

# KIC 007350038

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007350038-01	OBS	No	13.828422	142.454137	89.4	45.334	11.9	21.5	1.47	6366	2.81	217.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007350038-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

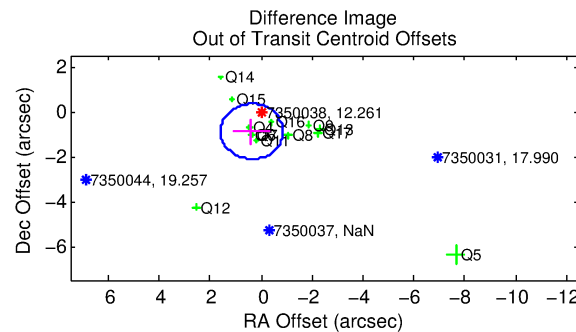
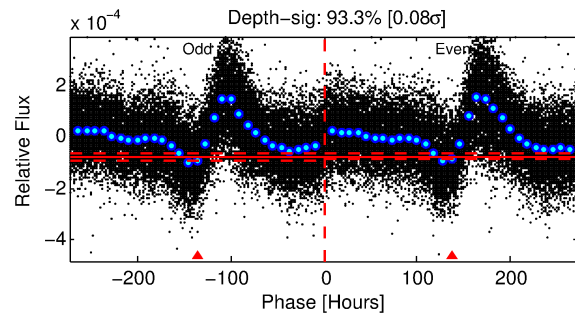
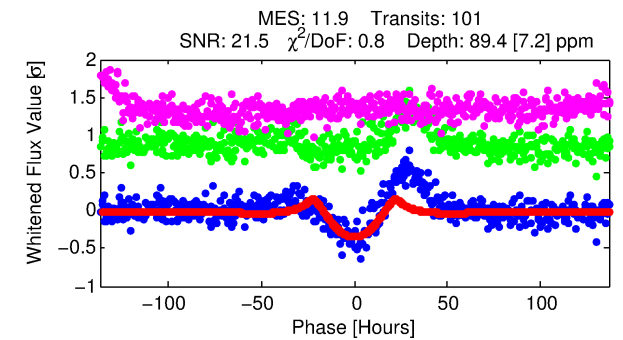
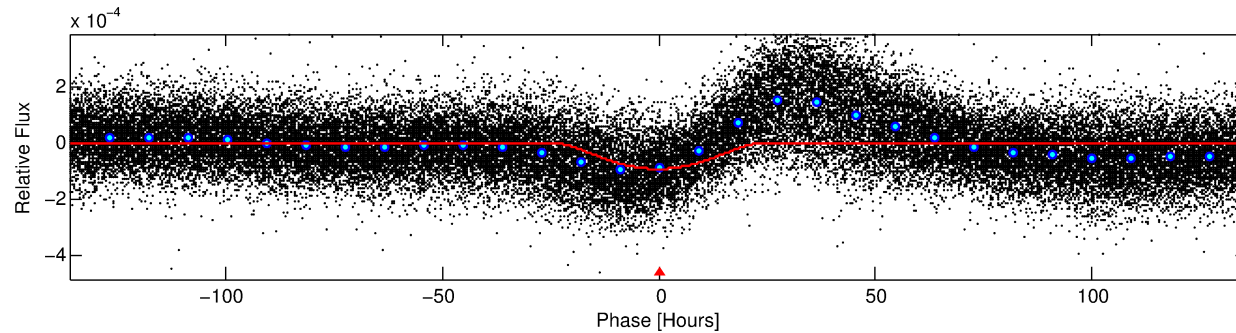
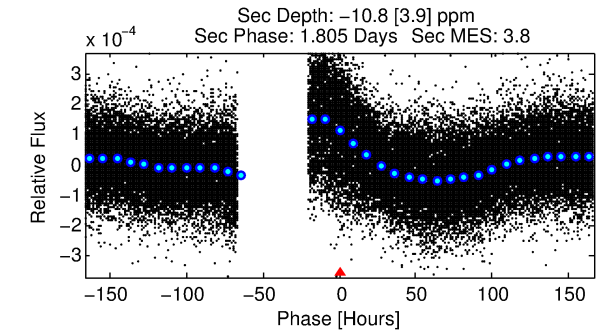
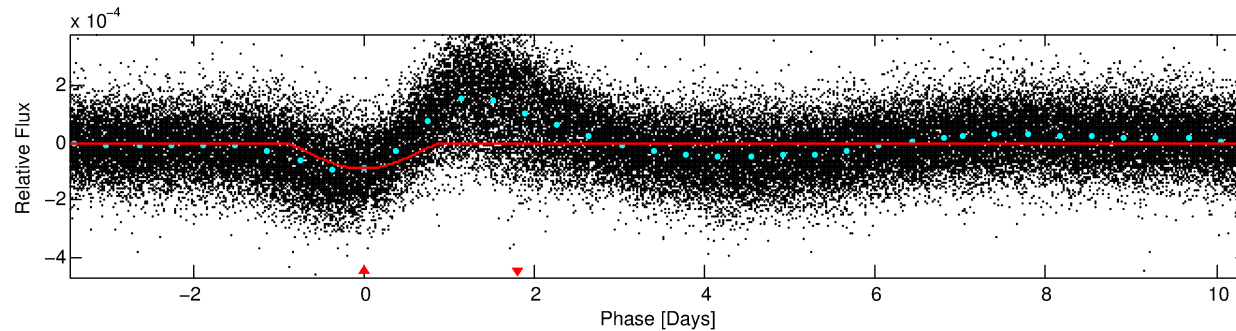
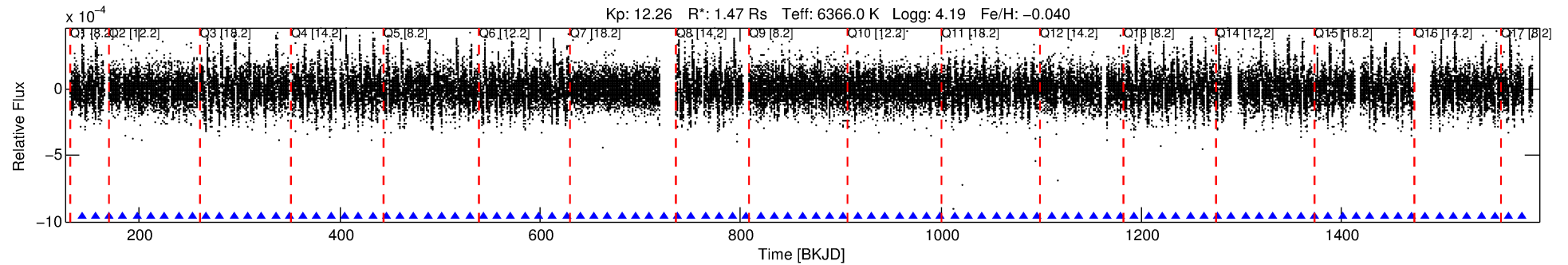
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007350038-01

No Significant Match Found

# DV One-Page Summary

KIC: 7350038 Candidate: 1 of 1 Period: 13.828 d



## DV Fit Results:

Period = 13.82842 [0.00057] d  
Epoch = 142.4541 [0.0334] BKJD  
Rp/R\* = 0.0176 [0.0110]  
a/R\* = 1.10 [0.02]  
b = 1.00 [0.02]  
Seff = 217.68 [82.57]  
Teq = 979 [93] K  
Rp = 2.81 [1.95] Re  
a = 0.1207 [0.0296] AU  
Ag = N/A  
Teffp = N/A

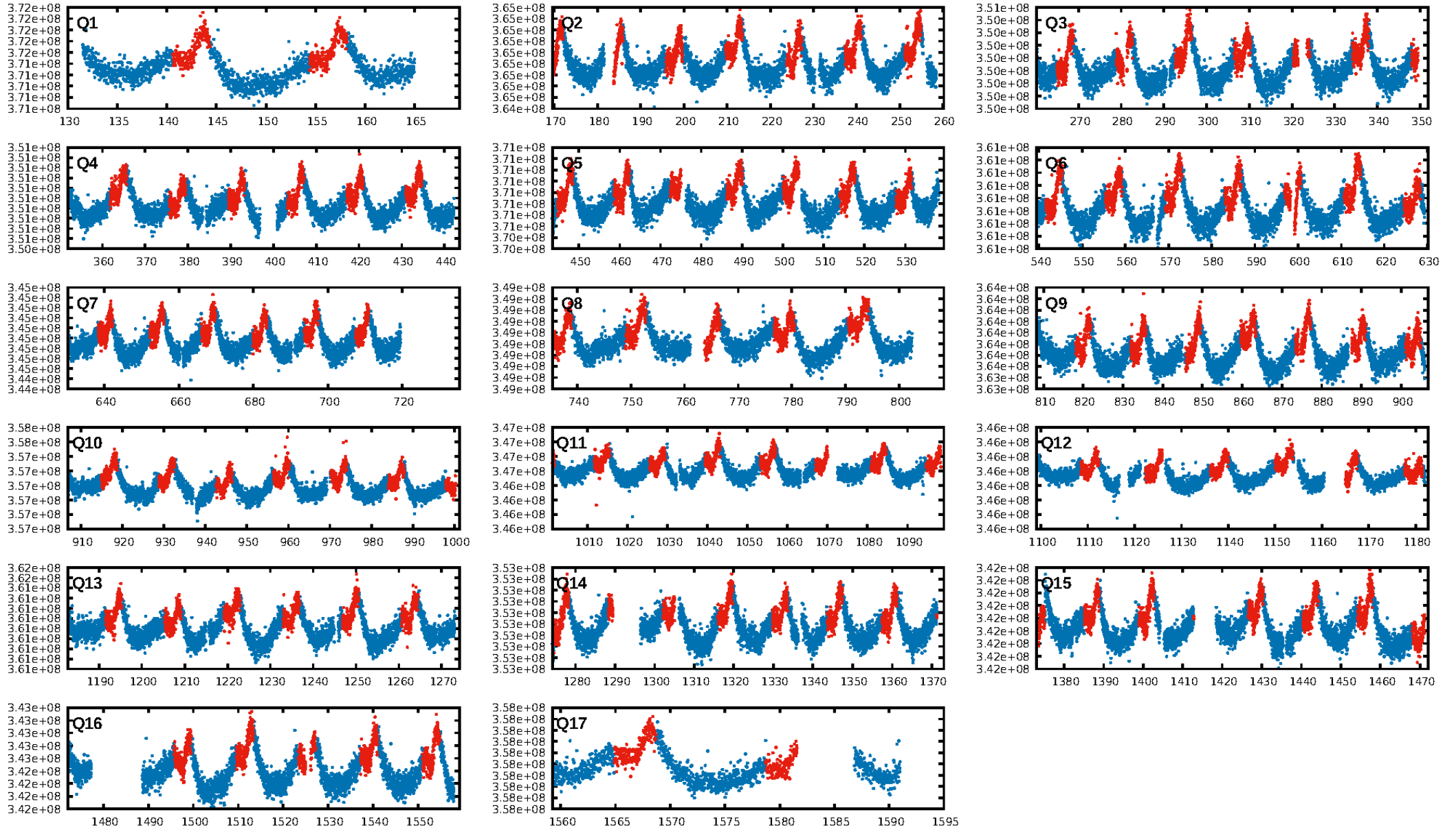
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.18e-31  
RollingBand-fgt: 1.00 [97/97]  
GhostDiagnostic-chr: 1.166  
Centroid-sig: 43.8%  
Centroid-so: 0.416 arcsec [1.40σ]  
OotOffset-rm: 0.960 arcsec [2.34σ]  
KicOffset-rm: 0.743 arcsec [1.70σ]  
OotOffset-st: 2/3/4/4 [13]  
KicOffset-st: 2/3/4/4 [13]  
DiffImageQuality-fgm: 0.69 [9/13]  
DiffImageOverlap-fno: 1.00 [17/17]

