

# KIC 003110177

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003110177-01	OBS	7644.01	3.398976	134.689265	71.2	2.994	7.7	7.9	0.93	5766	0.91	477.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003110177-01	OBS	PC	0.99	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.

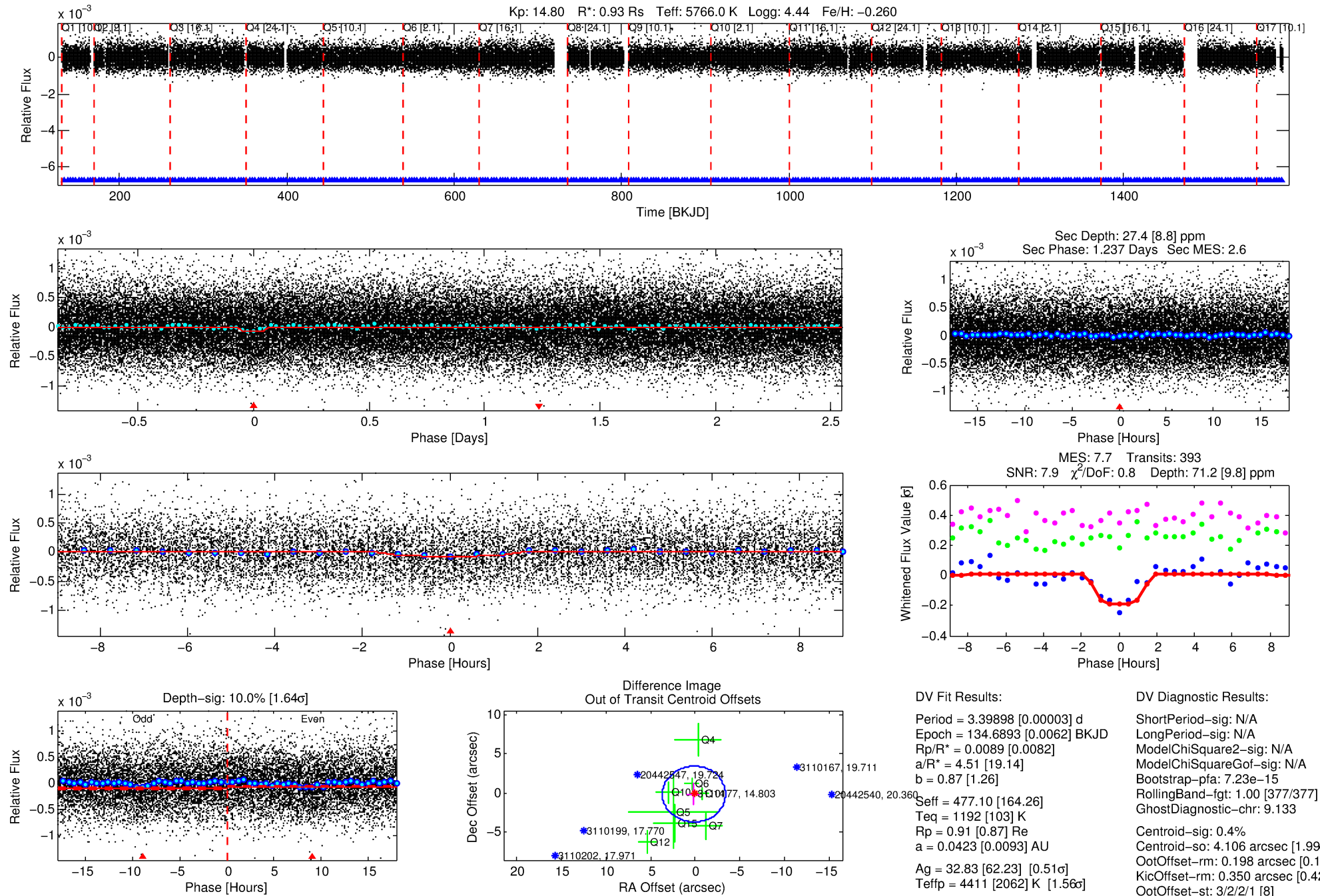
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003110177-01

No Significant Match Found

# DV One-Page Summary

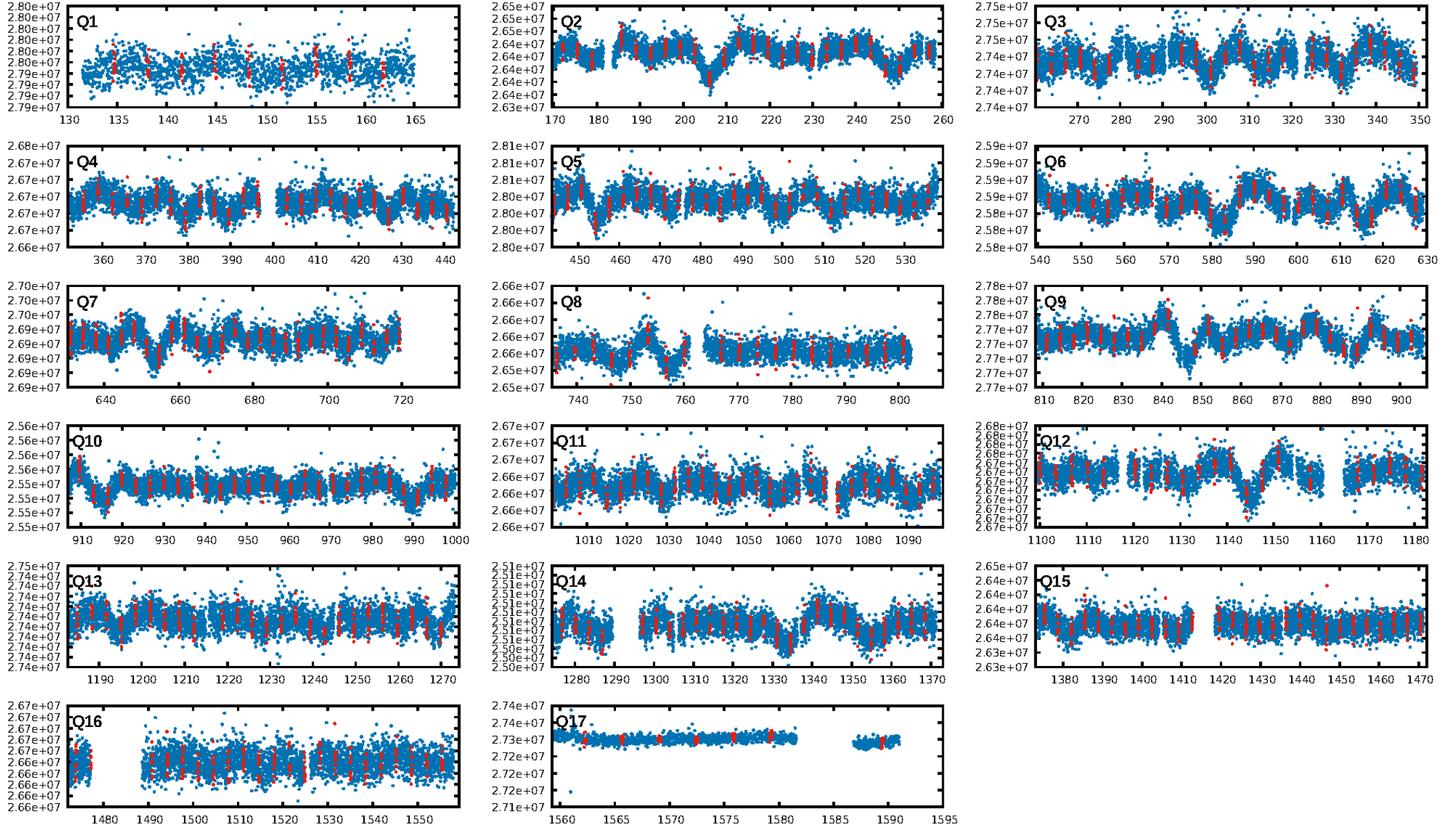
KIC: 3110177 Candidate: 1 of 1 Period: 3.399 d



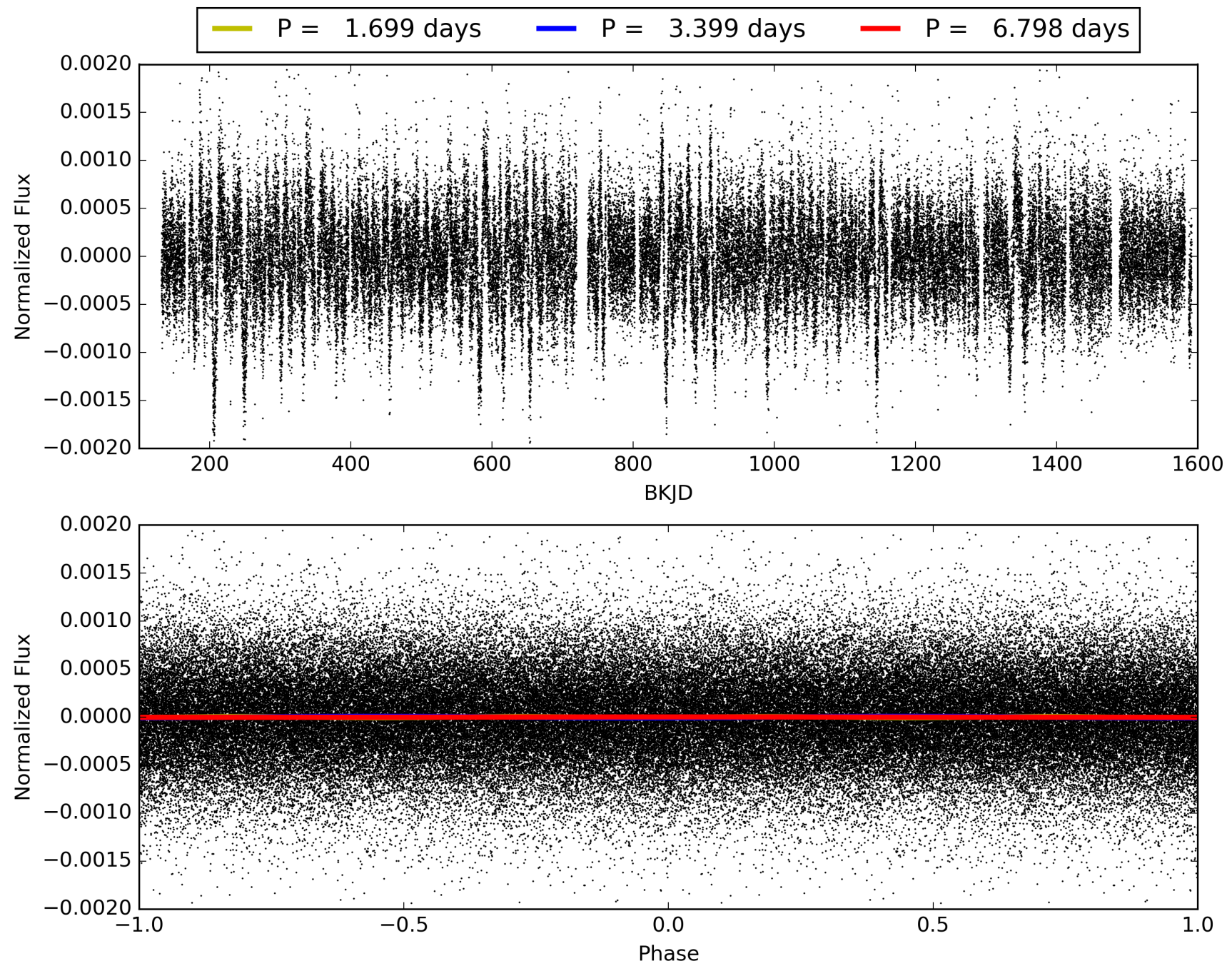
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:59:04 Z

