

# KIC 007210948

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007210948-01	OBS	No	0.534358	131.537828	15.4	4.527	7.3	3.6	9.67	6810	4.06	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007210948-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

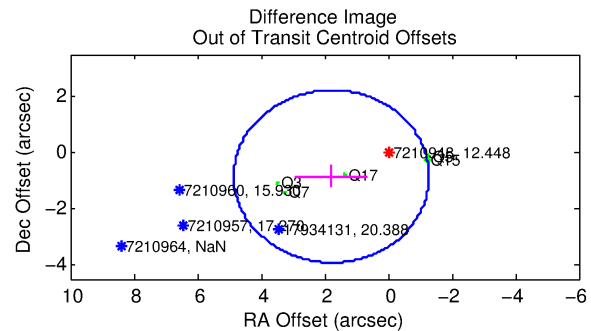
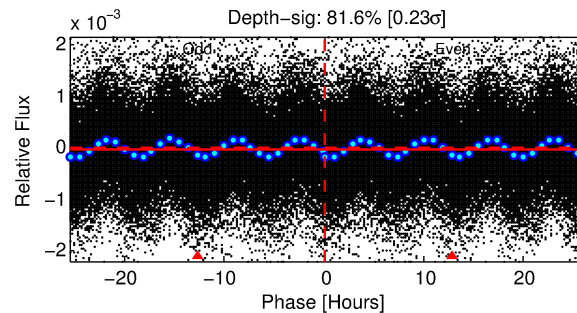
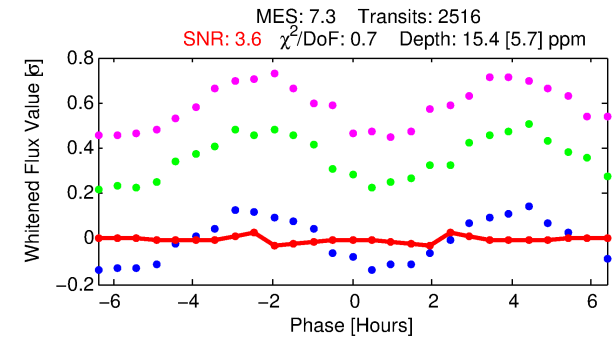
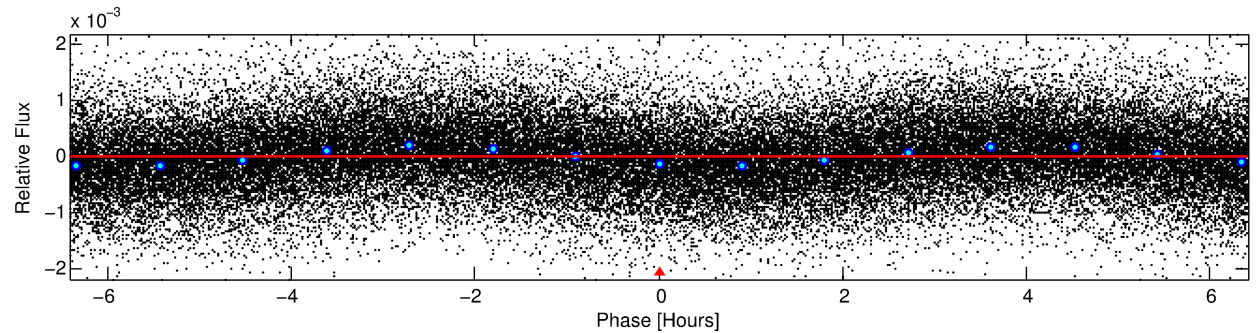
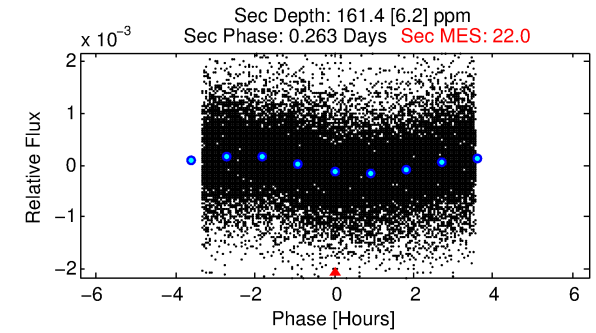
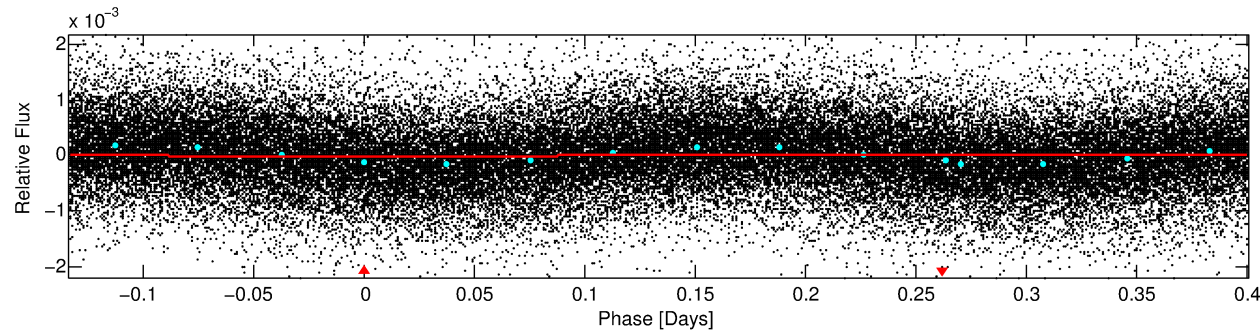
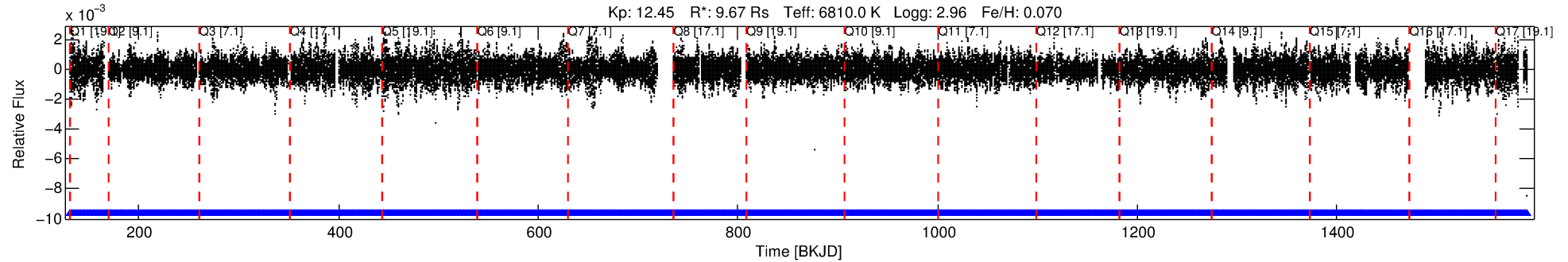
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007210948-01

No Significant Match Found

# DV One-Page Summary

KIC: 7210948 Candidate: 1 of 1 Period: 0.534 d



## DV Fit Results:

Period = 0.53436 [0.00002] d  
Epoch = 131.5378 [0.0032] BKJD  
Rp/R\* = 0.0039 [0.0027]  
a/R\* = 1.07 [0.55]  
b = 0.70 [3.15]  
Seff = N/A  
Teq = N/A  
Rp = 4.06 [3.69] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

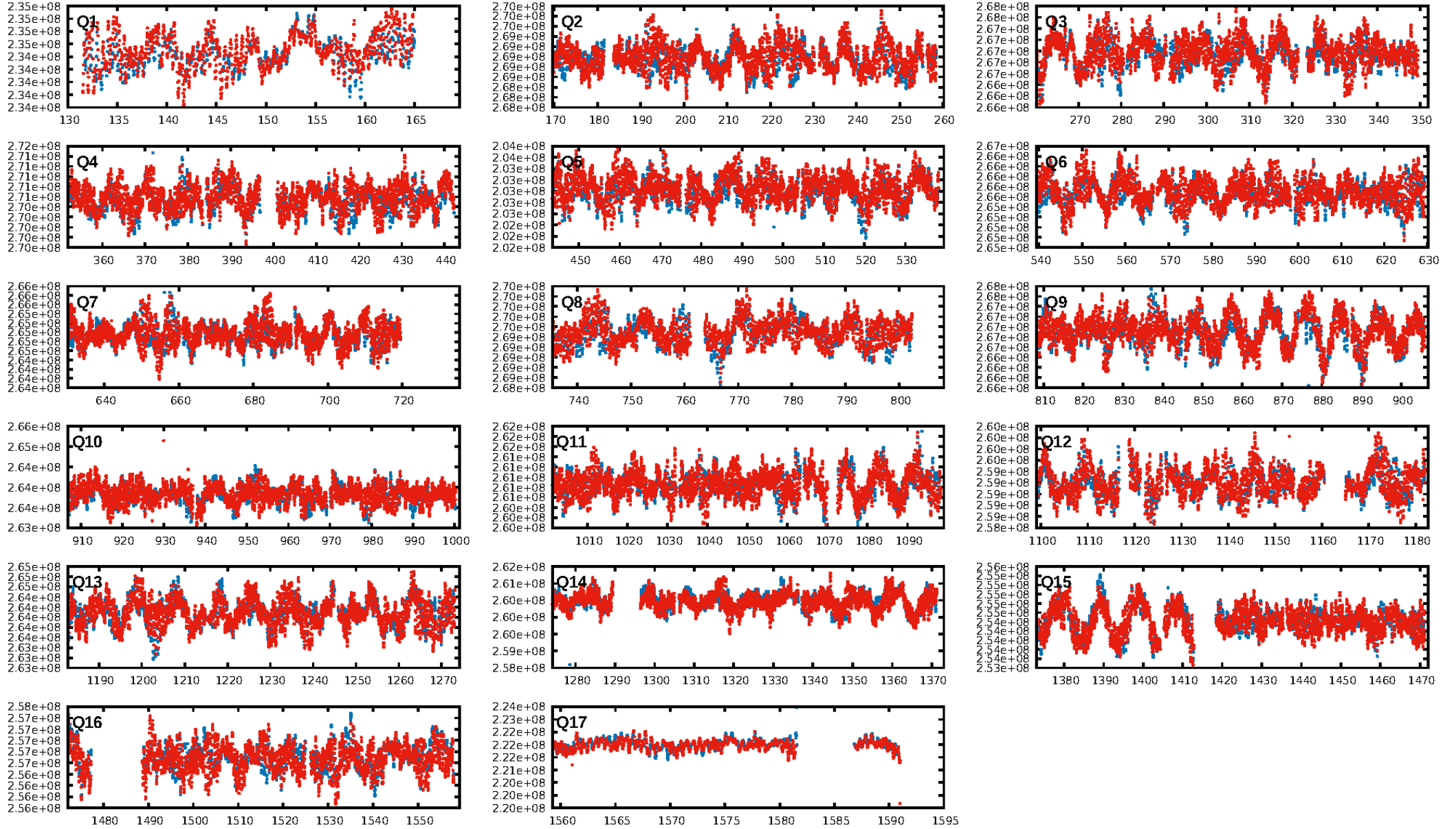
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2403/2403]  
**GhostDiagnostic-chr: -0.3877**  
**Centroid-sig: 0.0%**  
Centroid-so: 3.261 arcsec [2.94σ]  
OotOffset-rm: 1.976 arcsec [1.93σ]  
KicOffset-rm: 2.168 arcsec [2.01σ]  
OotOffset-st: 0/3/0/2 [5]  
KicOffset-st: 0/3/0/2 [5]  
DiffImageQuality-fgm: 0.40 [2/5]  
DiffImageOverlap-fno: 1.00 [17/17]

