

KIC 004733318

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})
004733318-01	OBS	No	1.479235	132.067016	19.5	5.095	10.5	9.5	2.28	6768	1.19	12275.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004733318-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

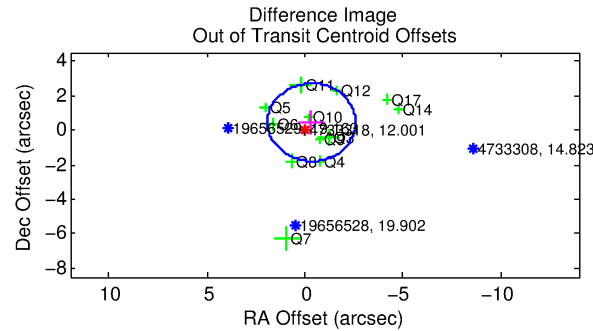
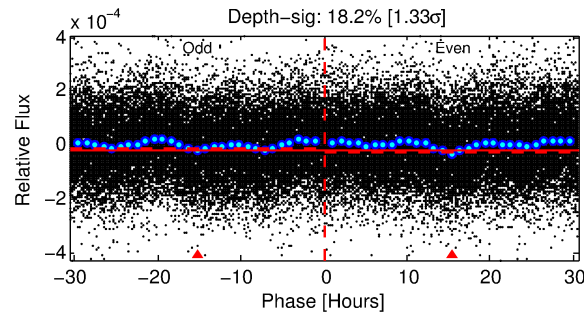
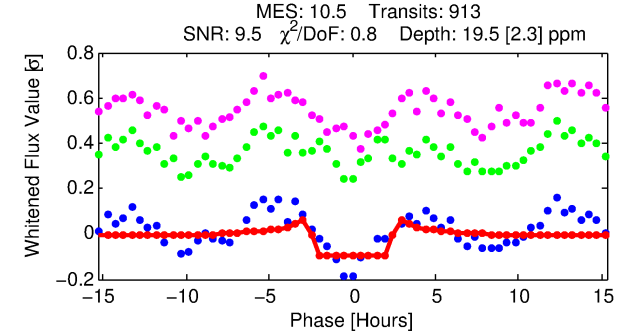
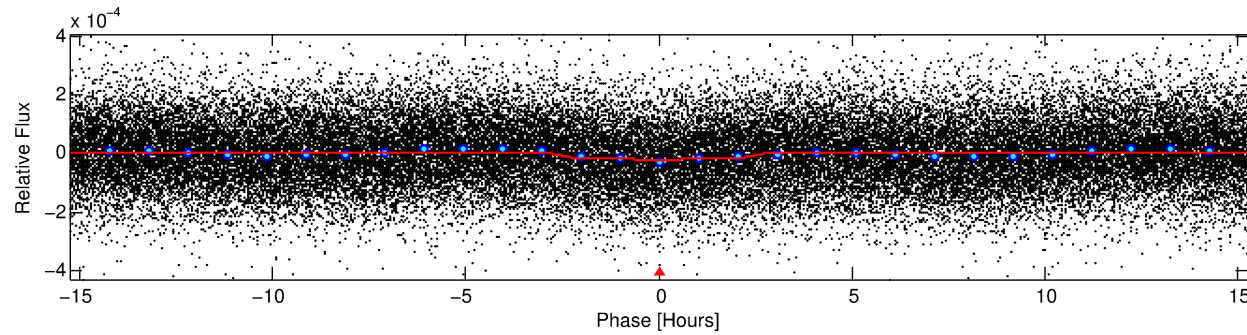
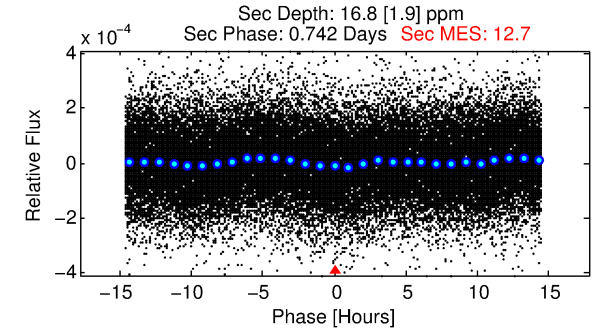
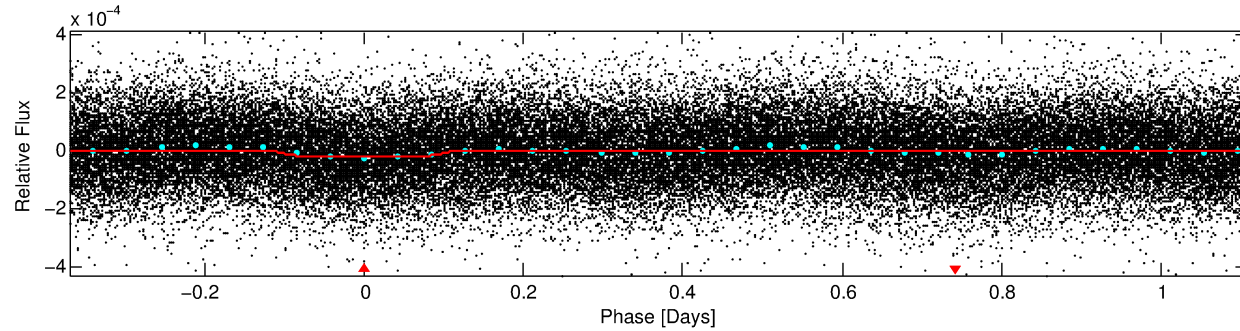
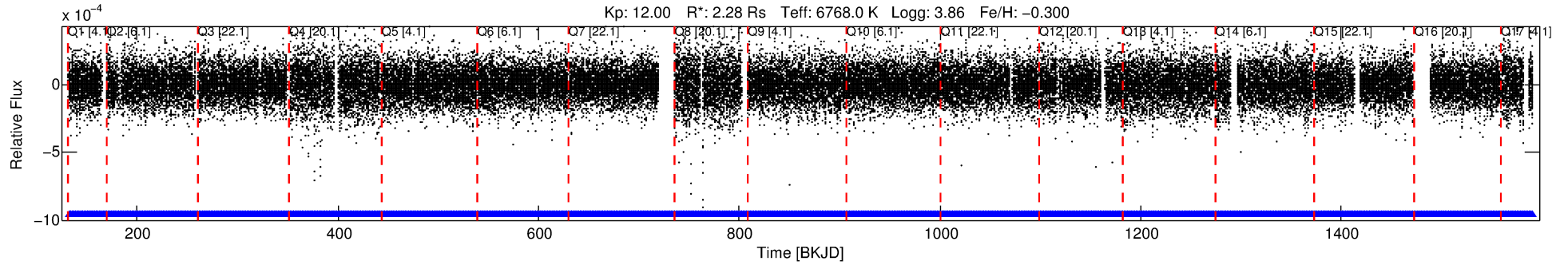
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004733318-01

No Significant Match Found

DV One-Page Summary

KIC: 4733318 Candidate: 1 of 1 Period: 1.479 d



DV Fit Results:

Period = 1.47924 [0.00001] d
Epoch = 132.0670 [0.0032] BKJD
Rp/R* = 0.0048 [0.0010]
a/R* = 1.30 [0.63]
b = 0.92 [0.20]
Seff = 12275.05 [6275.76]
Teq = 2684 [343] K
Rp = 1.19 [0.48] Re
a = 0.0283 [0.0090] AU
Ag = 5.16 [3.35] [1.24σ]
Teffp = 6255 [687] K [4.65σ]

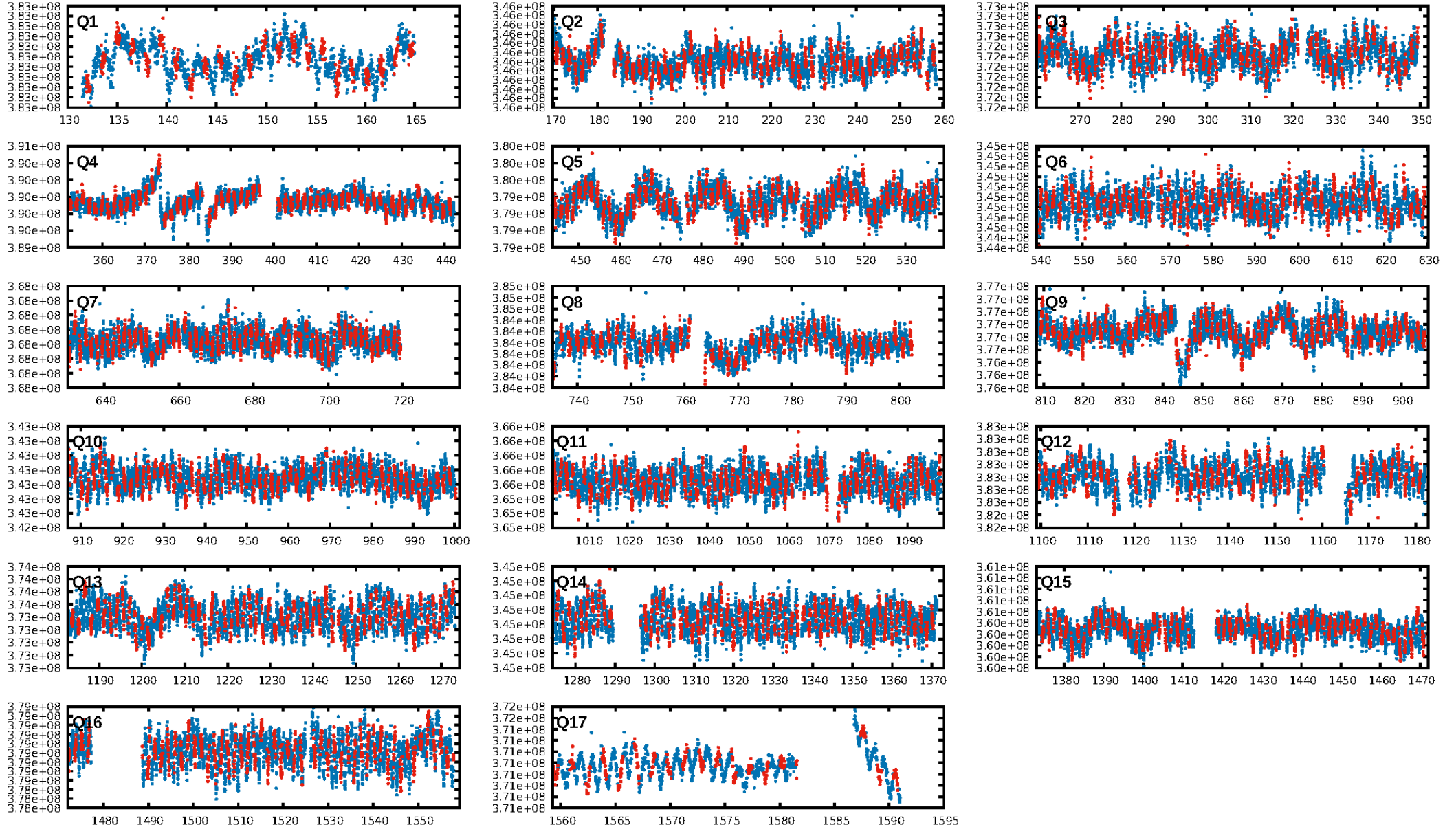
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.13e-19
RollingBand-fgt: 1.00 [872/872]
GhostDiagnostic-chr: 4.523
Centroid-sig: 0.0%
Centroid-so: 1.782 arcsec [2.59σ]
OotOffset-rm: 0.557 arcsec [0.74σ]
KicOffset-rm: 0.597 arcsec [0.79σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

