

# KIC 000757450

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
000757450-01	OBS	0889.01	8.884923	134.452037	15944.9	2.074	474.0	431.2	0.84	5332	10.45	83.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
000757450-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

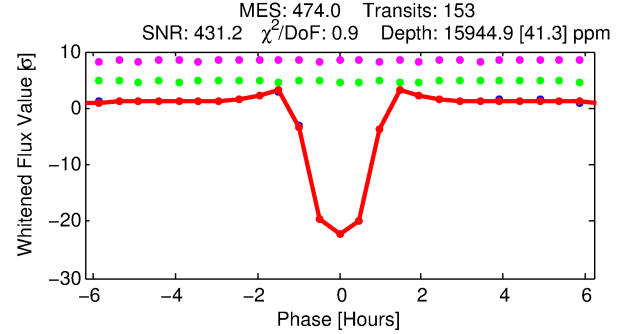
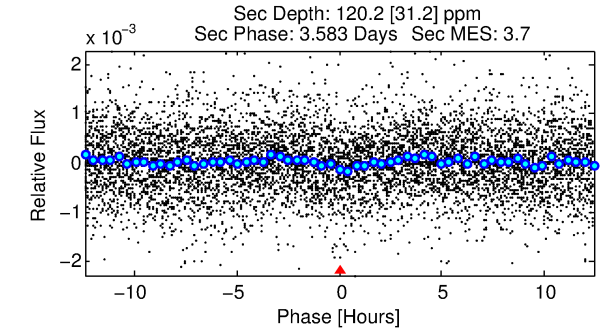
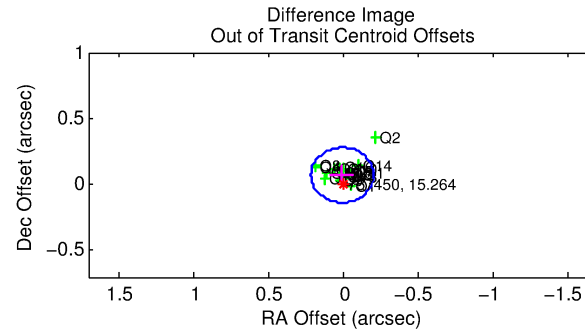
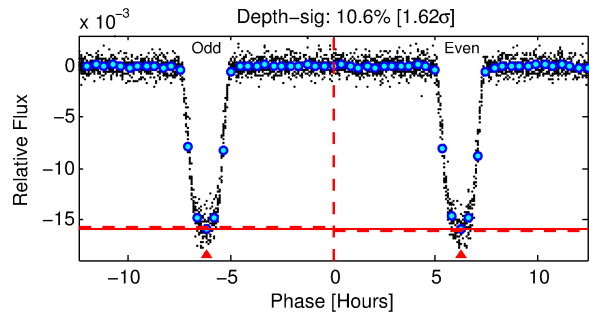
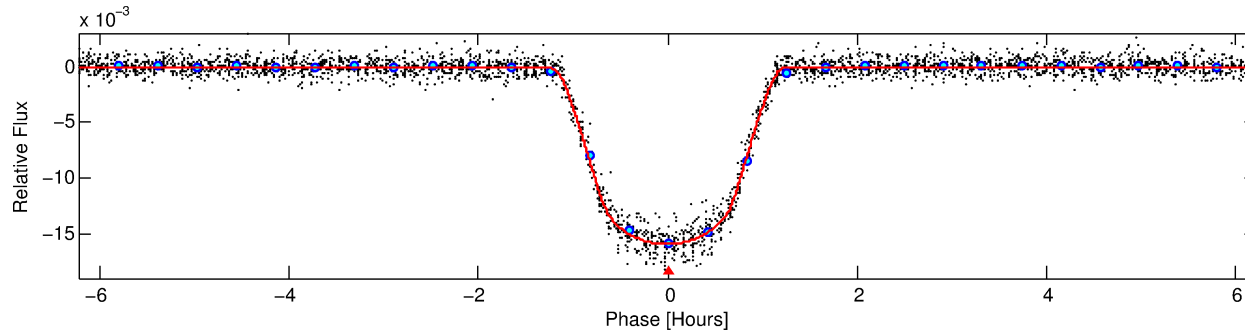
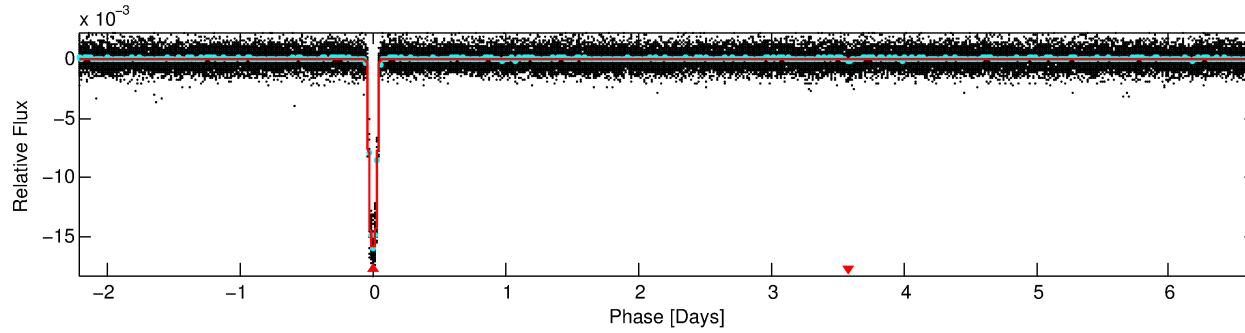
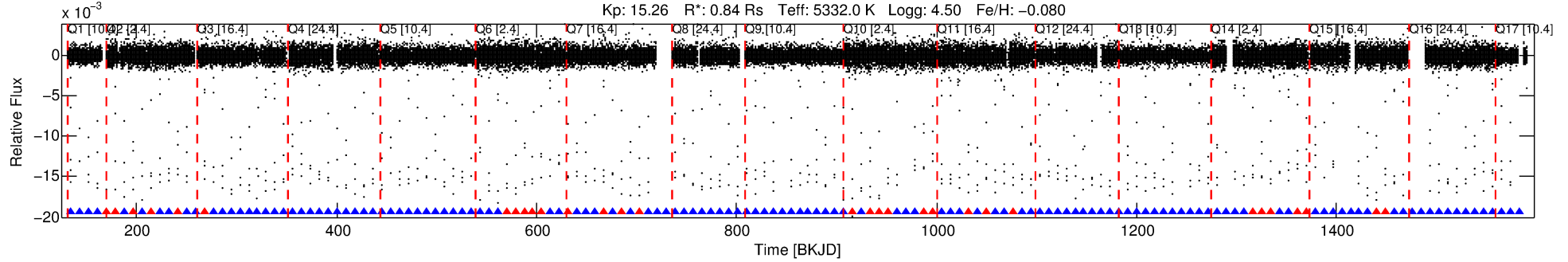
## Ephemeris Match Information For 000757450-01

No Significant Match Found

# DV One-Page Summary

KIC: 757450 Candidate: 1 of 1 Period: 8.885 d  
KOI: K00889.01 Name: Kepler-75b Corr: 0.998

Kp: 15.26 R\*: 0.84 Rs Teff: 5332.0 K Logg: 4.50 Fe/H: -0.080



## DV Fit Results:

Period = 8.88492 [0.00000] d  
Epoch = 134.4520 [0.0001] BKJD  
Rp/R\* = 0.1136 [0.0017]  
a/R\* = 36.43 [2.01]  
b = 0.04 [1.41]  
Seff = 83.33 [9.68]  
Teq = 770 [22] K  
Rp = 10.45 [0.58] Re  
a = 0.0786 [0.0041] AU  
Ag = 3.74 [1.03] [2.67σ]  
Teffp = 1657 [113] K [7.68σ]

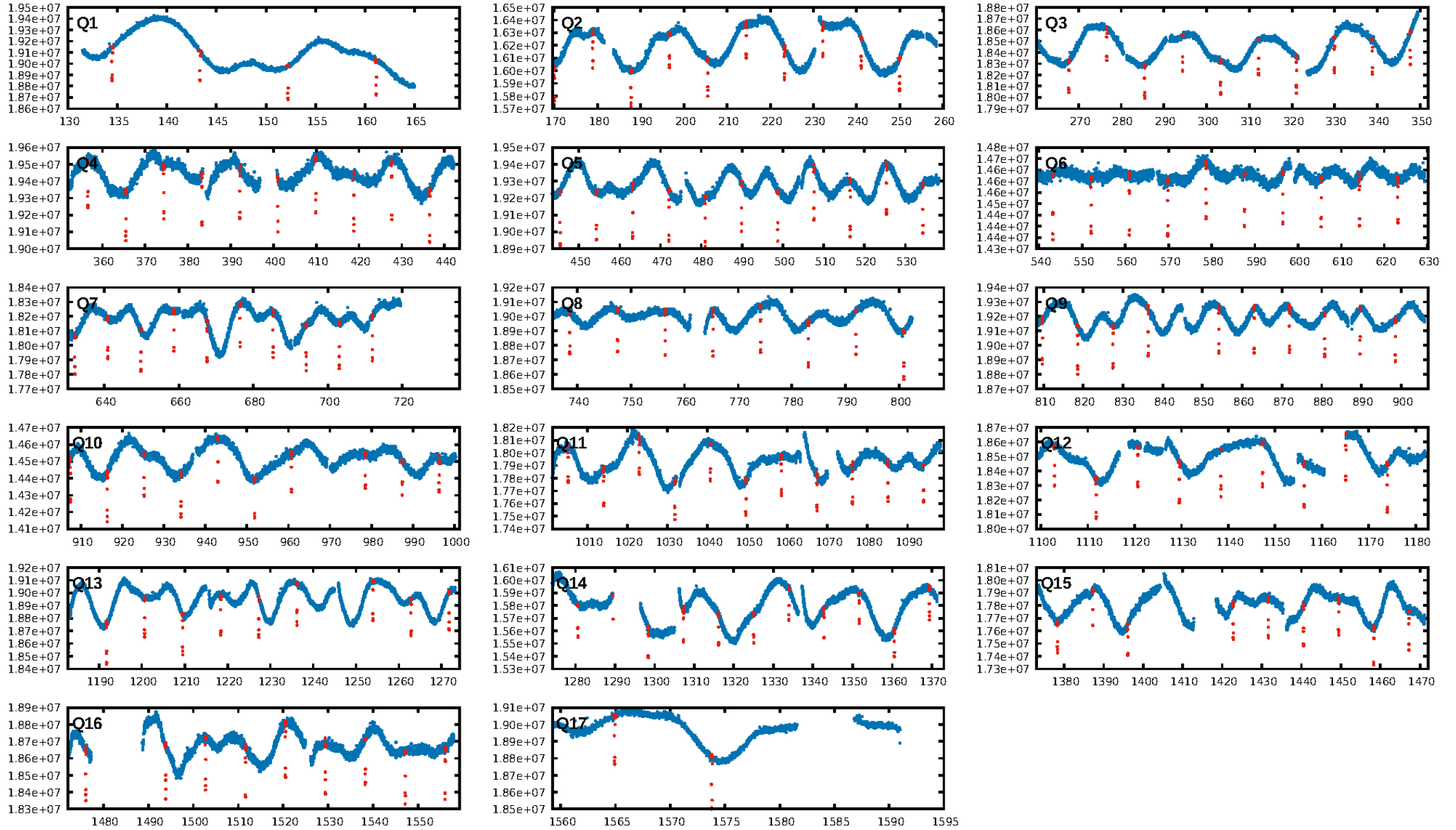
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.79 [116/147]  
GhostDiagnostic-chr: 2.877  
Centroid-sig: 0.0%  
Centroid-so: 1.778 arcsec [75.81σ]  
OotOffset-rm: 0.071 arcsec [1.03σ]  
KicOffset-rm: 0.127 arcsec [1.68σ]  
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]