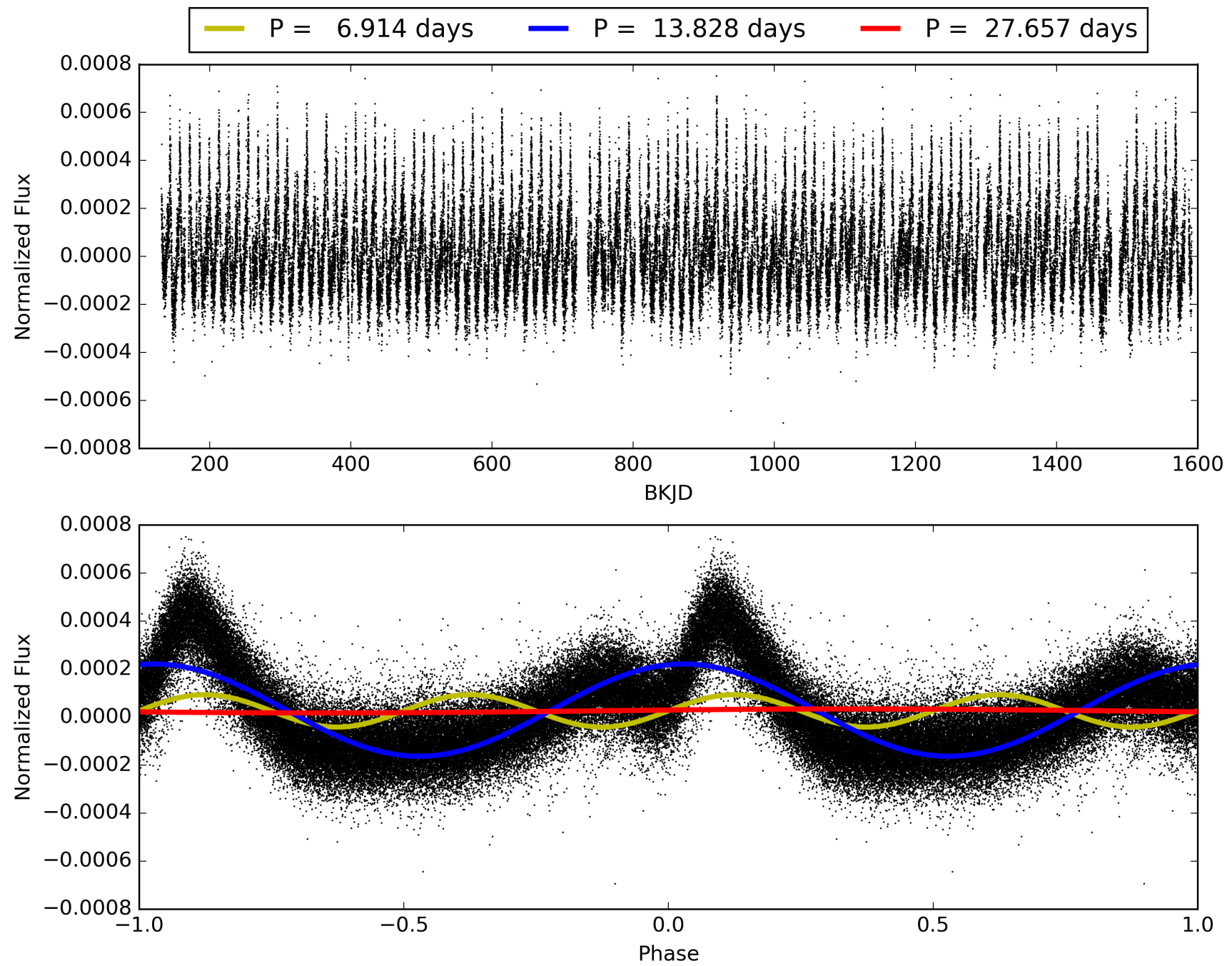
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:41:15 Z