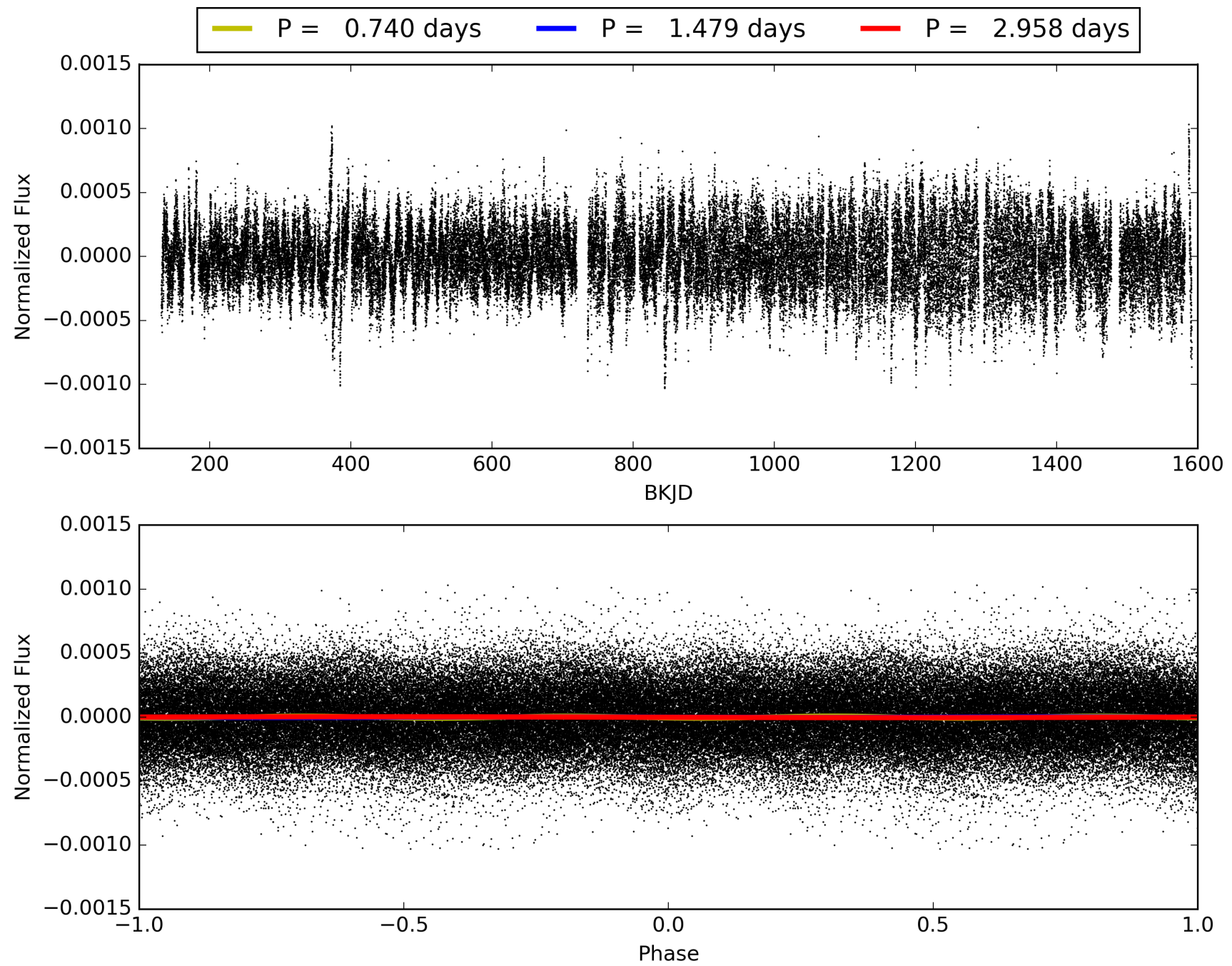
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:54:22 Z