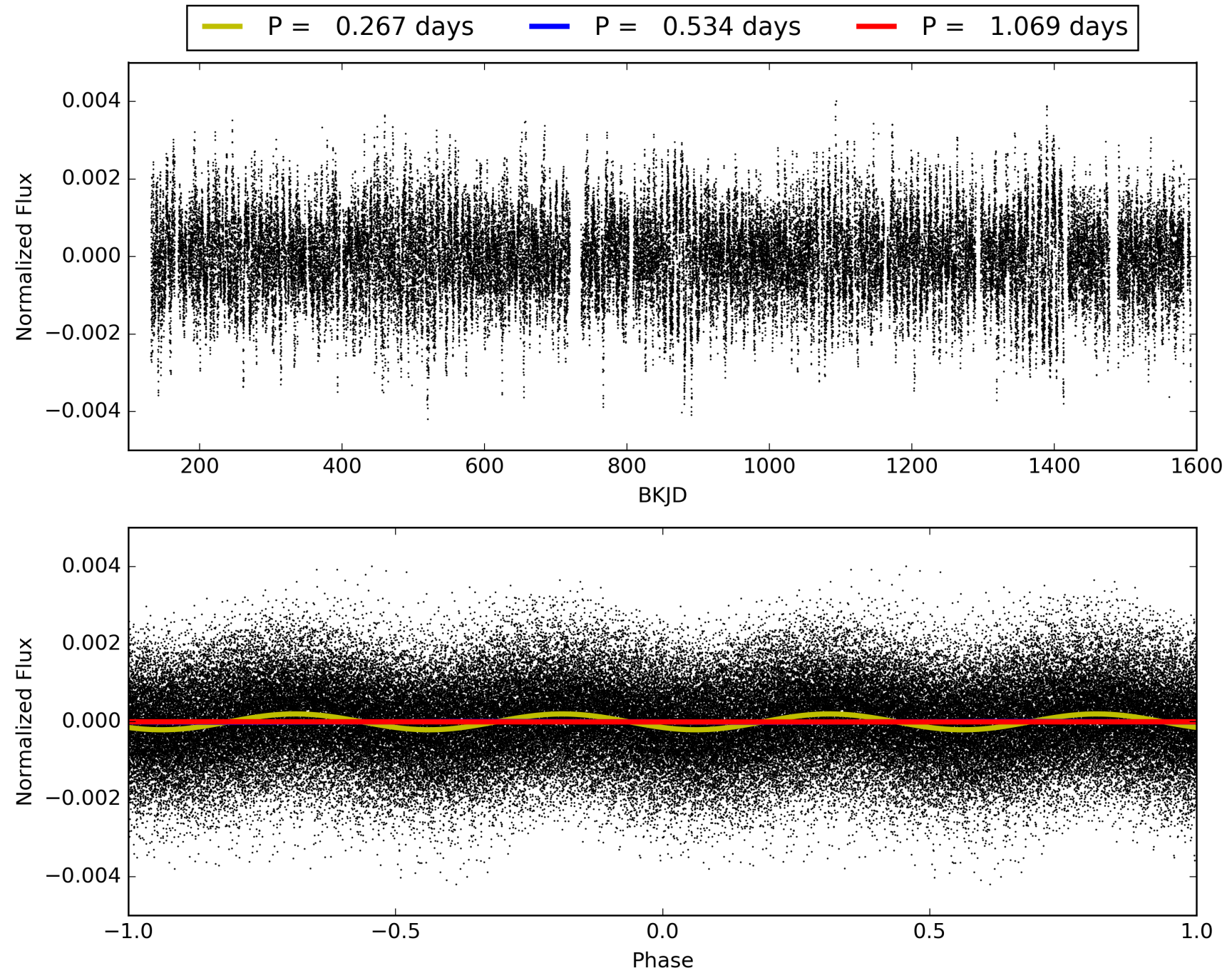
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:20:48 Z