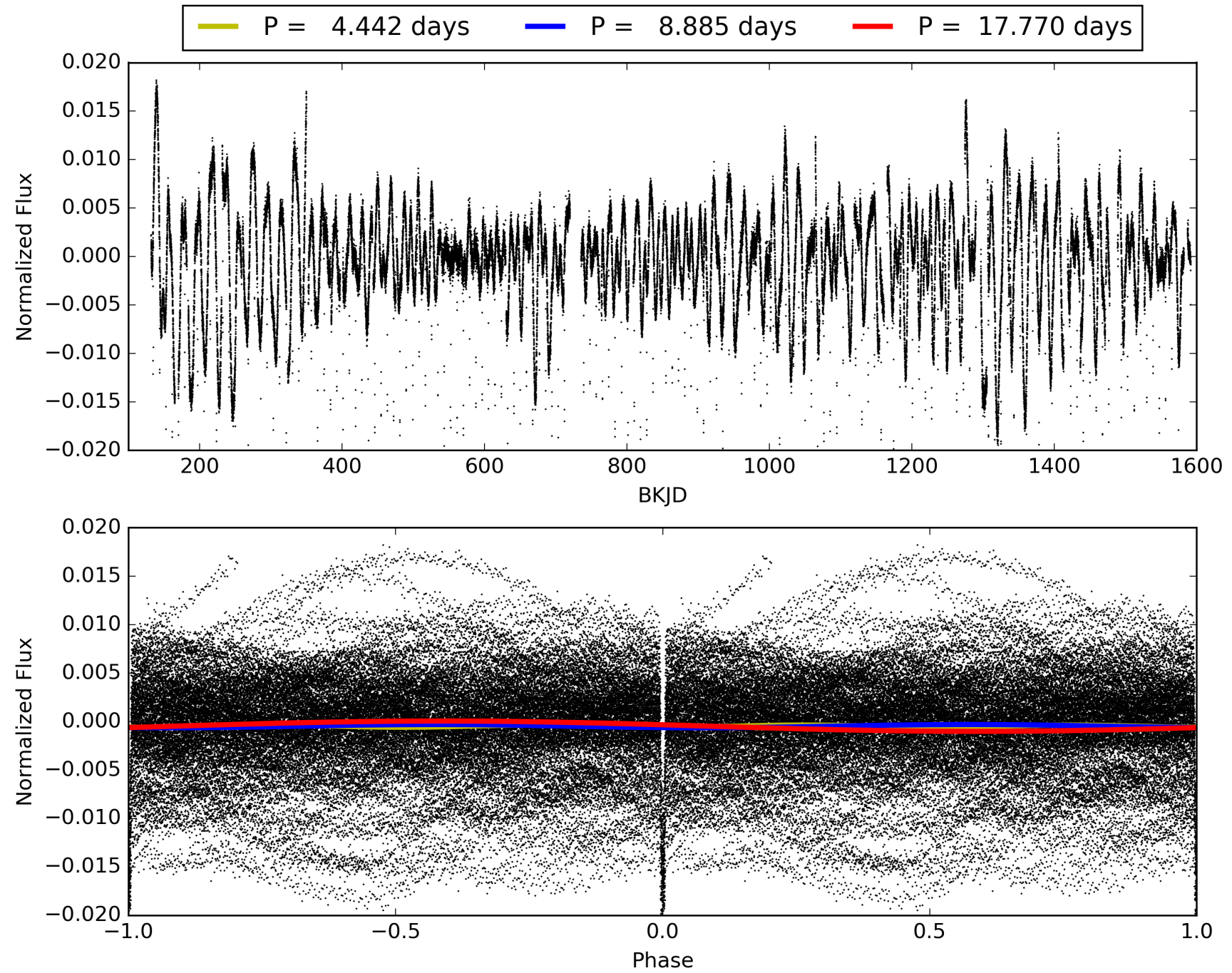
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:44:28 Z

