

KIC 002708343

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})
002708343-01	OBS	4111.01	1.891302	132.668773	189.2	4.431	17.9	19.8	0.63	4476	1.07	221.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002708343-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—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 002708343-01

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
002708343-01	2708343	6286.01	2708156	1:1	160.5	37	16	10.67	15.17	3391.10	Direct-PRF	0	1.28	0.84

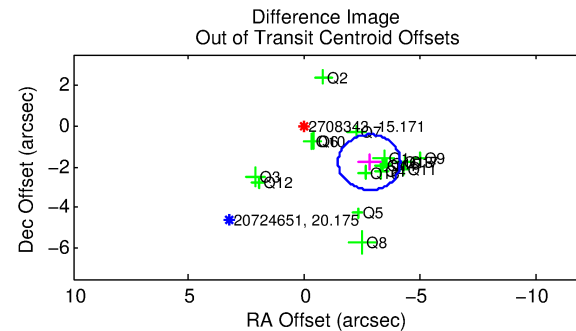
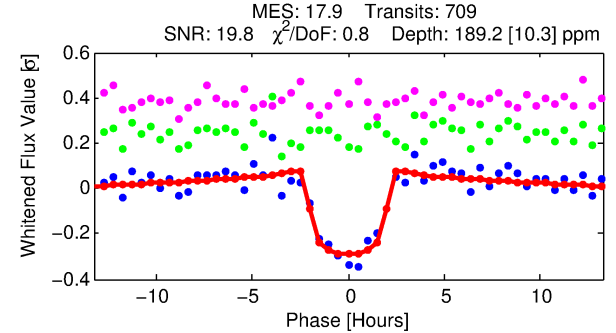
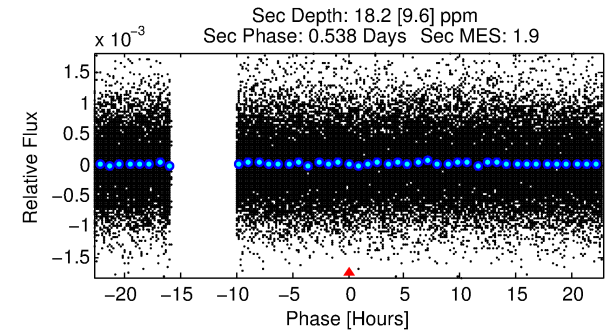
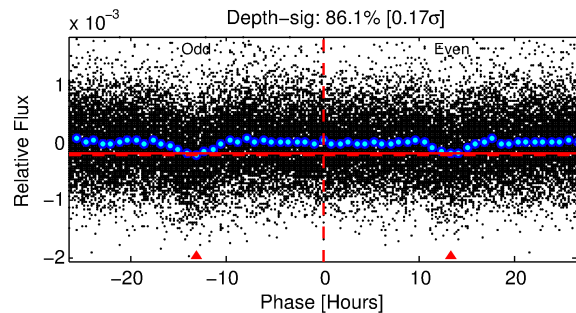
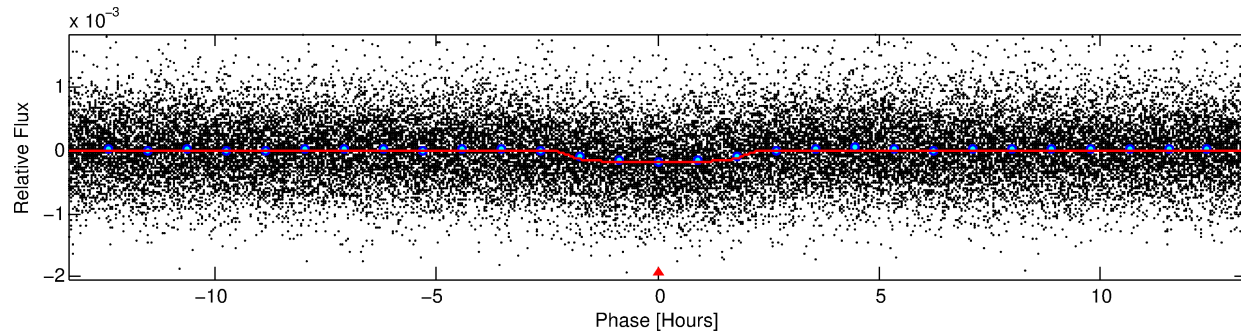
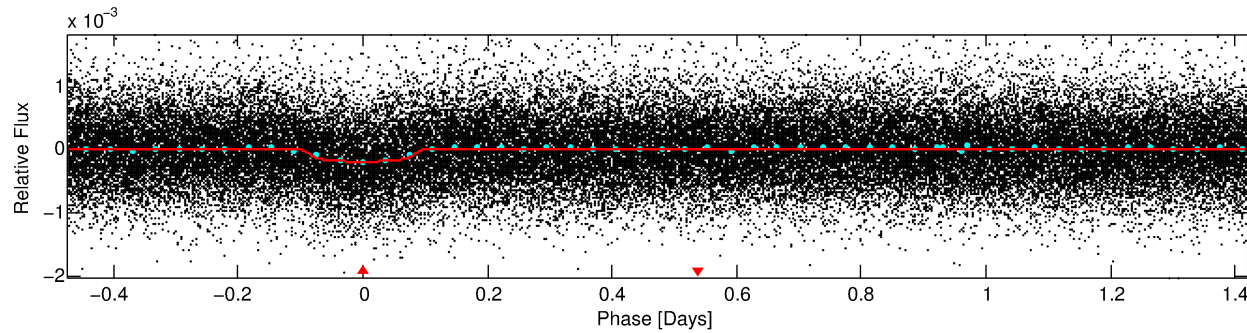
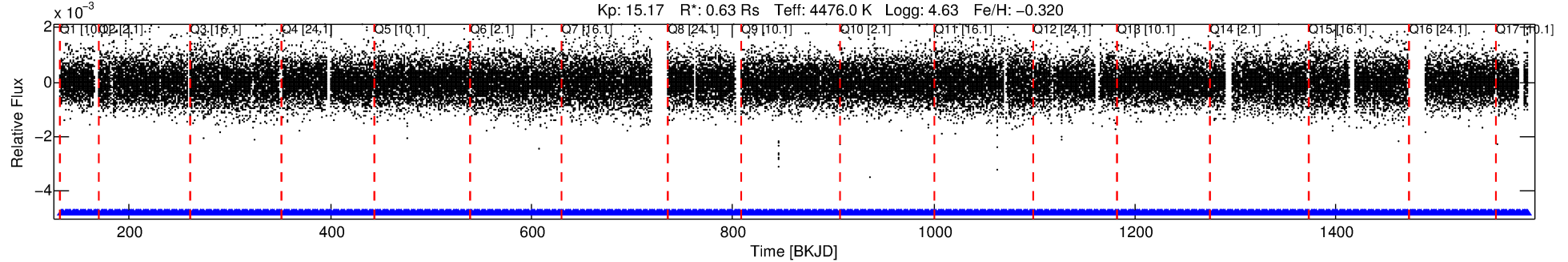
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 2708343 Candidate: 1 of 1 Period: 1.891 d

KOI: K04111.01 Corr: 0.982

Kp: 15.17 R*: 0.63 Rs Teff: 4476.0 K Logg: 4.63 Fe/H: -0.320



DV Fit Results:

Period = 1.89130 [0.00001] d
Epoch = 132.6688 [0.0024] BKJD
Rp/R* = 0.0155 [0.0032]
a/R* = 1.80 [0.98]
b = 0.90 [0.17]
Seff = 221.33 [34.27]
Teff = 984 [38] K
Rp = 1.07 [0.24] Re
a = 0.0255 [0.0018] AU
Ag = 5.70 [3.87] [1.22σ]
Teffp = 2350 [400] K [3.40σ]

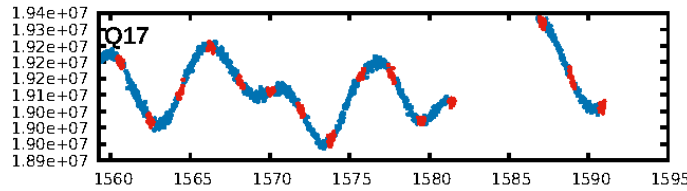
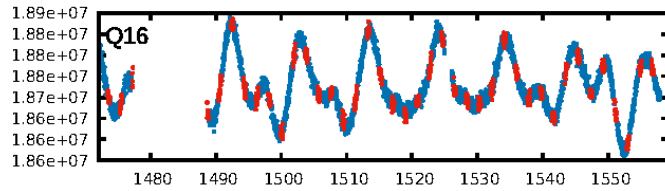
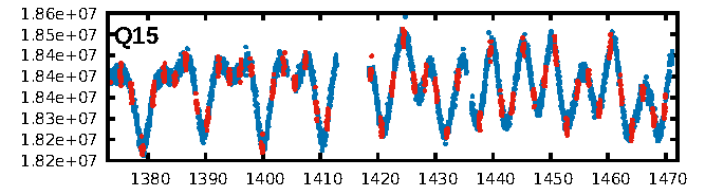
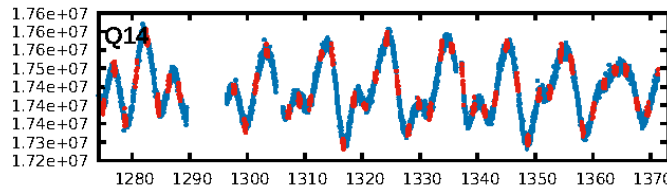
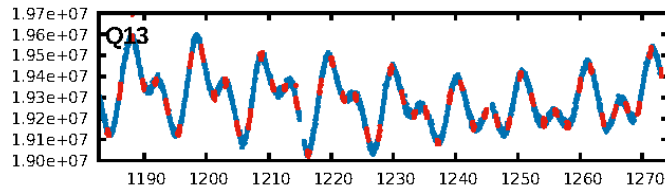
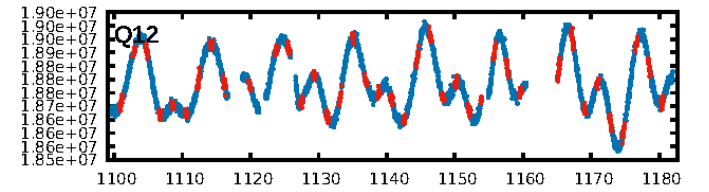
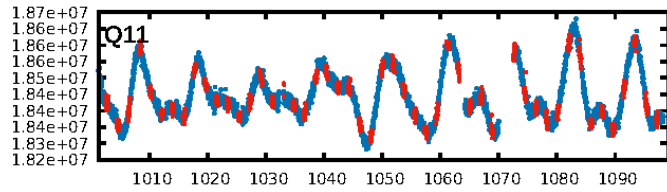
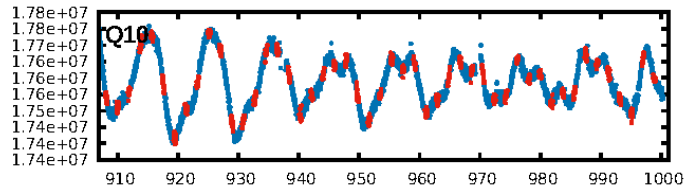
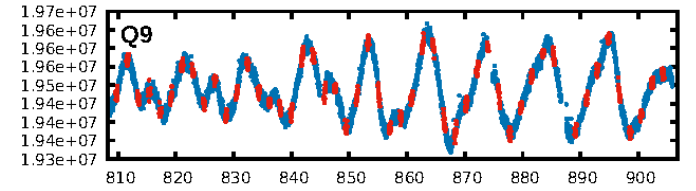
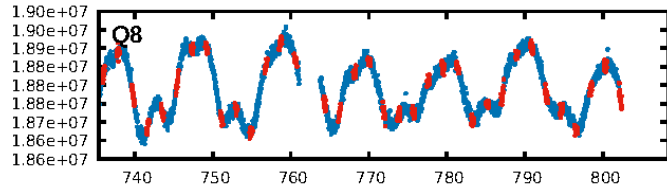
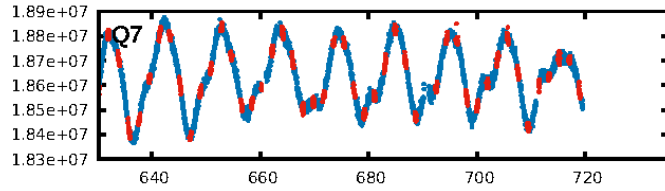
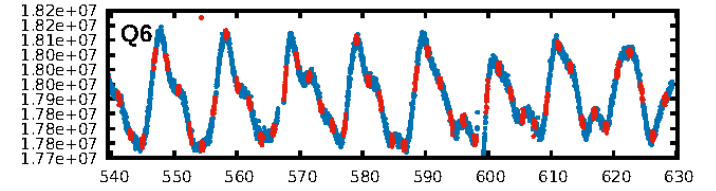
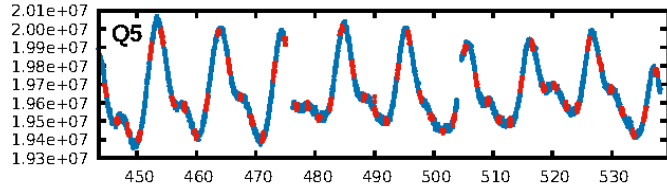
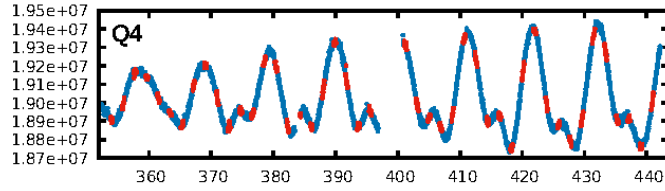
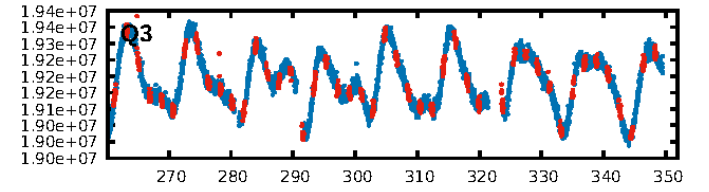
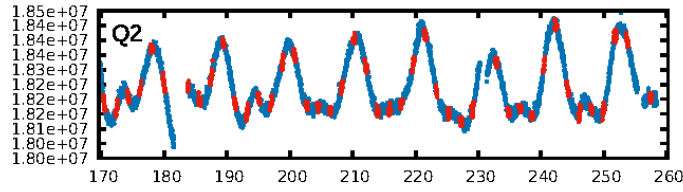
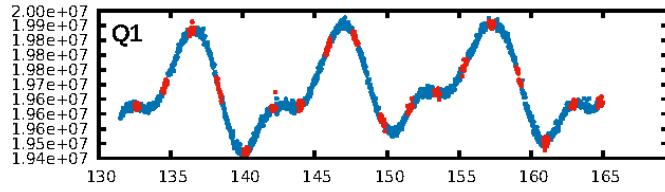
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.92e-61
RollingBand-fgt: 1.00 [676/676]
GhostDiagnostic-chr: 0.05491
Centroid-sig: 0.0%
Centroid-so: 3.012 arcsec [5.44σ]
OotOffset-rm: 3.326 arcsec [7.39σ]
KicOffset-rm: 3.378 arcsec [7.30σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.18 [3/17]
DiffImageOverlap-fno: 1.00 [17/17]

