

KIC 002708172

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})
002708172-01	OBS	6287.01	1.891187	132.744809	36.1	7.312	12.0	12.2	0.63	4267	0.37	178.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002708172-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH

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 for comment definitions.

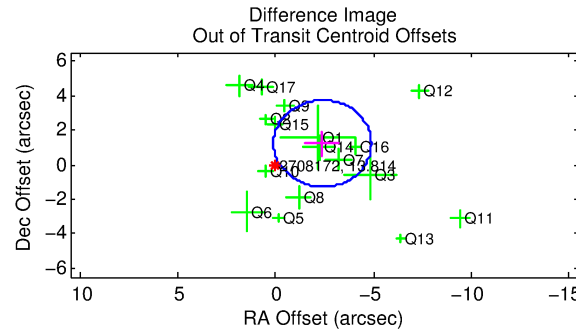
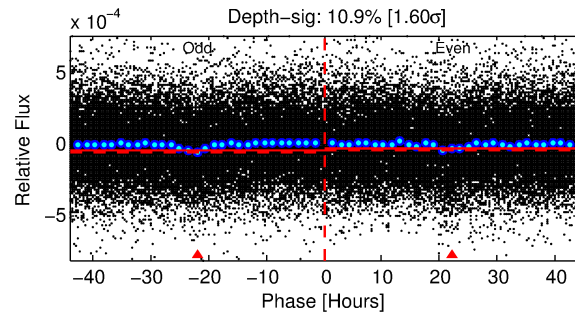
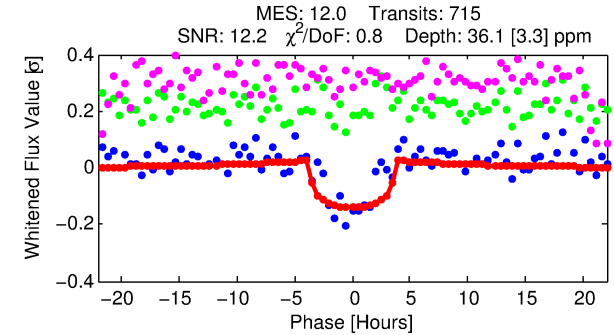
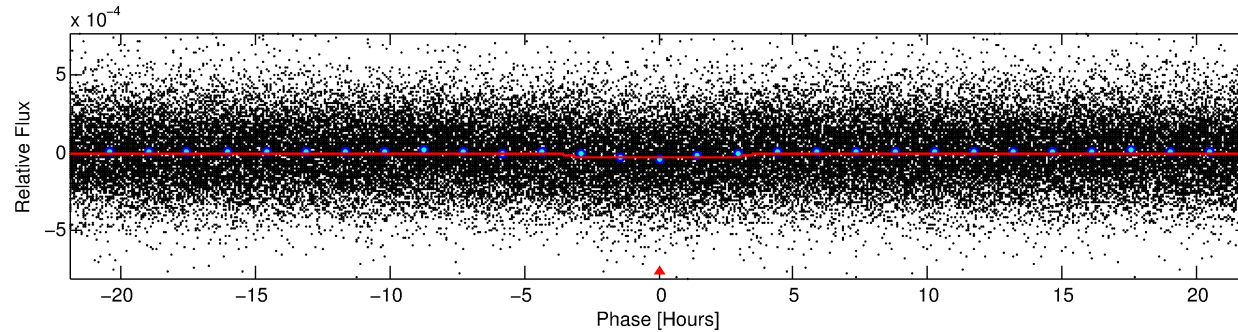
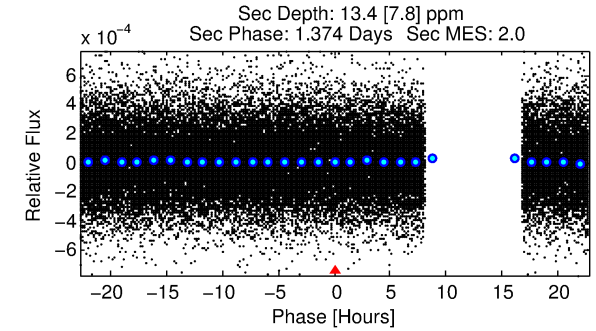
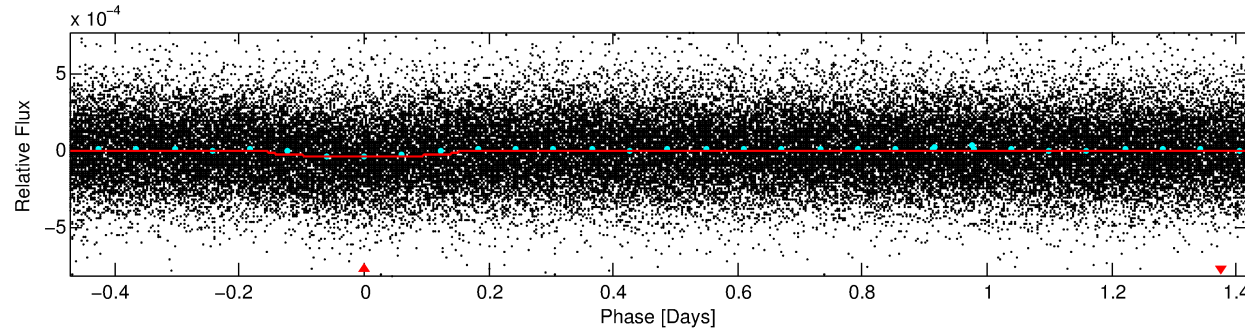
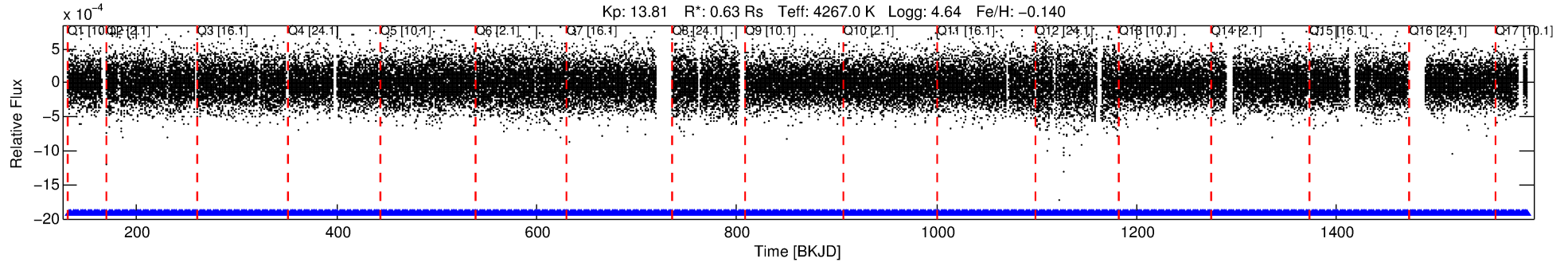
Ephemeris Match Information For 002708172-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
002708172-01	2708172	6286.01	2708156	1:1	161.0	-32	25	10.67	13.81	17803.00	Direct-PRF	0	3.12	3.56

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 2708172 Candidate: 1 of 1 Period: 1.891 d
KOI: K06287.01 Corr: 0.871



DV Fit Results:

Period = 1.89119 [0.00002] d
Epoch = 132.7448 [0.0062] BKJD
Rp/R* = 0.0054 [0.0030]
a/R* = 1.99 [2.54]
b = 0.32 [4.93]
Seff = 178.89 [27.41]
Teq = 933 [36] K
Rp = 0.37 [0.21] Re
a = 0.0255 [0.0018] AU
Ag = 35.78 [44.85] [0.78σ]
Teffp = 3526 [1107] K [2.34σ]

