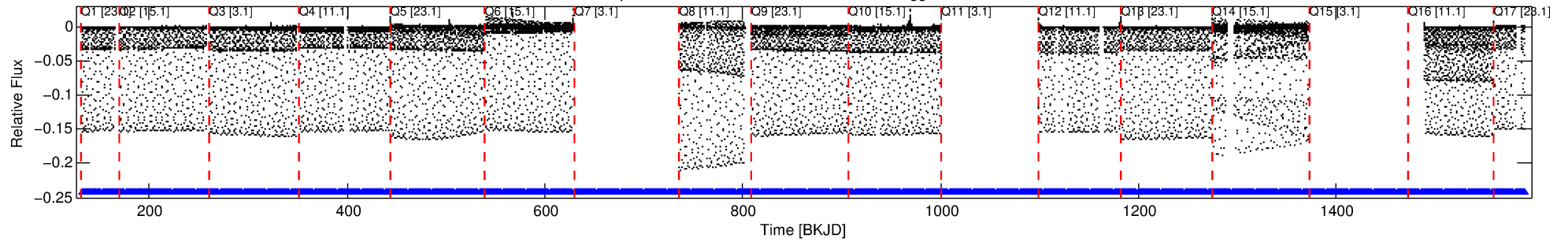
Ephemeris Match Information For 009357275-01

No Significant Match Found

# DV One-Page Summary

KIC: 9357275 Candidate: 1 of 1 Period: 1.588 d  
KOI: K07165.01 Corr: 0.758

Kp: 12.19 R\*: 2.09 Rs Teff: 7742.0 K Logg: 4.02 Fe/H: -0.160



## TPS TCE Results:

Period = 1.58829 d  
Epoch = 132.1829 BKJD

**DV fit results are unavailable**

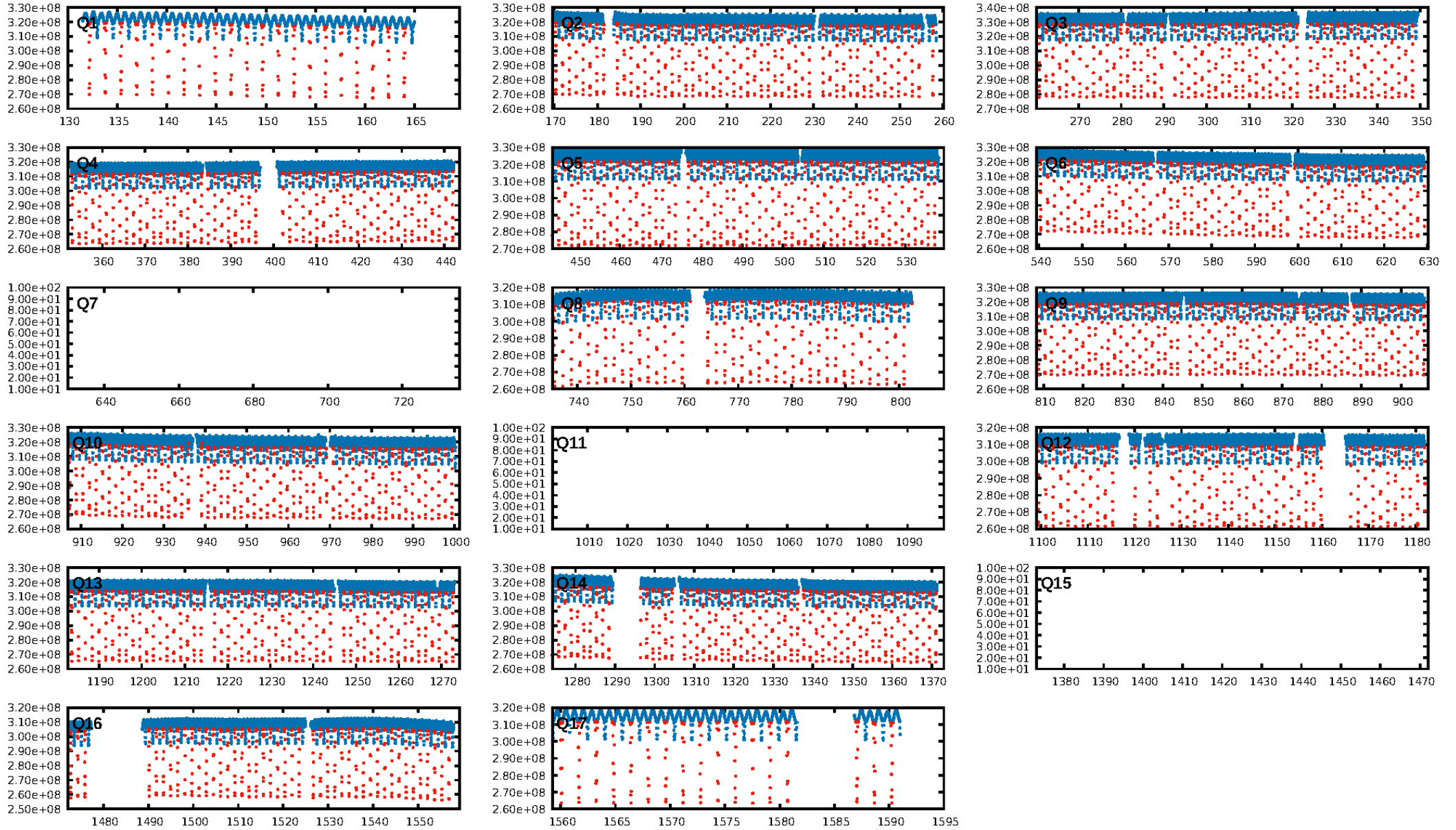
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [635/635]  
GhostDiagnostic-chr: 1.39  
**Centroid-sig: 0.0%**  
**Centroid-so: 0.159 arcsec [760.95σ]**  
OotOffset-rm: 0.005 arcsec [0.08σ]  
KicOffset-rm: 0.148 arcsec [1.90σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

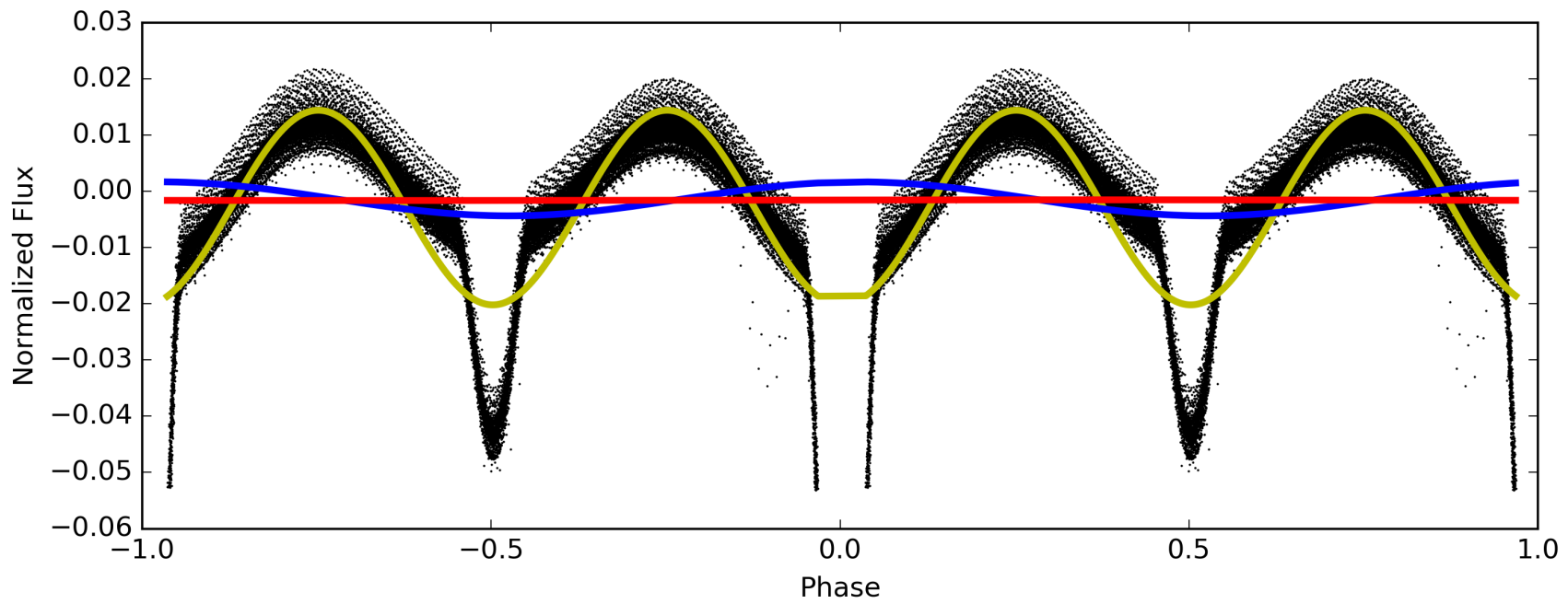
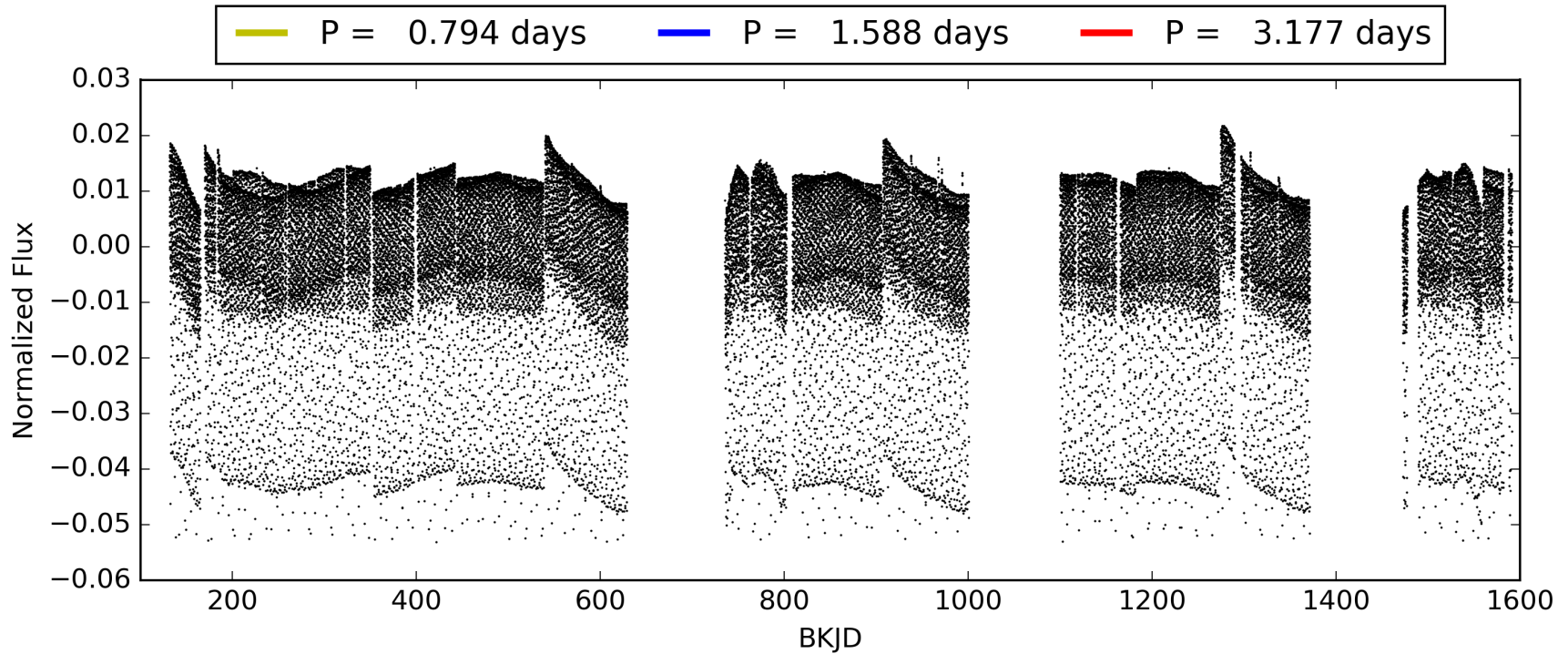
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:51:34 Z