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

# TCE 007210948-01, PDC Light Curves

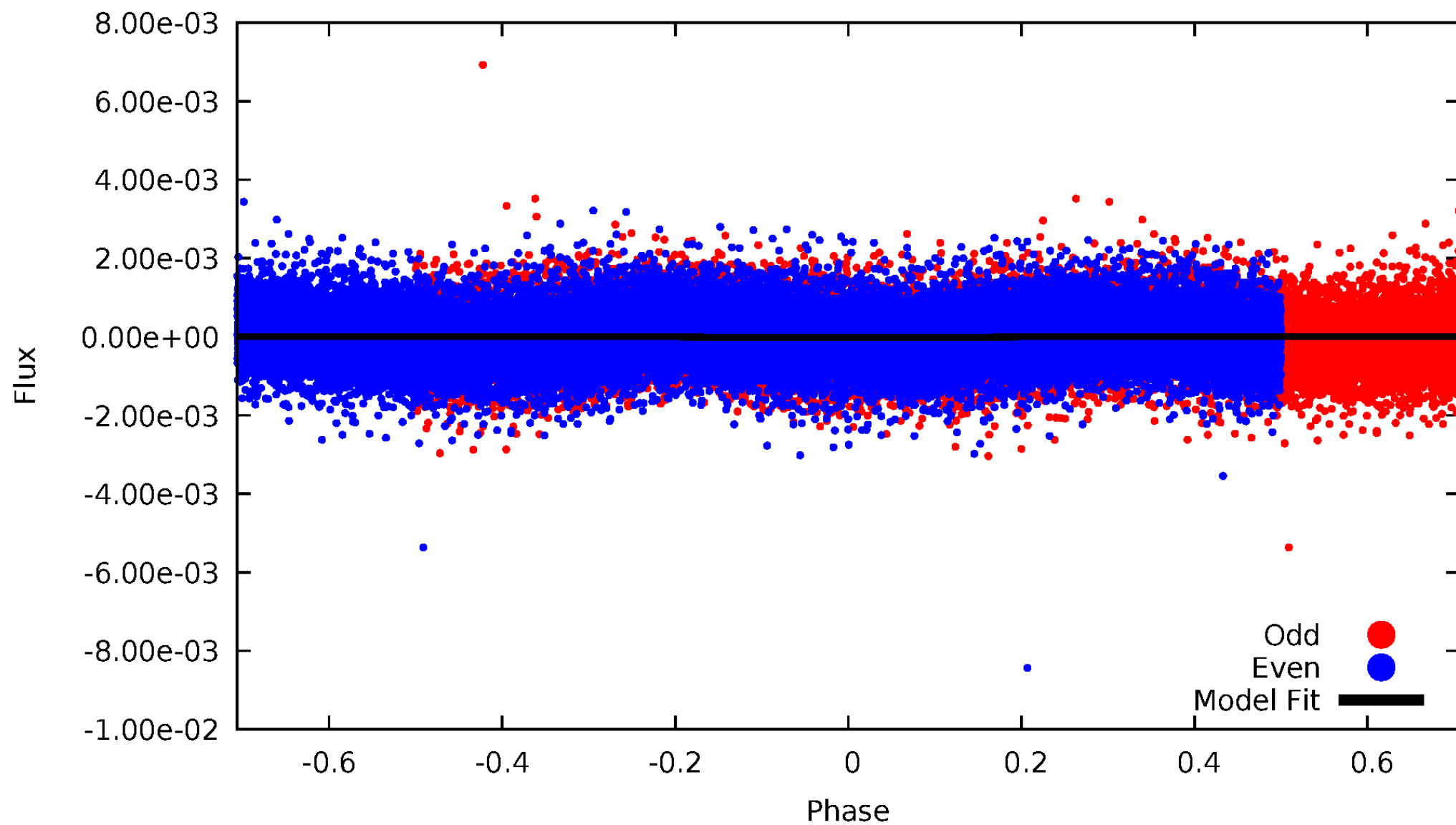


TCE 007210948-01



# DV Odd/Even

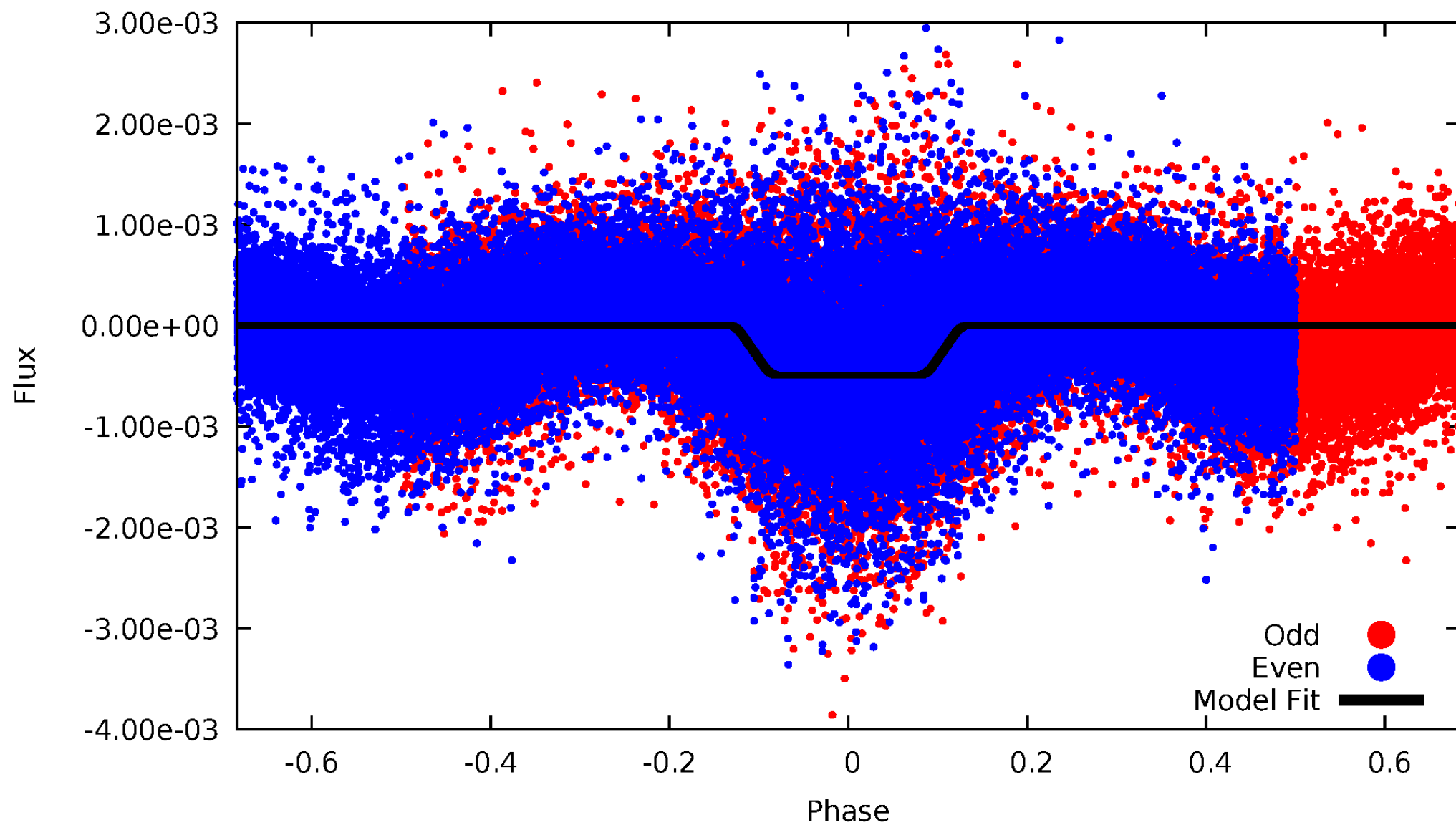
TCE 007210948-01





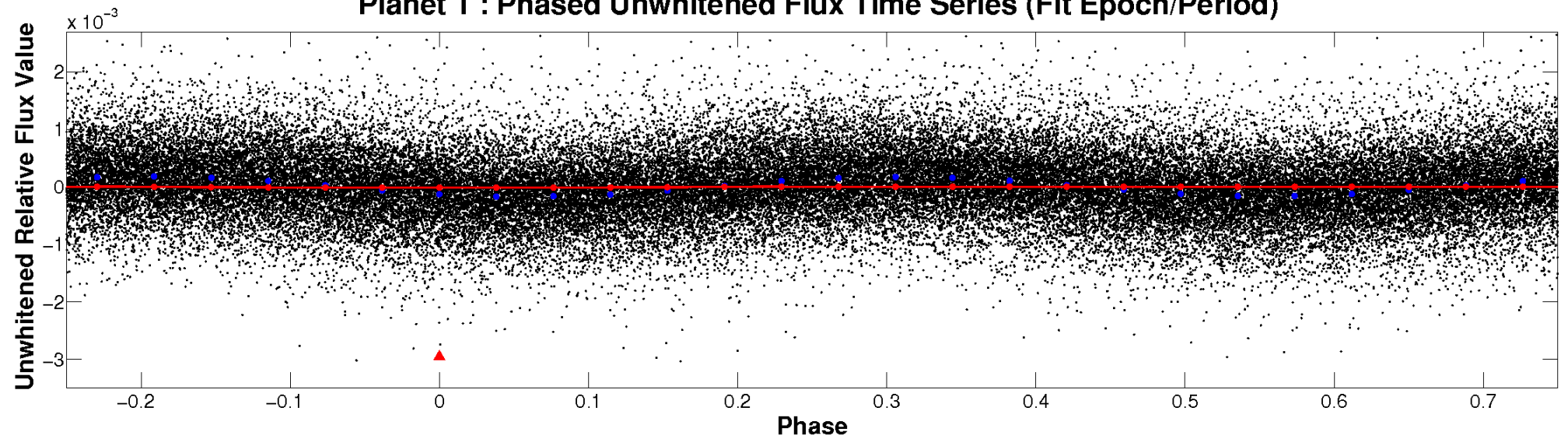
# ALT Odd/Even

TCE 007210948-01

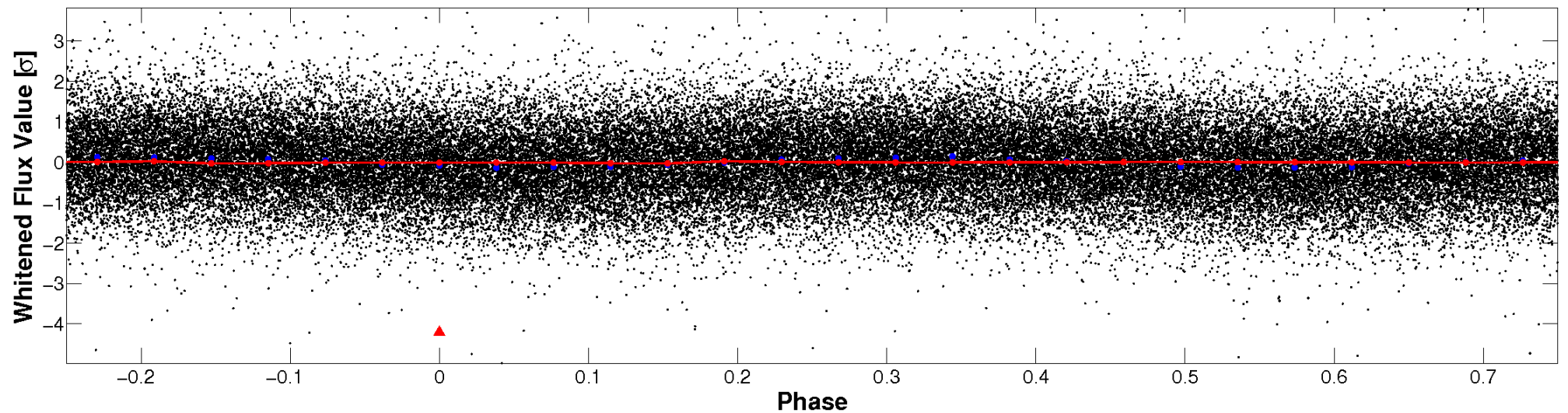


# Non-Whitened Vs. Whitened Light Curve

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