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

# TCE 000757450-01, PDC Light Curves

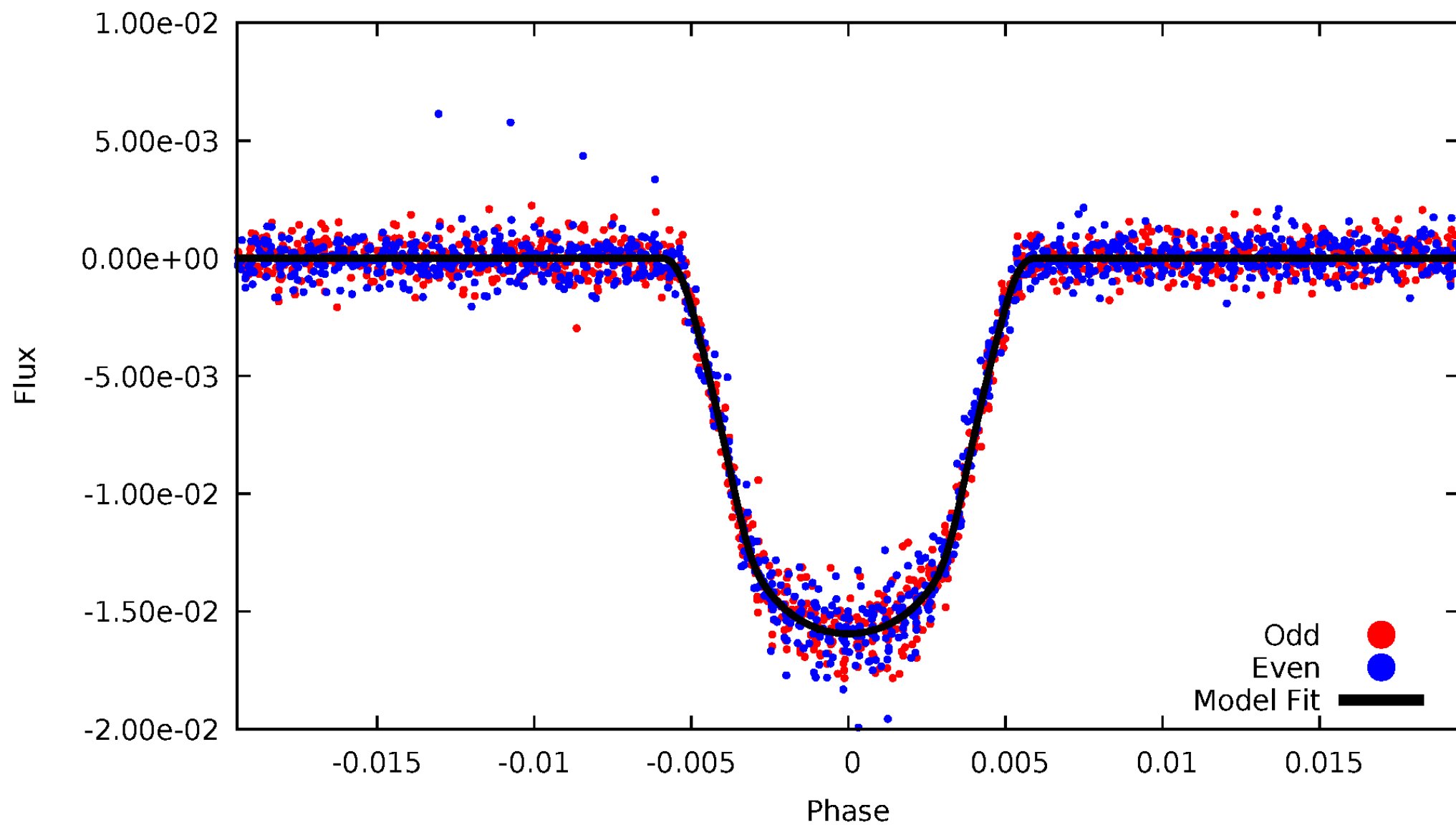


TCE 000757450-01



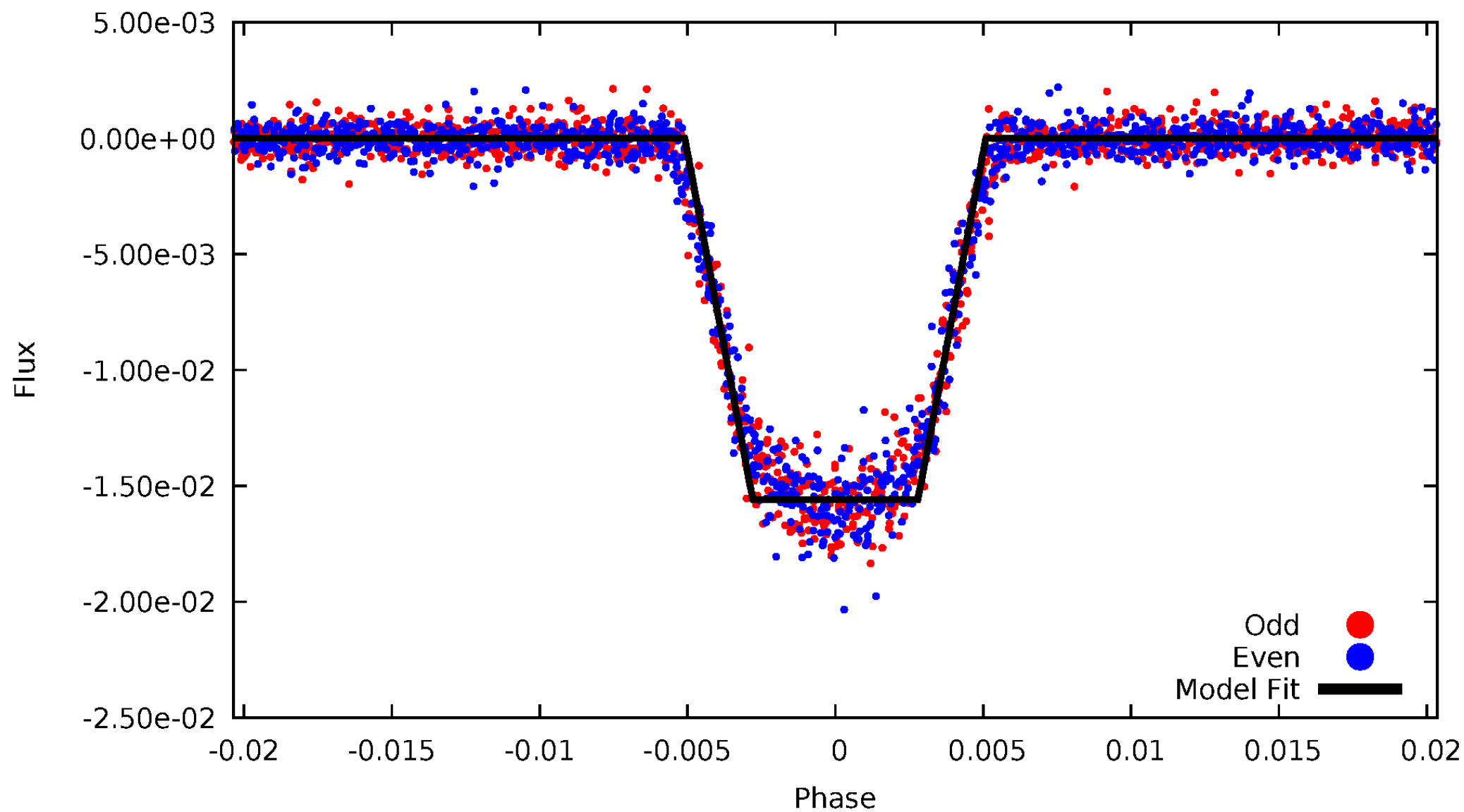
# DV Odd/Even

TCE 000757450-01



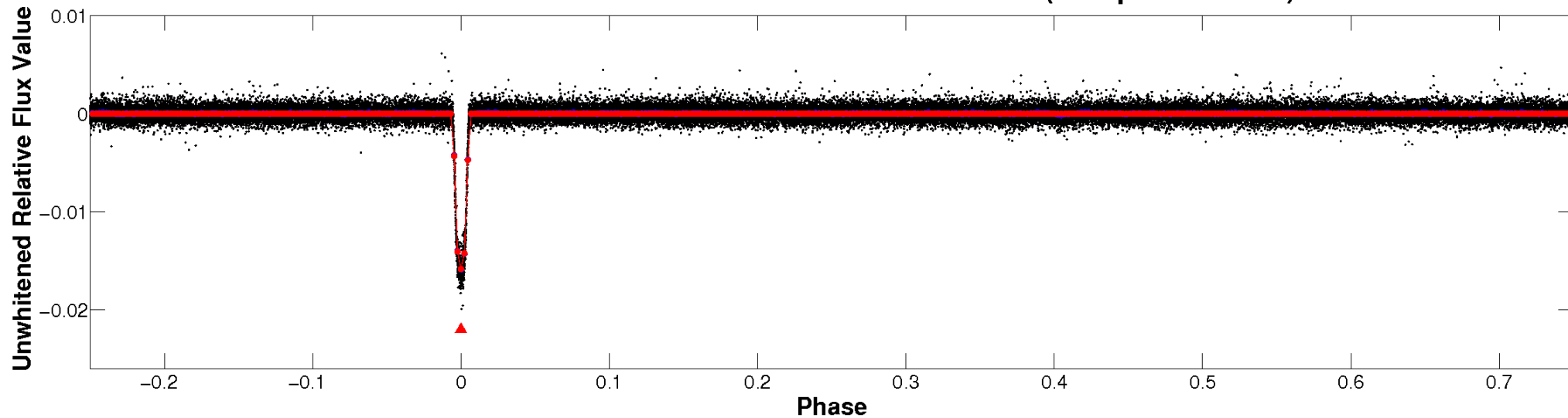
# ALT Odd/Even

TCE 000757450-01

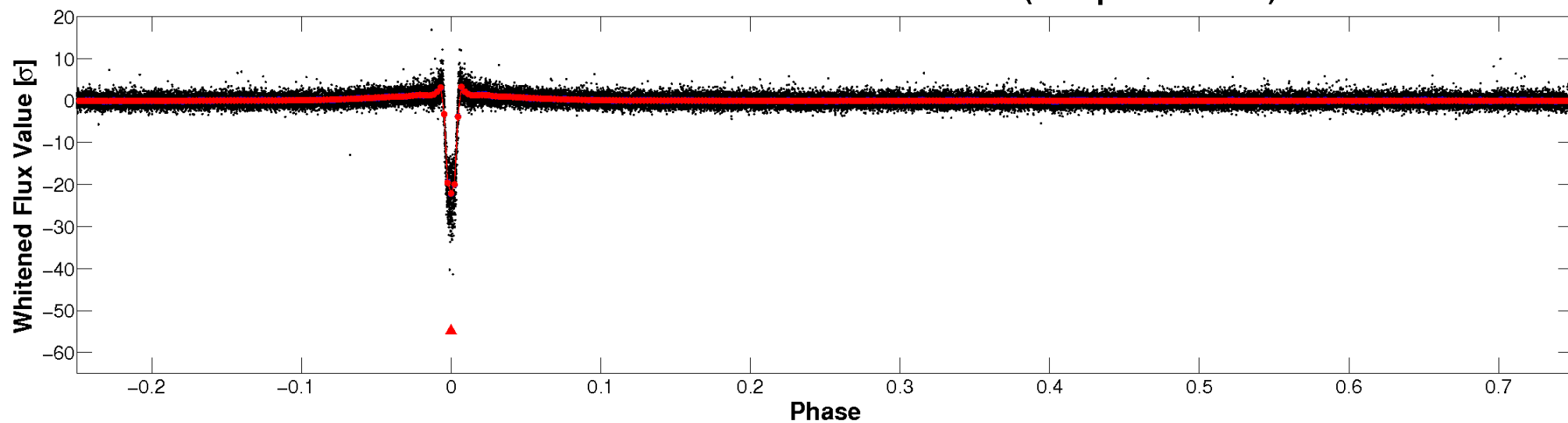


# Non-Whitened Vs. Whitened Light Curve

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



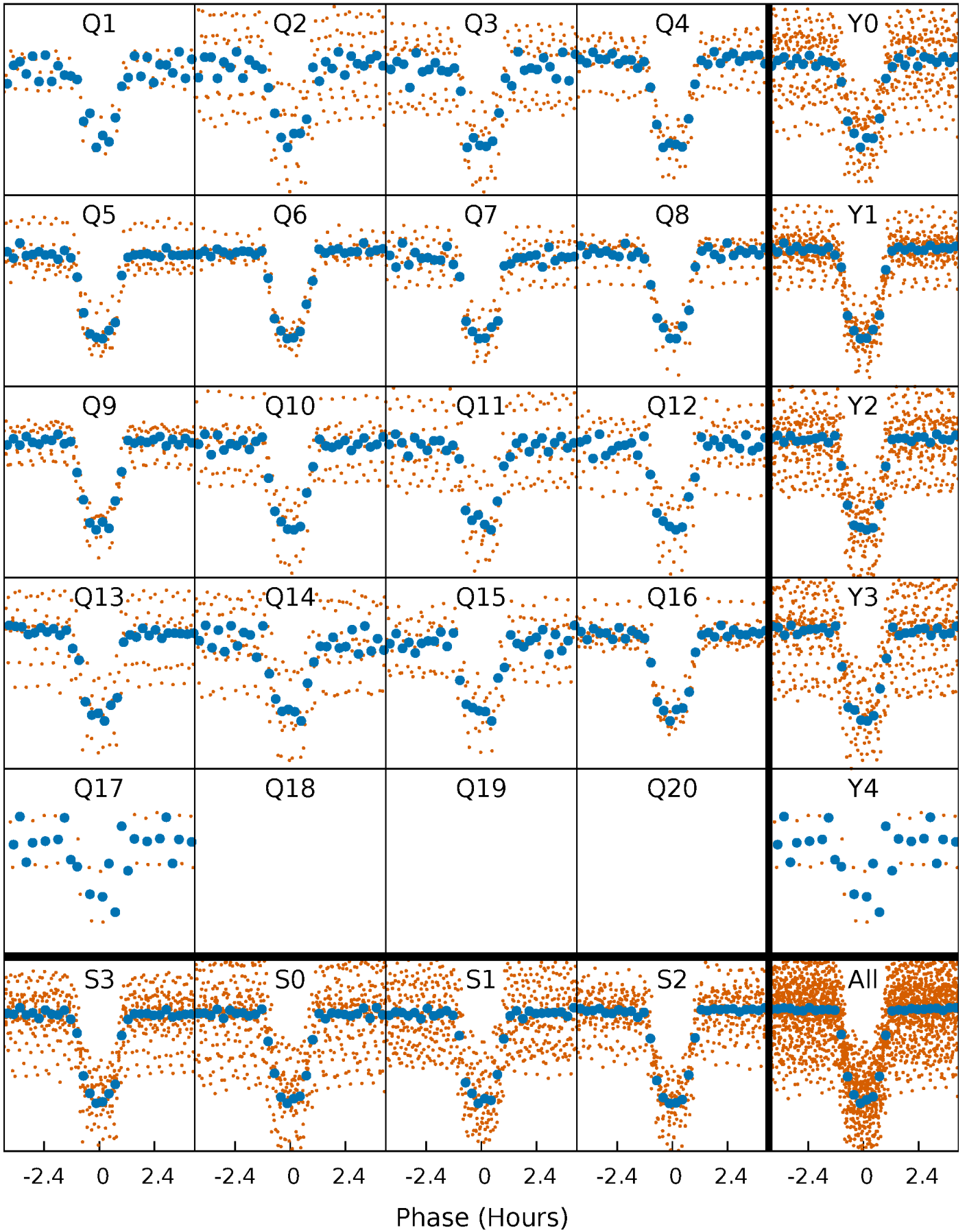
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

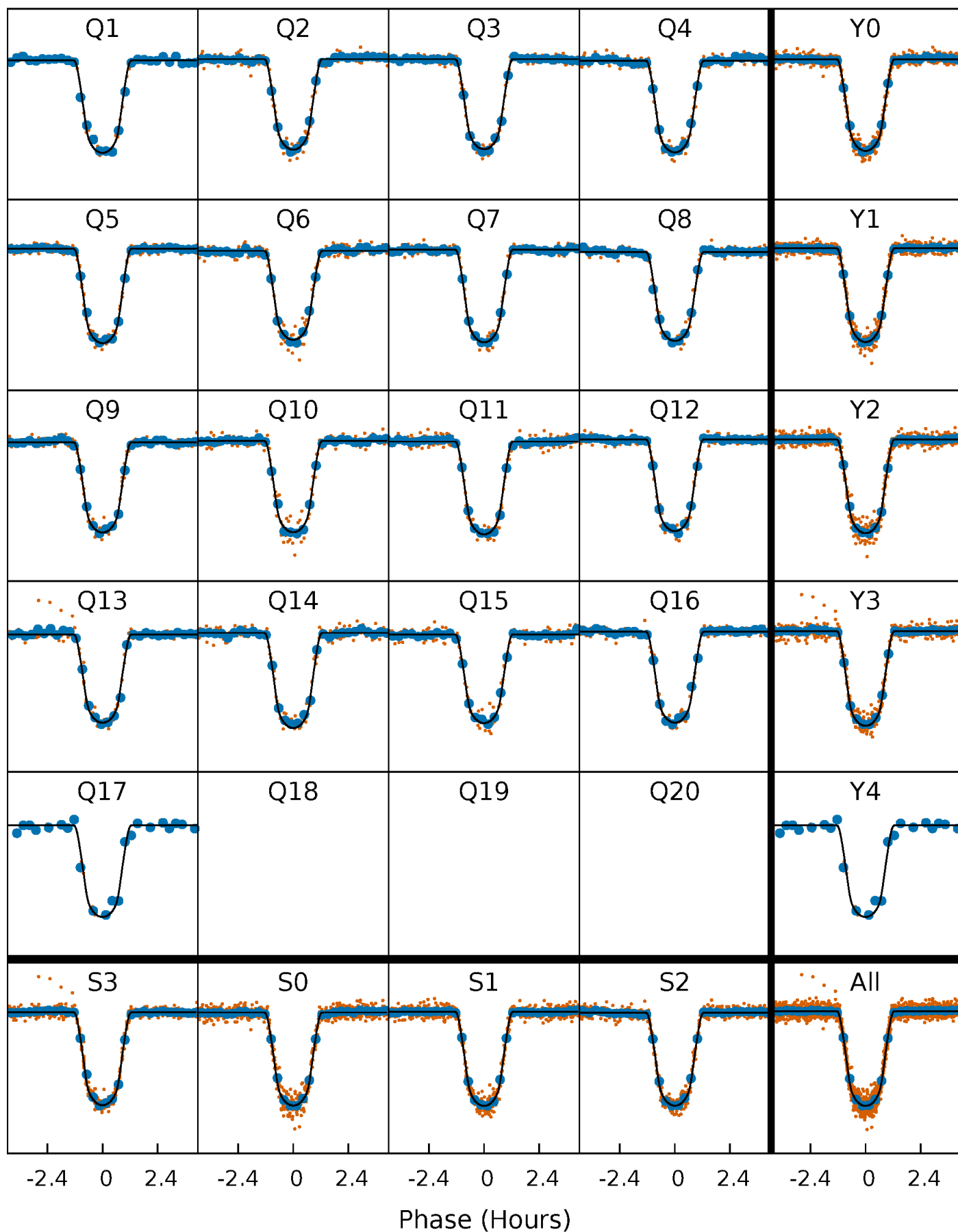
TCE 000757450-01 P= 8.884923 Days  $T_0=134.452037$  (BKJD)