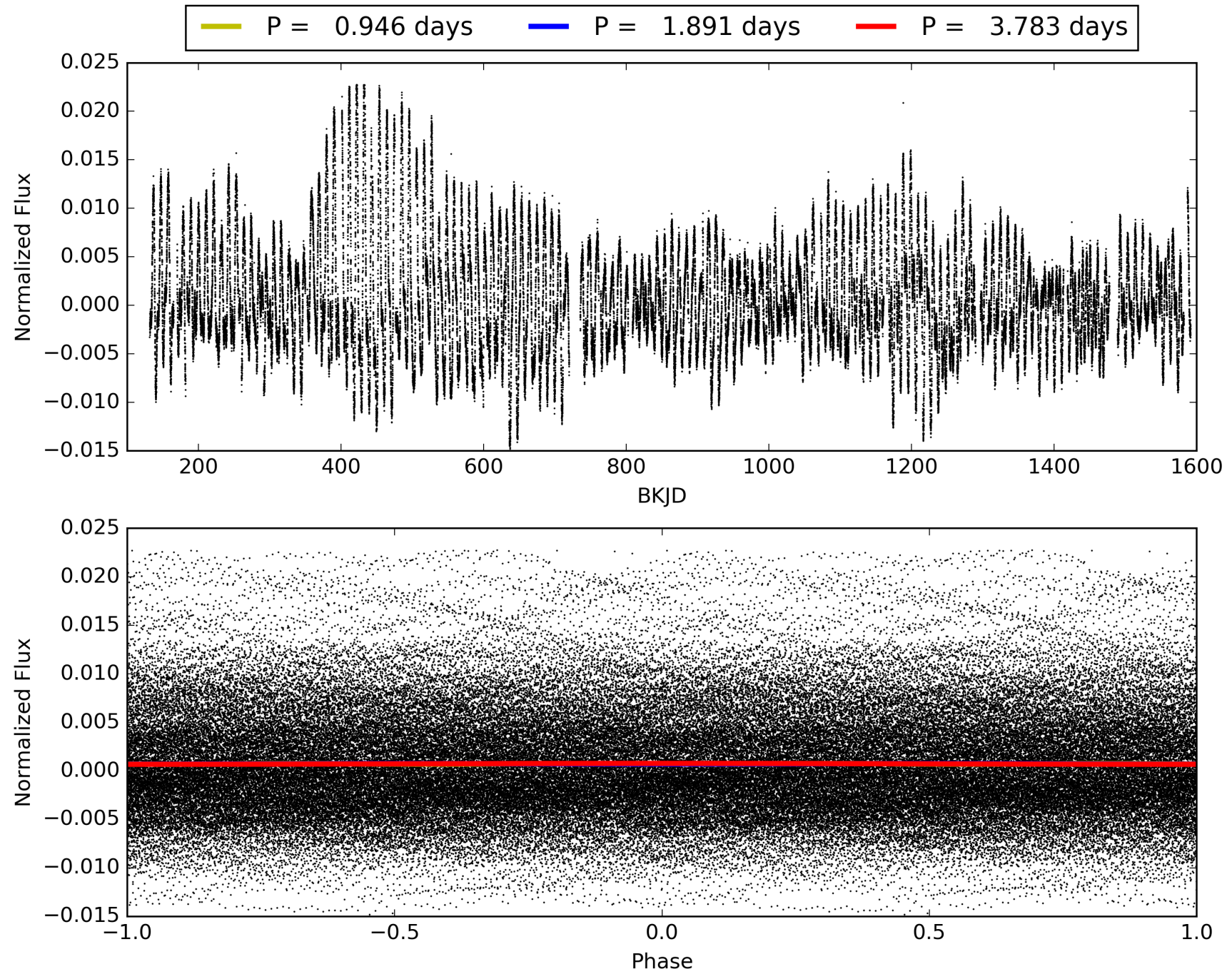
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:27:52 Z