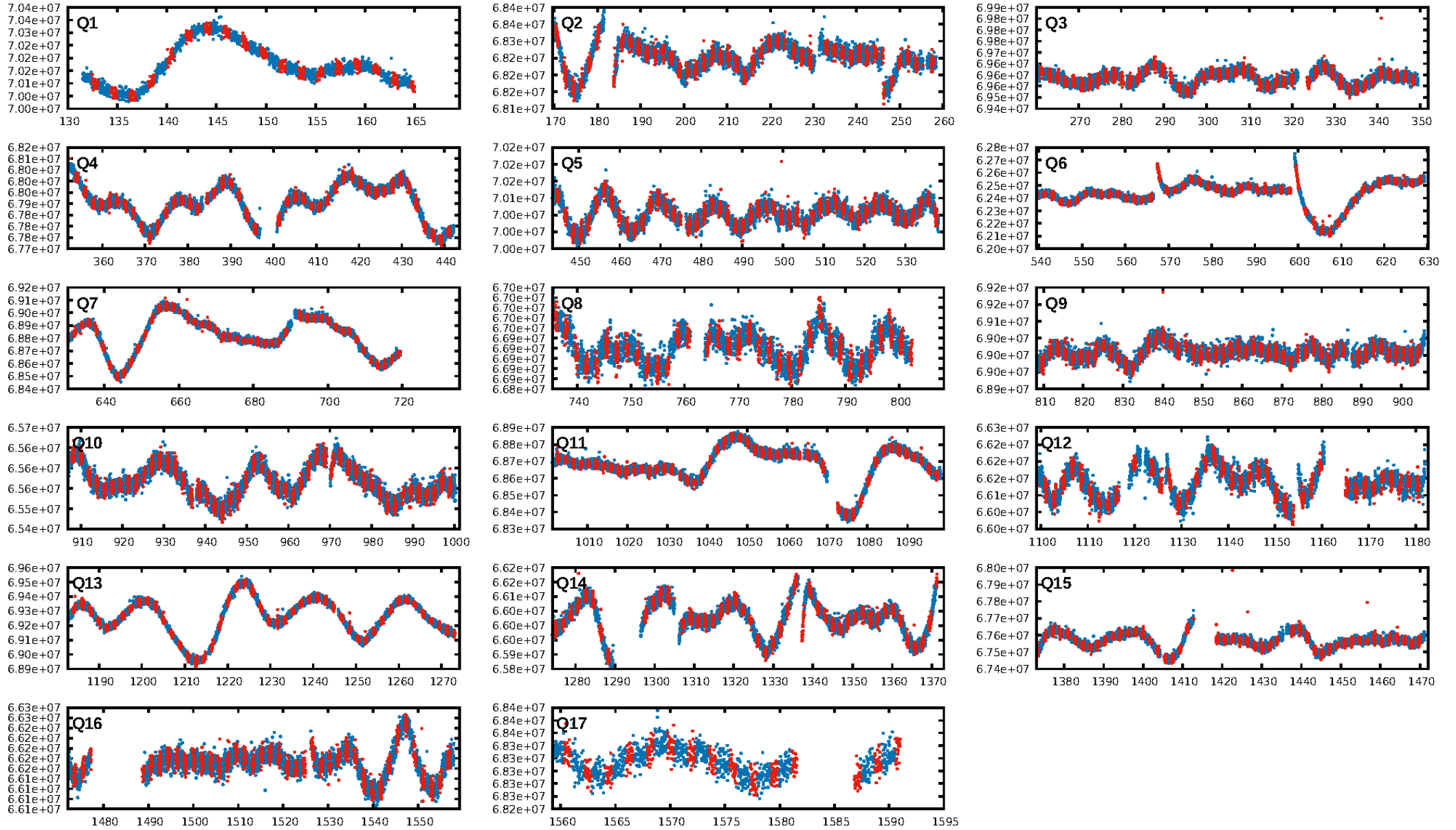
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.94e-28
RollingBand-fgt: 1.00 [682/682]
GhostDiagnostic-chr: -0.121
Centroid-sig: 0.0%
Centroid-so: 2.539 arcsec [3.03σ]
OotOffset-rm: 2.682 arcsec [3.21σ]
KicOffset-rm: 2.284 arcsec [2.73σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

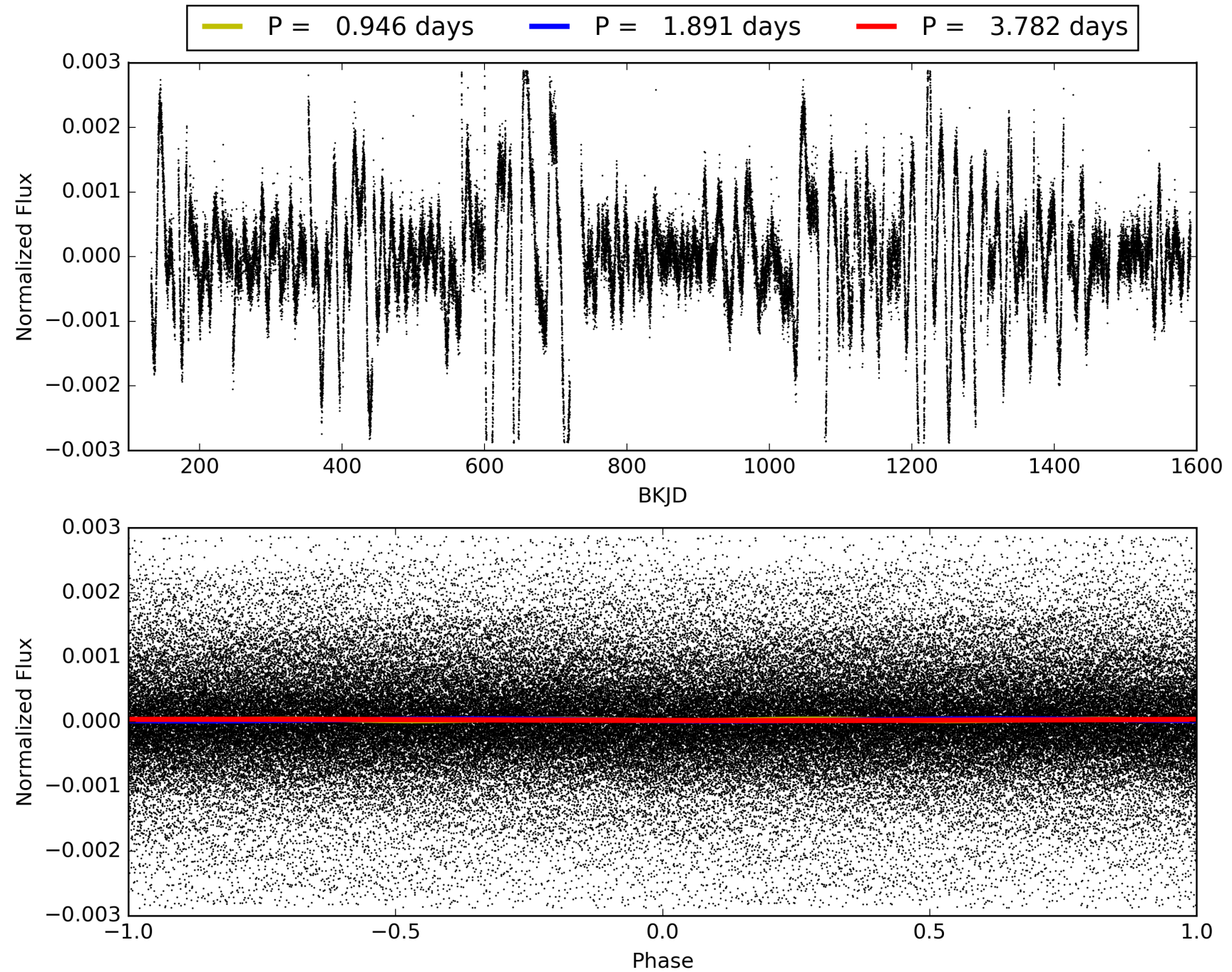
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:16:49 Z