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

TCE 004733318-01, PDC Light Curves

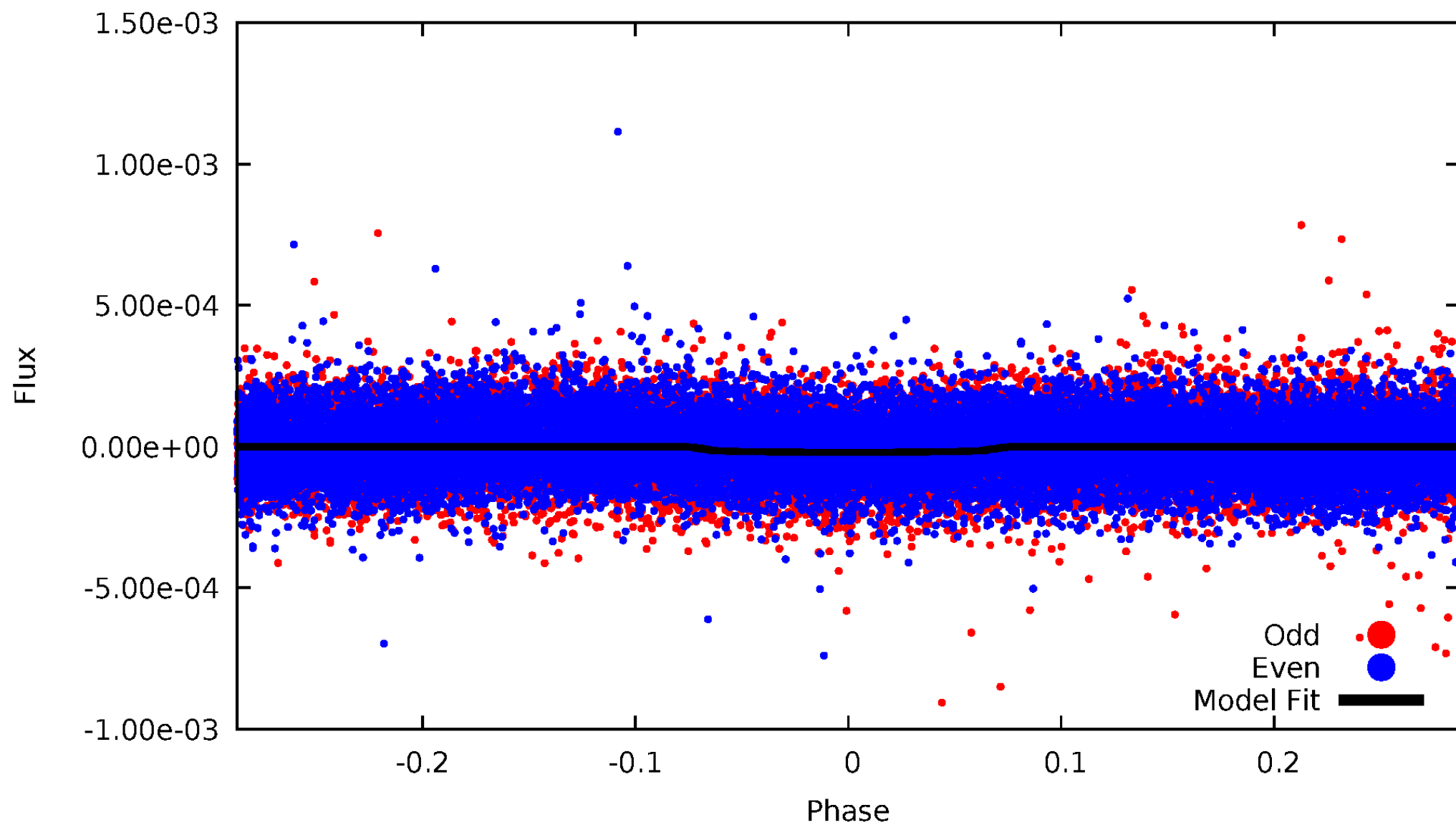


TCE 004733318-01



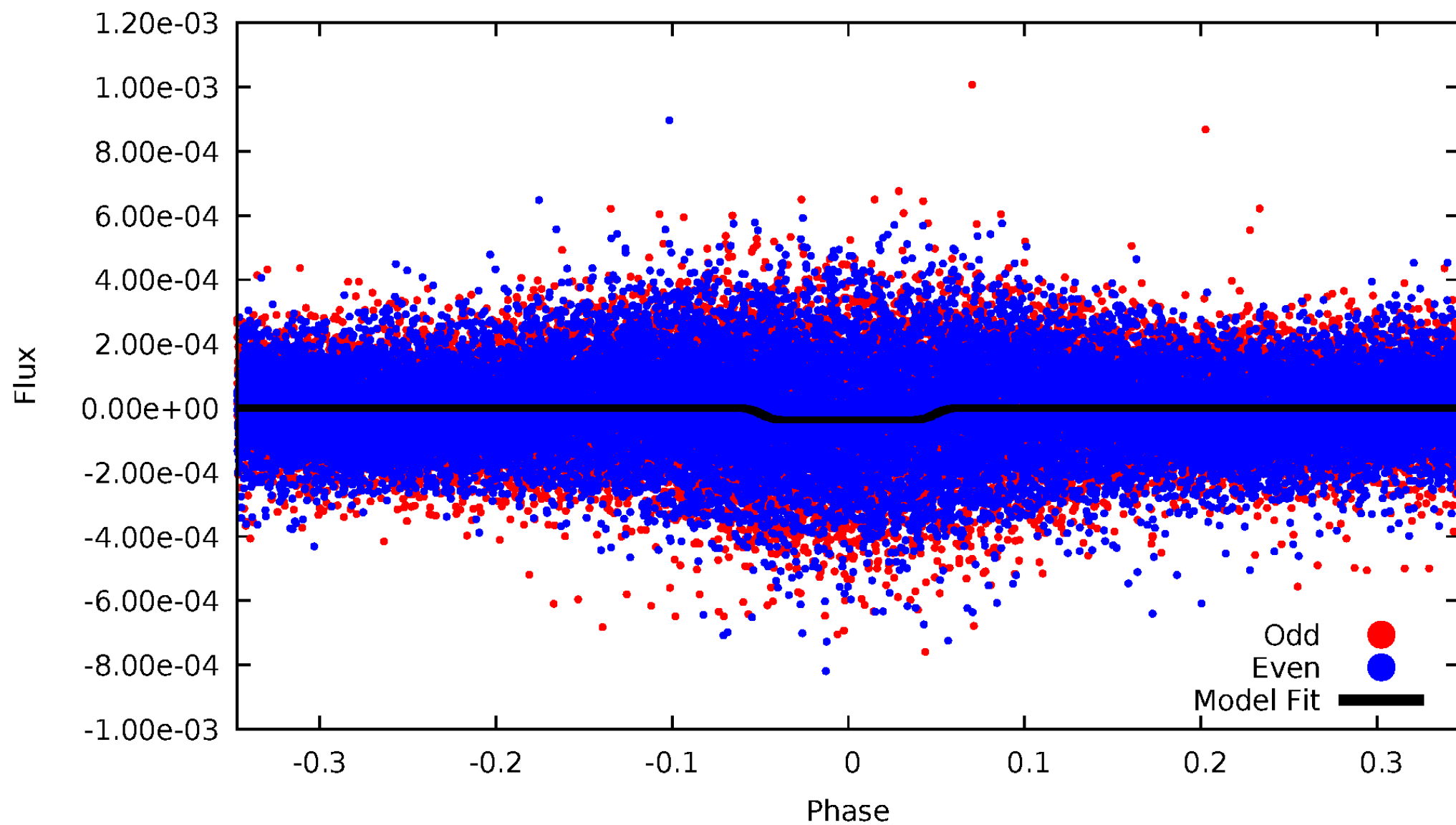
DV Odd/Even

TCE 004733318-01



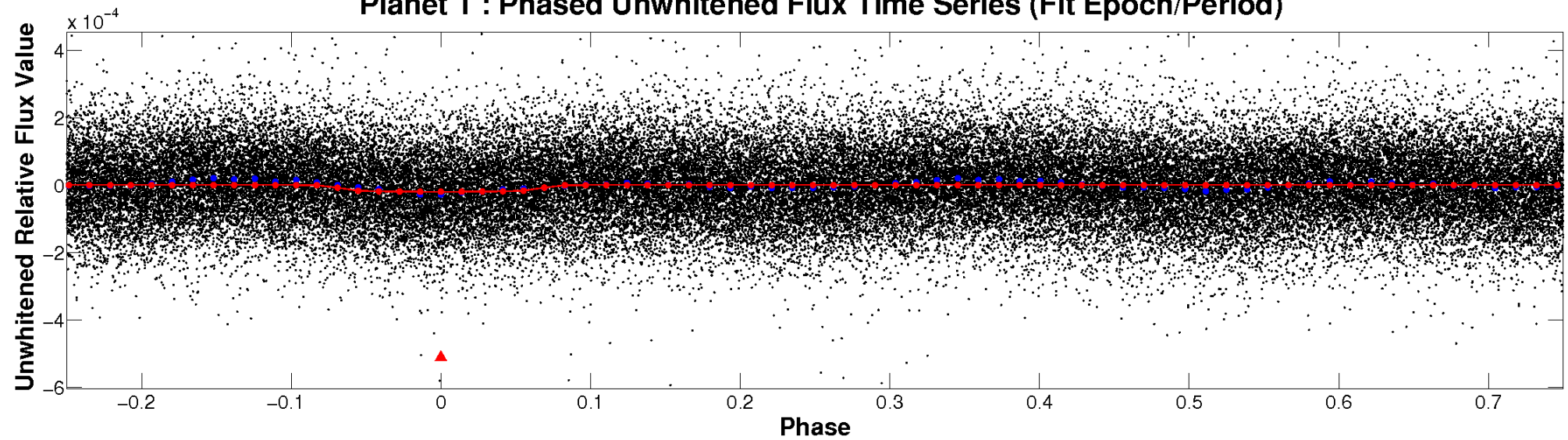
ALT Odd/Even

TCE 004733318-01

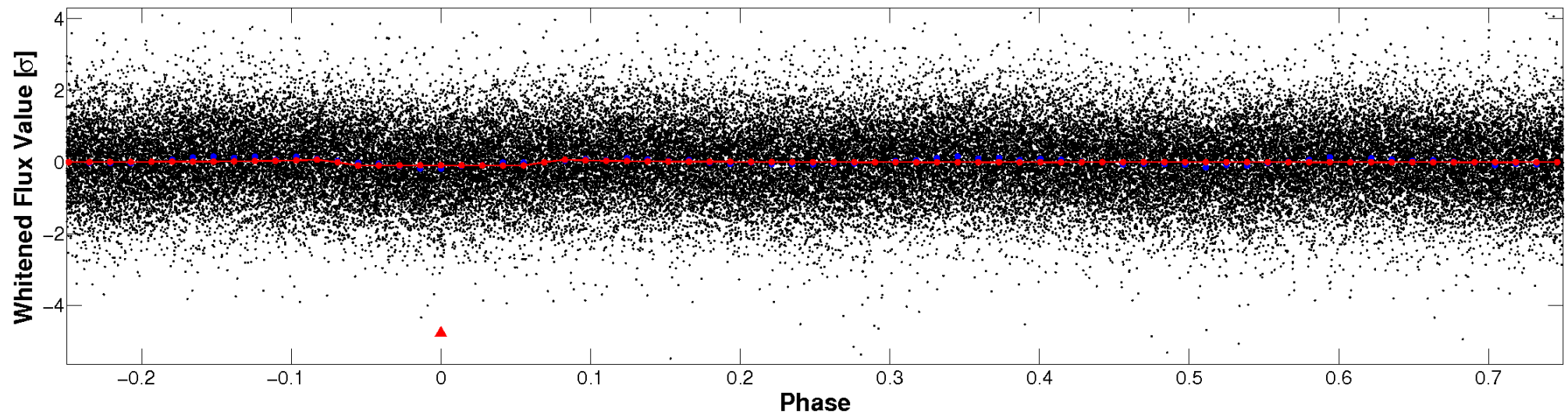


Non-Whitened Vs. Whitened Light Curve

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

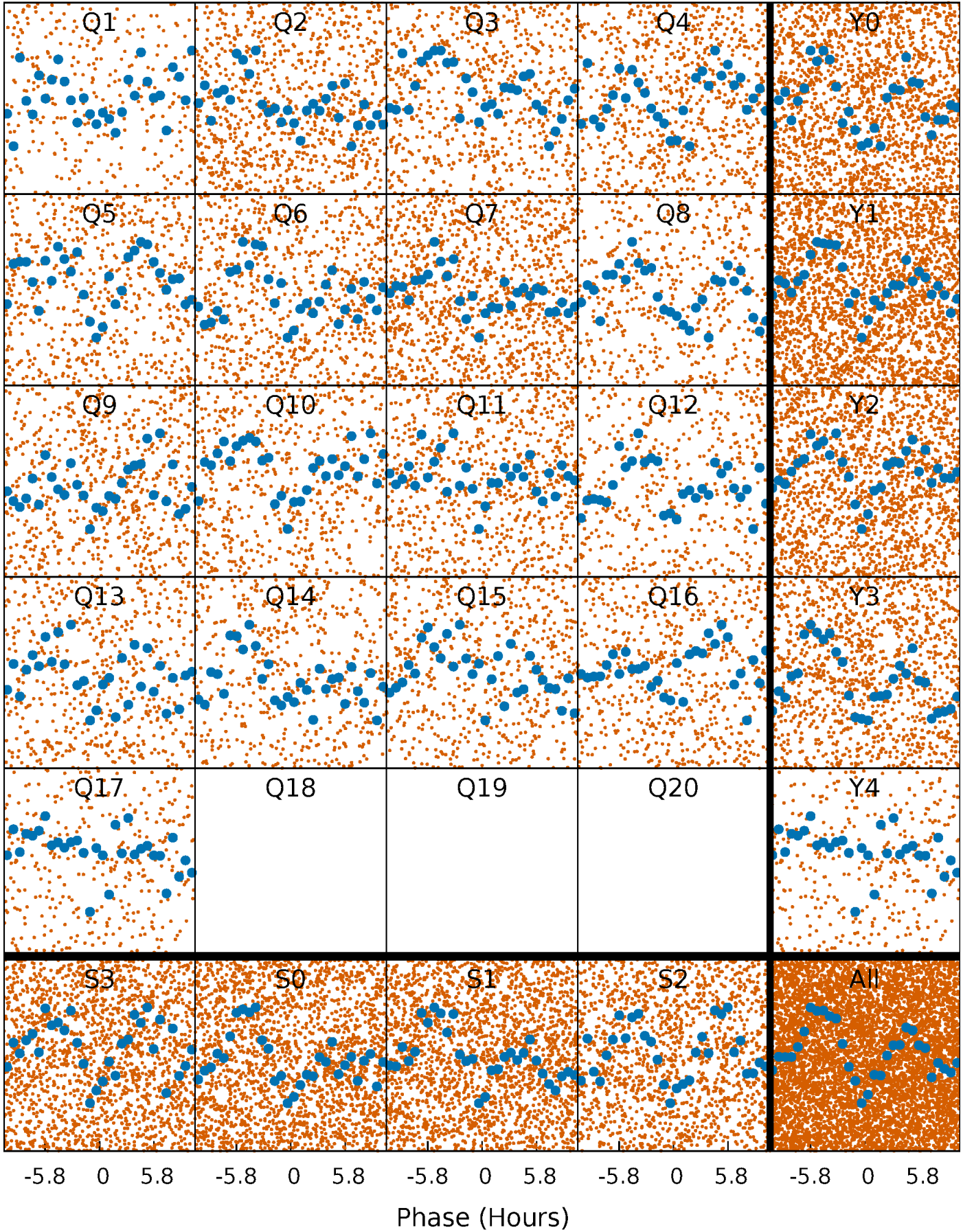