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

# TCE 007350038-01, PDC Light Curves

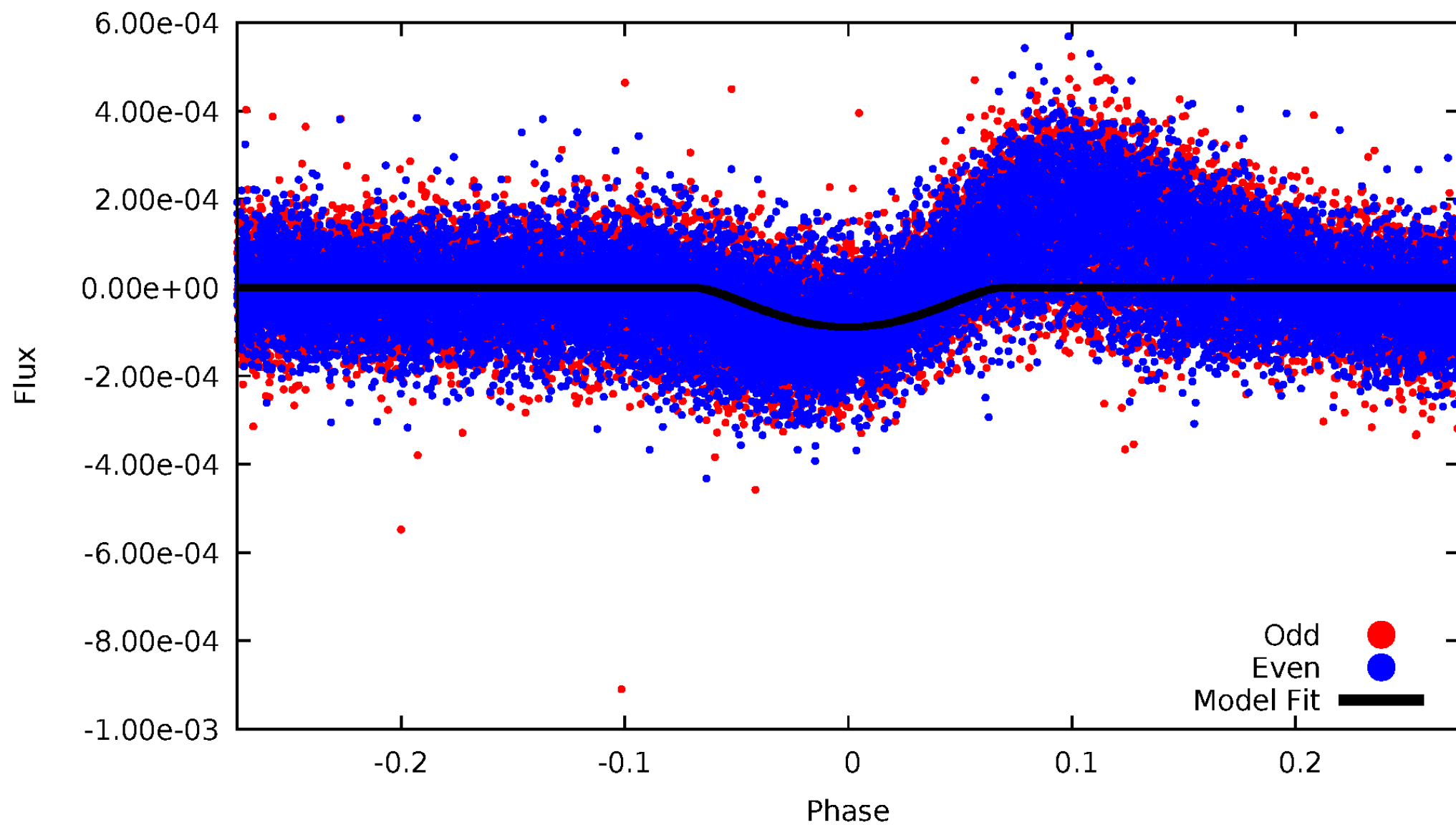


TCE 007350038-01



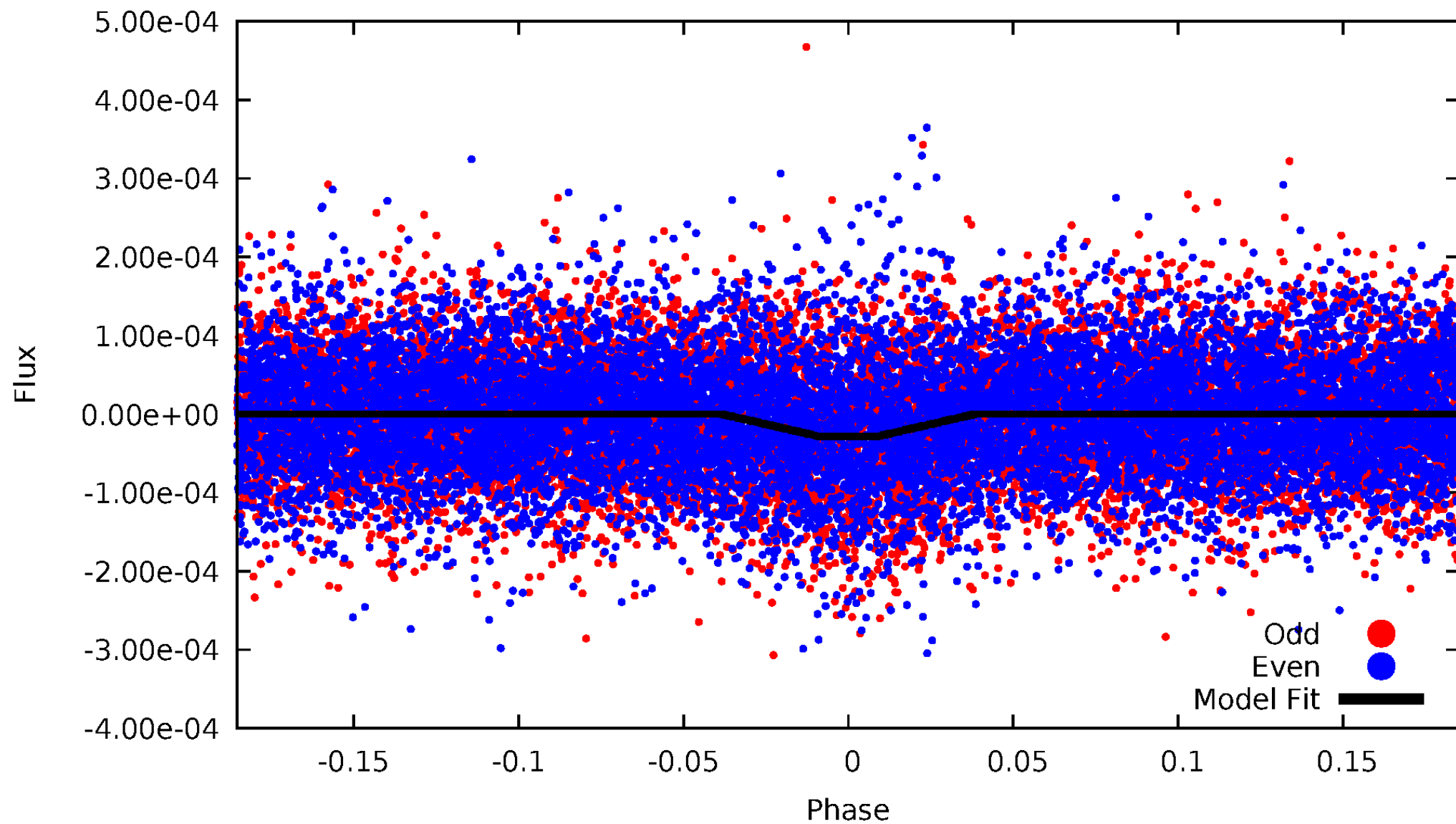
# DV Odd/Even

TCE 007350038-01



# ALT Odd/Even

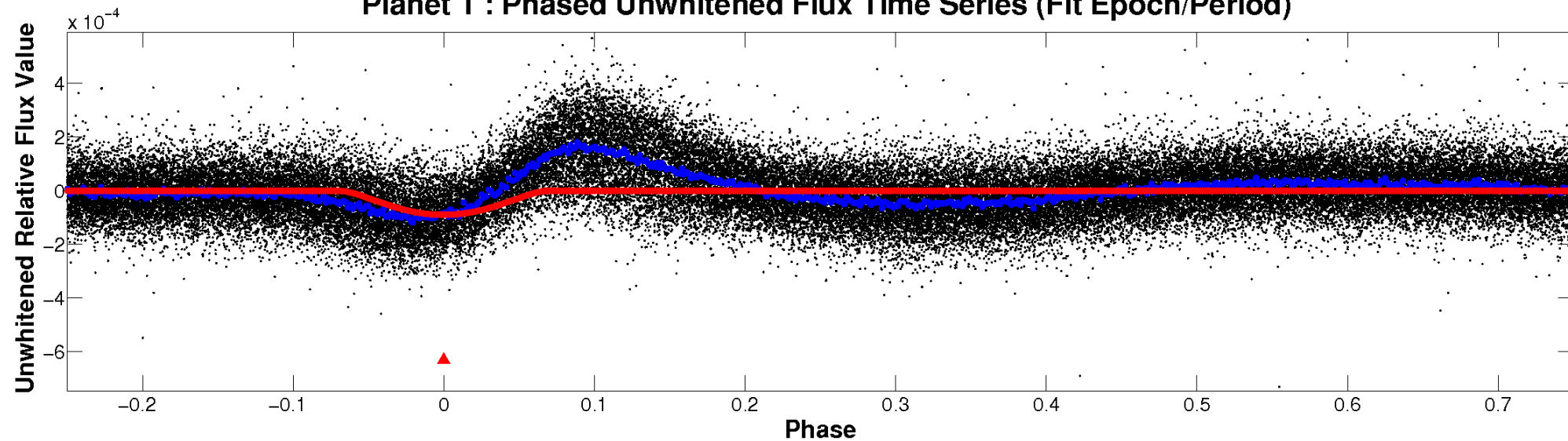
TCE 007350038-01



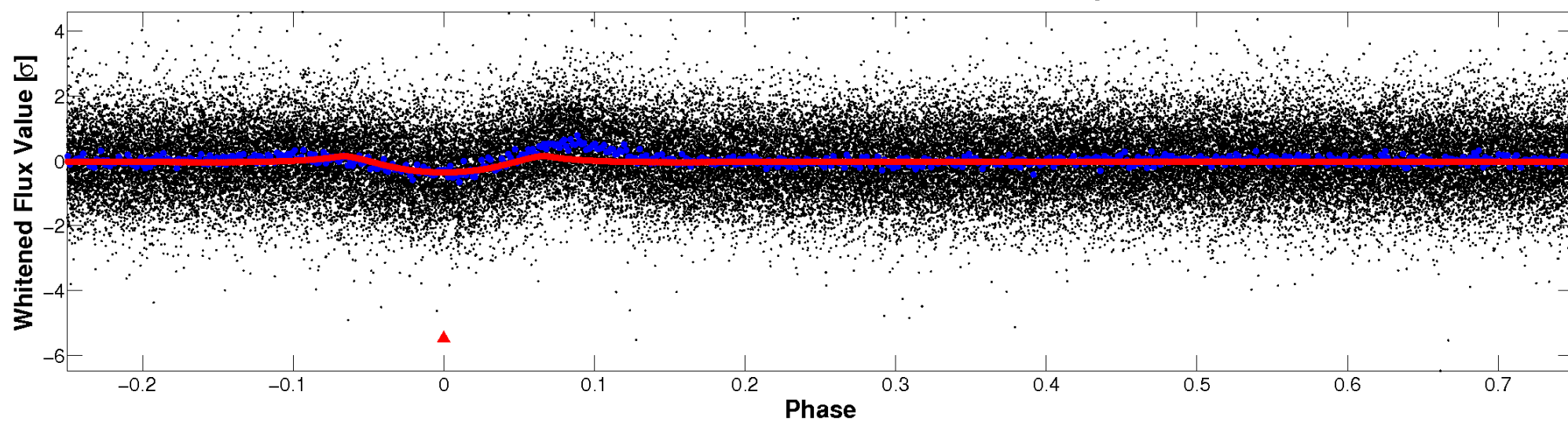


# Non-Whitened Vs. Whitened Light Curve

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

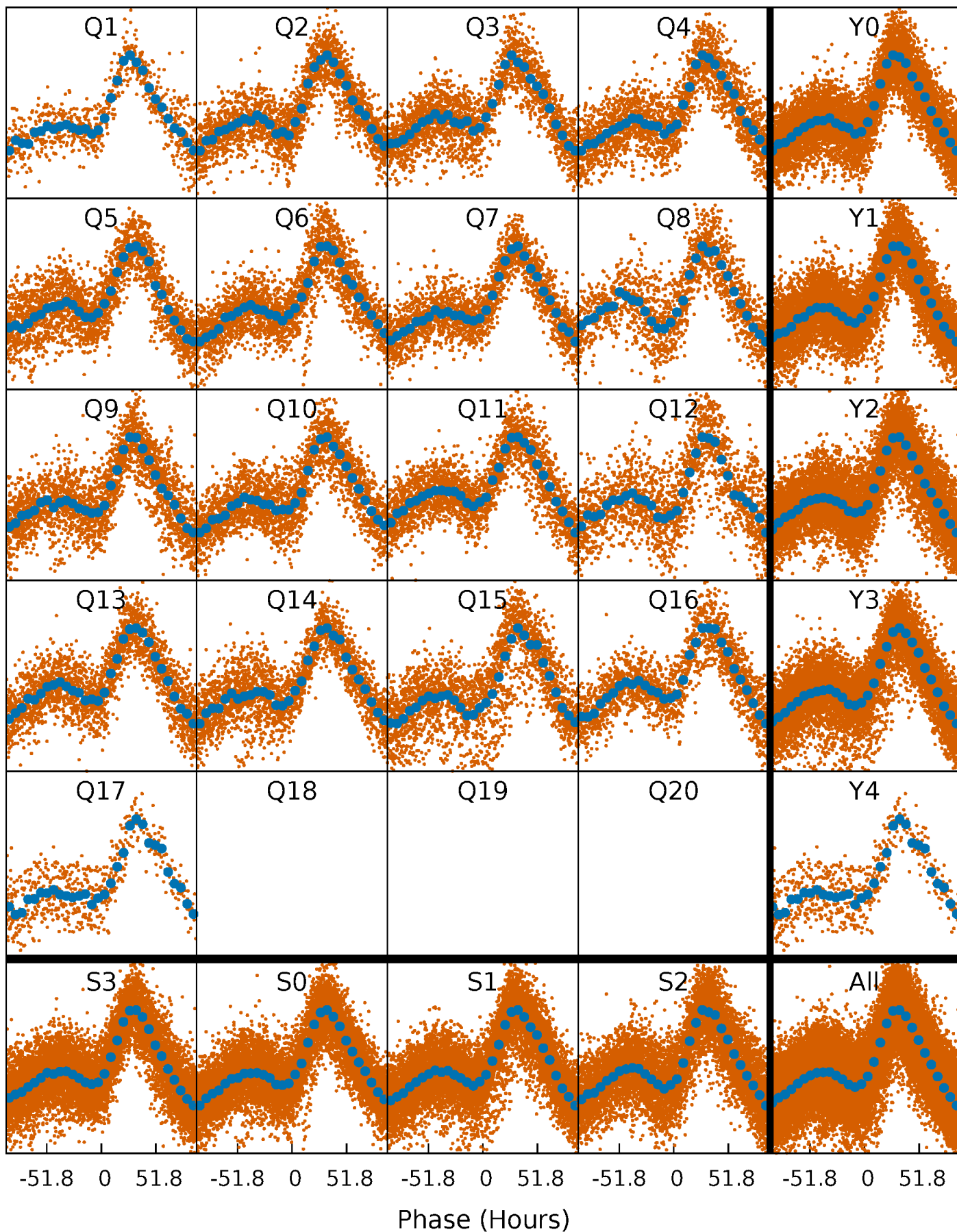


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

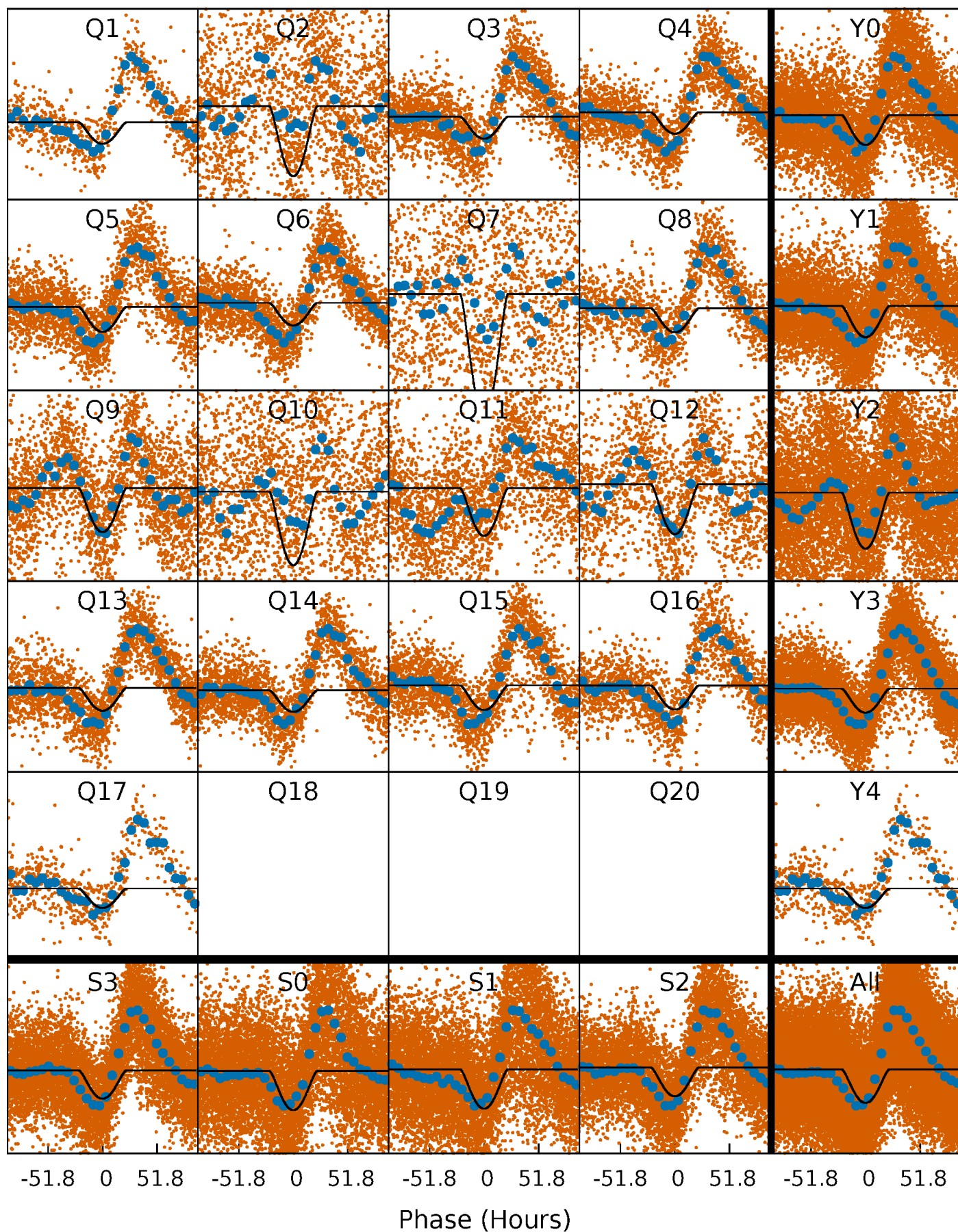
TCE 007350038-01 P= 13.828422 Days  $T_0=142.454137$  (BKJD)