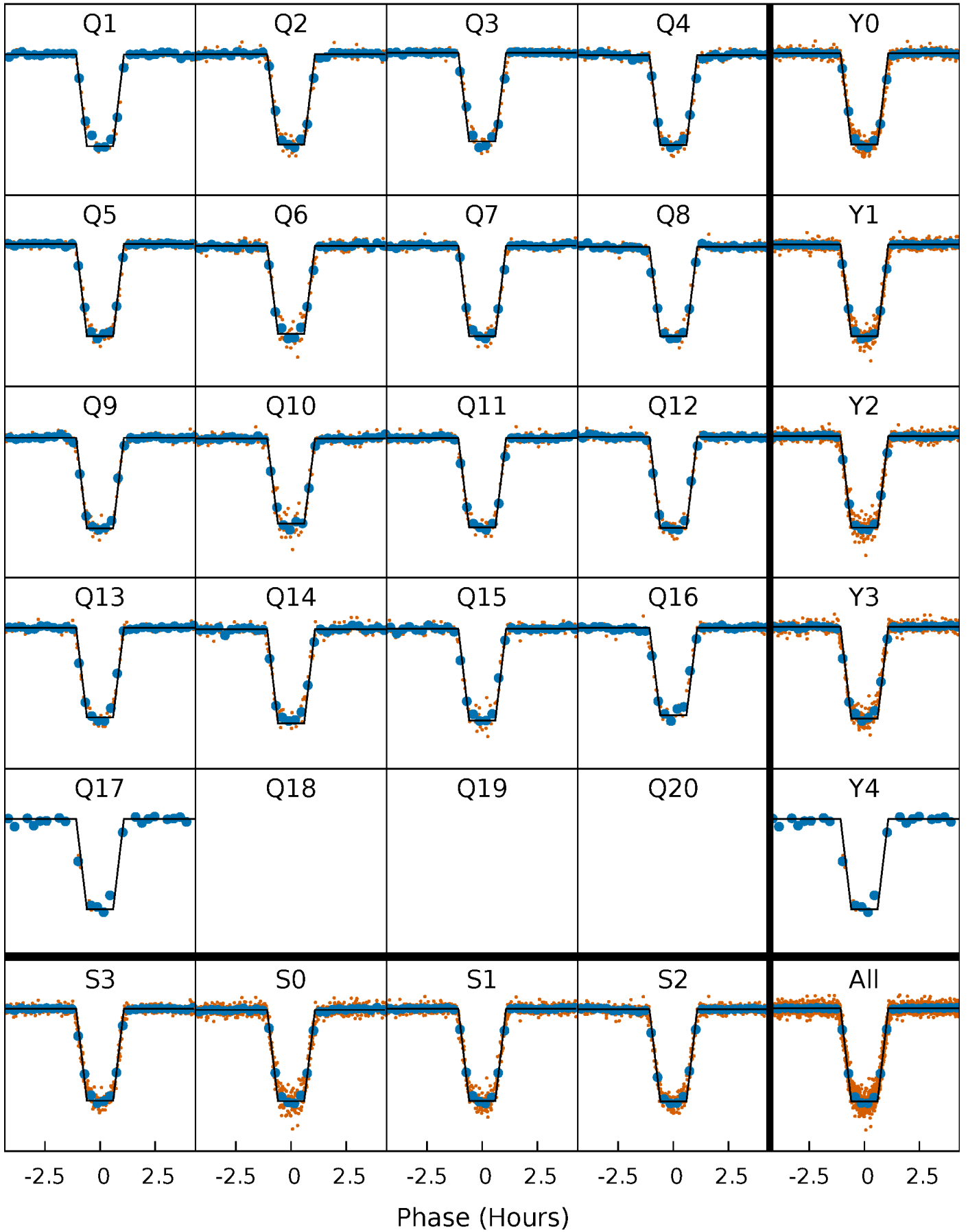
# DV Quarter-Phased Transit Curves

TCE 000757450-01 P= 8.884923 Days  $T_0=134.452037$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

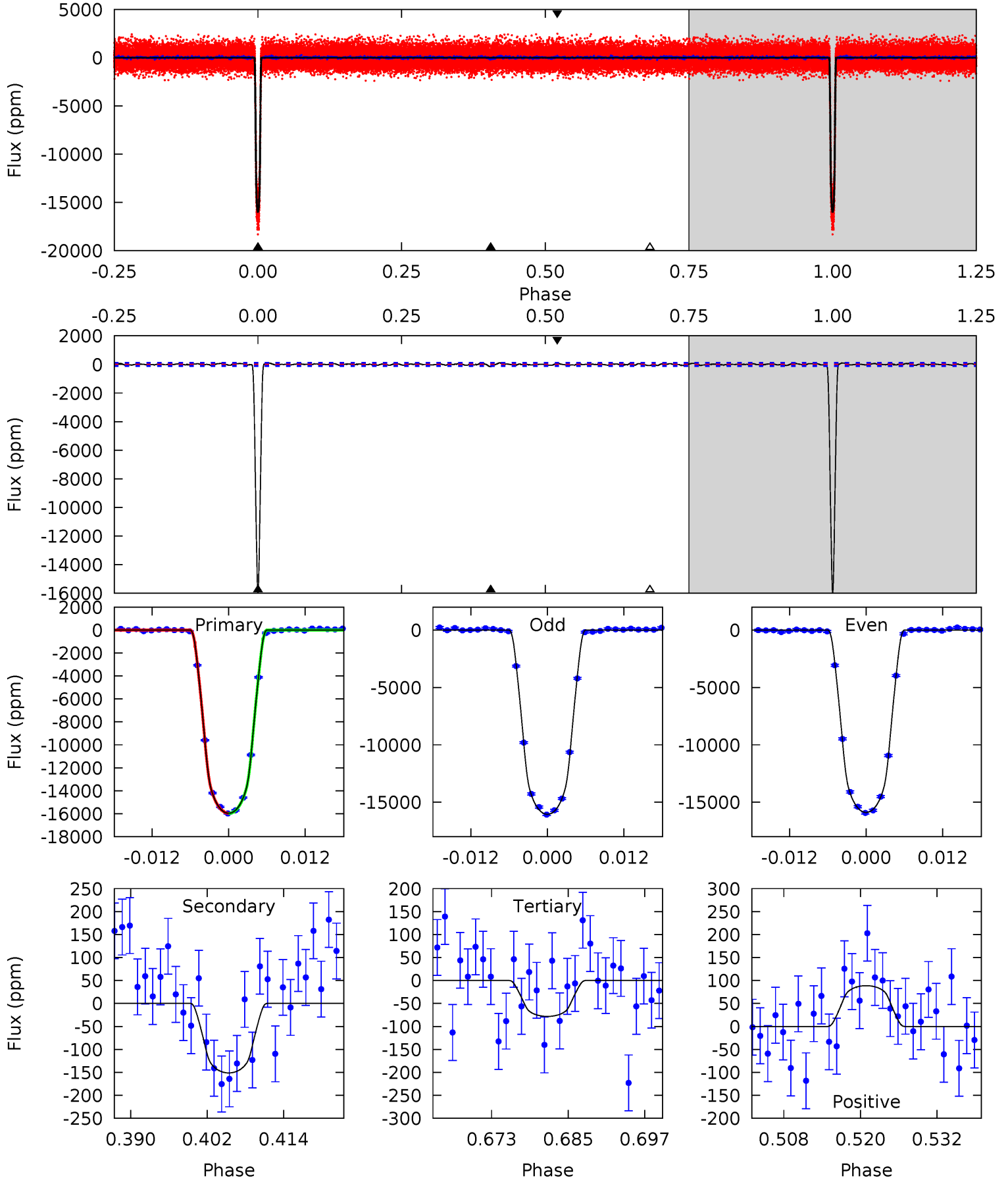
TCE 000757450-01 P= 8.884953 Days  $T_0=134.449581$  (BKJD)



# DV Model-Shift Uniqueness Test

000757450-01, P = 8.884923 Days, E = 125.567114 Days

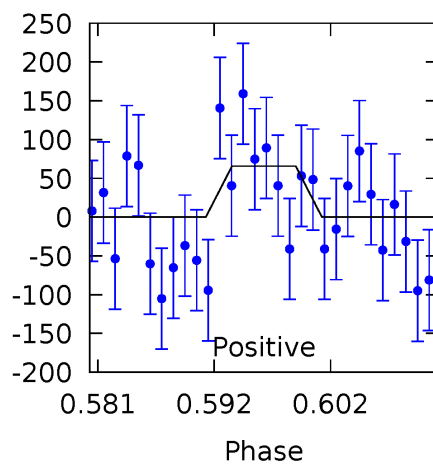
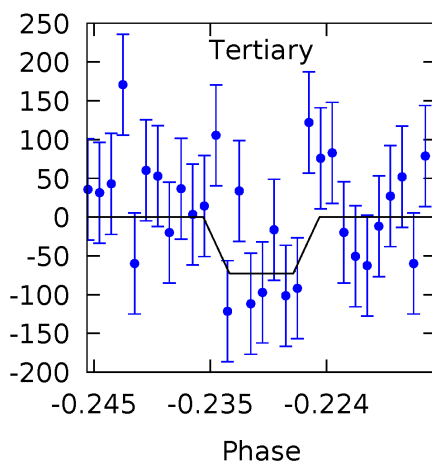
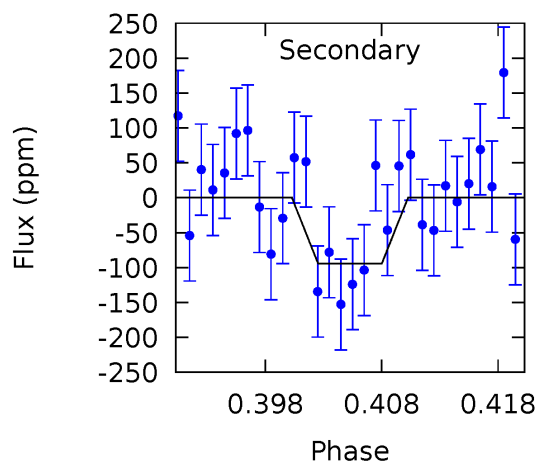
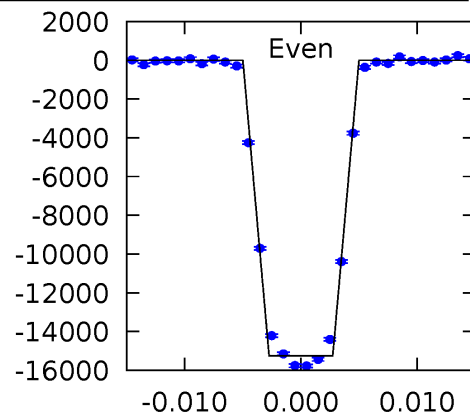
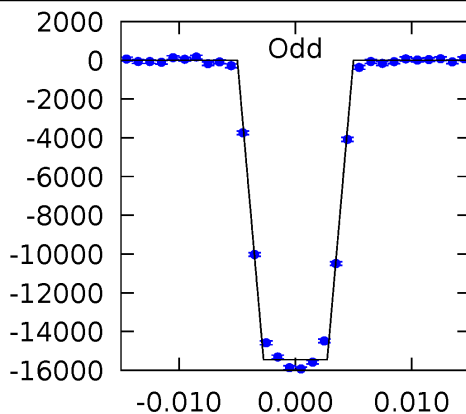
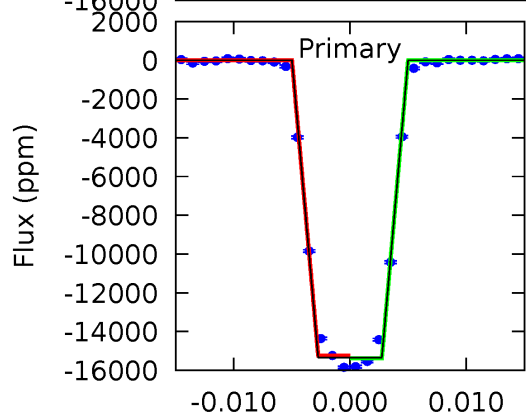
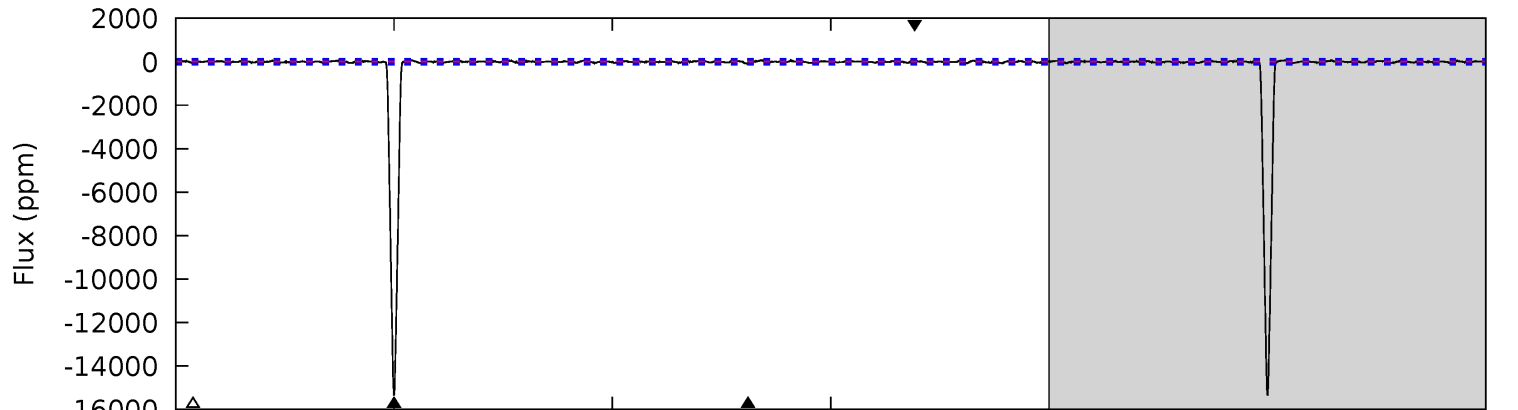
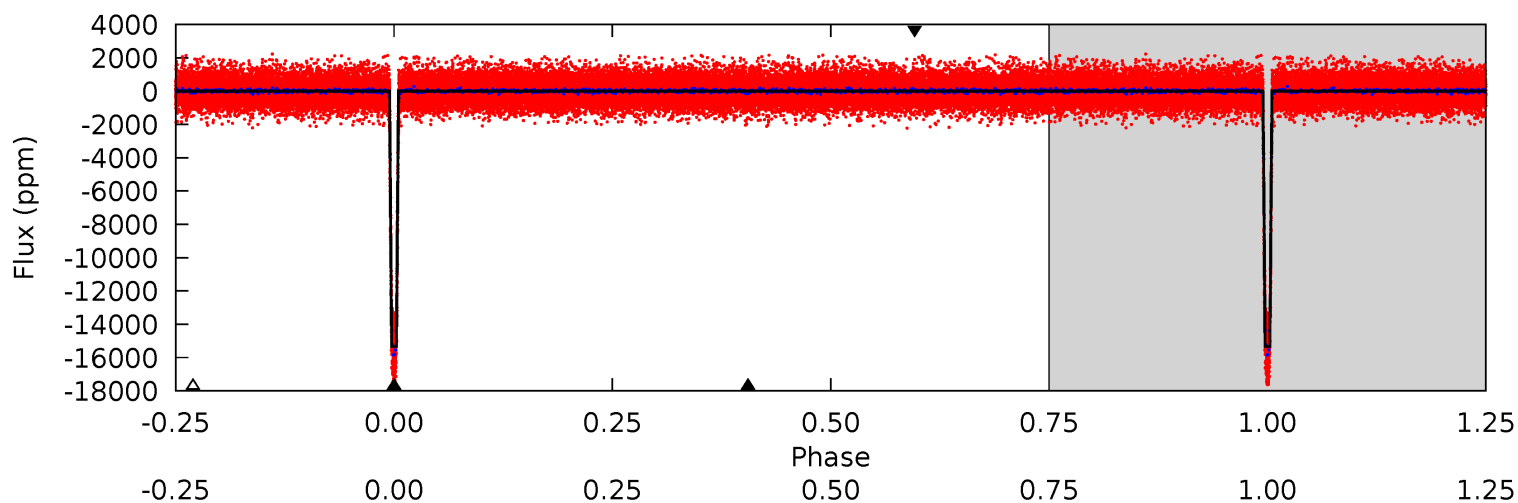
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
725.1	6.87	3.55	4.03	4.99	2.52	1.59	721.6	721.1	3.32	2.84	3.68	1.00	0.01	0.40