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

TCE 002708343-01, PDC Light Curves

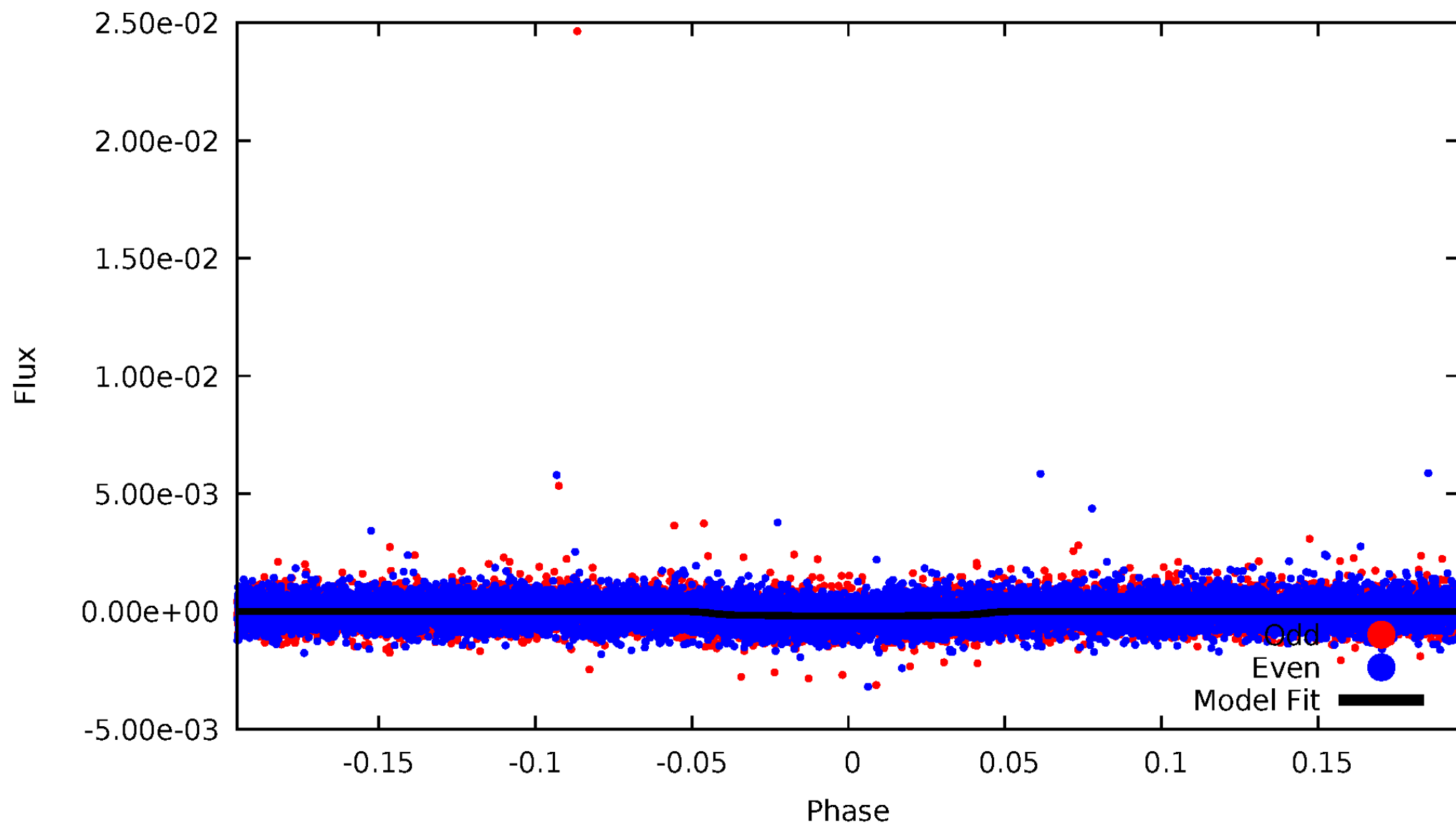


TCE 002708343-01



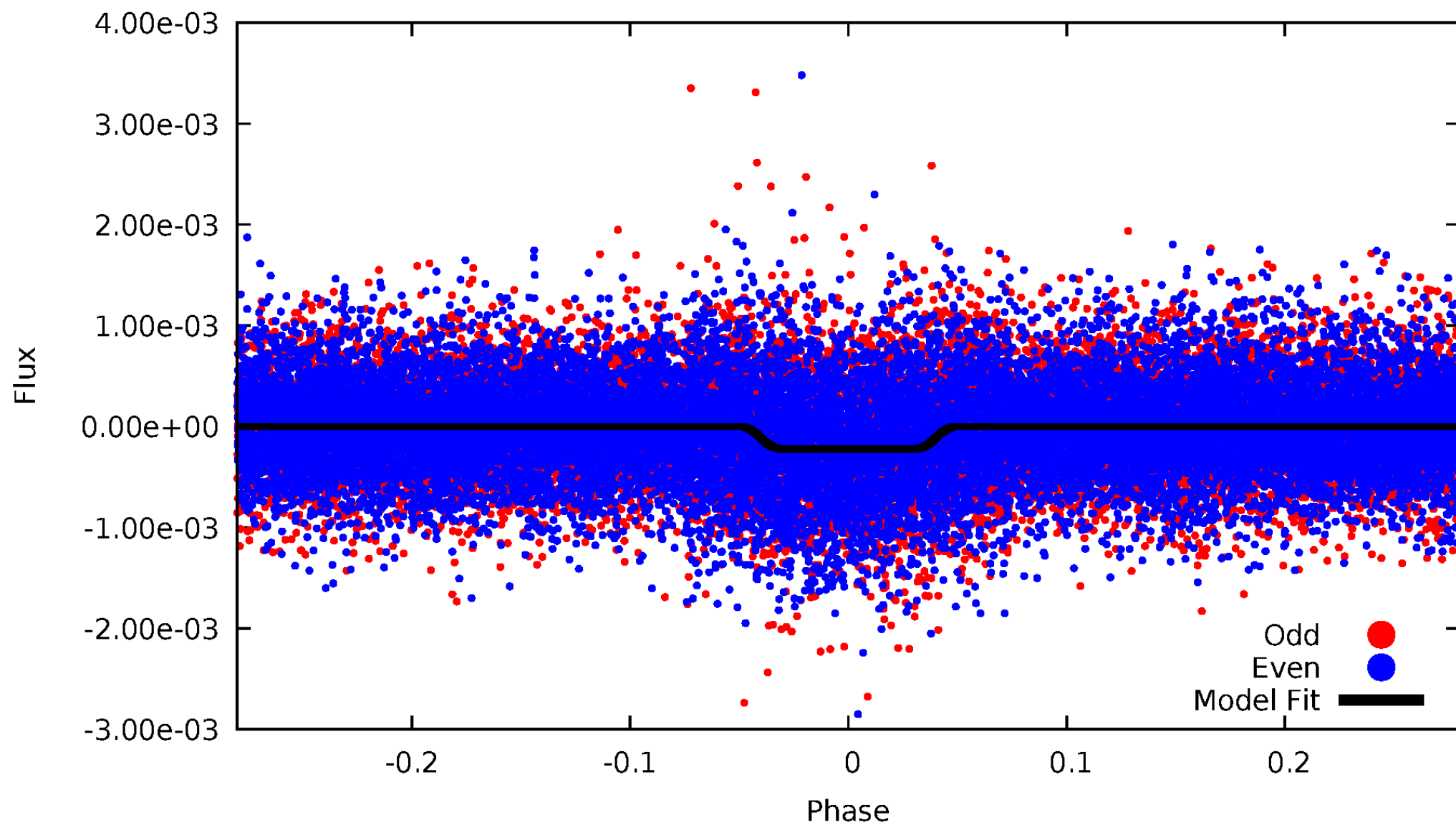
DV Odd/Even

TCE 002708343-01



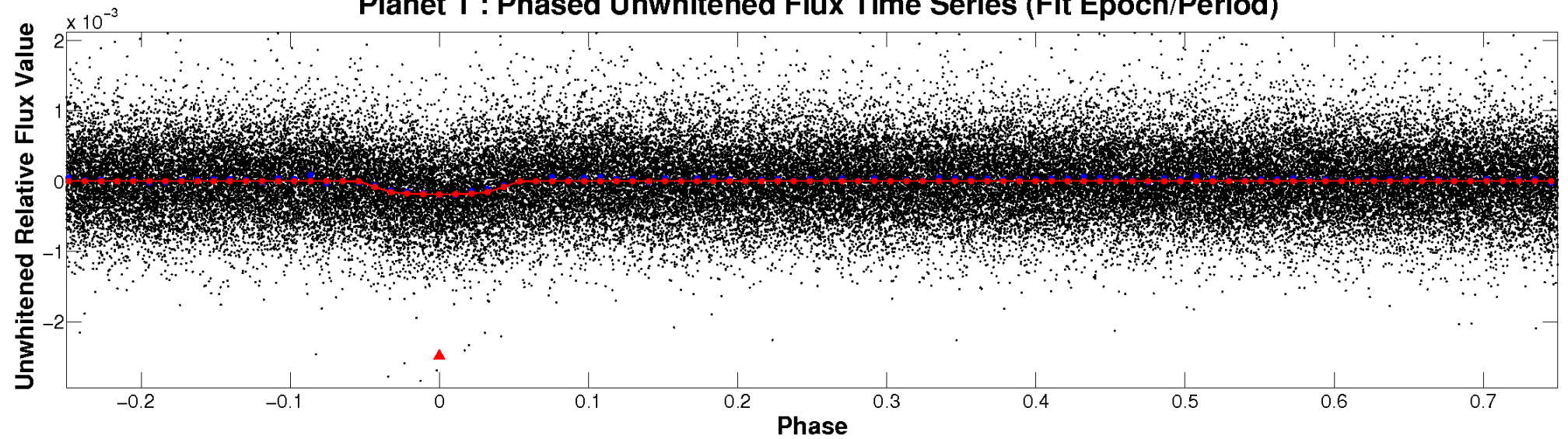
ALT Odd/Even

TCE 002708343-01

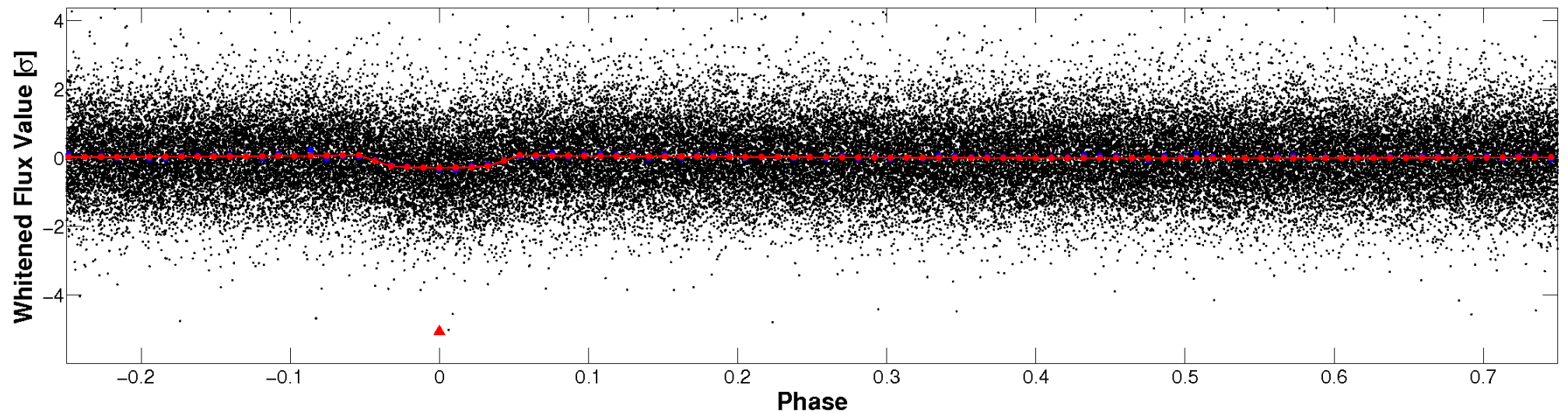


Non-Whitened Vs. Whitened Light Curve

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

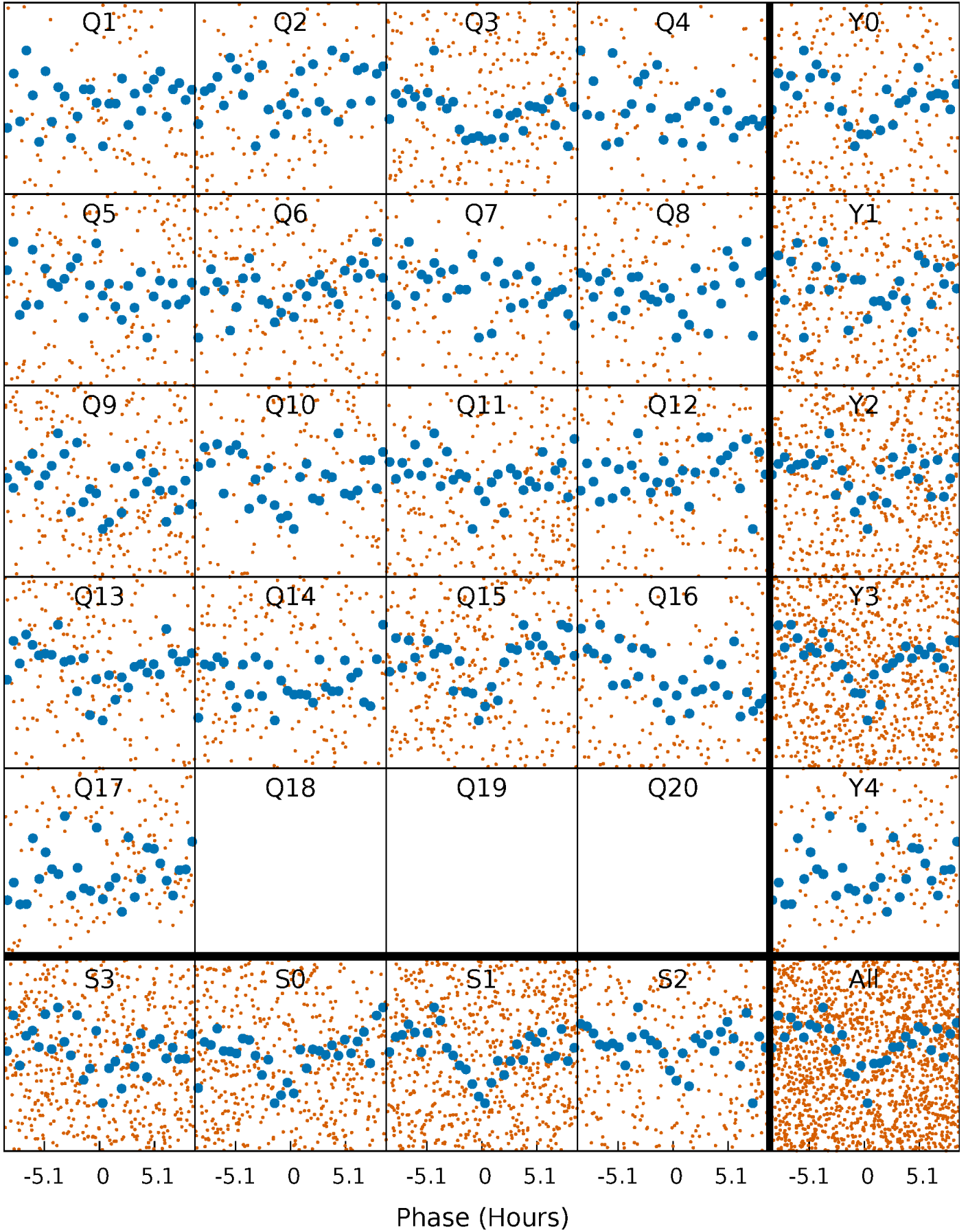