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

# TCE 003110177-01, PDC Light Curves



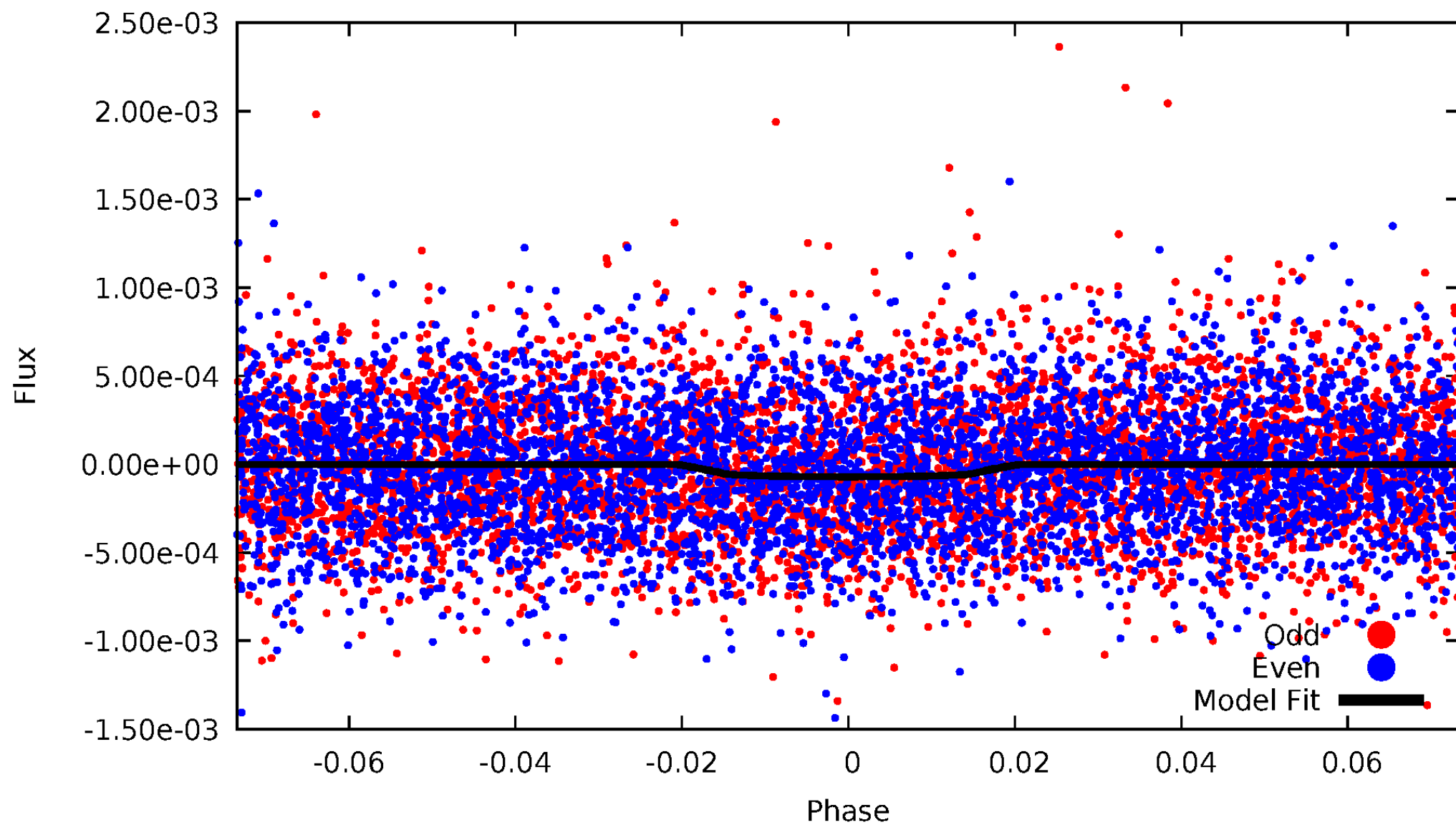
TCE 003110177-01





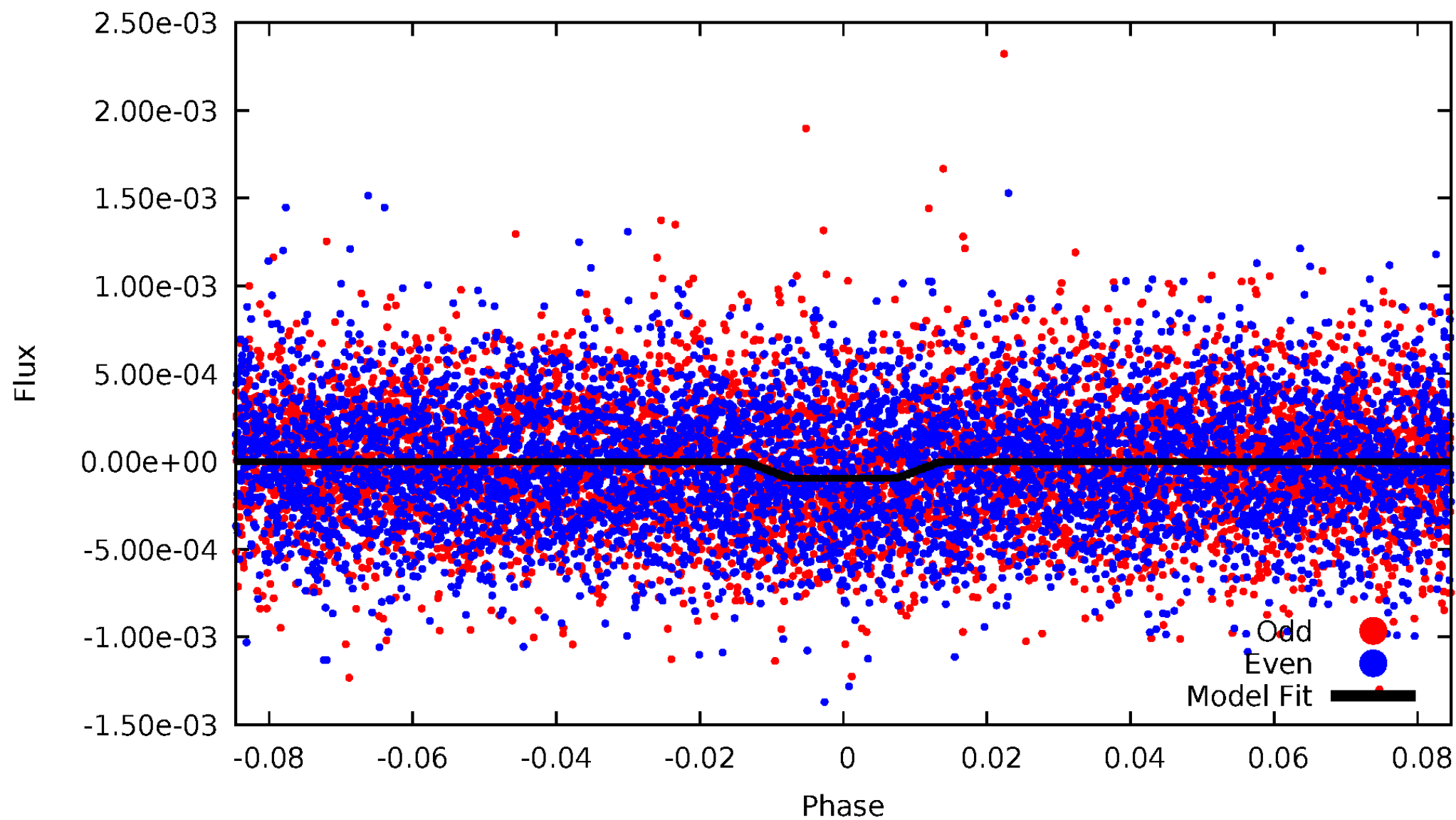
DV Odd/Even

TCE 003110177-01



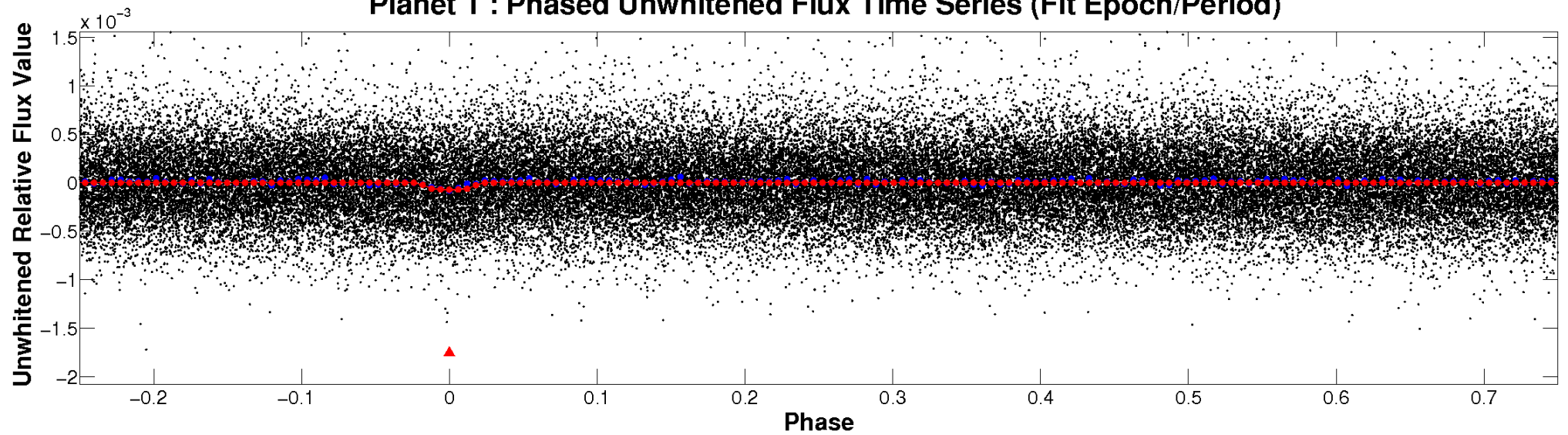
# ALT Odd/Even

TCE 003110177-01

