

KIC 008345172

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})
008345172-01	OBS	2385.01	50.571492	161.114731	1286.9	3.757	17.7	19.3	0.78	5262	2.96	6.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008345172-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_UNRESOLVED_OFFSET

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 008345172-01

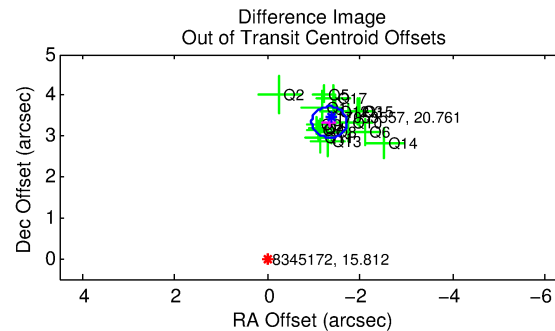
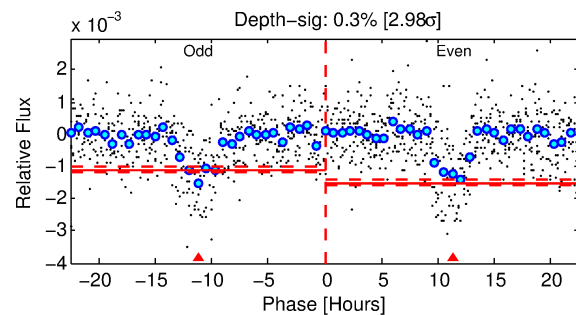
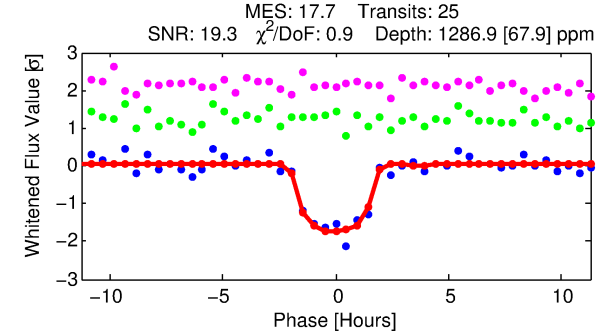
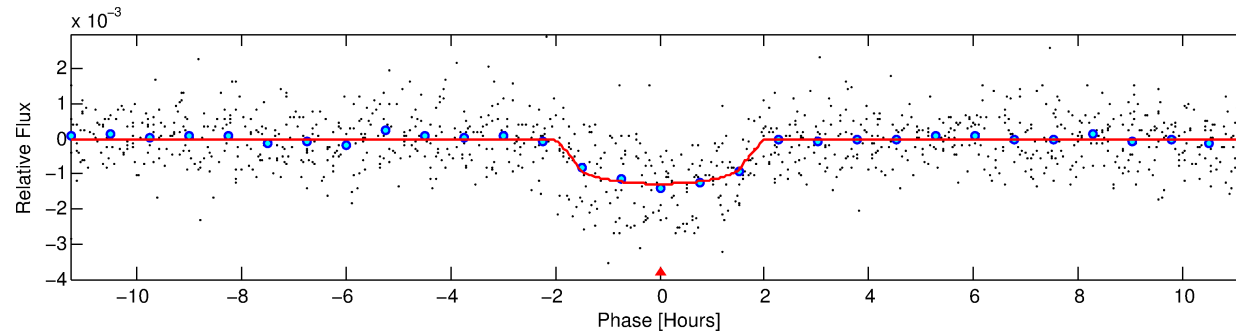
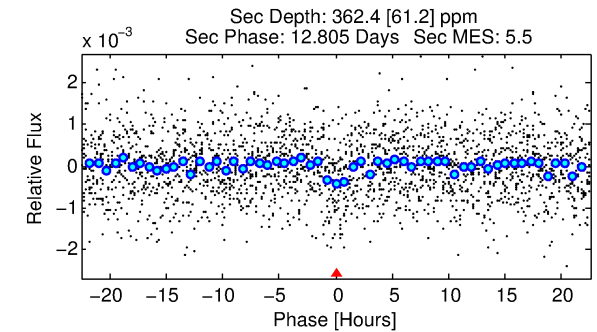
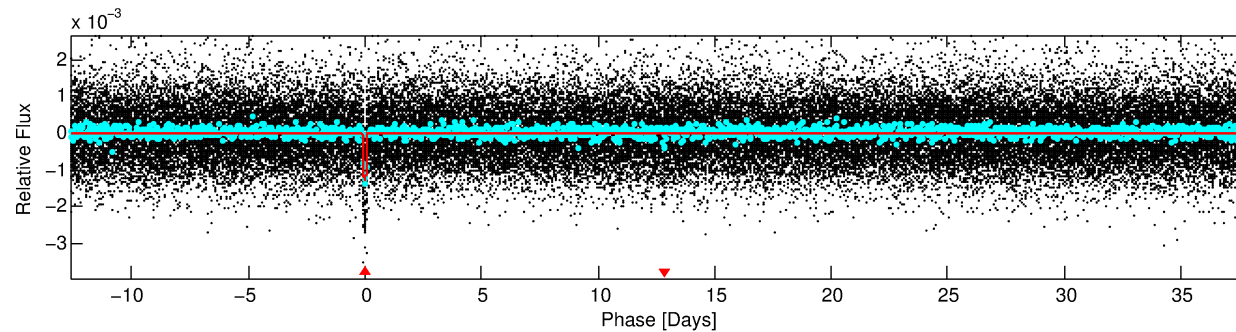
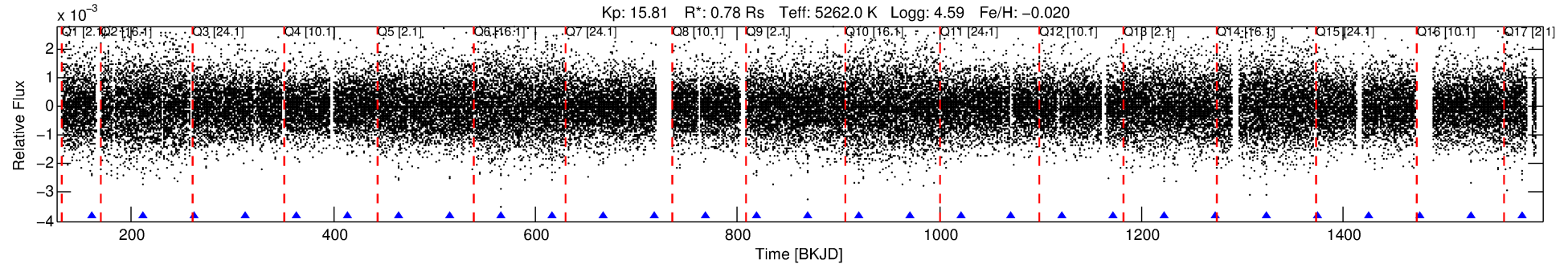
No Significant Match Found