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

TCE 002708172-01, PDC Light Curves

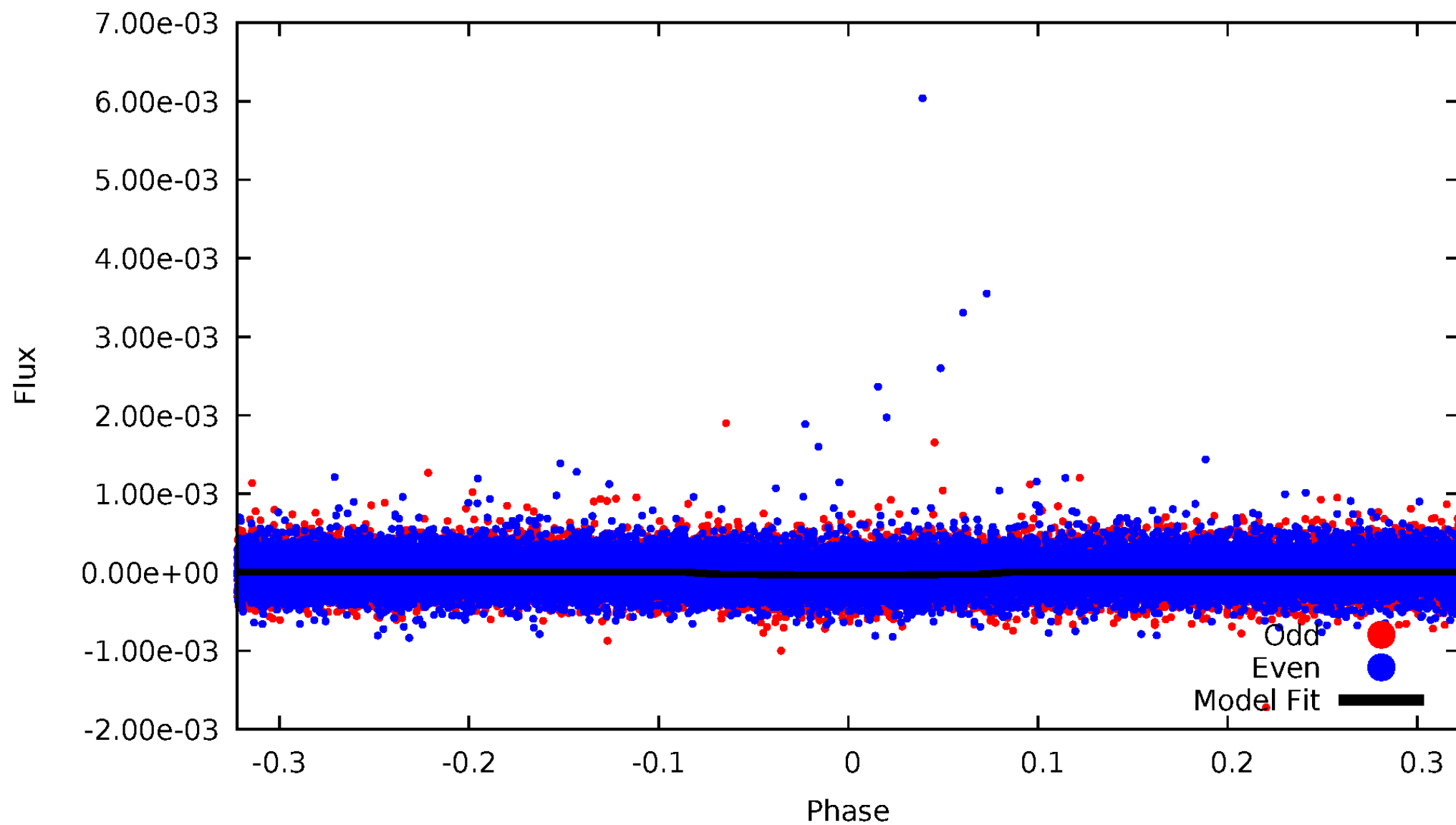


TCE 002708172-01



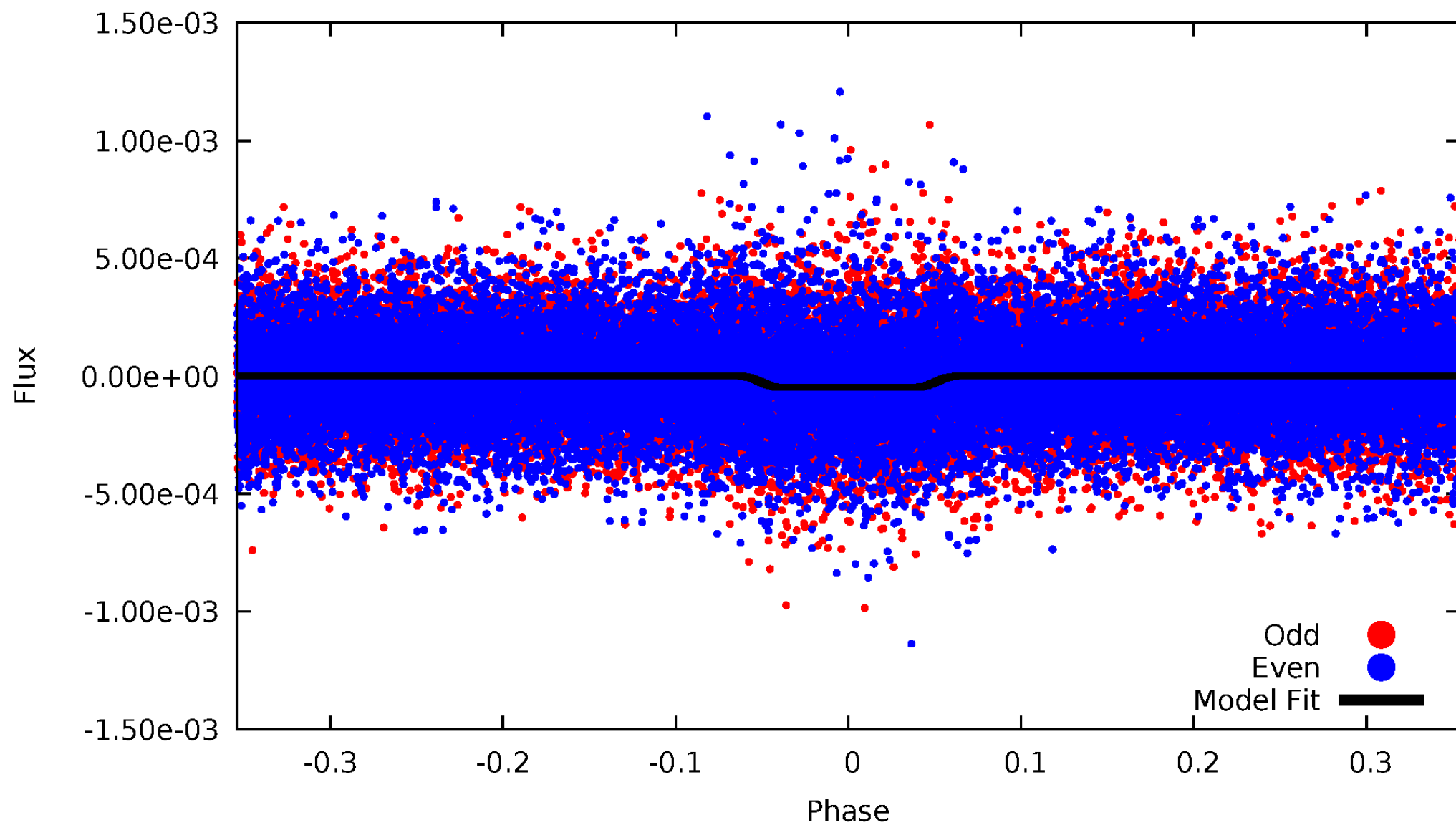
DV Odd/Even

TCE 002708172-01

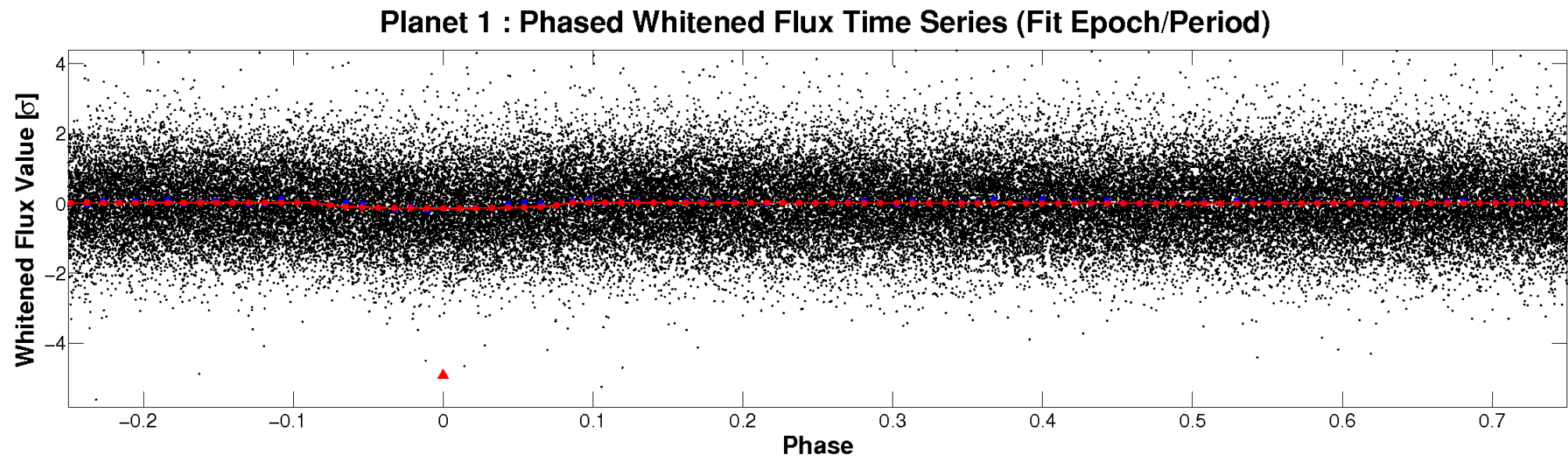
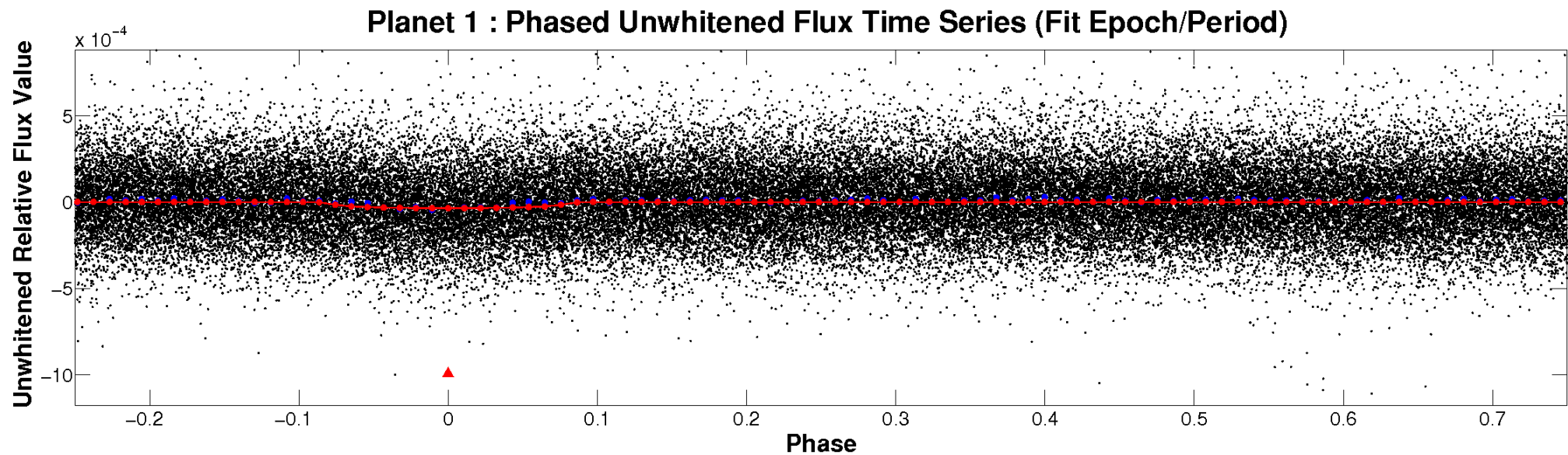