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

# TCE 009357275-01, PDC Light Curves

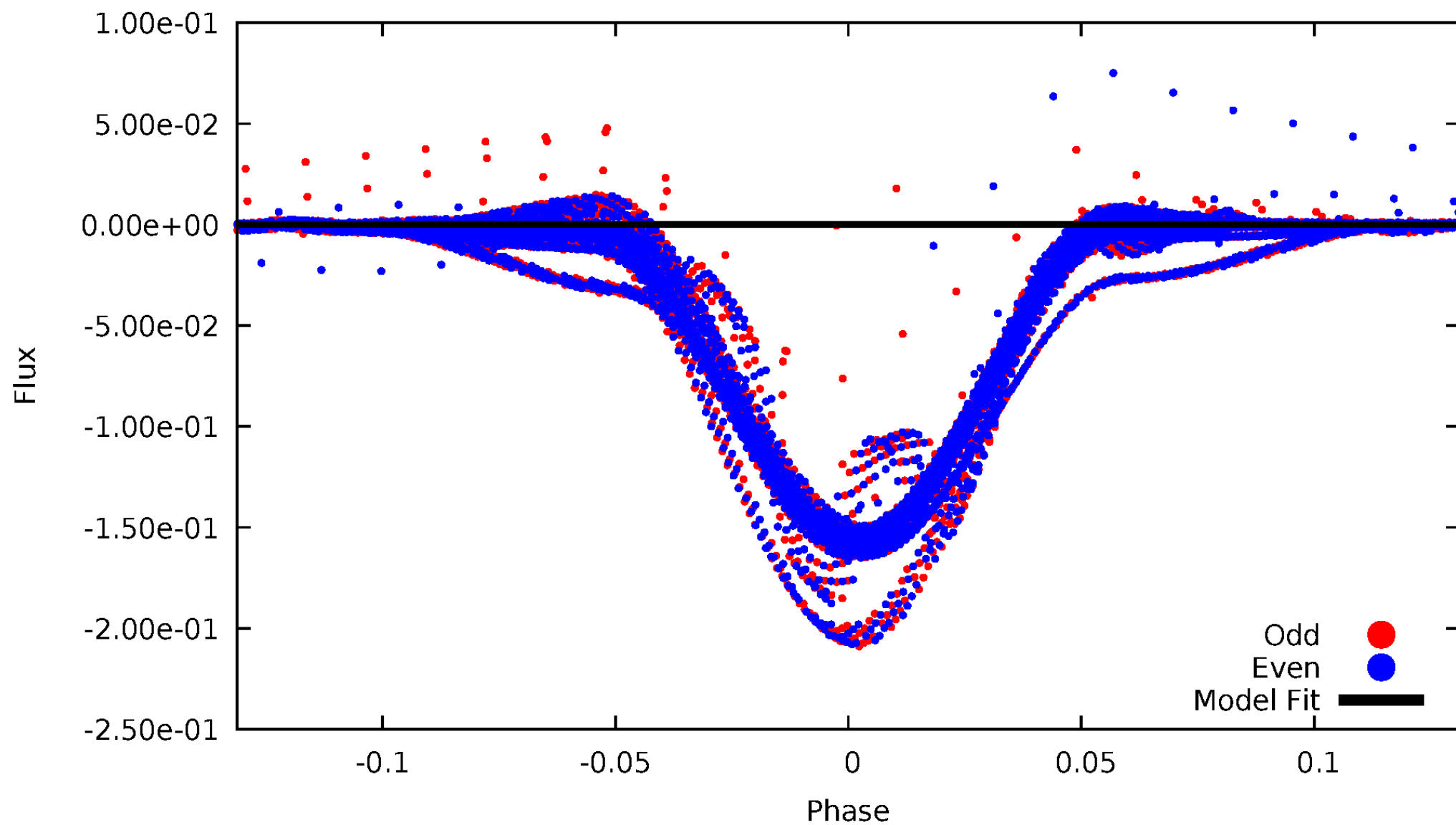


TCE 009357275-01



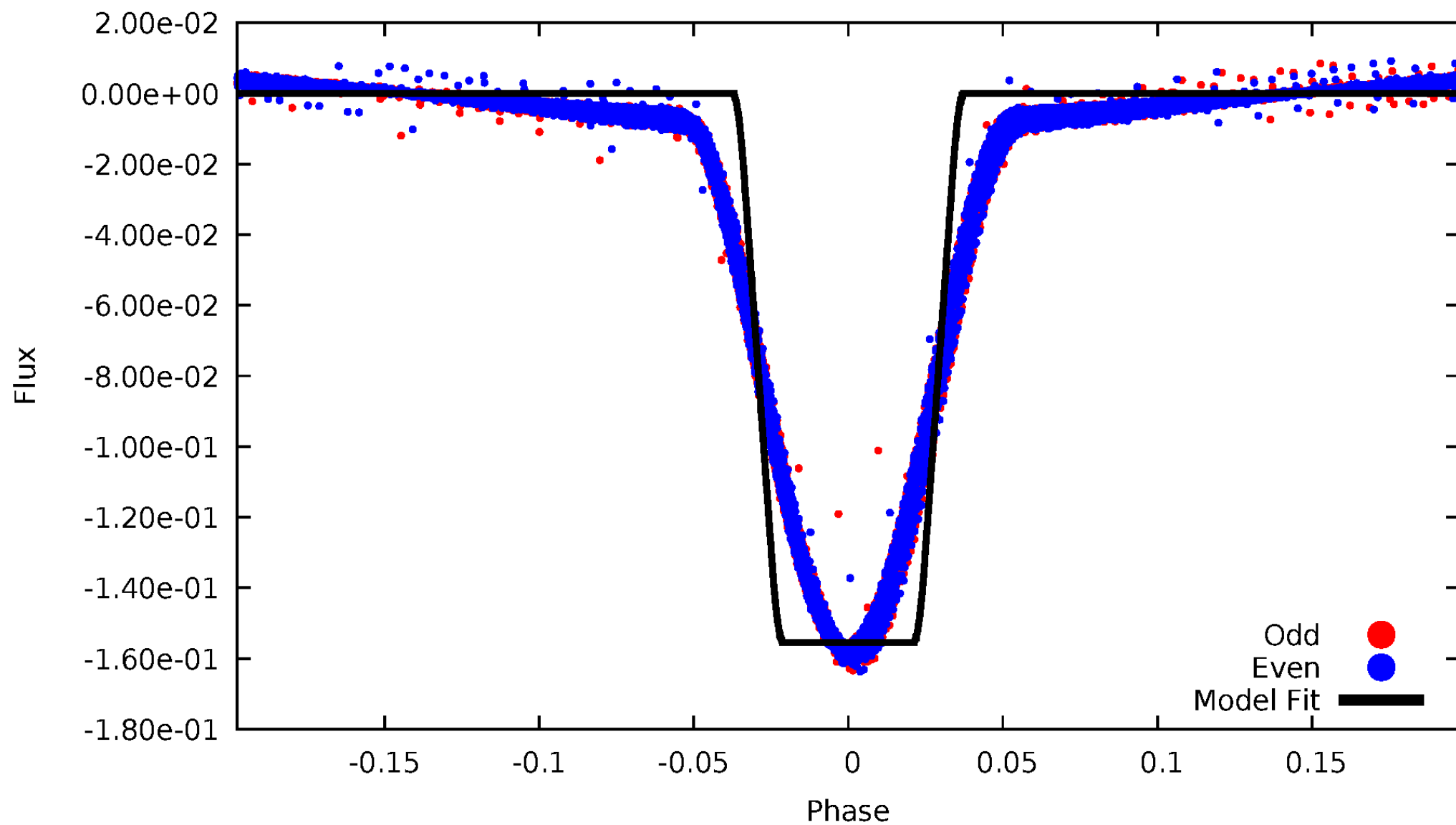
# DV Odd/Even

TCE 009357275-01



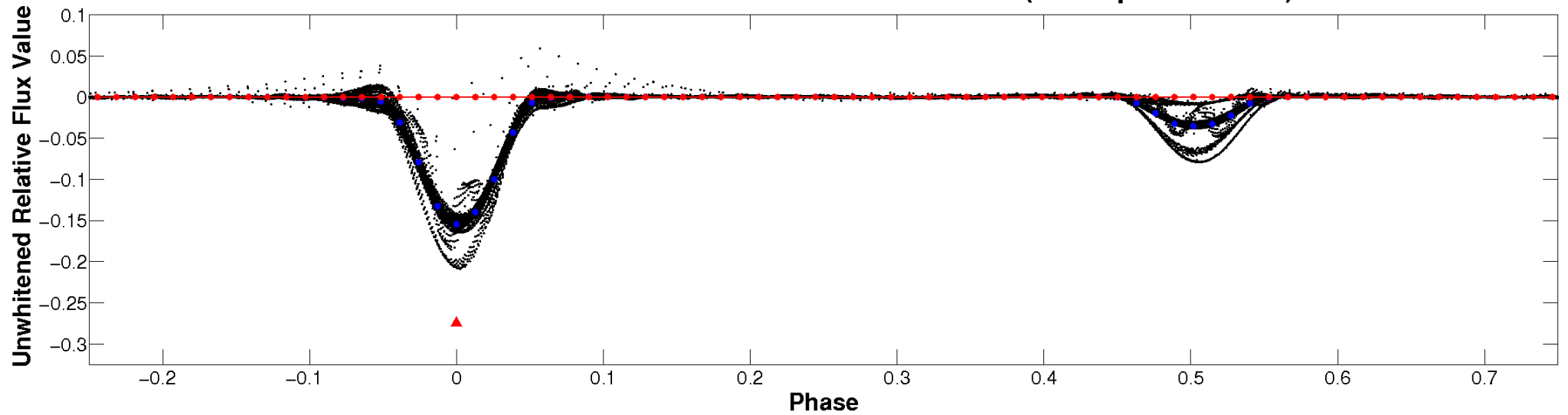
# ALT Odd/Even

TCE 009357275-01

