

# KIC 005698327

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005698327-01	OBS	No	20.595469	133.141226	65.0	18.872	7.4	7.7	1.02	6208	0.95	60.98

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005698327-01	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.

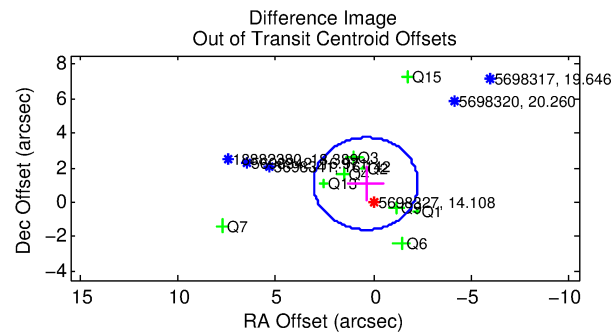
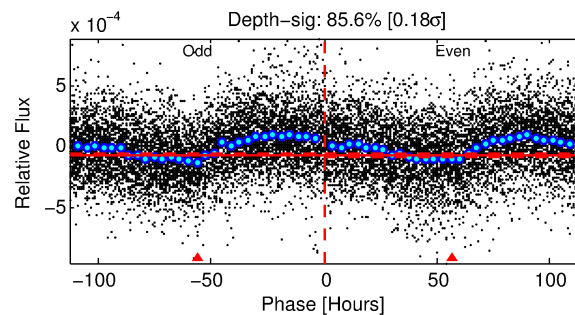
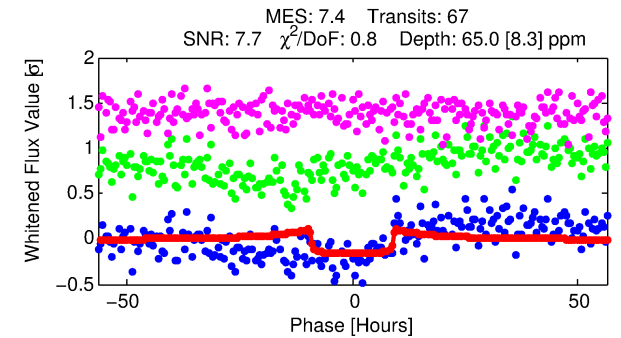
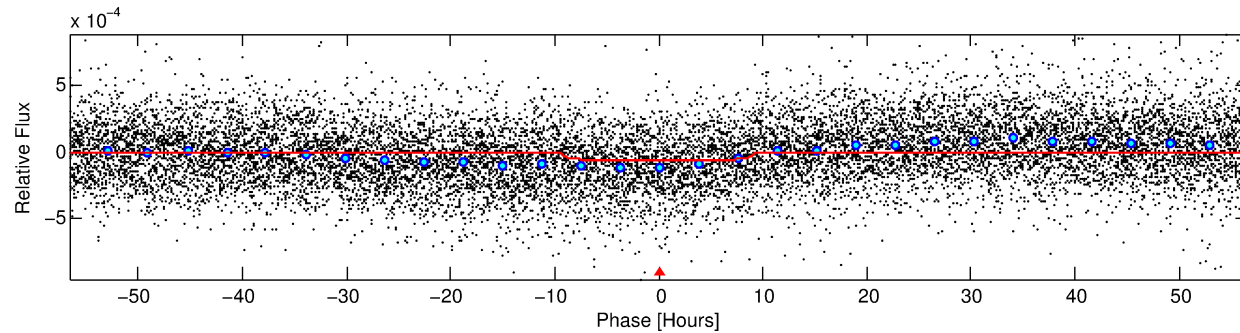
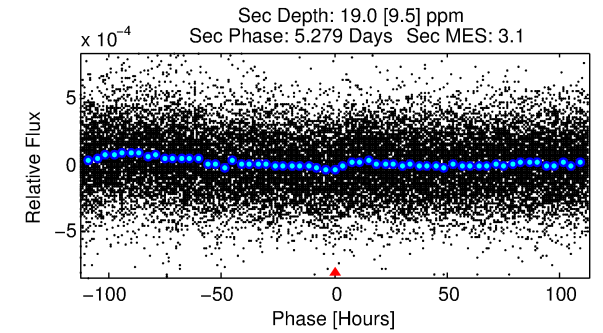
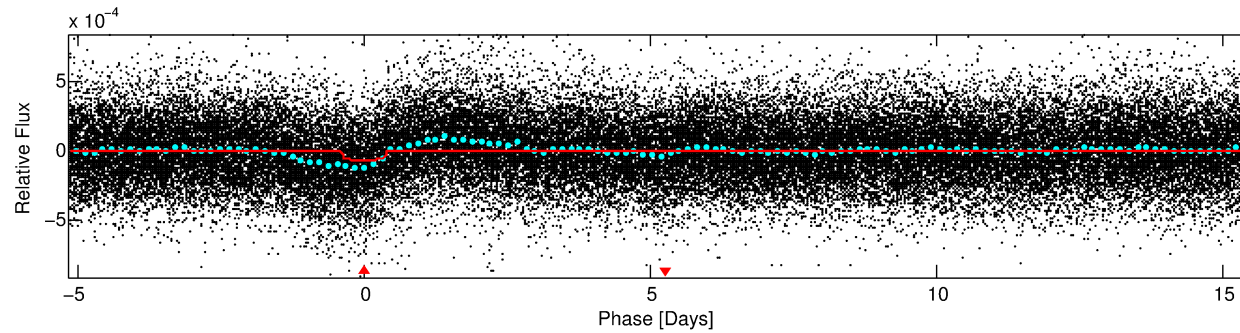
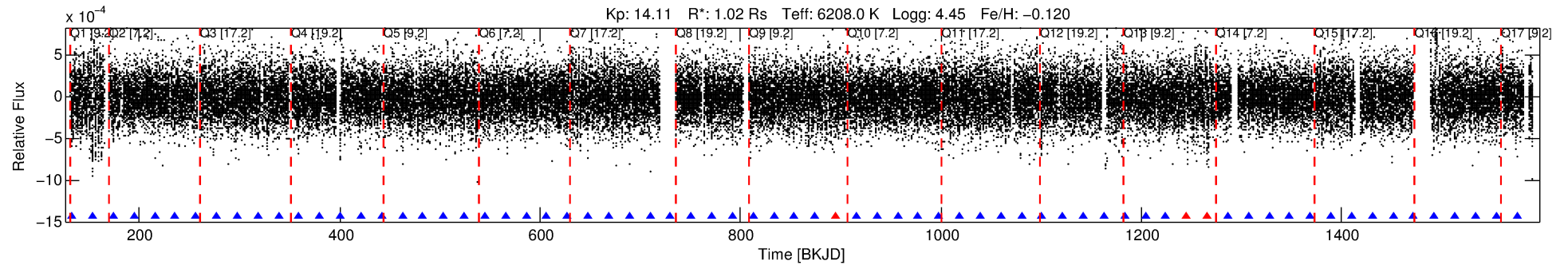
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005698327-01

No Significant Match Found

# DV One-Page Summary

KIC: 5698327 Candidate: 1 of 1 Period: 20.595 d



## DV Fit Results:

Period = 20.59547 [0.00054] d  
Epoch = 133.1412 [0.0218] BKJD  
Rp/R\* = 0.0086 [0.0012]  
a/R\* = 4.17 [2.60]  
b = 0.88 [0.17]  
Seff = 60.98 [25.59]  
Teq = 713 [75] K  
Rp = 0.96 [0.34] Re  
a = 0.1513 [0.0412] AU  
Ag = 262.30 [183.11] [1.43σ]  
Teffp = 4434 [656] K [5.64σ]

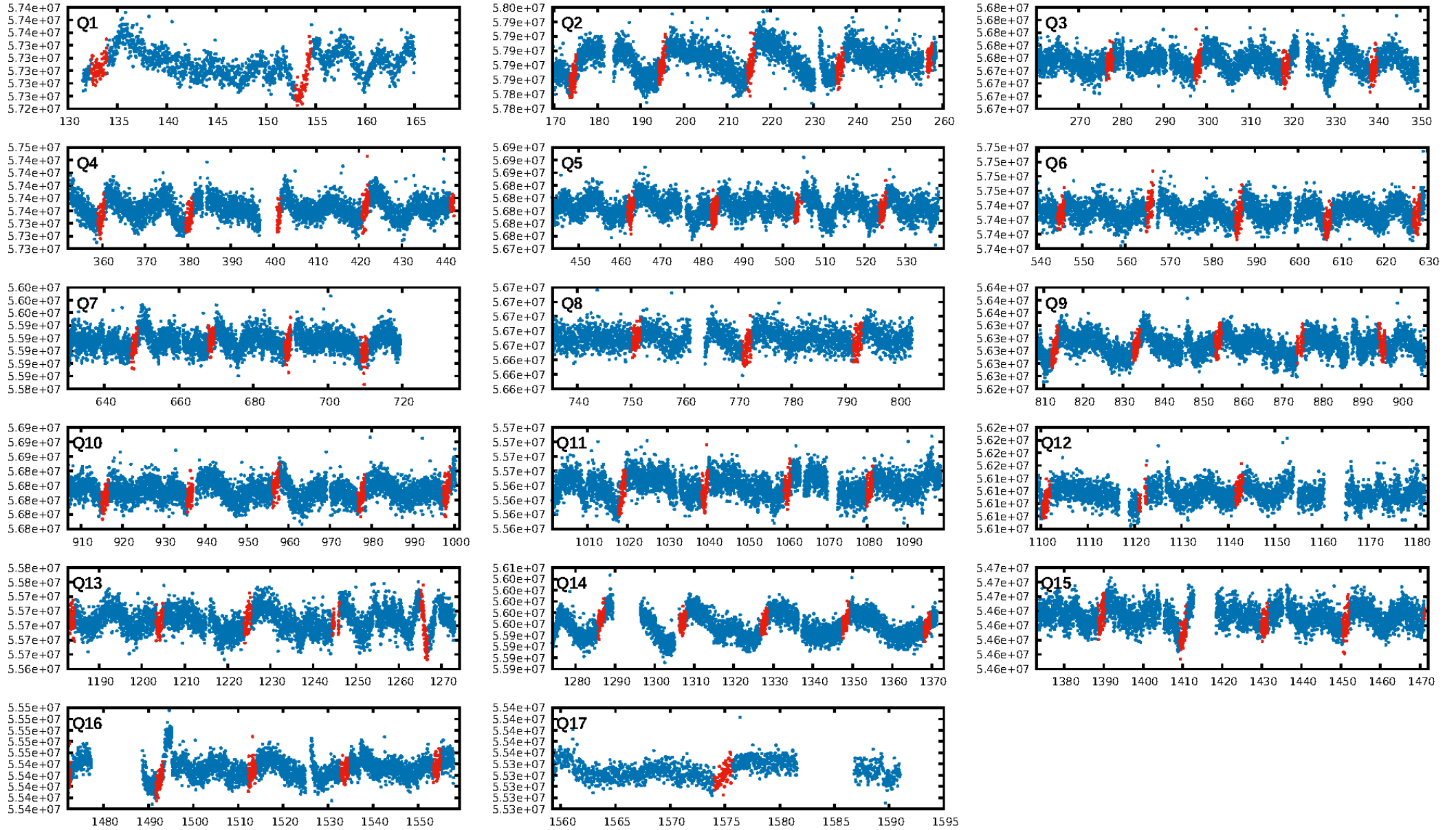
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.40e-12**  
RollingBand-fgt: 0.95 [61/64]  
GhostDiagnostic-chr: -10.35  
Centroid-sig: 6.8%  
Centroid-so: 2.322 arcsec [1.75σ]  
OotOffset-rm: 1.144 arcsec [1.28σ]  
OotOffset-st: 2/3/1/3 [9]  
KicOffset-rm: 1.088 arcsec [1.51σ]  
KicOffset-st: 2/3/1/3 [9]  
DiffImageQuality-fgm: 0.67 [6/9]  
DiffImageOverlap-fno: 1.00 [17/17]