ALT Odd/Even

TCE 002708172-01

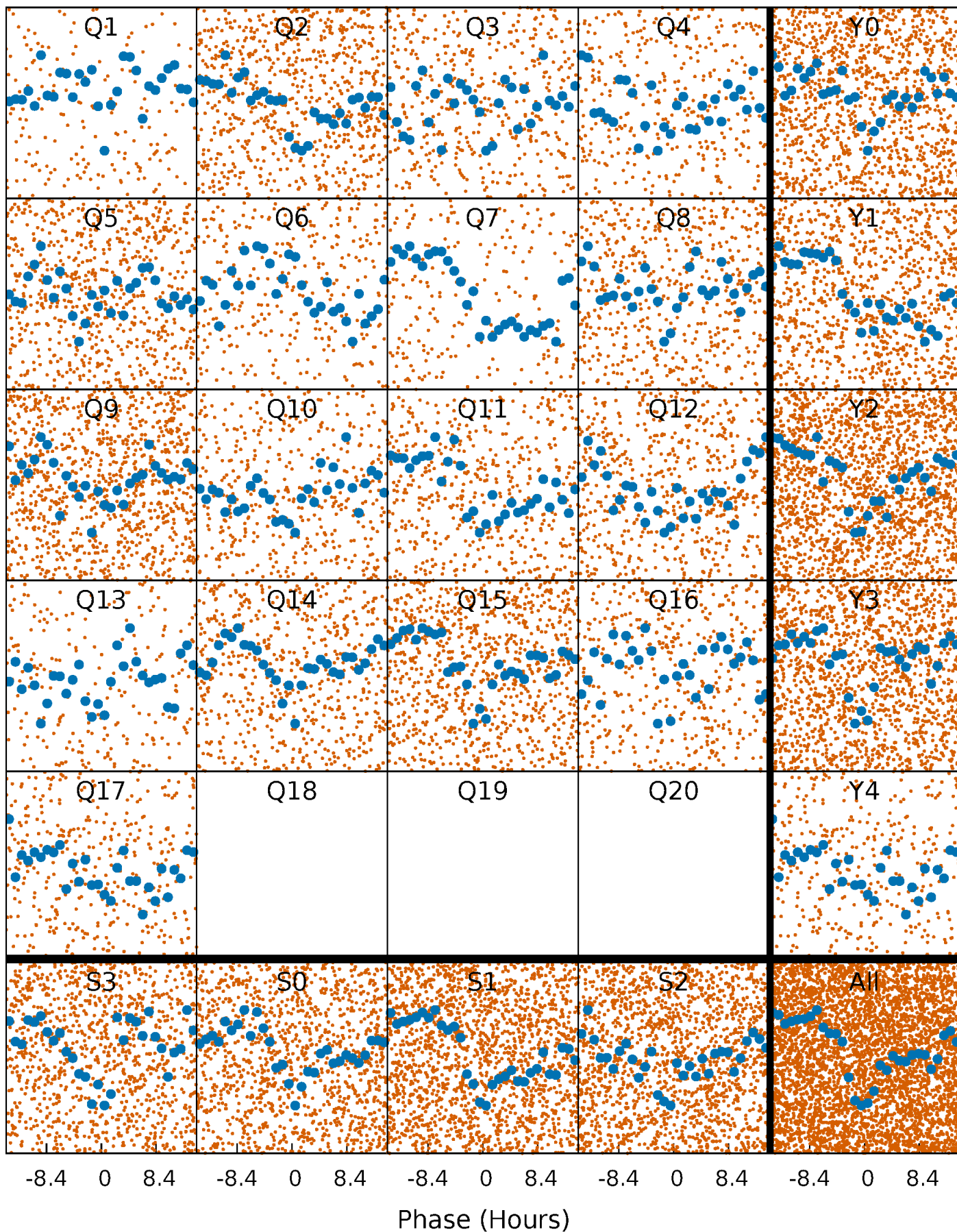


Non-Whitened Vs. Whitened Light Curve



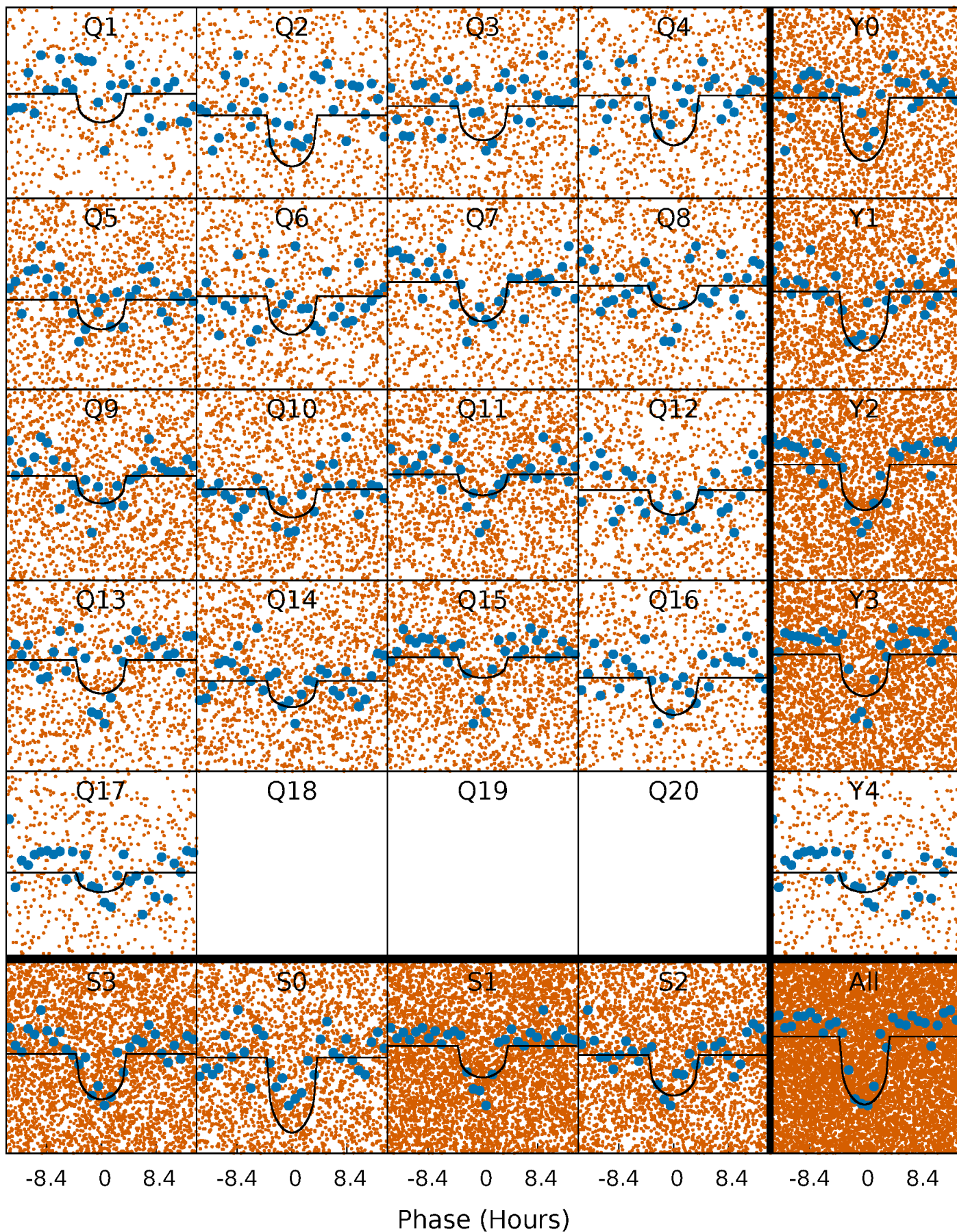
PDC Quarter-Phased Transit Curves

TCE 002708172-01 P= 1.891187 Days $T_0=132.744809$ (BKJD)



