

# KIC 007541746

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007541746-01	OBS	6886.01	4.175224	134.578912	9.5	30.140	9.8	5.7	1.76	6840	0.57	1915.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007541746-01	OBS	FP	0.00	1	0	0	0	LPP_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

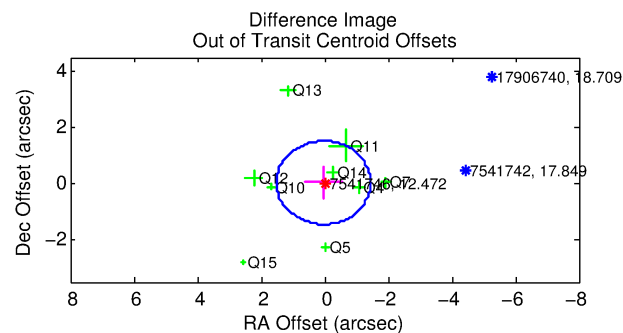
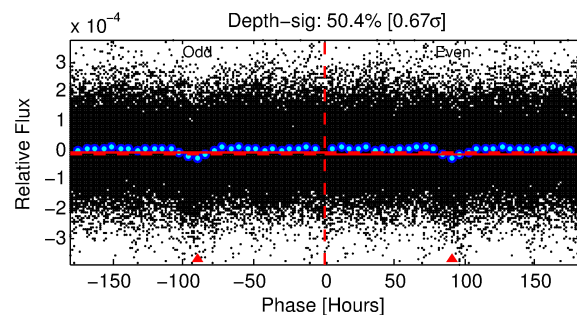
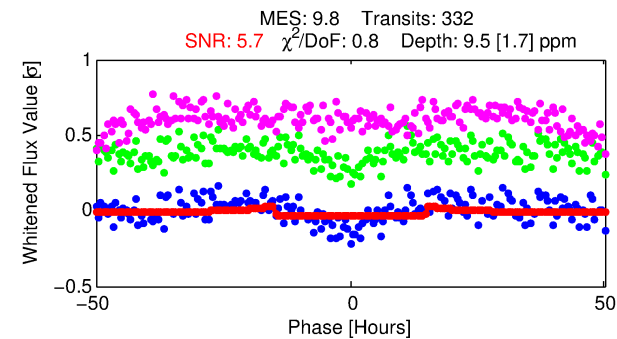
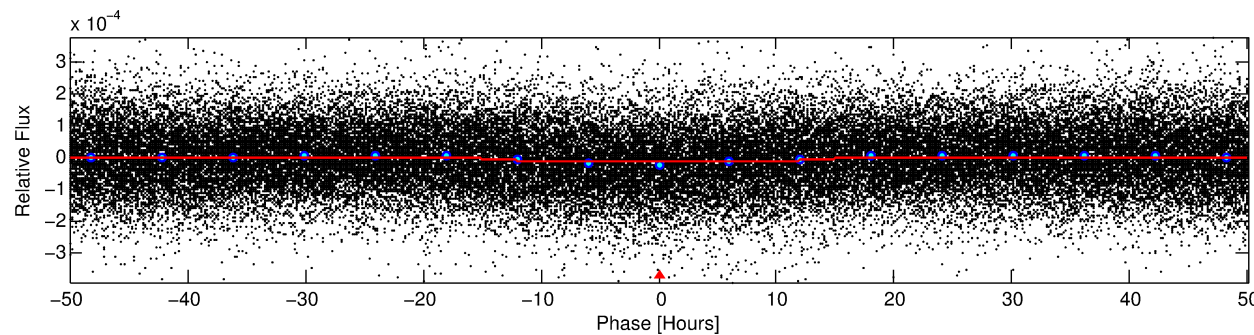
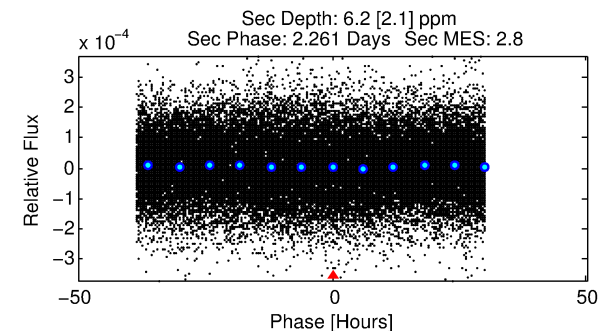
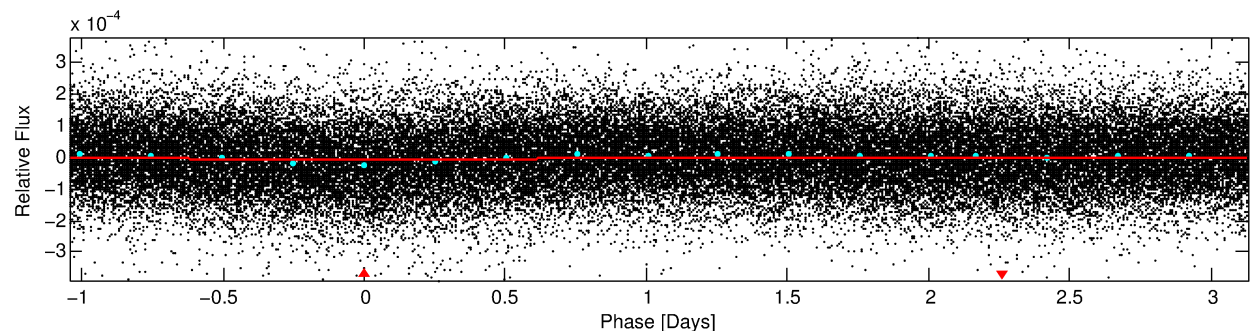
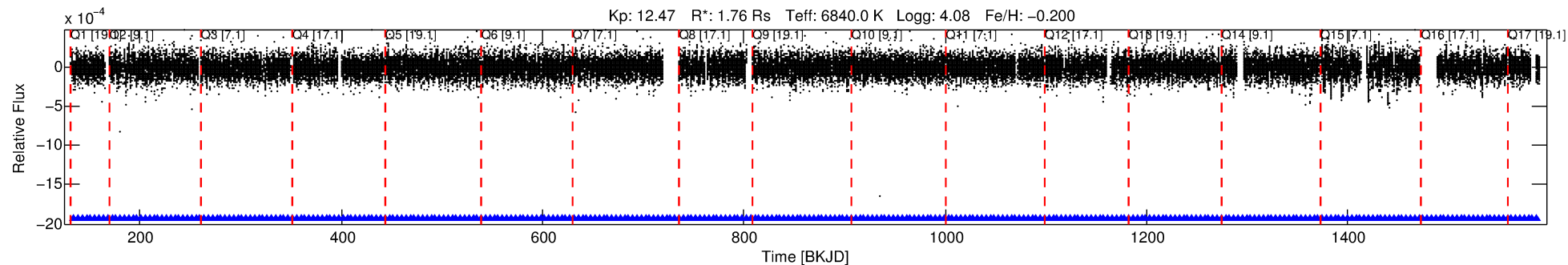
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007541746-01

No Significant Match Found

# DV One-Page Summary

KIC: 7541746 Candidate: 1 of 1 Period: 4.175 d  
KOI: K06886.01 Corr: 0.851



## DV Fit Results:

Period = 4.17522 [0.00011] d  
Epoch = 134.5789 [0.0185] BKJD  
Rp/R\* = 0.0029 [0.0017]  
a/R\* = 1.17 [1.08]  
b = 0.56 [4.24]  
Seff = 1915.21 [775.11]  
Teq = 1687 [171] K  
Rp = 0.57 [0.37] Re  
a = 0.0564 [0.0142] AU  
Ag = 33.77 [43.62] [0.75σ]  
Teffp = 6287 [1953] K [2.35σ]

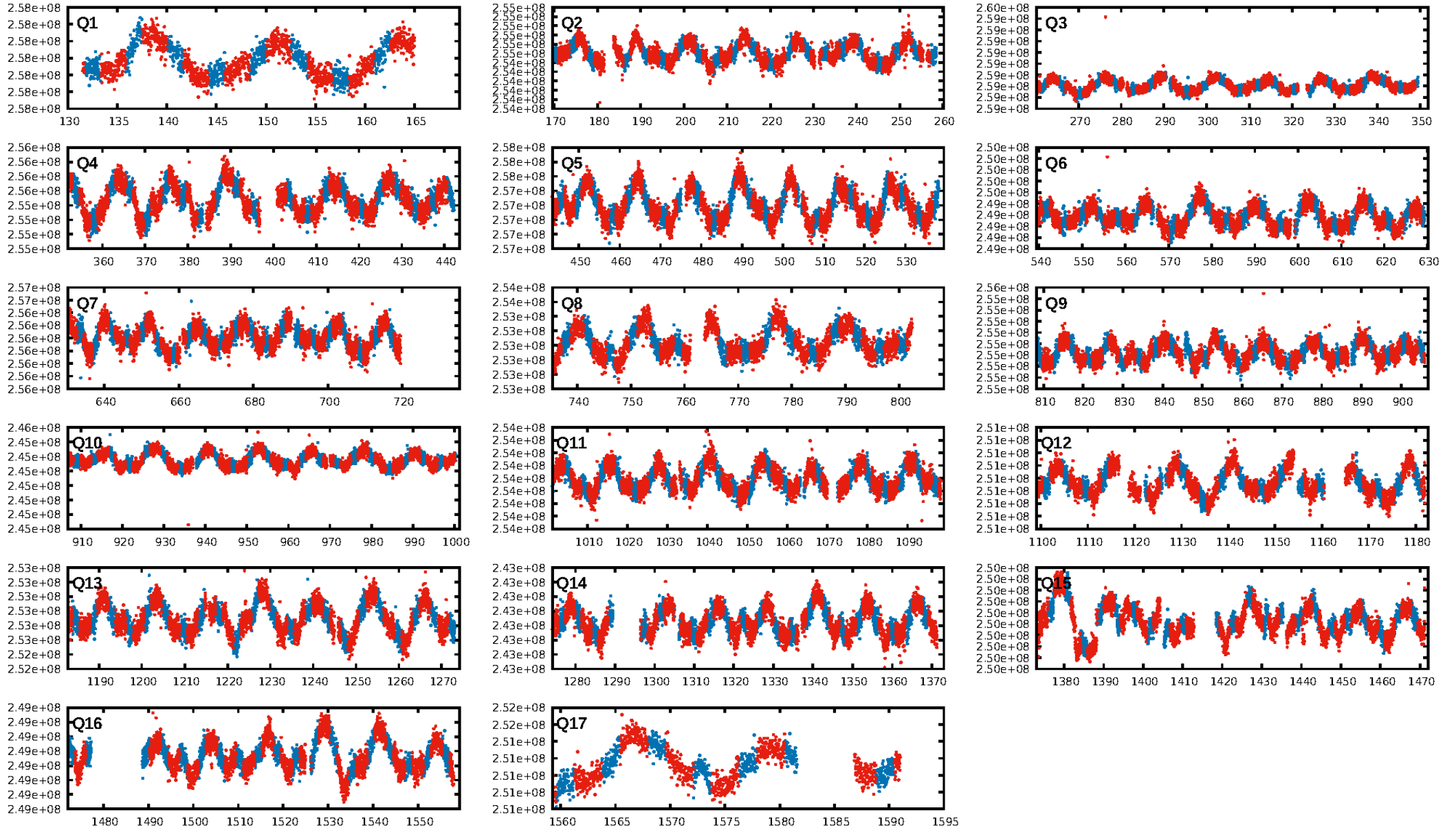
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [318/318]  
GhostDiagnostic-chr: 1.056  
Centroid-sig: 0.6%  
Centroid-so: 1.914 arcsec [1.87σ]  
OotOffset-rm: 0.053 arcsec [0.11σ]  
KicOffset-rm: 0.099 arcsec [0.17σ]  
OotOffset-st: 2/3/2/2 [9]  
KicOffset-st: 2/3/2/2 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [17/17]