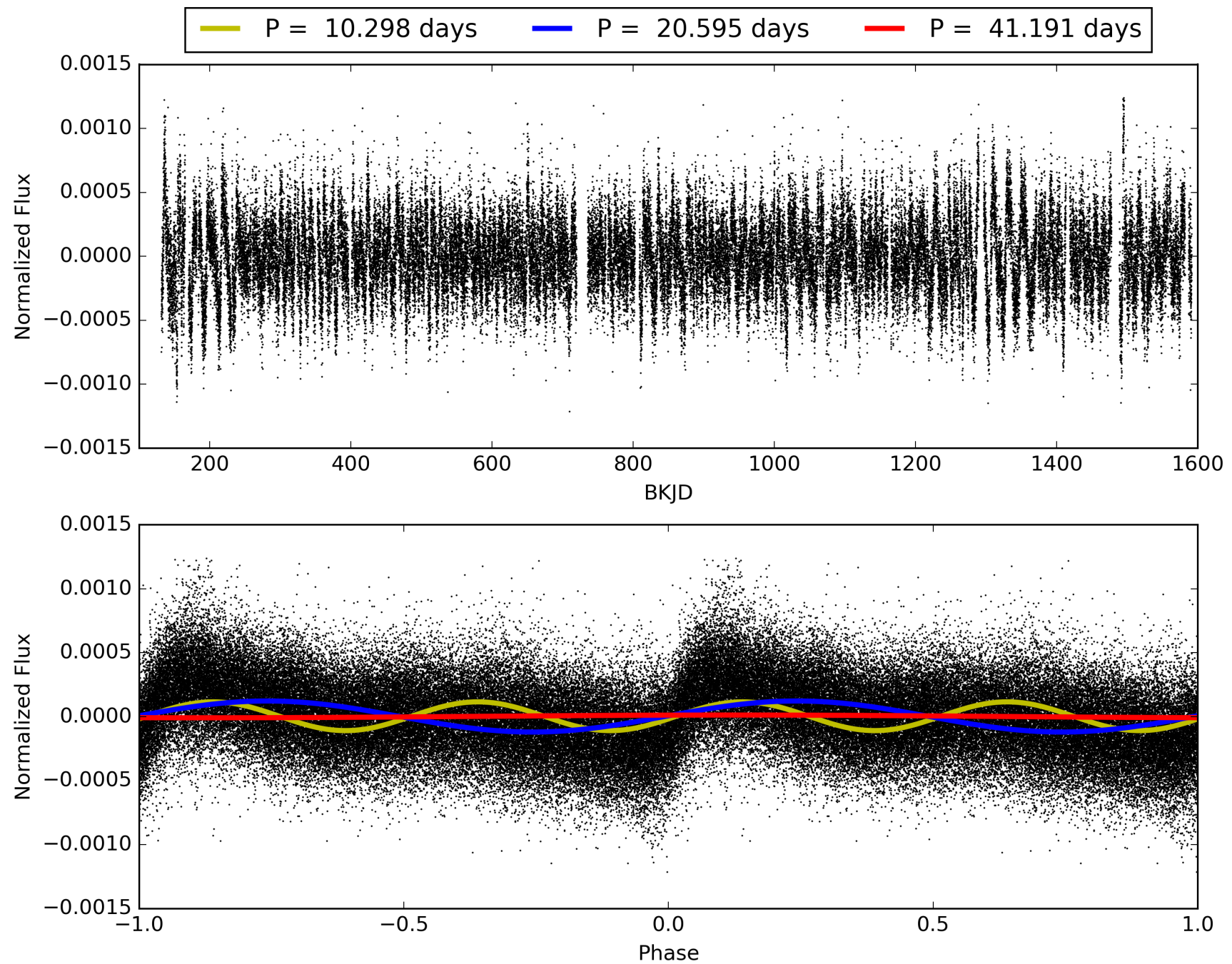
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:31:39 Z