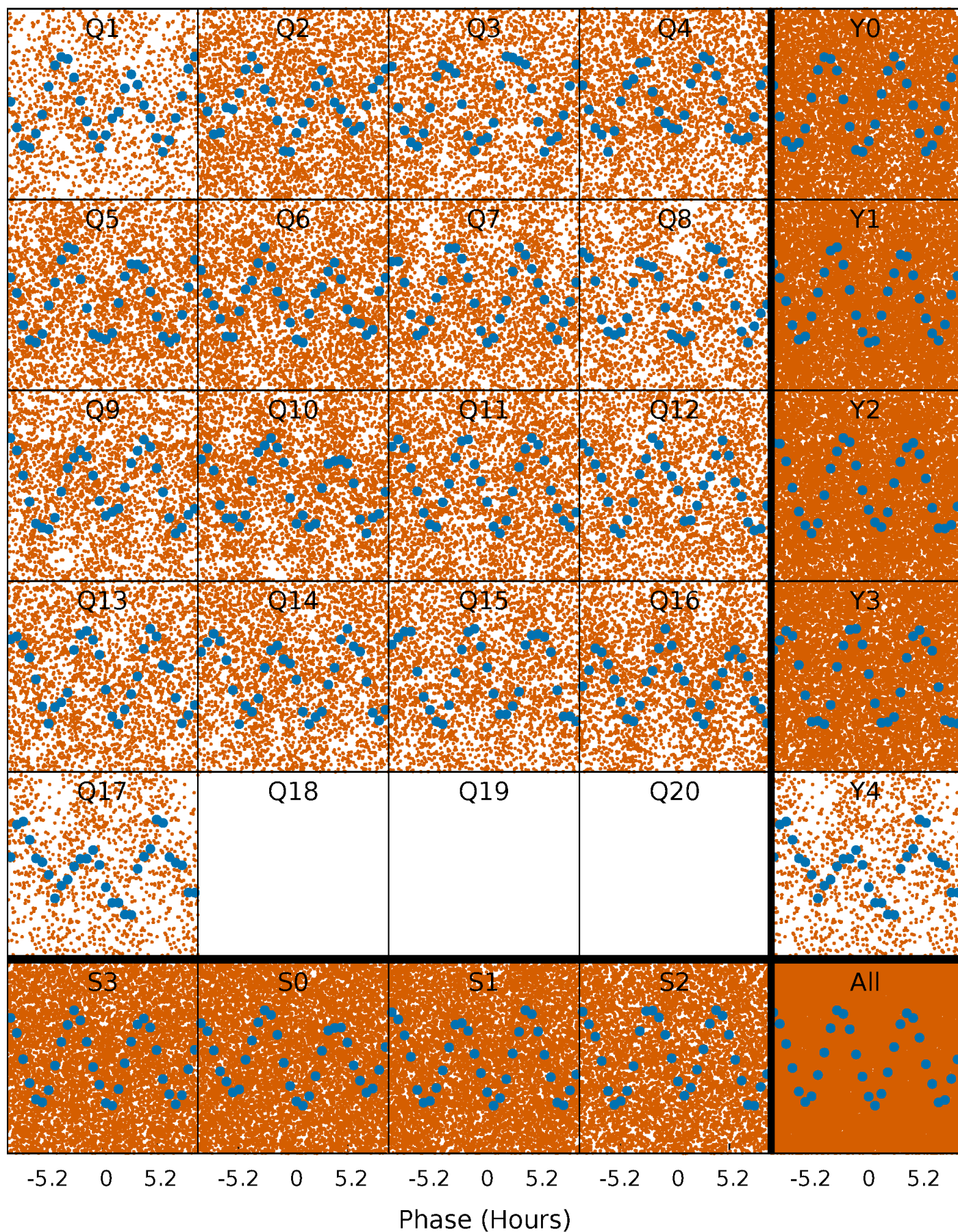


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

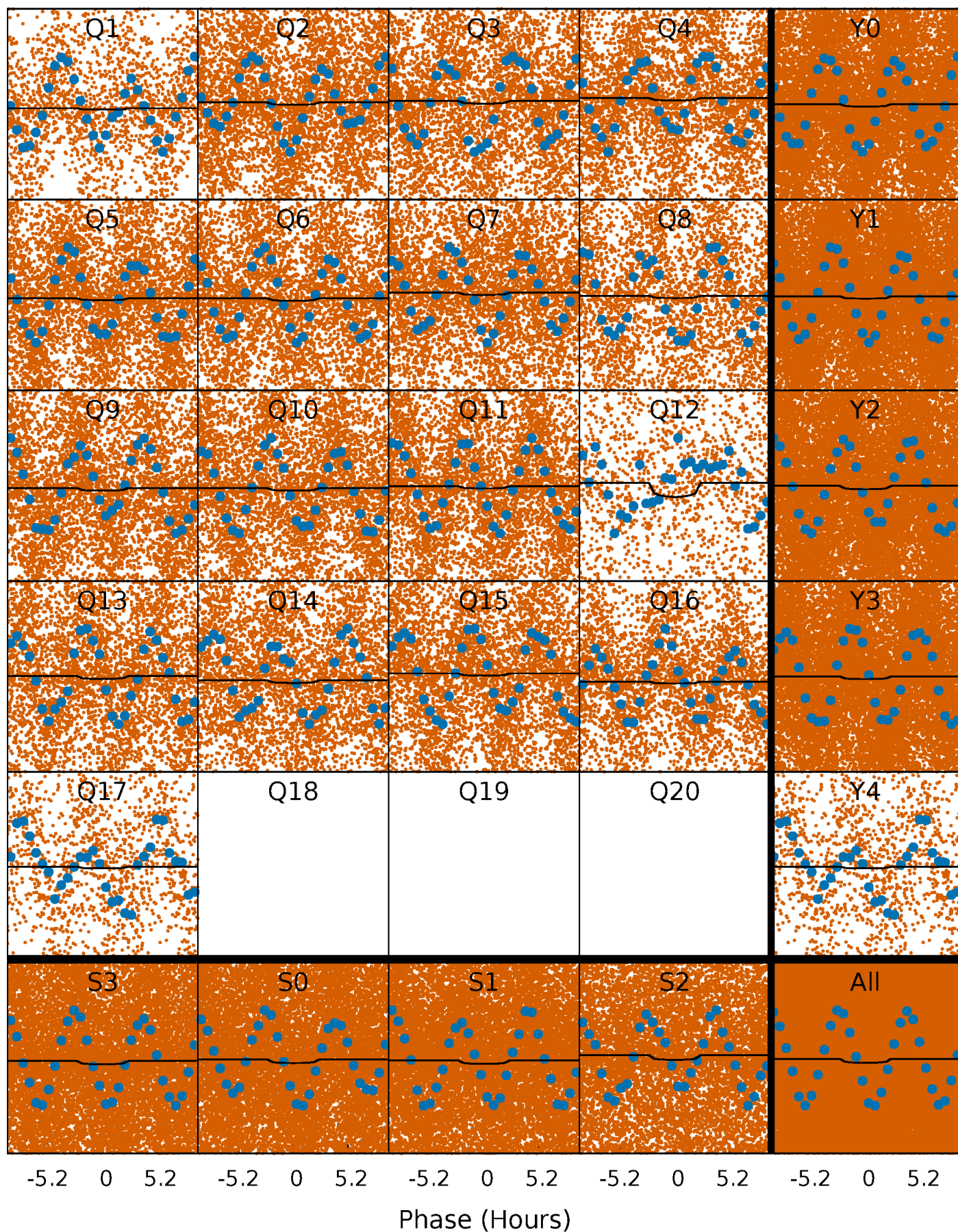
TCE 007210948-01 P= 0.534358 Days  $T_0=131.537828$  (BKJD)





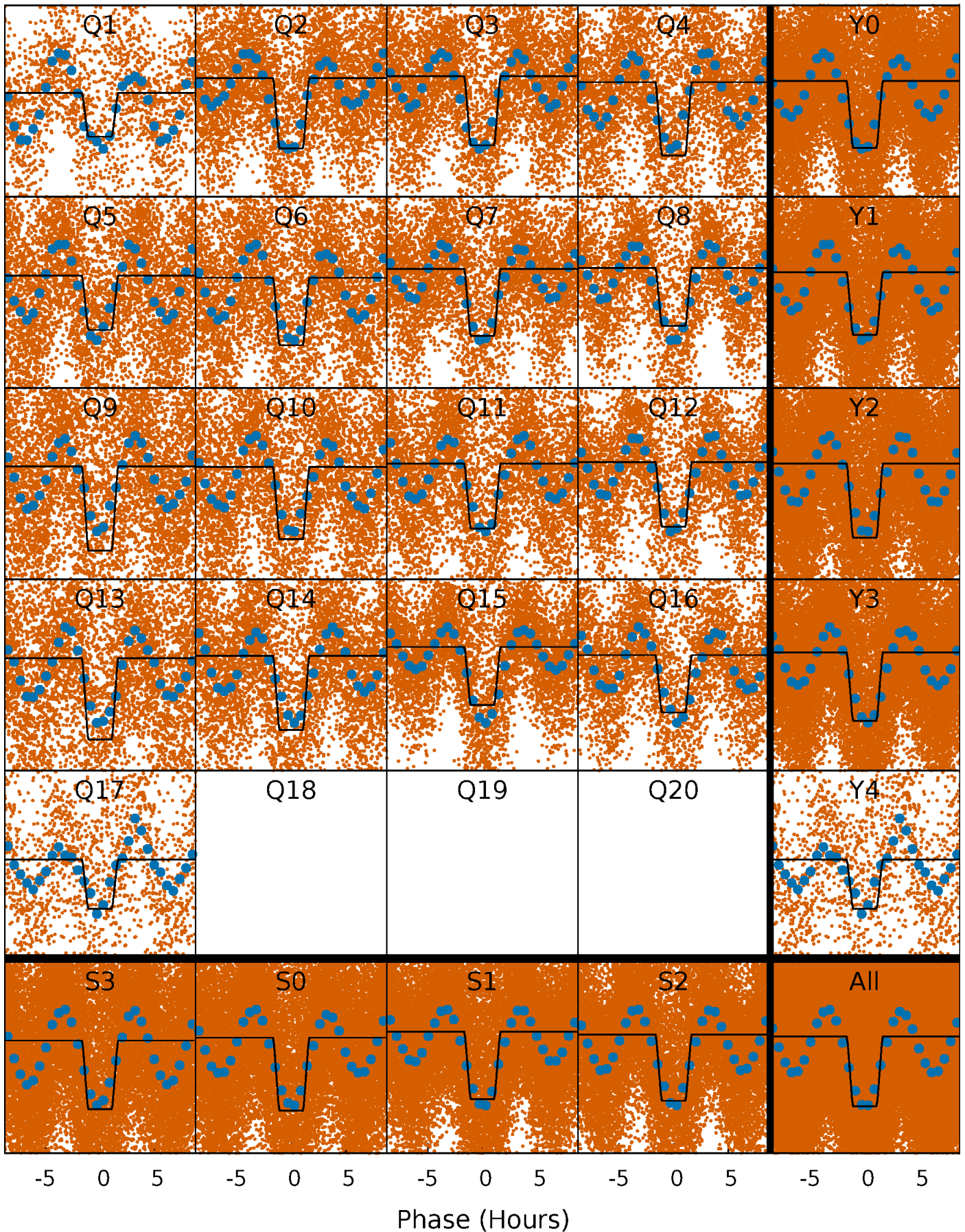
# DV Quarter-Phased Transit Curves

TCE 007210948-01 P= 0.534358 Days  $T_0=131.537828$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007210948-01 P= 0.534392 Days  $T_0=131.527671$  (BKJD)