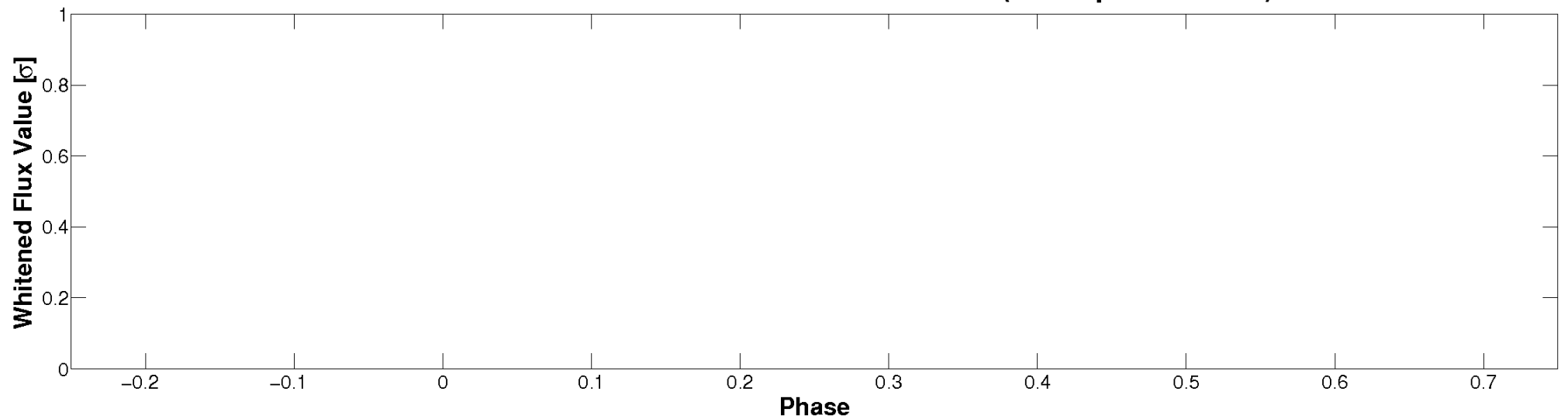


# Non-Whitened Vs. Whitened Light Curve

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

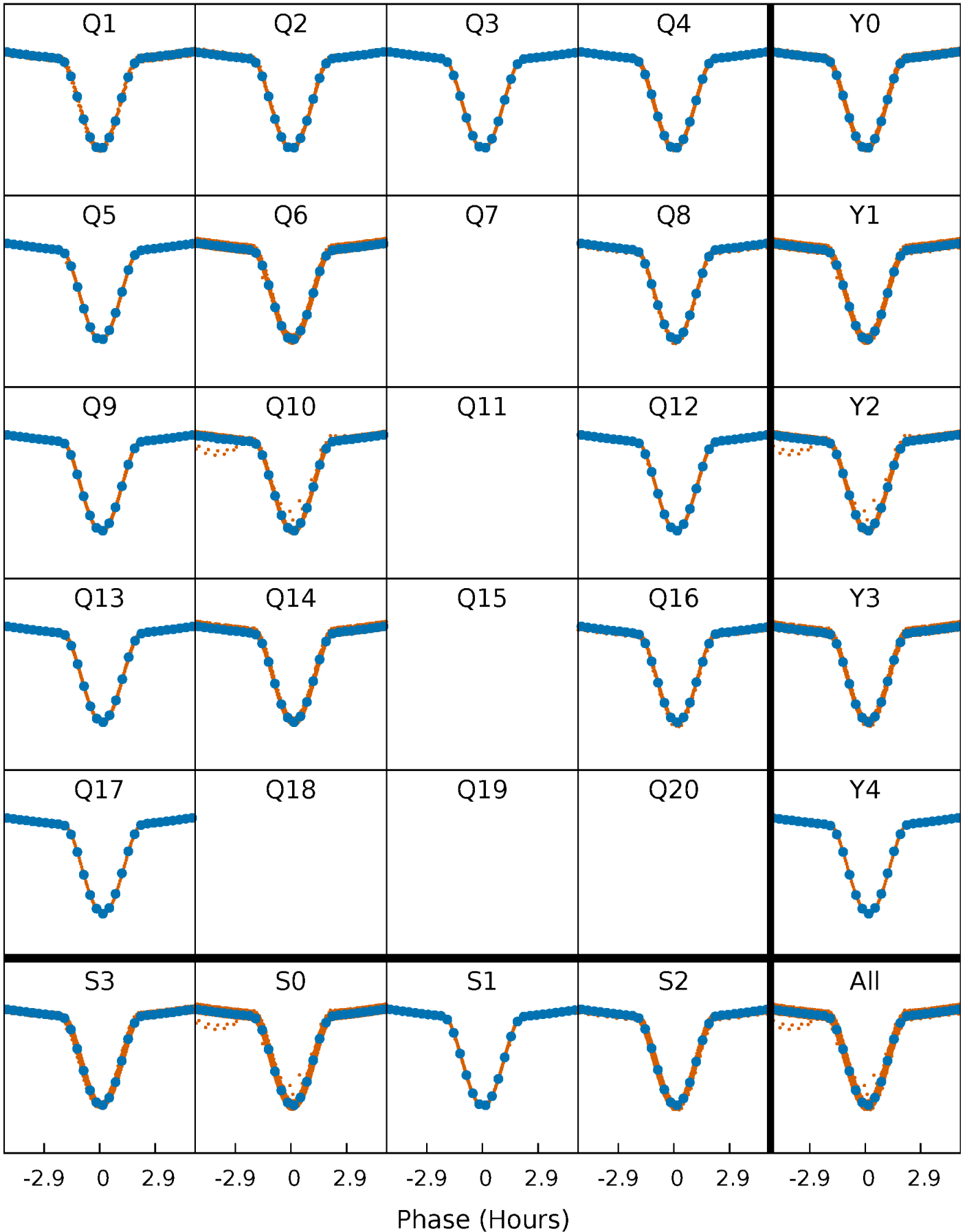


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



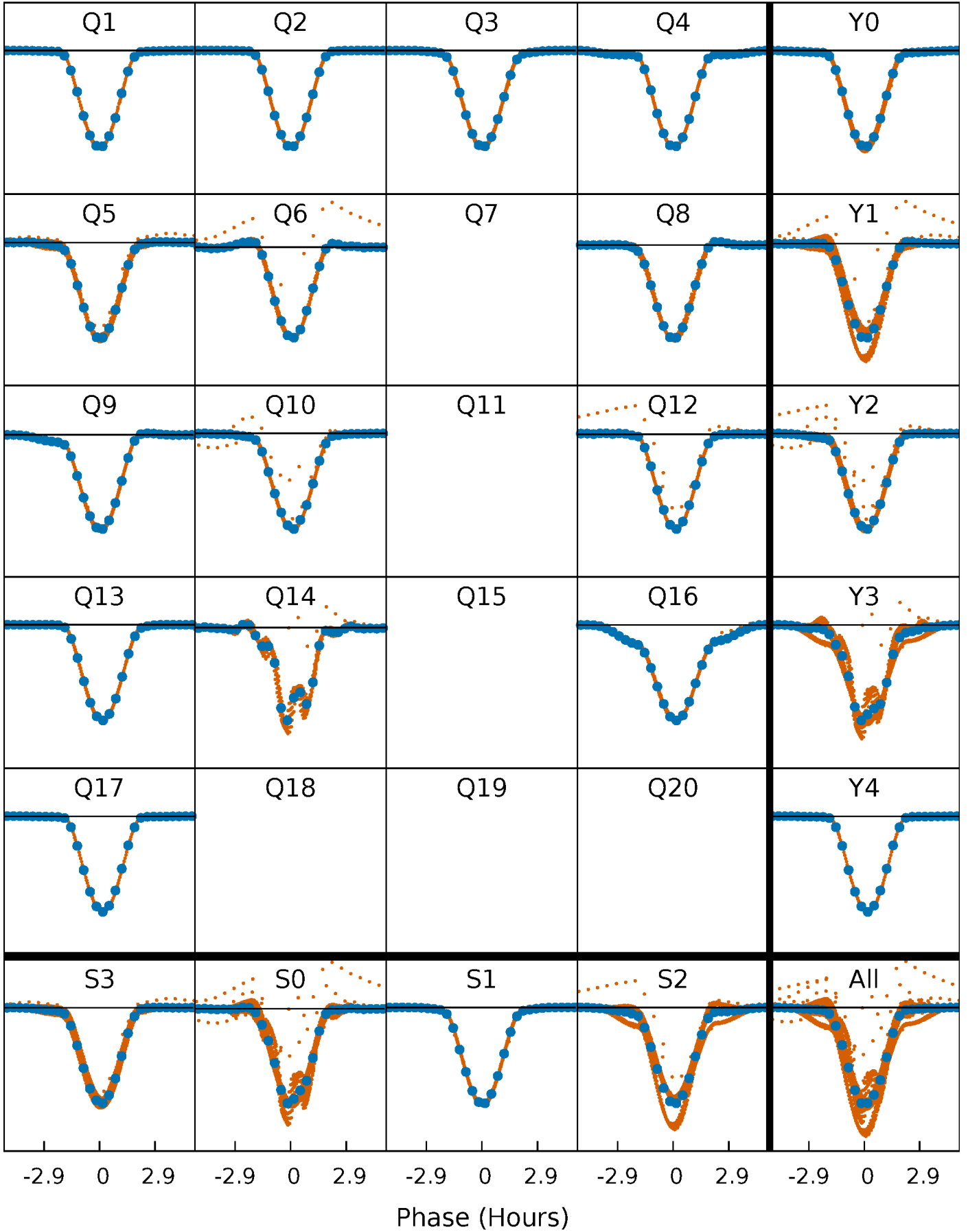
# PDC Quarter-Phased Transit Curves

TCE 009357275-01 P= 1.588291 Days  $T_0=132.182869$  (BKJD)