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



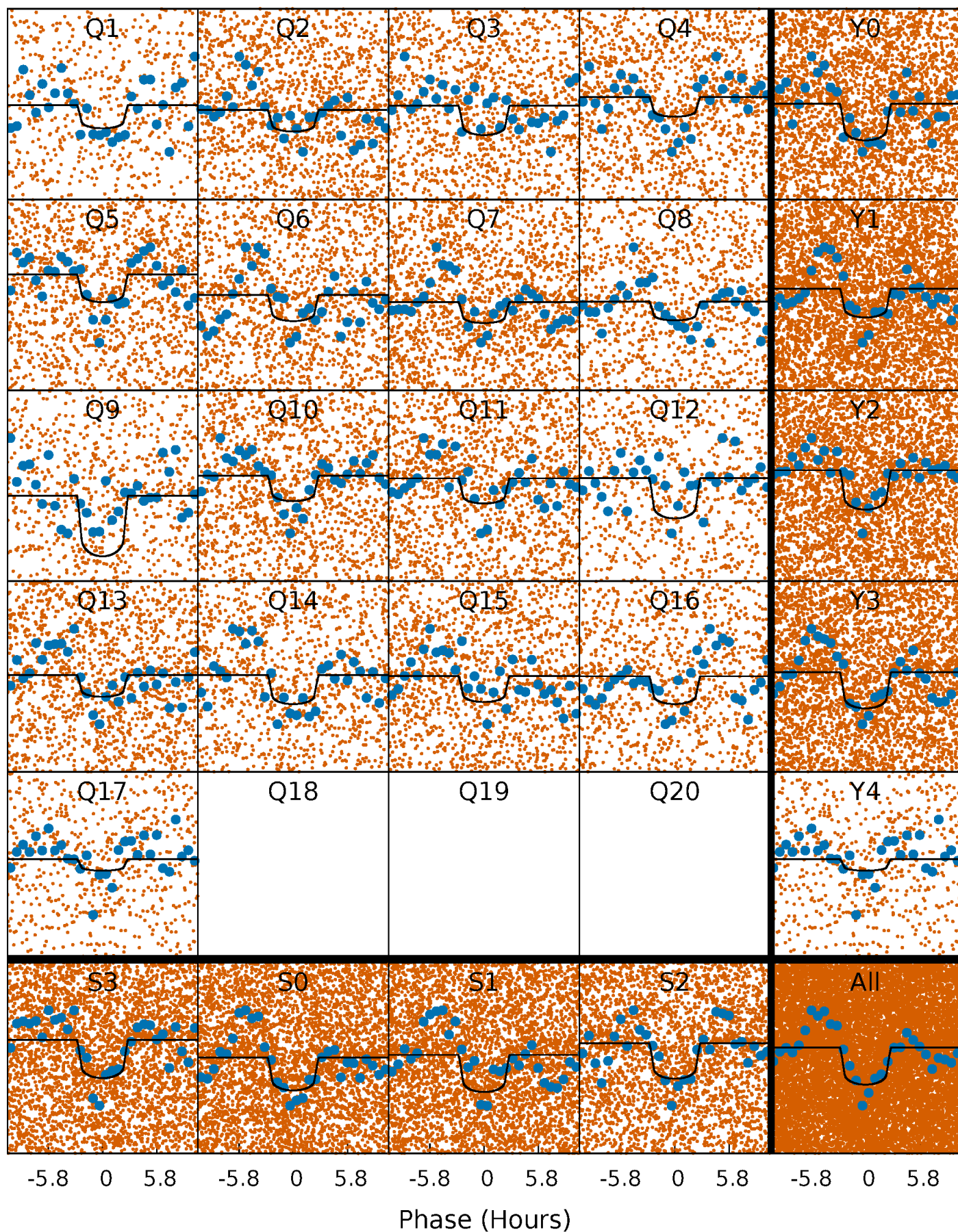
PDC Quarter-Phased Transit Curves

TCE 004733318-01 P= 1.479235 Days $T_0=132.067016$ (BKJD)



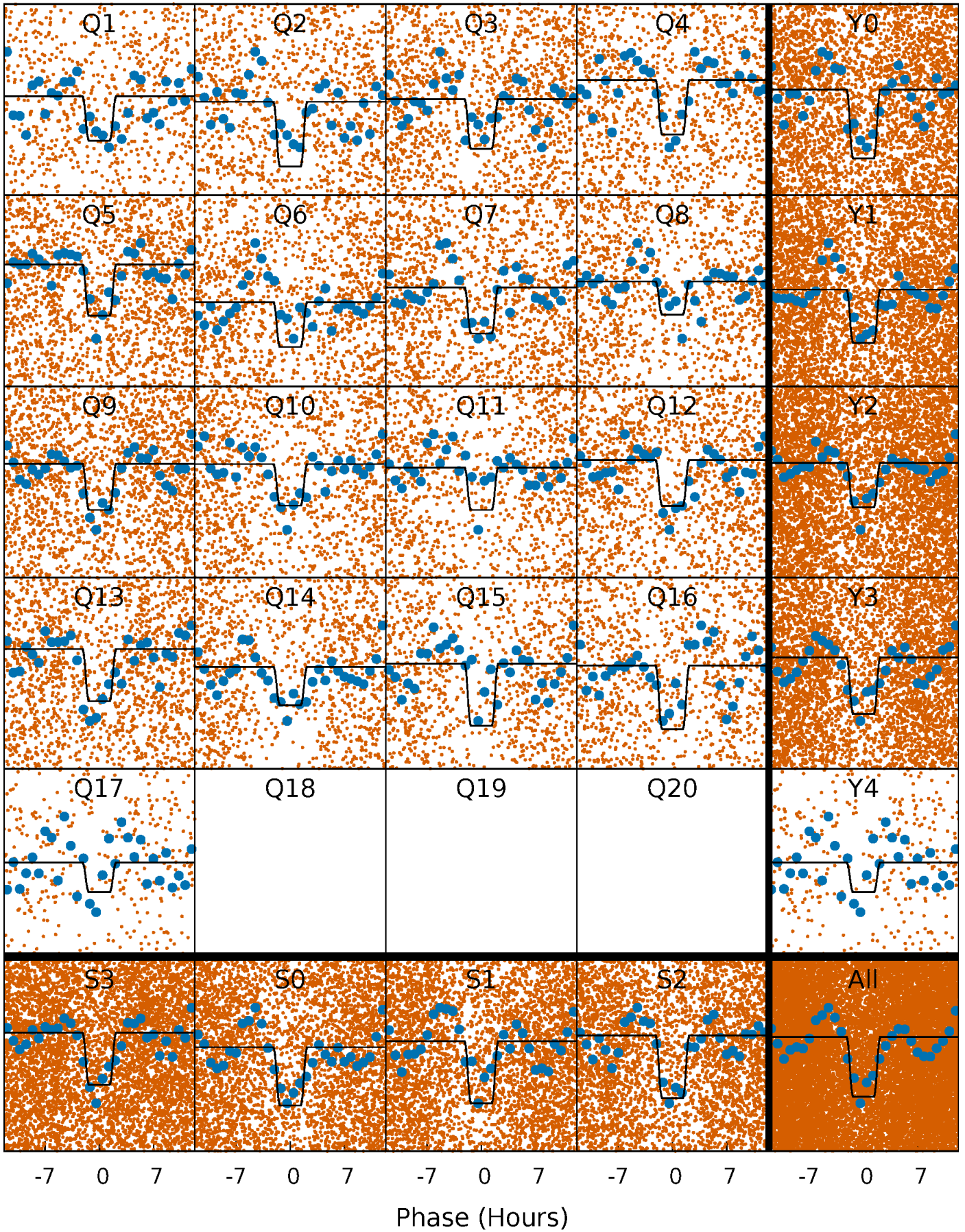
DV Quarter-Phased Transit Curves

TCE 004733318-01 P= 1.479235 Days $T_0=132.067016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

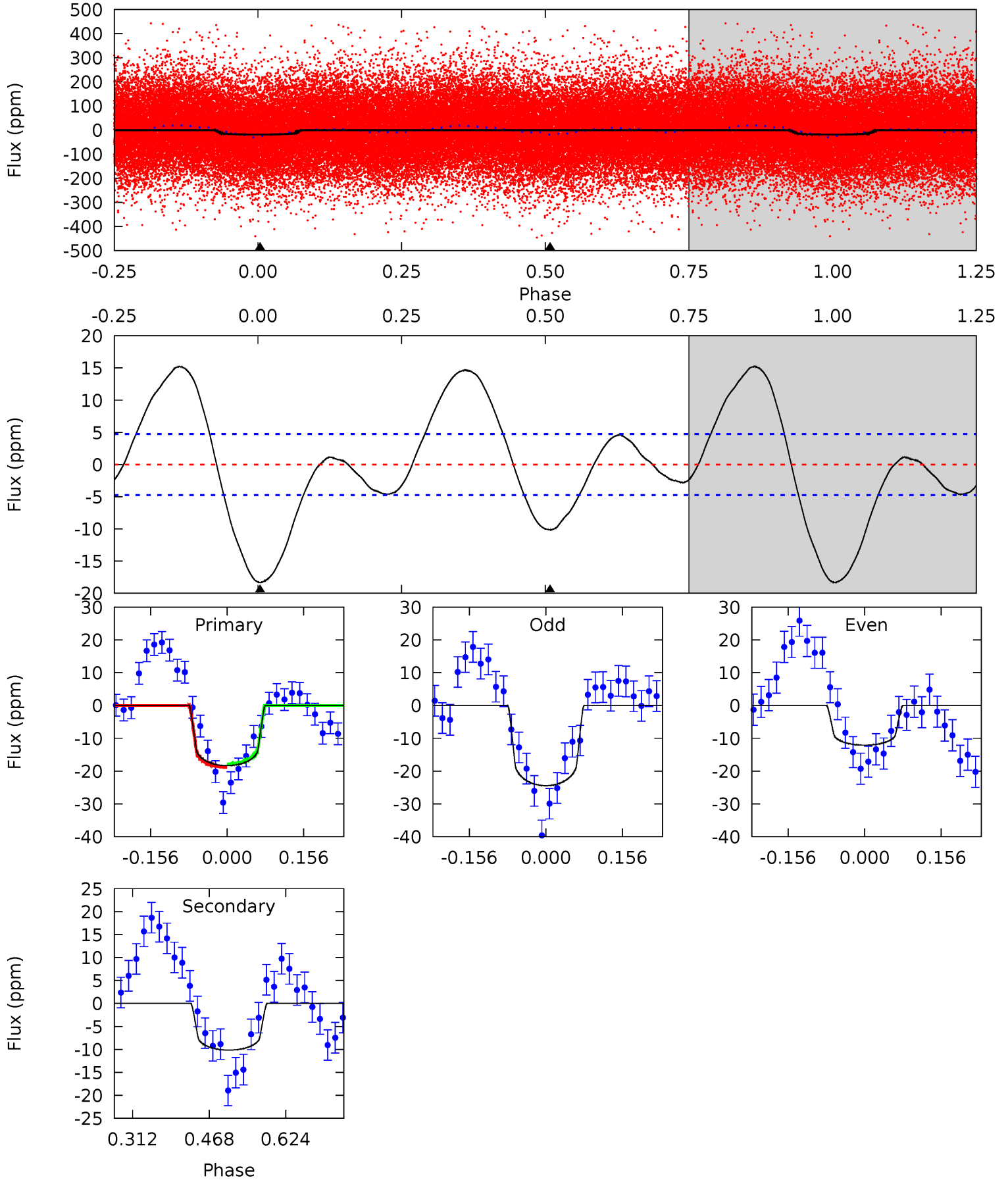
TCE 004733318-01 P= 1.479262 Days $T_0=132.055988$ (BKJD)