# Alt Model-Shift Uniqueness Test

000757450-01, P = 8.884953 Days, E = 125.564628 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
694.1	4.27	3.29	2.98	5.02	2.57	1.10	690.8	691.1	0.98	1.29	4.52	1.00	0.00	3.20



### Stellar Parameters For KIC 000757450

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5332^{+106}_{-96}$	$4.500^{+0.050}_{-0.036}$	$-0.080^{+0.150}_{-0.150}$	$0.843^{+0.045}_{-0.045}$	$0.821^{+0.061}_{-0.040}$	$1.928^{+0.348}_{-0.245}$
	+2%/-2%	+1%/-1%	+188%/-188%	+5%/-5%	+7%/-5%	+18%/-13%
Source	SPE51	TRA51	SPE51	DSEP		

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

### Secondary Eclipse Parameters for KIC 000757450-01 / KOI 0889.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-151 \pm 22$	$10.43^{+0.41}_{-0.37}$	$1075^{+27}_{-26}$	$2553^{+57}_{-59}$	$4.762^{+0.744}_{-0.734}$
Alt.	$-94 \pm 22$	$11.47^{+0.45}_{-0.40}$	$1075^{+27}_{-26}$	$2340^{+73}_{-84}$	$2.457^{+0.574}_{-0.579}$

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

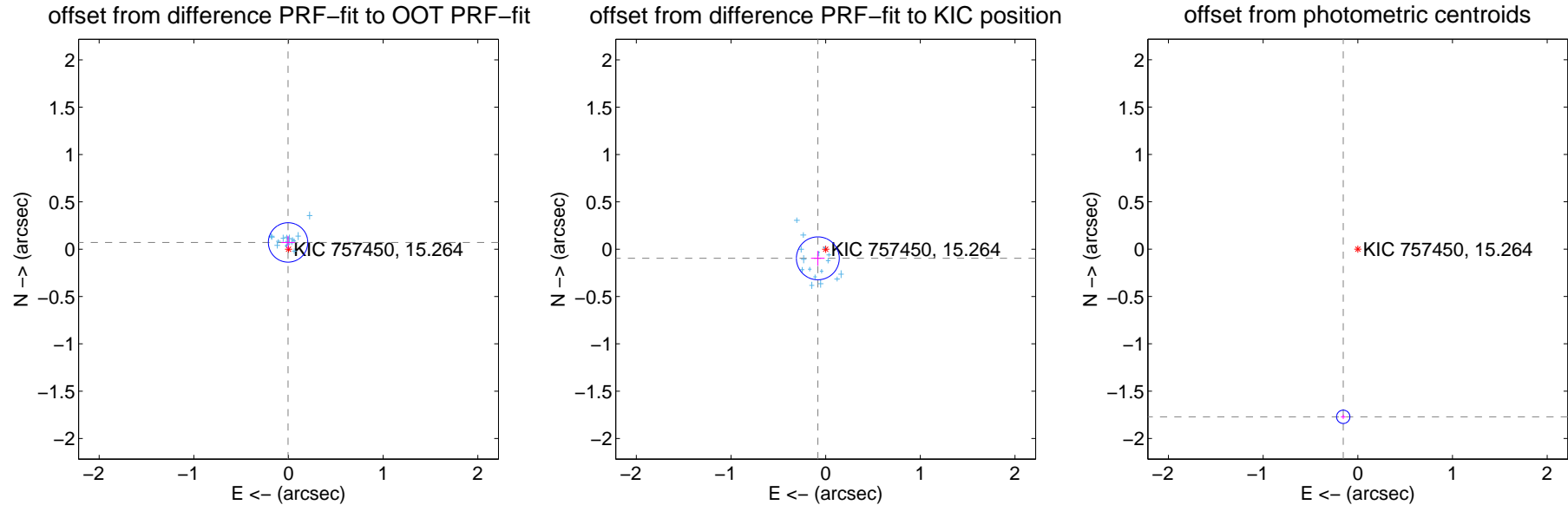
## DV Centroid Data

Supplemental centroid analysis for 000757450-01. Kepler magnitude: 15.26. Transit SNR 431.17