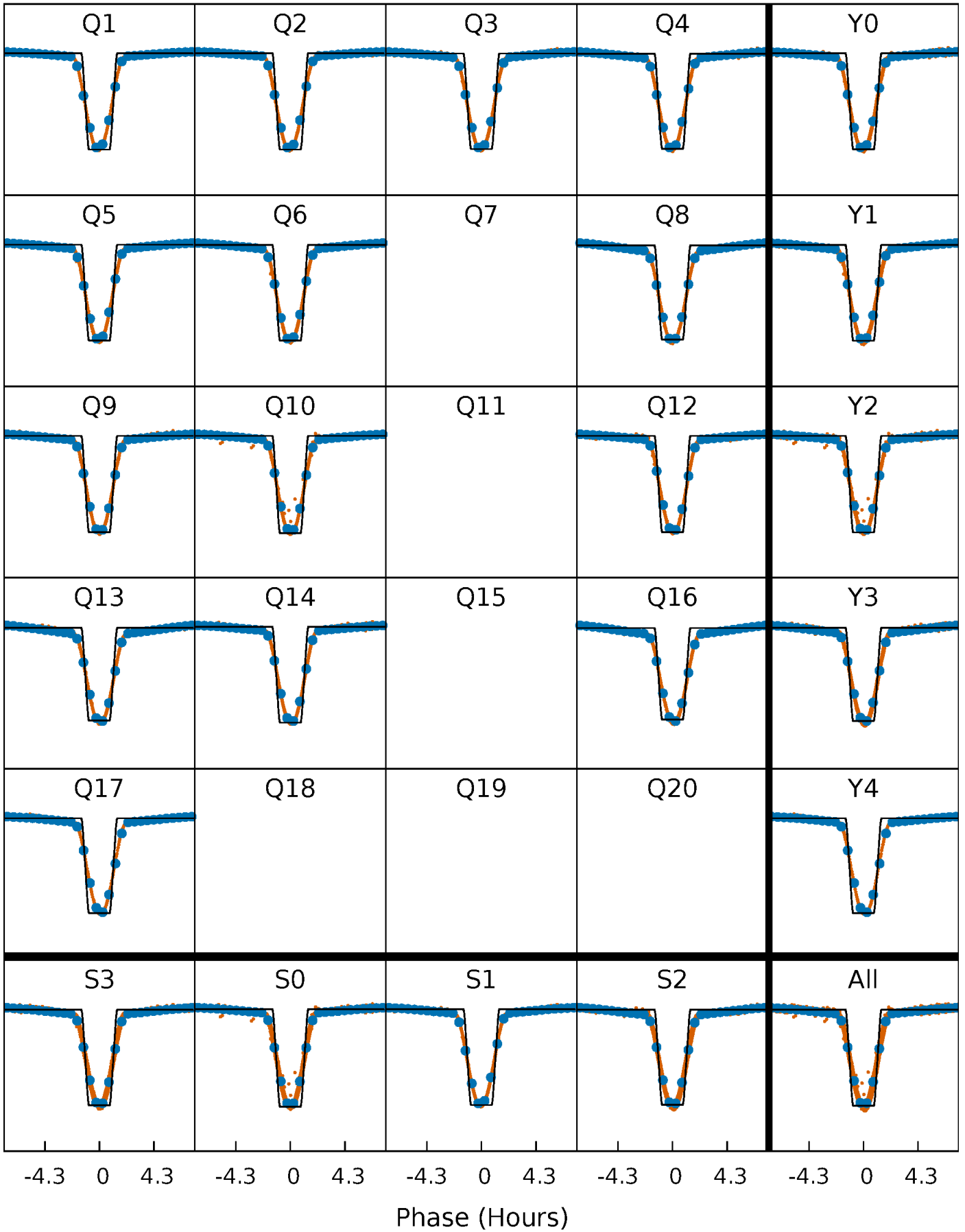
# DV Quarter-Phased Transit Curves

TCE 009357275-01 P= 1.588291 Days  $T_0=132.182869$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

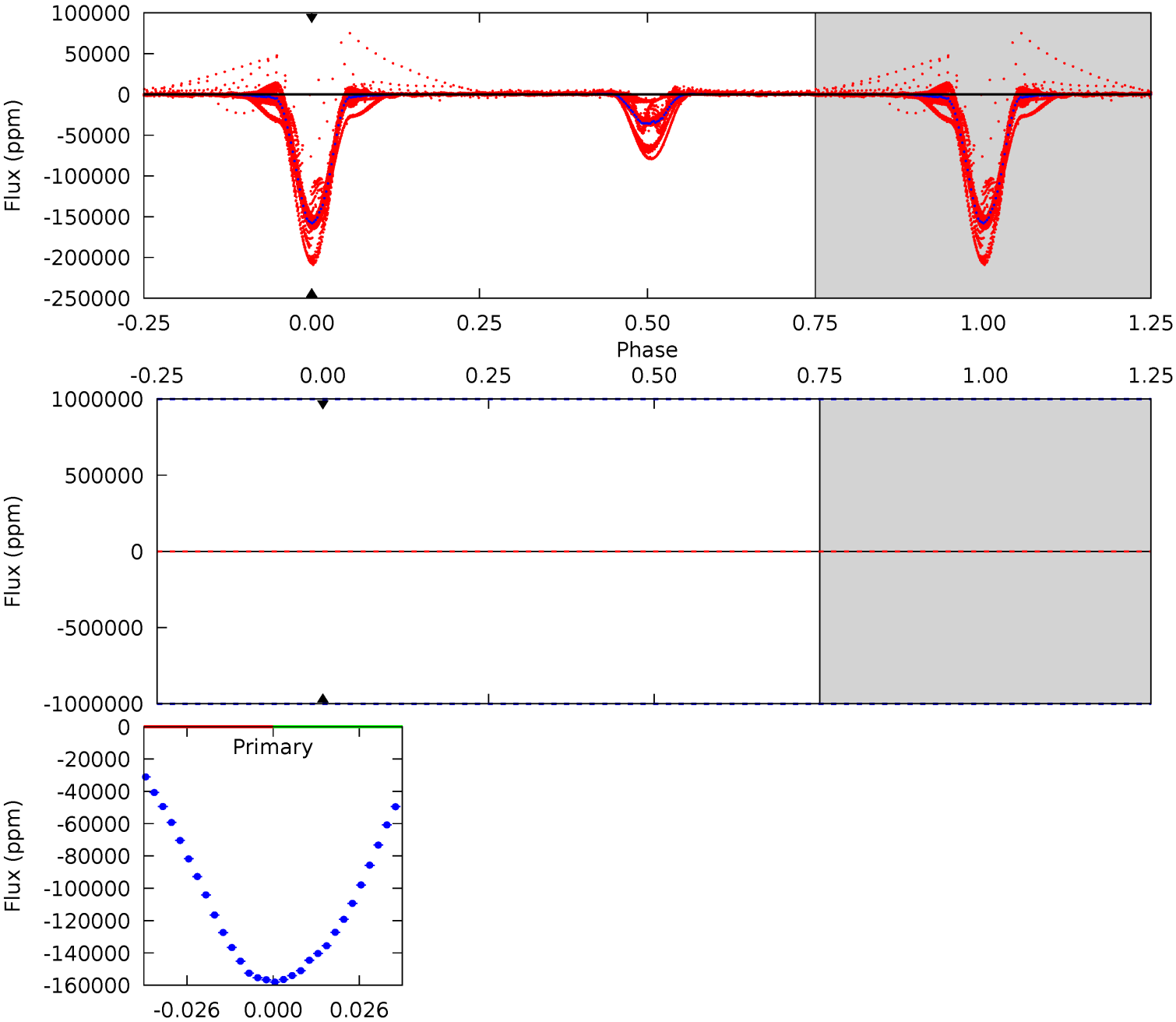
TCE 009357275-01 P= 1.588291 Days  $T_0=132.186090$  (BKJD)