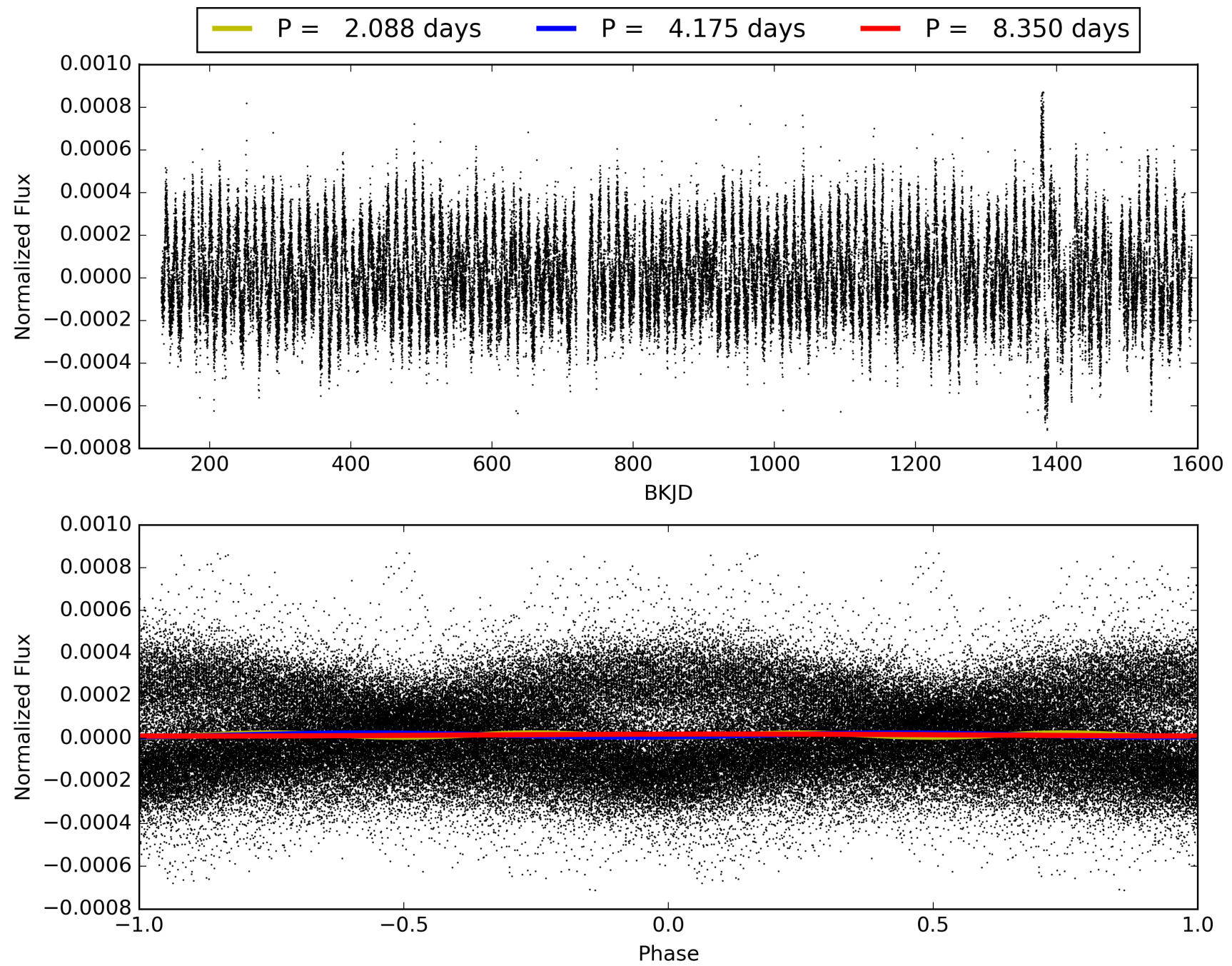
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:42:39 Z