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



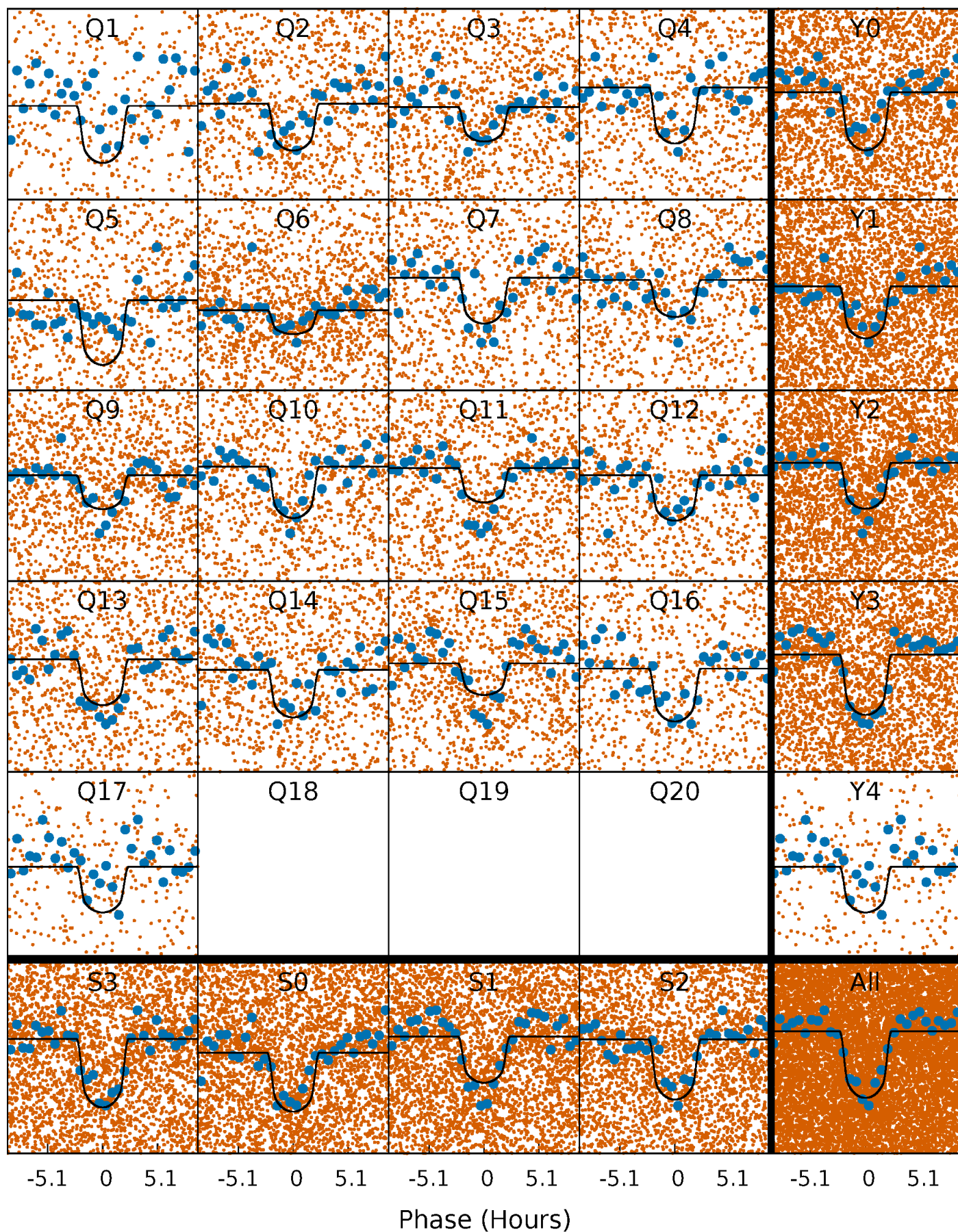
PDC Quarter-Phased Transit Curves

TCE 002708343-01 P= 1.891302 Days $T_0=132.668773$ (BKJD)



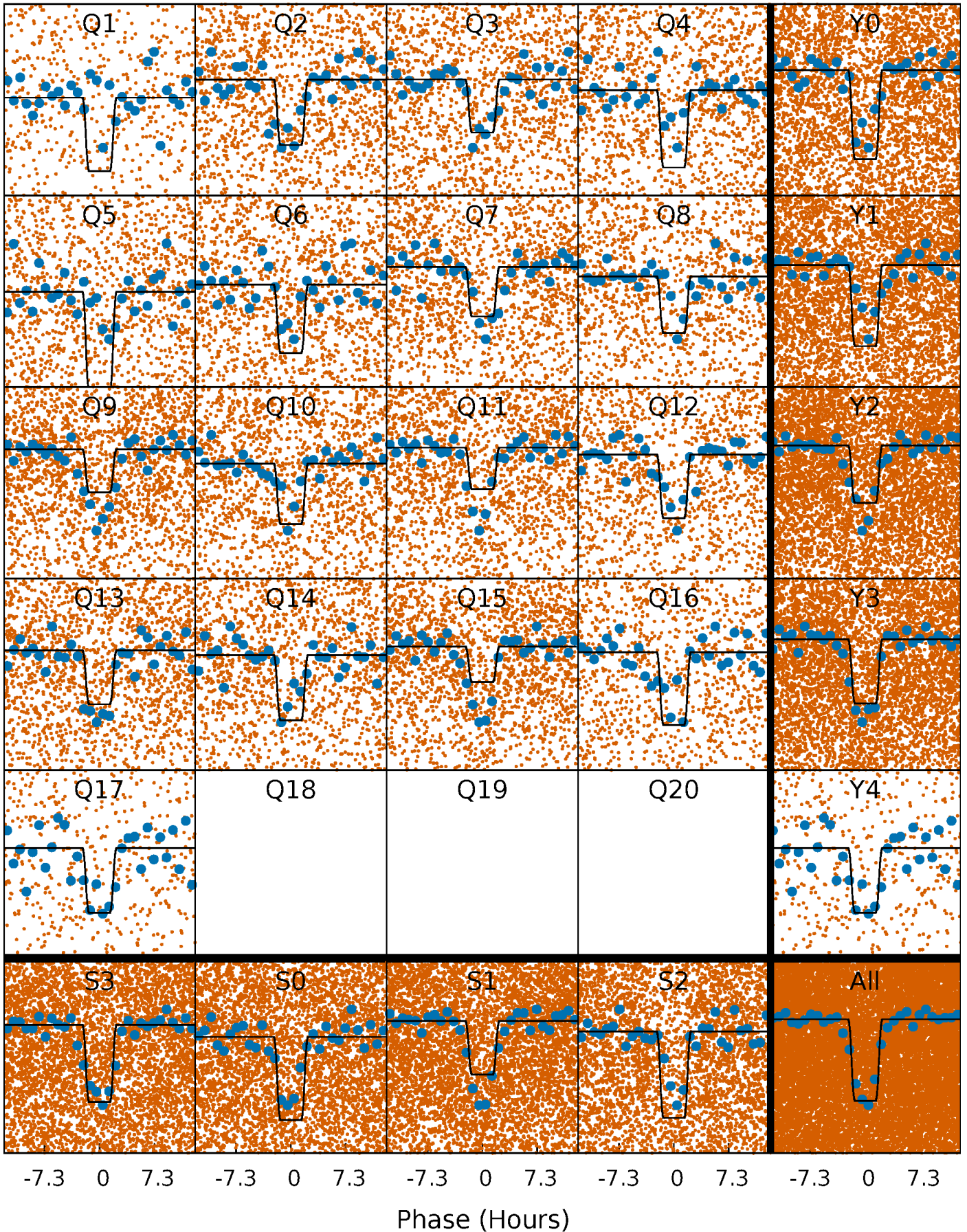
DV Quarter-Phased Transit Curves

TCE 002708343-01 P= 1.891302 Days $T_0=132.668773$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

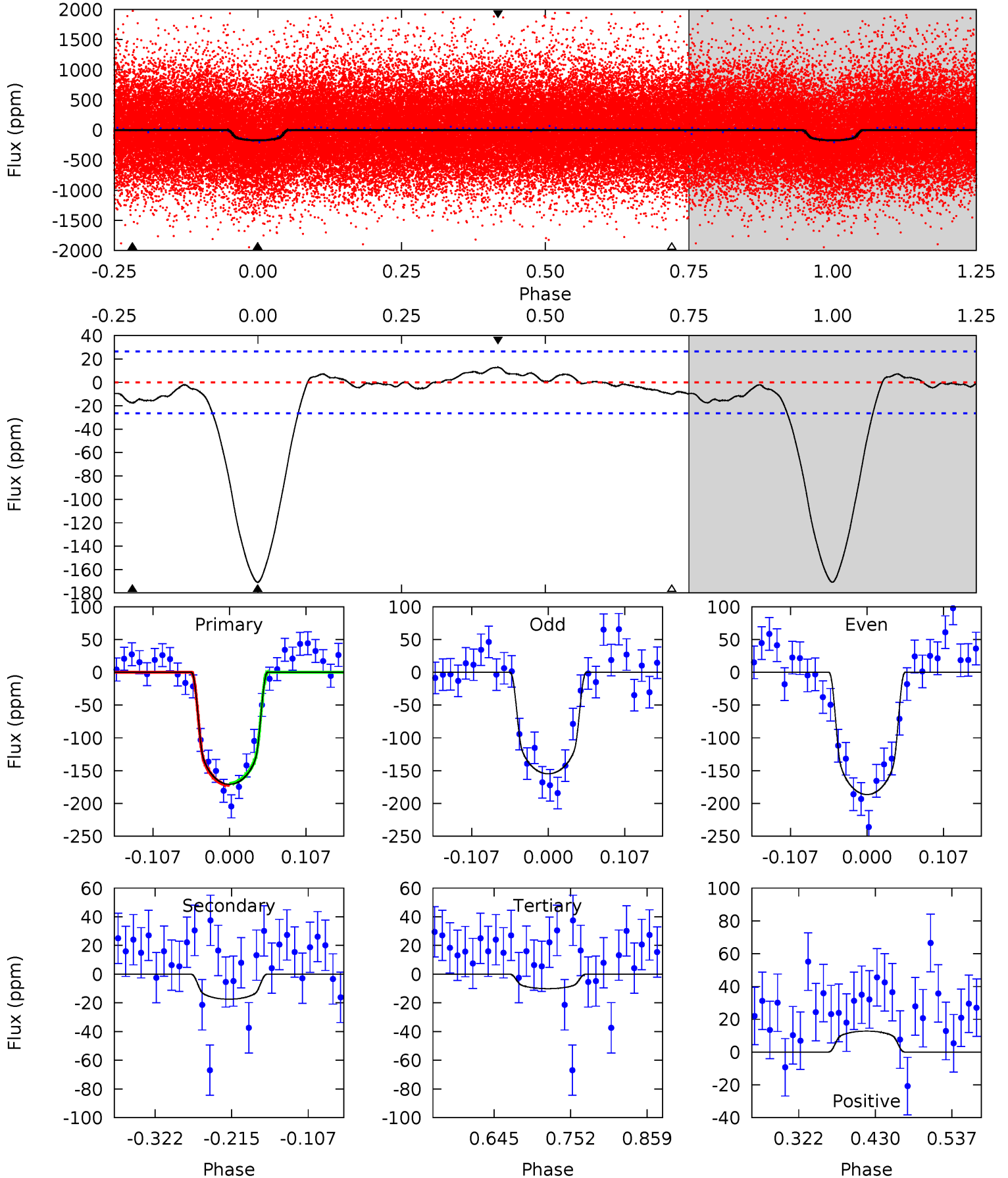
TCE 002708343-01 P= 1.891332 Days $T_0=132.657627$ (BKJD)