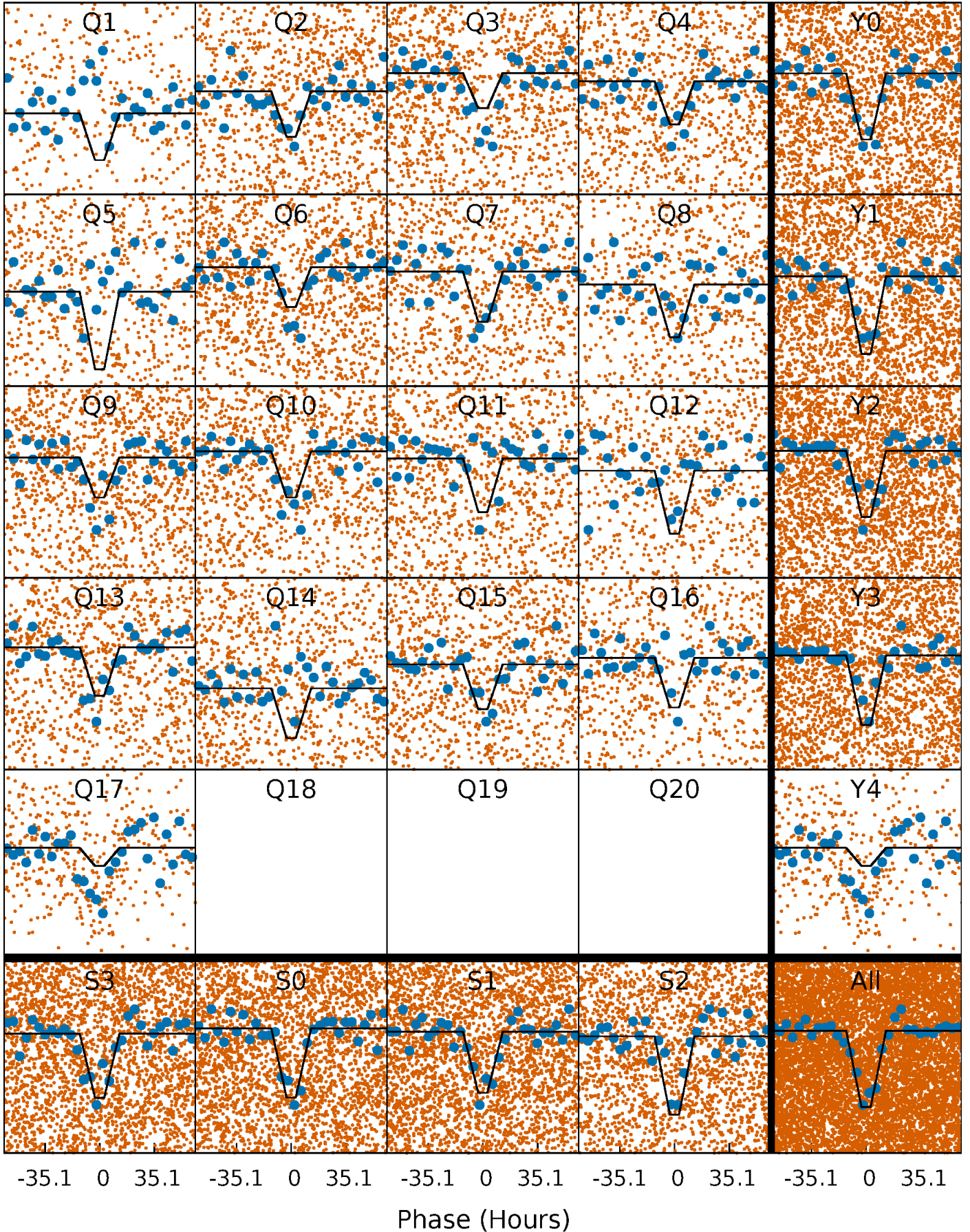
# DV Quarter-Phased Transit Curves

TCE 007350038-01 P= 13.828422 Days  $T_0=142.454137$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

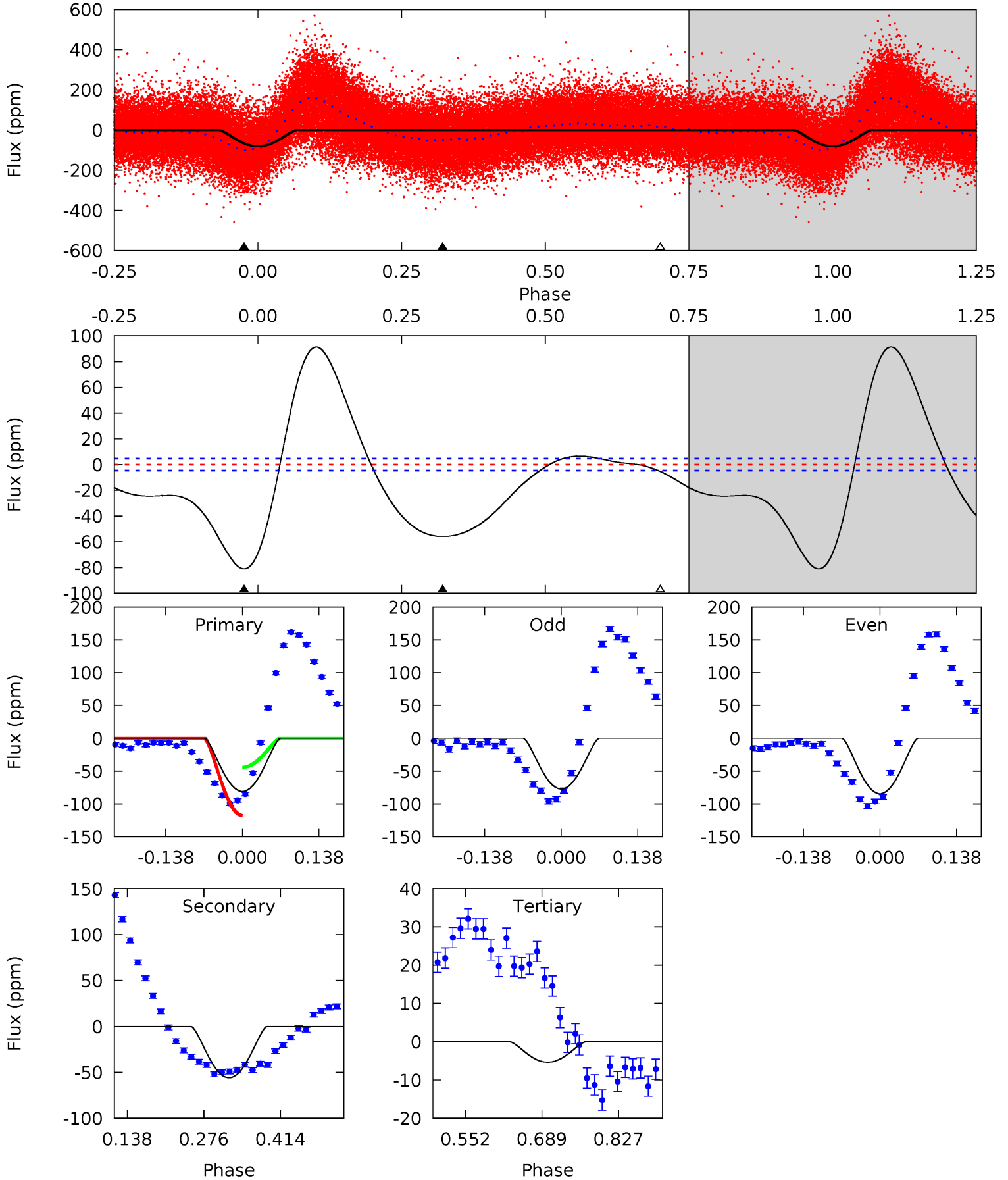
TCE 007350038-01 P= 13.827785 Days  $T_0=142.743263$  (BKJD)



# DV Model-Shift Uniqueness Test

007350038-01, P = 13.828422 Days, E = 128.625715 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
79.1	54.6	5.23	0	4.50	1.48	24.3	73.9	79.1	49.3	54.6	3.53	1.04	0.53	31.1

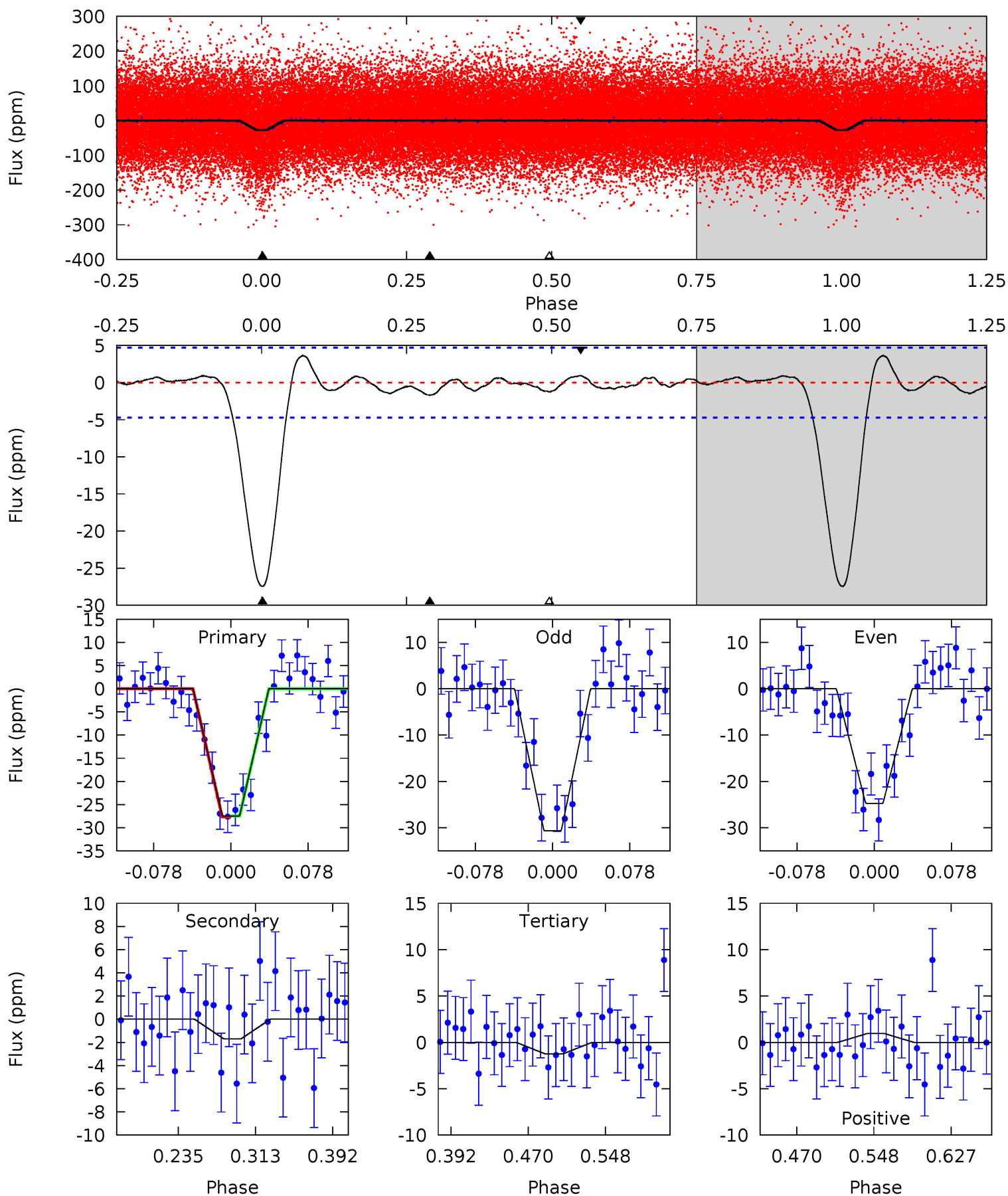




# Alt Model-Shift Uniqueness Test

007350038-01, P = 13.827785 Days, E = 128.915478 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
26.9	1.66	1.23	0.93	4.62	1.76	0.63	25.7	26.0	0.43	0.73	2.90	1.15	0.12	0.11