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

# TCE 007541746-01, PDC Light Curves

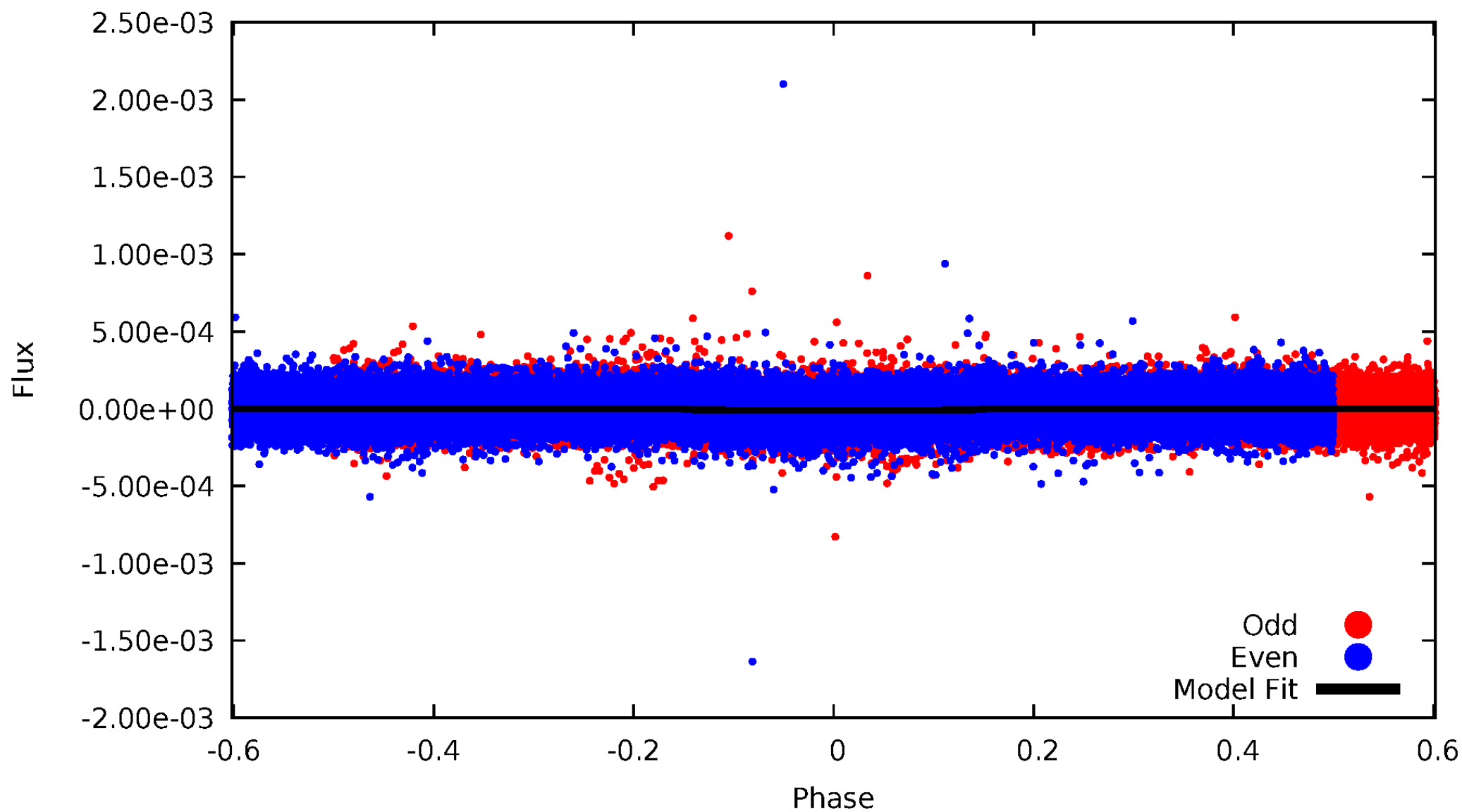


TCE 007541746-01



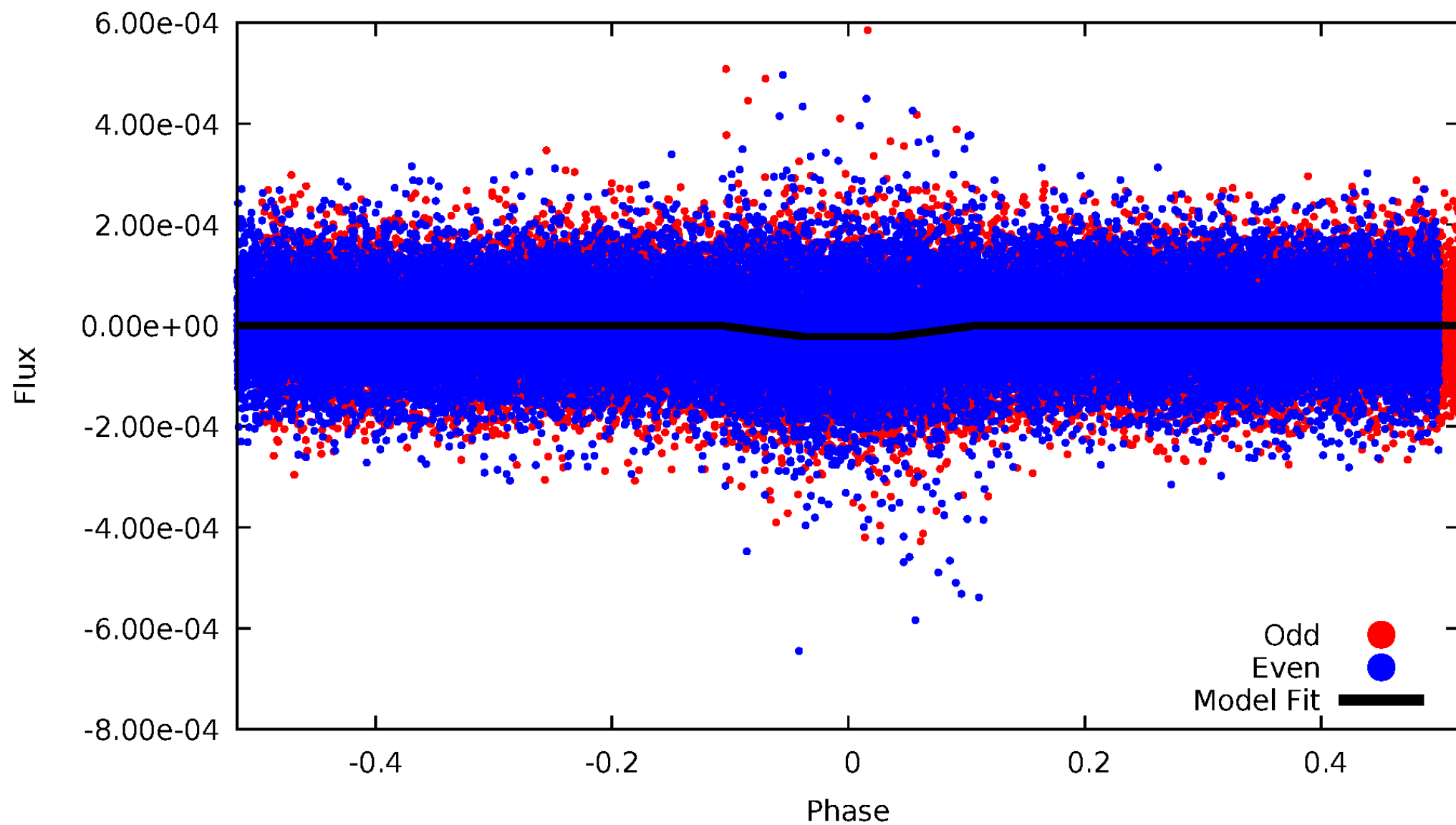
# DV Odd/Even

TCE 007541746-01



# ALT Odd/Even

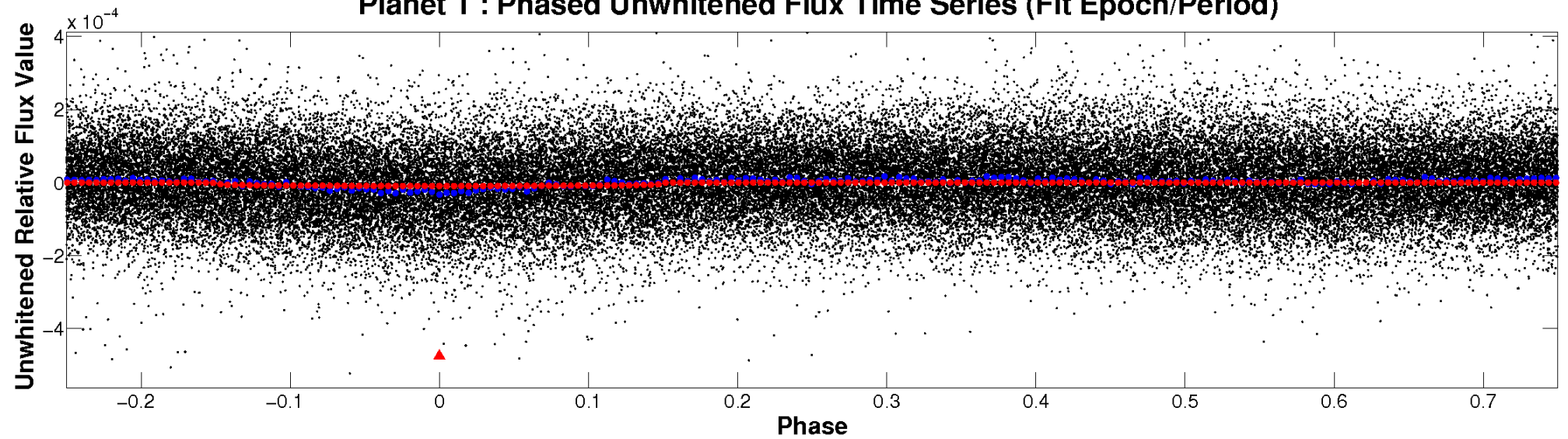
TCE 007541746-01



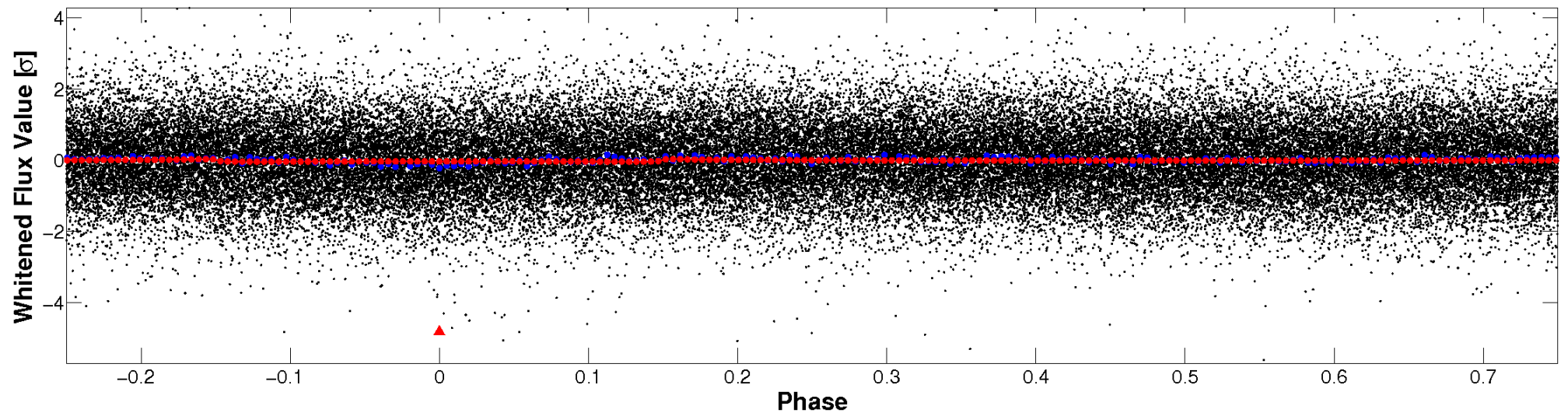


# Non-Whitened Vs. Whitened Light Curve

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

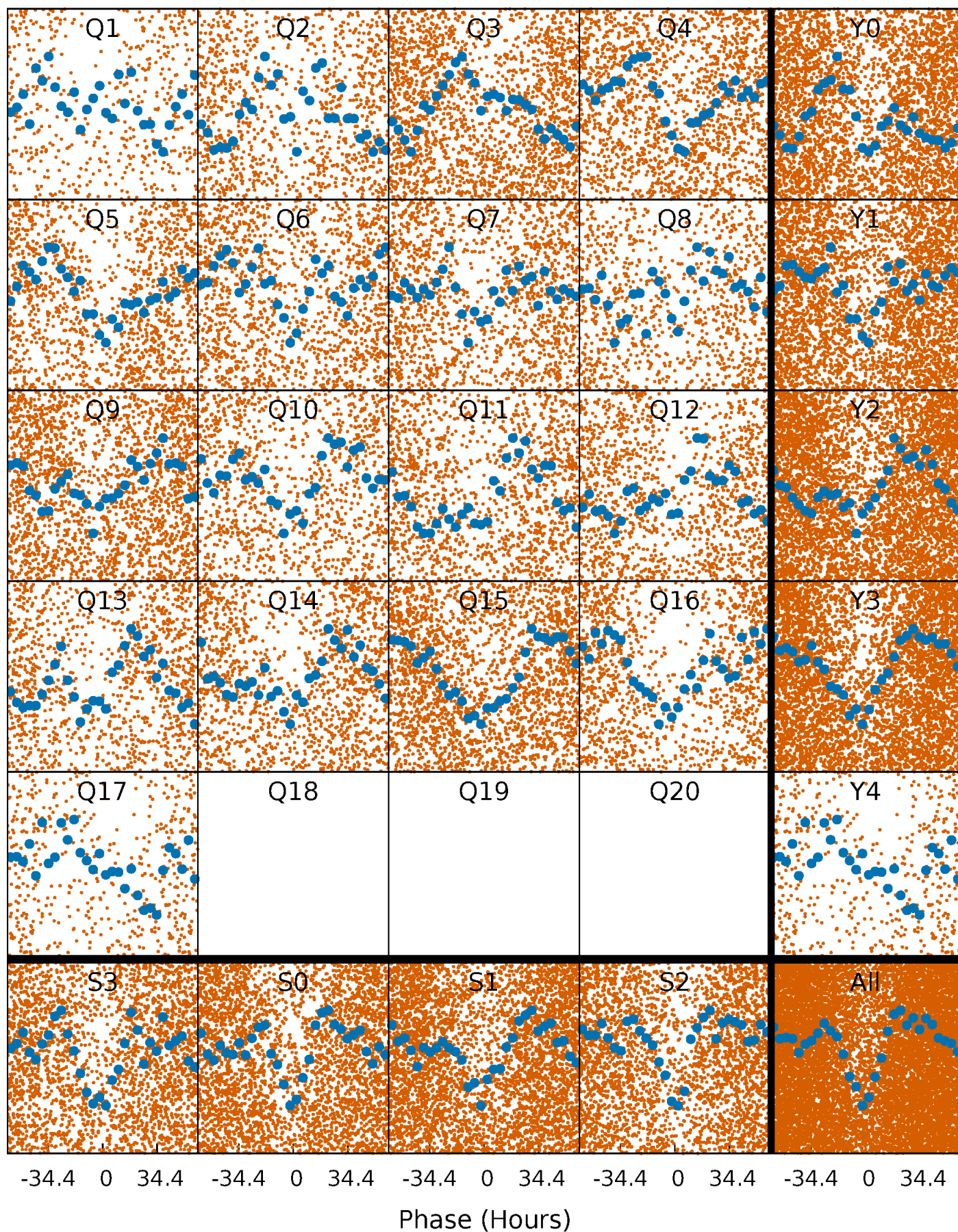


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

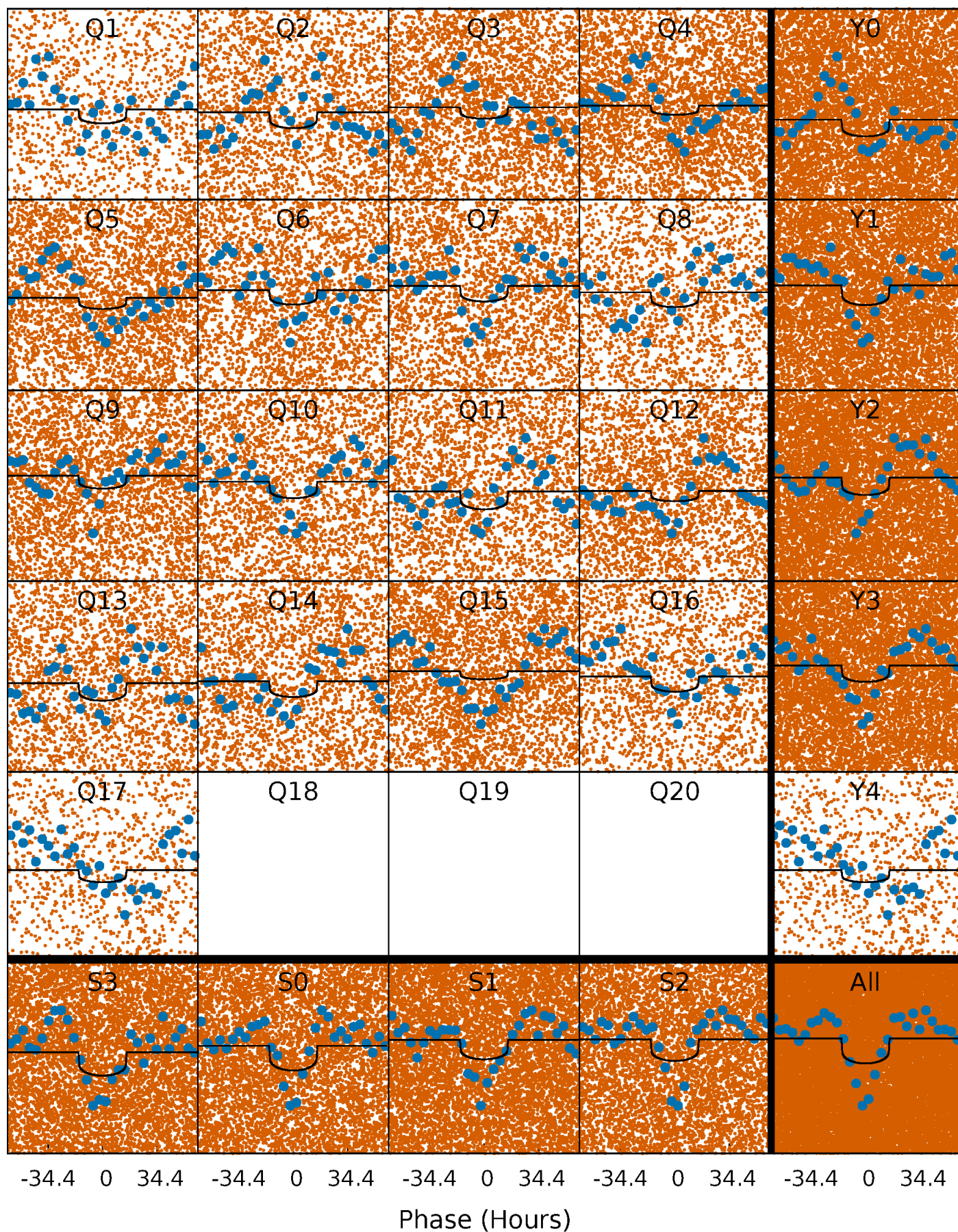
TCE 007541746-01 P= 4.175224 Days  $T_0=134.578912$  (BKJD)