DV Model-Shift Uniqueness Test

004733318-01, P = 1.479235 Days, E = 130.587781 Days

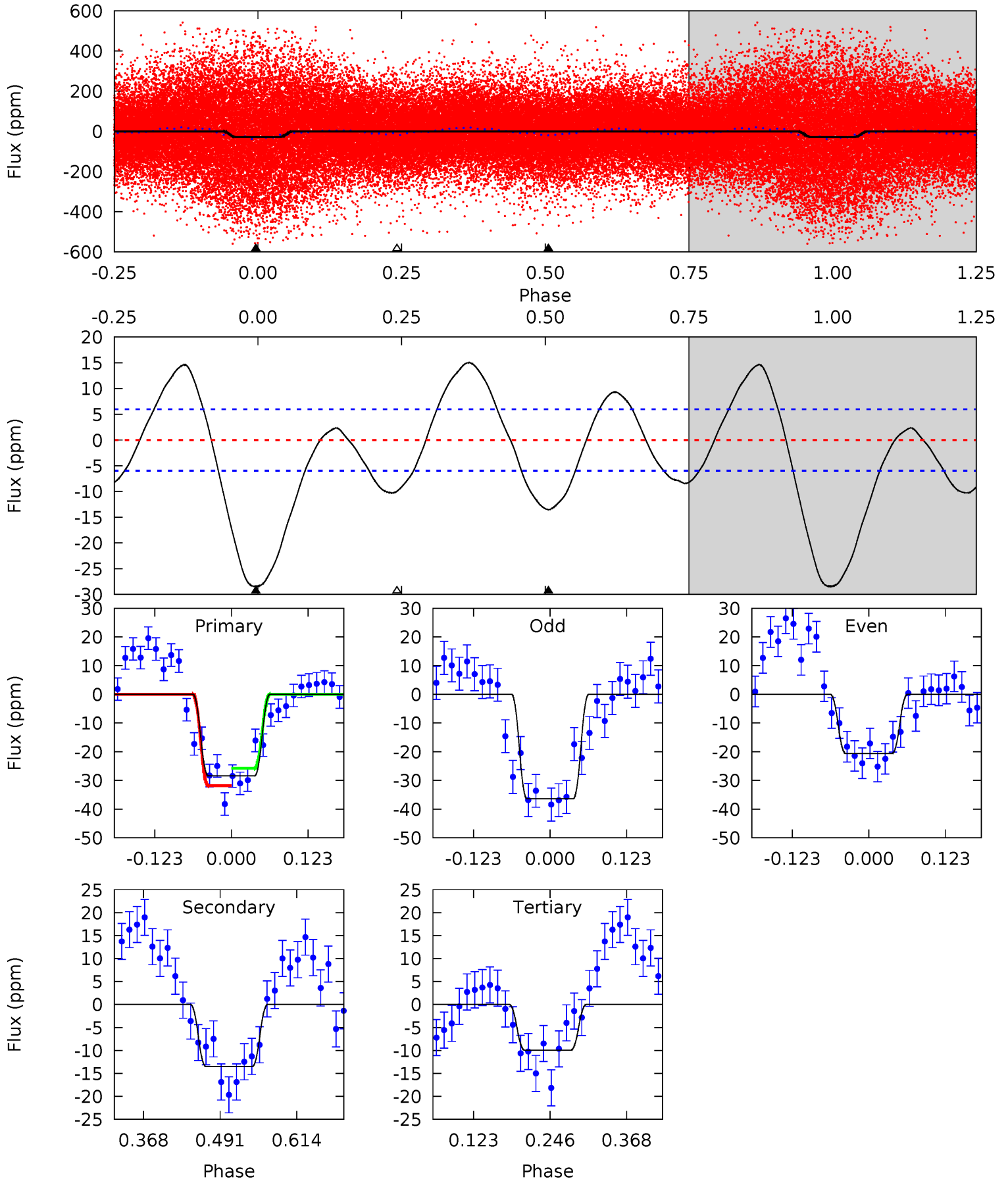
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	9.57	0	0	4.47	1.42	5.70	17.3	17.3	9.57	9.57	5.86	0.97	0.45	0.49



Alt Model-Shift Uniqueness Test

004733318-01, P = 1.479262 Days, E = 130.576726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	10.2	7.55	0	4.52	1.54	5.97	14.0	21.6	2.70	10.2	5.99	1.10	0.35	2.28



Stellar Parameters For KIC 004733318

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6768^{+169}_{-220}	$3.859^{+0.285}_{-0.095}$	$-0.300^{+0.300}_{-0.250}$	$2.283^{+0.425}_{-0.789}$	$1.375^{+0.231}_{-0.254}$	$0.163^{+0.297}_{-0.059}$
	+2%/-3%	+7%/-2%	+100%/-83%	+19%/-35%	+17%/-18%	+182%/-36%
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 004733318-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$1.13^{+0.30}_{-0.29}$	3651^{+242}_{-275}	5405^{+695}_{-534}	$3.560^{+2.737}_{-1.339}$
Alt.	-14 ± 1	$1.41^{+0.33}_{-0.29}$	3661^{+230}_{-311}	5181^{+495}_{-387}	$2.977^{+1.873}_{-0.996}$

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 $A_{\text{obs}} \gg 1.0$

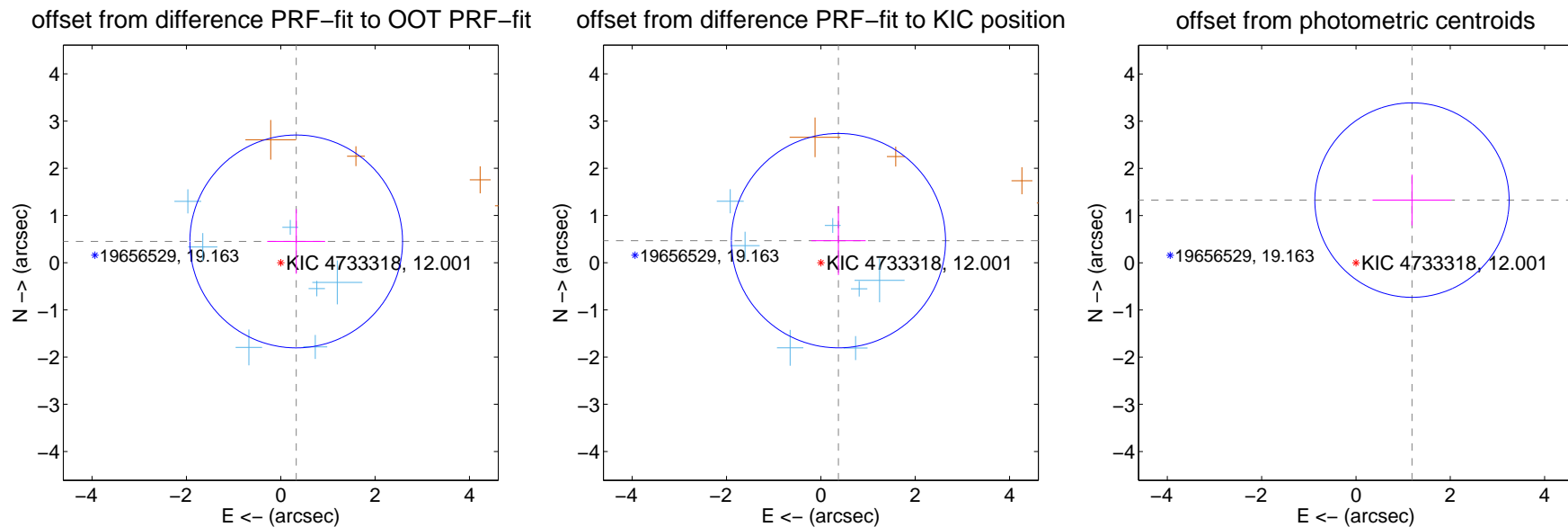
DV Centroid Data

Supplemental centroid analysis for 004733318-01. Kepler magnitude: 12.00. Transit SNR 9.48