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

# TCE 005698327-01, PDC Light Curves

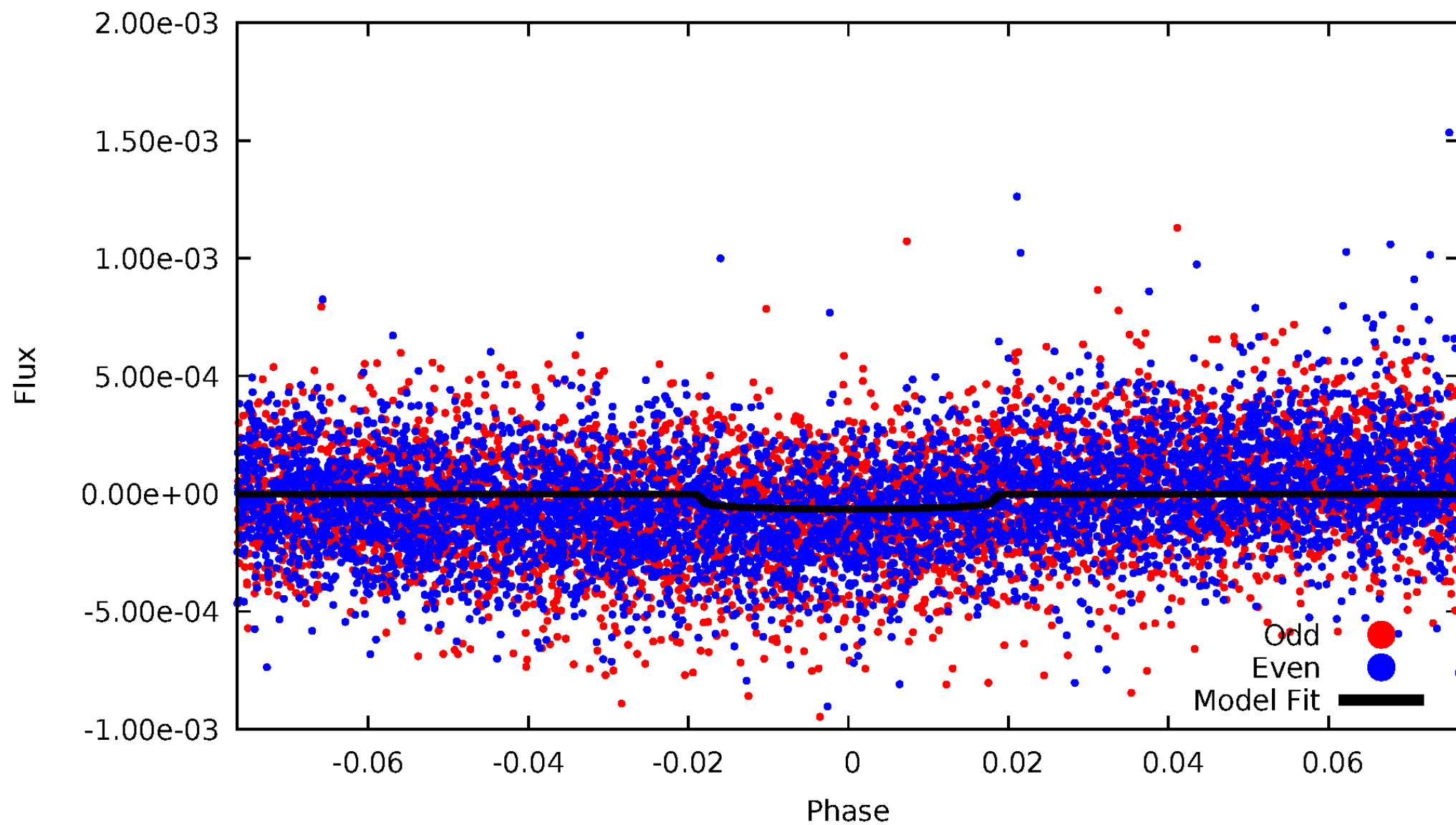


TCE 005698327-01



# DV Odd/Even

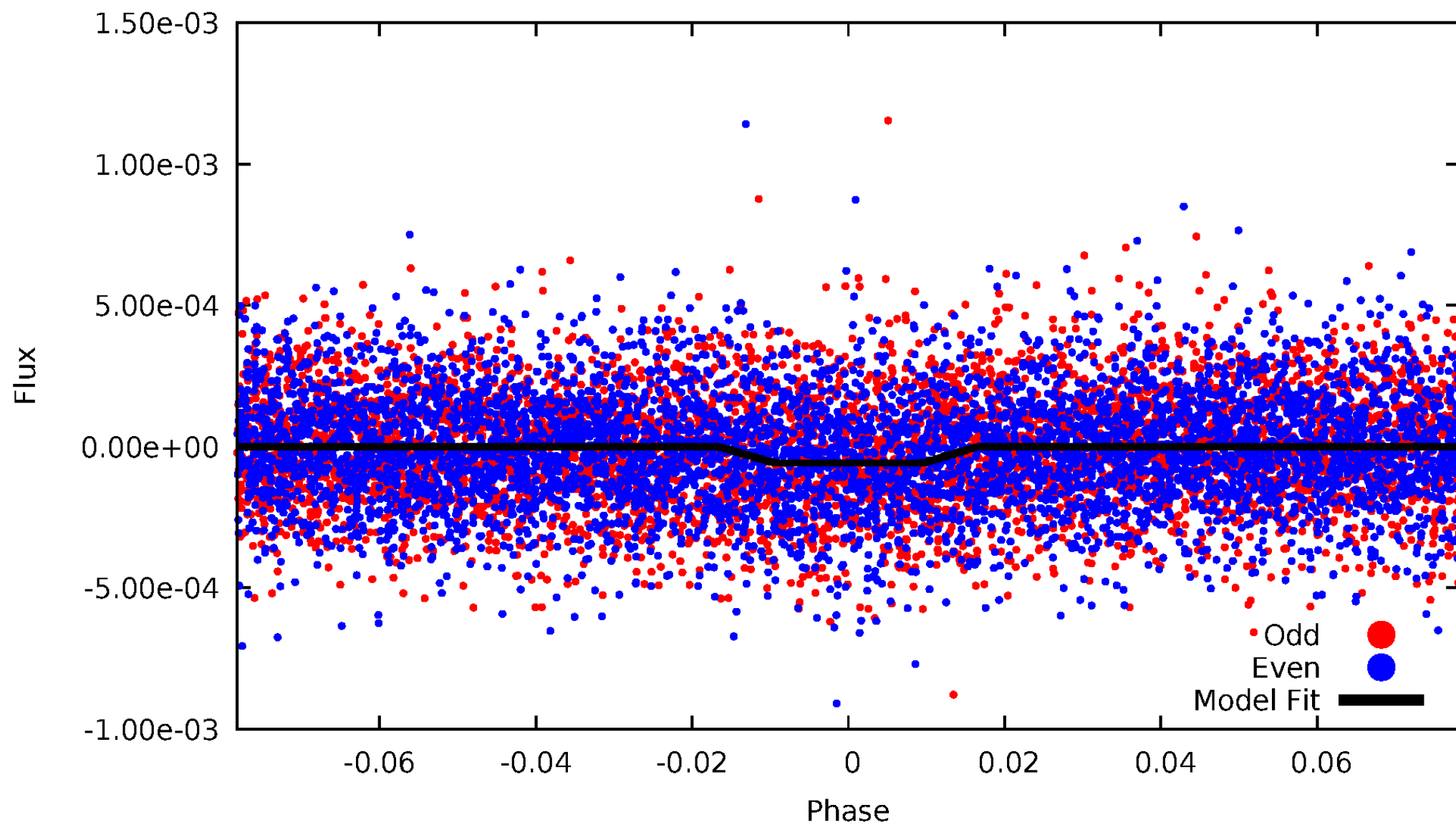
TCE 005698327-01



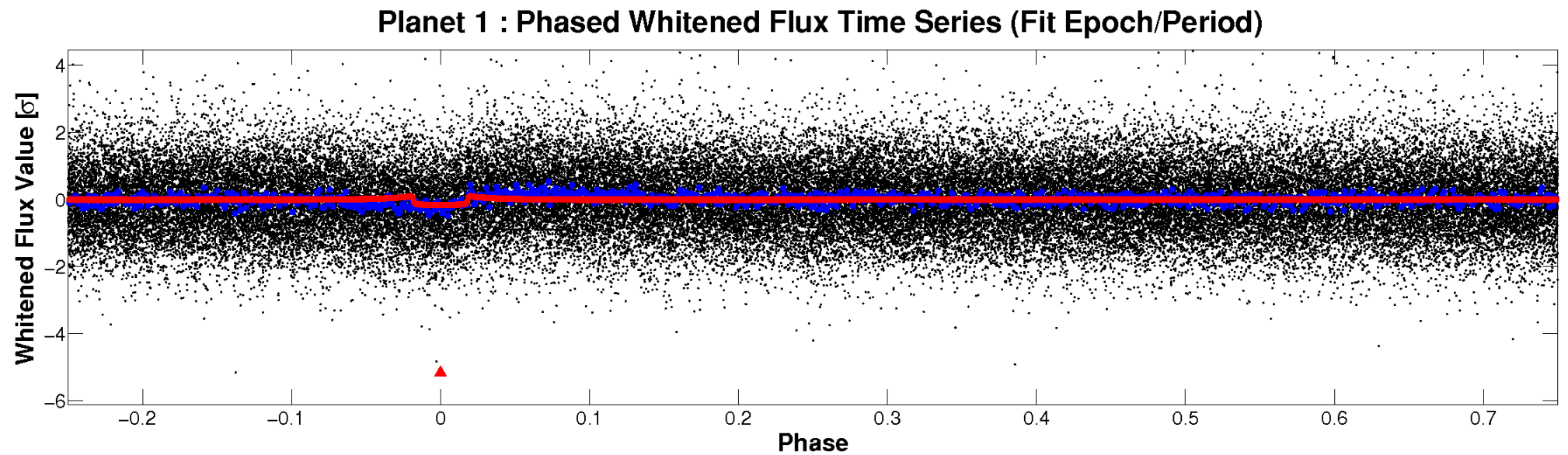
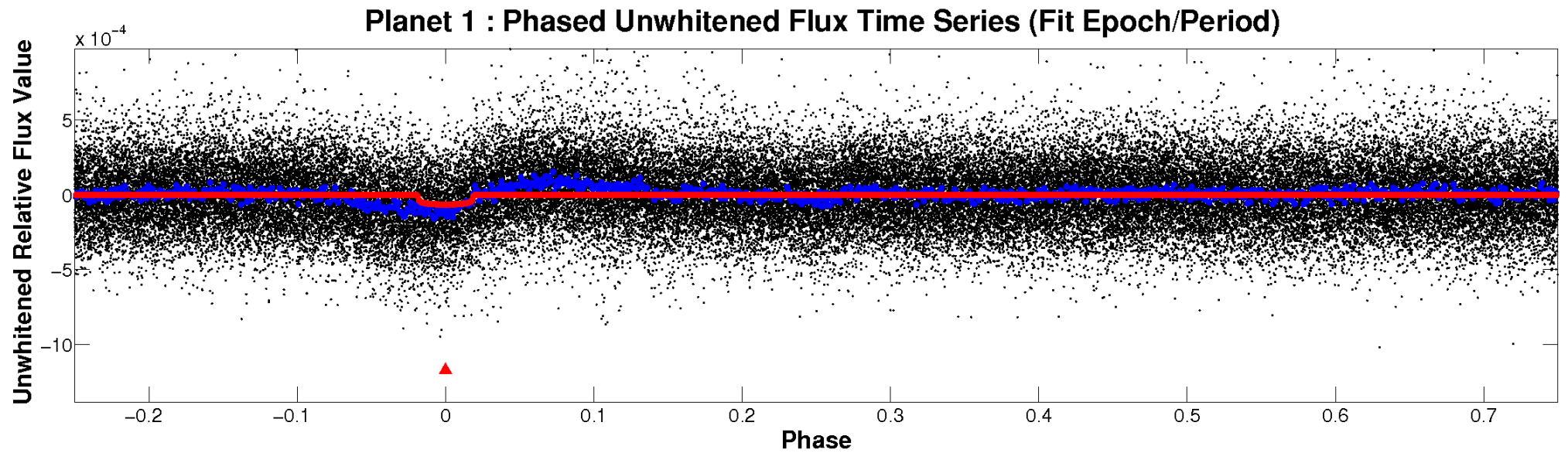


# ALT Odd/Even

TCE 005698327-01

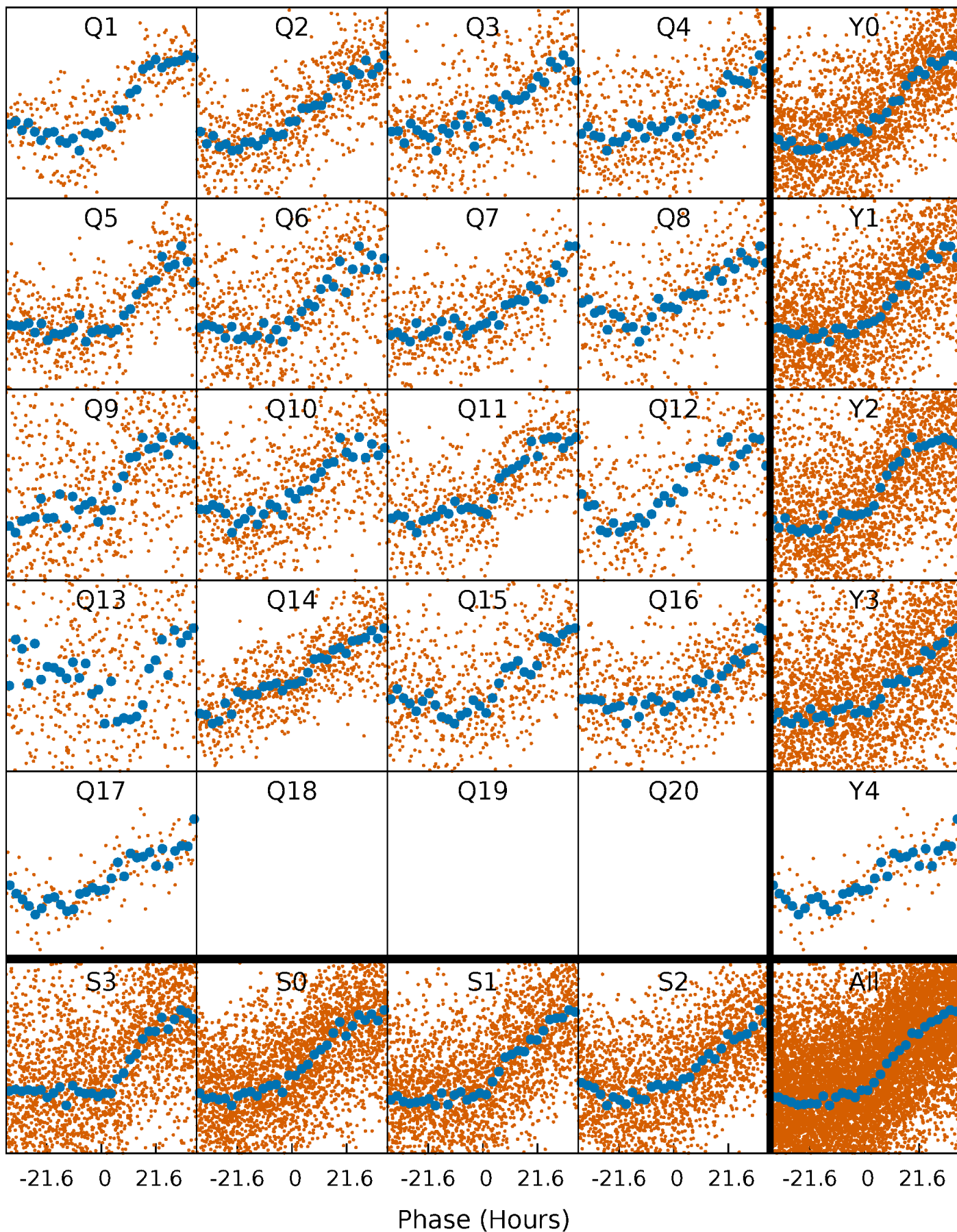


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

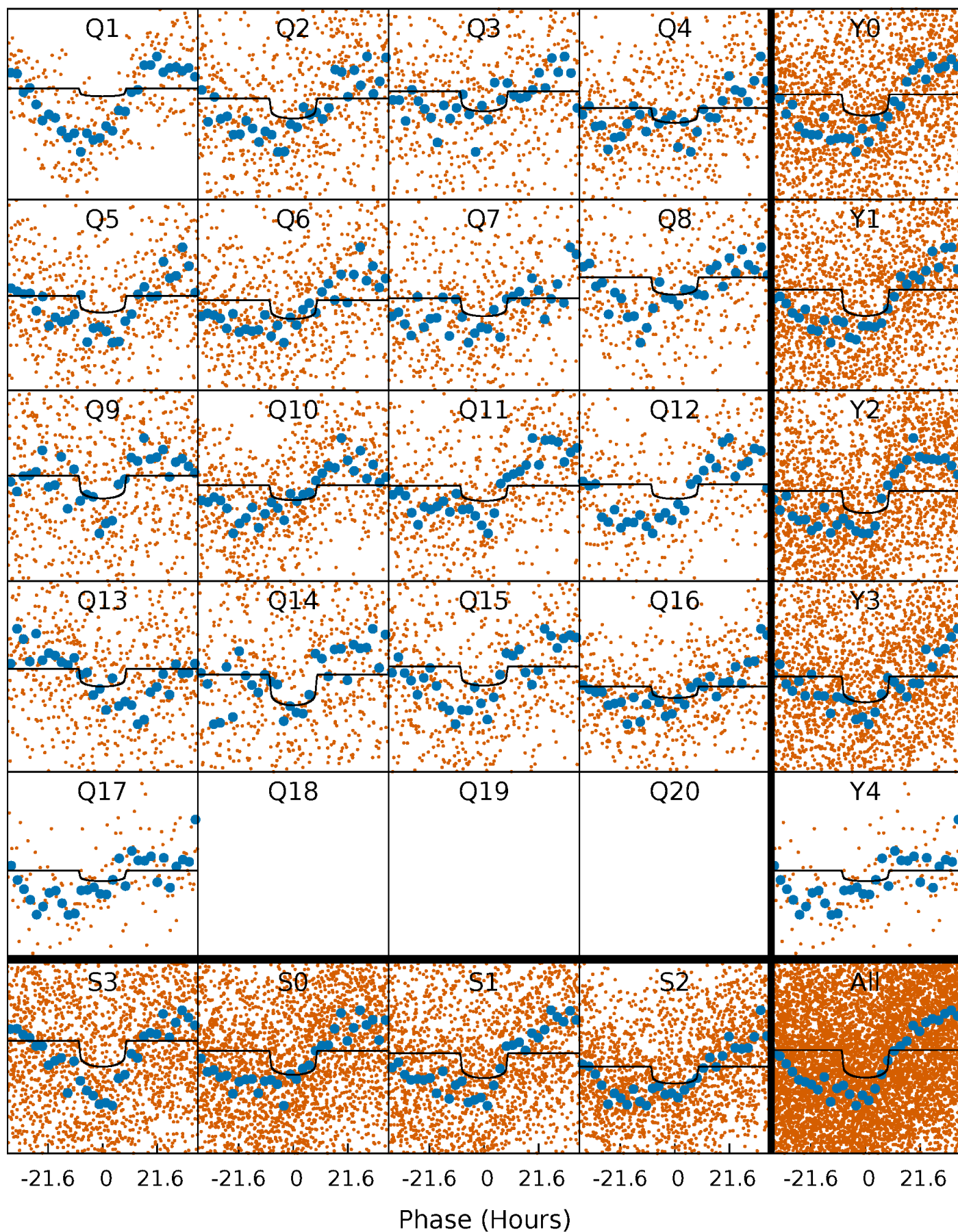
TCE 005698327-01 P= 20.595469 Days  $T_0=133.141226$  (BKJD)