# DV Quarter-Phased Transit Curves

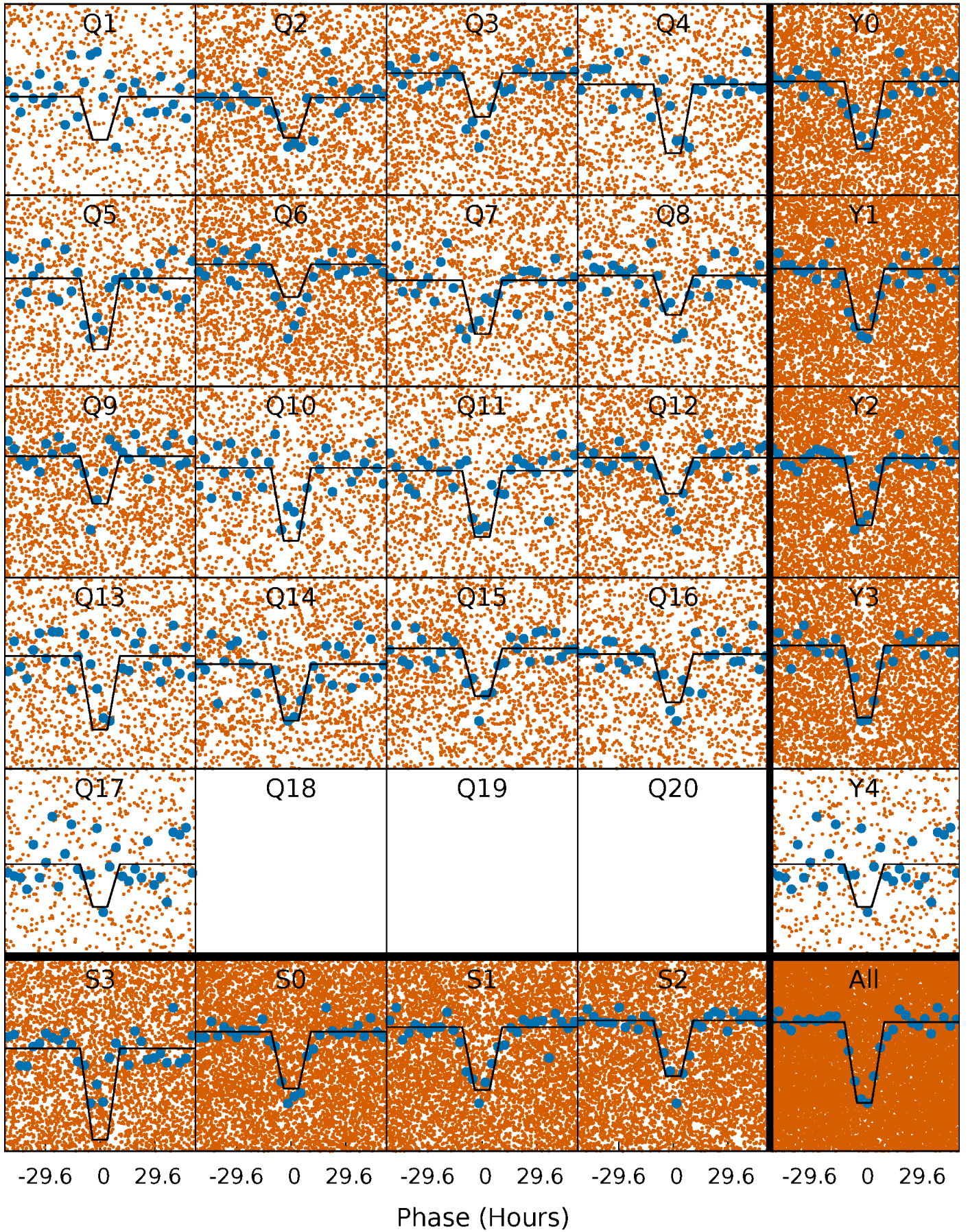
TCE 007541746-01 P= 4.175224 Days  $T_0=134.578912$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

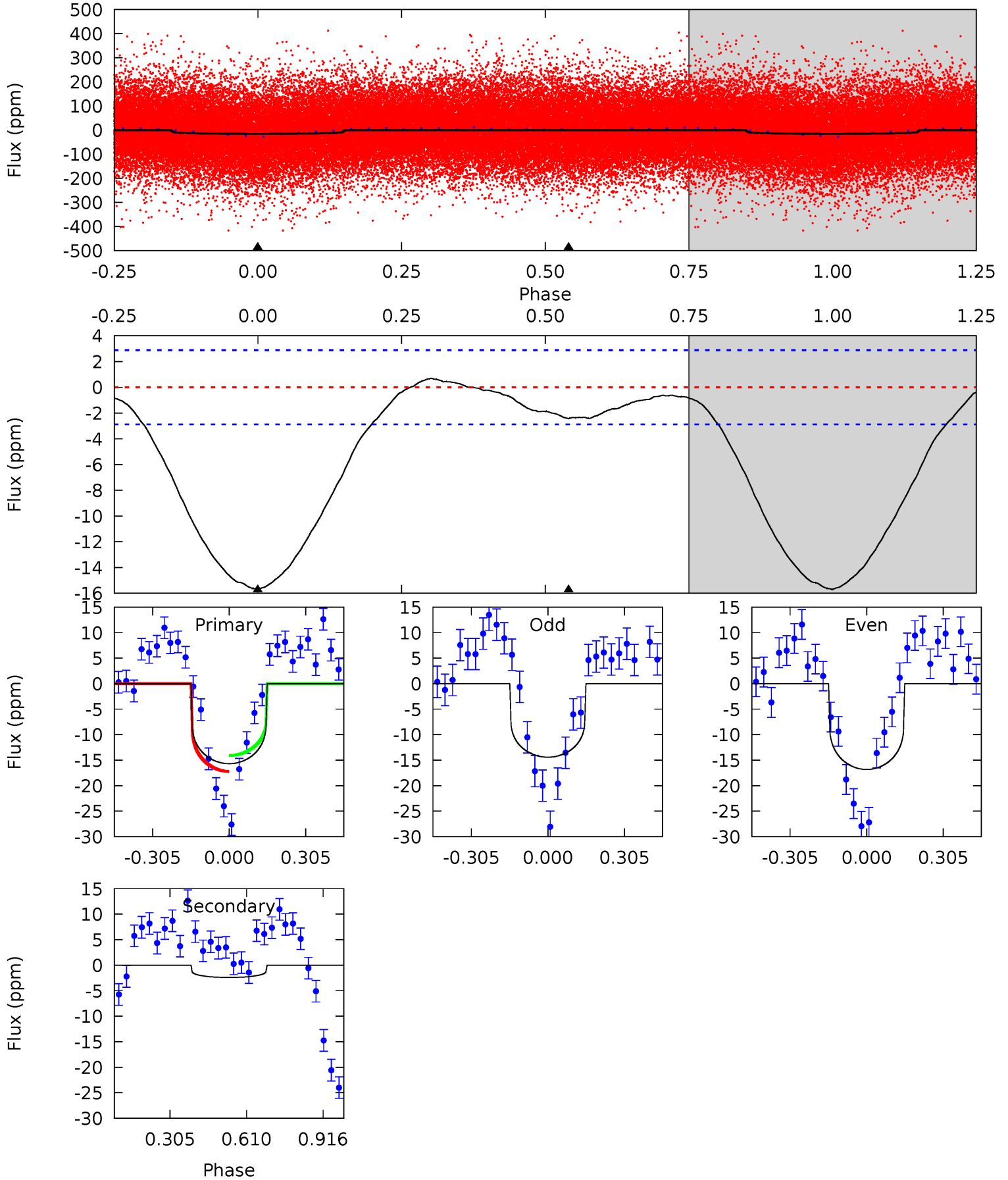
TCE 007541746-01 P= 4.175359 Days  $T_0=134.499284$  (BKJD)



# DV Model-Shift Uniqueness Test

007541746-01, P = 4.175224 Days, E = 130.403688 Days

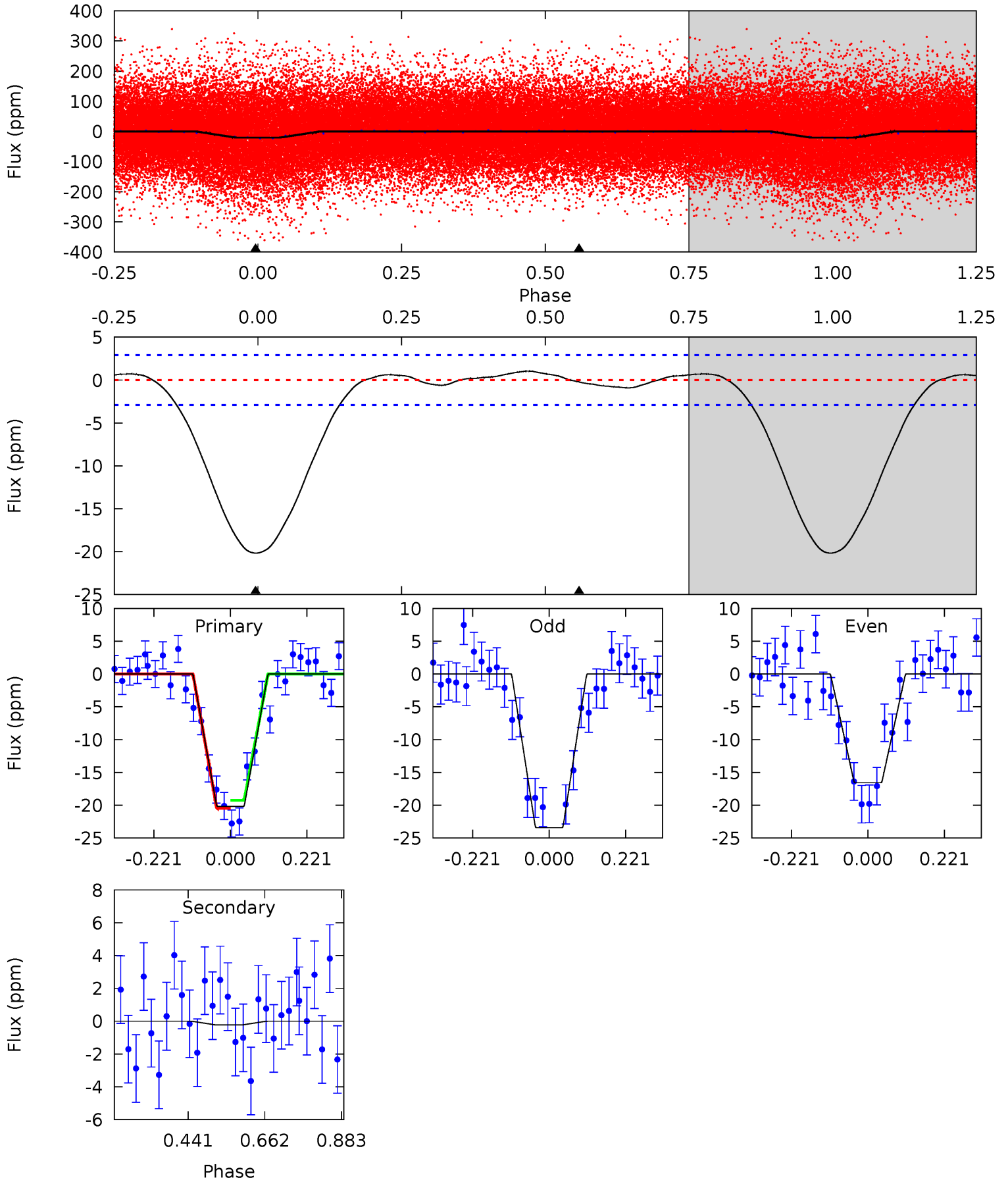
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	3.63	0	0	4.32	1.03	1.08	23.5	23.5	3.63	3.63	1.80	0.97	0.04	2.22