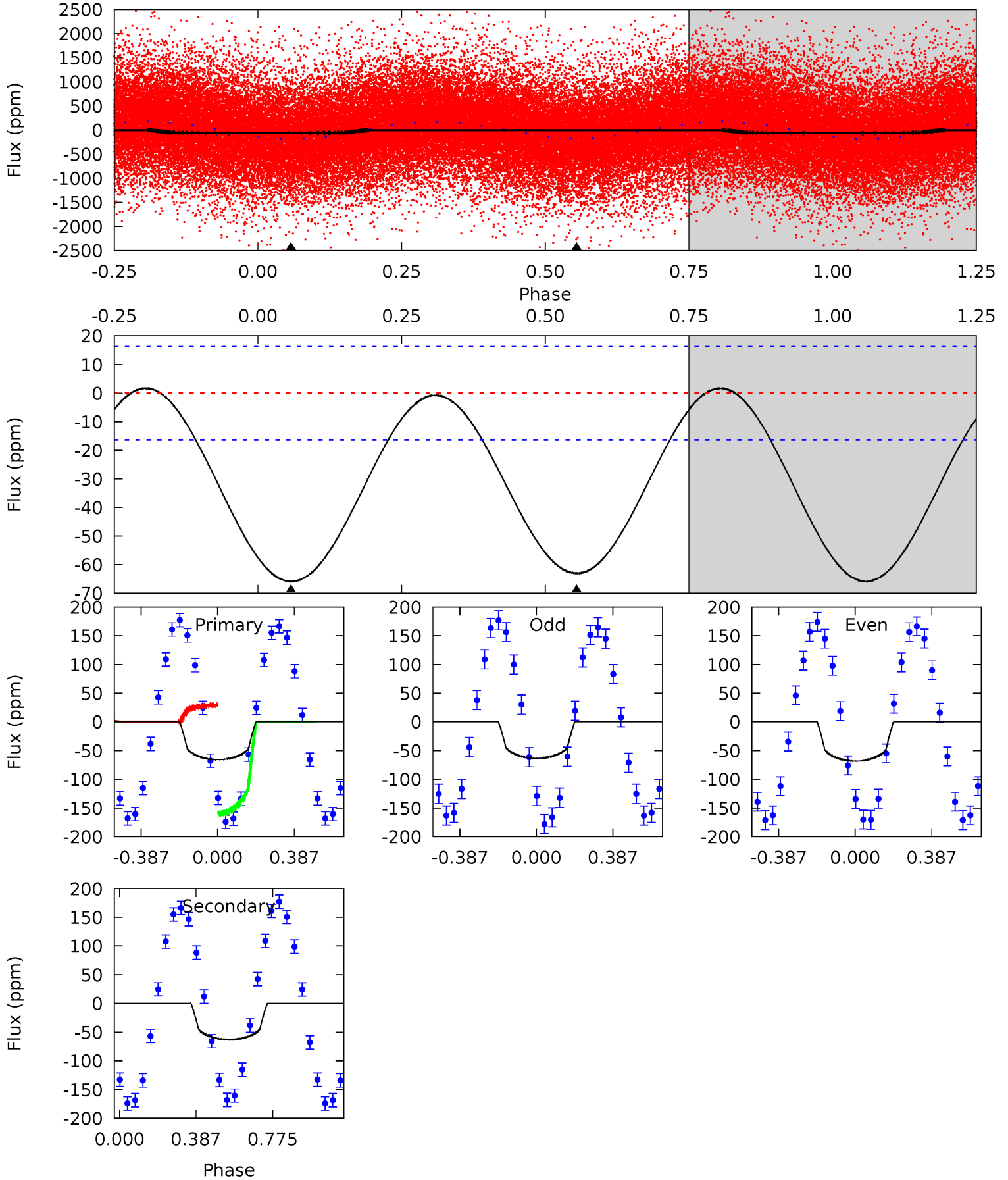




# DV Model-Shift Uniqueness Test

007210948-01, P = 0.534358 Days, E = 131.003470 Days

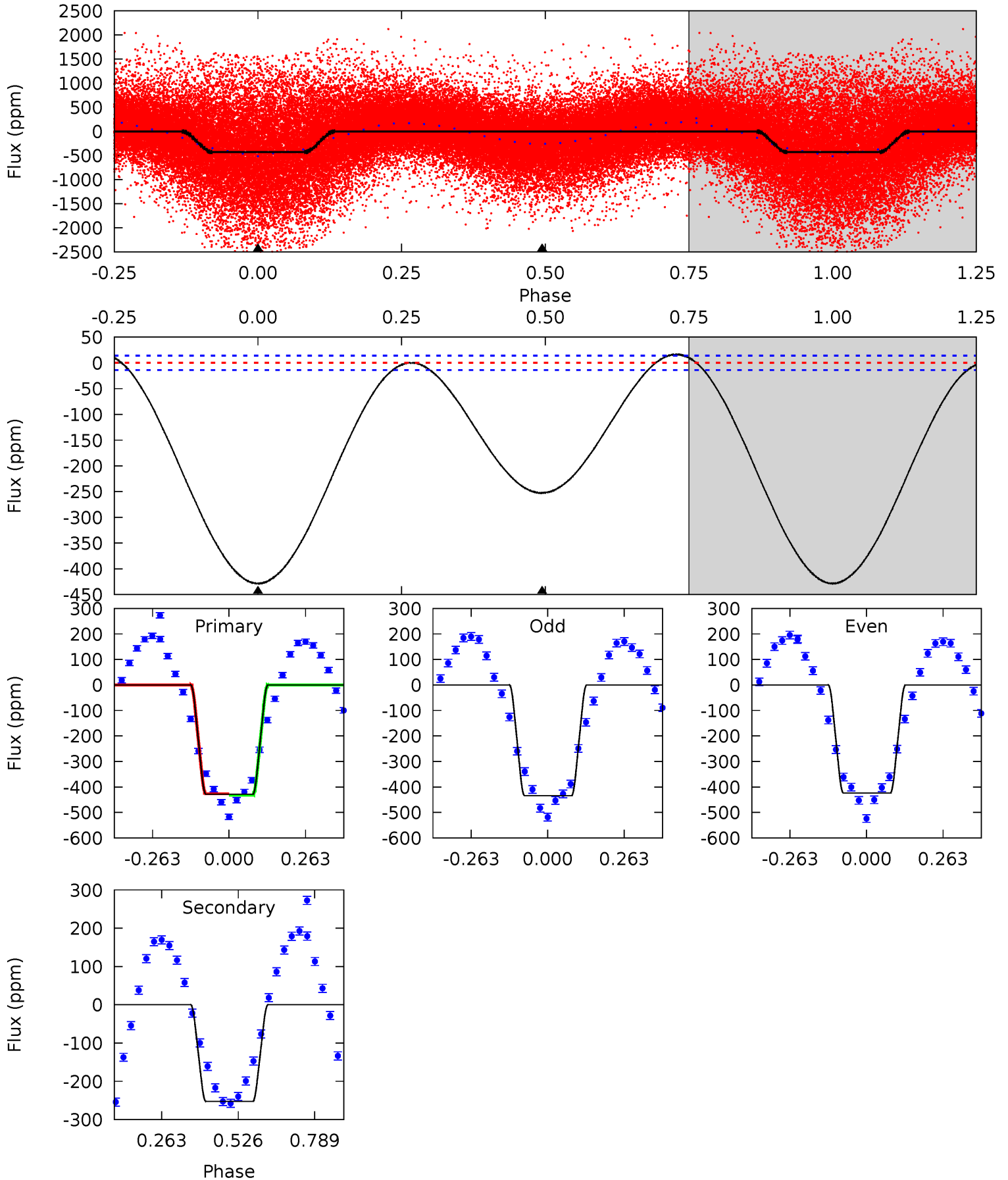
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	16.4	0	0	4.27	0.86	0.33	17.2	17.2	16.4	16.4	0.62	1.03	0.02	17.5



# Alt Model-Shift Uniqueness Test

007210948-01, P = 0.534392 Days, E = 130.993279 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
133.6	78.7	0	0	4.36	1.12	3.45	133.6	133.6	78.7	78.7	1.61	0.97	0.04	0.52





### Stellar Parameters For KIC 007210948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6810^{+141}_{-243}$	$2.956^{+0.621}_{-0.103}$	$0.070^{+0.250}_{-0.450}$	$9.670^{+1.390}_{-5.561}$	$3.081^{+0.202}_{-1.147}$	$0.005^{+0.042}_{-0.002}$
	+2%/-4%	+21%/-3%	+357%/-643%	+14%/-58%	+7%/-37%	+884%/-34%
Source	PHO1	FLK73	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 007210948-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-63 \pm 4$	$3.51^{+2.80}_{-2.03}$	$9206^{+658}_{-1447}$	$8889^{+15033}_{-5753}$	$0.968^{+4.574}_{-0.665}$
Alt.	$-253 \pm 3$	$21.10^{+5.54}_{-6.32}$	$9224^{+655}_{-1414}$	$-6724^{+1800}_{-842}$	$0.108^{+0.098}_{-0.038}$

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

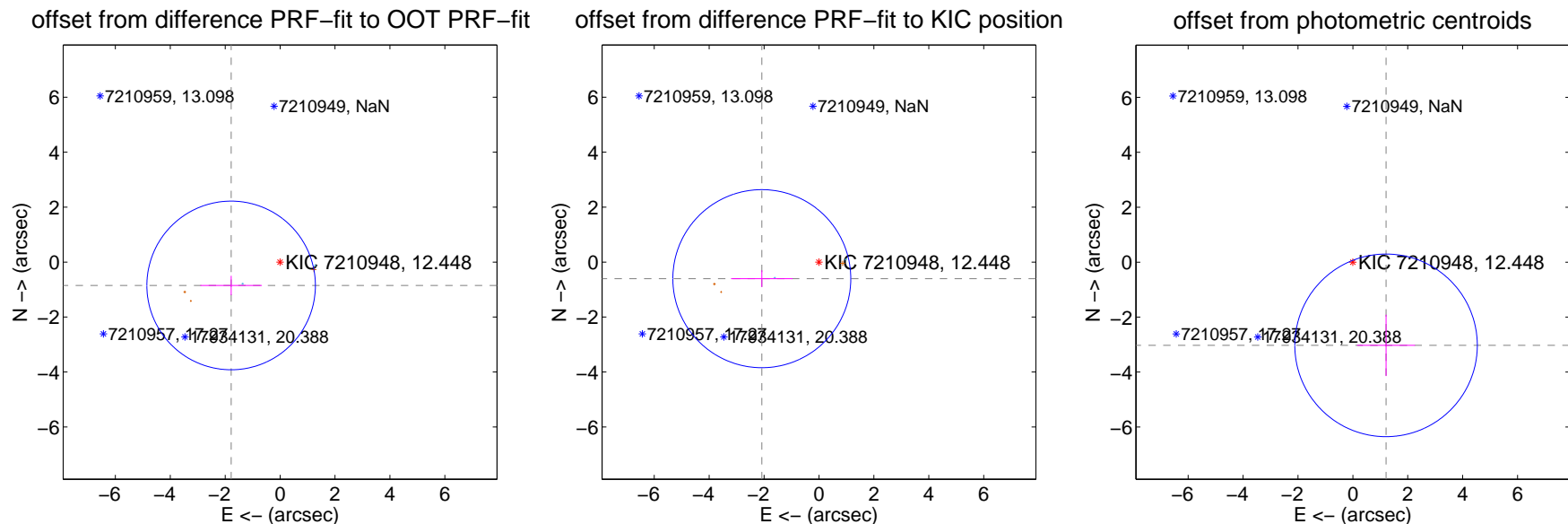
## DV Centroid Data

Supplemental centroid analysis for 007210948-01. Kepler magnitude: 12.45. Transit SNR 3.56