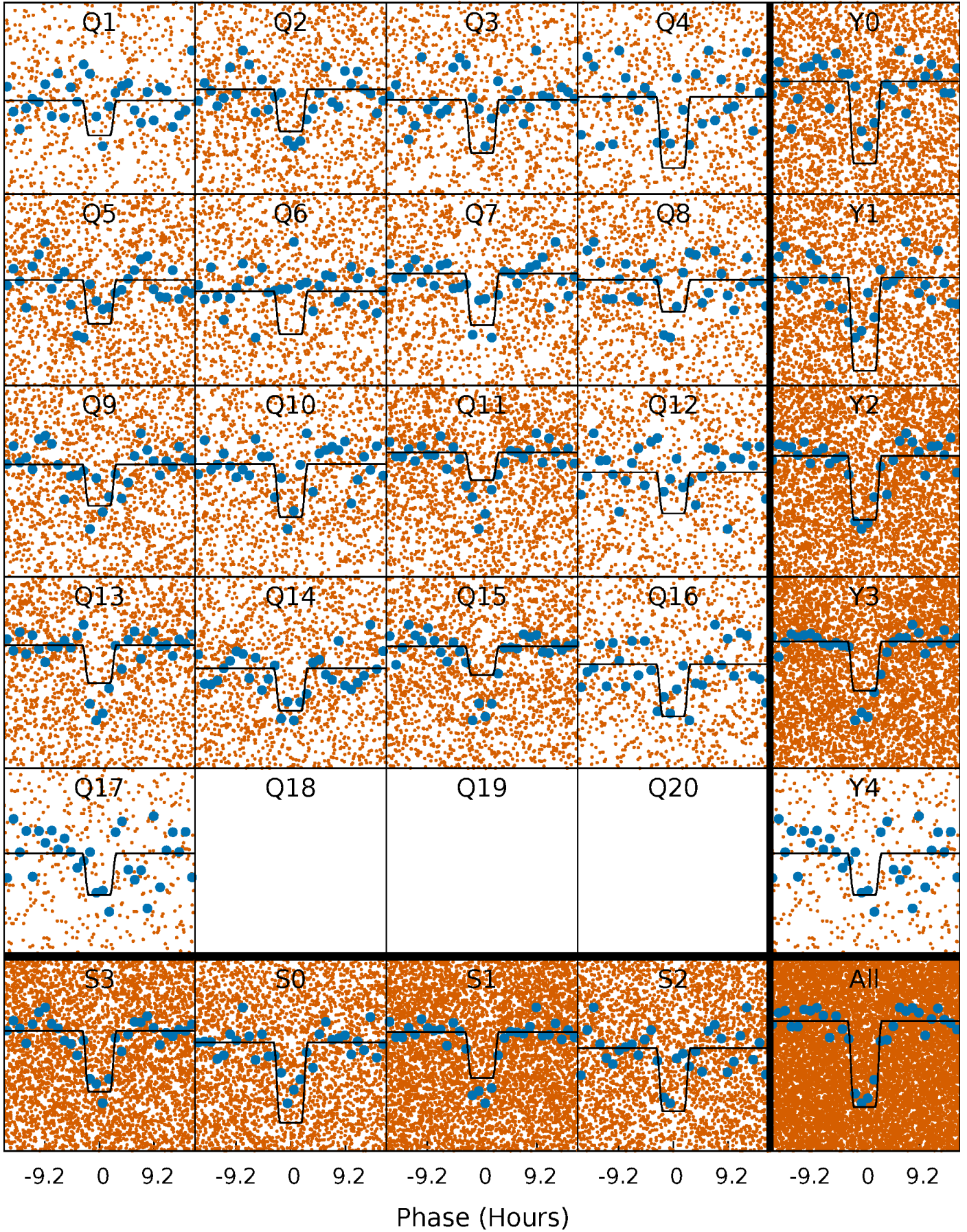
DV Quarter-Phased Transit Curves

TCE 002708172-01 P= 1.891187 Days $T_0=132.744809$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

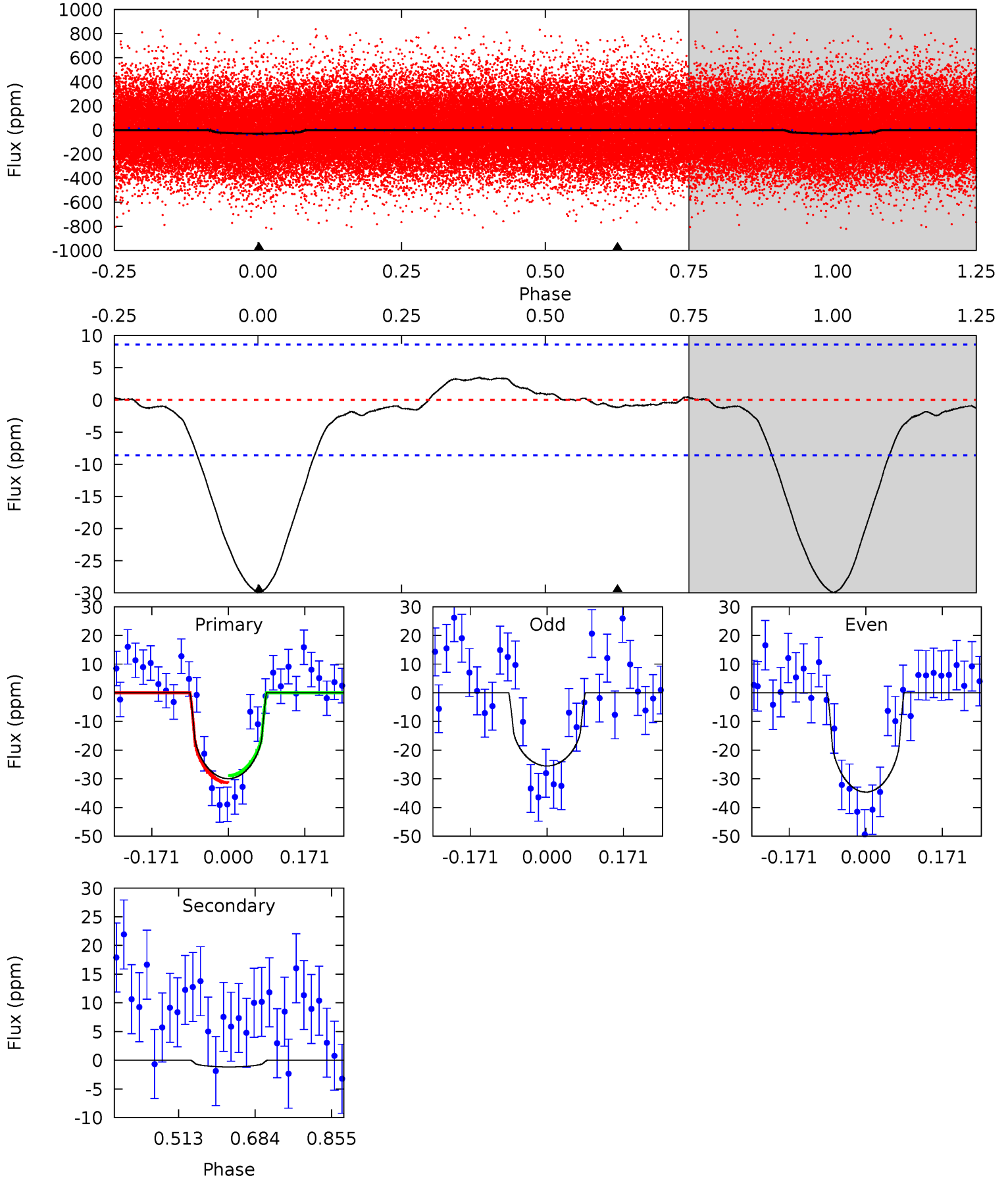
TCE 002708172-01 P= 1.891179 Days $T_0=132.749987$ (BKJD)



DV Model-Shift Uniqueness Test

002708172-01, P = 1.891187 Days, E = 130.853622 Days

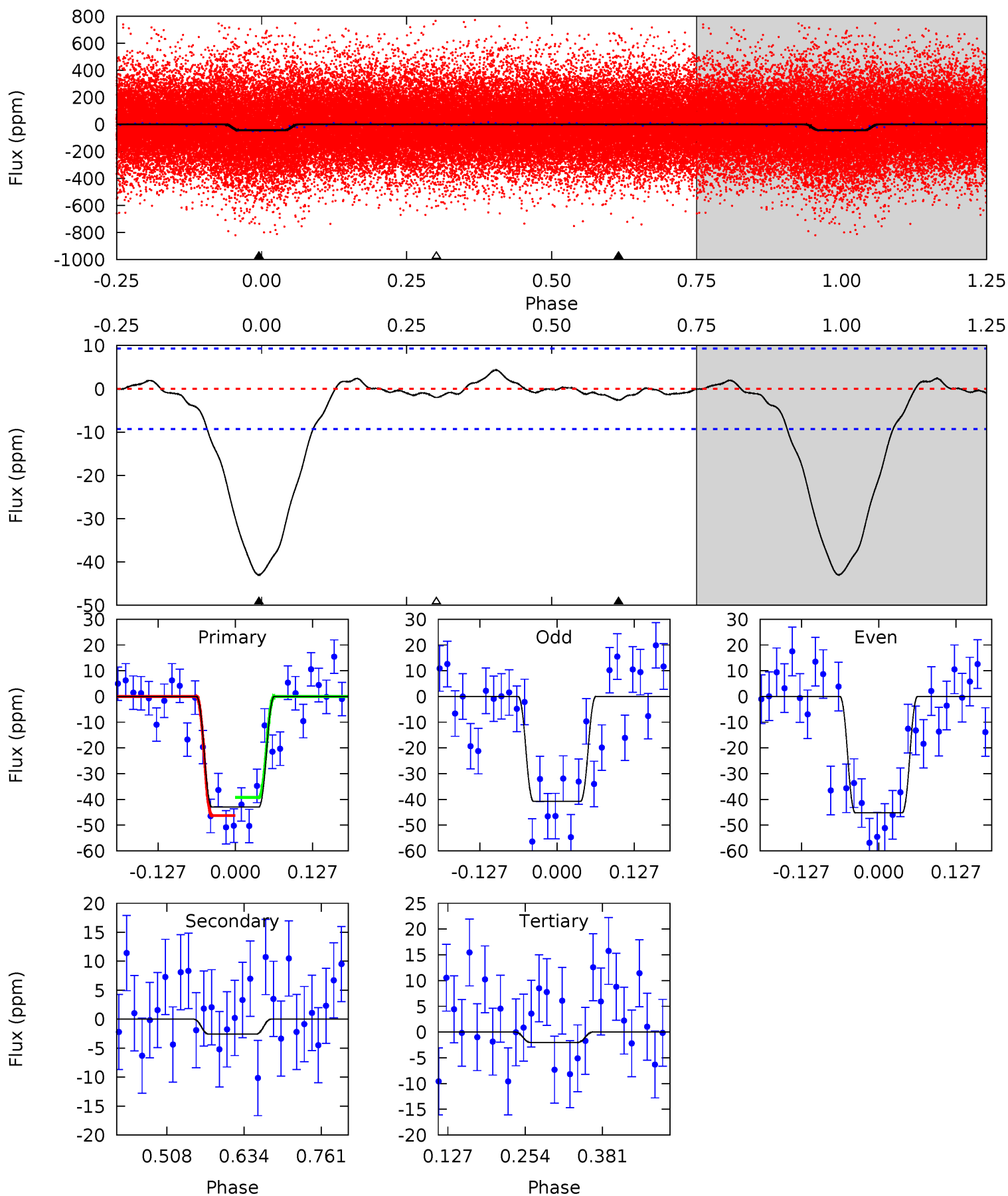
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	0.60	0	0	4.45	1.37	1.12	15.5	15.5	0.60	0.60	2.36	0.97	0.10	0.64