There are 7 quarters with good PRF difference image offsets

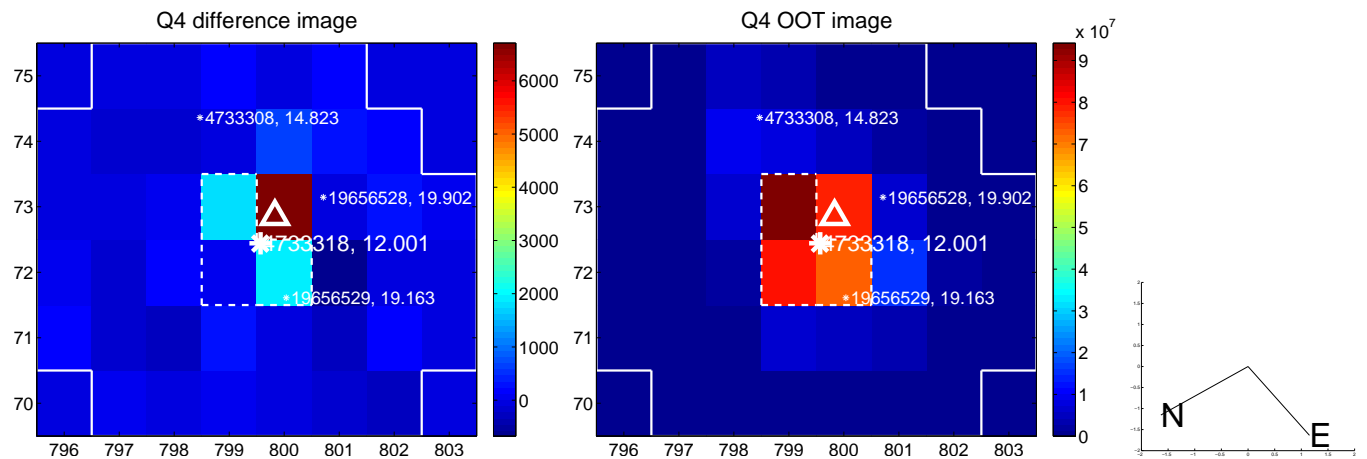
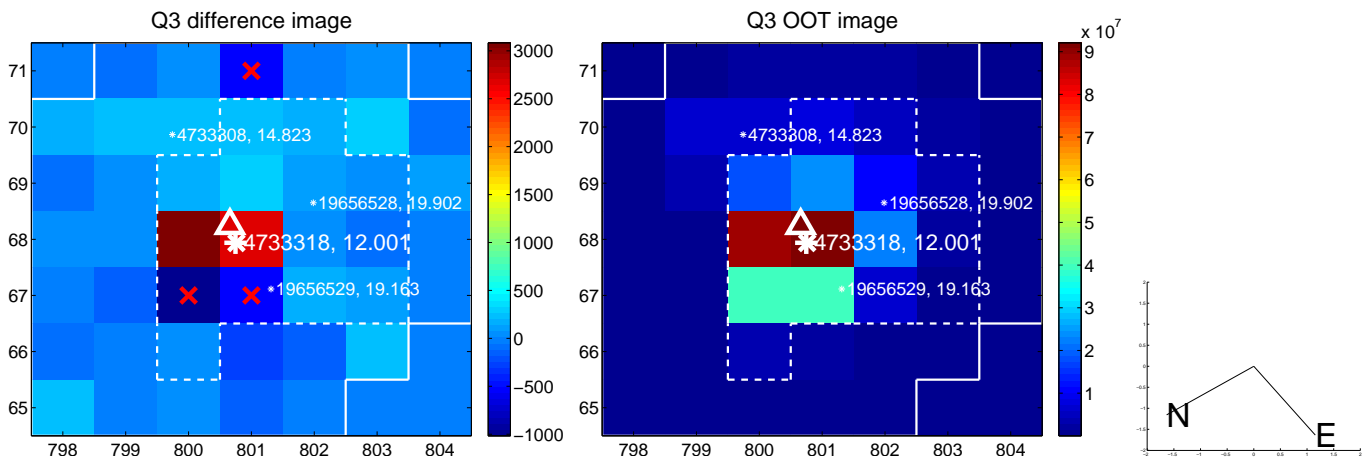
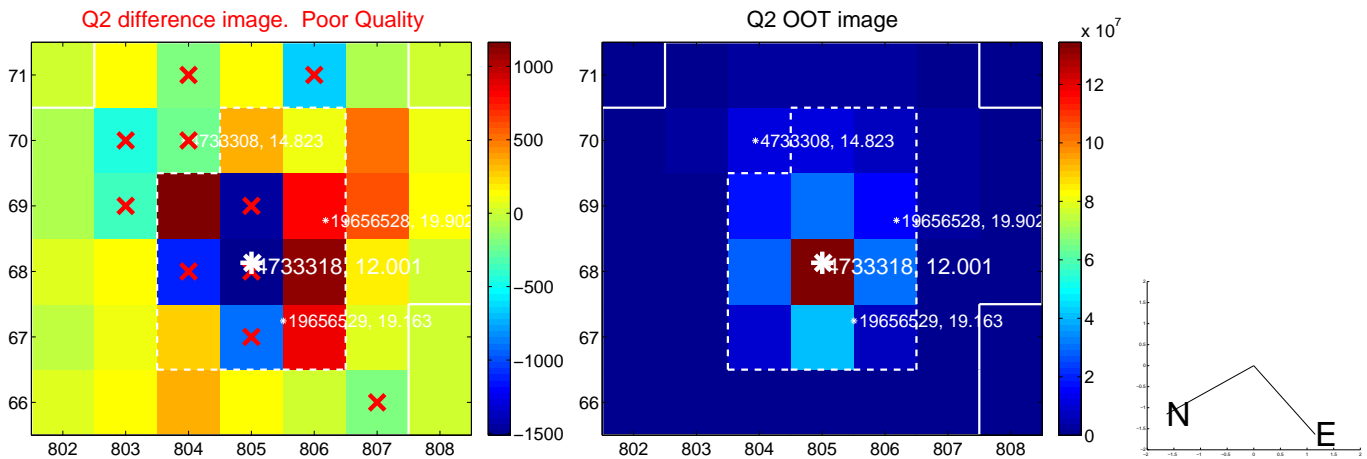
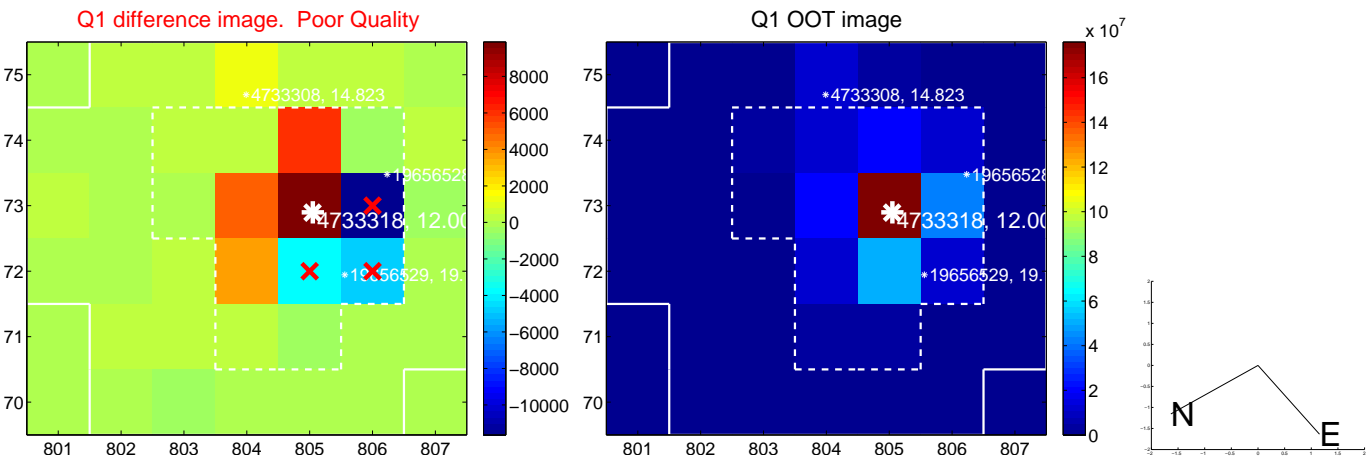
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.557 ± 0.751	0.74	-0.328 ± 0.614	0.450 ± 0.684
PRF-fit source offset from KIC position	0.597 ± 0.757	0.79	-0.373 ± 0.577	0.467 ± 0.728
photometric centroid source offset	1.78 ± 0.69	2.59	-1.19 ± 0.84	1.33 ± 0.54