# Alt Model-Shift Uniqueness Test

007541746-01, P = 4.175359 Days, E = 130.323925 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
30.4	0.34	0	0	4.40	1.22	0.72	30.4	30.4	0.34	0.34	5.14	0.83	0.05	0.92





### Stellar Parameters For KIC 007541746

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6840^{+190}_{-238}$	$4.083^{+0.214}_{-0.175}$	$-0.200^{+0.250}_{-0.300}$	$1.762^{+0.505}_{-0.454}$	$1.376^{+0.202}_{-0.247}$	$0.354^{+0.452}_{-0.175}$
	+3%/-3%	+5%/-4%	+125%/-150%	+29%/-26%	+15%/-18%	+128%/-50%
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 007541746-01 / KOI 6886.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-2 \pm 1$	$0.60^{+0.34}_{-0.31}$	$2348^{+178}_{-167}$	$4831^{+1912}_{-792}$	$11^{+38}_{-7}$
Alt.	$-0 \pm 1$	$0.87^{+0.36}_{-0.35}$	$2350^{+186}_{-171}$	$2289^{+1327}_{-5580}$	$0.373^{+2.264}_{-1.297}$

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

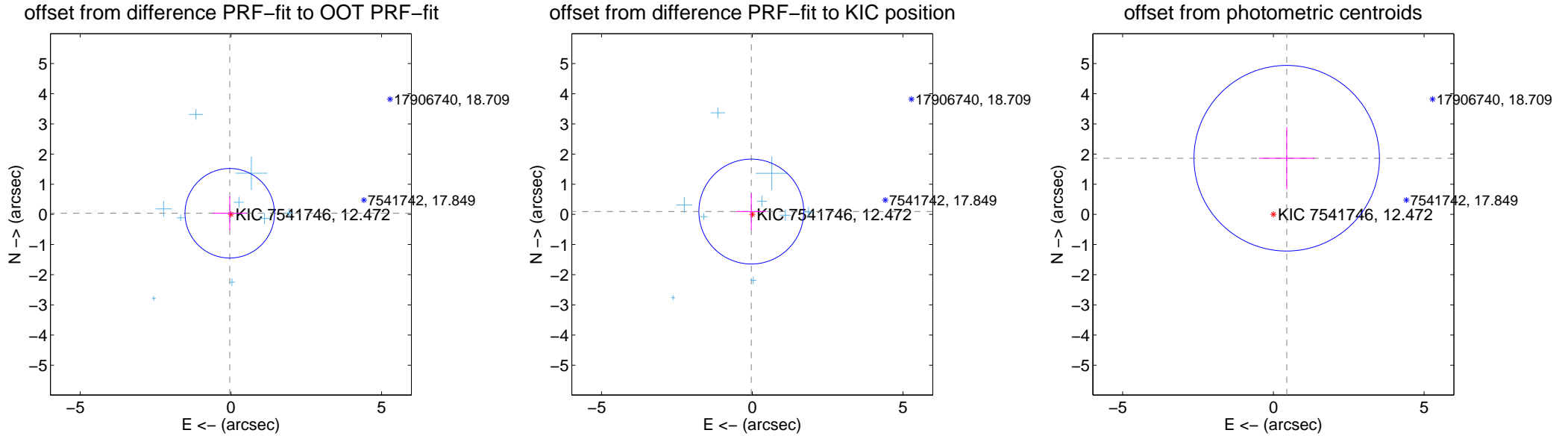
## DV Centroid Data

Supplemental centroid analysis for 007541746-01. Kepler magnitude: 12.47. Transit SNR 5.67

There are 9 quarters with good PRF difference image offsets

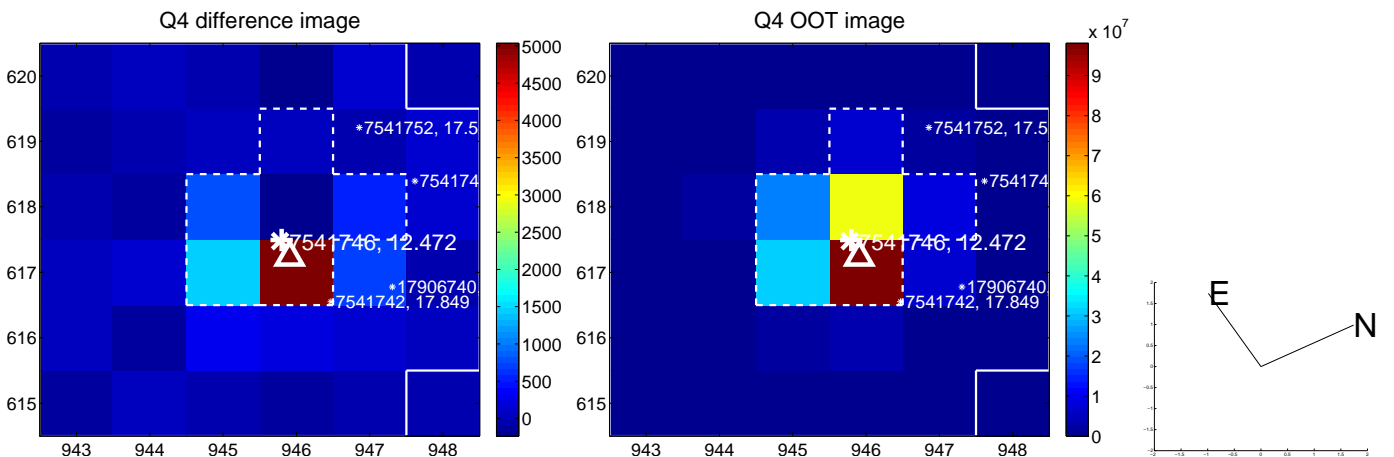
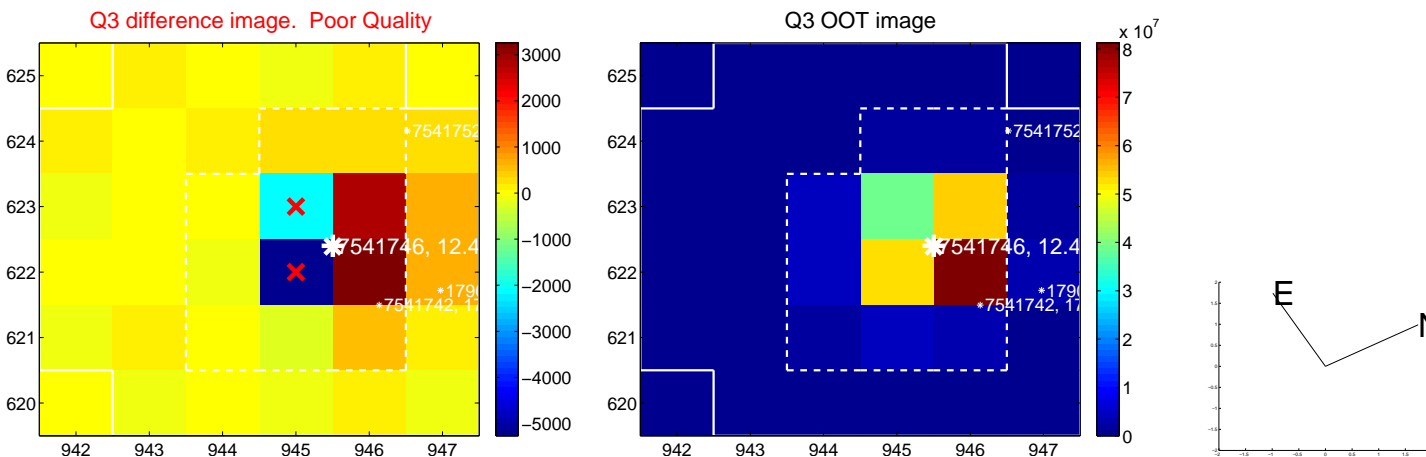
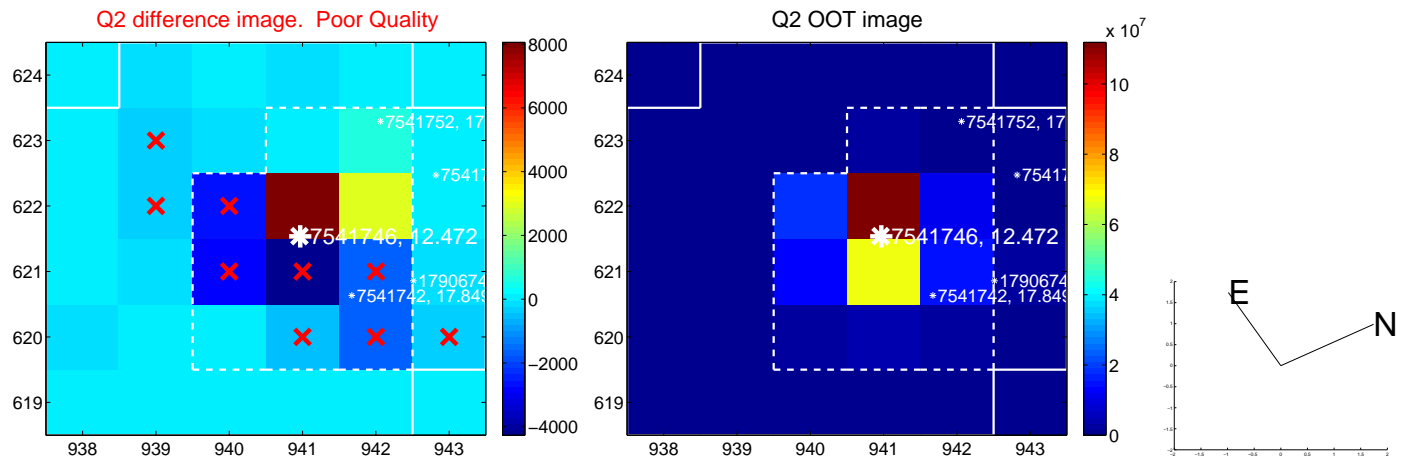
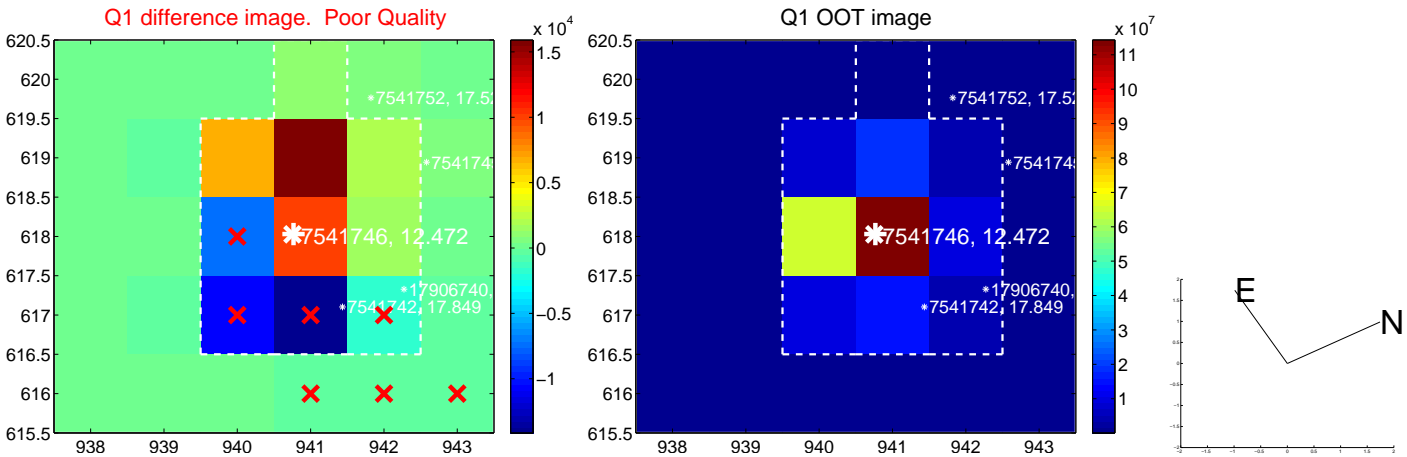
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.053 \pm 0.495$	0.11	$0.038 \pm 0.572$	$0.037 \pm 0.559$
PRF-fit source offset from KIC position	$0.099 \pm 0.580$	0.17	$0.032 \pm 0.499$	$0.094 \pm 0.602$
photometric centroid source offset	$1.91 \pm 1.03$	1.87	$-0.44 \pm 0.93$	$1.86 \pm 1.03$