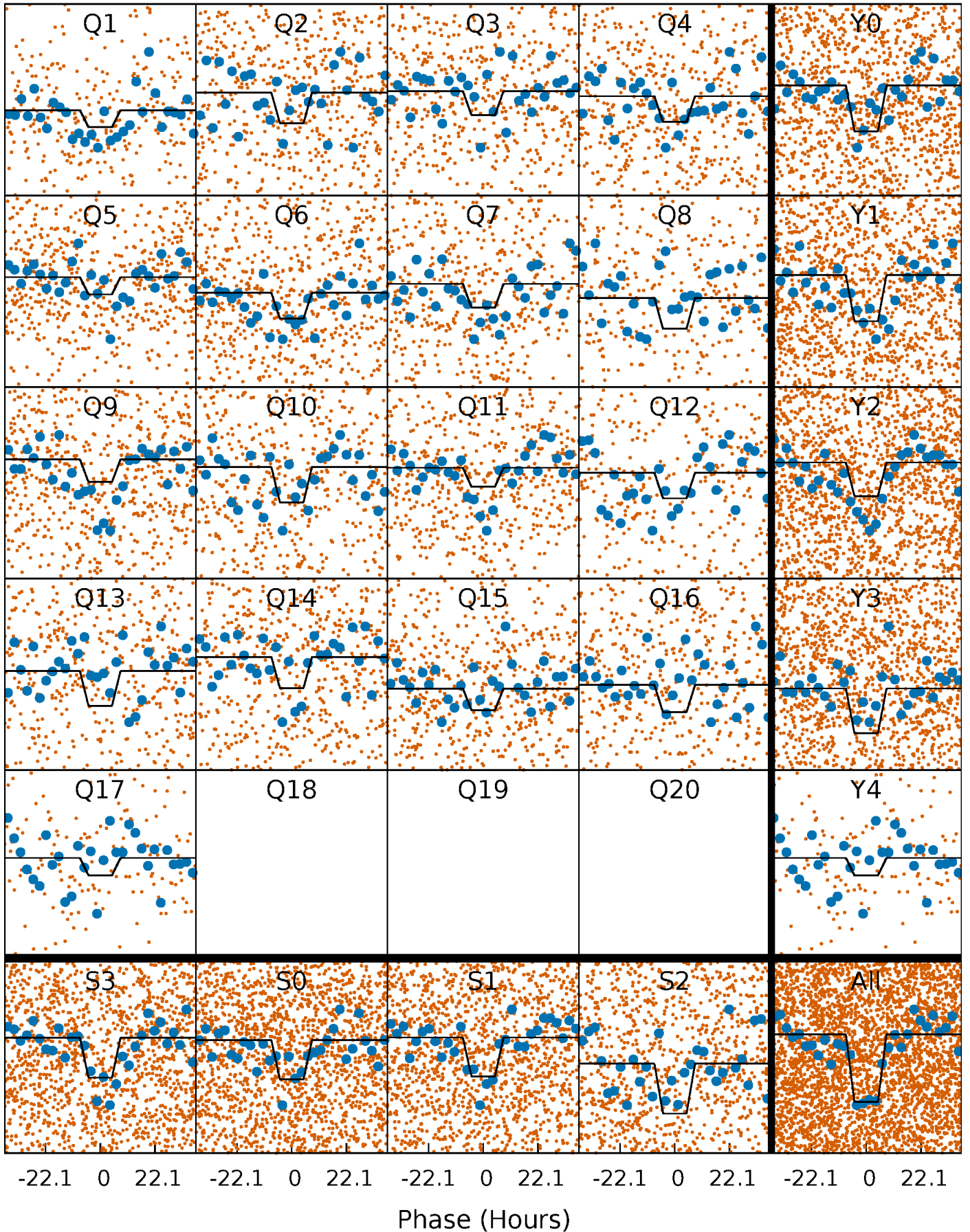
# DV Quarter-Phased Transit Curves

TCE 005698327-01 P= 20.595469 Days  $T_0=133.141226$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

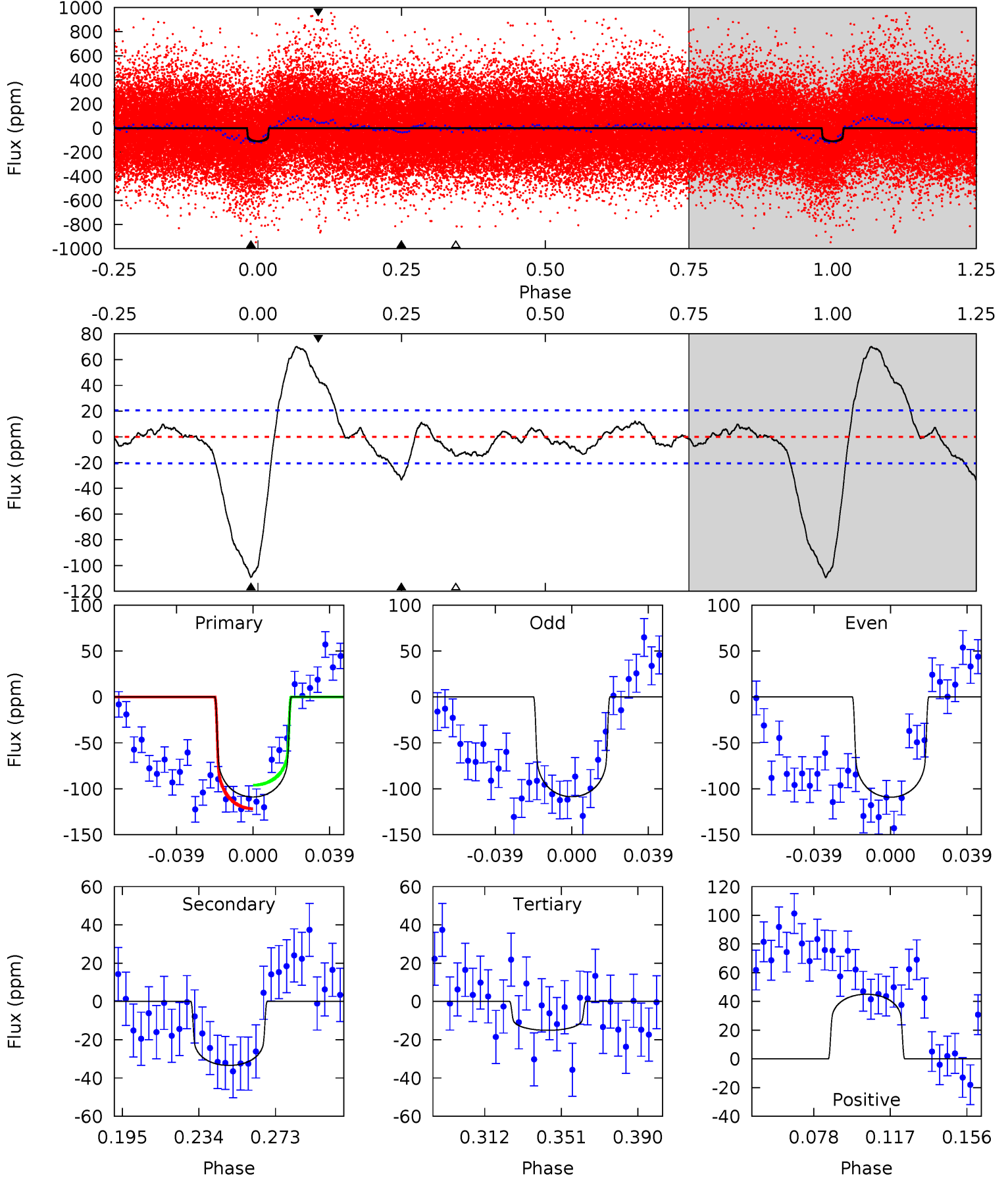
TCE 005698327-01 P= 20.597246 Days  $T_0=133.068104$  (BKJD)



# DV Model-Shift Uniqueness Test

005698327-01, P = 20.595469 Days, E = 112.545757 Days

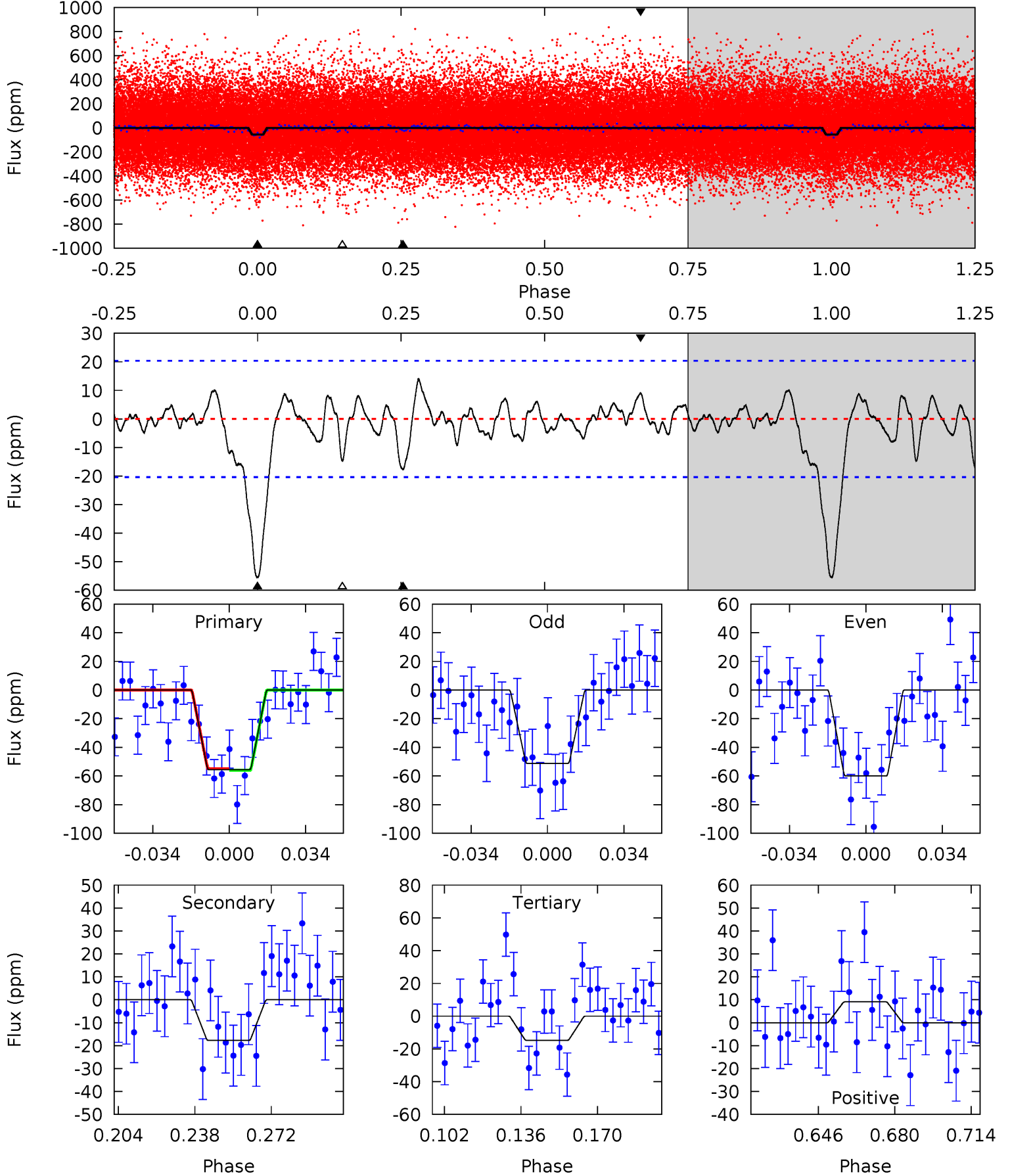
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	7.72	3.48	10.4	4.76	2.06	4.66	21.7	14.7	4.23	-2.68	0.06	1.07	0.39	2.97