DV One-Page Summary

KIC: 8345172 Candidate: 1 of 1 Period: 50.571 d

KOI: K02385.01 Corr: 0.983

Kp: 15.81 R*: 0.78 Rs Teff: 5262.0 K Logg: 4.59 Fe/H: -0.020



DV Fit Results:

Period = 50.57149 [0.00026] d
Epoch = 161.1147 [0.0040] BKJD
Rp/R* = 0.0346 [0.0231]
a/R* = 81.90 [201.62]
b = 0.66 [2.15]
Seff = 6.45 [1.45]
Teq = 406 [23] K
Rp = 2.96 [2.02] Re
a = 0.2555 [0.0335] AU
Ag = 1487.87 [2019.25] [0.74σ]
Teffp = 3902 [1316] K [2.66σ]

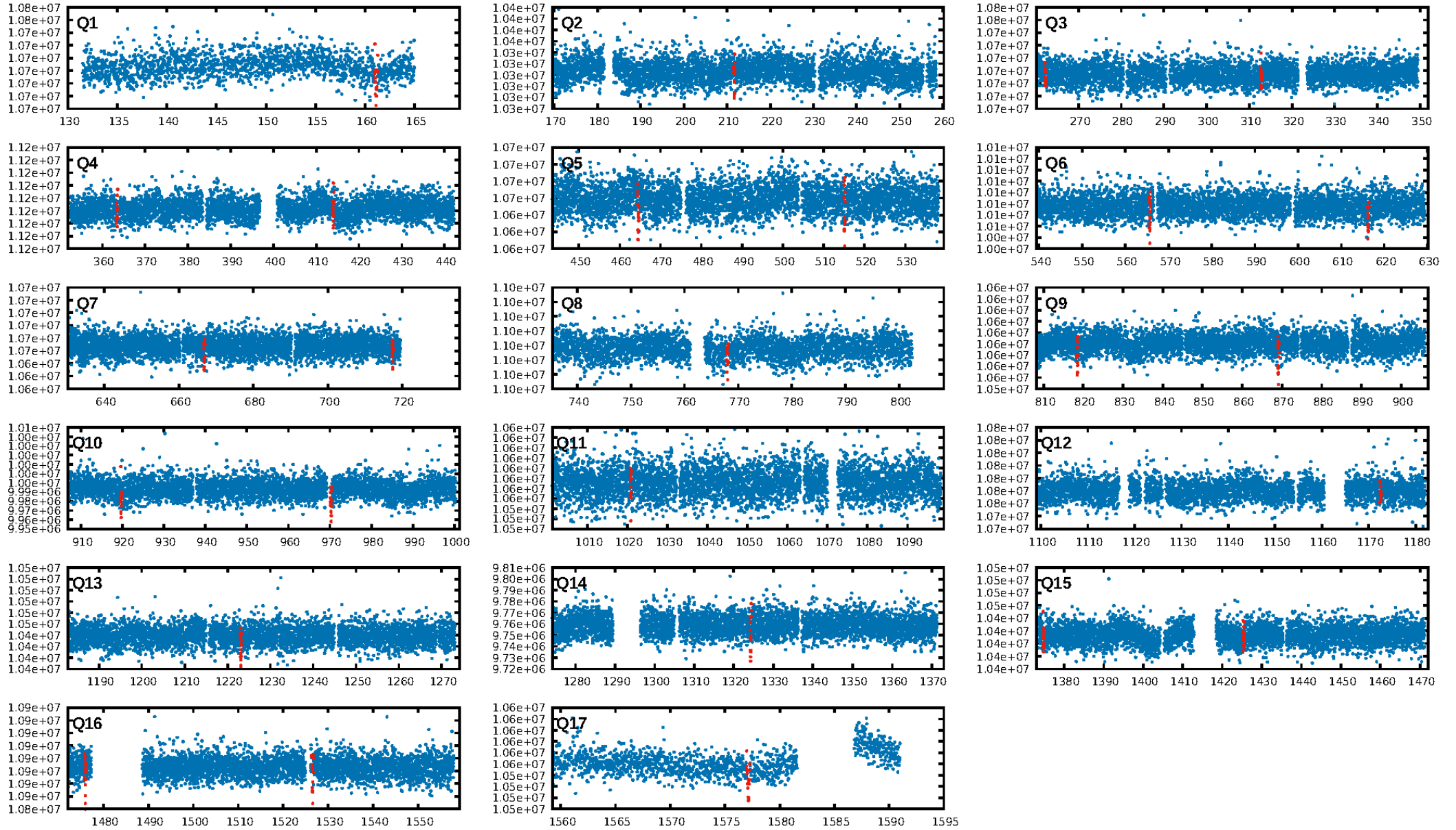
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 99.1%
Bootstrap-pfa: 2.70e-71
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 0.3079
Centroid-sig: 0.0%
Centroid-so: 5.884 arcsec [9.96σ]
OotOffset-rm: 3.599 arcsec [28.46σ]
KicOffset-rm: 3.643 arcsec [27.90σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