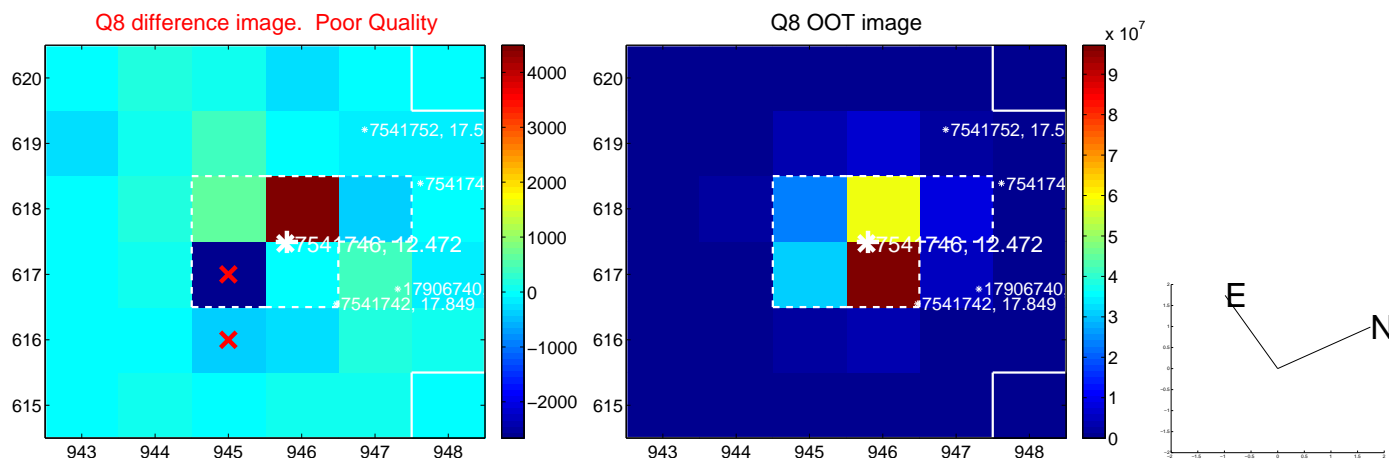
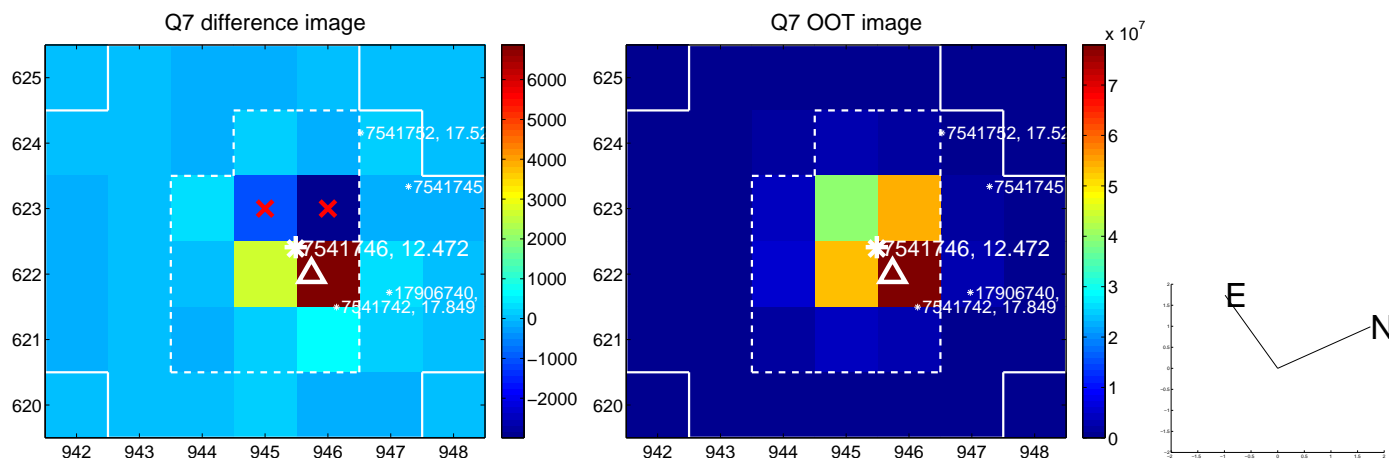
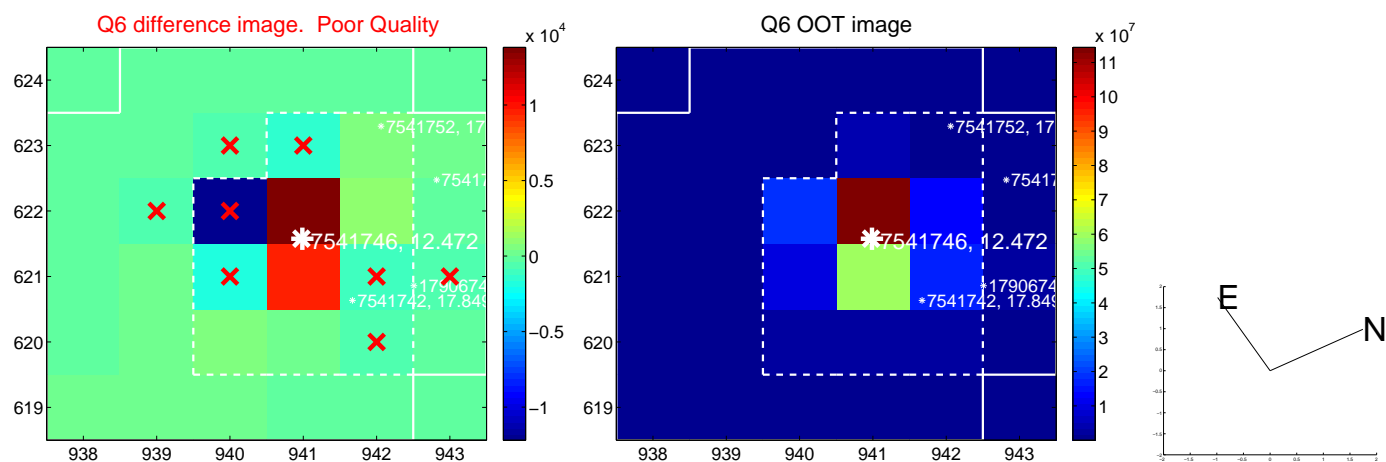
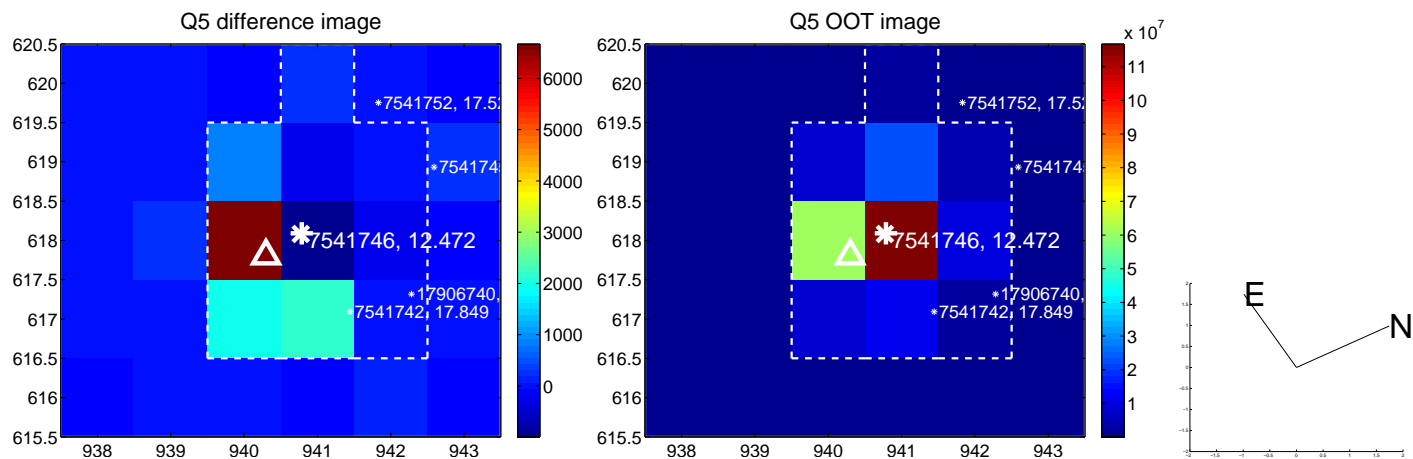