# Alt Model-Shift Uniqueness Test

005698327-01, P = 20.597246 Days, E = 112.470858 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
13.1	4.16	3.48	2.14	4.79	2.12	1.09	9.58	10.9	0.69	2.02	1.03	0.99	0.20	0.13





### Stellar Parameters For KIC 005698327

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6208^{+172}_{-216}$	$4.454^{+0.054}_{-0.216}$	$-0.120^{+0.250}_{-0.300}$	$1.024^{+0.332}_{-0.111}$	$1.086^{+0.153}_{-0.153}$	$1.423^{+0.403}_{-0.744}$
	+3%/-3%	+1%/-5%	+208%/-250%	+32%/-11%	+14%/-14%	+28%/-52%
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 005698327-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-33 \pm 4$	$0.99^{+0.21}_{-0.17}$	$1019^{+73}_{-53}$	$5163^{+435}_{-353}$	$406^{+197}_{-129}$
Alt.	$-18 \pm 4$	$0.88^{+0.18}_{-0.16}$	$1014^{+71}_{-48}$	$4765^{+429}_{-399}$	$278^{+163}_{-100}$

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

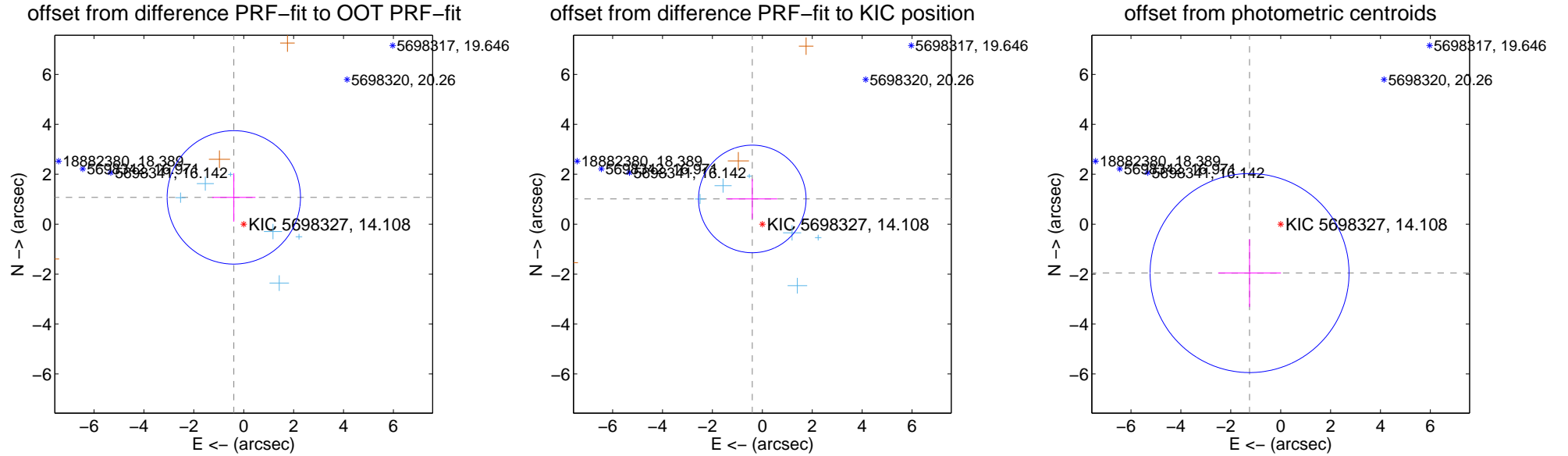
## DV Centroid Data

Supplemental centroid analysis for 005698327-01. Kepler magnitude: 14.11. Transit SNR 7.74

There are 6 quarters with good PRF difference image offsets

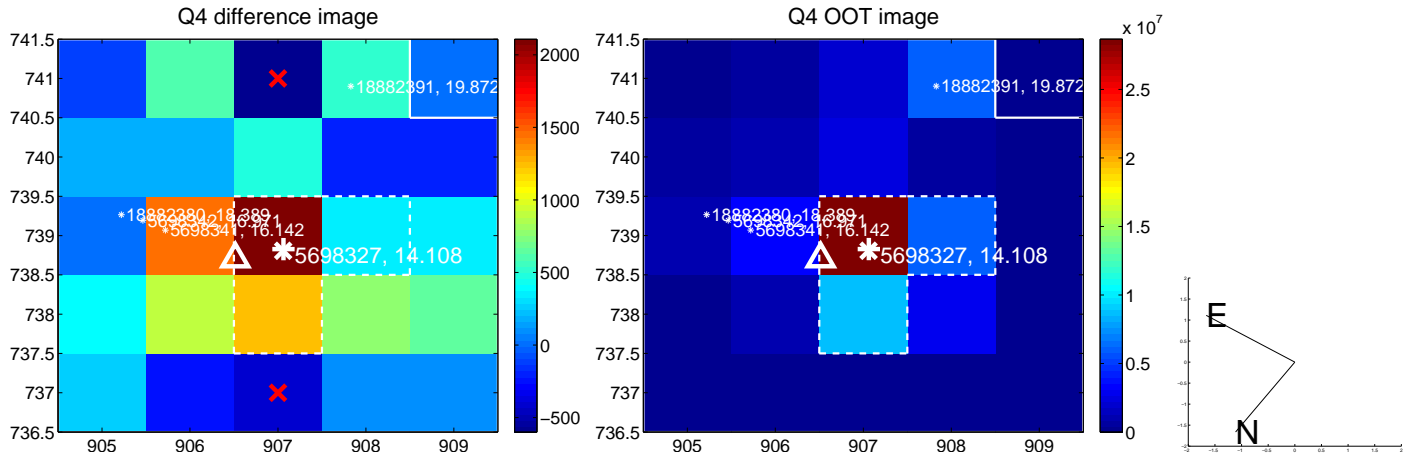
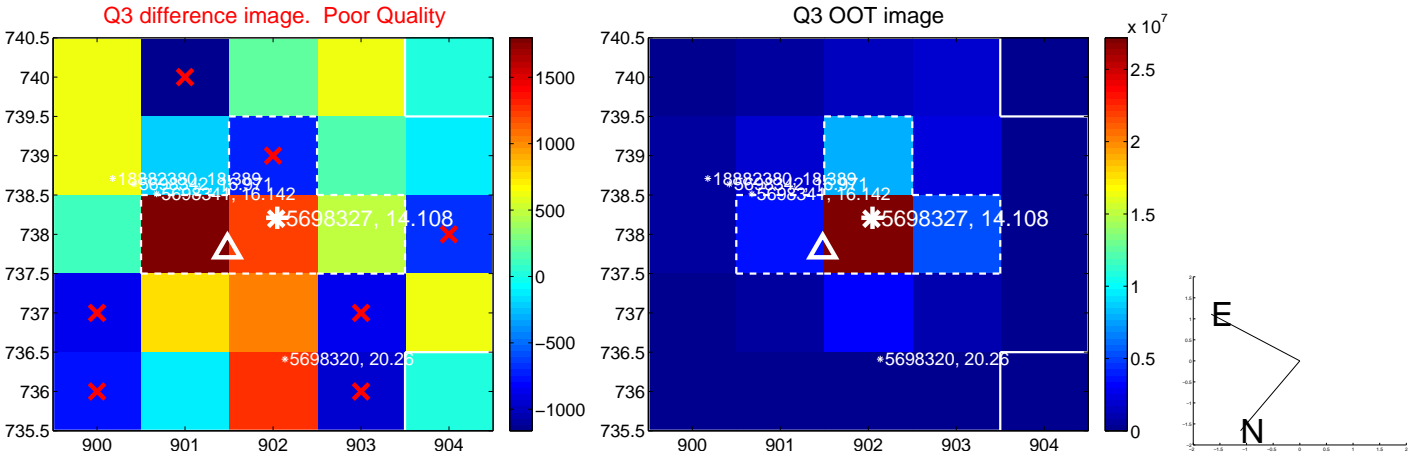
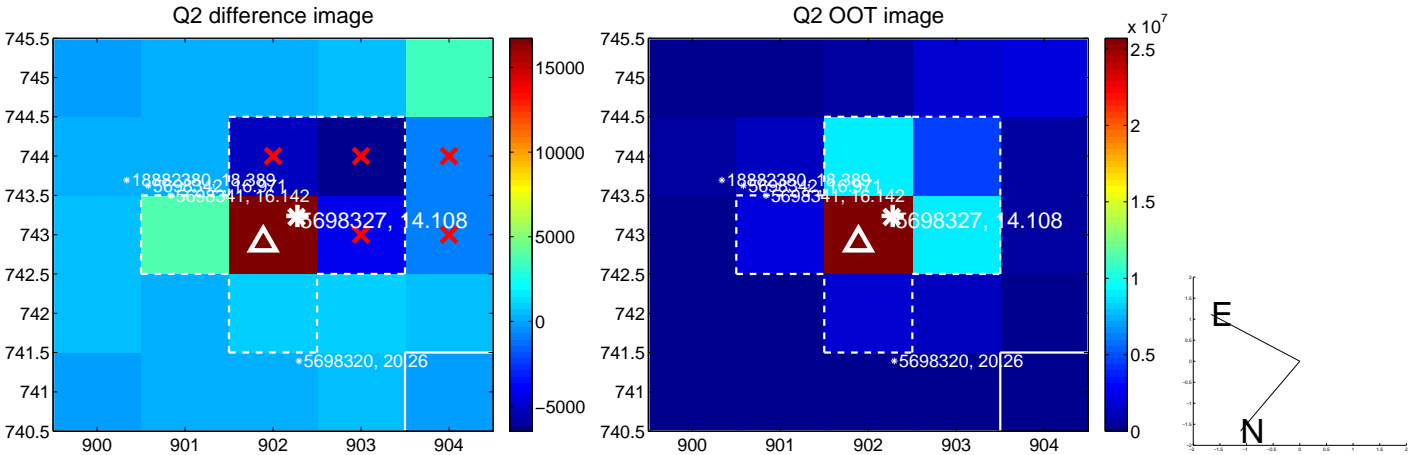
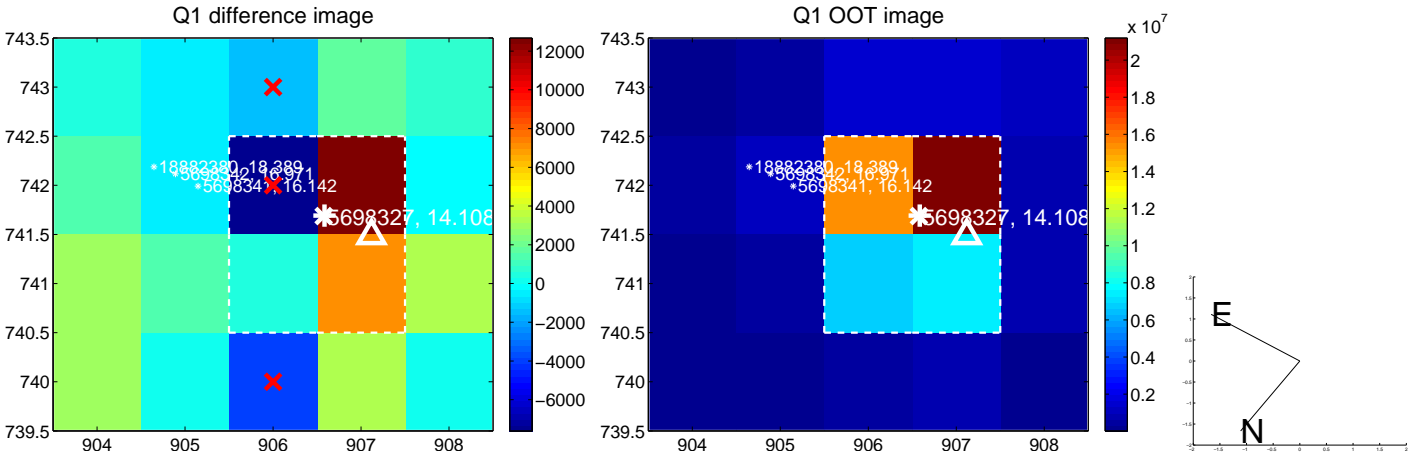
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.144 \pm 0.891$	1.28	$0.397 \pm 0.869$	$1.073 \pm 0.970$
PRF-fit source offset from KIC position	$1.088 \pm 0.718$	1.51	$0.403 \pm 1.001$	$1.011 \pm 0.800$
photometric centroid source offset	$2.32 \pm 1.33$	1.75	$1.25 \pm 1.26$	$-1.96 \pm 1.36$