There are 2 quarters with good PRF difference image offsets

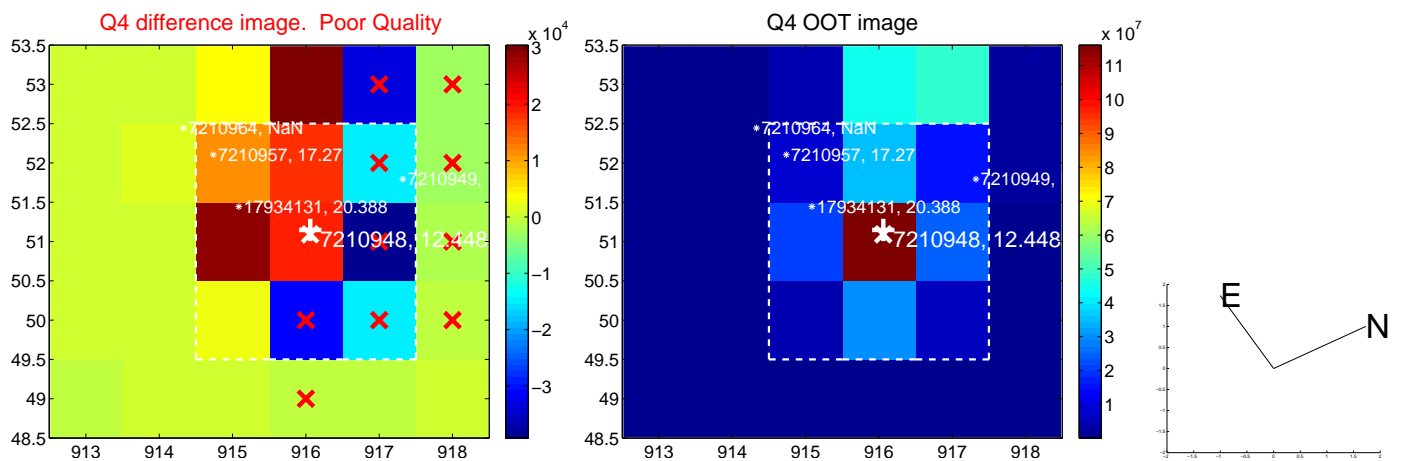
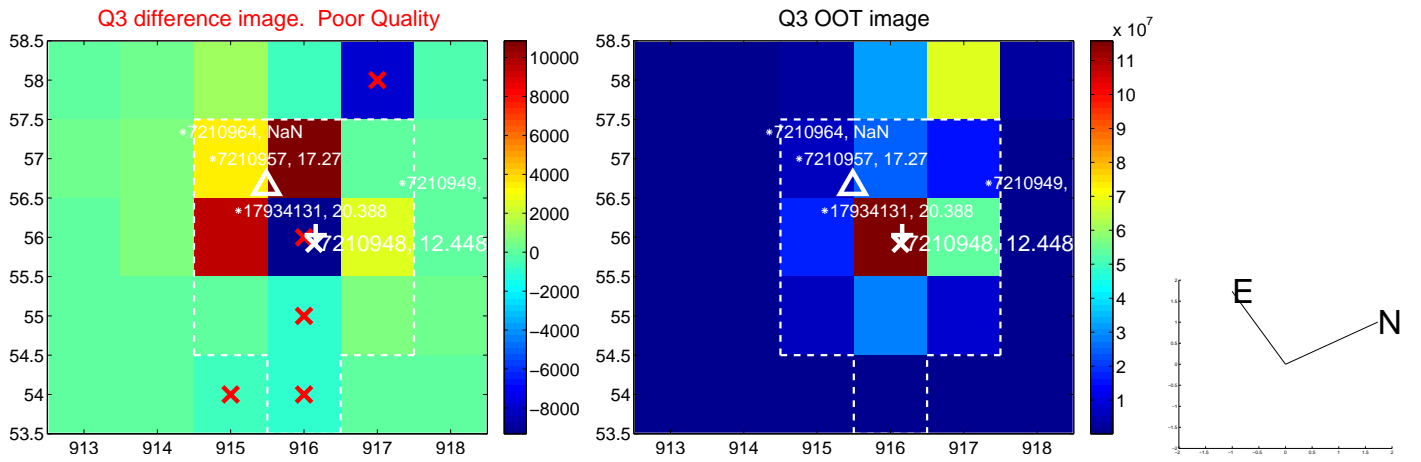
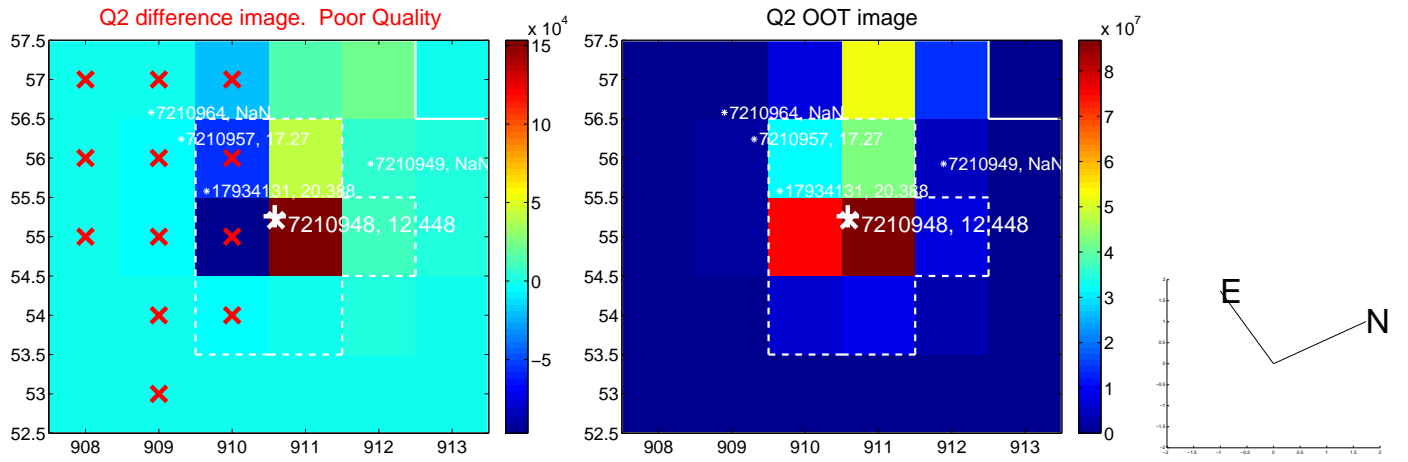
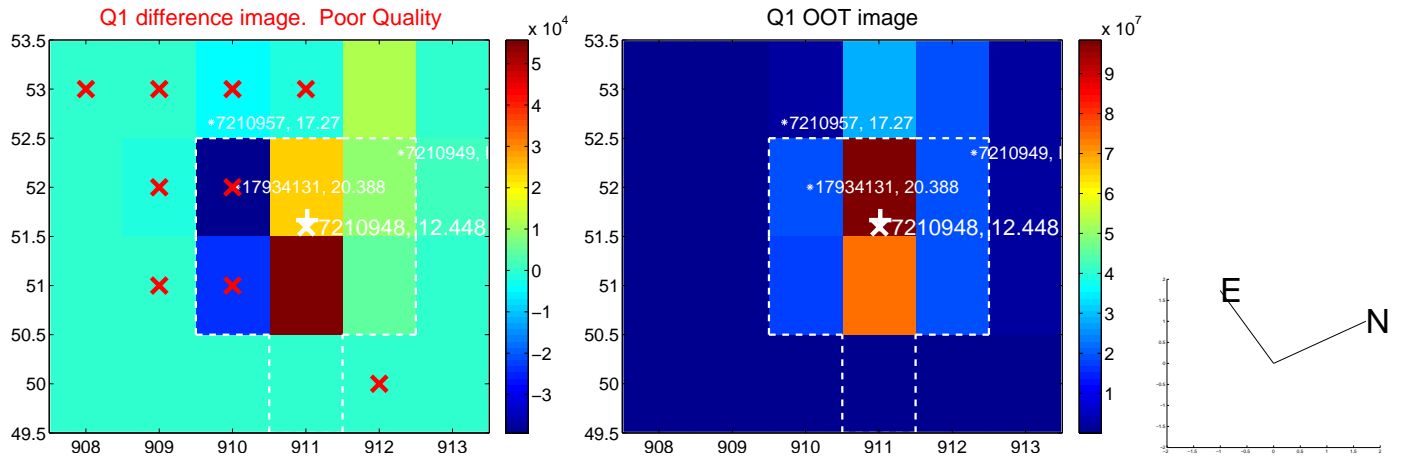
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.976 \pm 1.023$	1.93	$1.784 \pm 1.121$	$-0.850 \pm 0.352$
PRF-fit source offset from KIC position	$2.168 \pm 1.080$	2.01	$2.082 \pm 1.121$	$-0.603 \pm 0.305$
photometric centroid source offset	$3.26 \pm 1.11$	2.94	$-1.21 \pm 1.06$	$-3.03 \pm 1.12$