### Stellar Parameters For KIC 007350038

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6366^{+177}_{-243}$	$4.193^{+0.185}_{-0.185}$	$-0.040^{+0.250}_{-0.300}$	$1.468^{+0.440}_{-0.360}$	$1.226^{+0.189}_{-0.189}$	$0.546^{+0.555}_{-0.278}$
	+3%/-4%	+4%/-4%	+625%/-750%	+30%/-25%	+15%/-15%	+102%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 007350038-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-56 \pm 1$	$2.98^{+1.76}_{-1.66}$	$1367^{+113}_{-97}$	$4262^{+1712}_{-624}$	$51^{+205}_{-31}$
Alt.	$-2 \pm 1$	$1.54^{+1.54}_{-1.00}$	$1358^{+117}_{-92}$	$2923^{+1237}_{-658}$	$4.949^{+37.015}_{-4.078}$

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



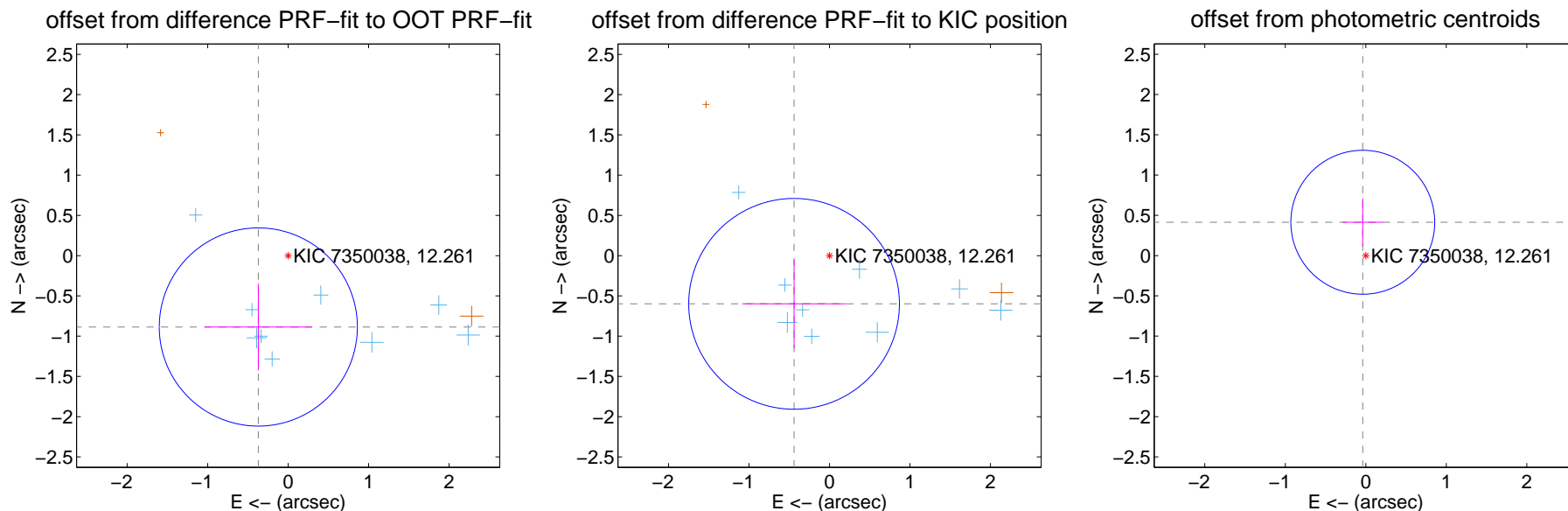
## DV Centroid Data

Supplemental centroid analysis for 007350038-01. Kepler magnitude: 12.26. Transit SNR 21.54

There are 9 quarters with good PRF difference image offsets

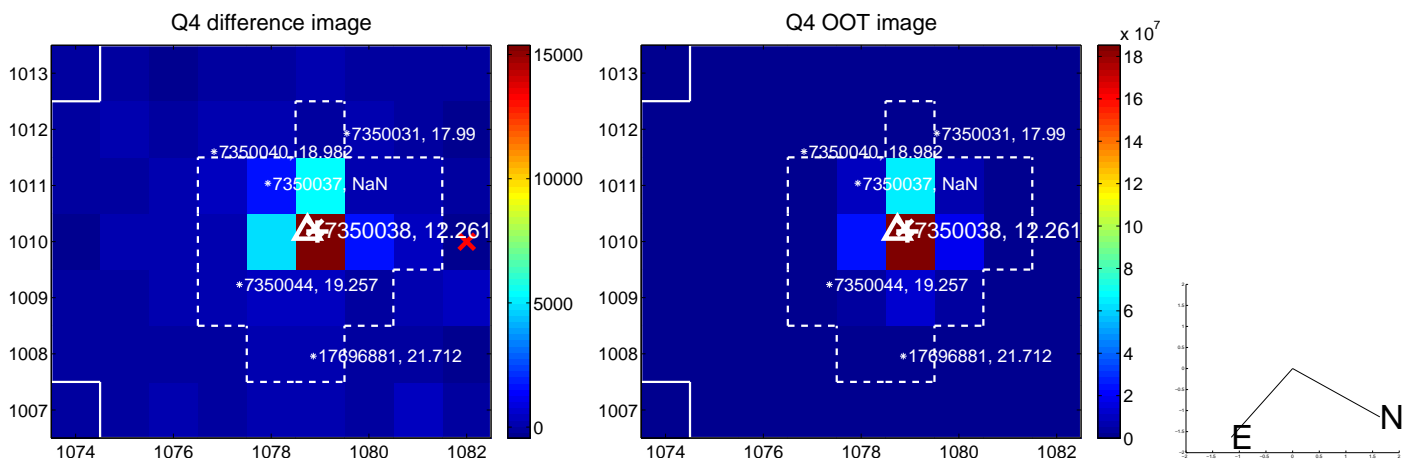
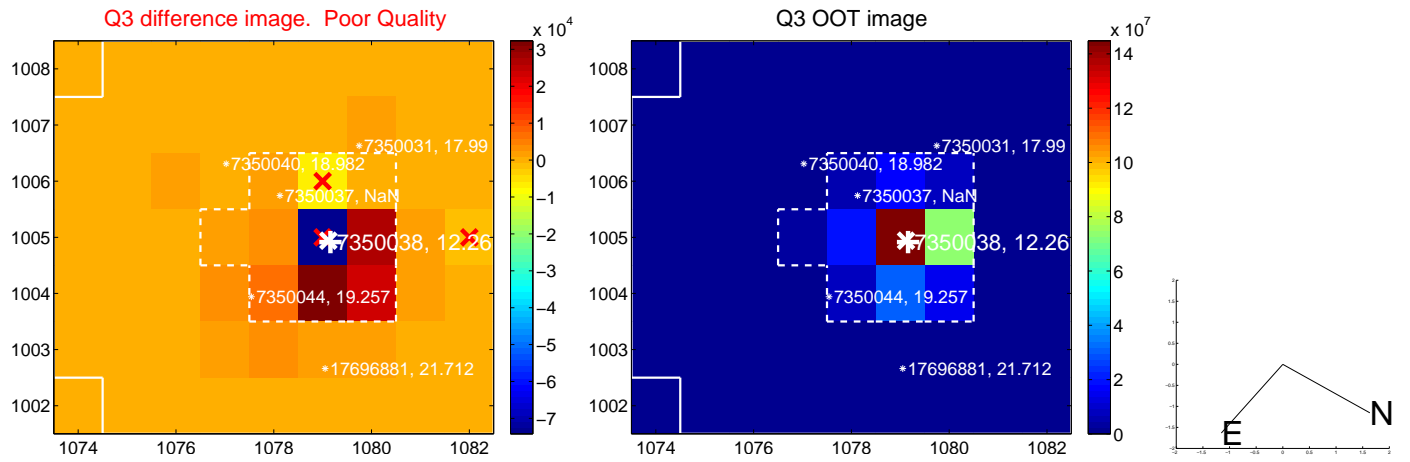
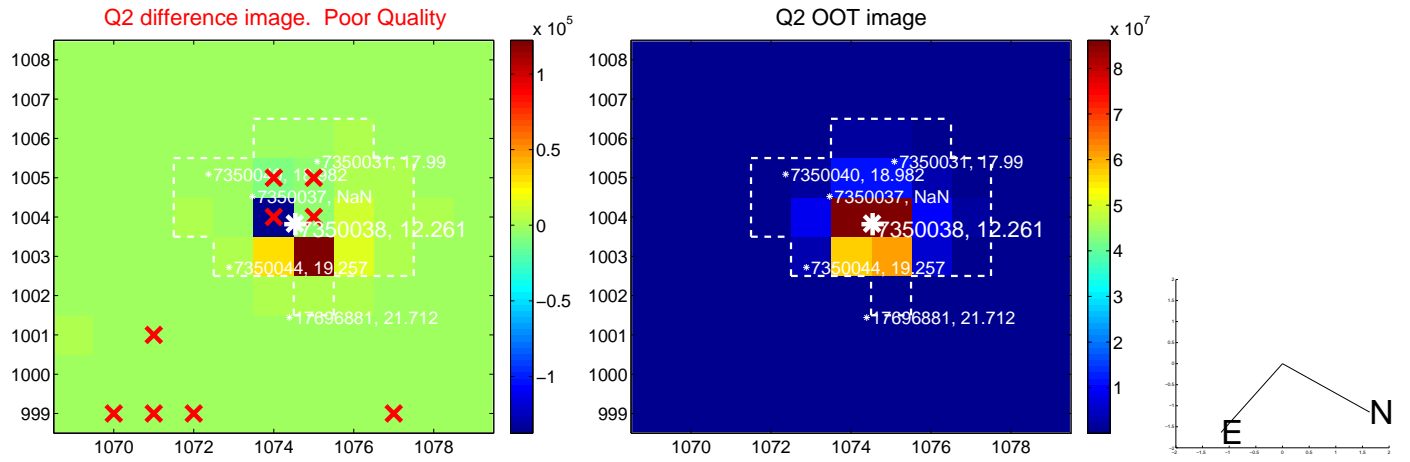
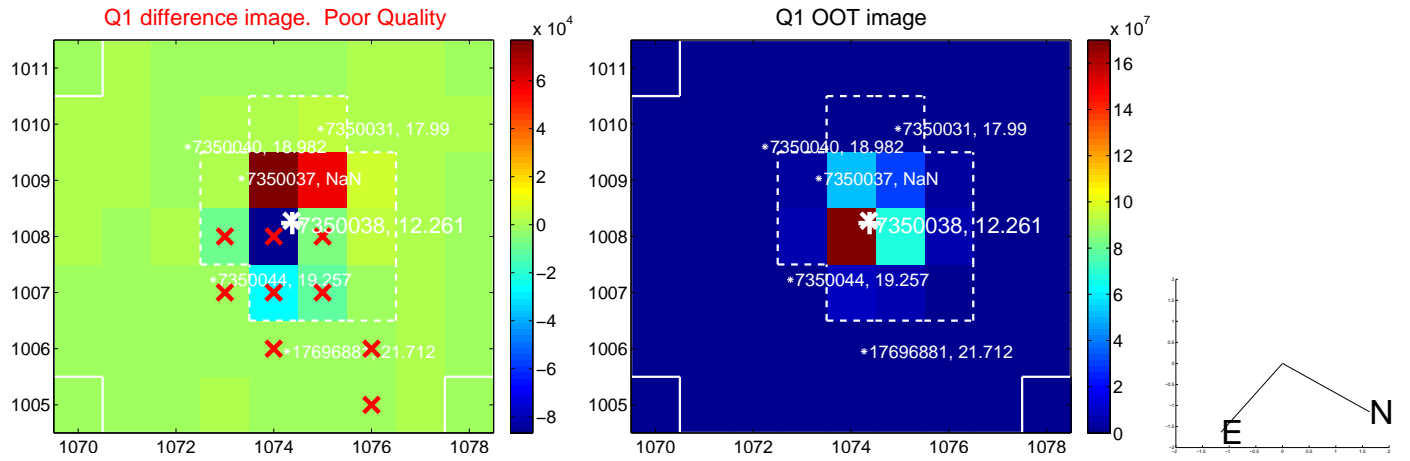
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.960 \pm 0.410$	2.34	$0.370 \pm 0.667$	$-0.886 \pm 0.538$
PRF-fit source offset from KIC position	$0.743 \pm 0.436$	1.70	$0.440 \pm 0.645$	$-0.599 \pm 0.549$
photometric centroid source offset	$0.42 \pm 0.30$	1.40	$0.04 \pm 0.25$	$0.41 \pm 0.30$