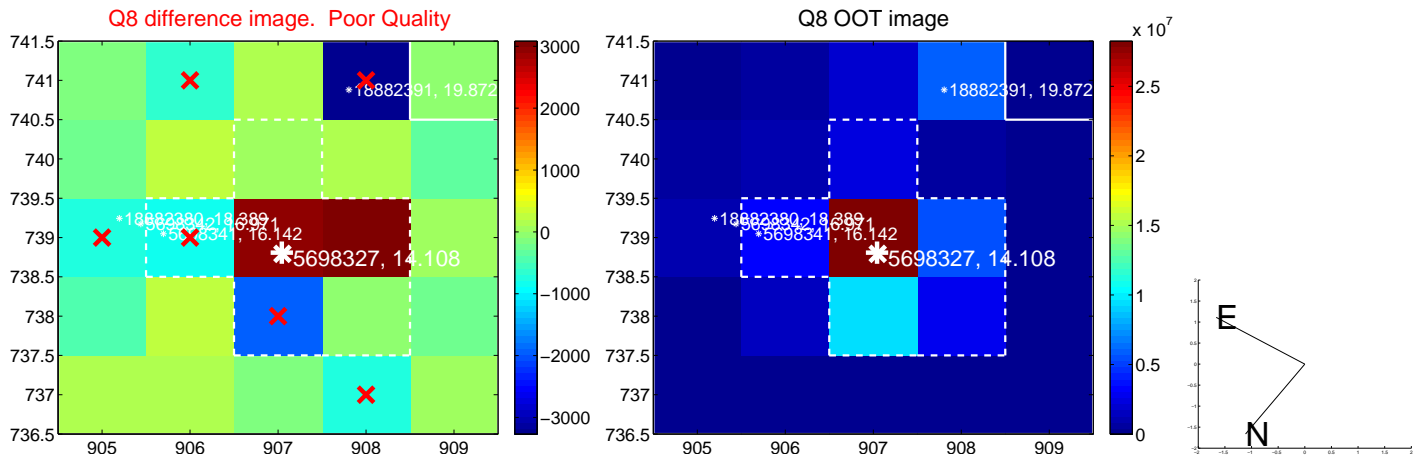
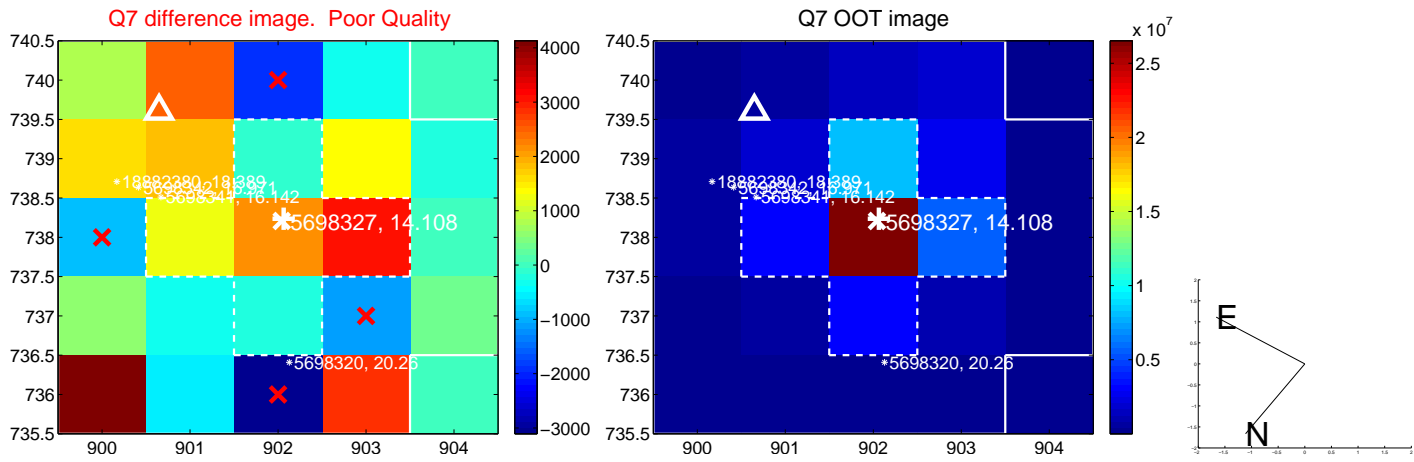
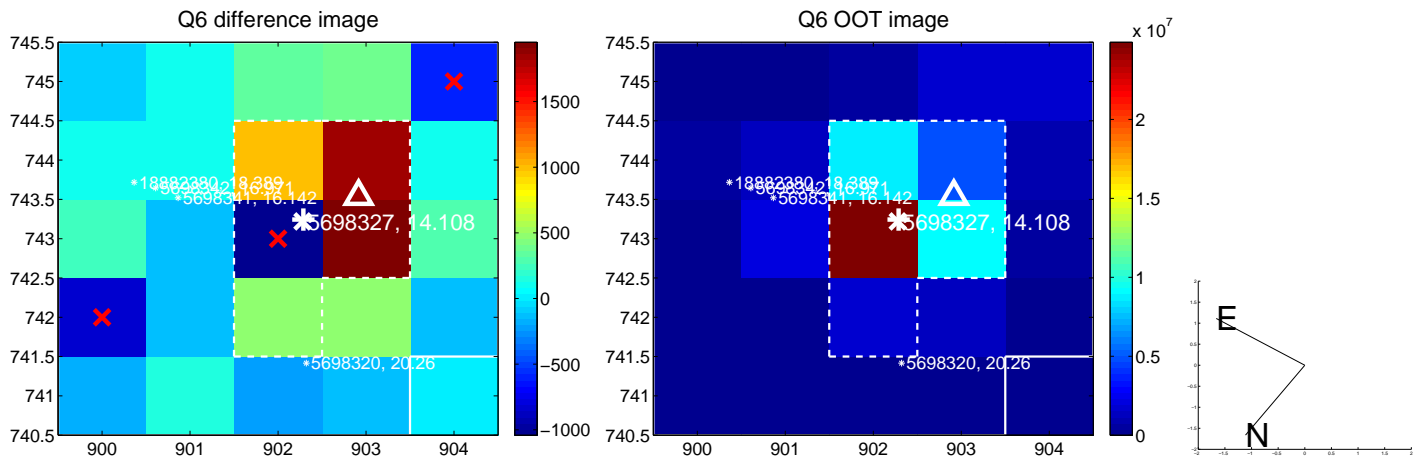
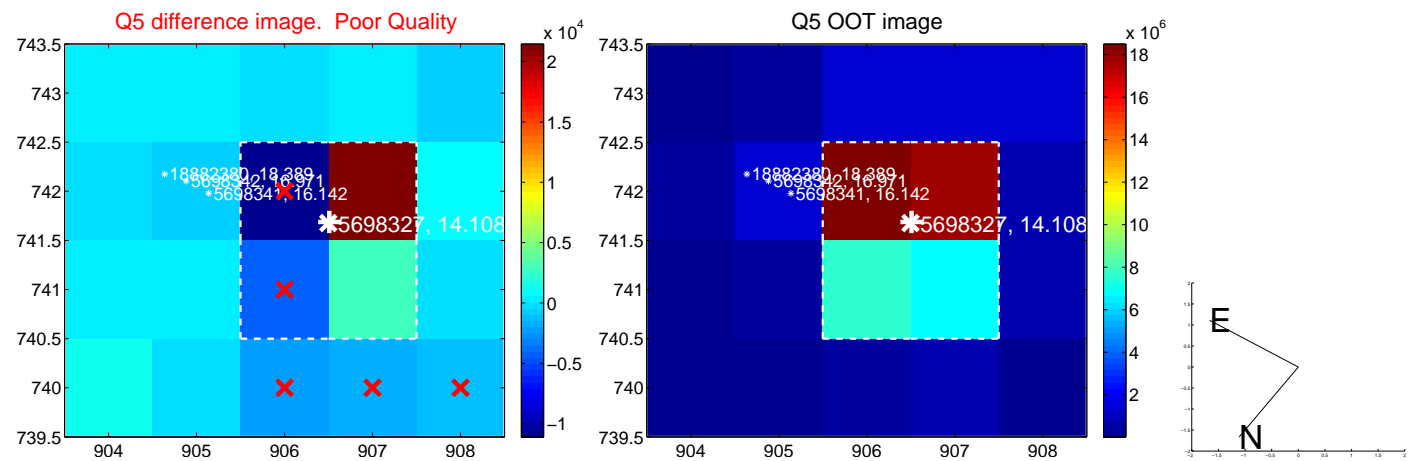