There are 17 quarters with good PRF difference image offsets

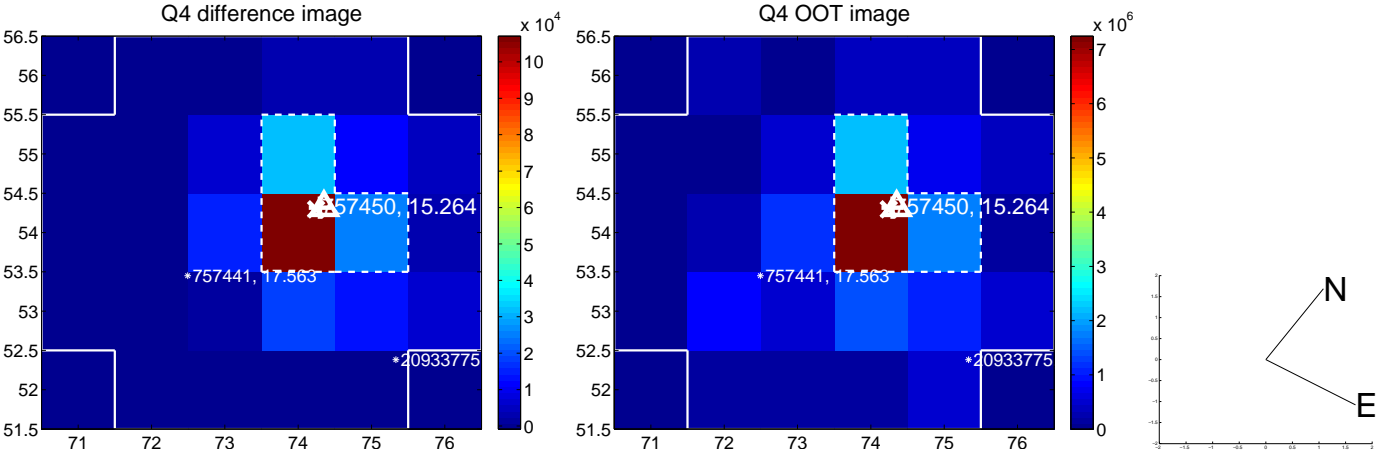
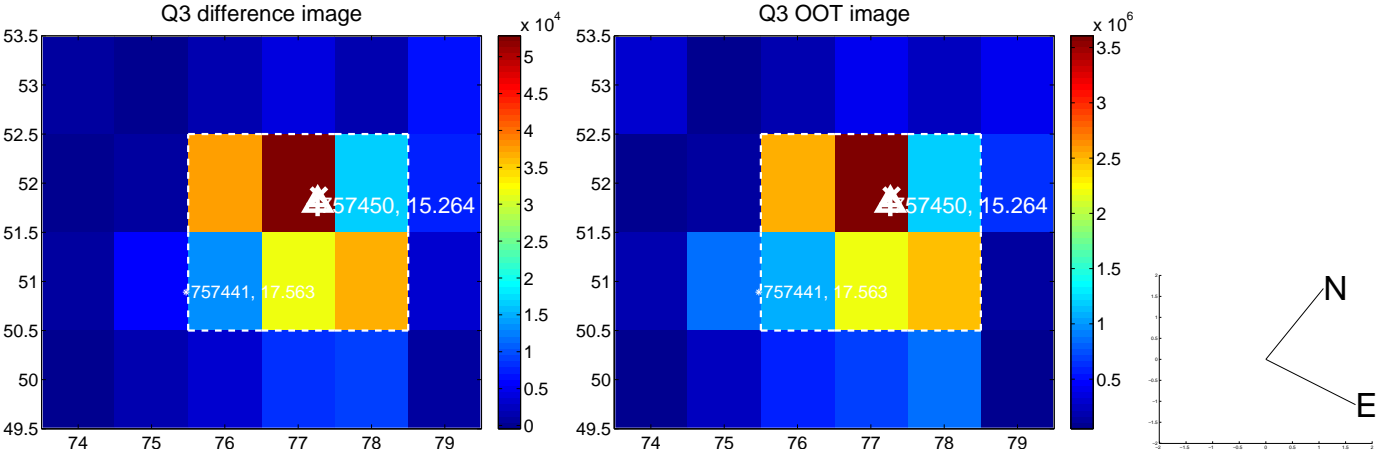
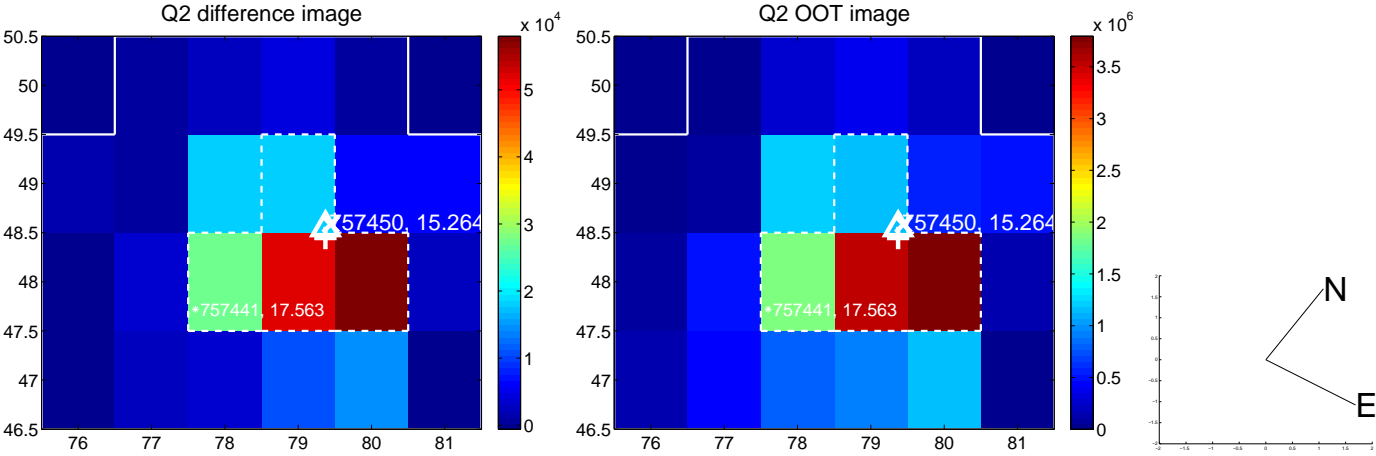
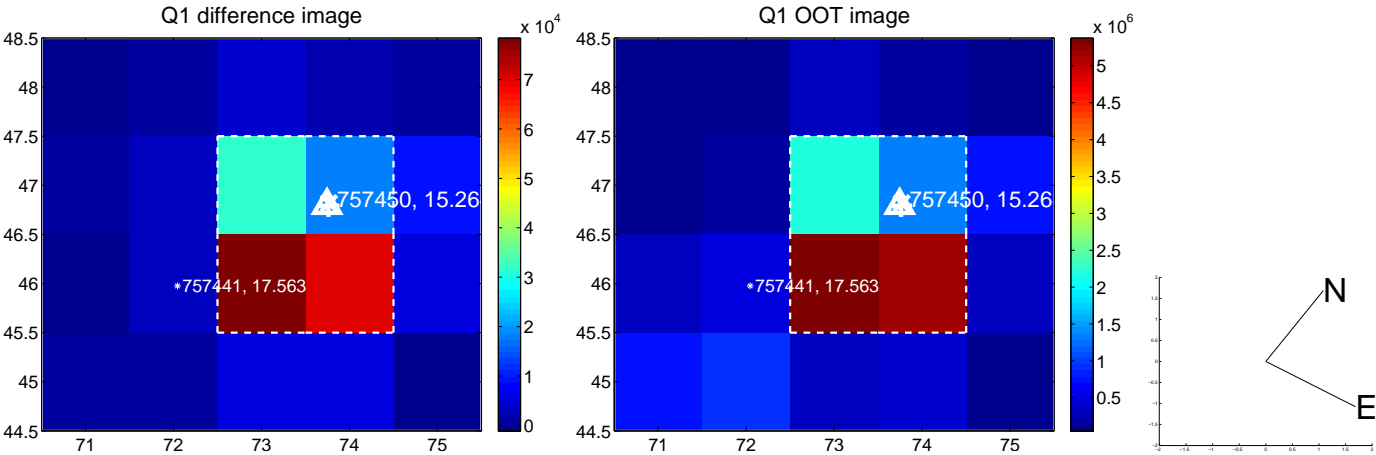
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.071 \pm 0.069$	1.03	$0.005 \pm 0.071$	$0.071 \pm 0.070$
PRF-fit source offset from KIC position	$0.127 \pm 0.076$	1.68	$0.083 \pm 0.072$	$-0.097 \pm 0.078$
photometric centroid source offset	$1.78 \pm 0.02$	75.81	$0.15 \pm 0.03$	$-1.77 \pm 0.02$



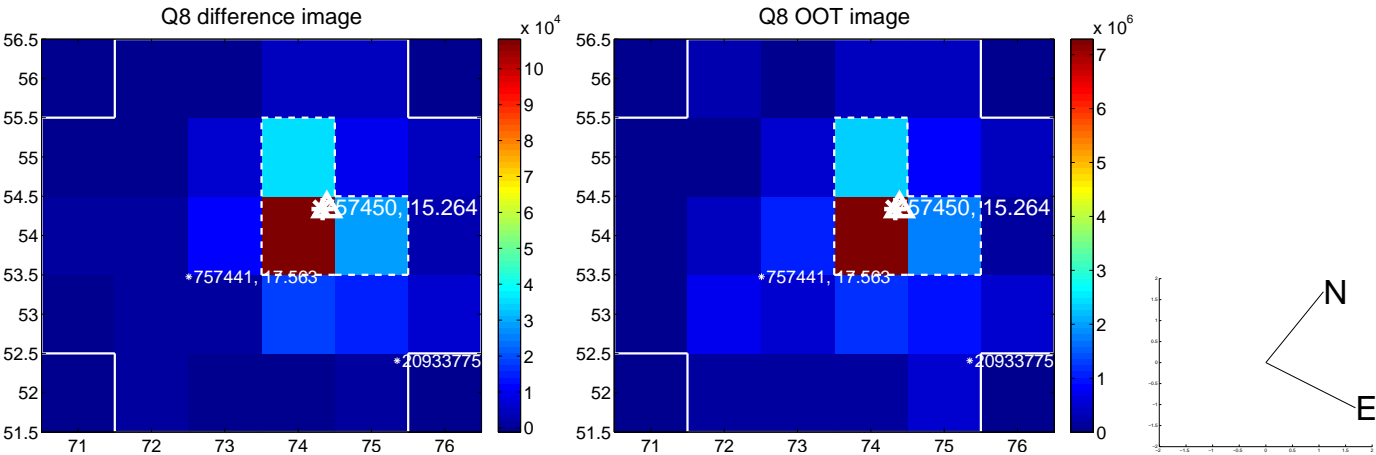
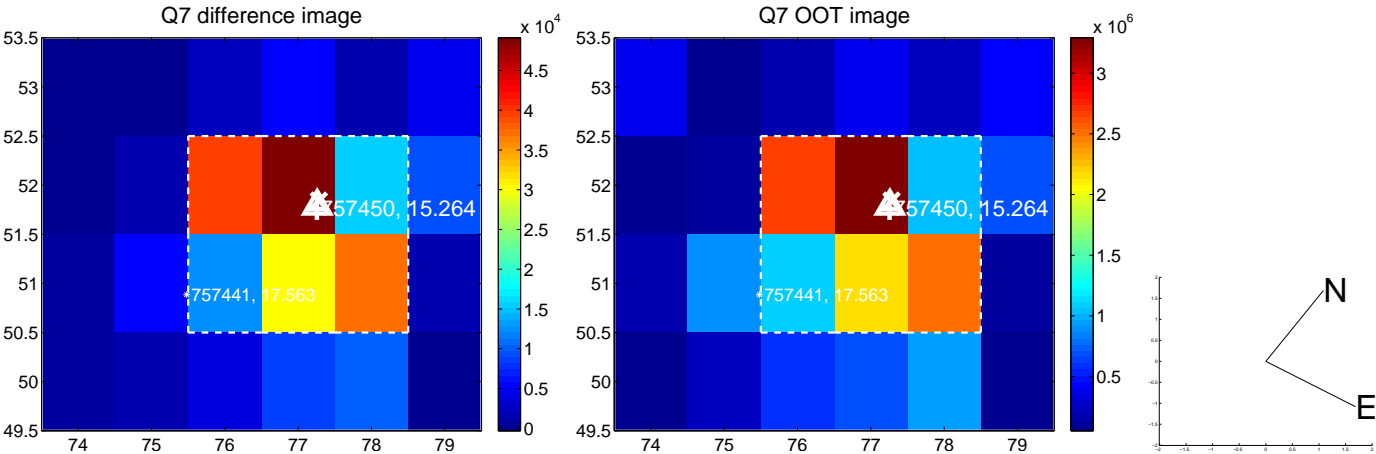
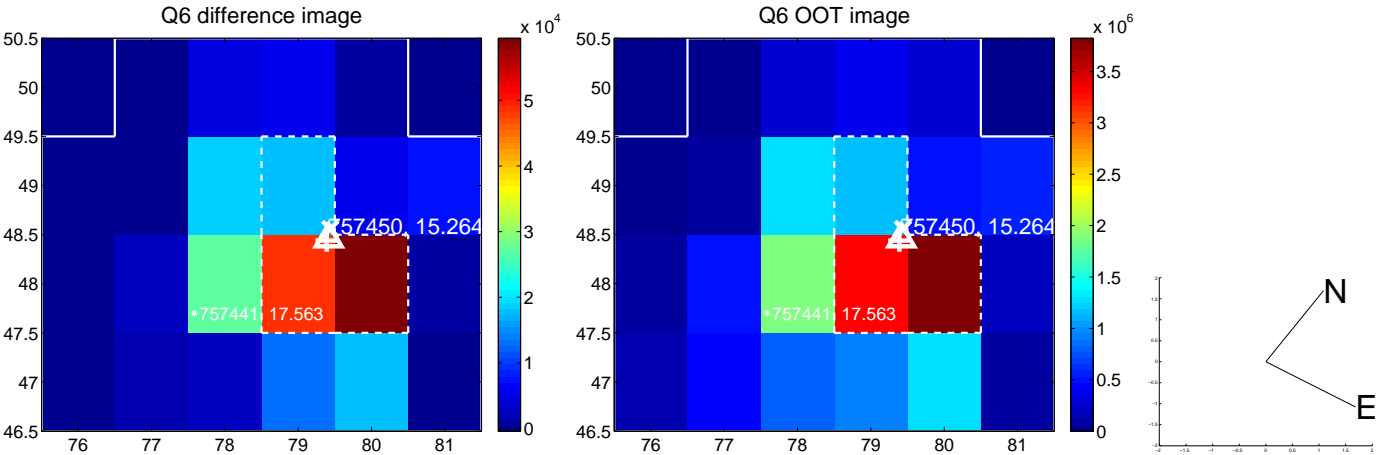
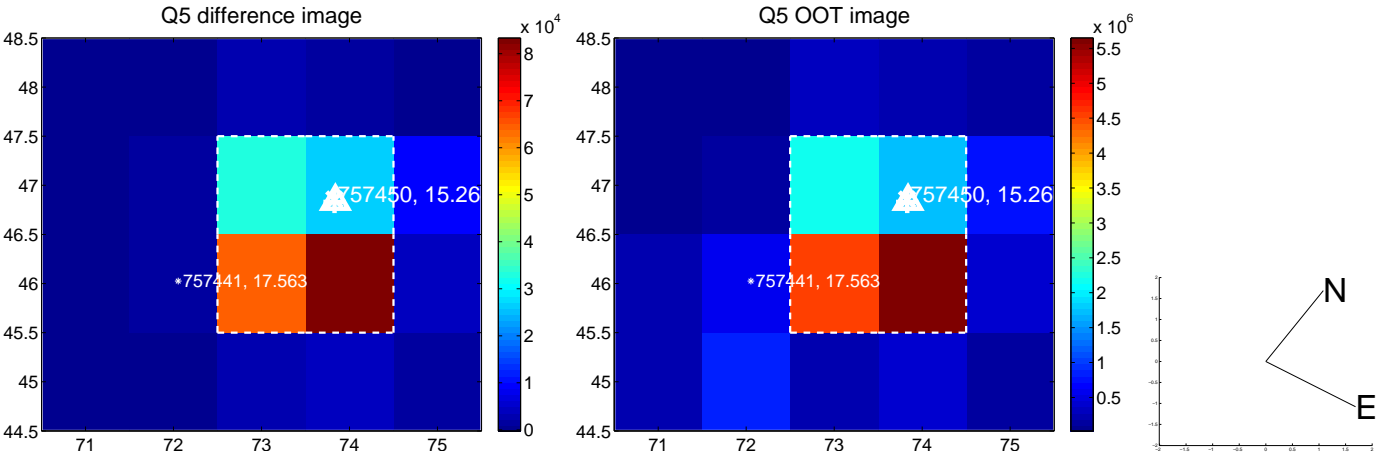
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