DV Model-Shift Uniqueness Test

009357275-01, P = 1.588291 Days, E = 130.594578 Days

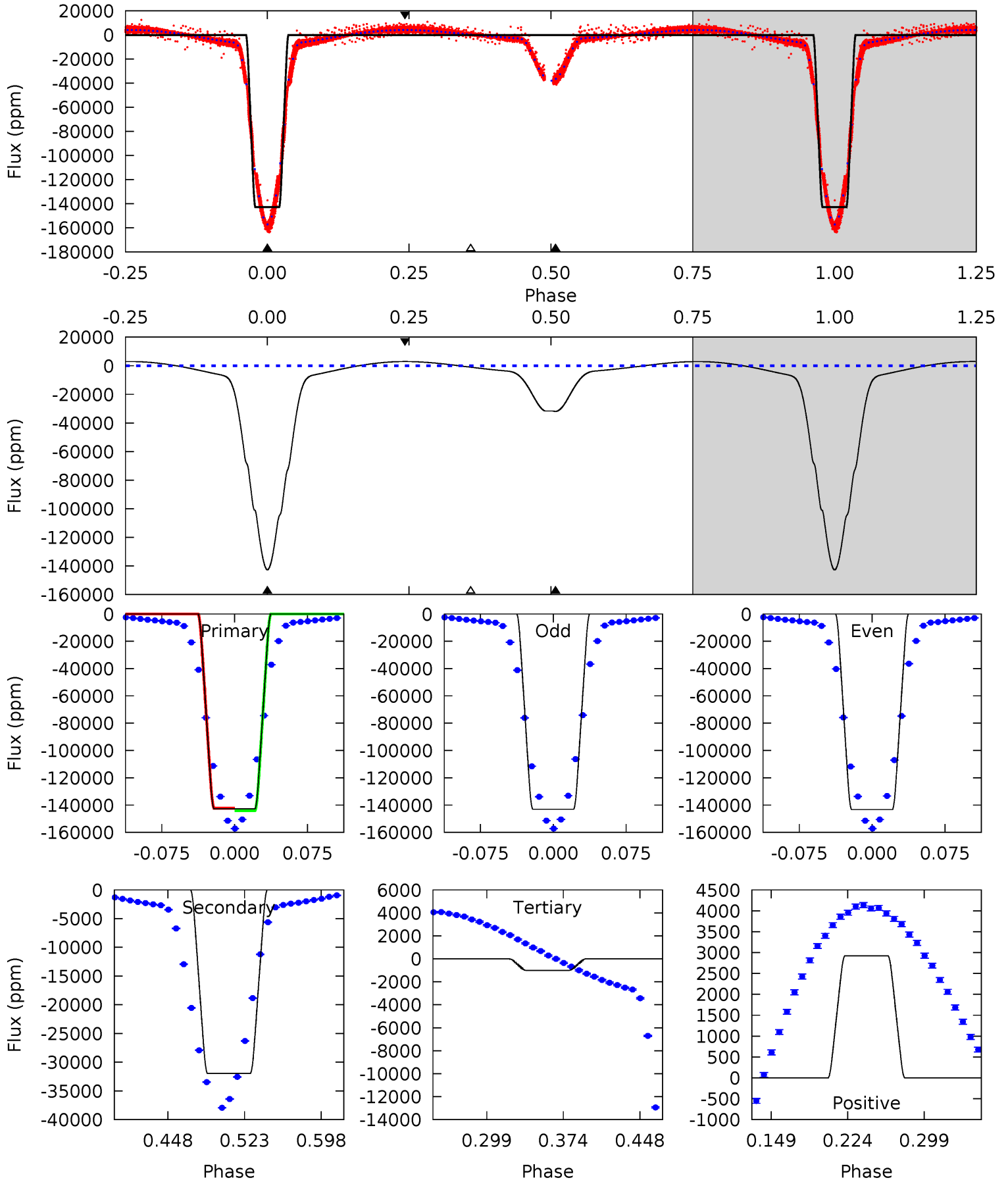
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

009357275-01, P = 1.588291 Days, E = 130.597799 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
2780	621.8	19.5	57.0	4.63	1.78	52.9	2760	2723	602.3	564.9	2.41	1.00	0.02	16.9



### Stellar Parameters For KIC 009357275

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7742^{+244}_{-298}$	$4.024^{+0.187}_{-0.153}$	$-0.160^{+0.200}_{-0.300}$	$2.094^{+0.527}_{-0.527}$	$1.687^{+0.196}_{-0.270}$	$0.259^{+0.300}_{-0.113}$
	+3%/-4%	+5%/-4%	+125%/-188%	+25%/-25%	+12%/-16%	+116%/-44%
Source	KIC0	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 009357275-01 / KOI 7165.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$59.79^{+25.81}_{-22.80}$	$3868^{+273}_{-270}$	$-3603^{+13133}_{-5271}$	$0.020^{+20.670}_{-17.450}$
Alt.	$-31931 \pm 51$	$87.40^{+28.44}_{-25.58}$	$3862^{+279}_{-255}$	$5055^{+854}_{-557}$	$2.394^{+2.195}_{-1.029}$

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

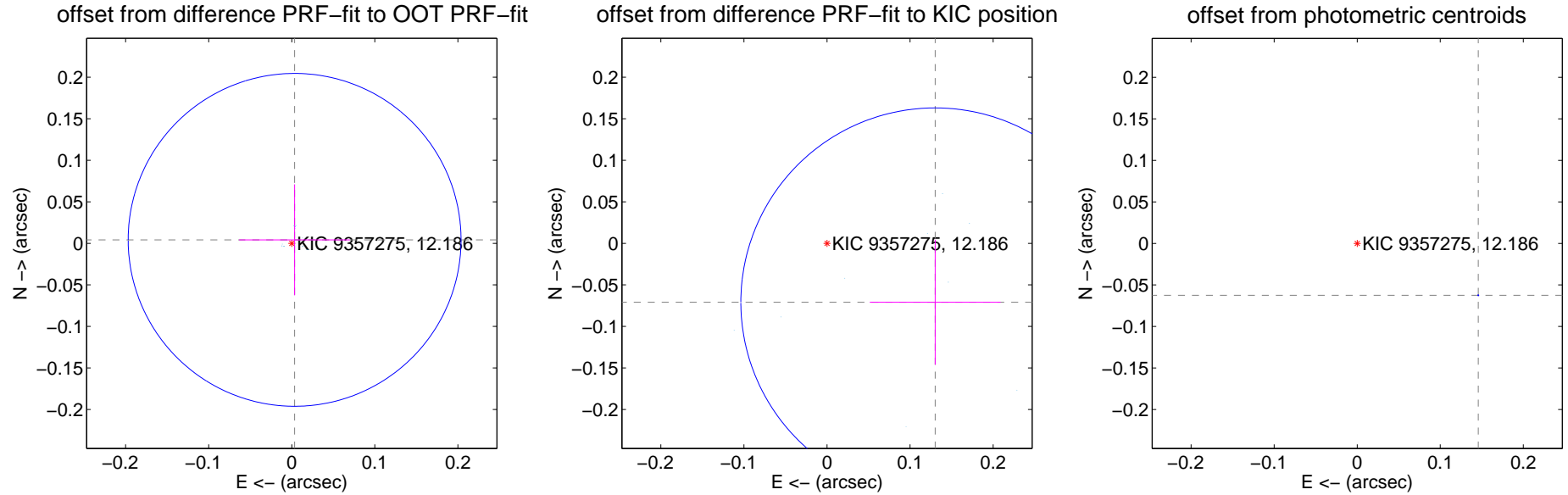
## DV Centroid Data

Supplemental centroid analysis for 009357275-01. Kepler magnitude: 12.19. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