DV Model-Shift Uniqueness Test

002708343-01, P = 1.891302 Days, E = 130.777471 Days

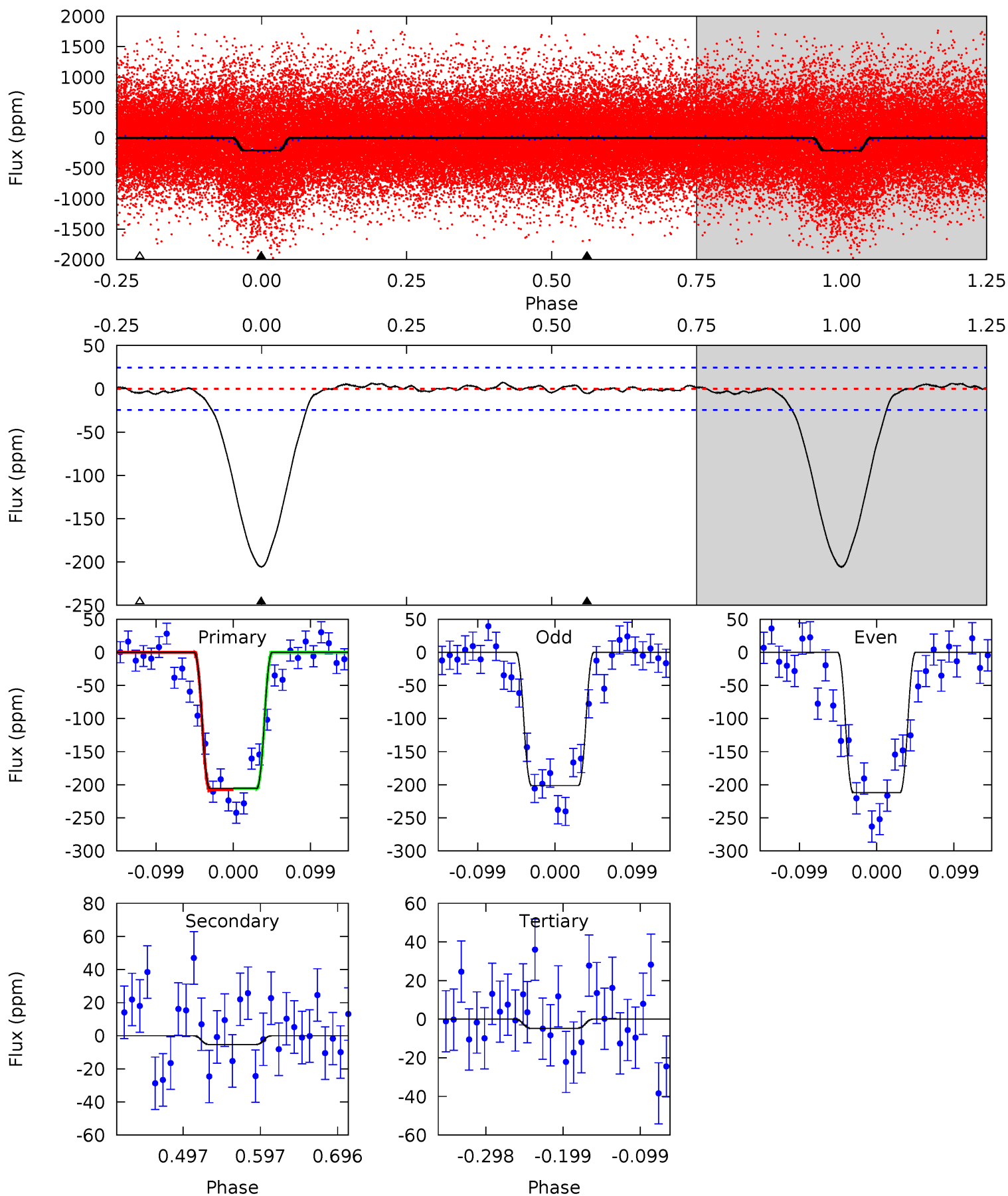
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.4	3.00	1.73	2.20	4.55	1.61	0.95	27.6	27.2	1.27	0.80	2.73	1.05	0.07	0.25



Alt Model-Shift Uniqueness Test

002708343-01, P = 1.891332 Days, E = 130.766295 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.4	0.99	0.88	0	4.57	1.65	0.57	37.5	38.4	0.12	0.99	0.98	0.98	0.03	0.21



Stellar Parameters For KIC 002708343

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4476^{+133}_{-133}	$4.627^{+0.052}_{-0.024}$	$-0.320^{+0.300}_{-0.300}$	$0.633^{+0.050}_{-0.056}$	$0.618^{+0.074}_{-0.043}$	$3.441^{+0.798}_{-0.447}$
	+3%/-3%	+1%/-1%	+94%/-94%	+8%/-9%	+12%/-7%	+23%/-13%
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 002708343-01 / KOI 4111.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 6	$1.06^{+0.23}_{-0.23}$	1365^{+44}_{-46}	2897^{+261}_{-231}	$5.482^{+4.299}_{-2.435}$
Alt.	-5 ± 5	$1.02^{+0.22}_{-0.22}$	1367^{+48}_{-47}	2448^{+350}_{-4512}	$1.698^{+2.396}_{-1.704}$

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

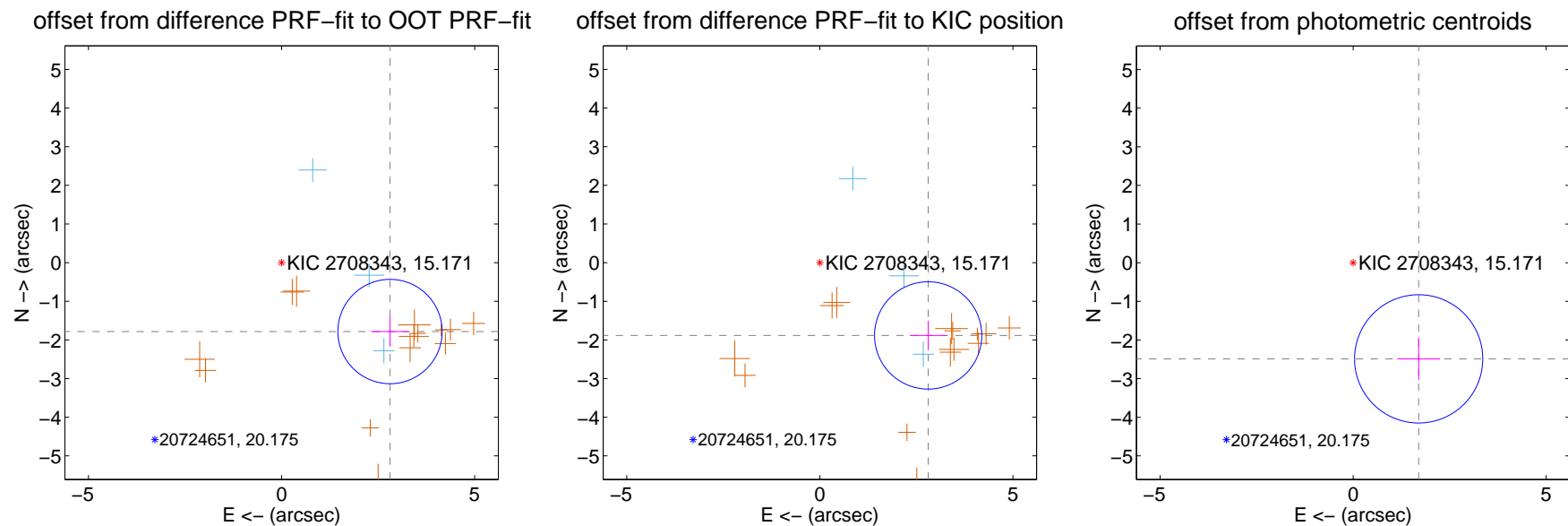
DV Centroid Data

Supplemental centroid analysis for 002708343-01. Kepler magnitude: 15.17. Transit SNR 19.78

There are 3 quarters with good PRF difference image offsets

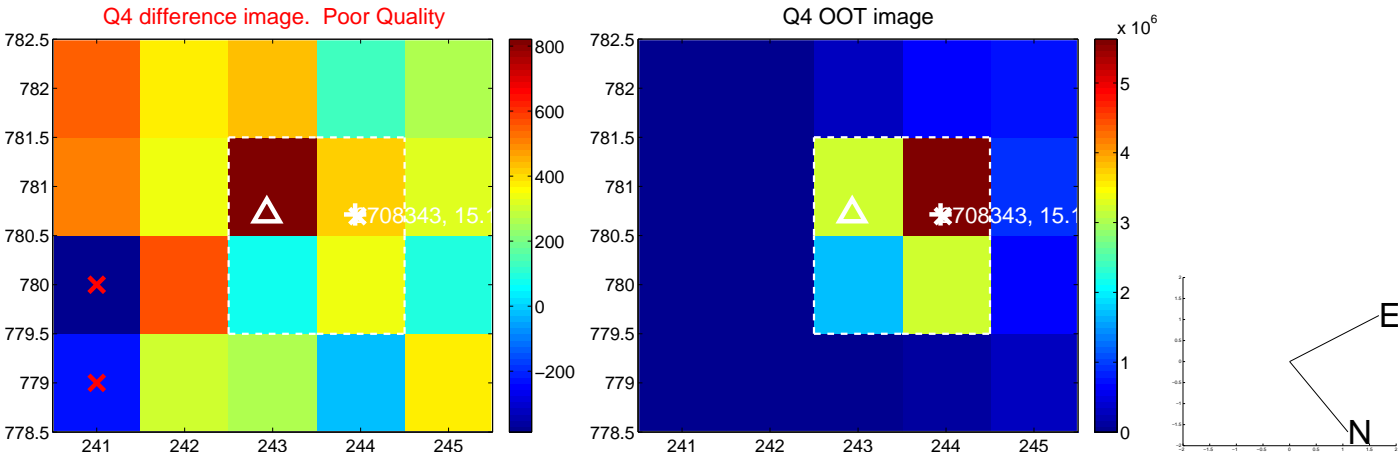
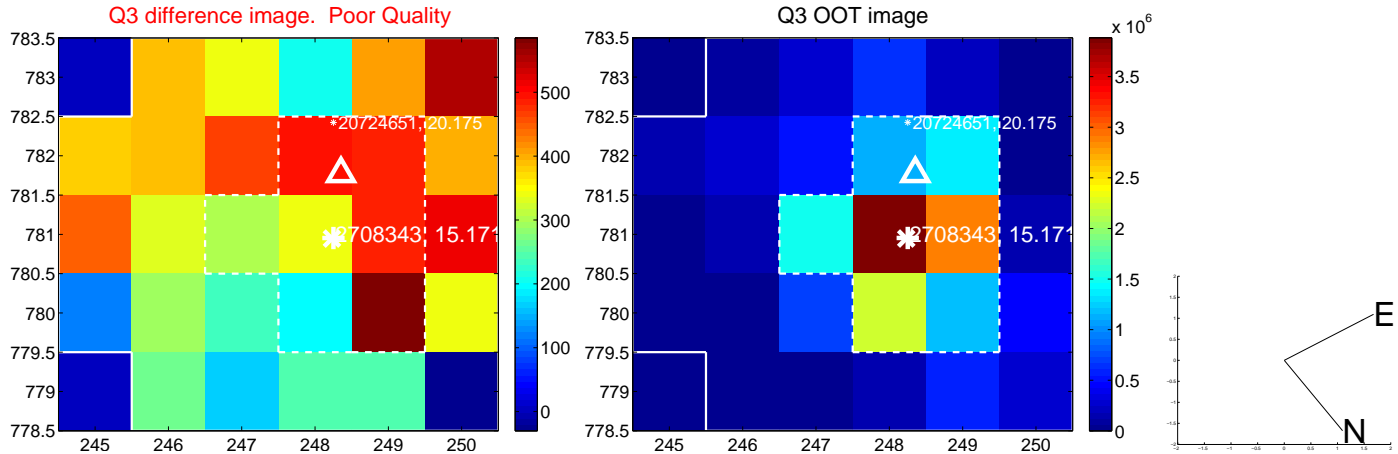
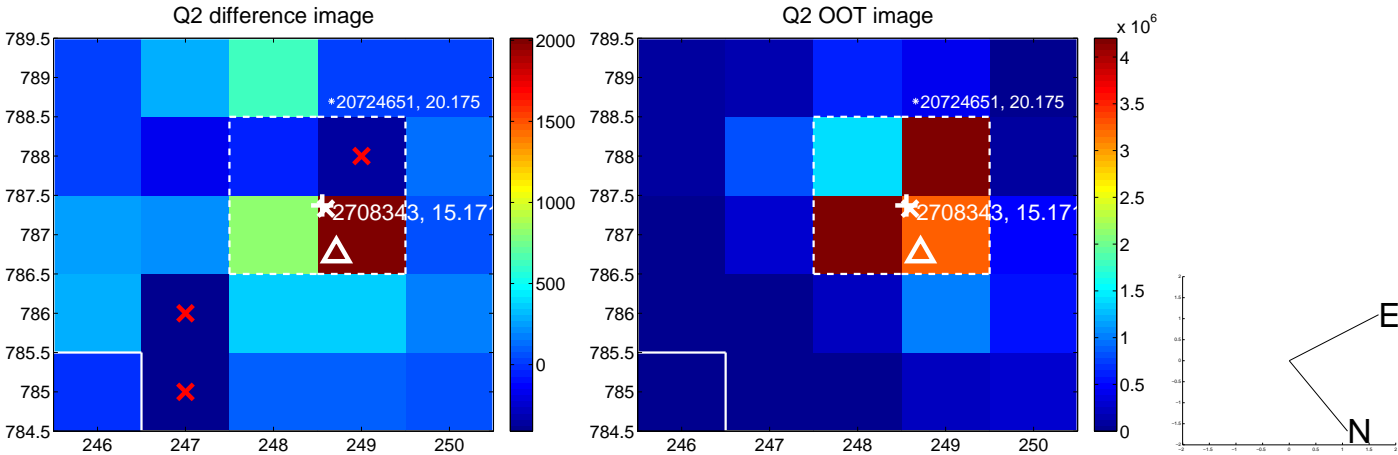
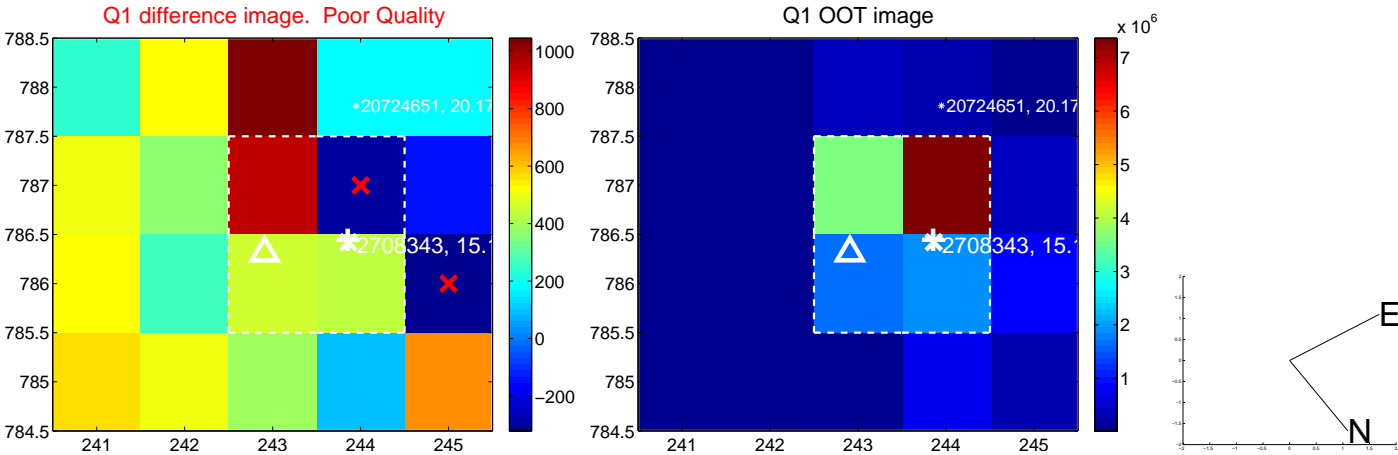
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.326 ± 0.450	7.39	-2.808 ± 0.488	-1.783 ± 0.384
PRF-fit source offset from KIC position	3.378 ± 0.463	7.30	-2.804 ± 0.478	-1.884 ± 0.381
photometric centroid source offset	3.01 ± 0.55	5.44	-1.70 ± 0.56	-2.49 ± 0.55