Alt Model-Shift Uniqueness Test

002708172-01, P = 1.891179 Days, E = 130.858808 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	1.26	0.98	0	4.51	1.53	0.72	19.9	20.9	0.28	1.26	1.07	0.99	0.09	1.71



Stellar Parameters For KIC 002708172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4267^{+128}_{-128}	$4.637^{+0.049}_{-0.021}$	$-0.140^{+0.300}_{-0.300}$	$0.627^{+0.045}_{-0.055}$	$0.622^{+0.062}_{-0.056}$	$3.554^{+0.759}_{-0.380}$
	+3%/-3%	+1%/-0%	+214%/-214%	+7%/-9%	+10%/-9%	+21%/-11%
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 002708172-01 / KOI 6287.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1 ± 2	$0.37^{+0.19}_{-0.18}$	1297^{+40}_{-48}	2503^{+726}_{-5017}	$2.593^{+11.168}_{-4.795}$
Alt.	-3 ± 2	$0.48^{+0.20}_{-0.21}$	1292^{+44}_{-45}	2660^{+506}_{-599}	$3.784^{+9.017}_{-3.099}$

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

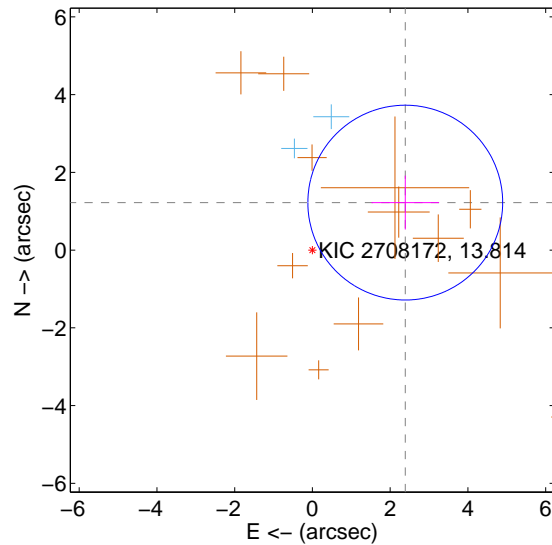
Supplemental centroid analysis for 002708172-01. Kepler magnitude: 13.81. Transit SNR 12.21

There are 2 quarters with good PRF difference image offsets

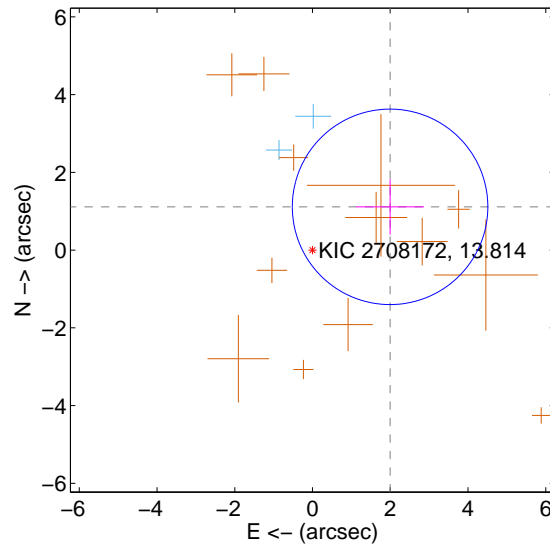
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.682 ± 0.835	3.21	-2.387 ± 0.868	1.222 ± 0.694
PRF-fit source offset from KIC position	2.284 ± 0.838	2.73	-1.995 ± 0.874	1.113 ± 0.709
photometric centroid source offset	2.54 ± 0.84	3.03	-2.52 ± 0.84	0.30 ± 1.01

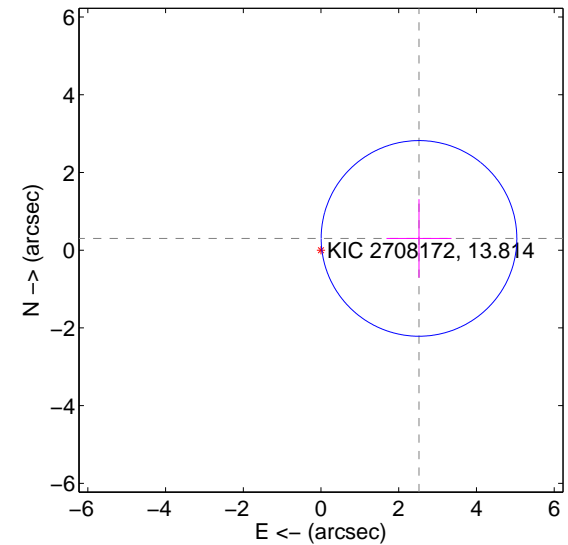
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