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

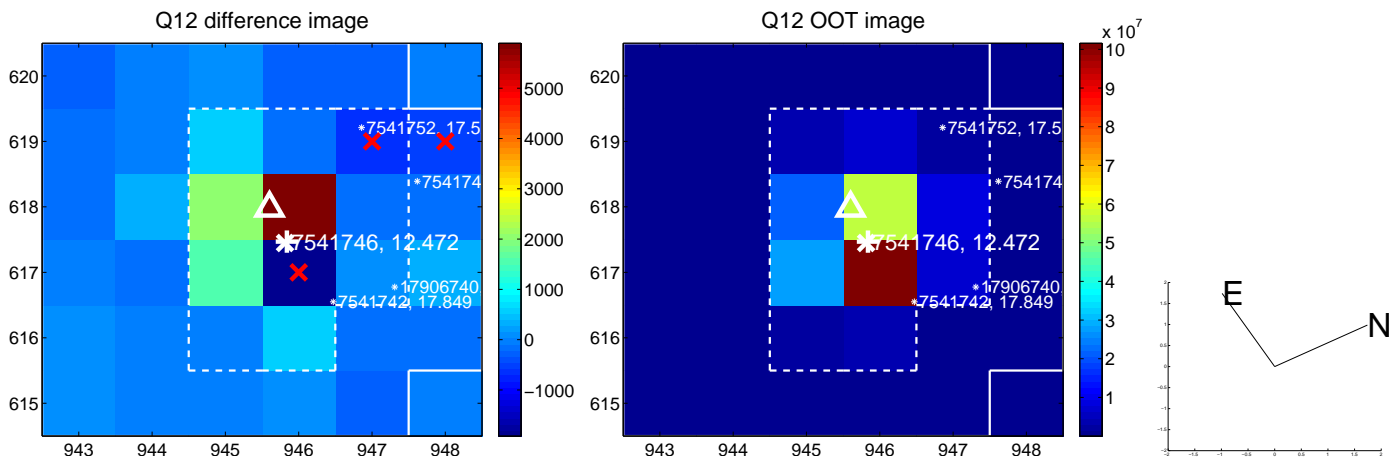
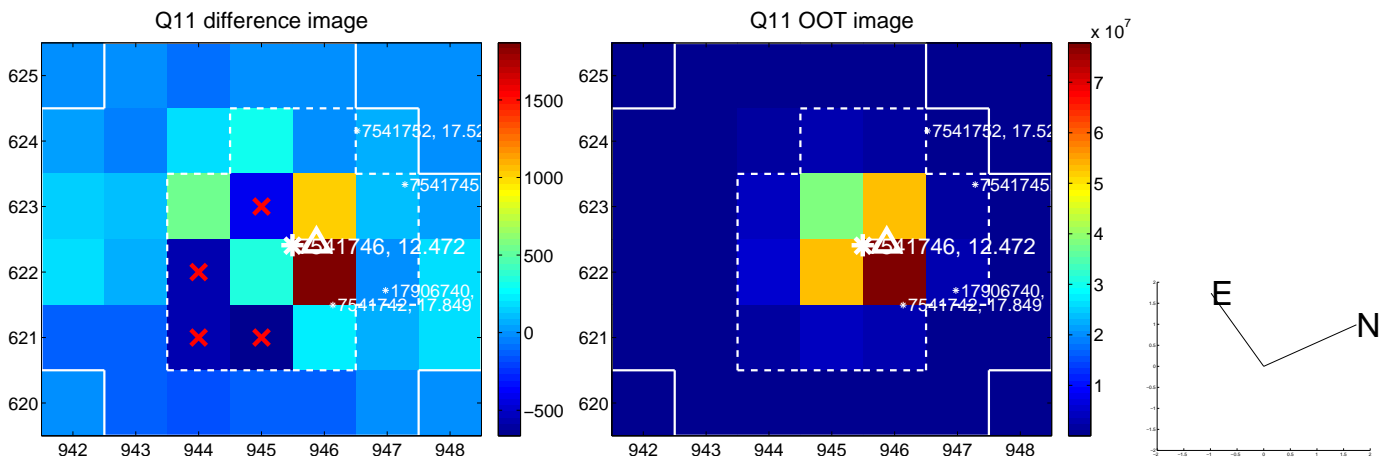
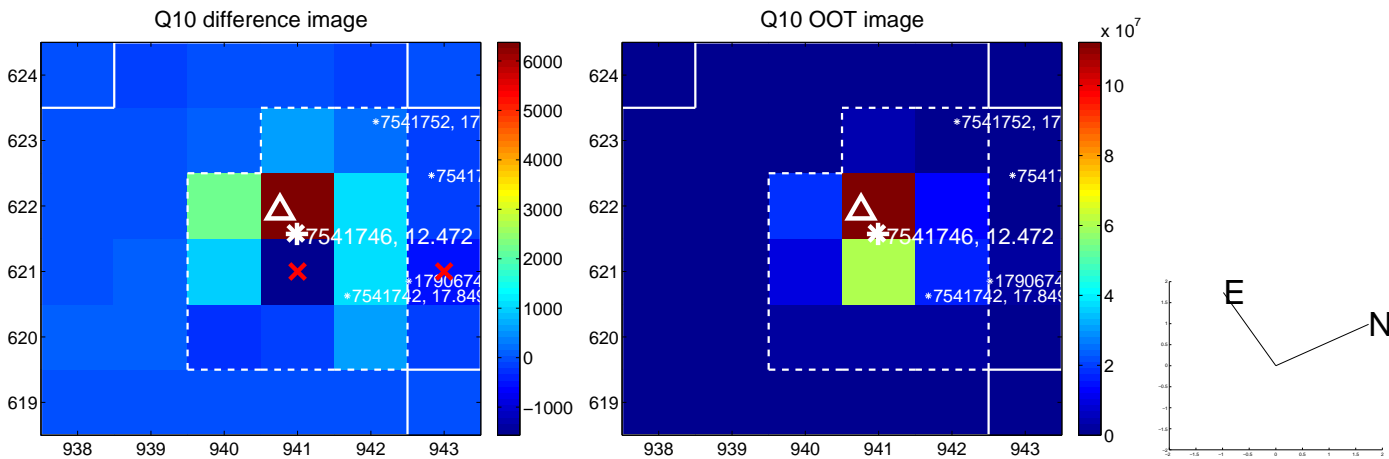
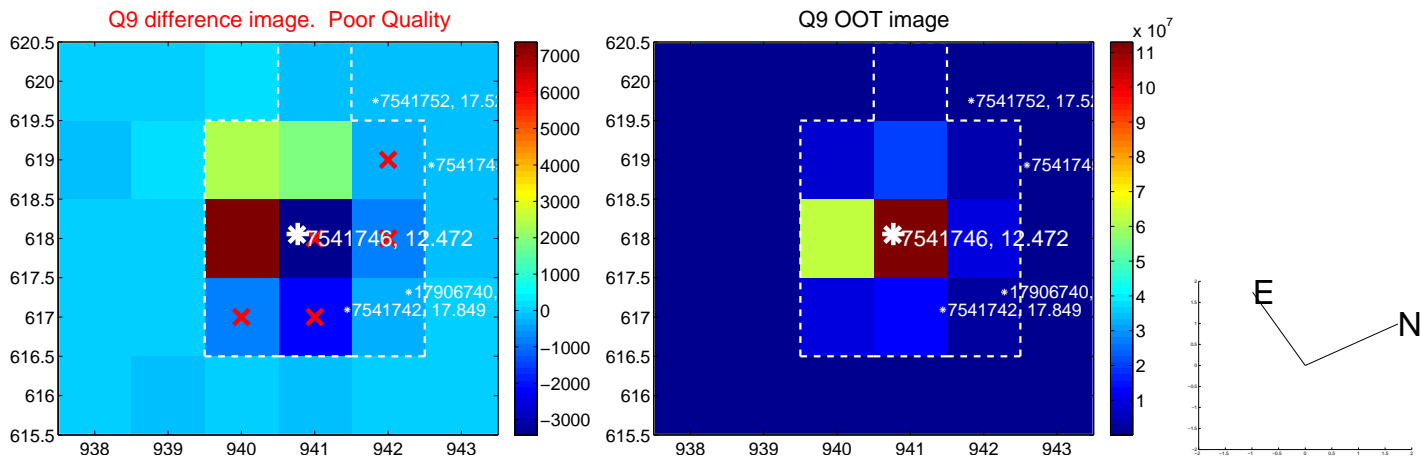