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

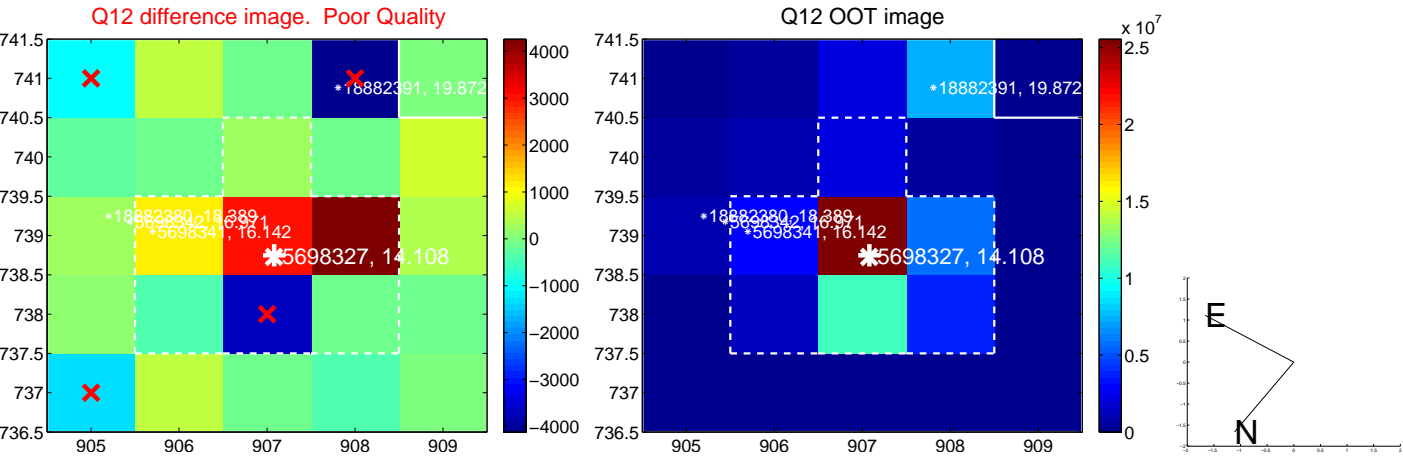
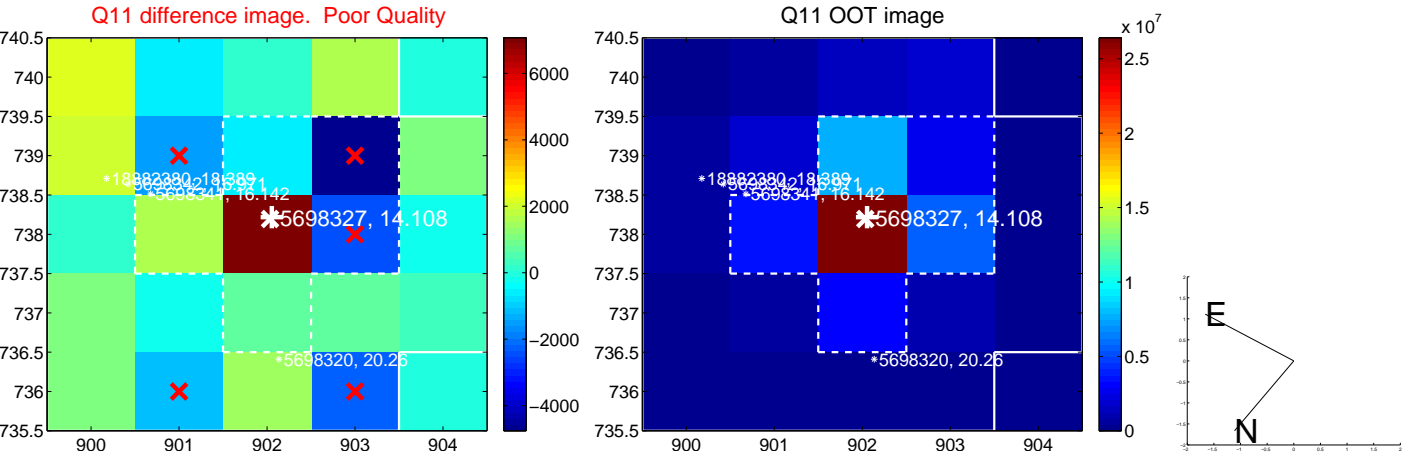
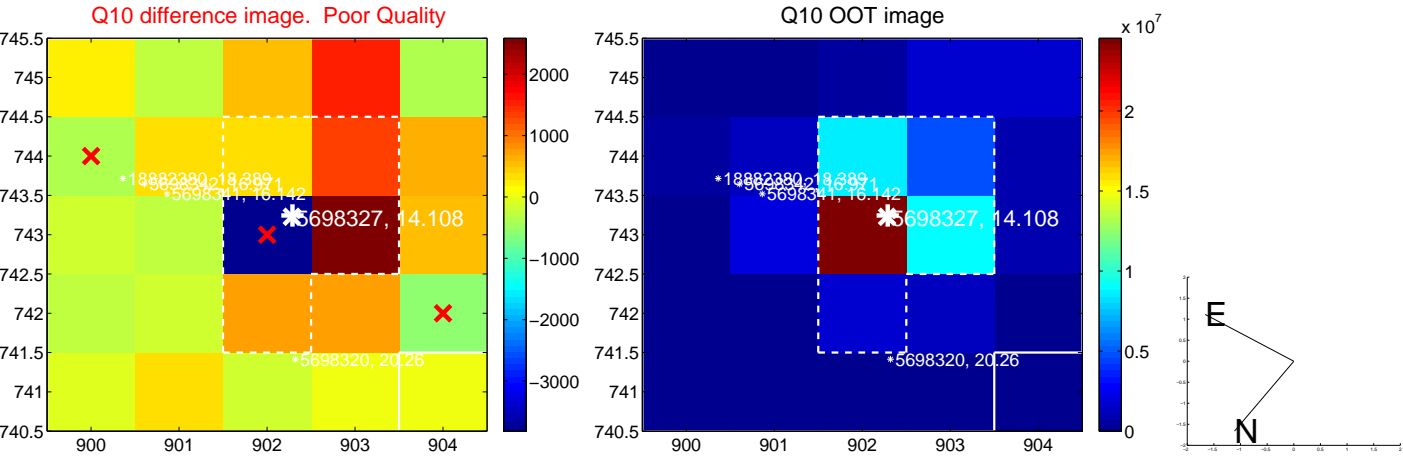
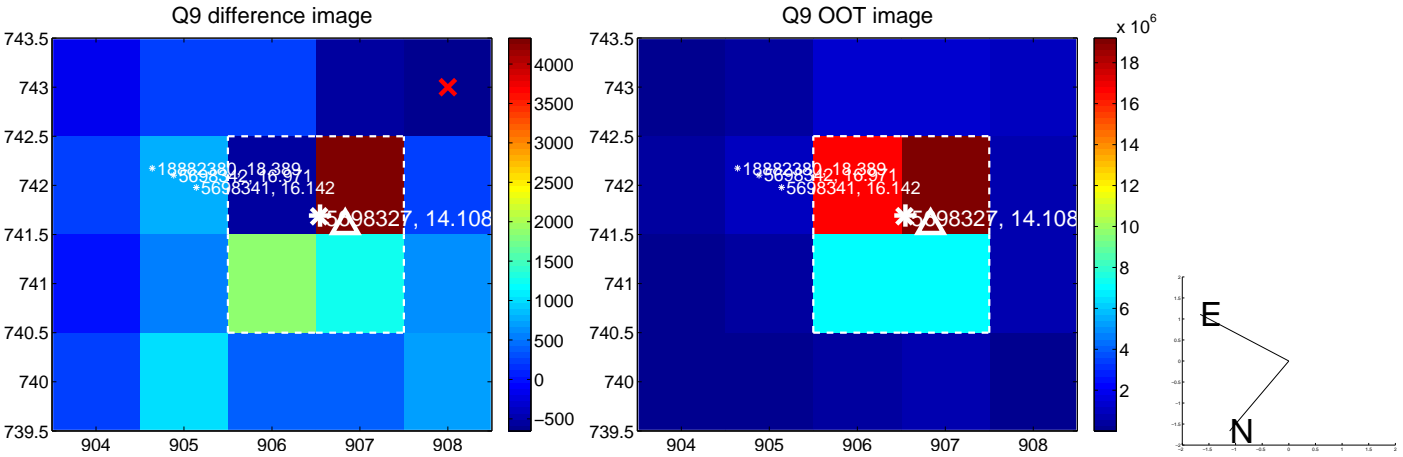