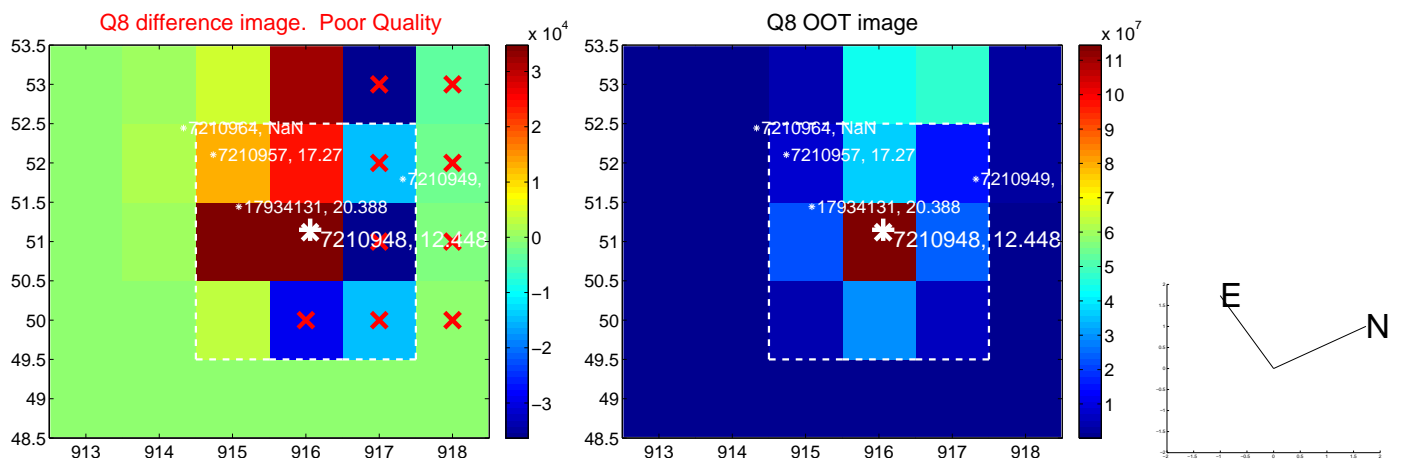
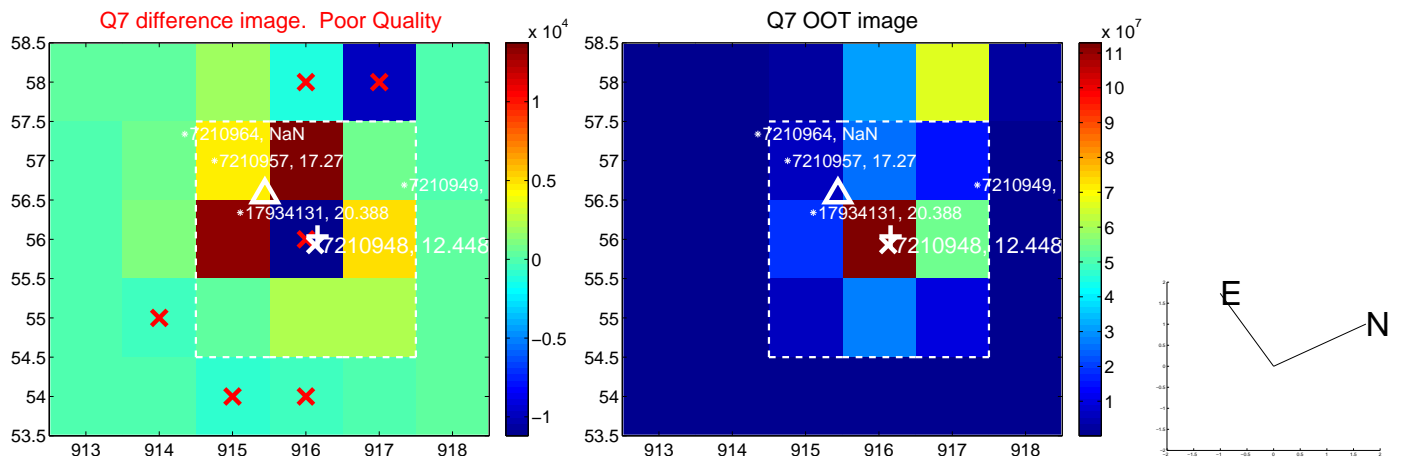
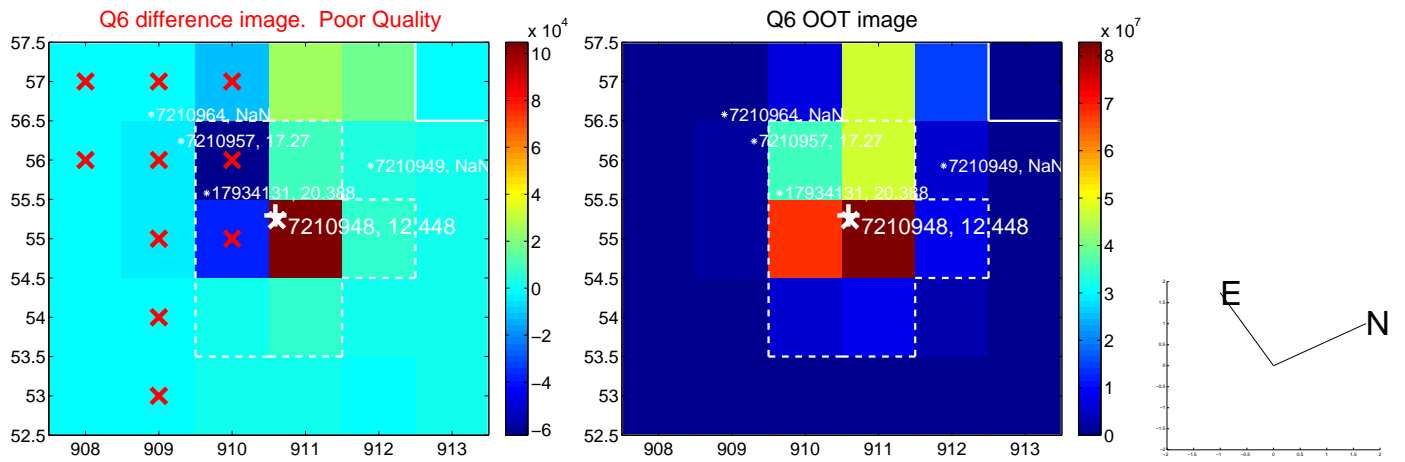
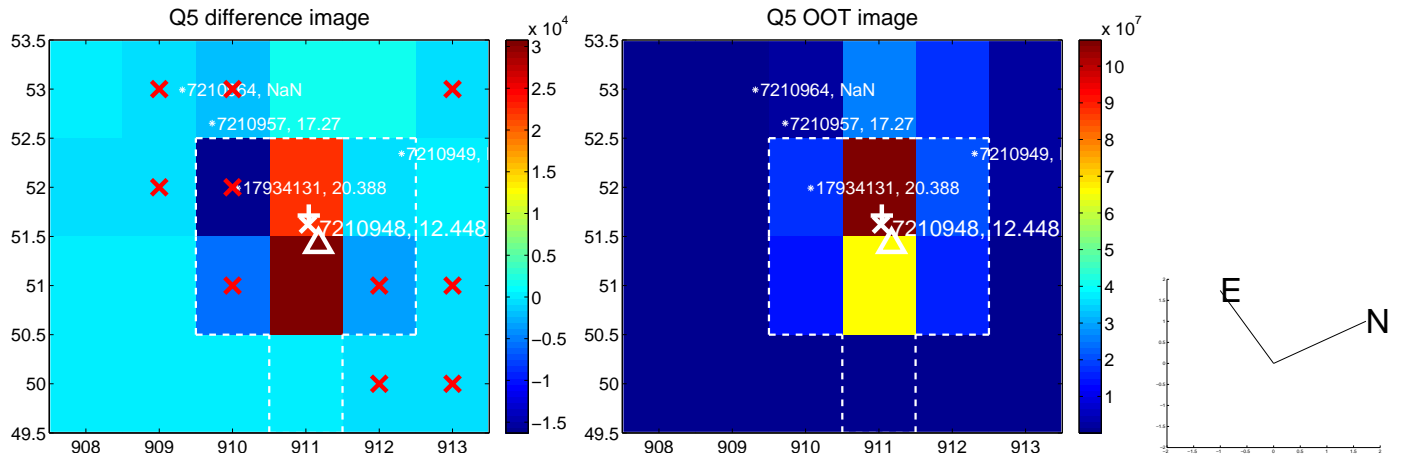