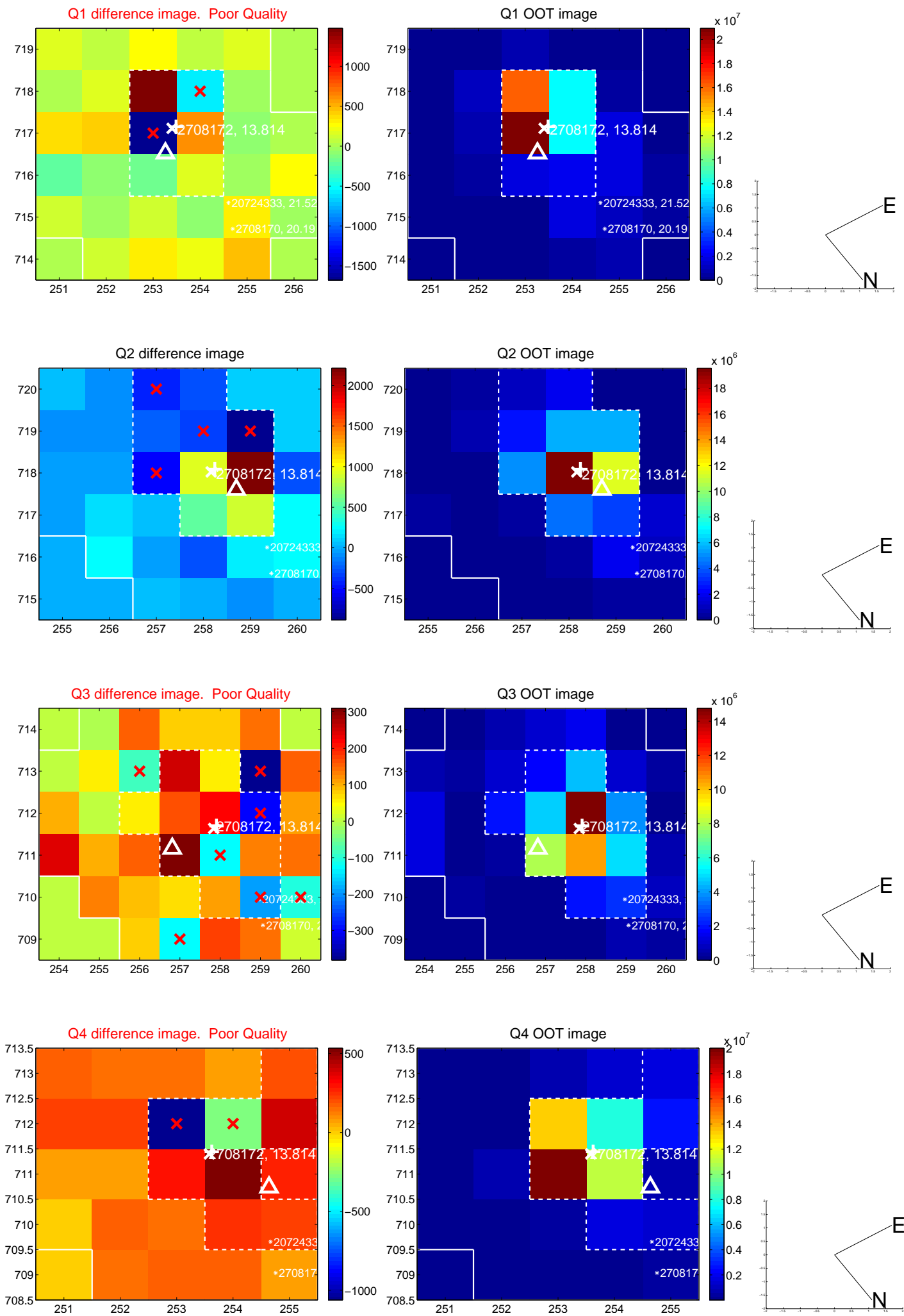


offset from photometric centroids

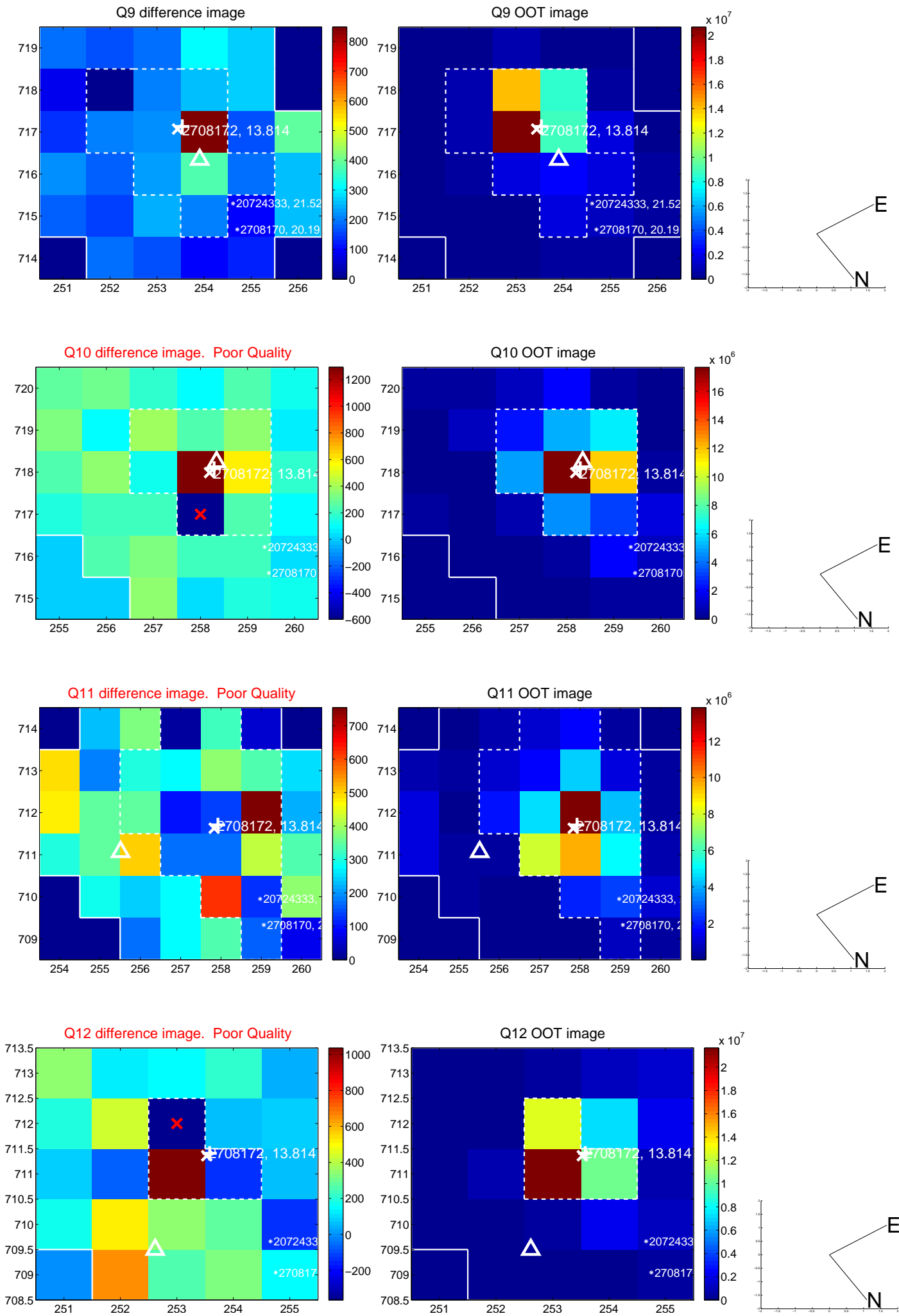


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

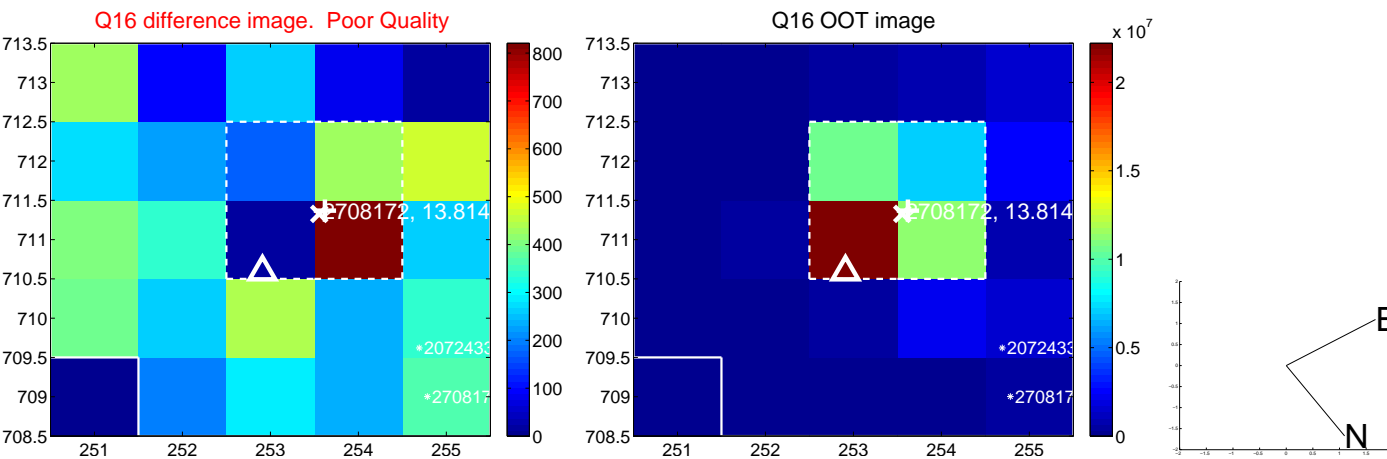
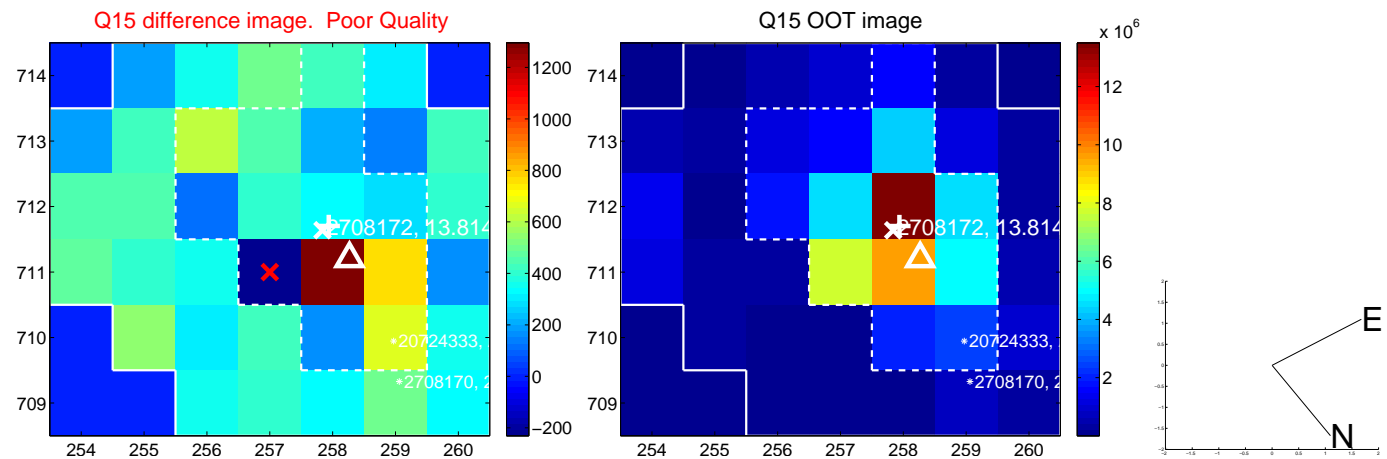
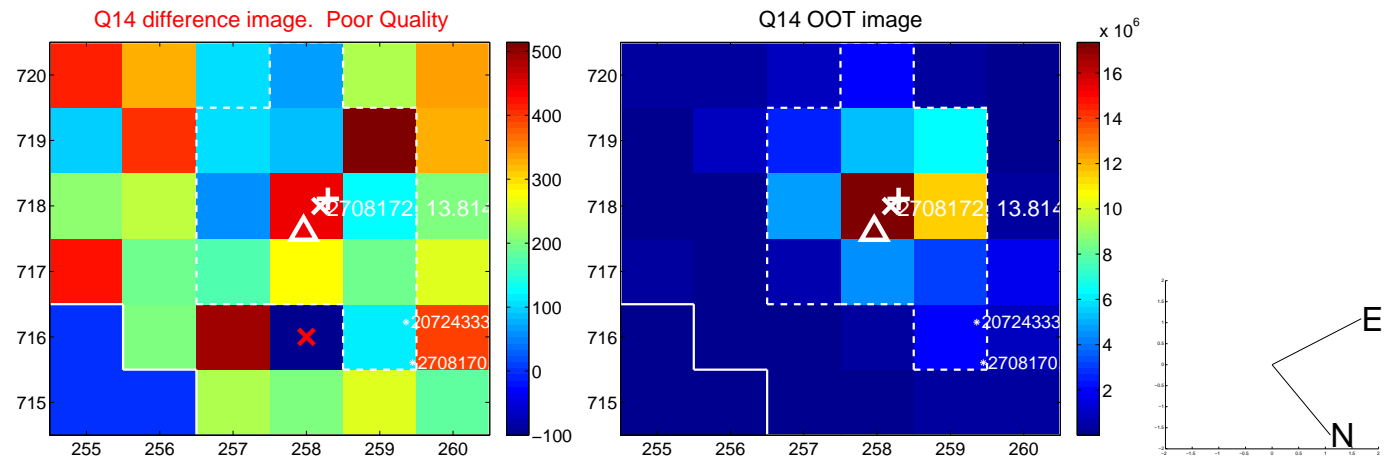
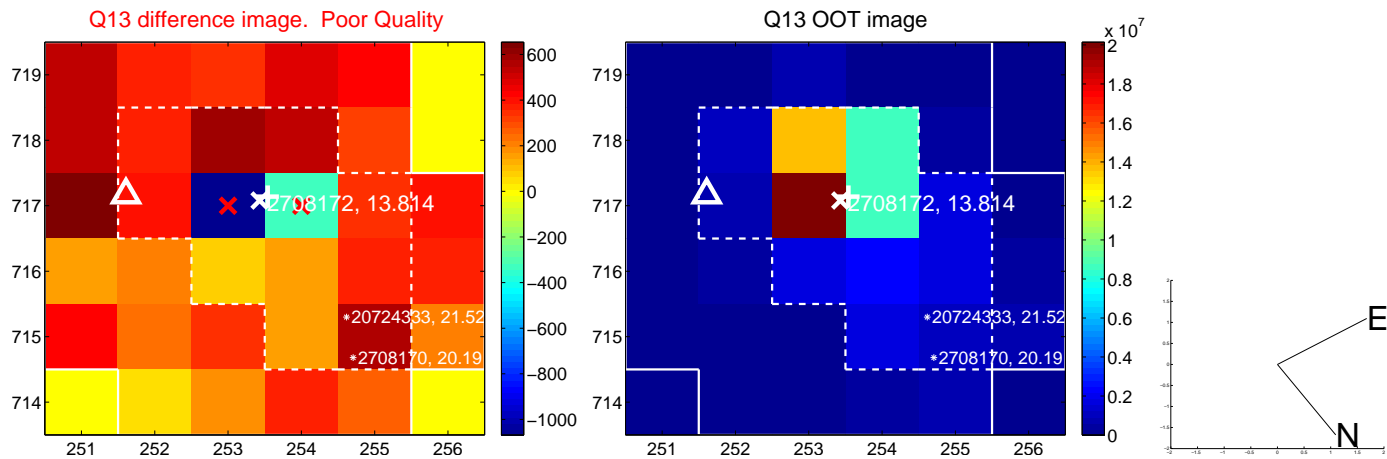
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