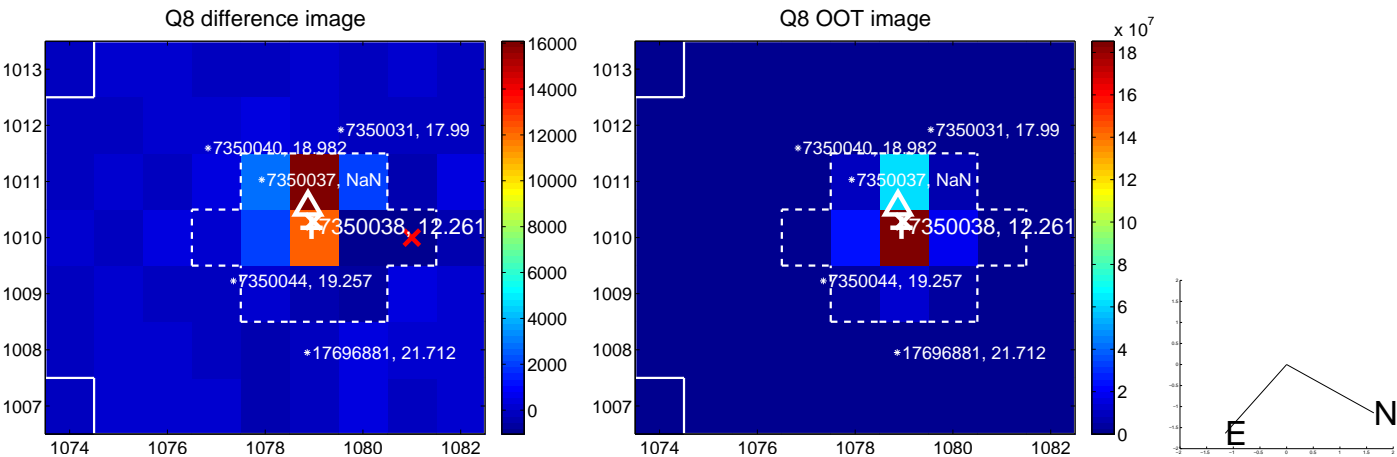
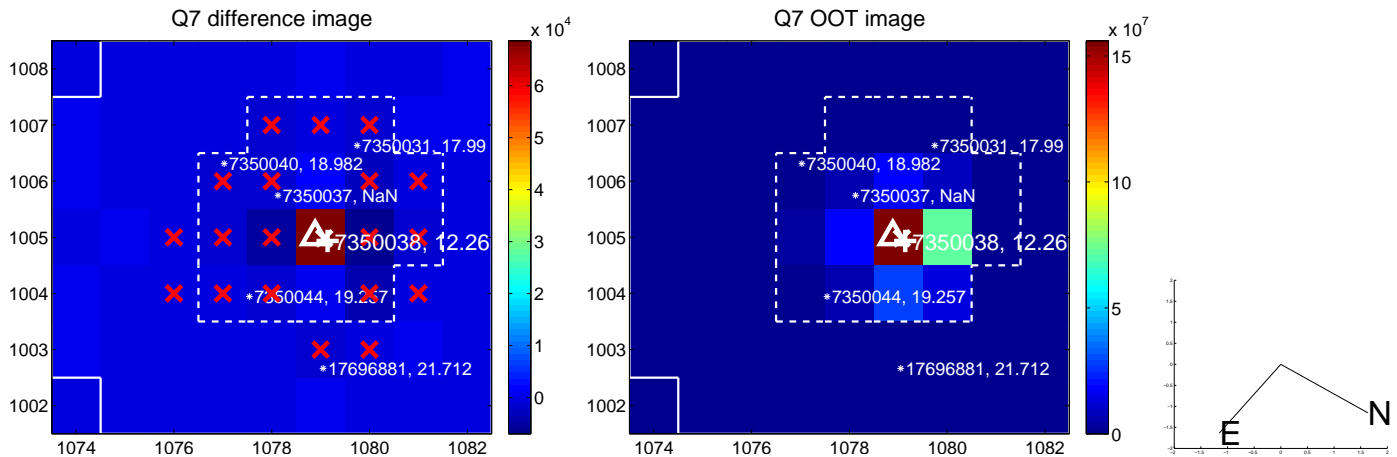
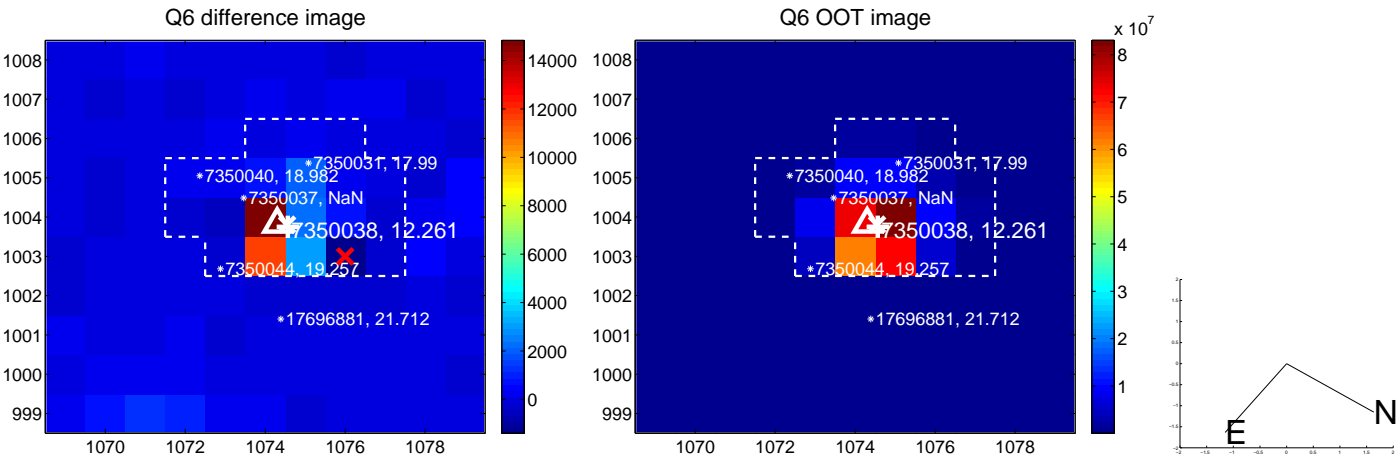
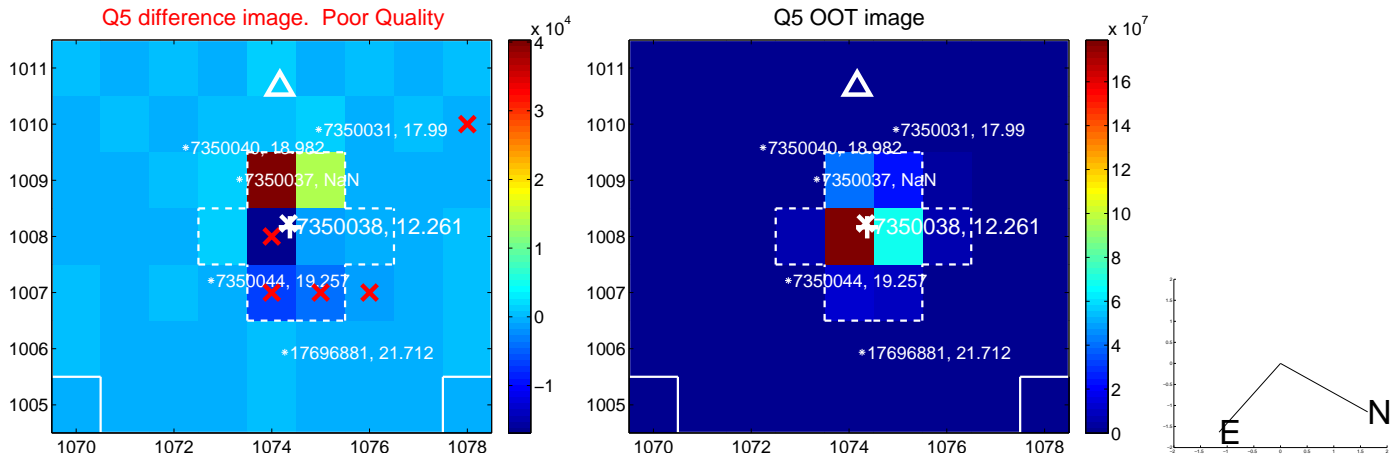