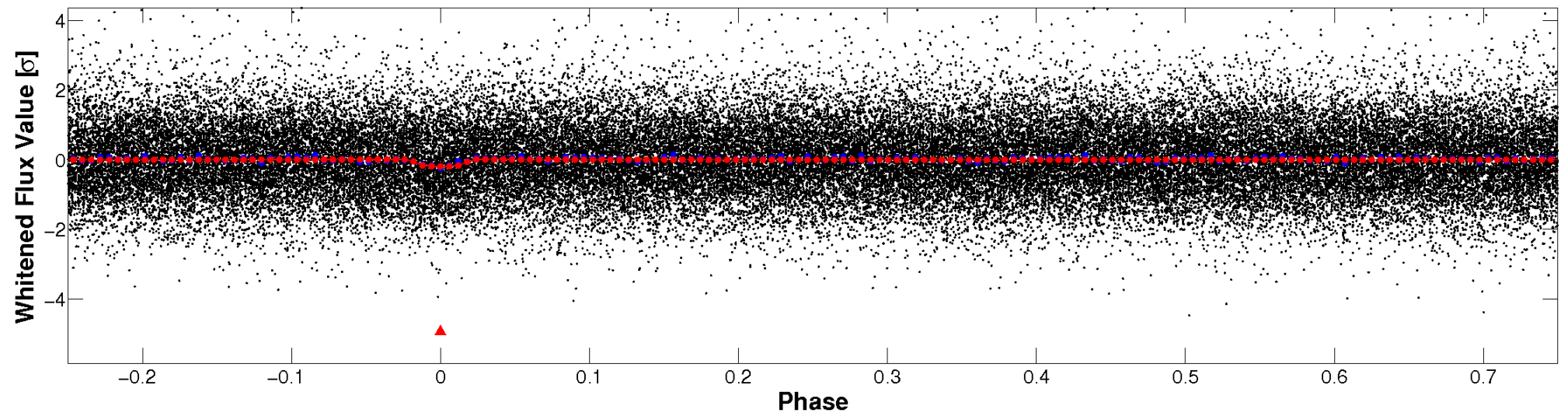


# Non-Whitened Vs. Whitened Light Curve

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

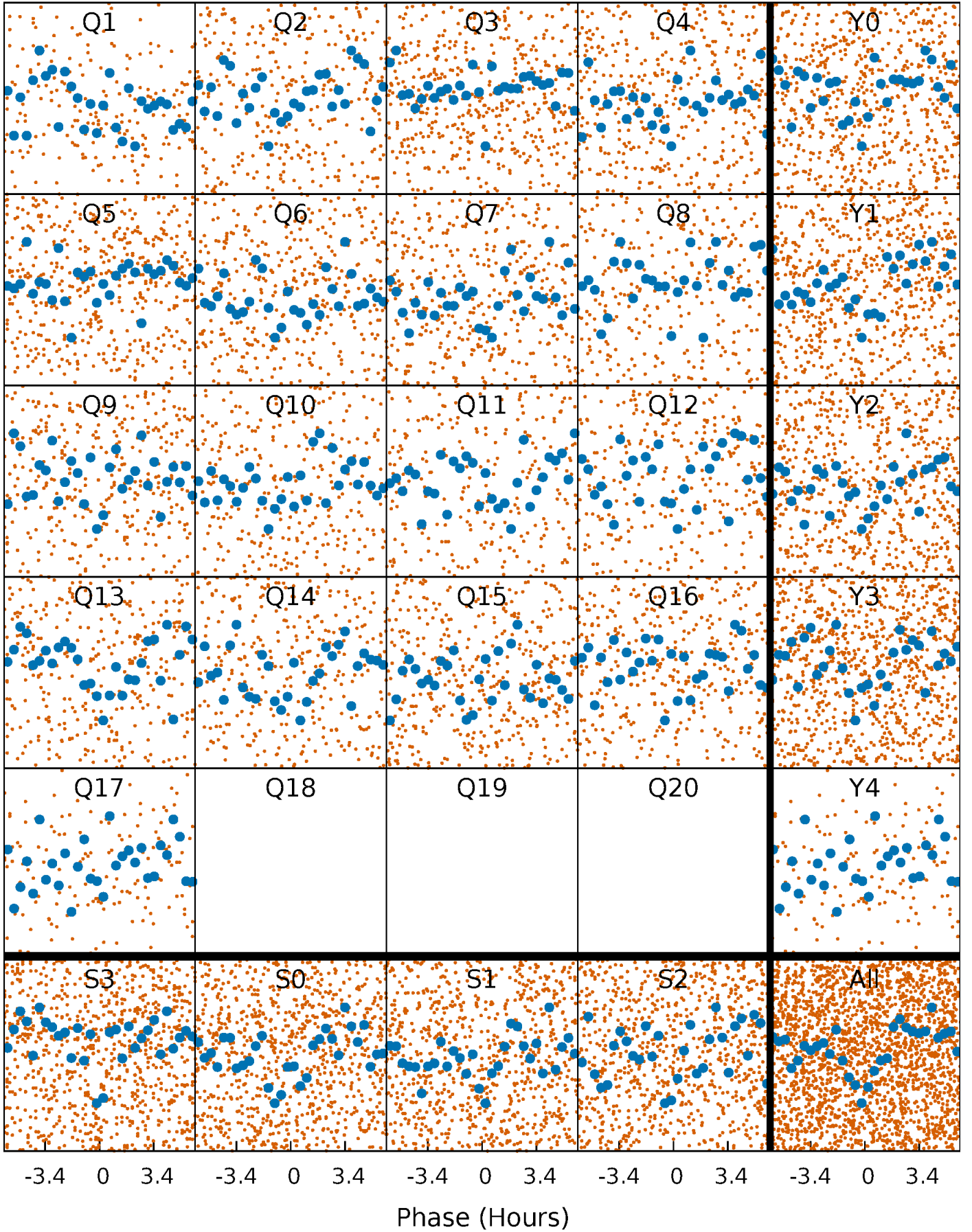


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

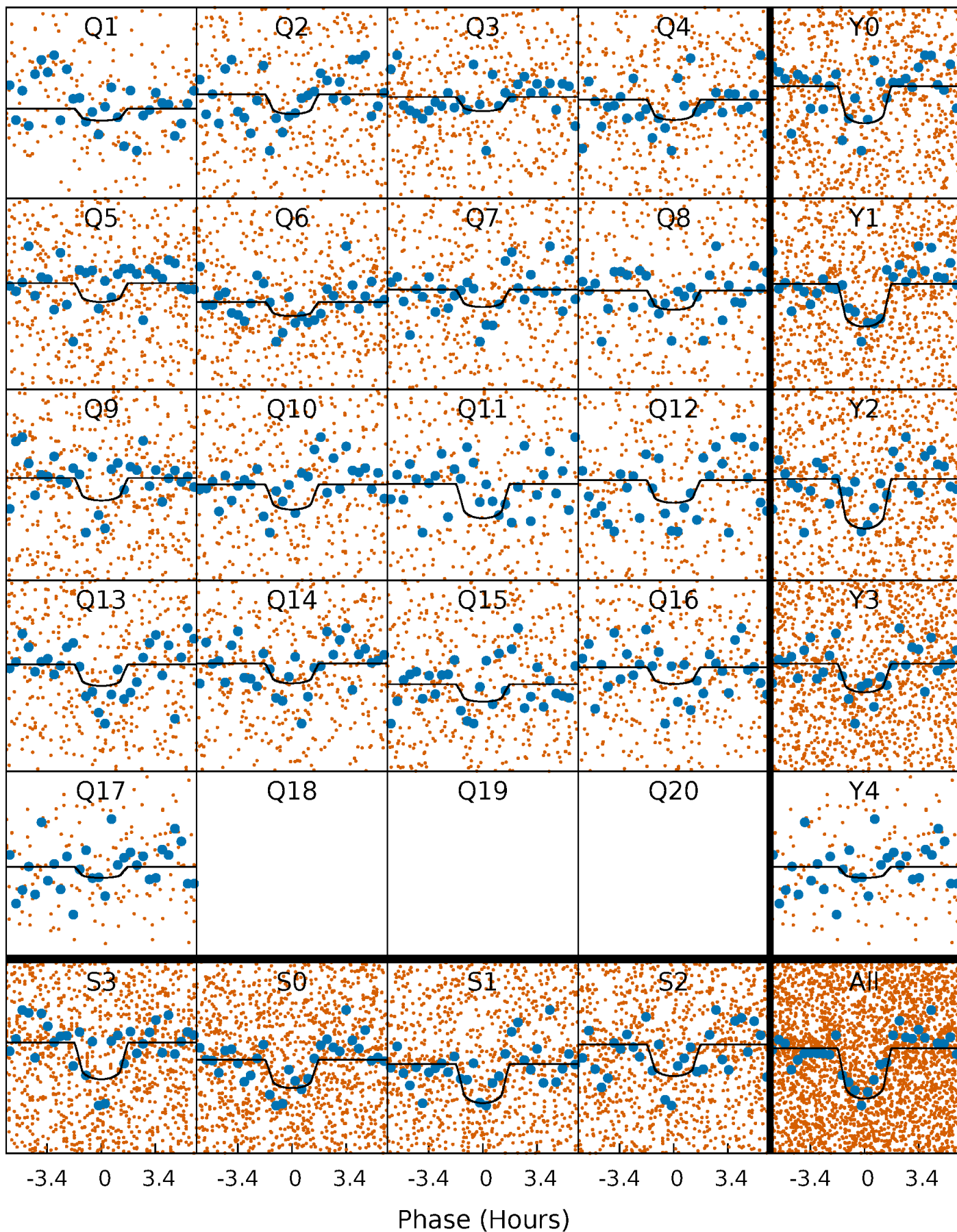
TCE 003110177-01 P= 3.398976 Days  $T_0=134.689265$  (BKJD)