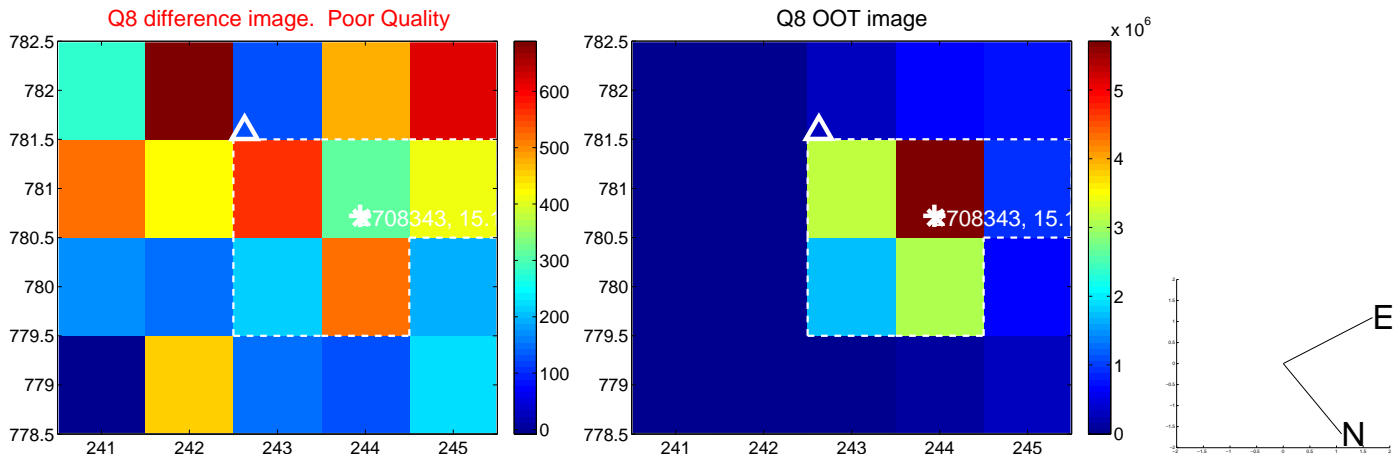
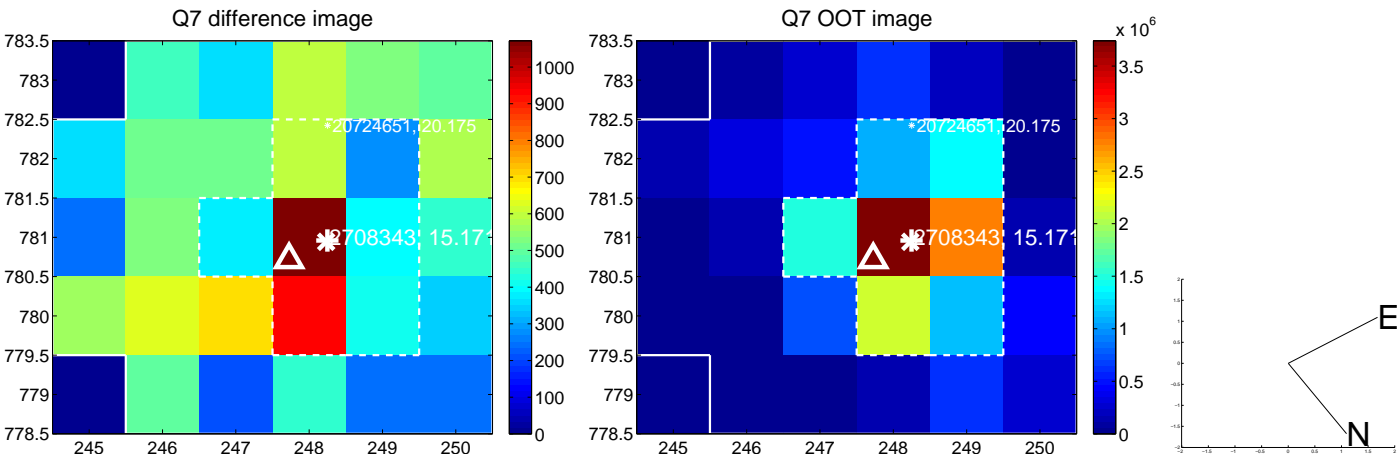
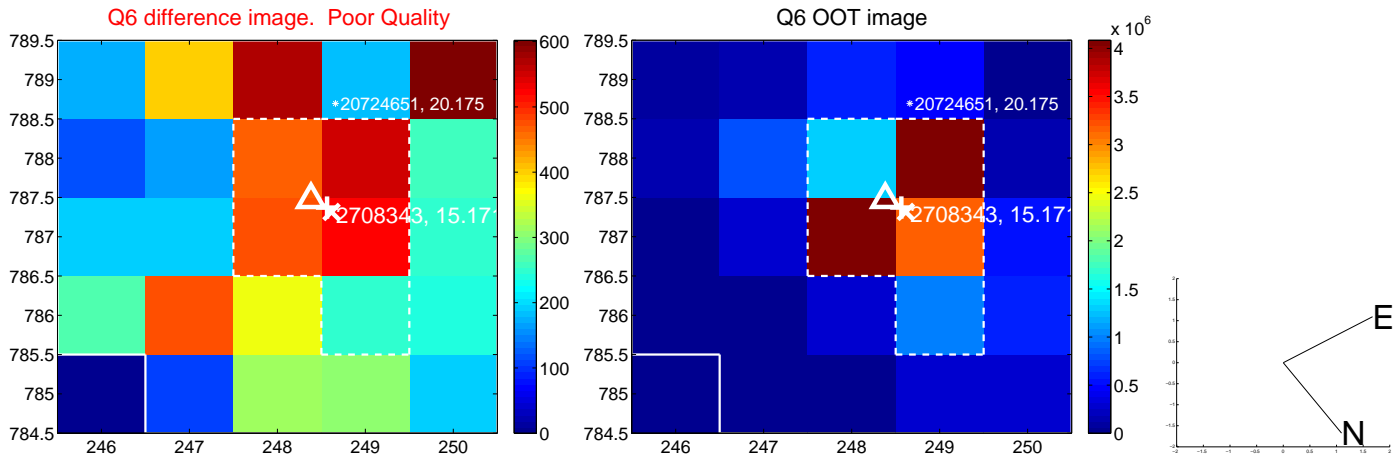
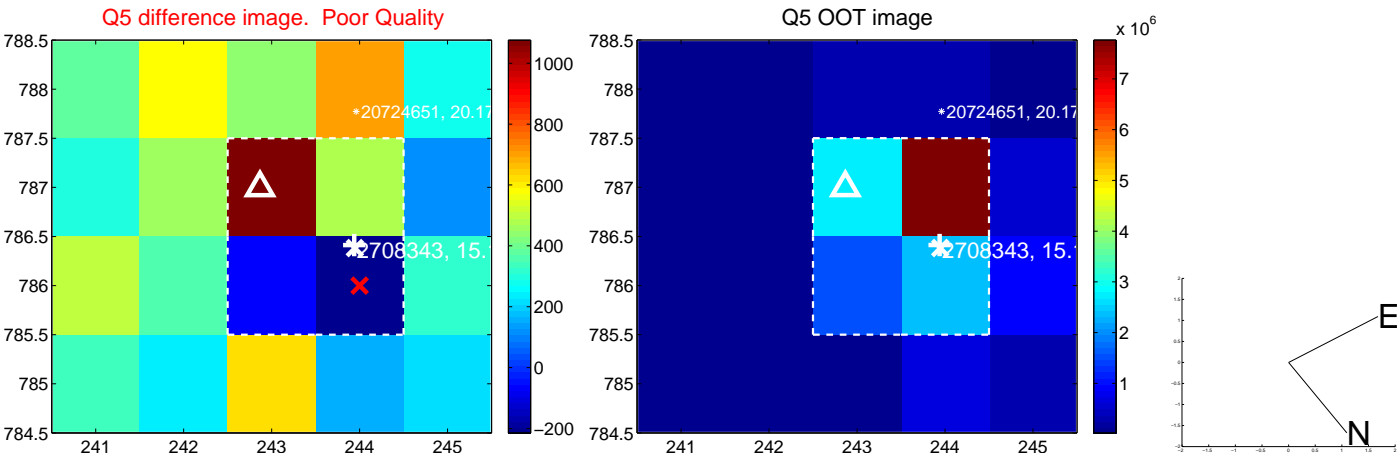