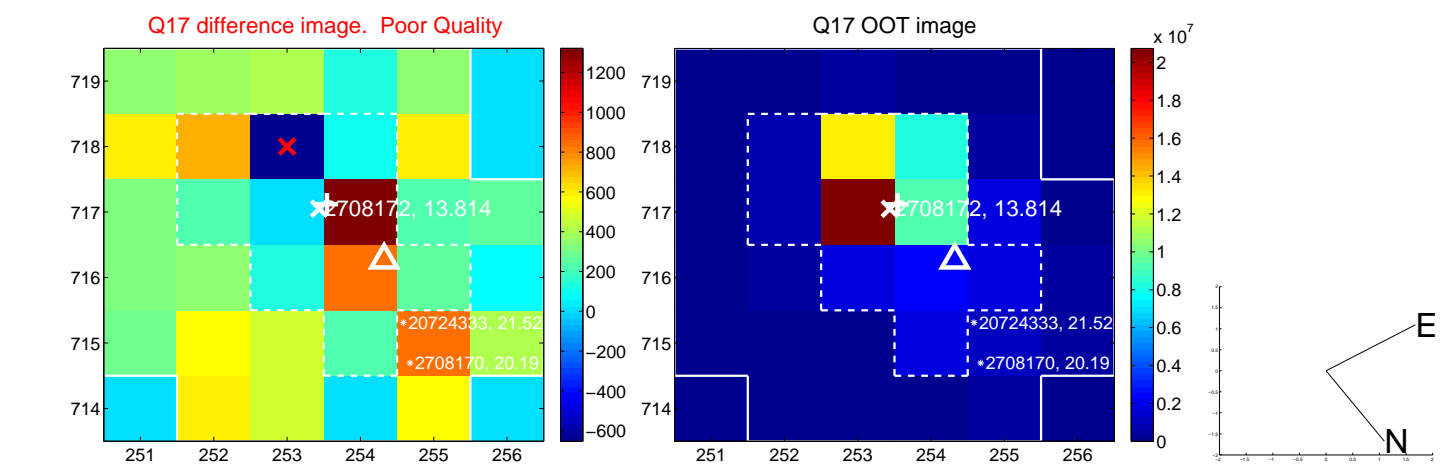
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



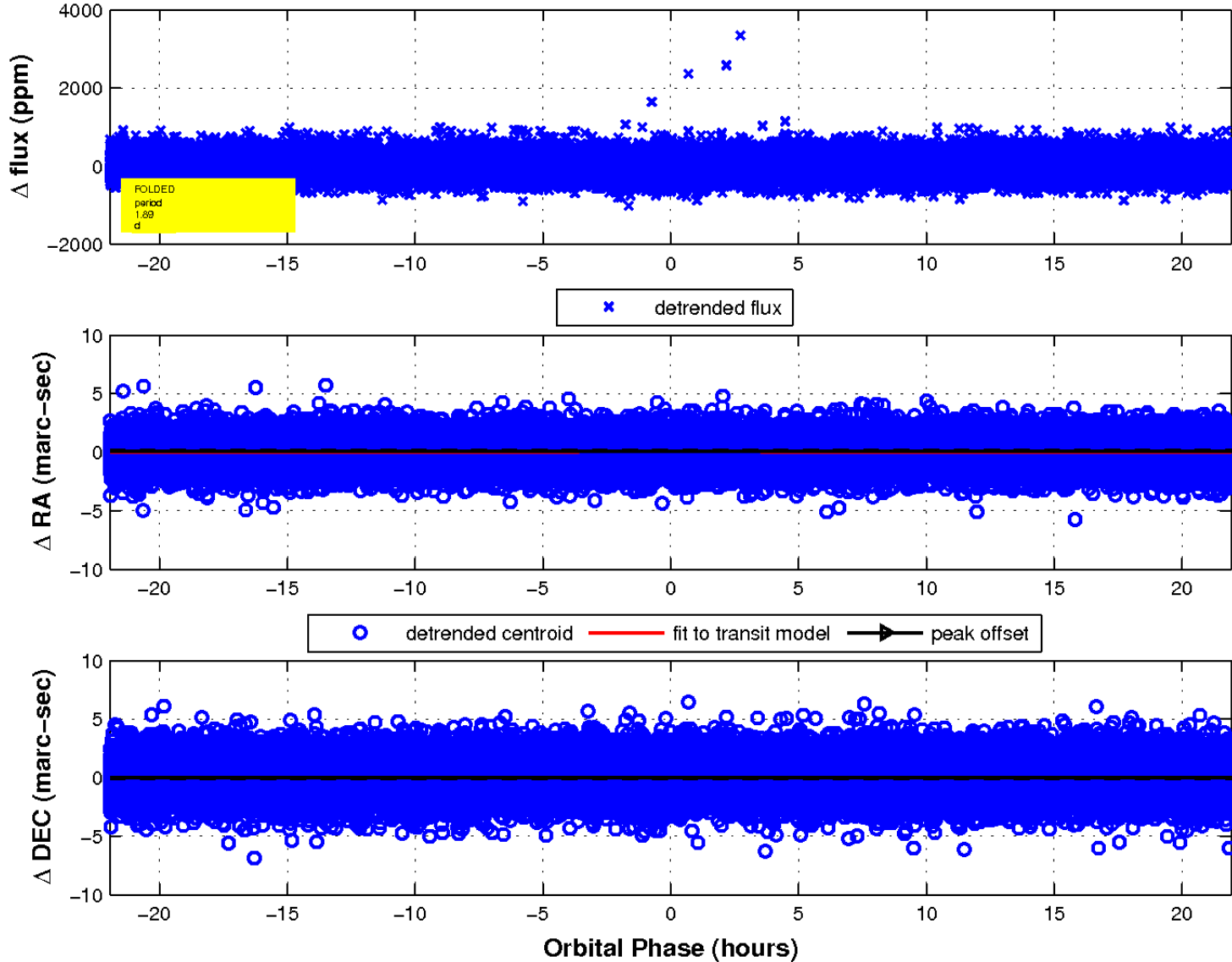
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