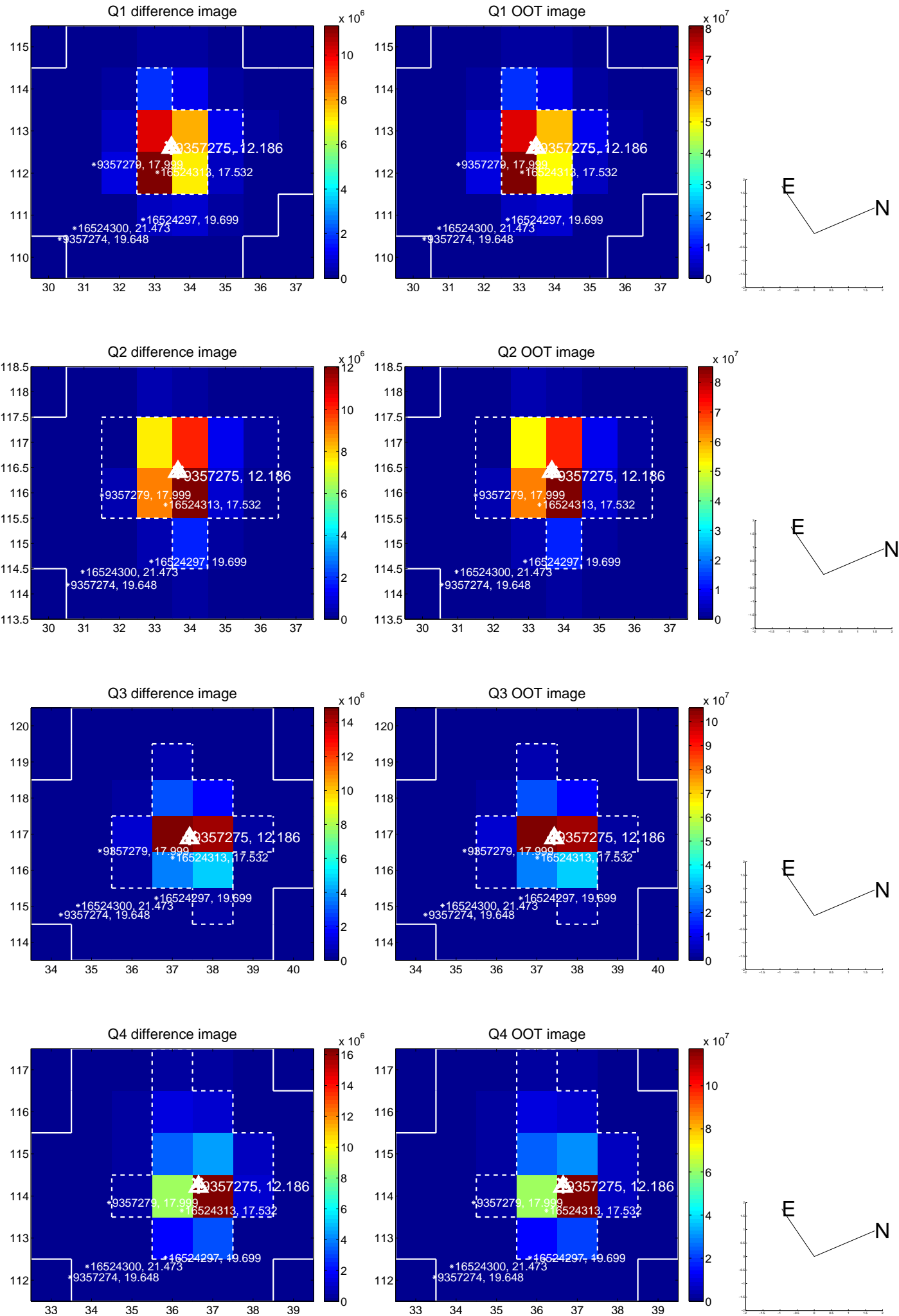
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.005 \pm 0.067$	0.08	$-0.003 \pm 0.067$	$0.004 \pm 0.067$
PRF-fit source offset from KIC position	$0.148 \pm 0.078$	1.90	$-0.130 \pm 0.079$	$-0.071 \pm 0.075$
photometric centroid source offset	$0.16 \pm 0.00$	760.95	$-0.15 \pm 0.00$	$-0.06 \pm 0.00$

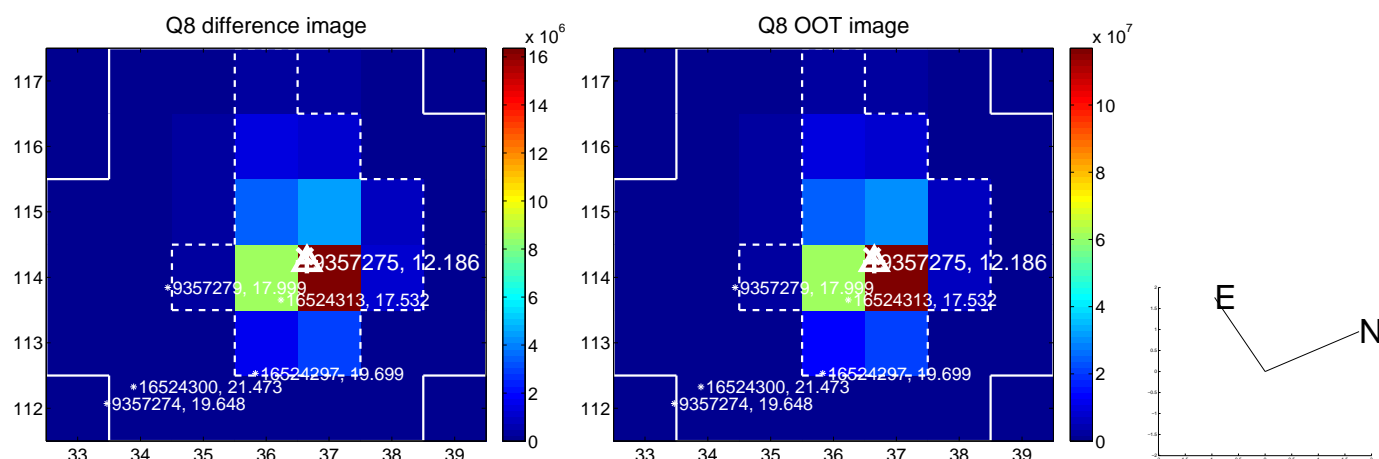
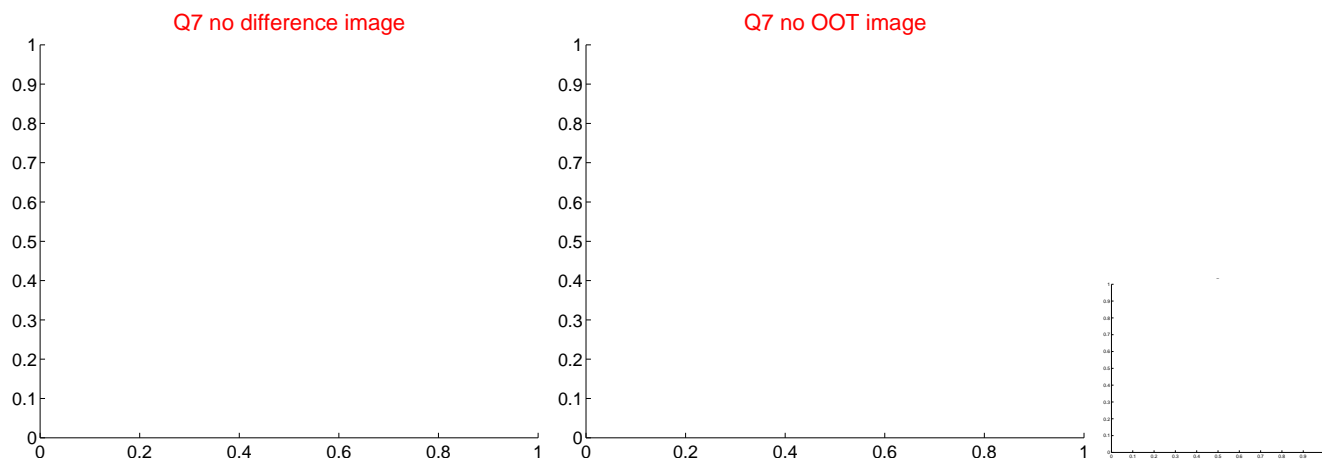
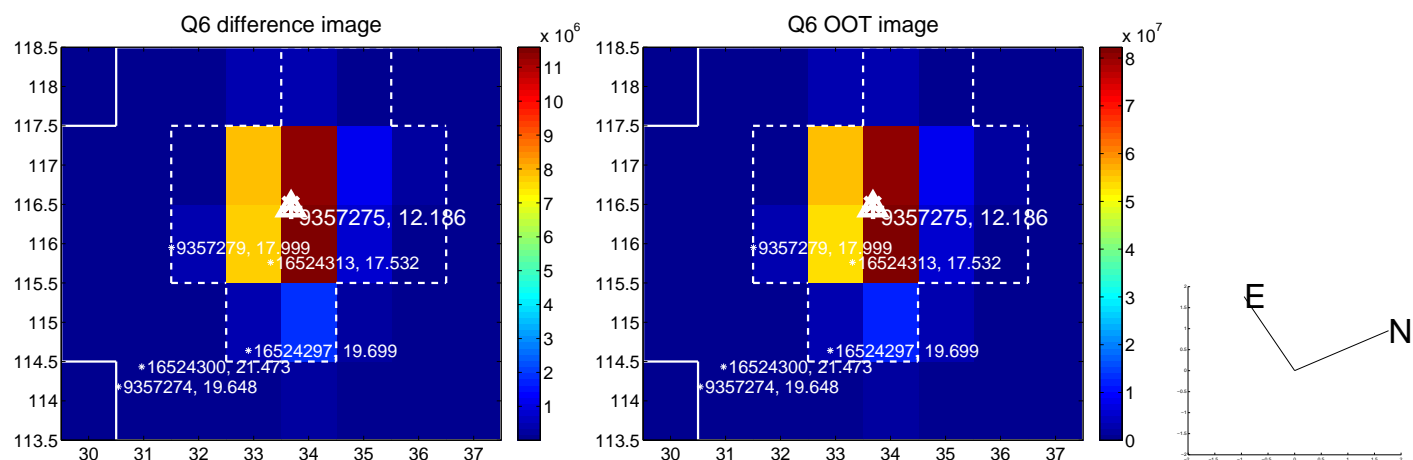
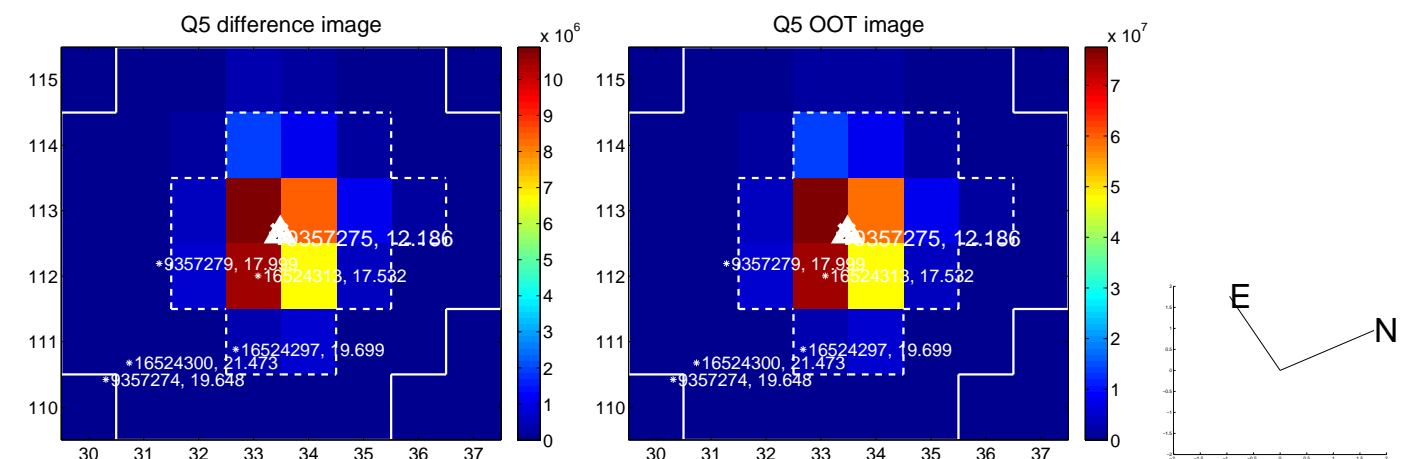