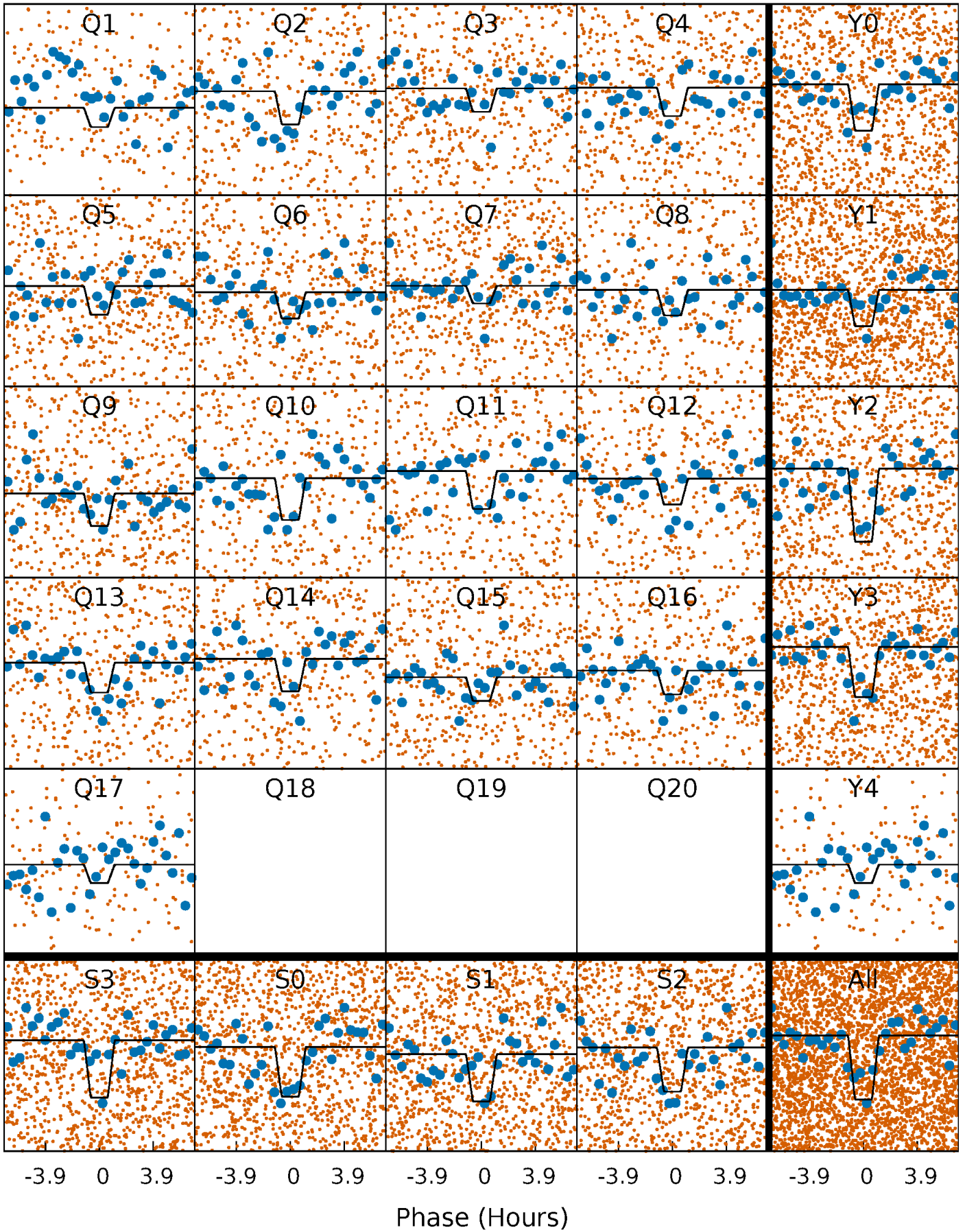
# DV Quarter-Phased Transit Curves

TCE 003110177-01 P= 3.398976 Days  $T_0=134.689265$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

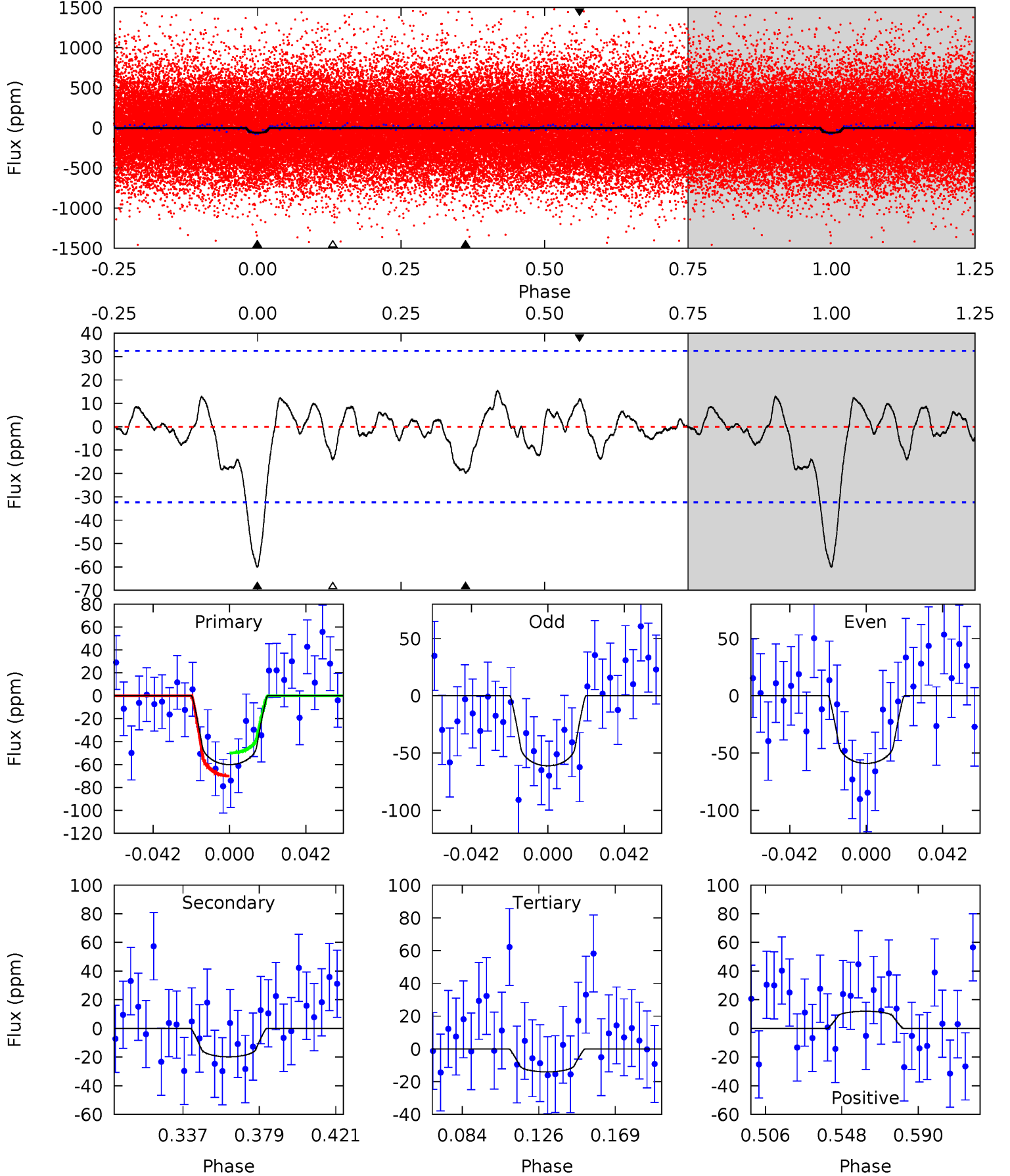
TCE 003110177-01 P= 3.399055 Days  $T_0=134.668789$  (BKJD)



# DV Model-Shift Uniqueness Test

003110177-01, P = 3.398976 Days, E = 131.290289 Days

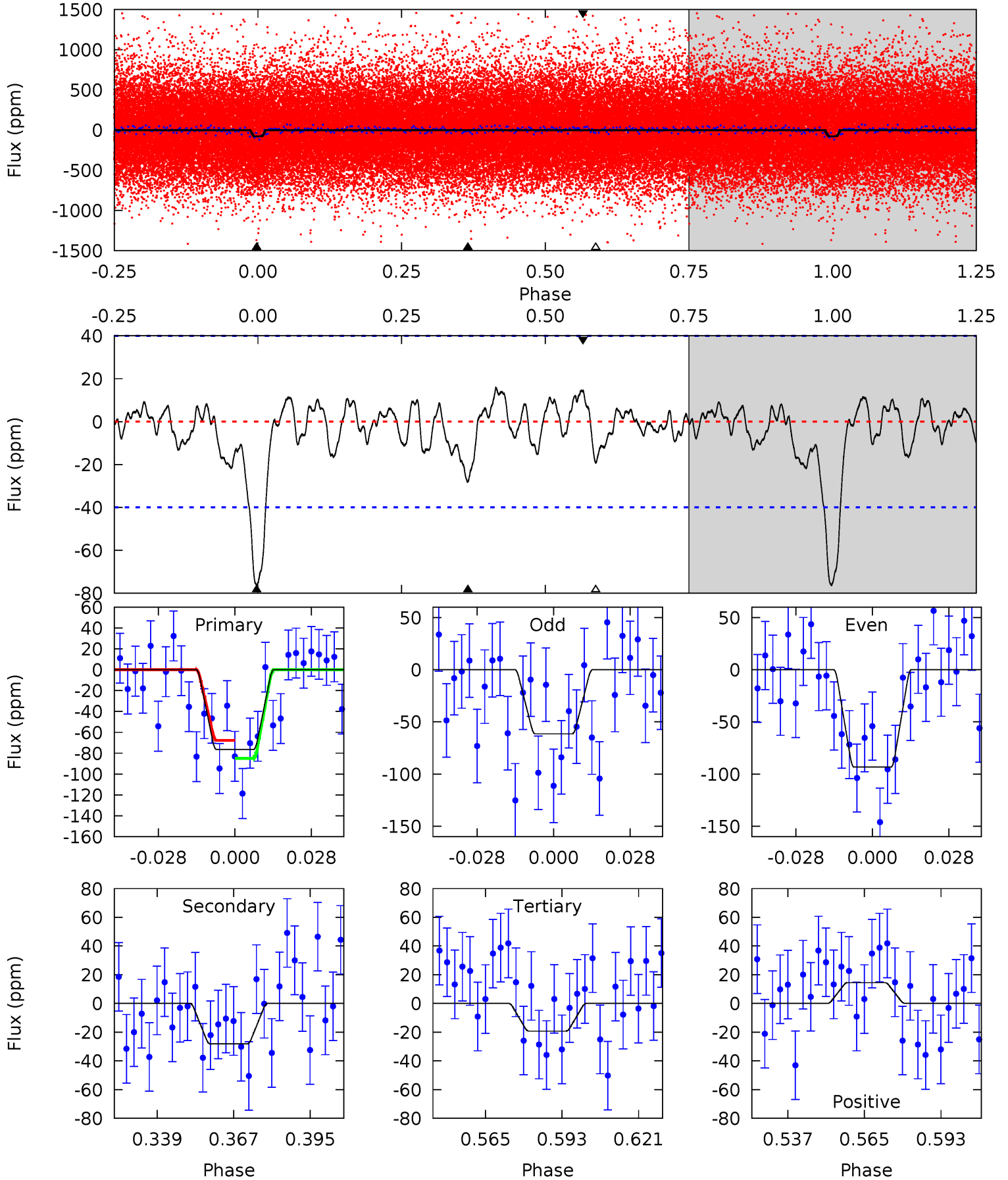
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	2.91	2.06	1.75	4.74	2.03	0.95	6.74	7.04	0.85	1.15	0.16	0.95	0.20	1.47