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

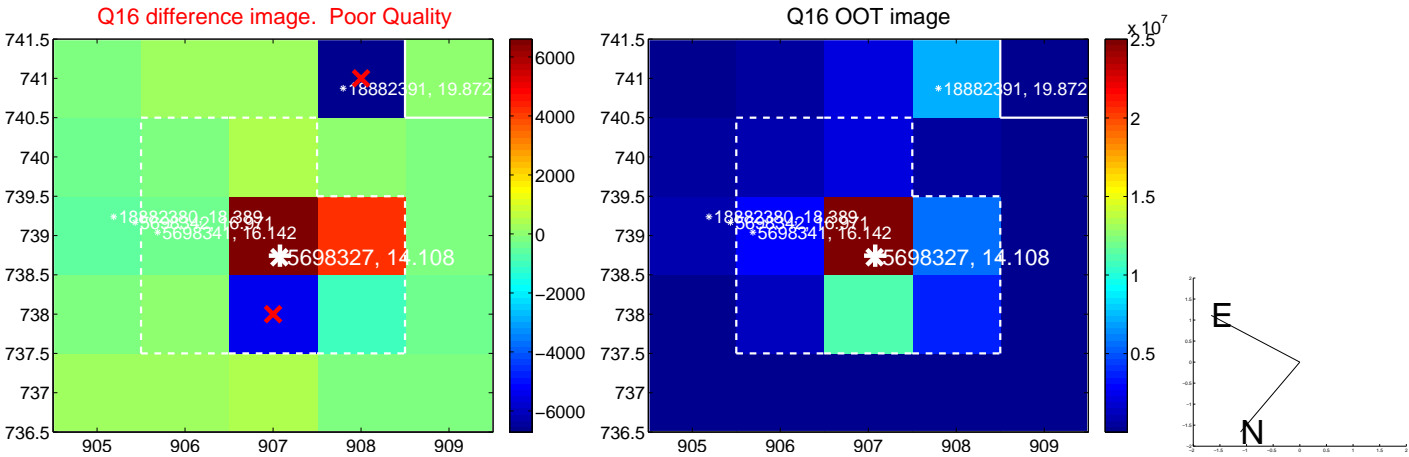
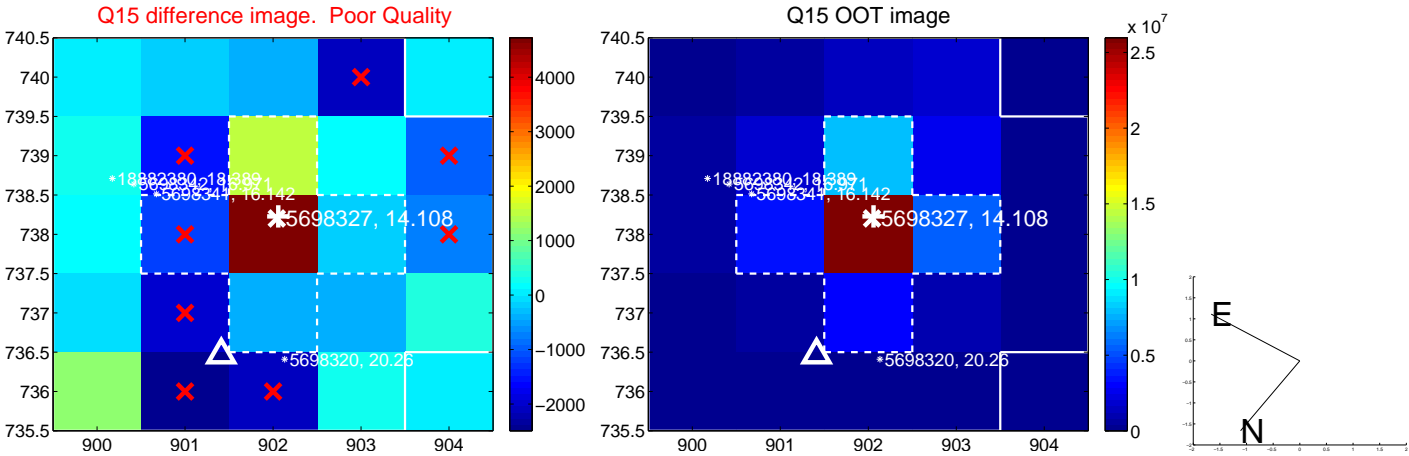
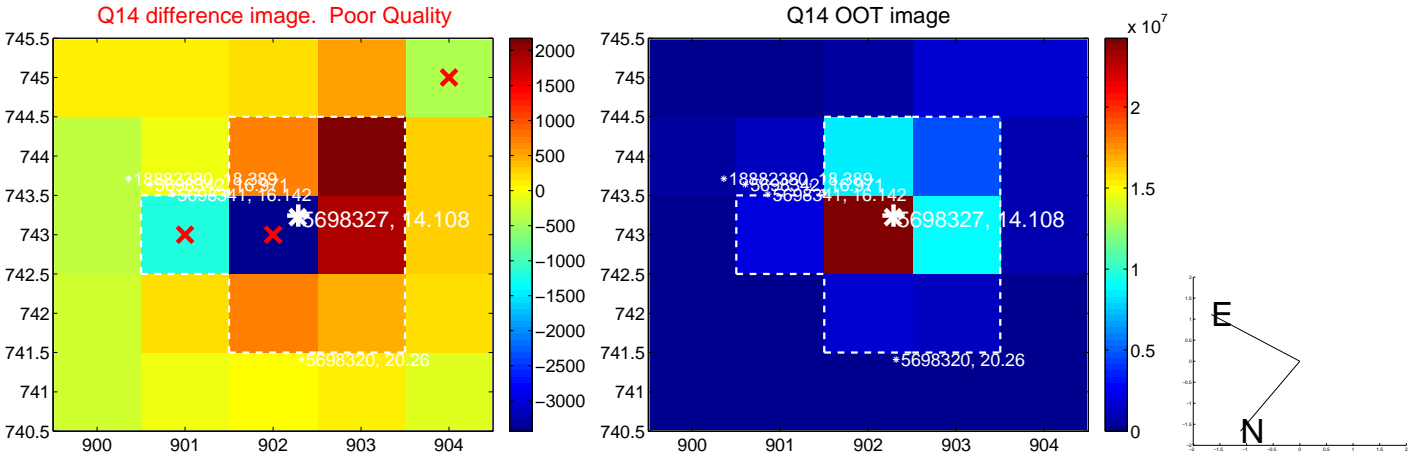
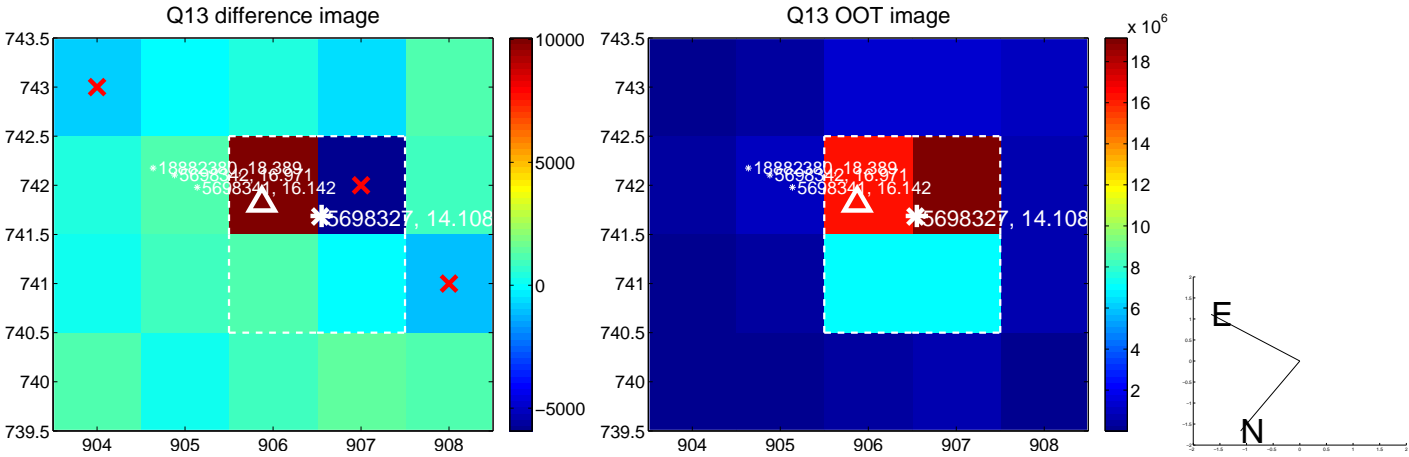




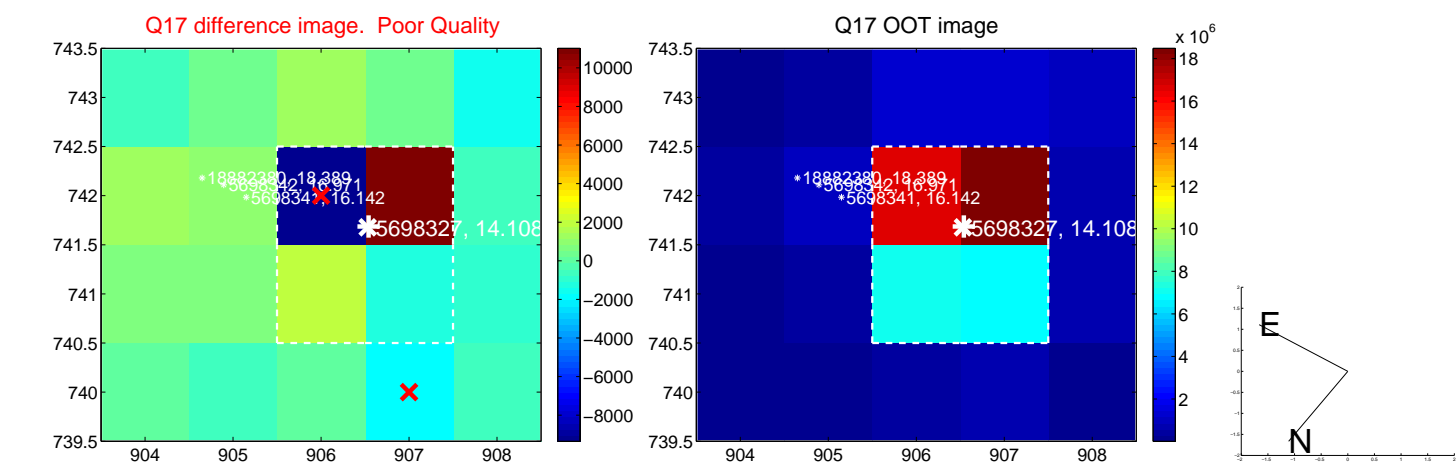
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



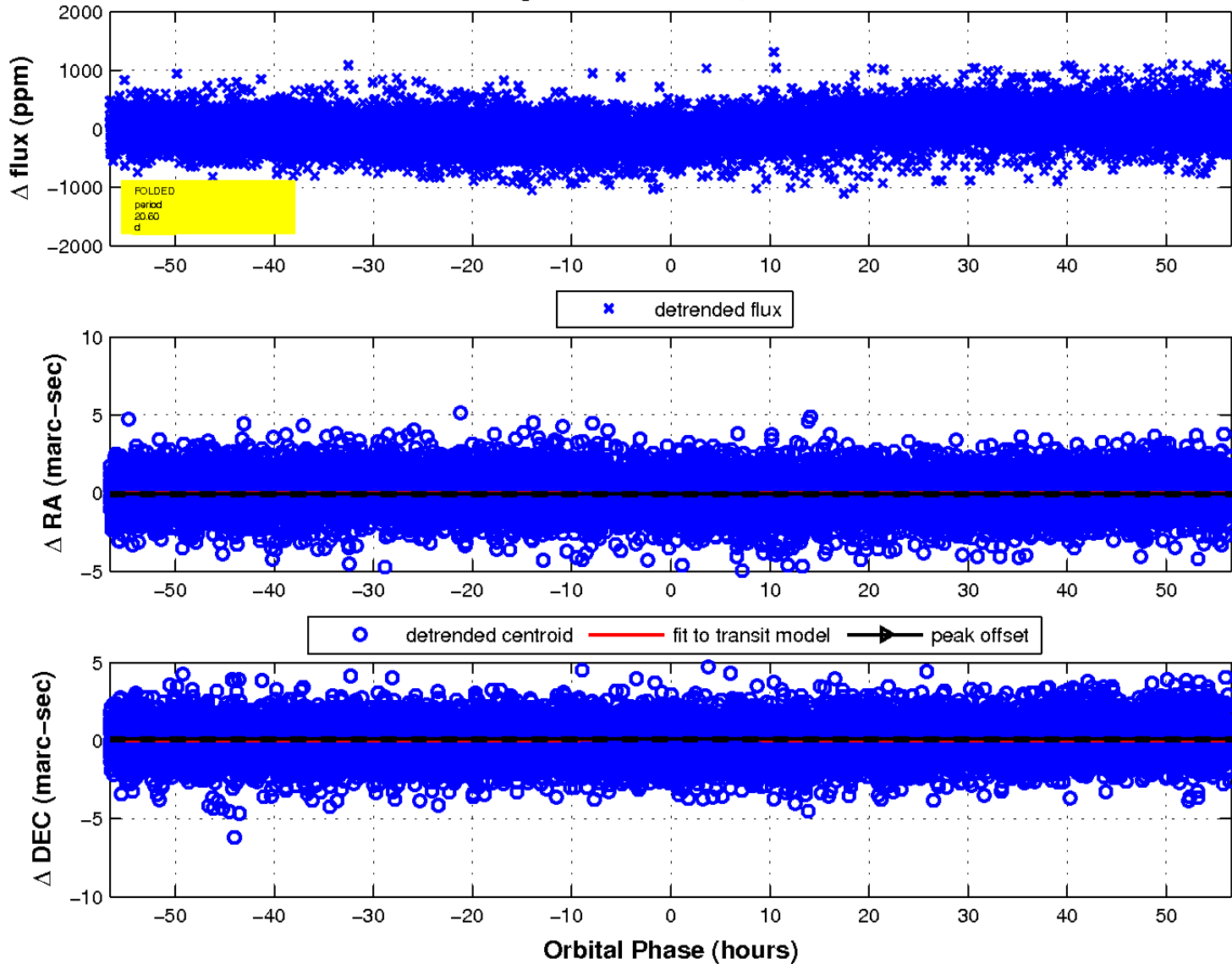
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