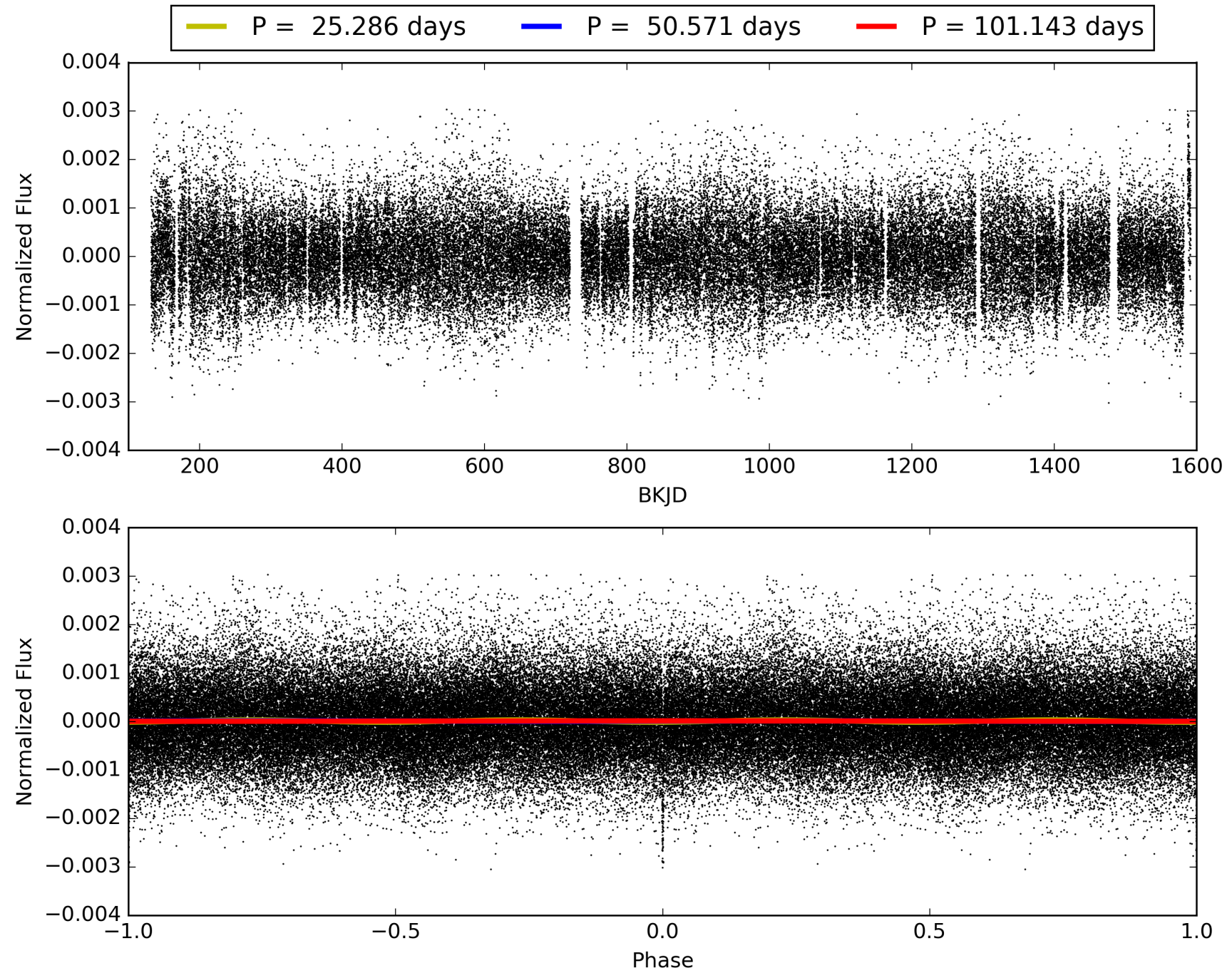
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:35:32 Z