# Alt Model-Shift Uniqueness Test

003110177-01, P = 3.399055 Days, E = 131.269734 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
9.22	3.40	2.33	1.75	4.82	2.19	0.96	6.89	7.47	1.07	1.65	1.92	0.93	0.17	1.03





### Stellar Parameters For KIC 003110177

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5766^{+155}_{-155}$	$4.444^{+0.112}_{-0.182}$	$-0.260^{+0.300}_{-0.300}$	$0.929^{+0.237}_{-0.128}$	$0.876^{+0.120}_{-0.080}$	$1.539^{+0.758}_{-0.732}$
	+3%/-3%	+3%/-4%	+115%/-115%	+26%/-14%	+14%/-9%	+49%/-48%
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 003110177-01 / KOI 7644.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-20 \pm 7$	$1.08^{+0.82}_{-0.65}$	$1677^{+110}_{-86}$	$4044^{+1879}_{-759}$	$16^{+86}_{-11}$
Alt.	$-28 \pm 8$	$1.14^{+0.85}_{-0.68}$	$1675^{+119}_{-88}$	$4265^{+2187}_{-804}$	$21^{+120}_{-14}$

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

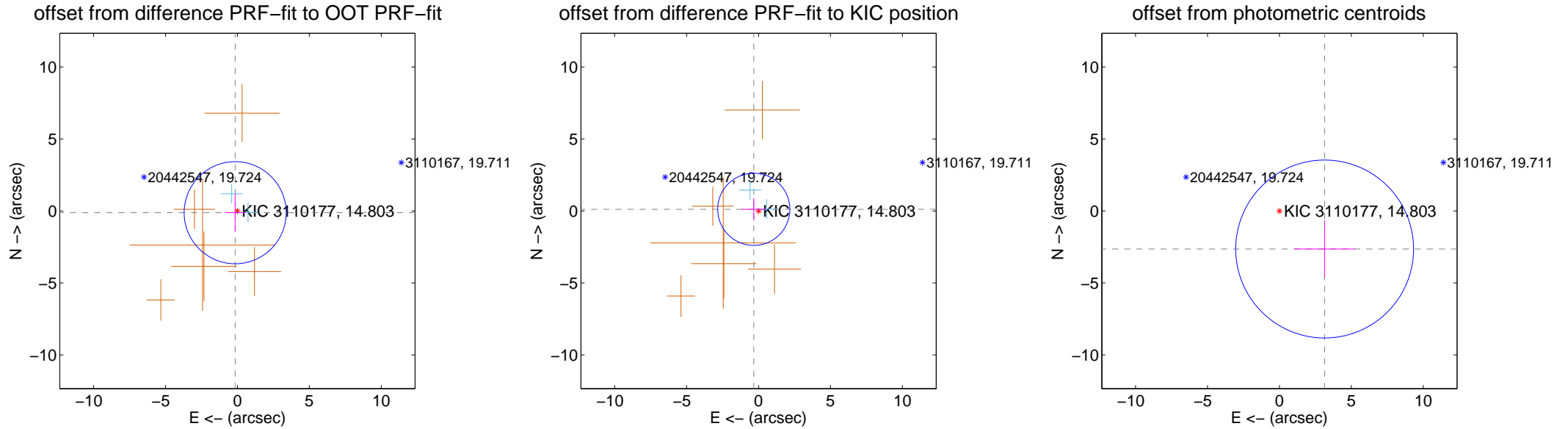
## DV Centroid Data

Supplemental centroid analysis for 003110177-01. Kepler magnitude: 14.80. Transit SNR 7.90

There are 2 quarters with good PRF difference image offsets

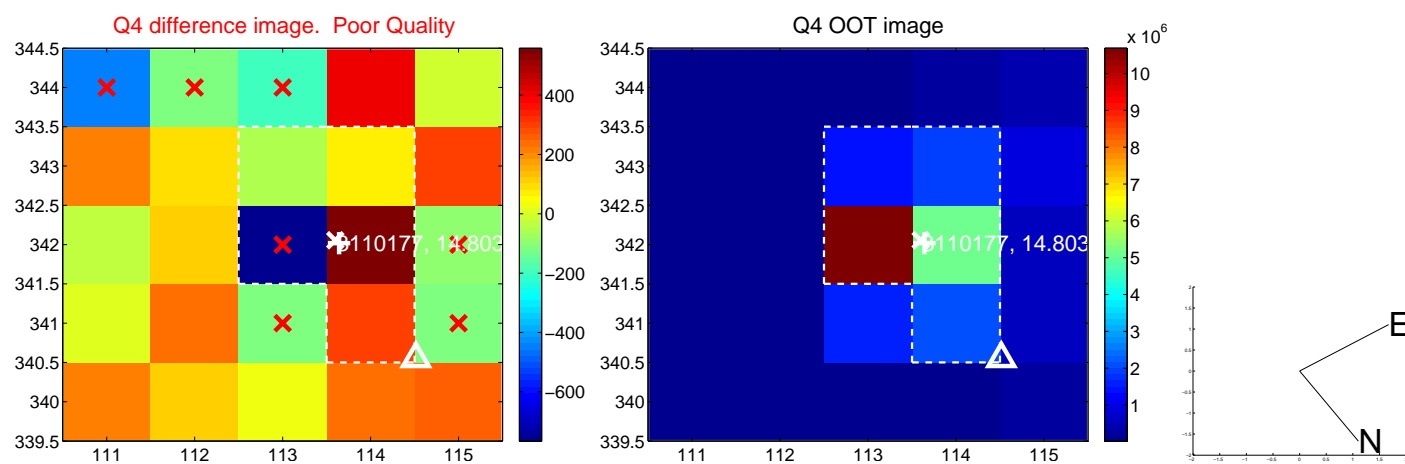
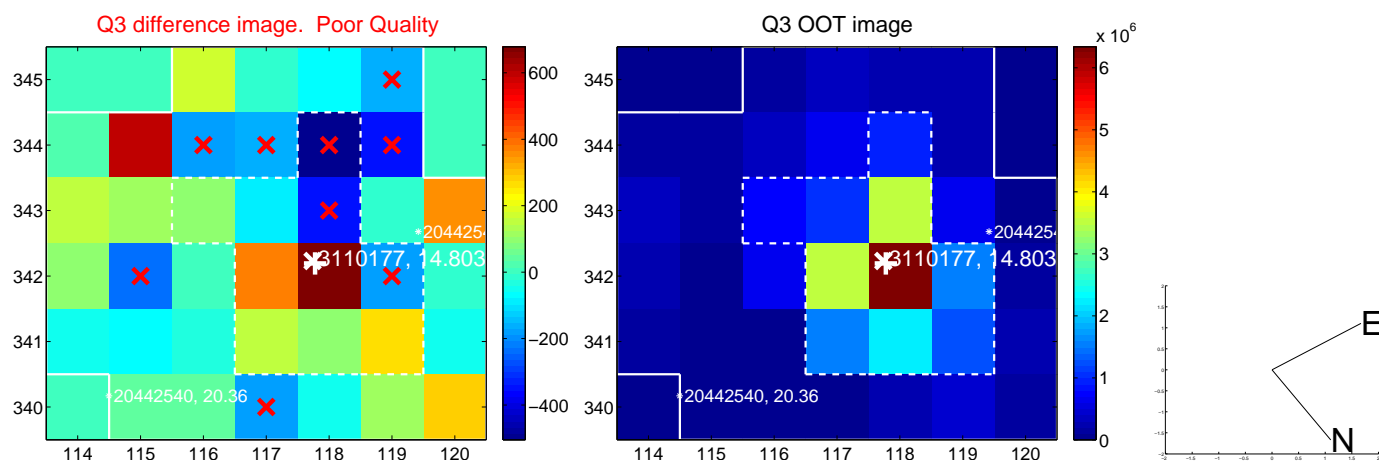
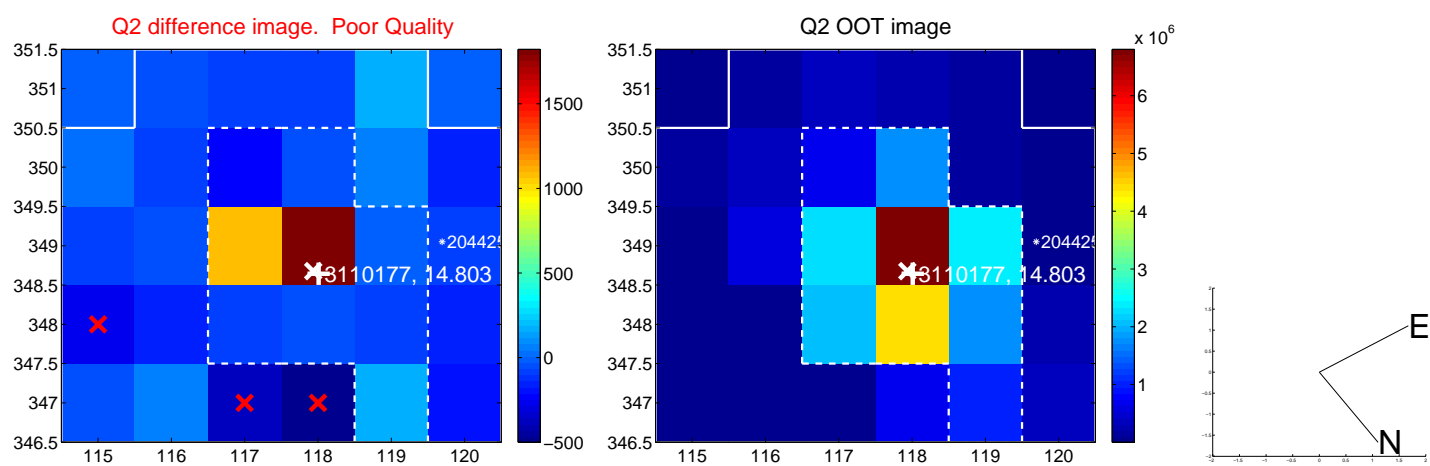
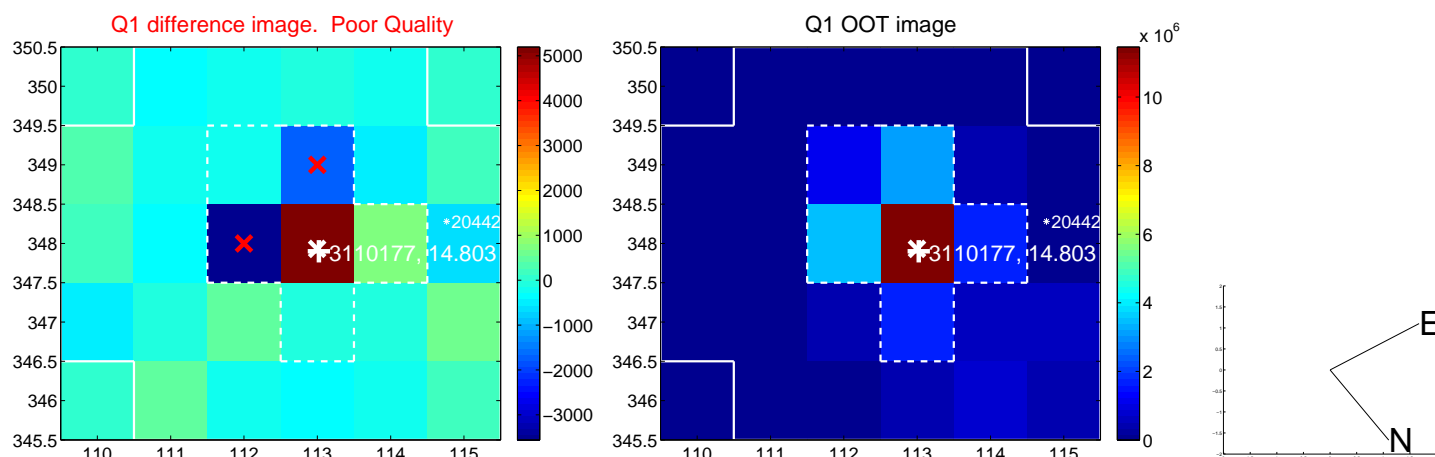
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.198 \pm 1.182$	0.17	$0.155 \pm 0.695$	$-0.123 \pm 1.313$
PRF-fit source offset from KIC position	$0.350 \pm 0.835$	0.42	$0.331 \pm 0.842$	$0.114 \pm 0.778$
photometric centroid source offset	$4.11 \pm 2.06$	1.99	$-3.14 \pm 2.12$	$-2.64 \pm 1.98$