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



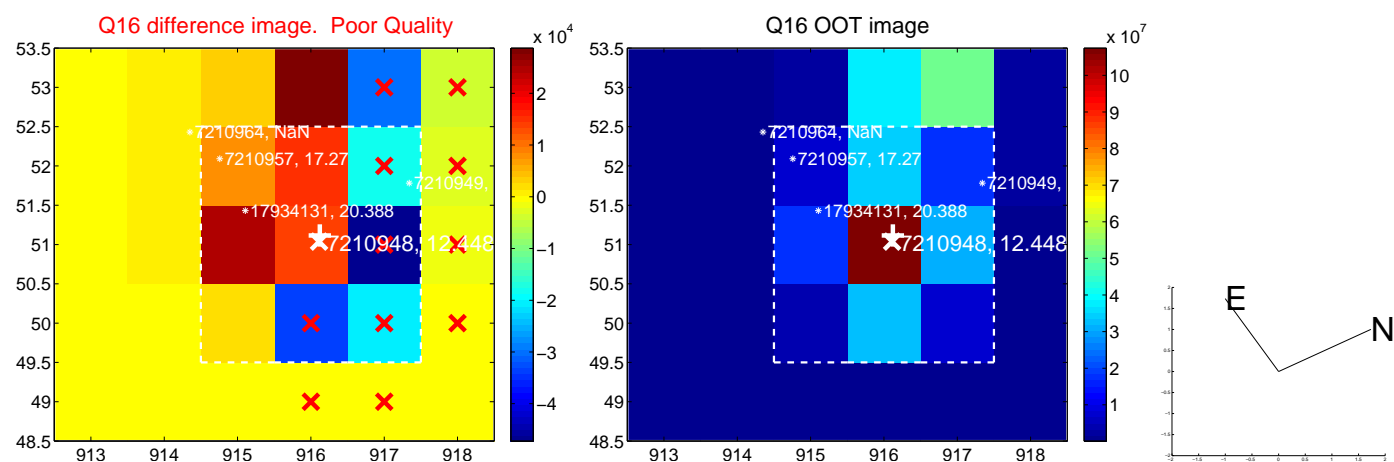
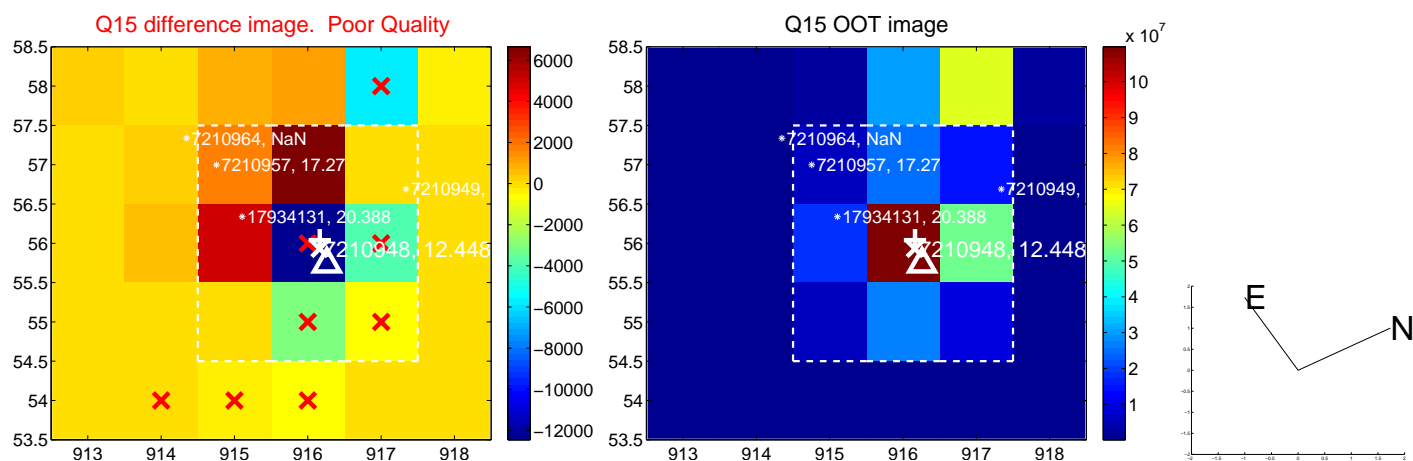
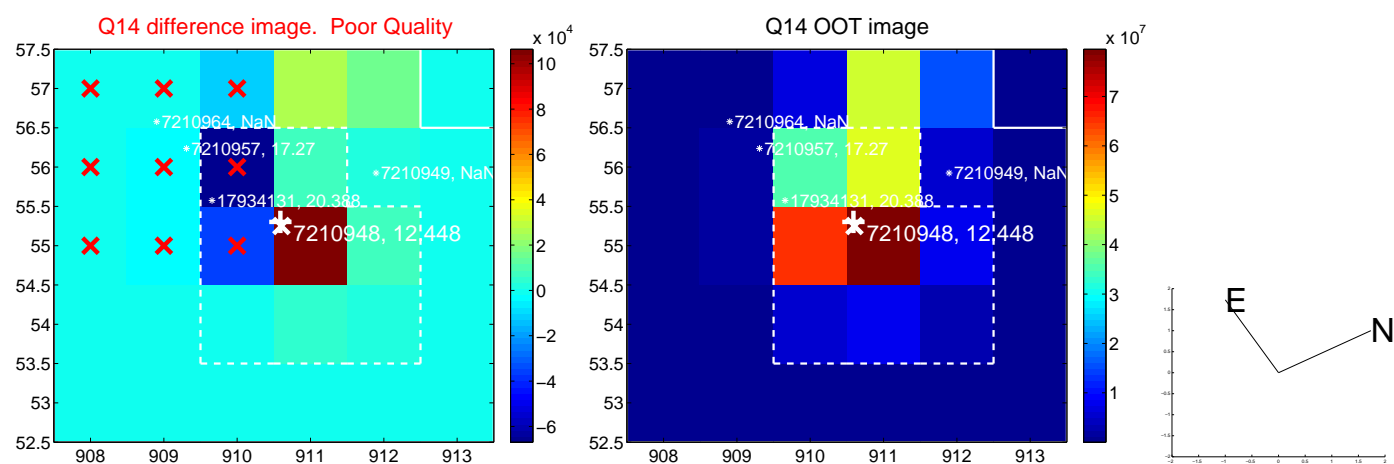
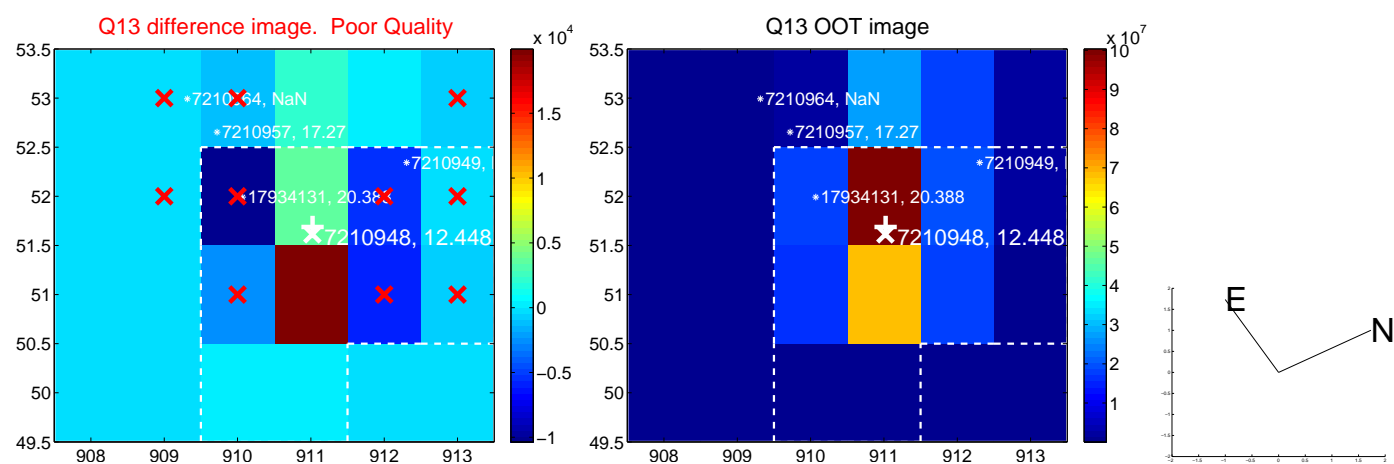
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



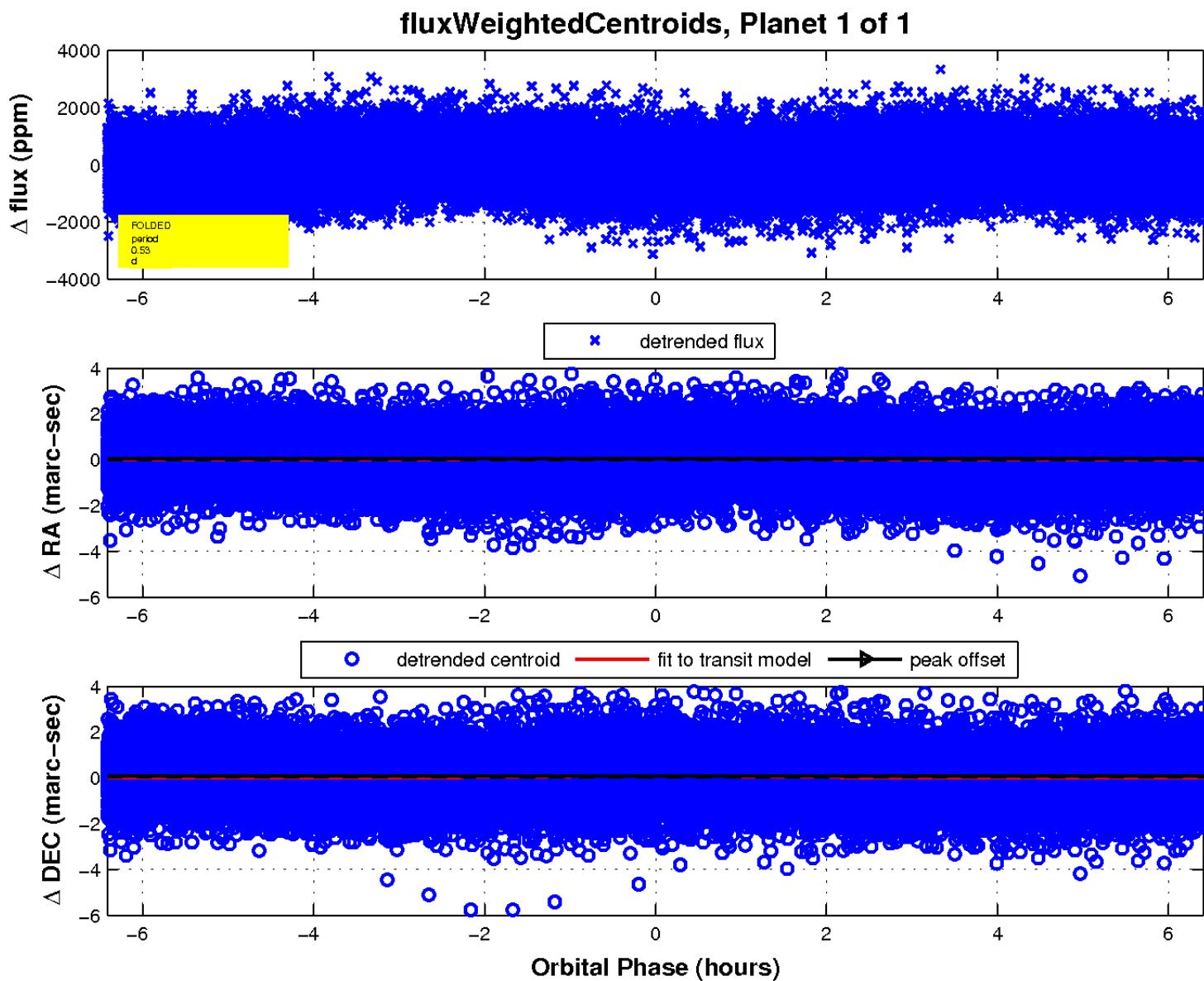
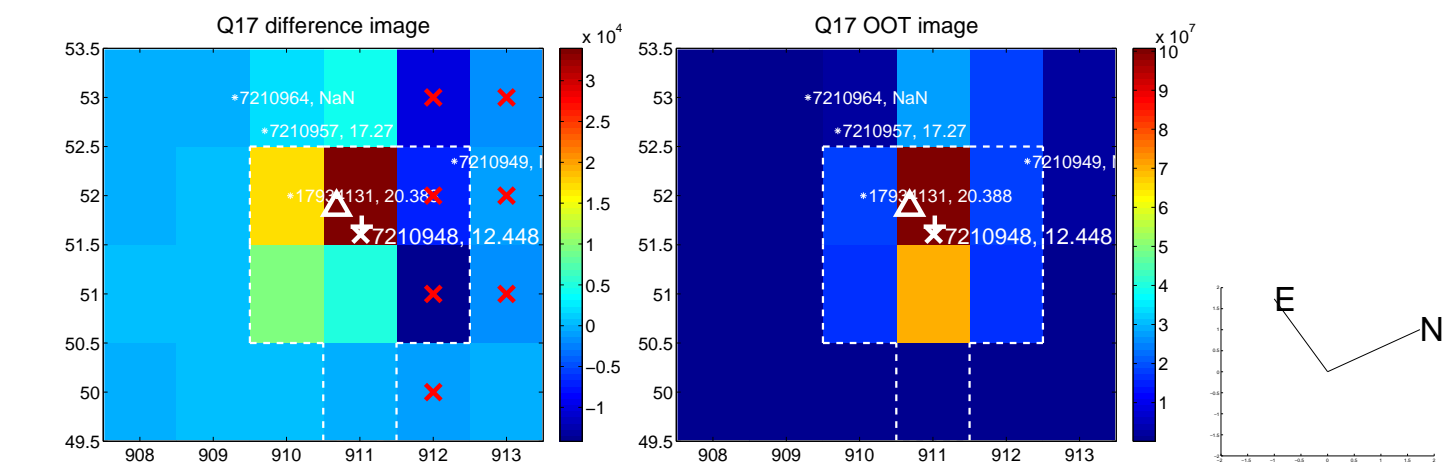




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