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

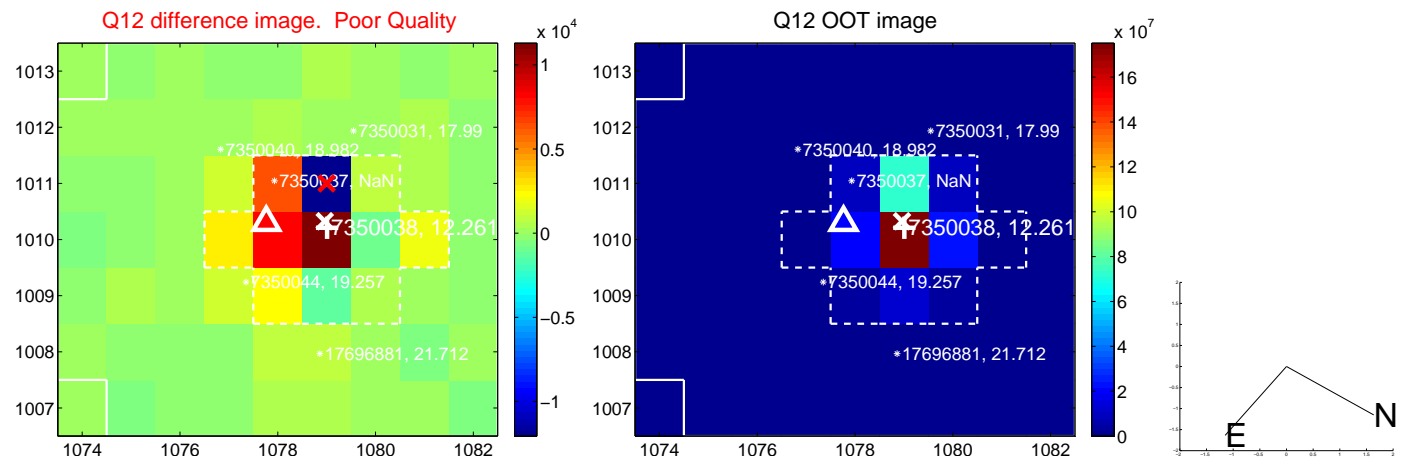
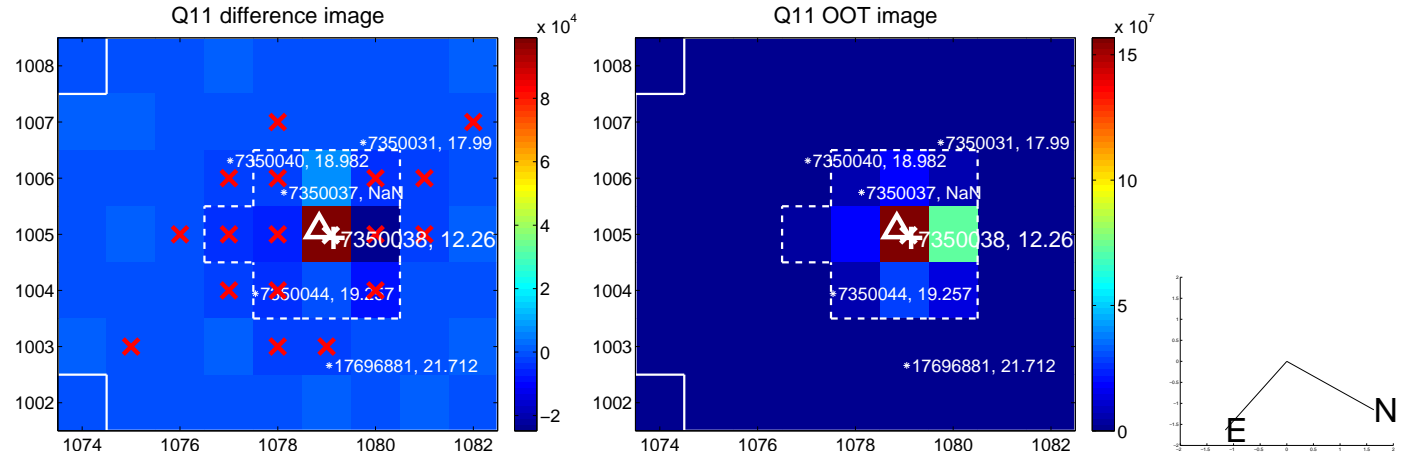
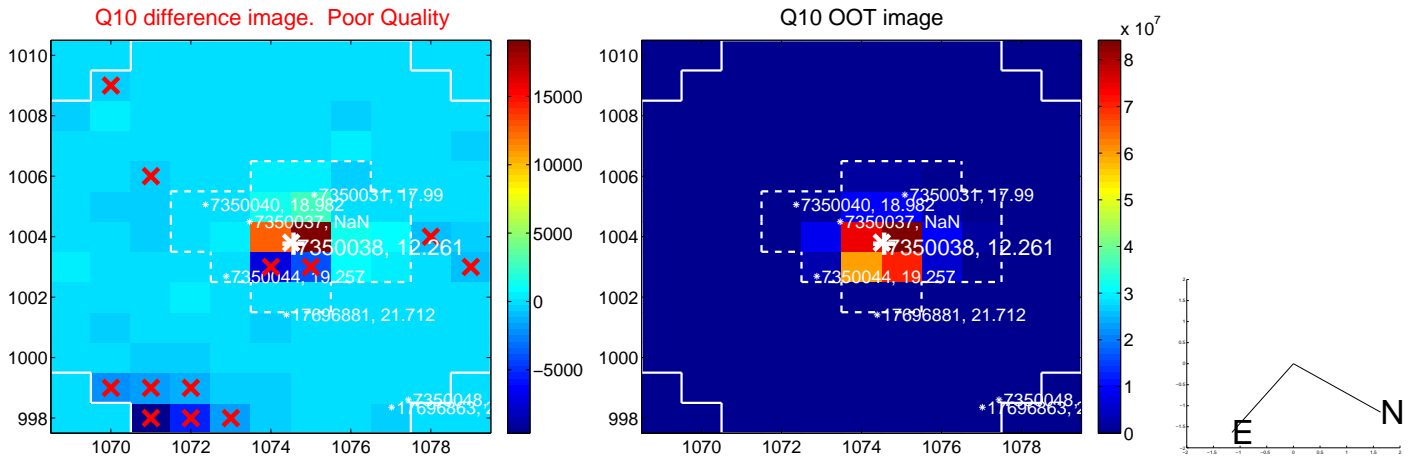
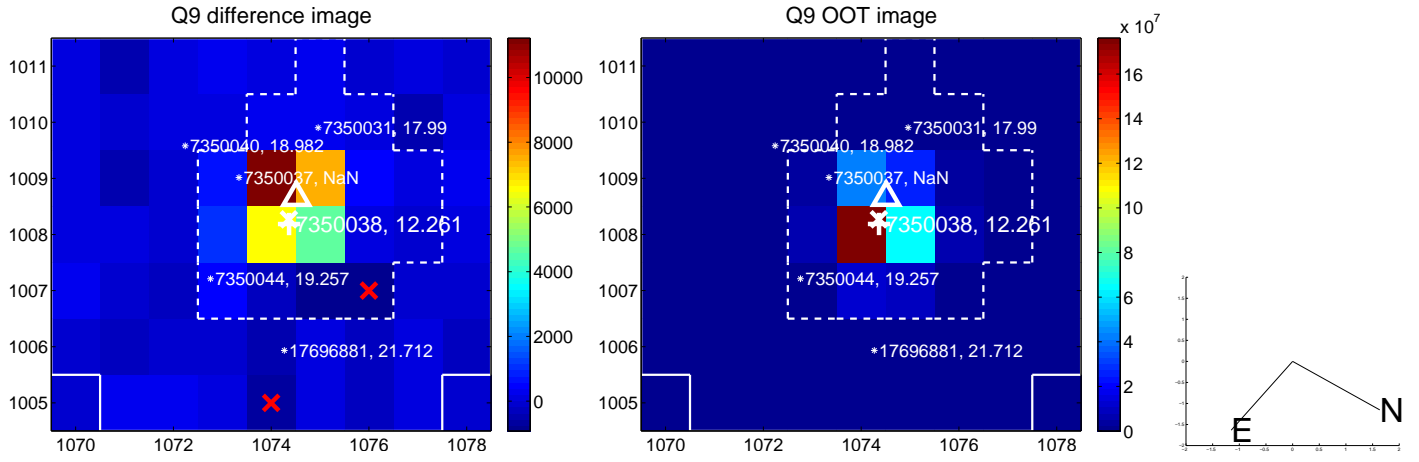
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