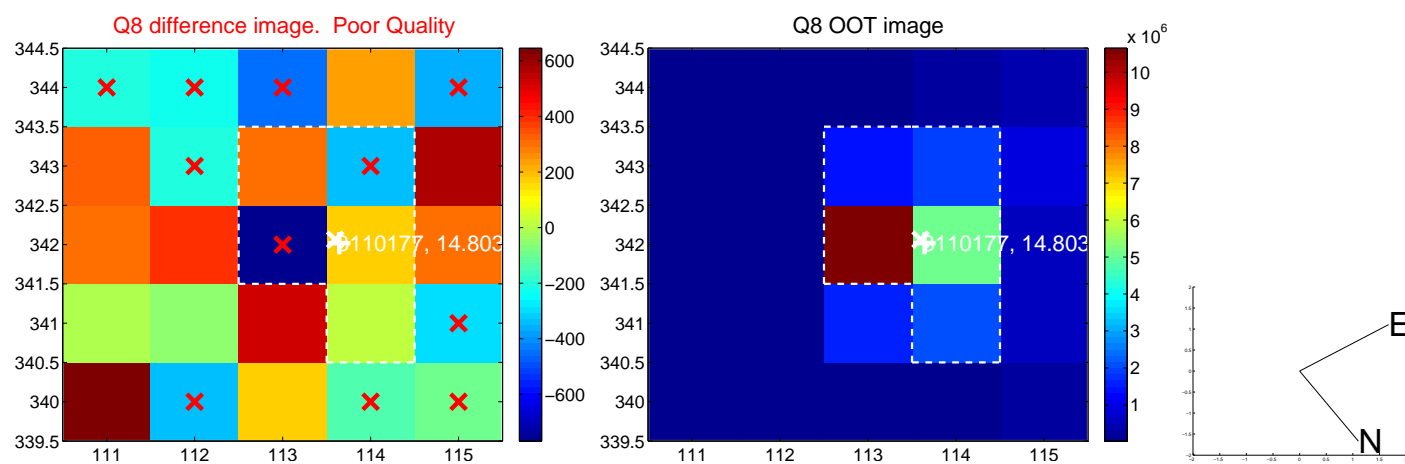
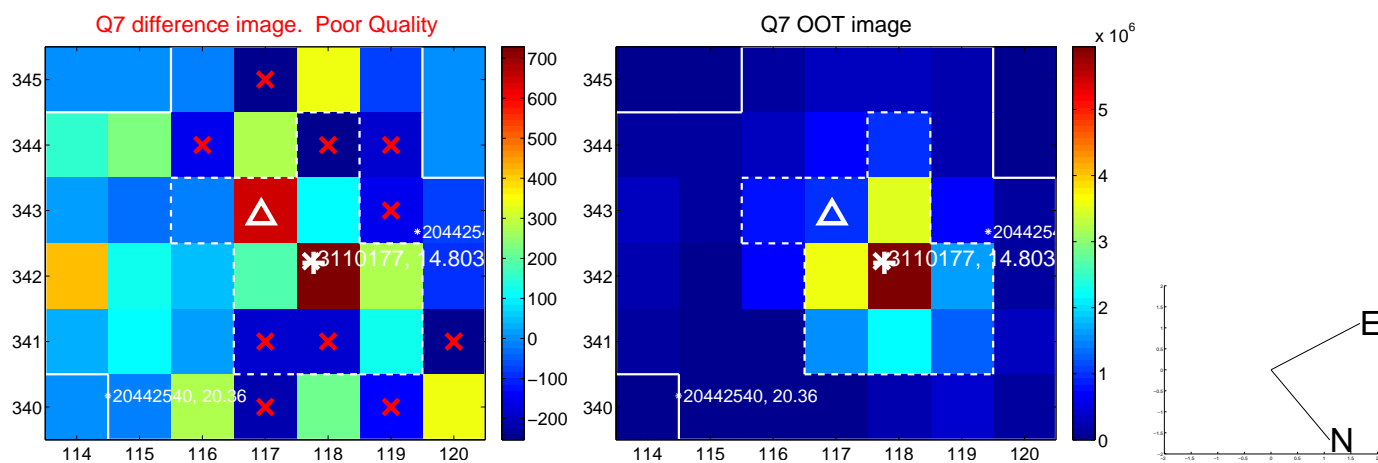
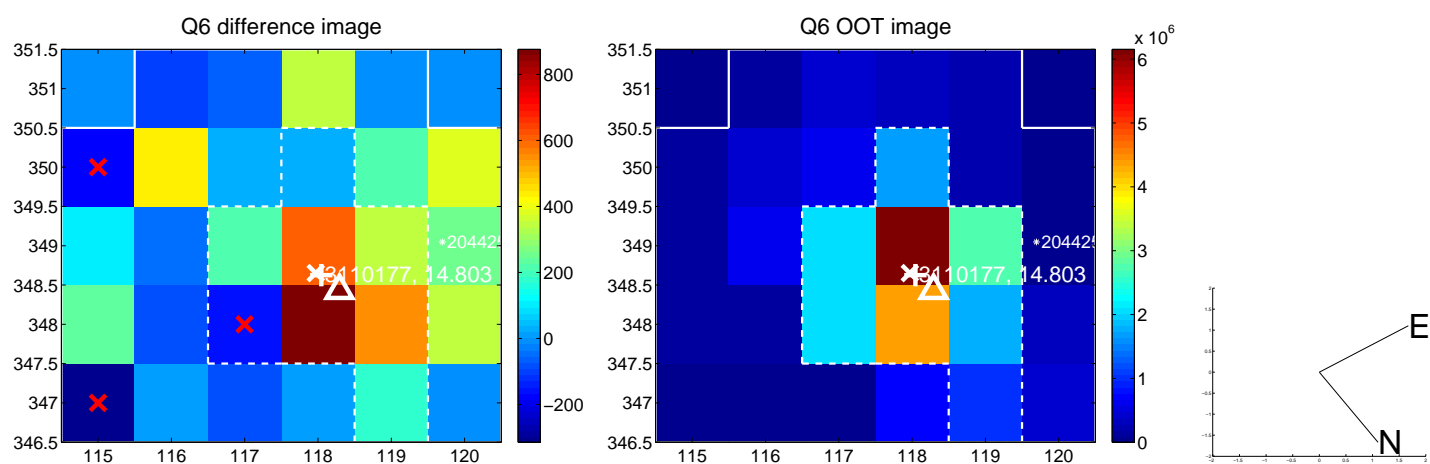
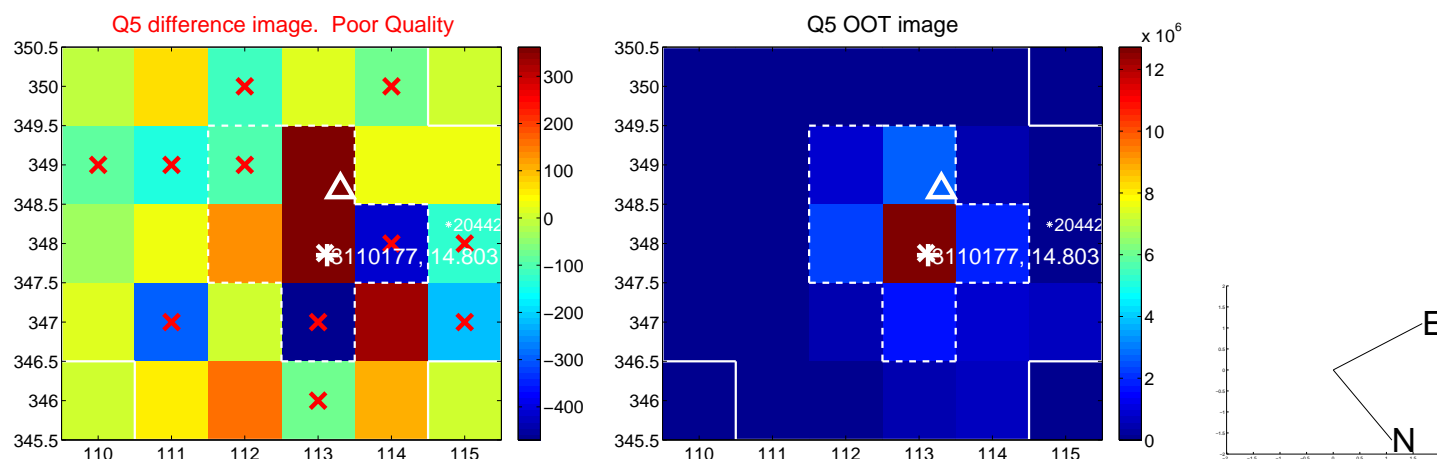