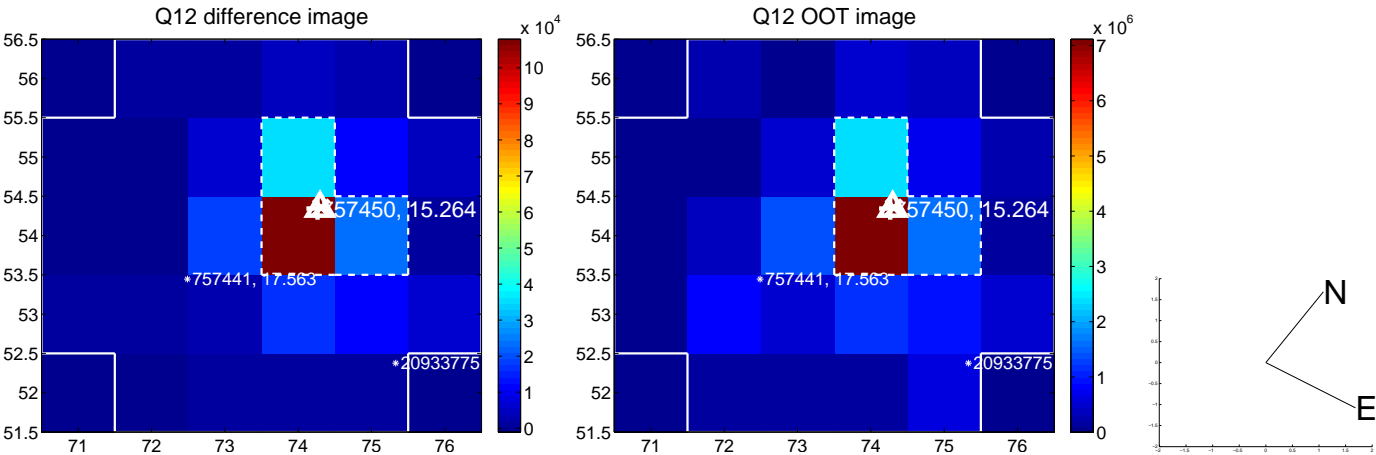
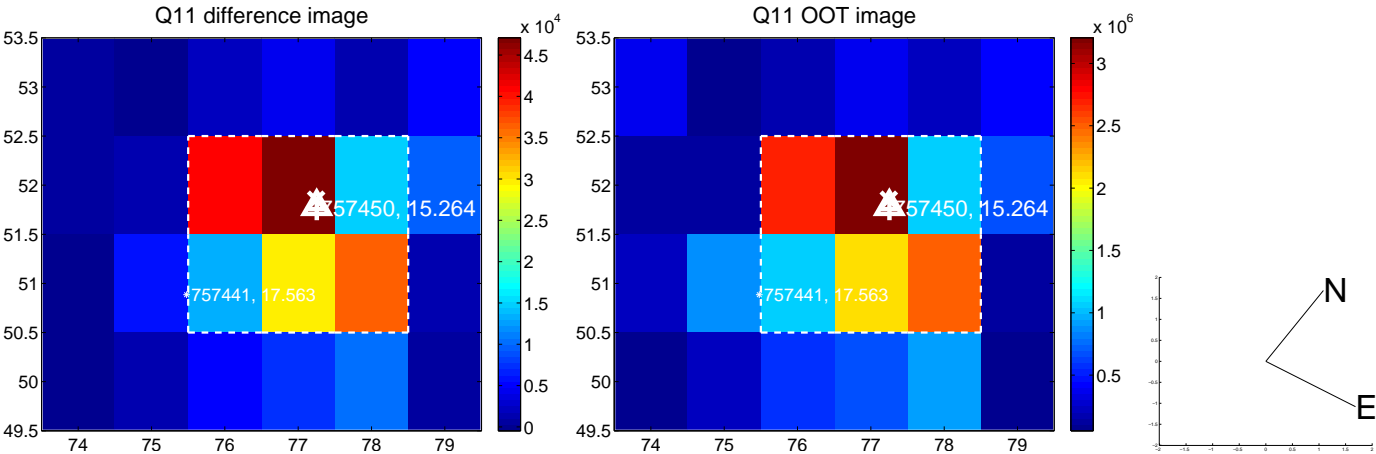
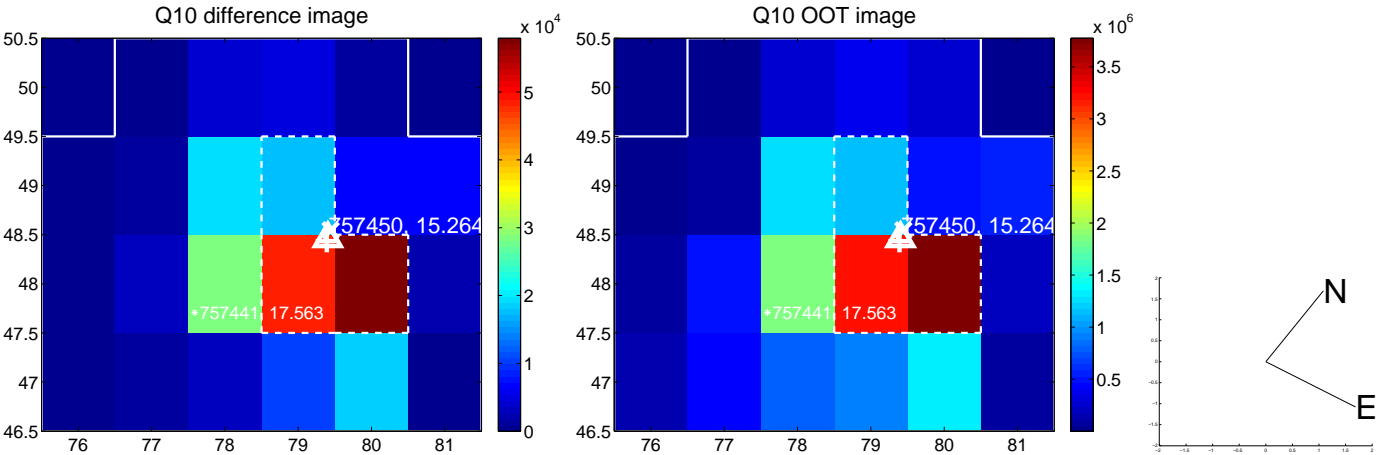
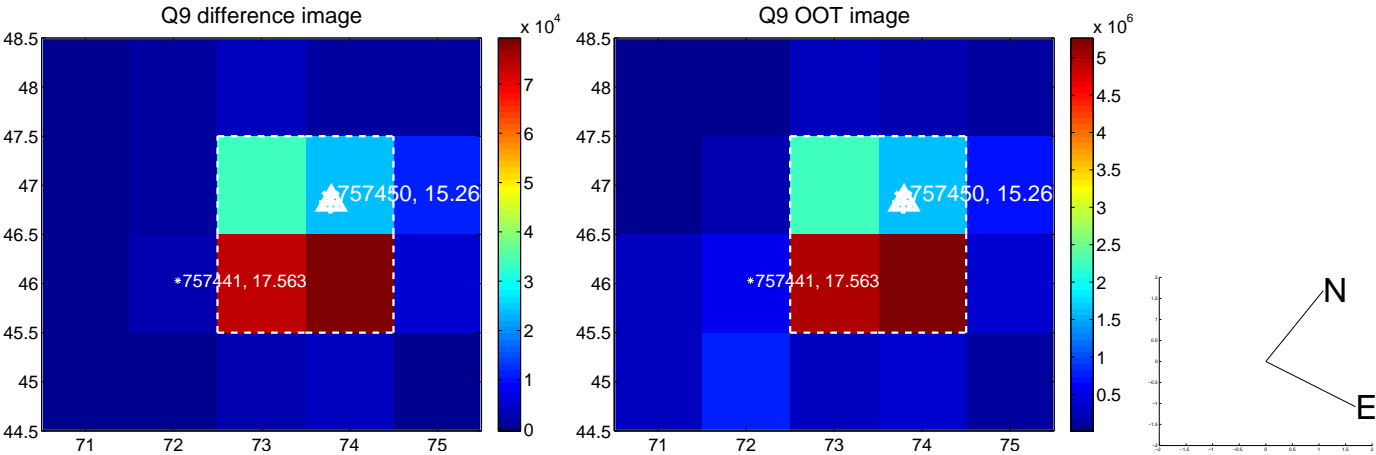