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

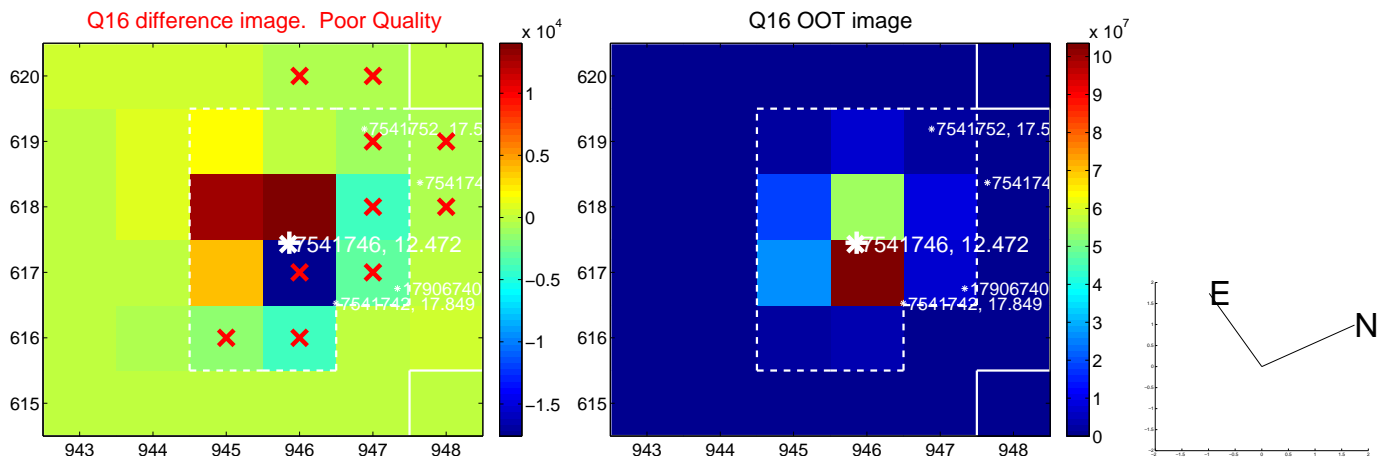
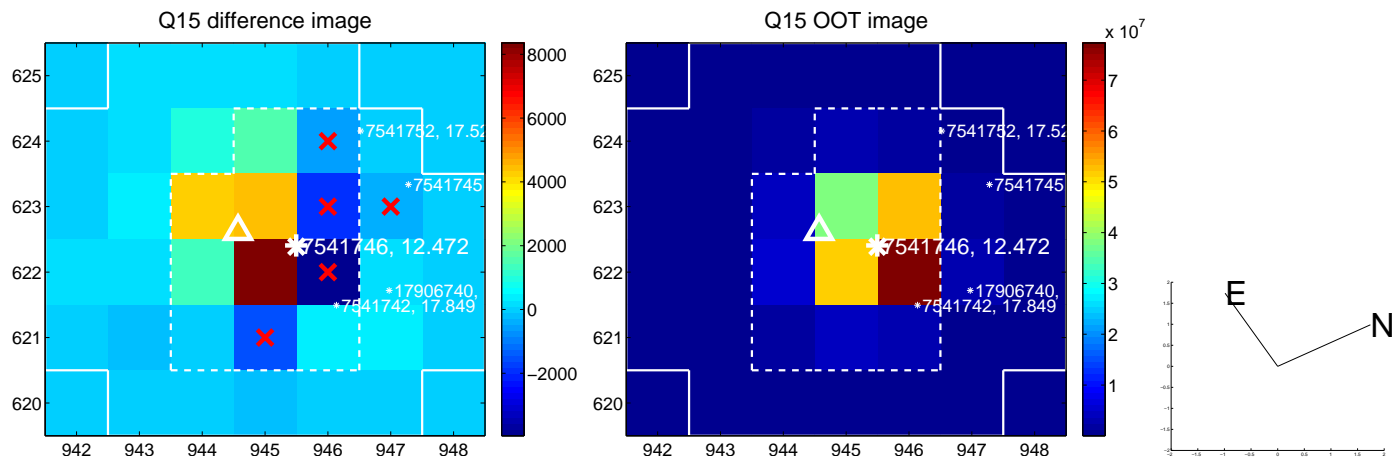
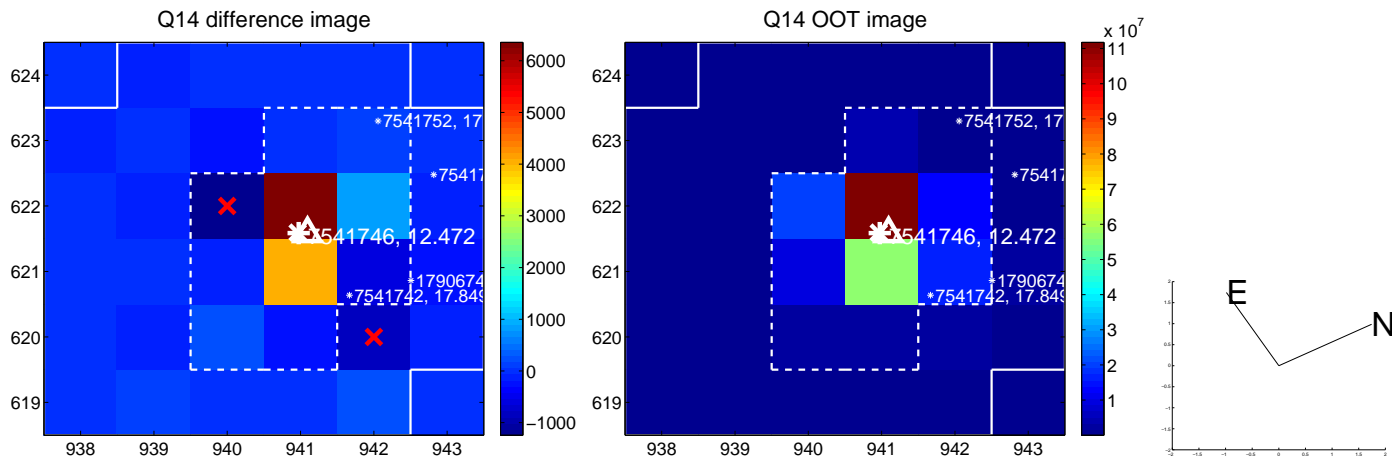
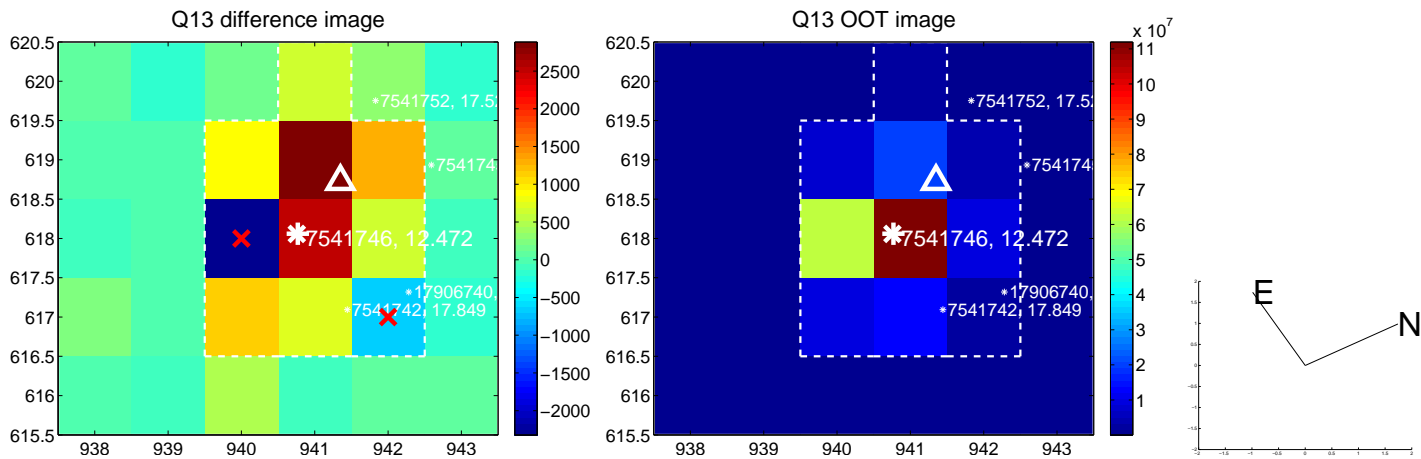




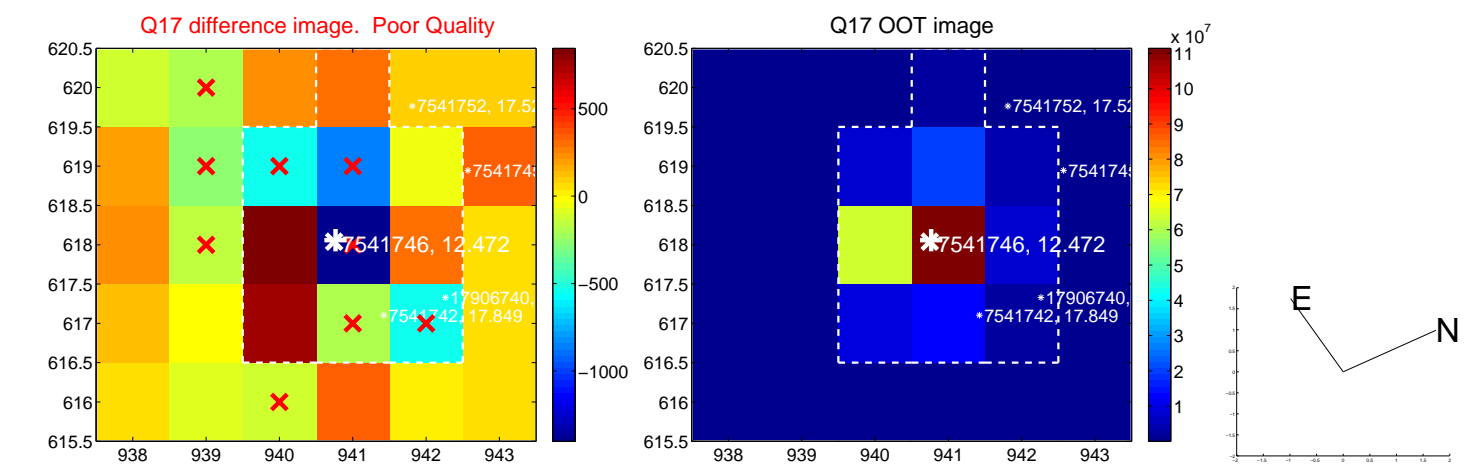
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



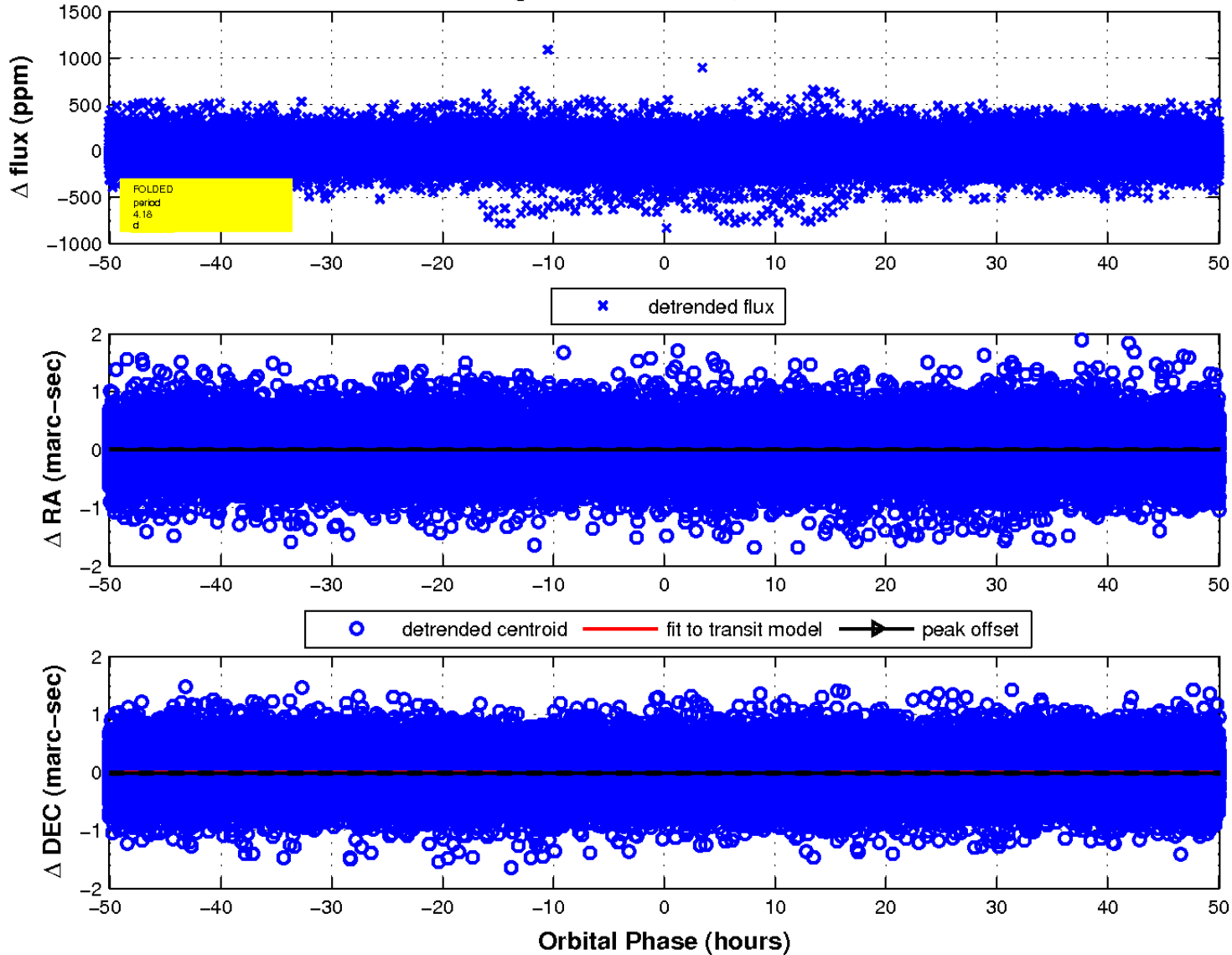
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