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

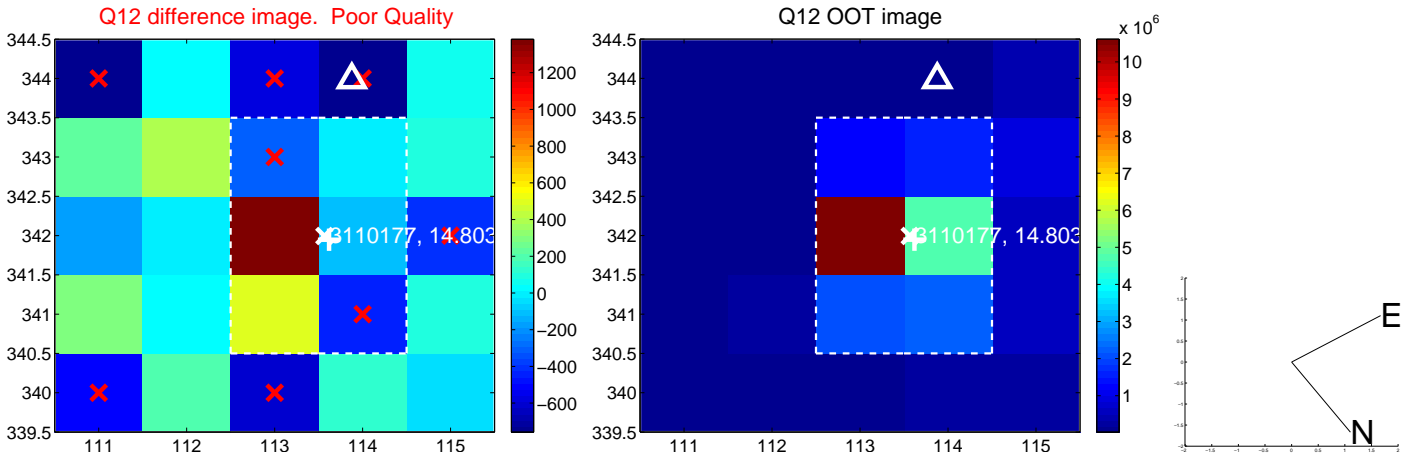
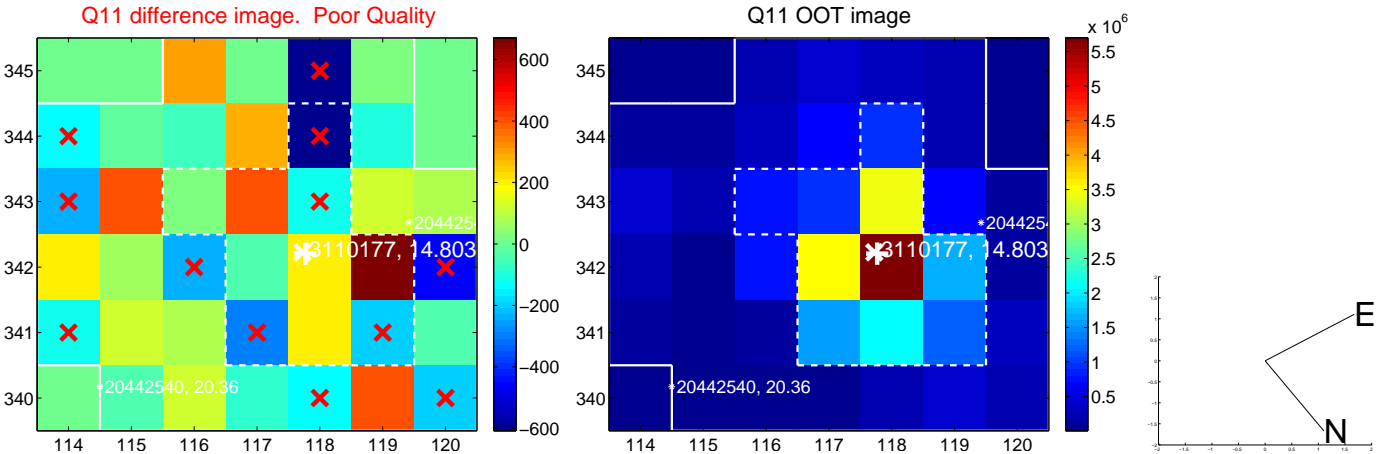
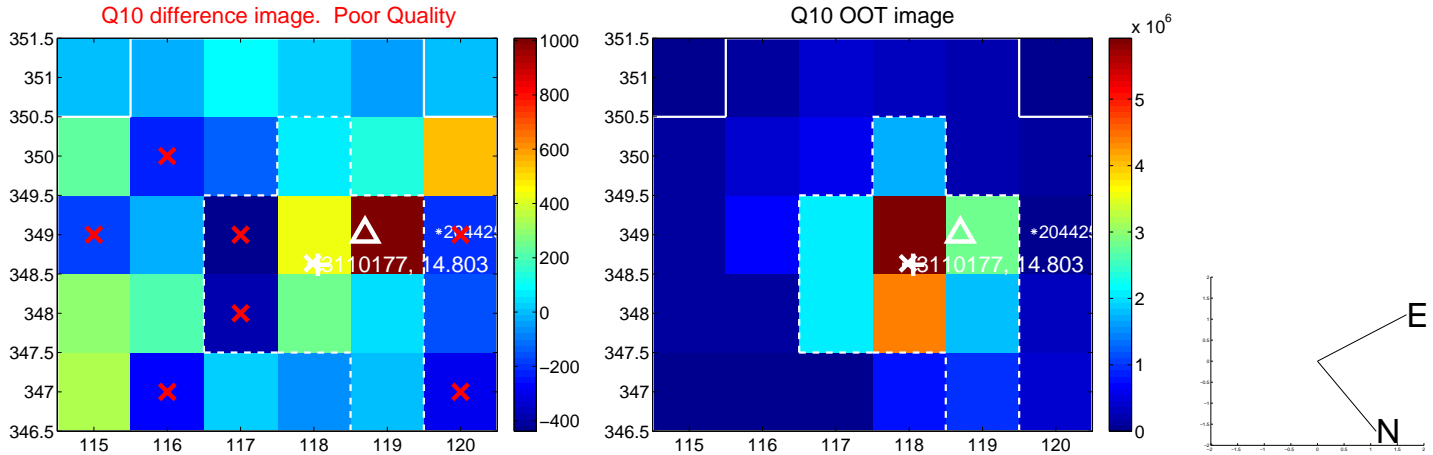
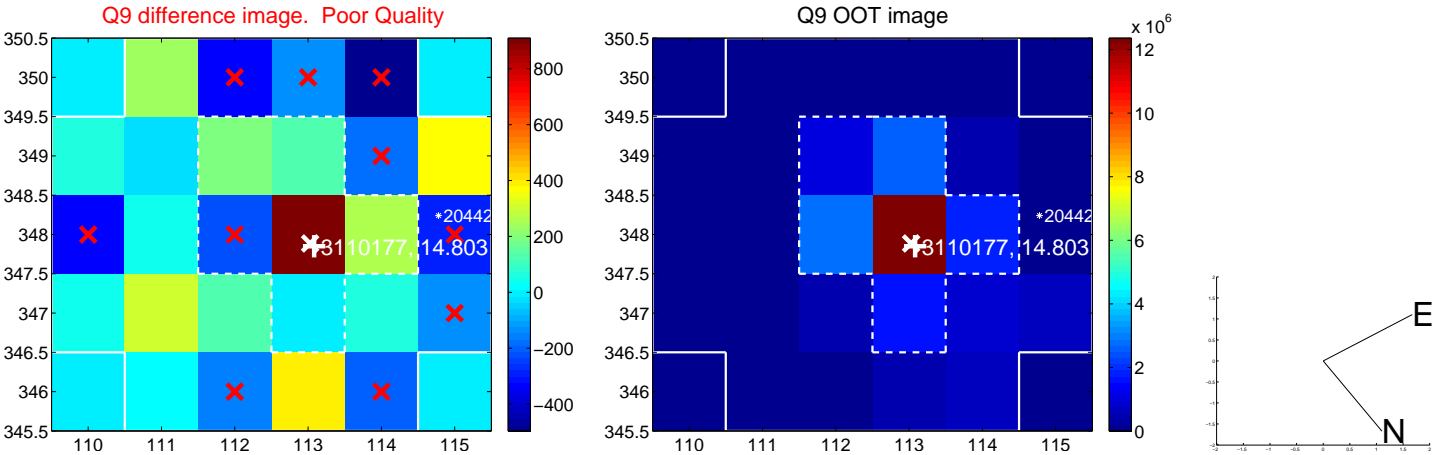