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

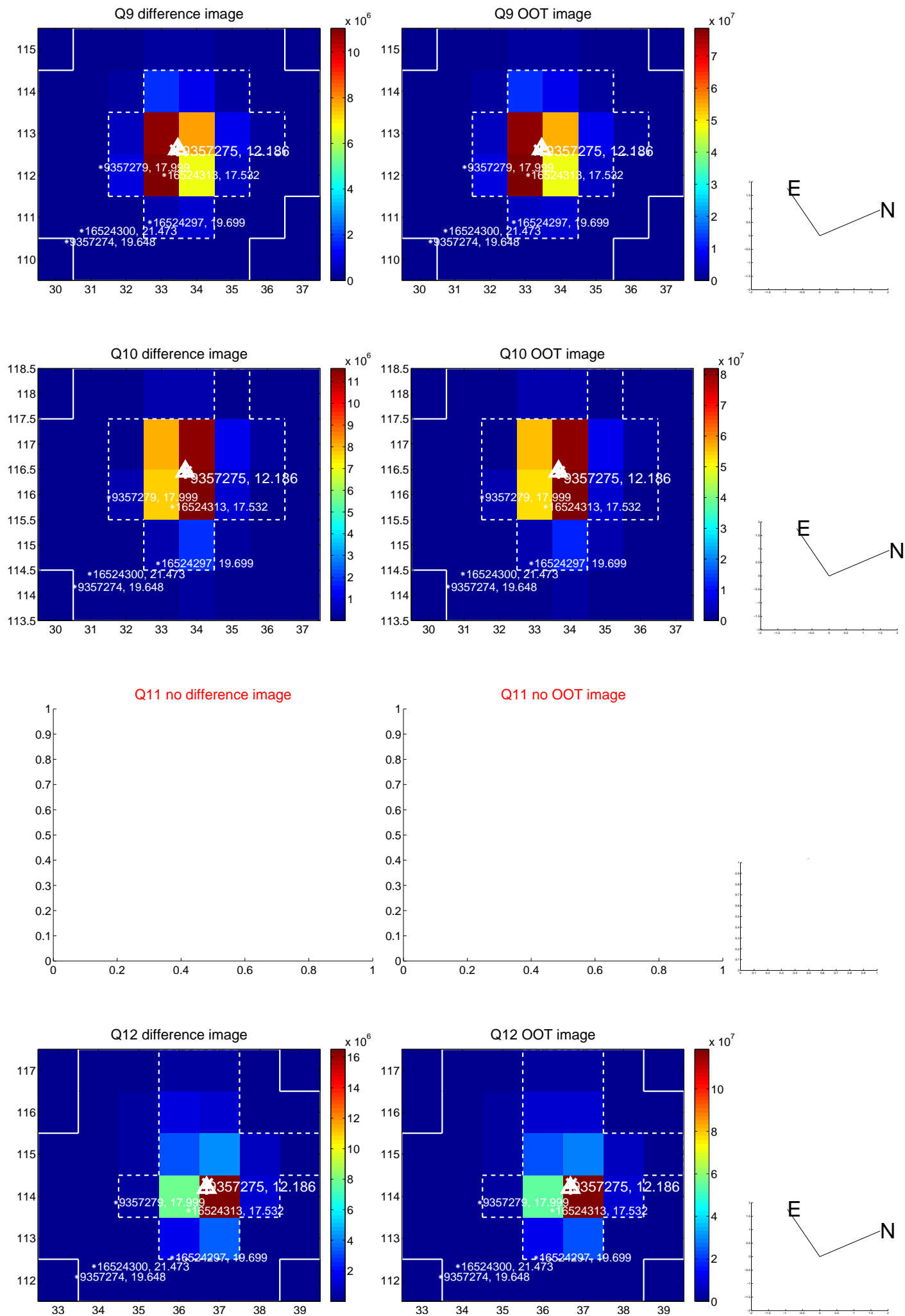
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