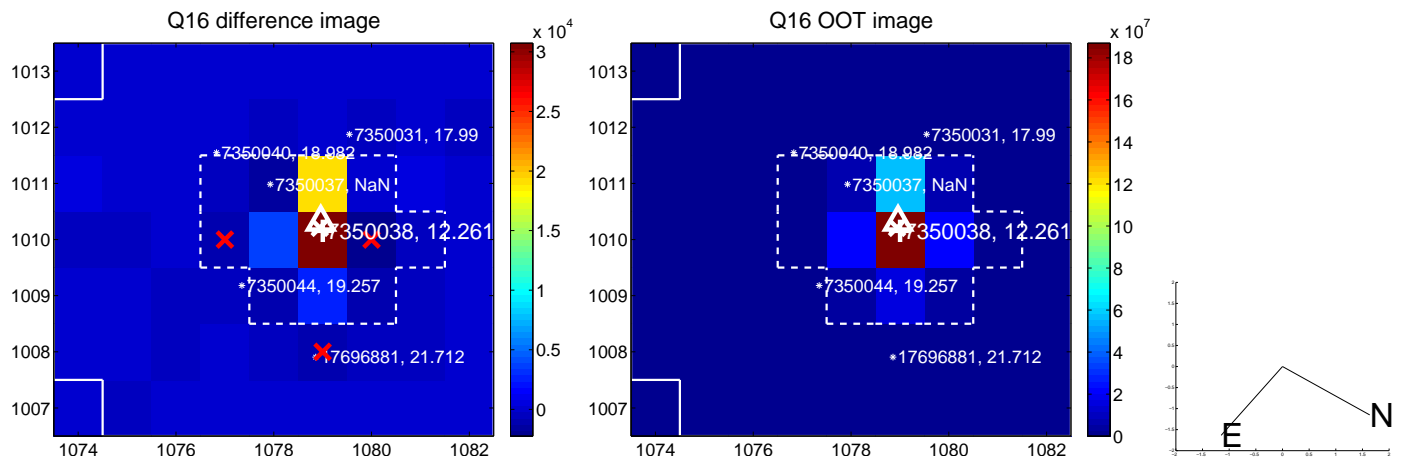
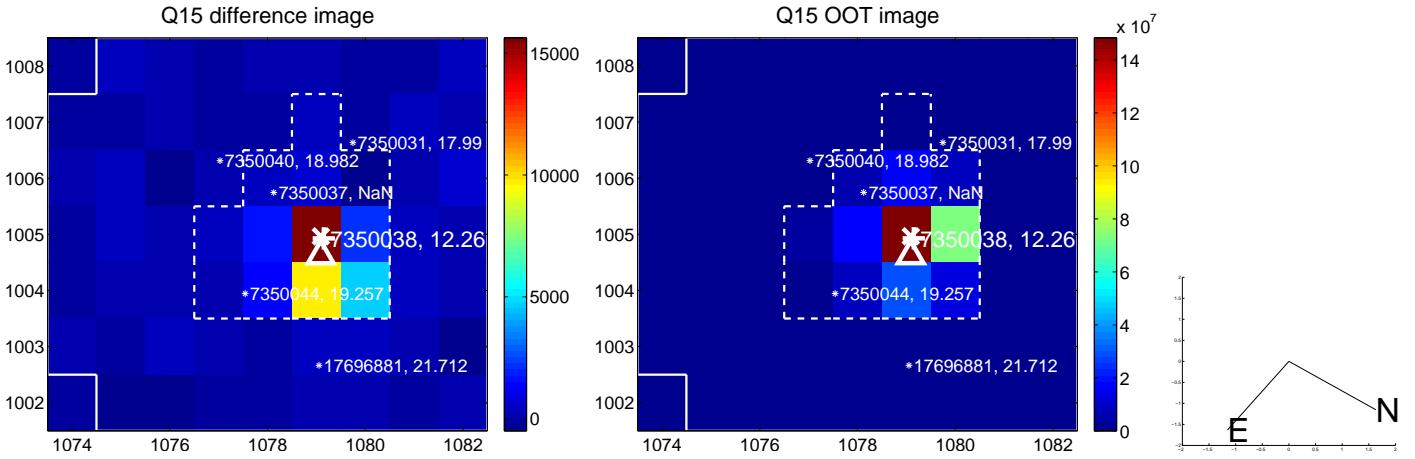
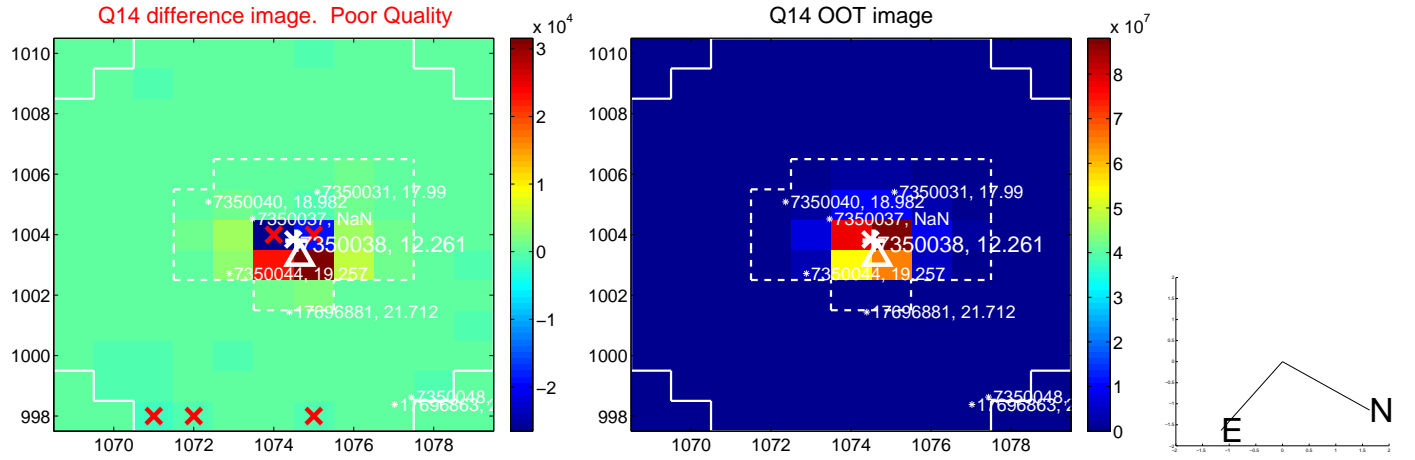
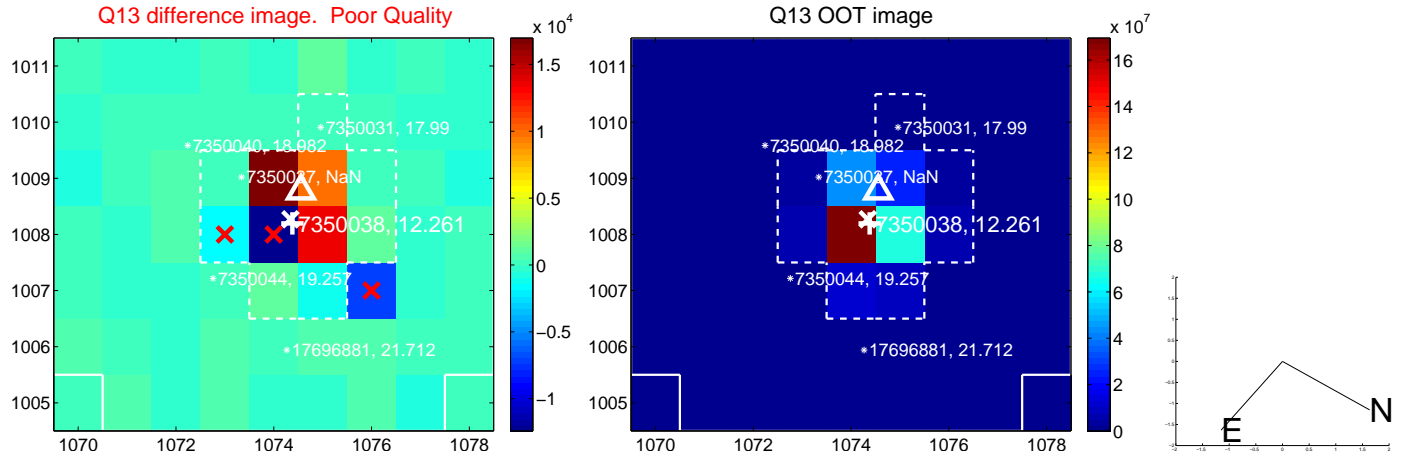
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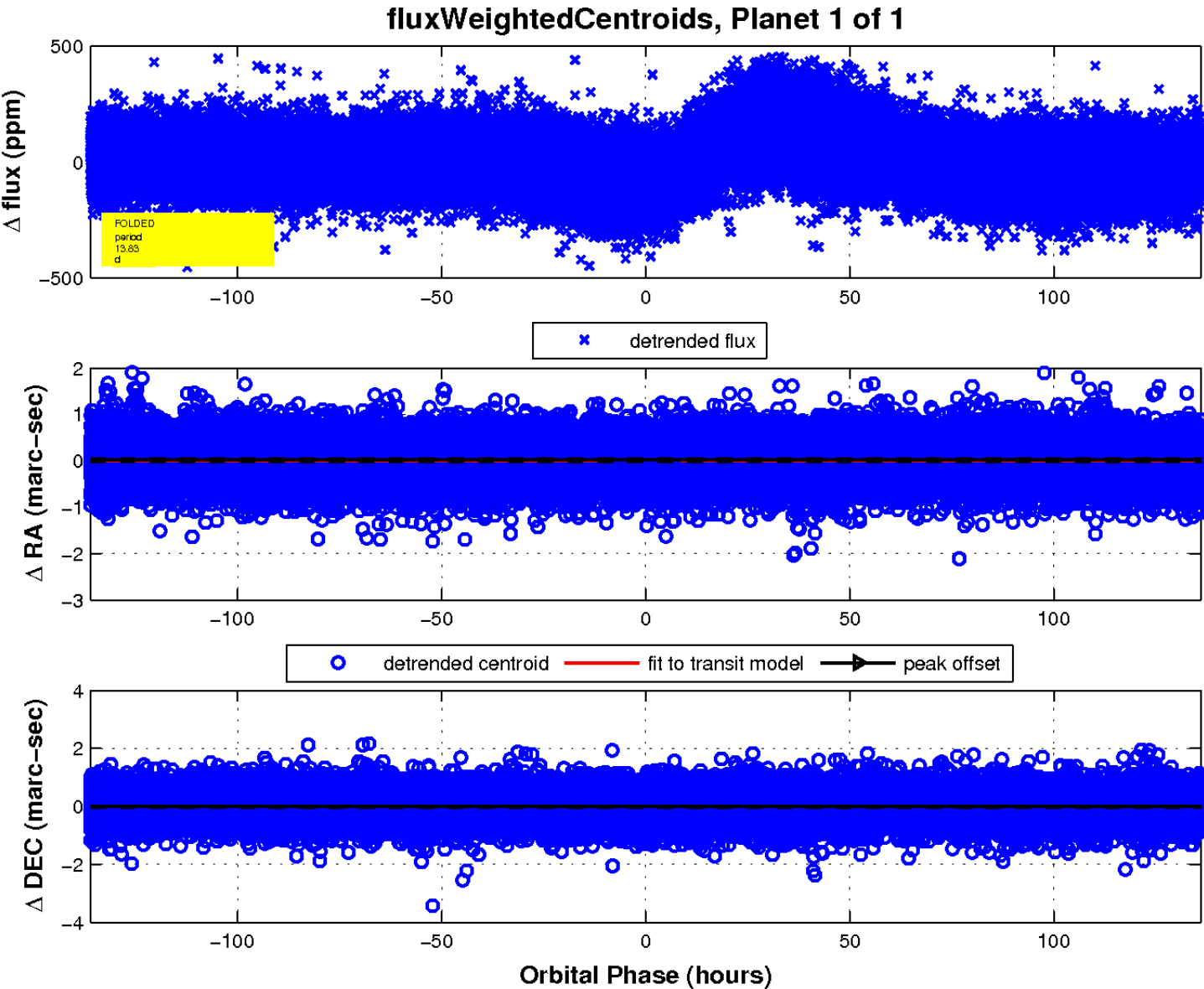
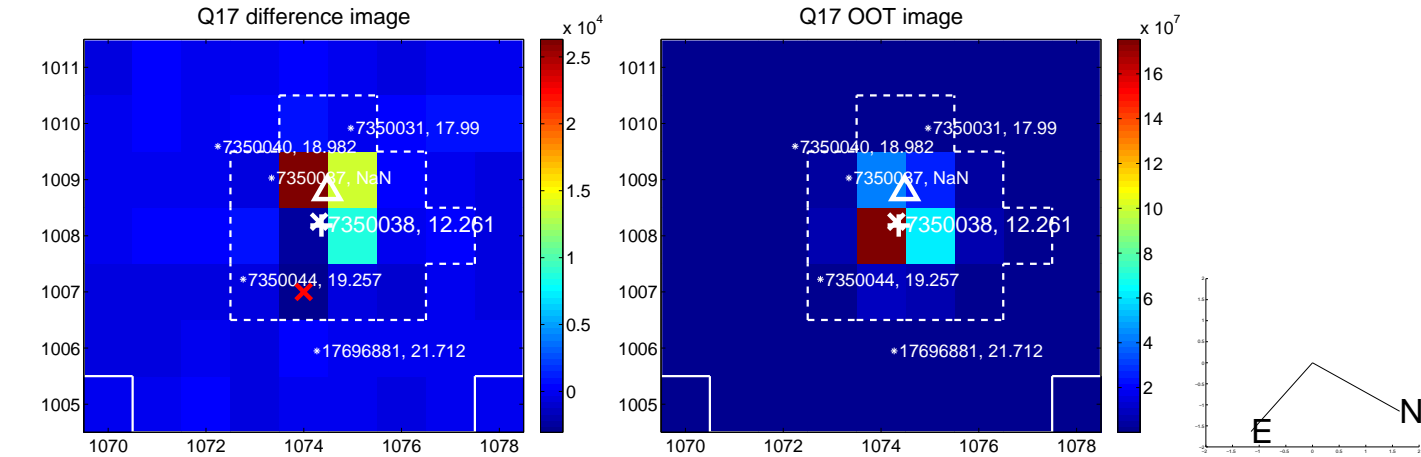


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



This figure shows a false-color astronomical image of a star field. A blue grid is overlaid on the image, with labels indicating Right Ascension (RA) and Declination (Dec). The RA labels are 01.0, 02.0, 03.0, 04.0, 05.0, and 06.0, and the Dec labels are 30.0, 40.0, and 50.0. The central star is the brightest and is white, while other stars are orange/red. The background is dark with some noise.

Declination