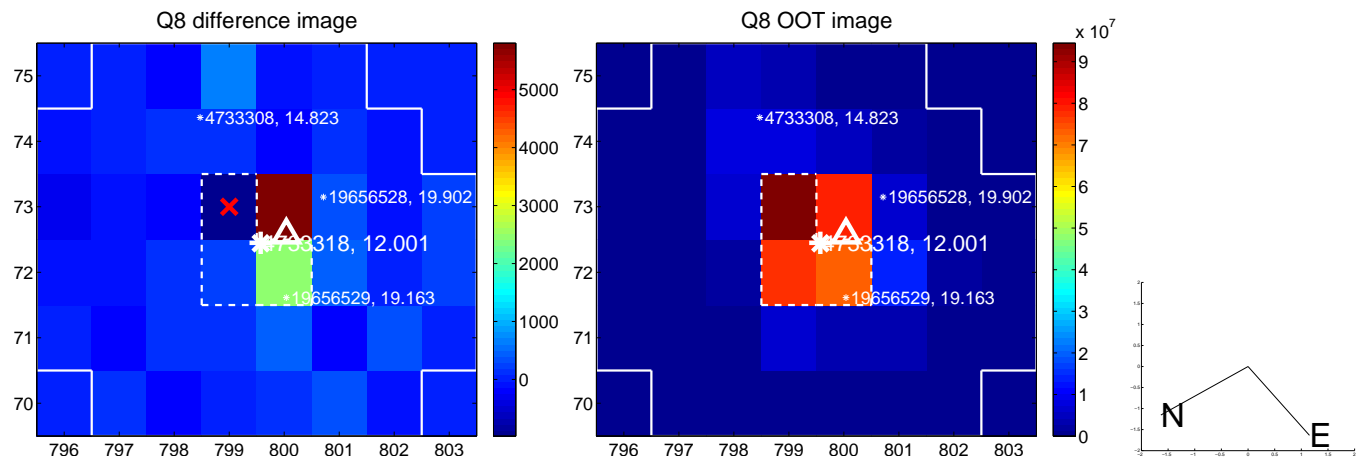
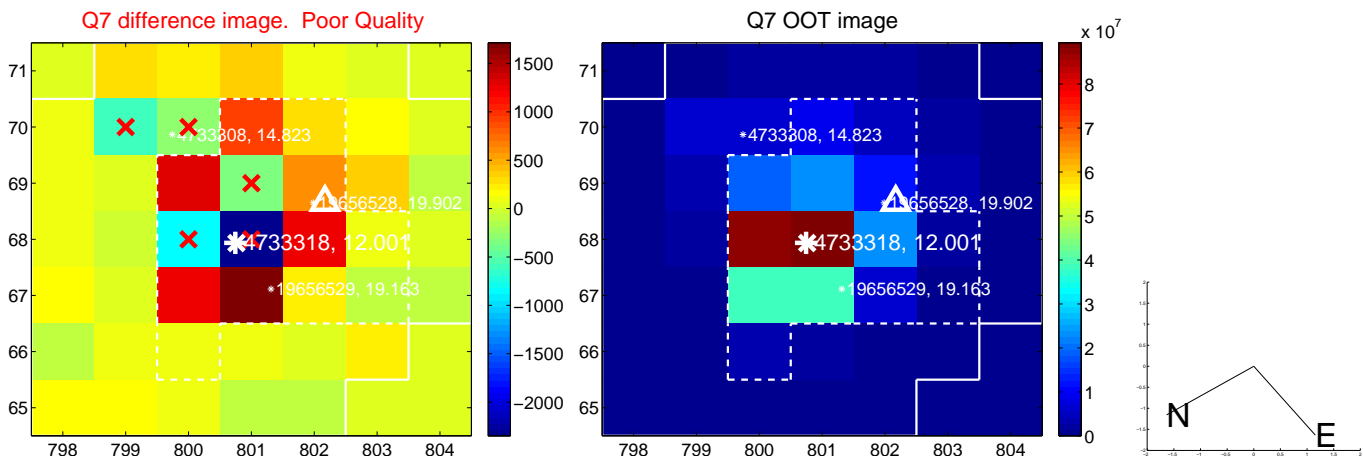
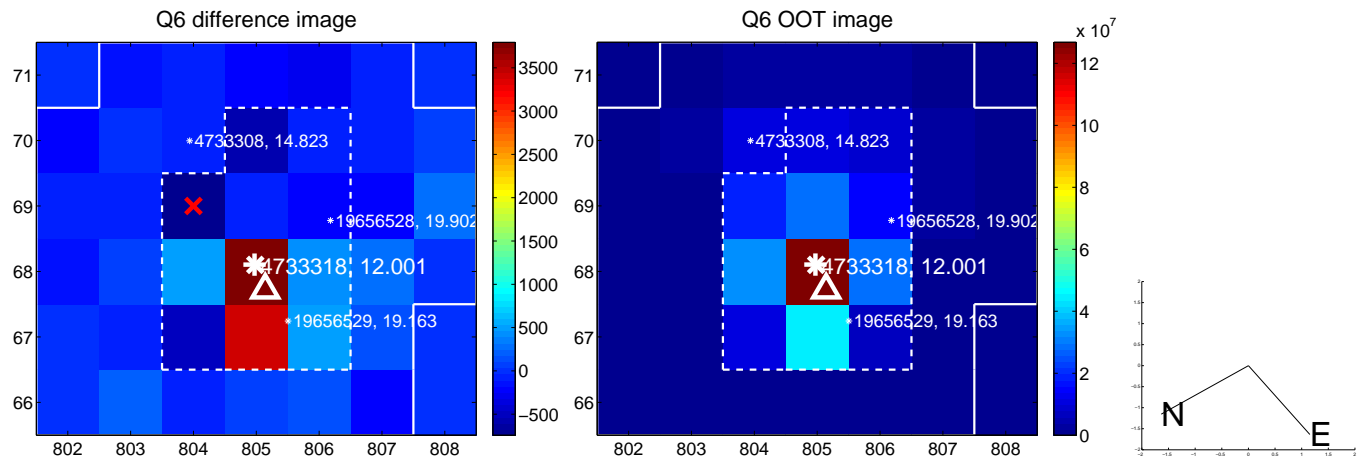
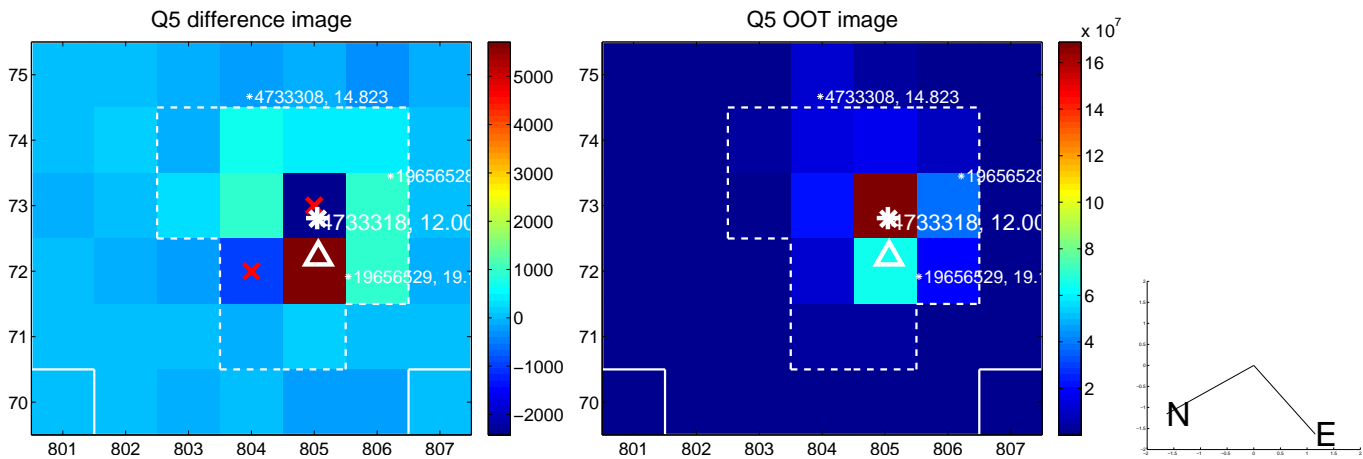


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

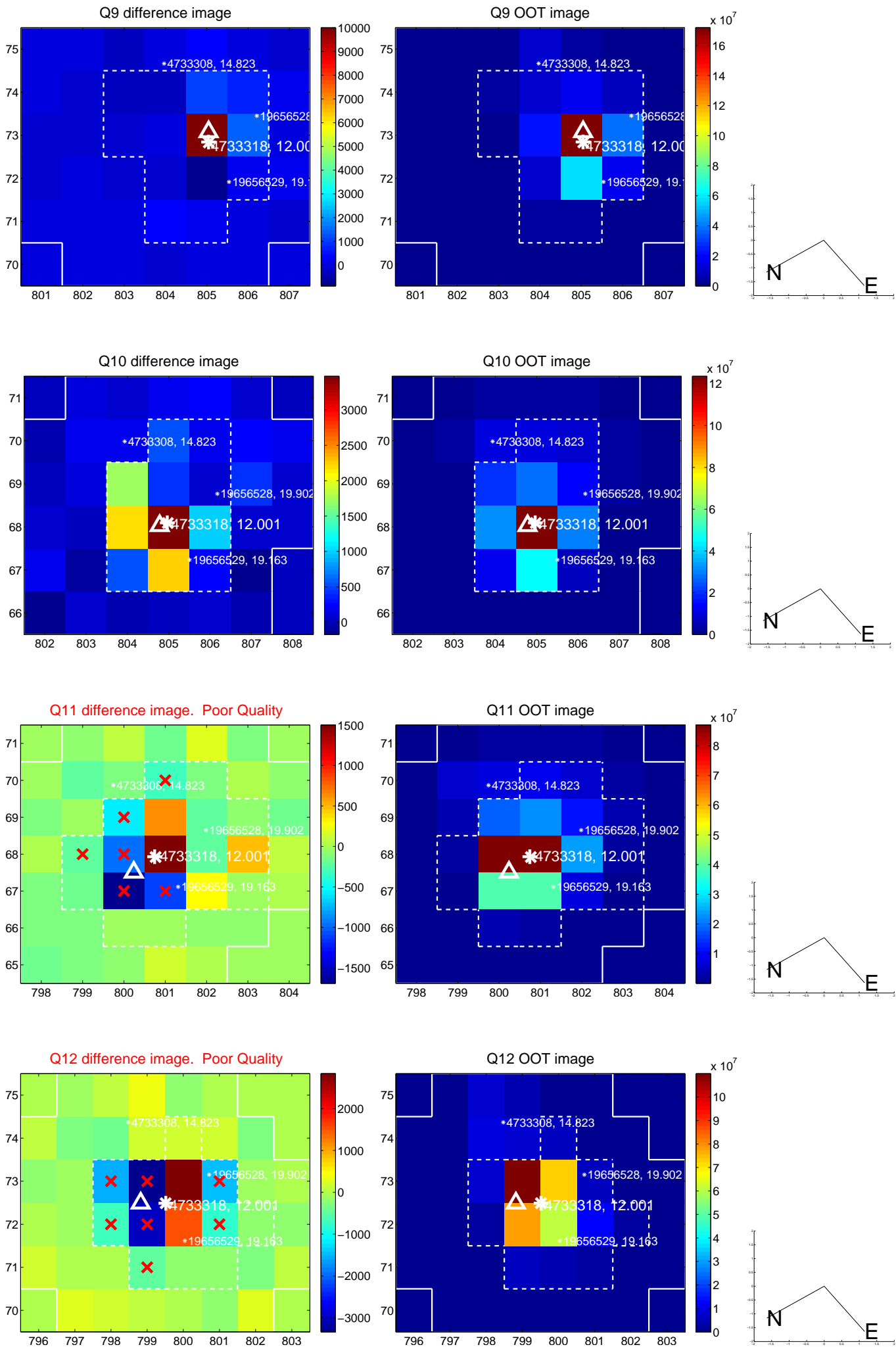
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