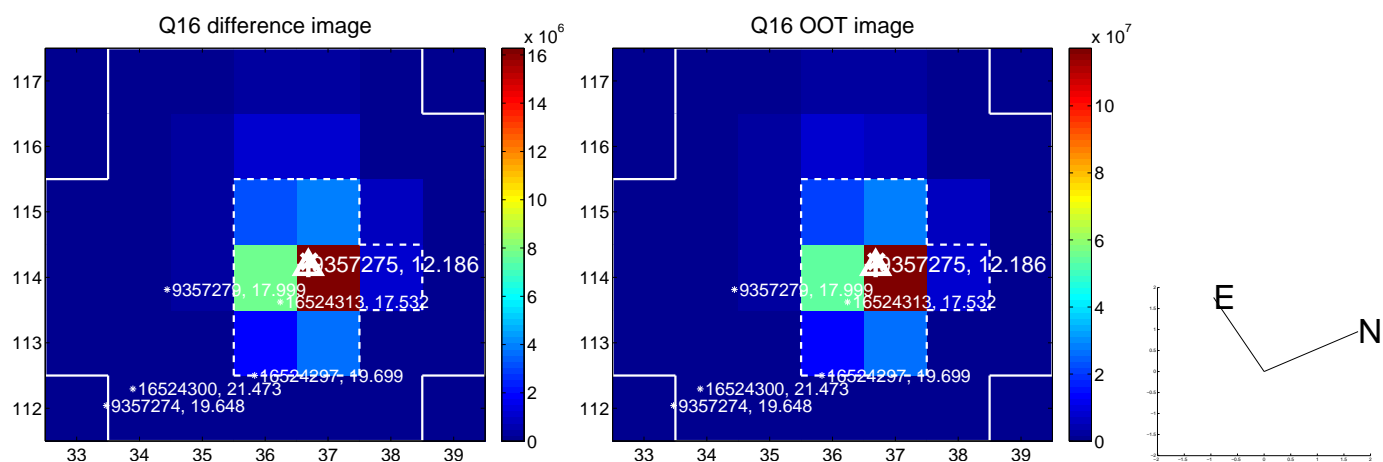
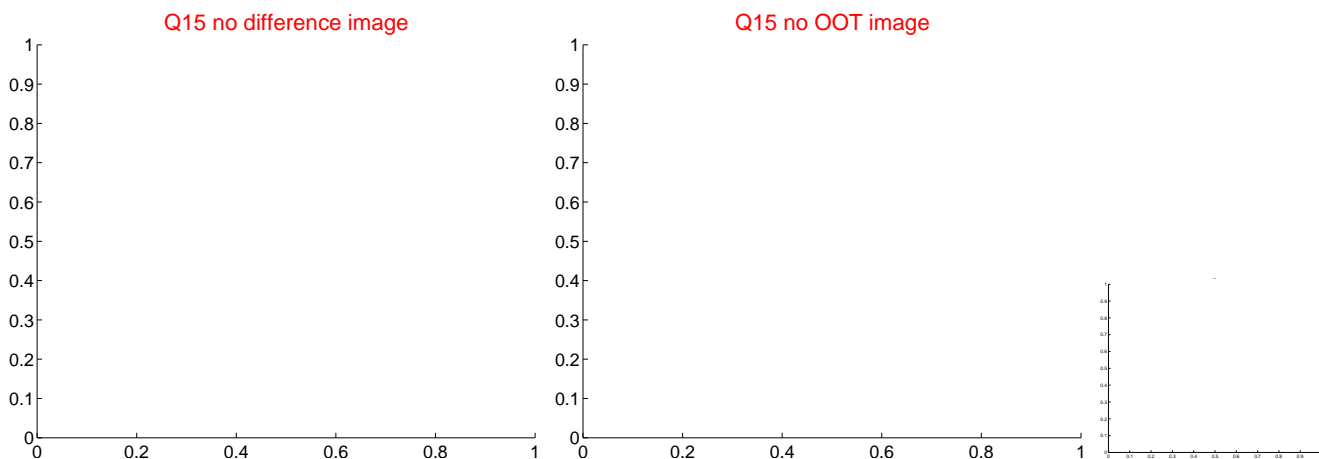
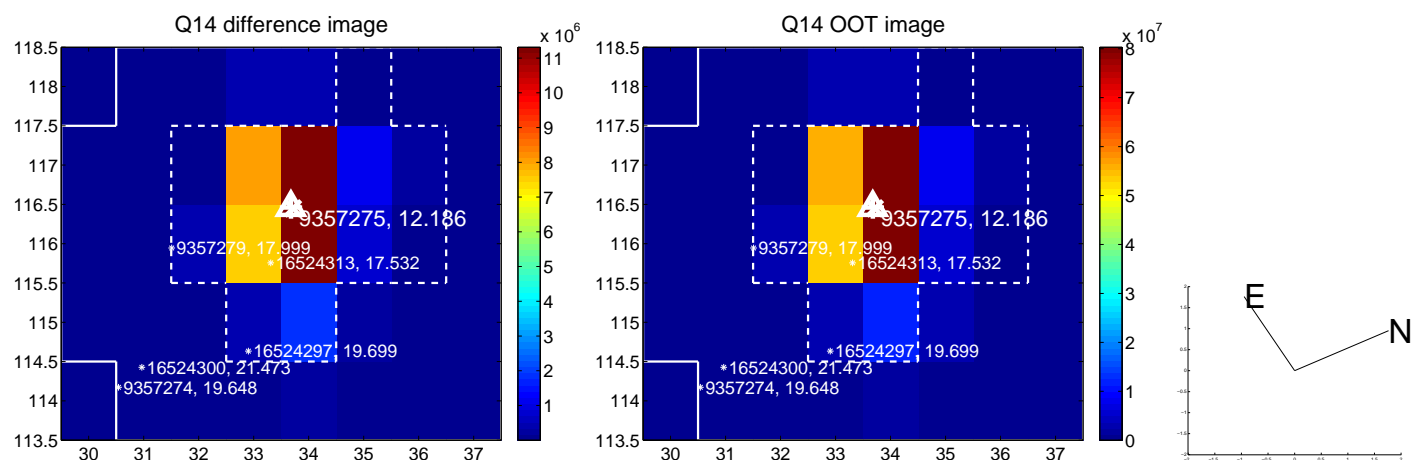
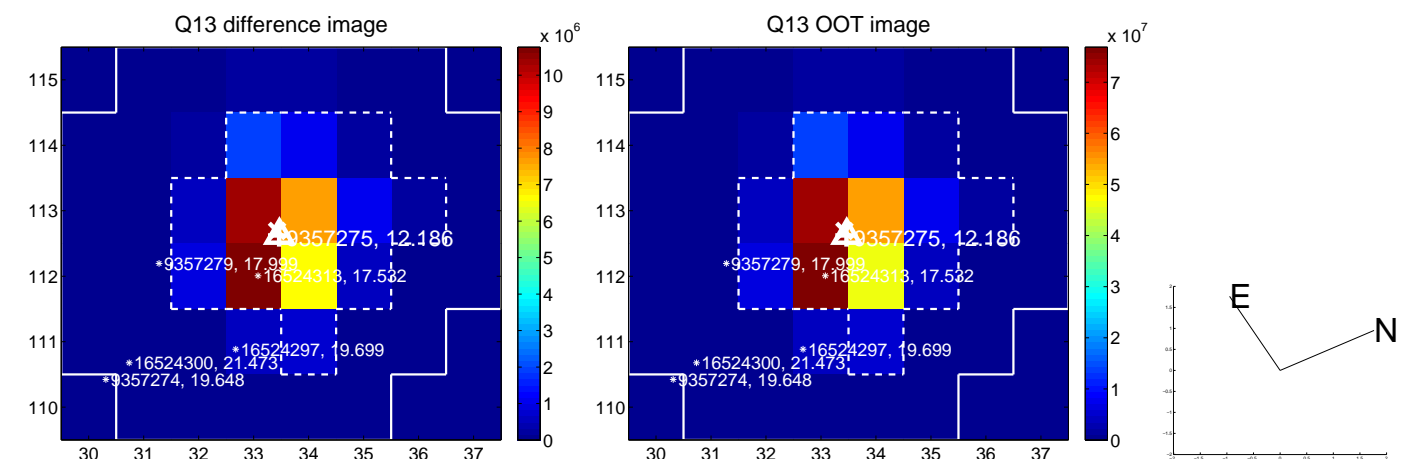
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



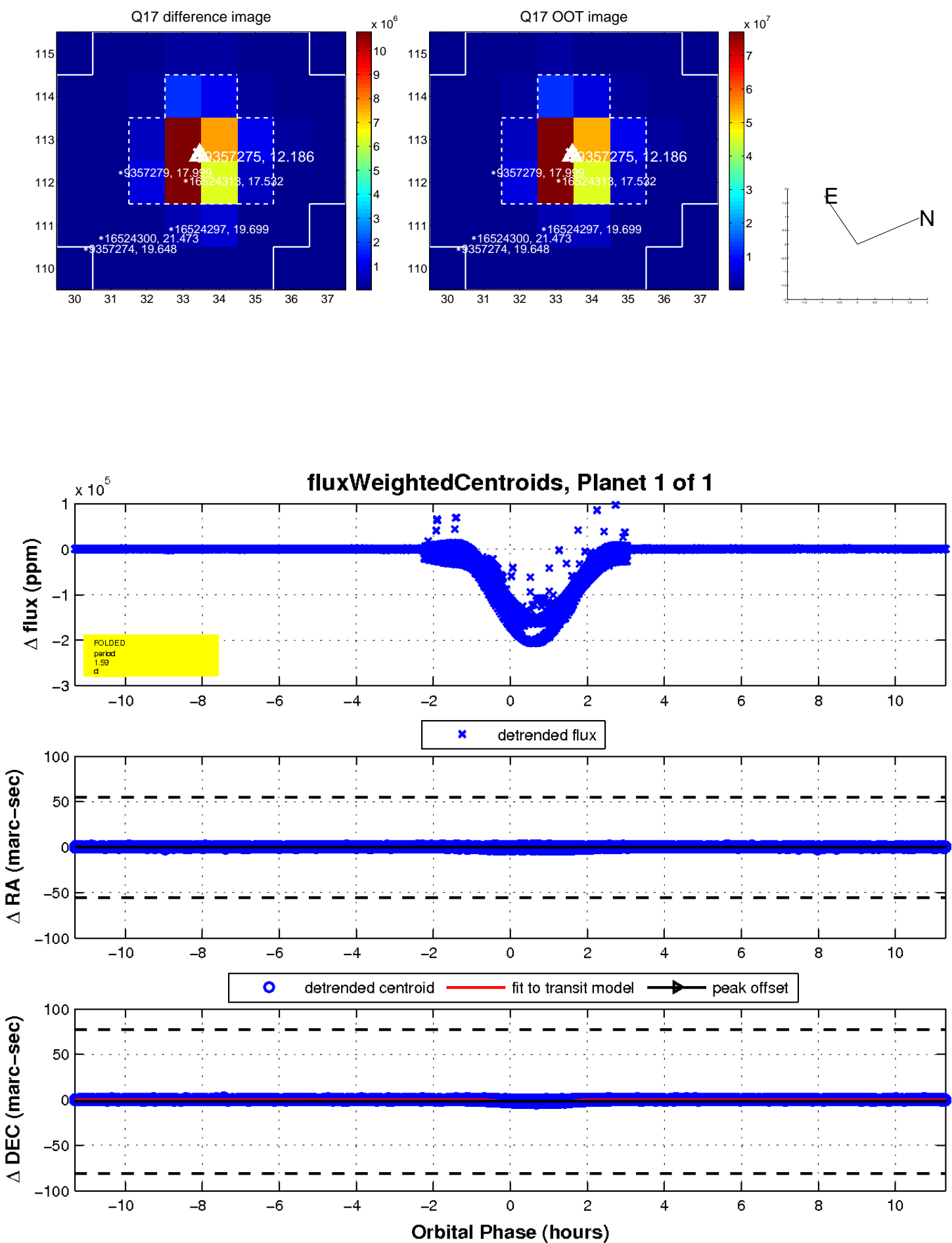
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