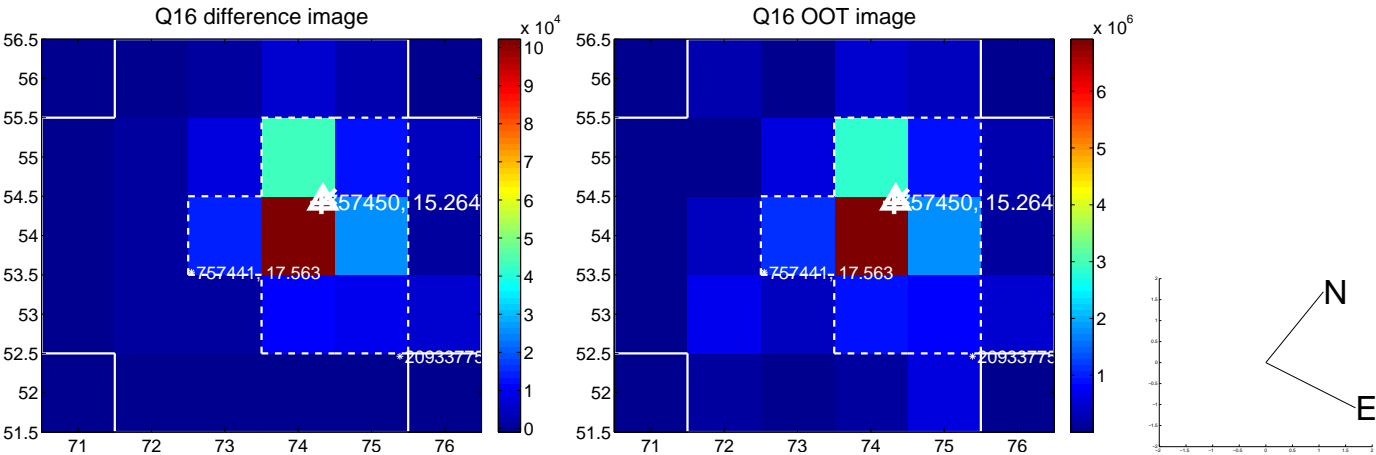
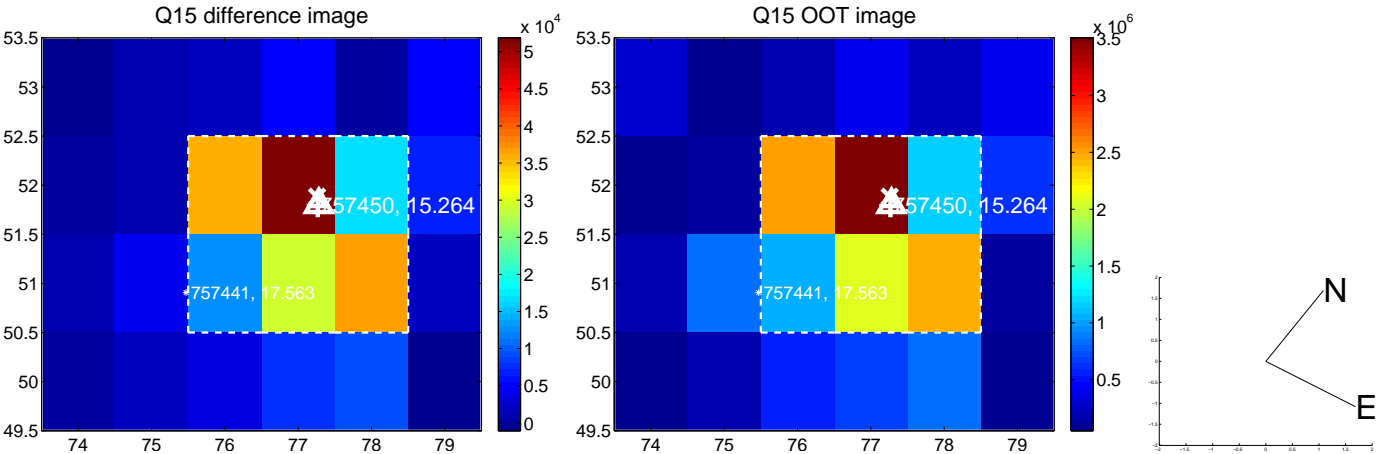
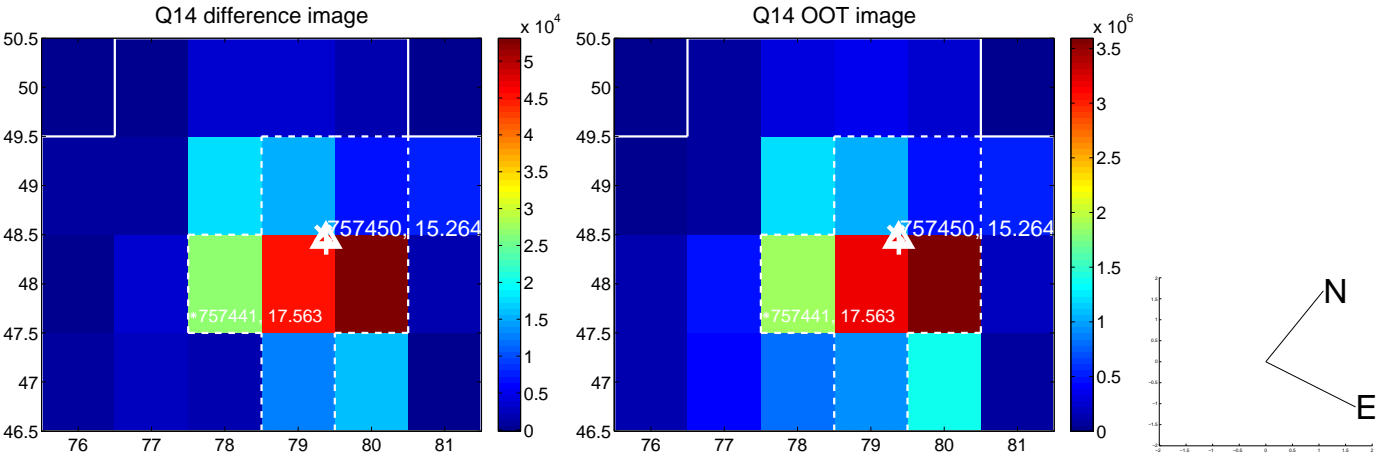
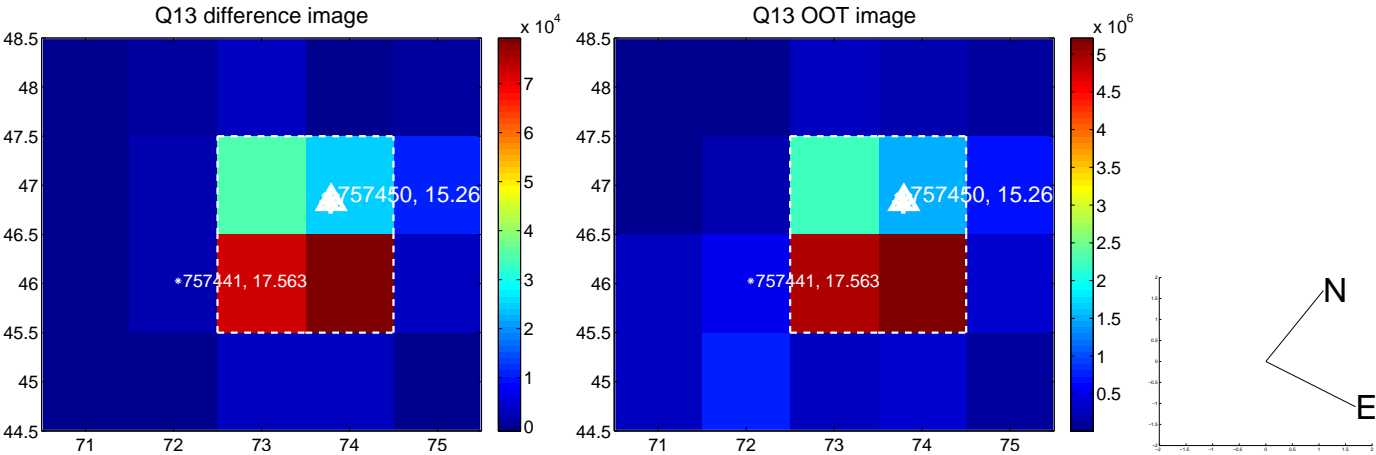
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



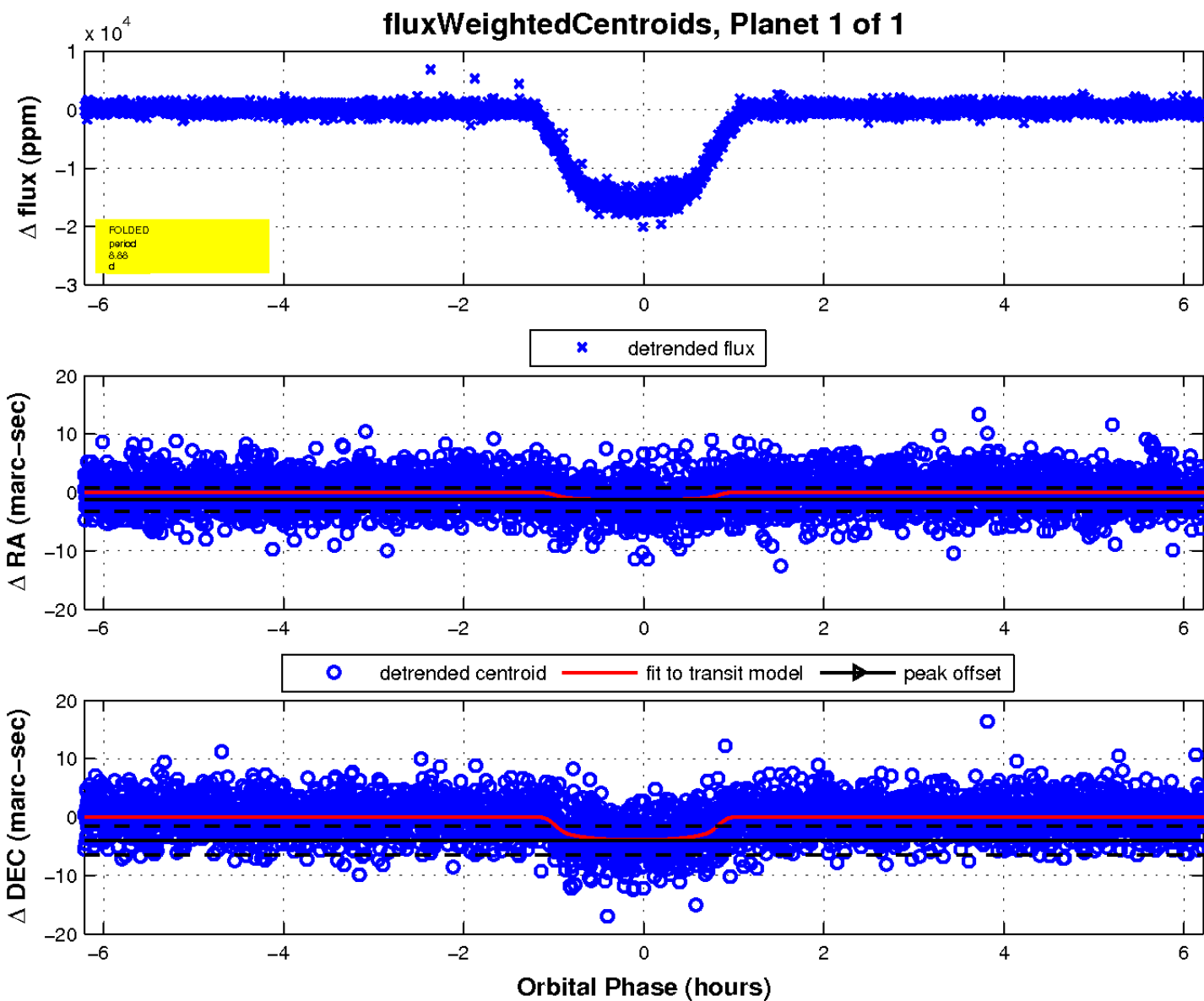
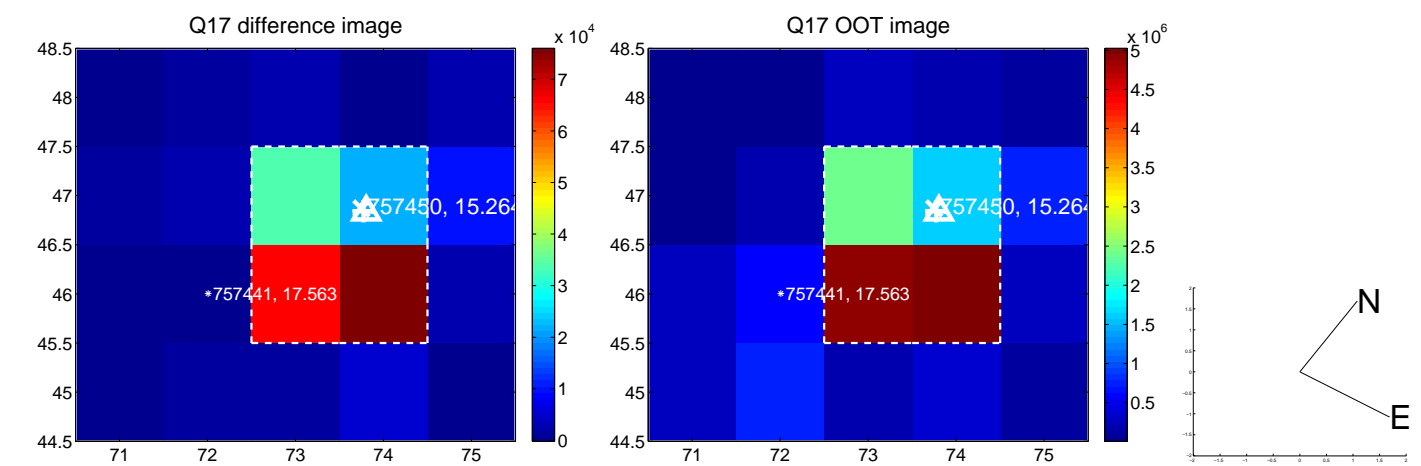
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