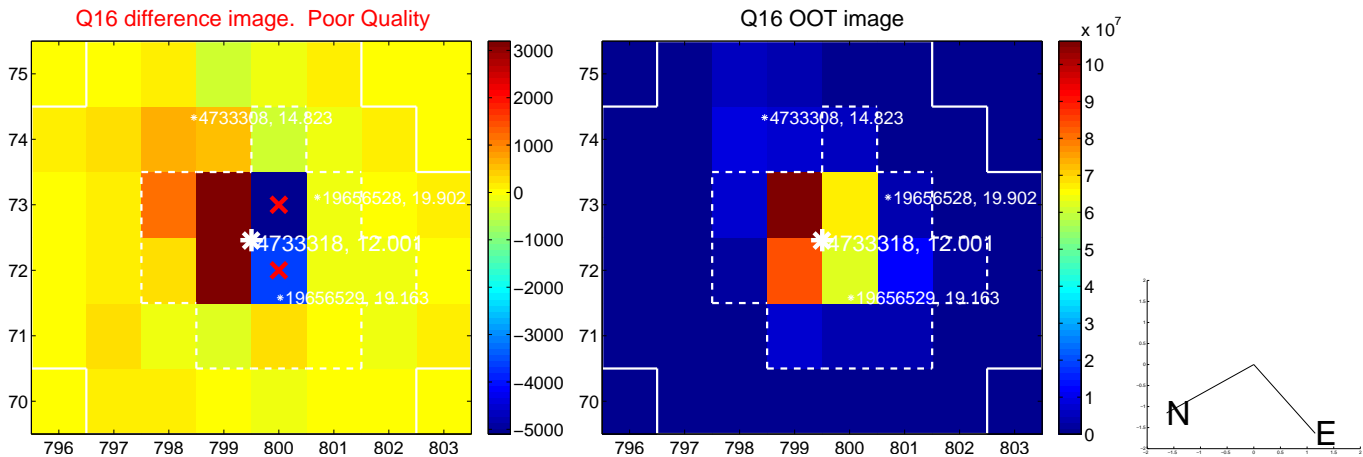
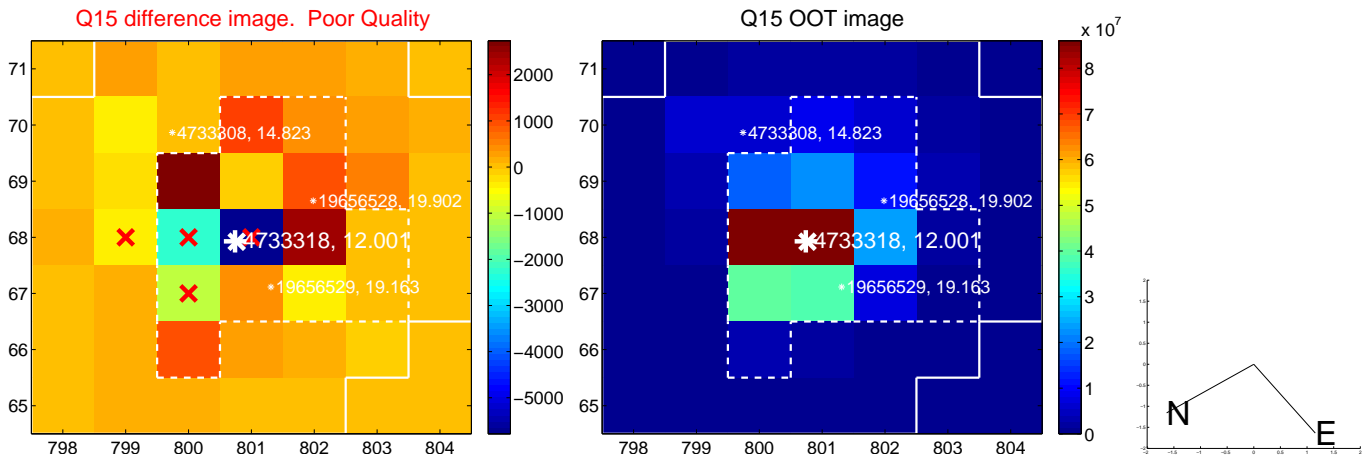
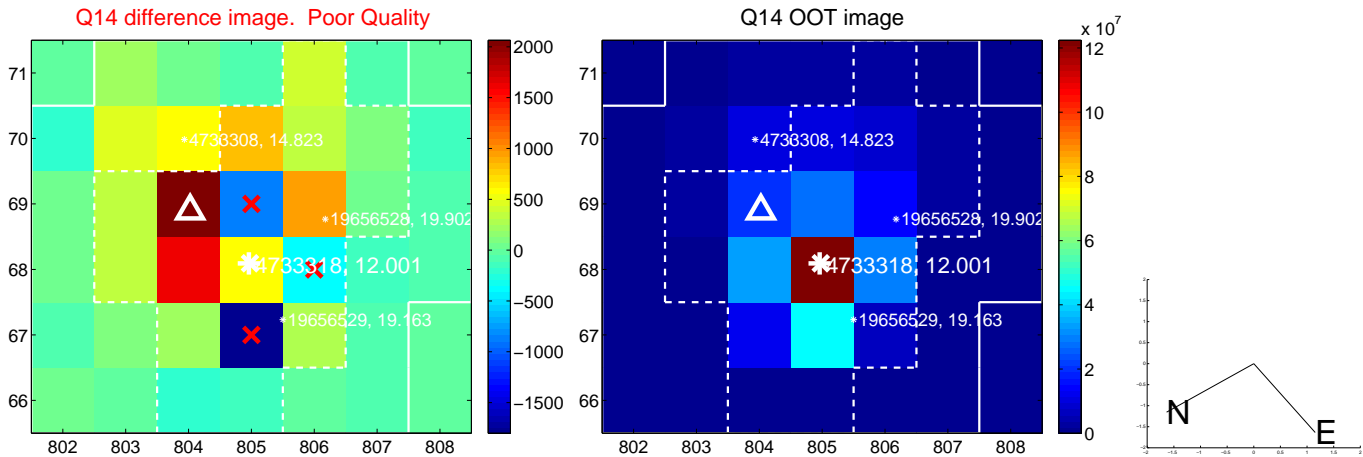
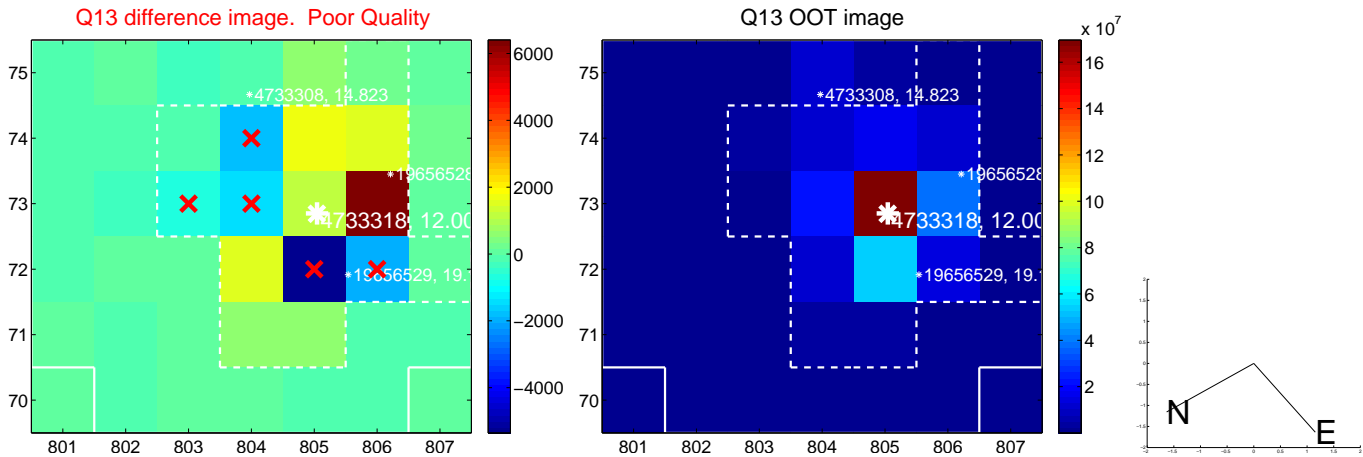
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



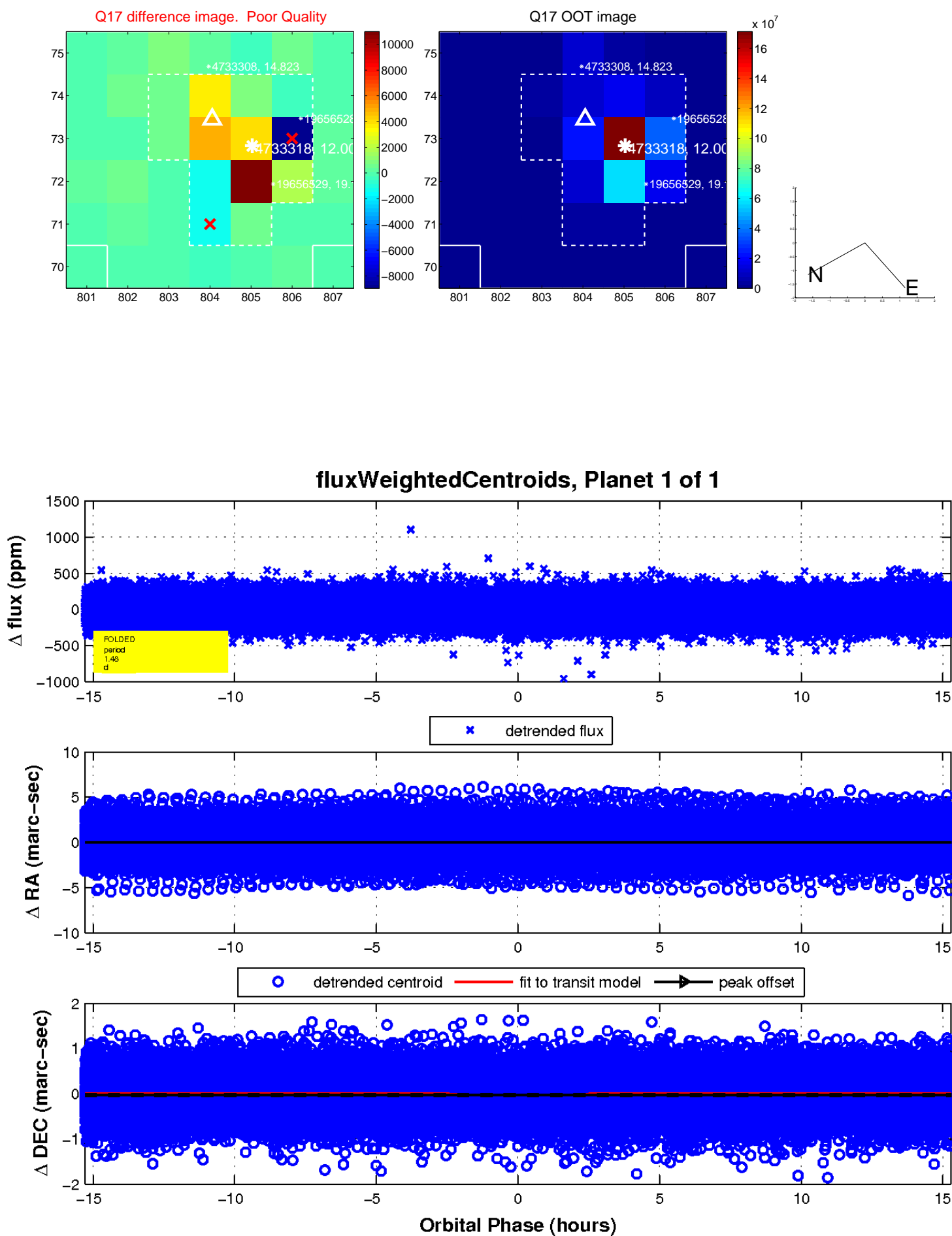
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