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

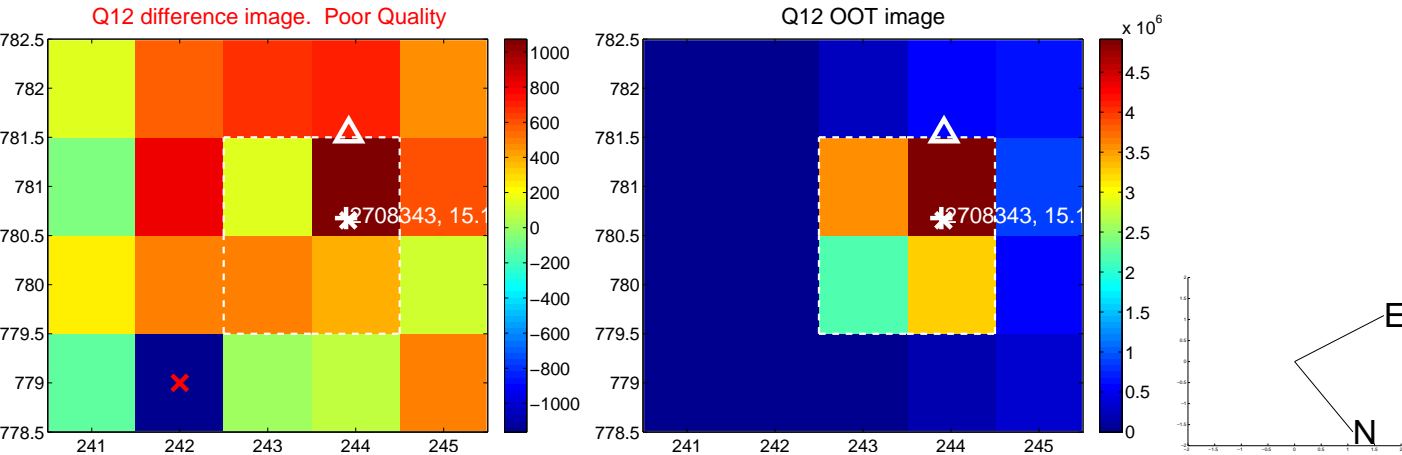
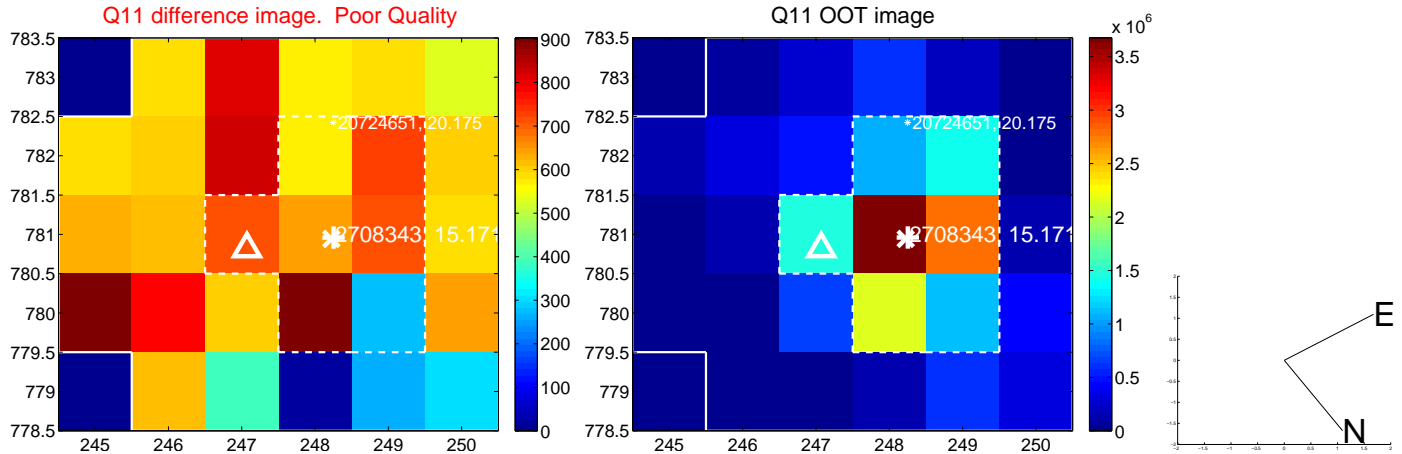
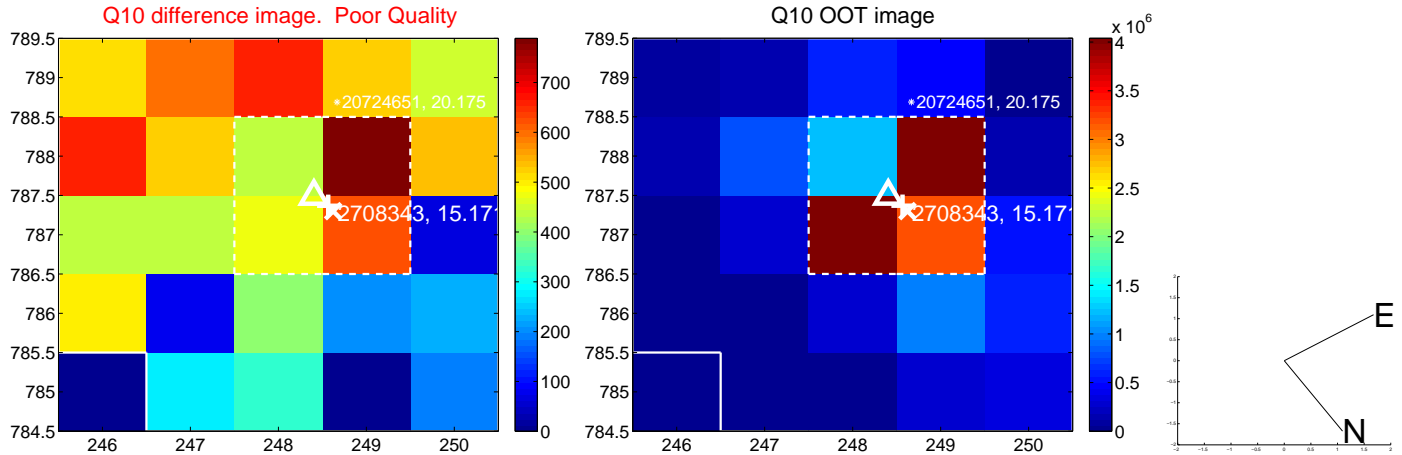
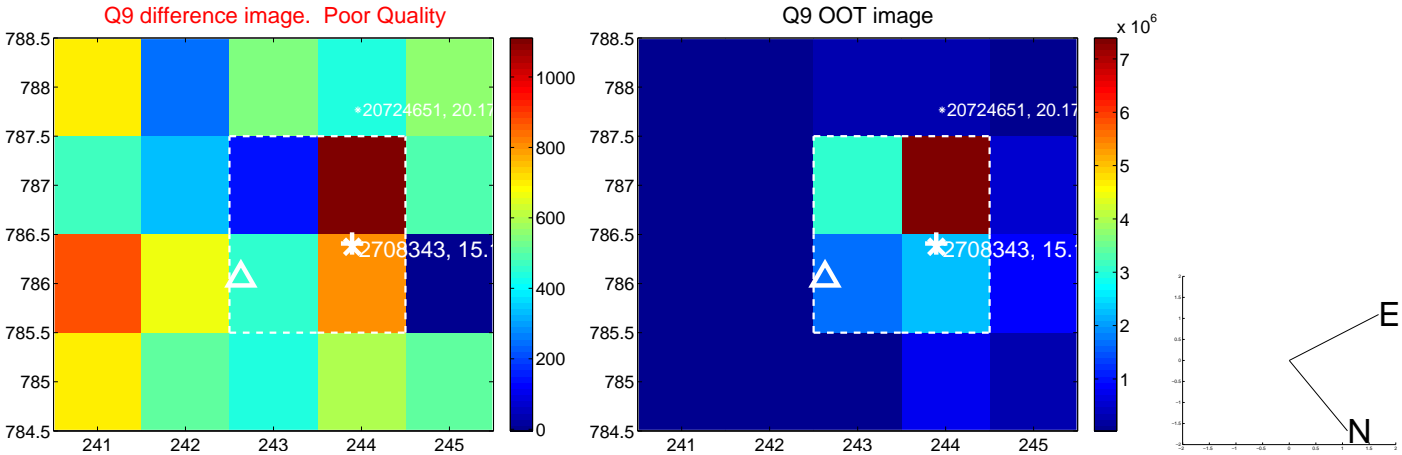
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