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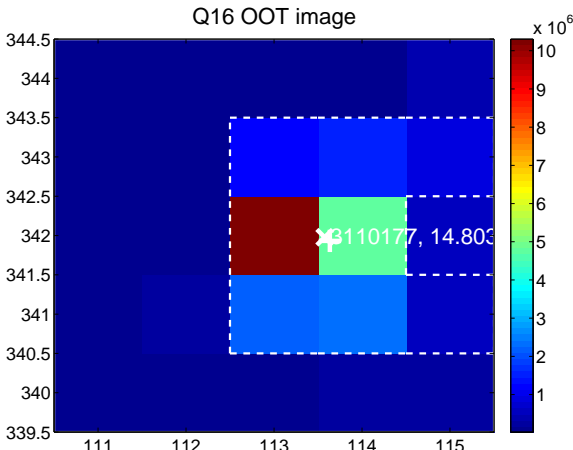
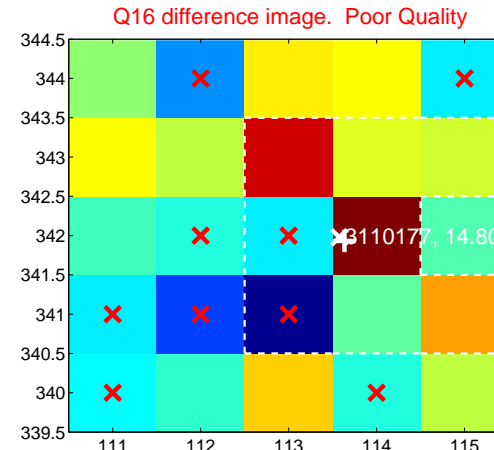
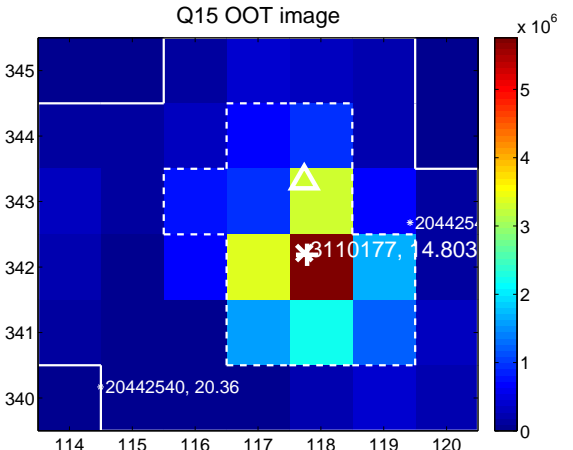
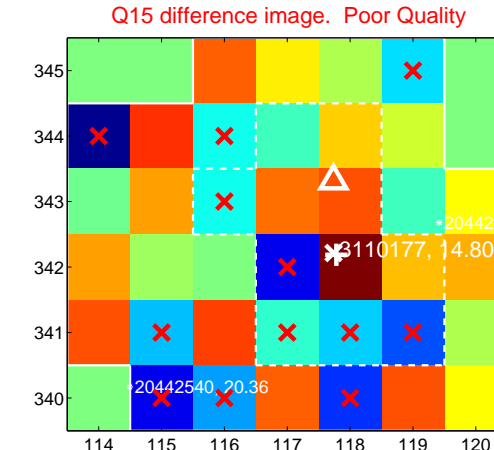
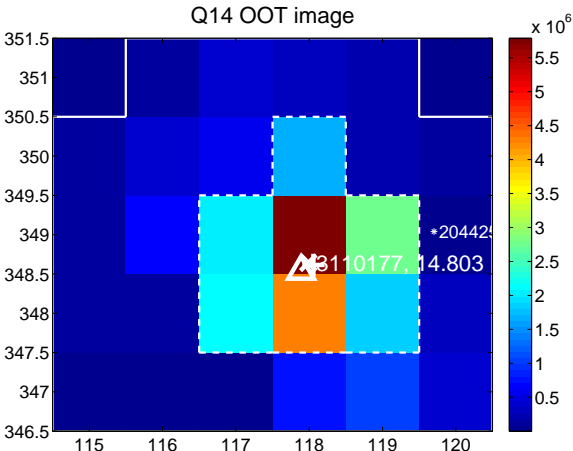
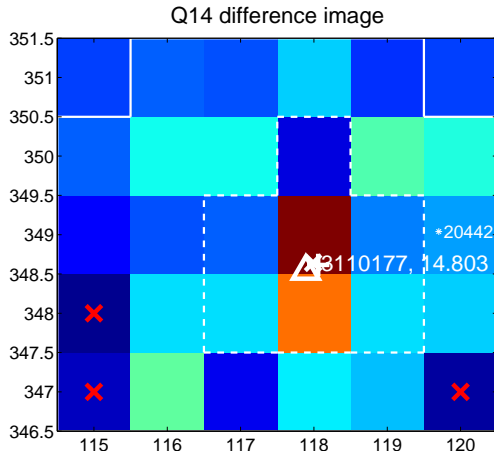
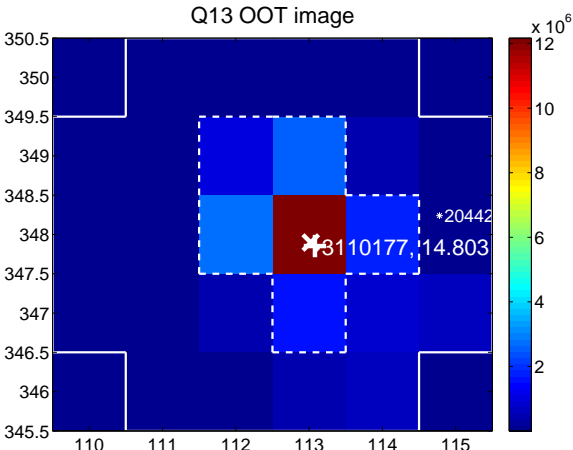
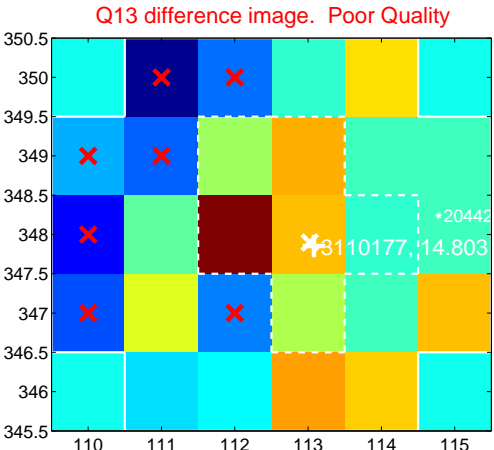




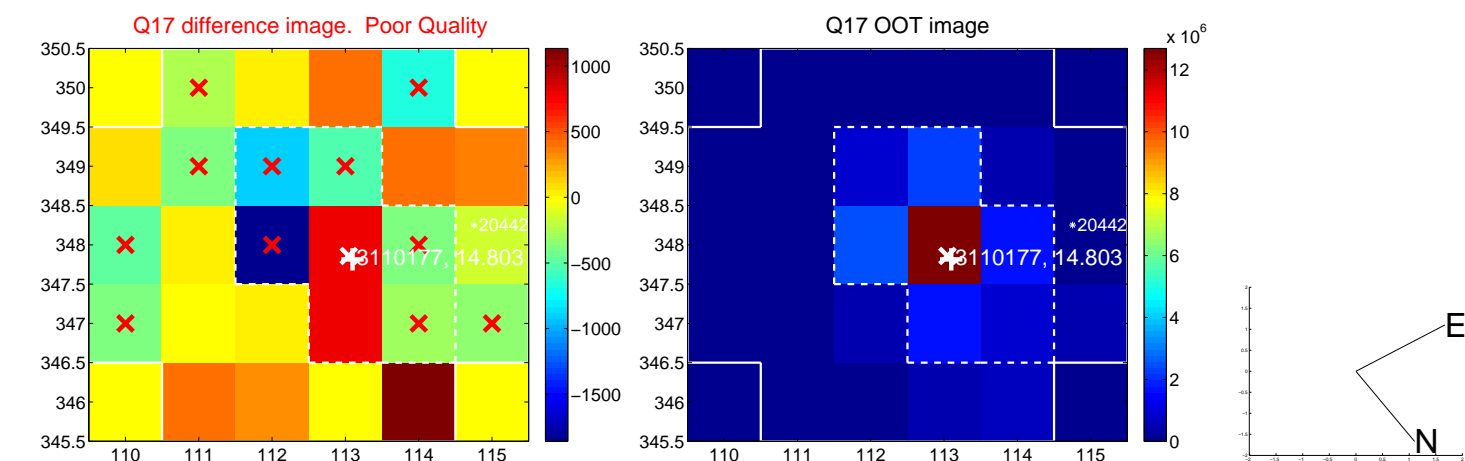
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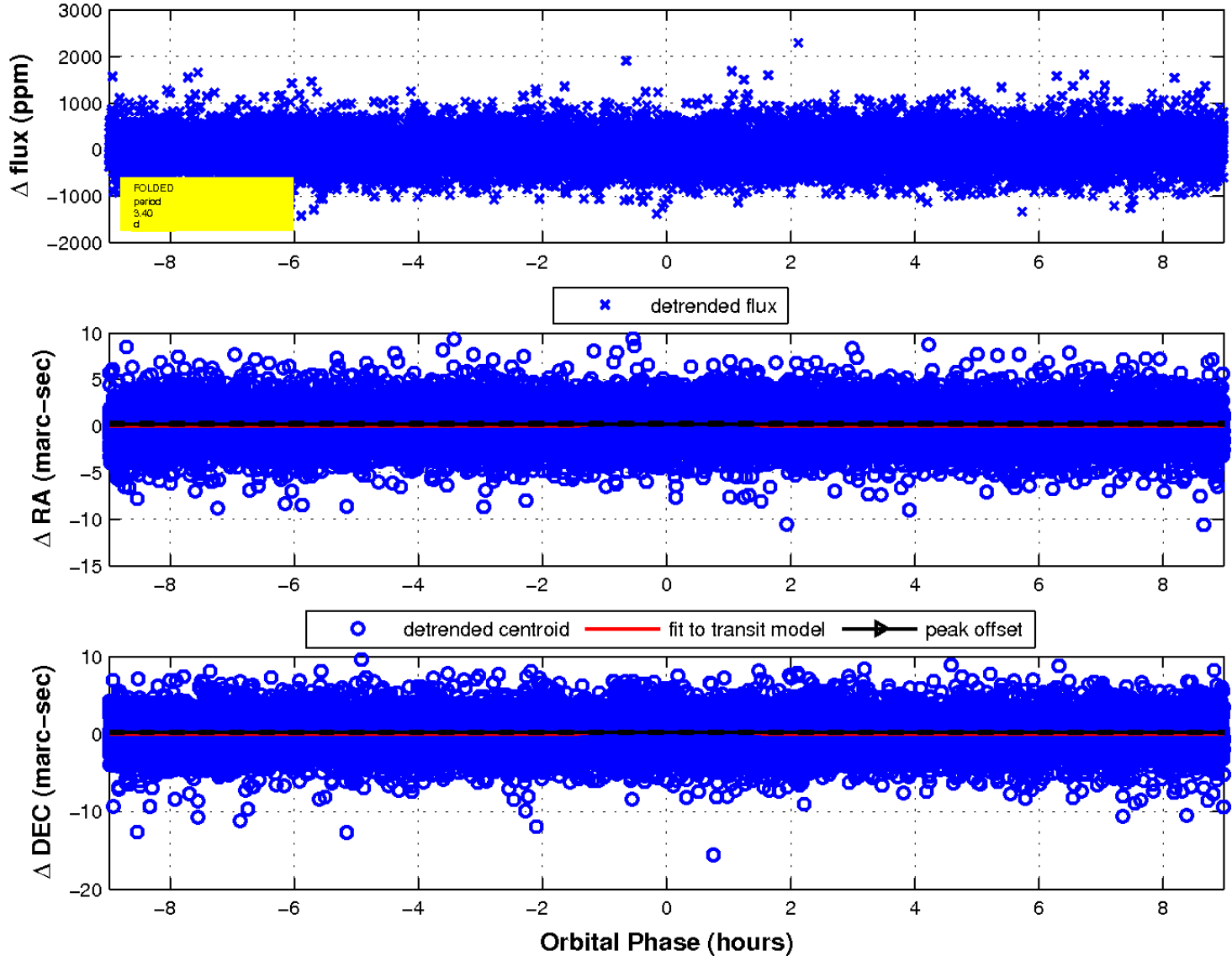
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