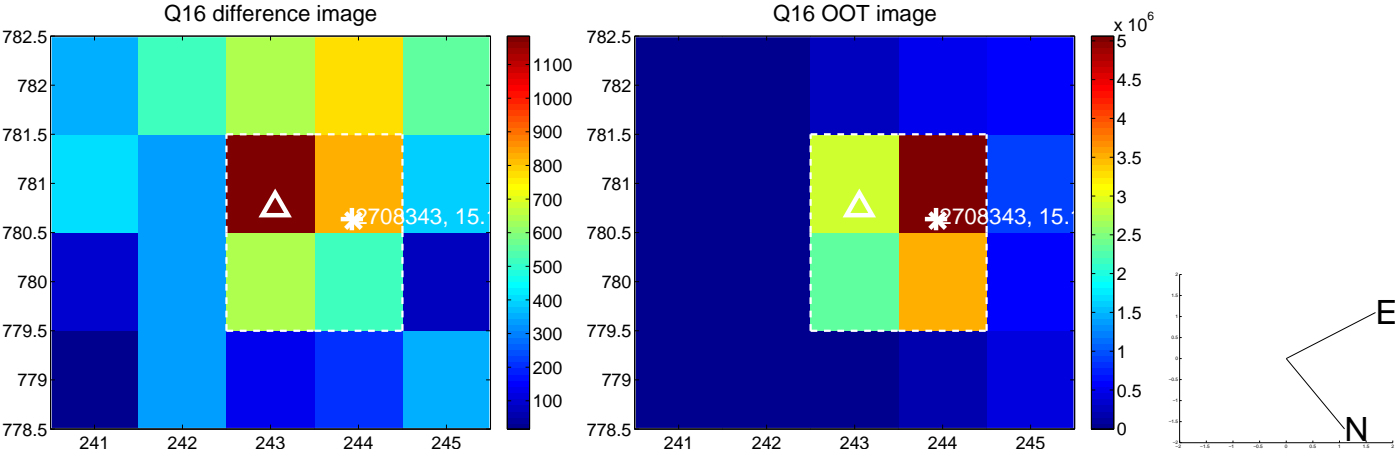
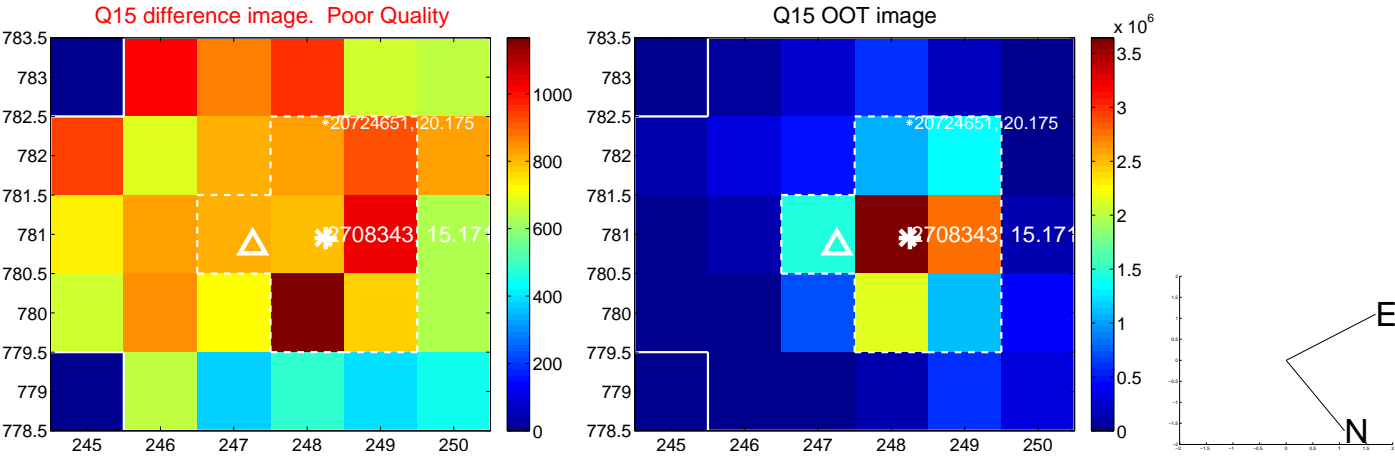
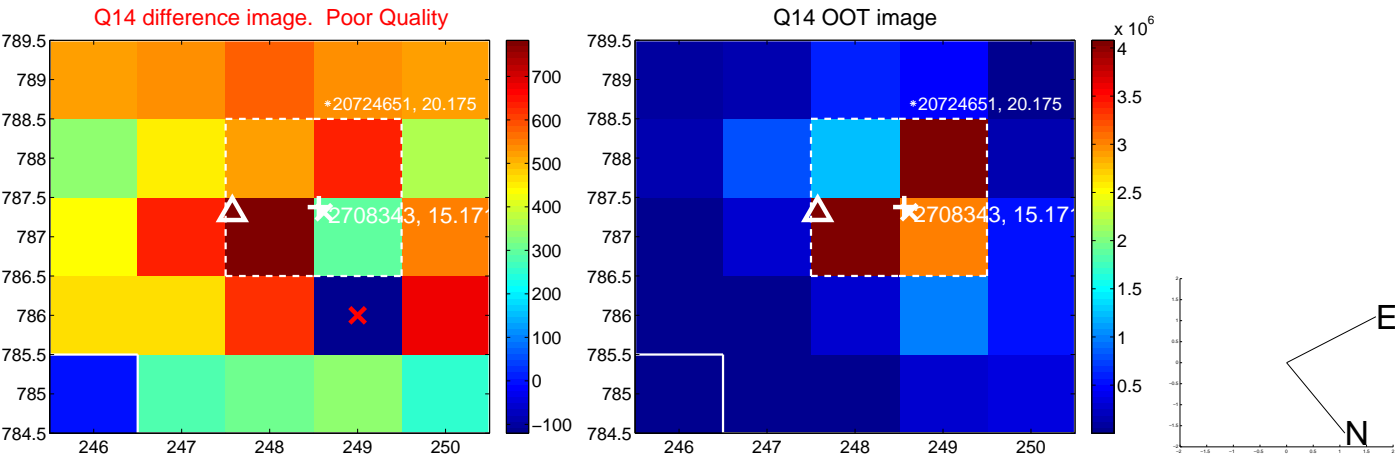
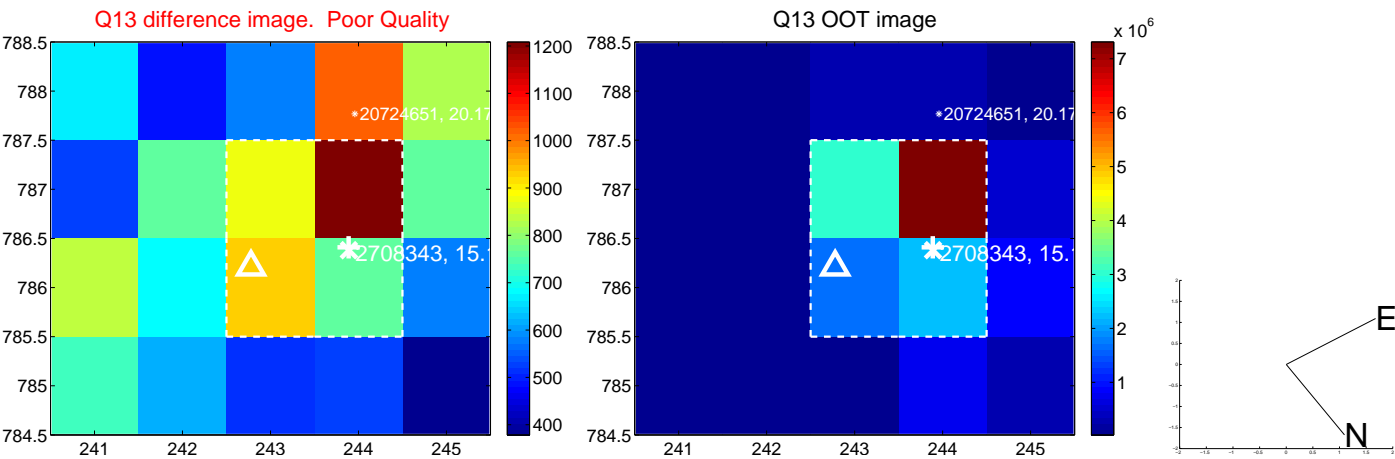
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



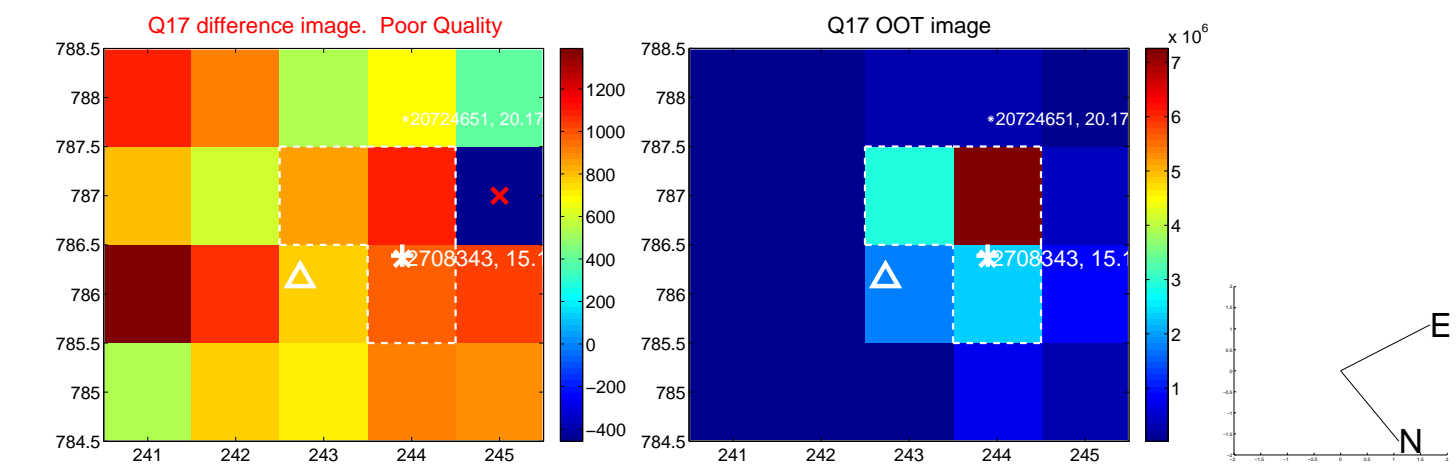
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



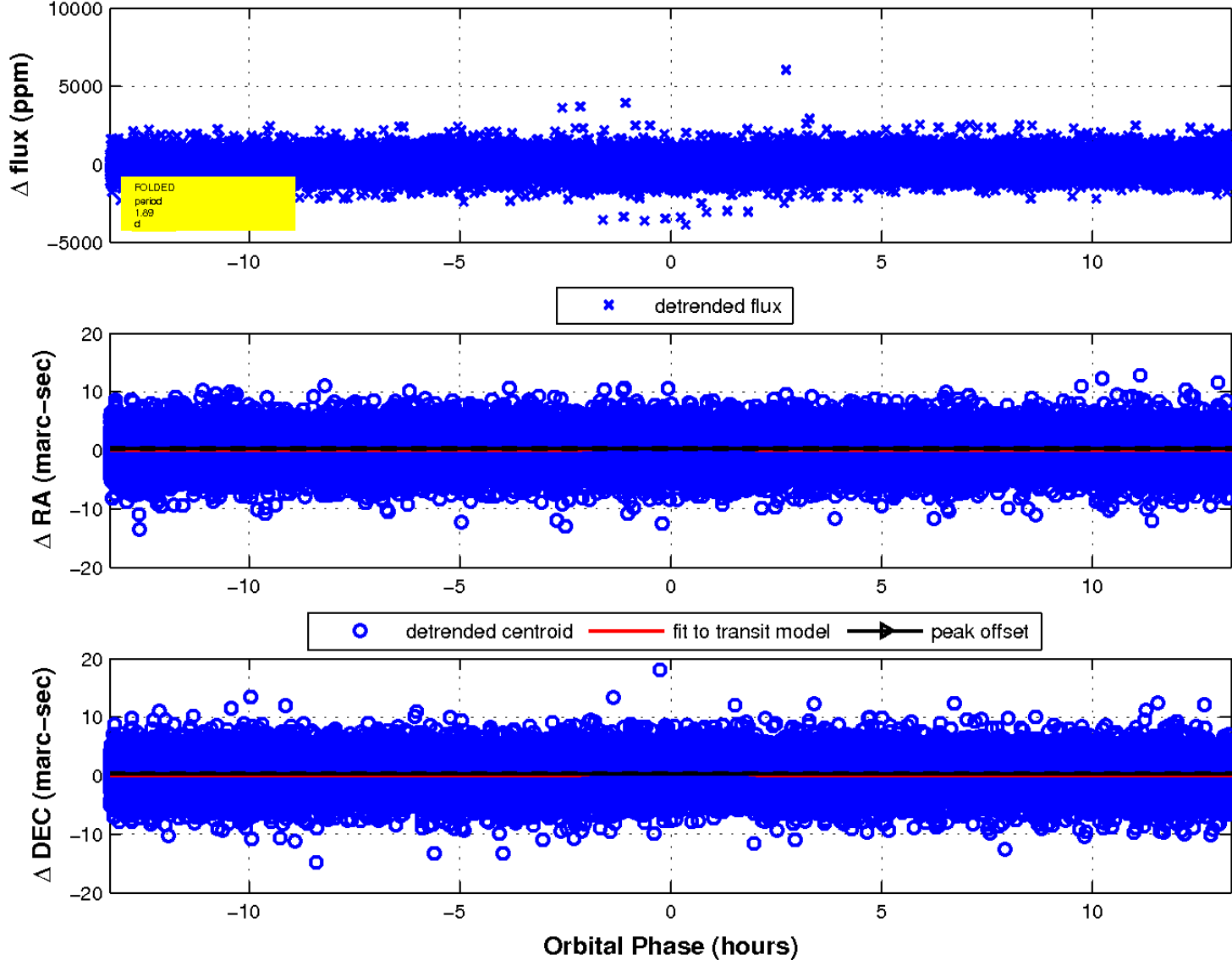
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