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

TCE 008345172-01, PDC Light Curves

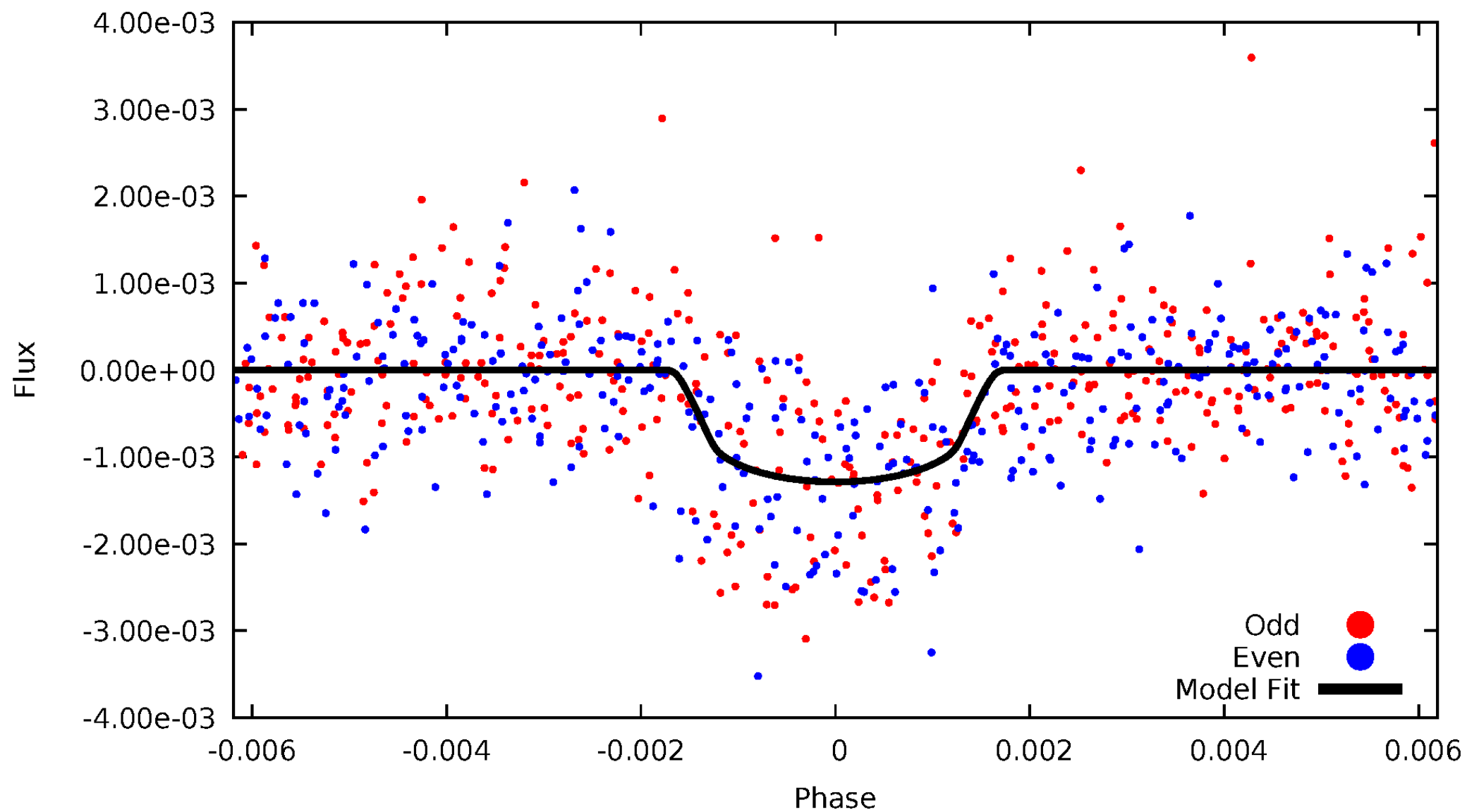


TCE 008345172-01



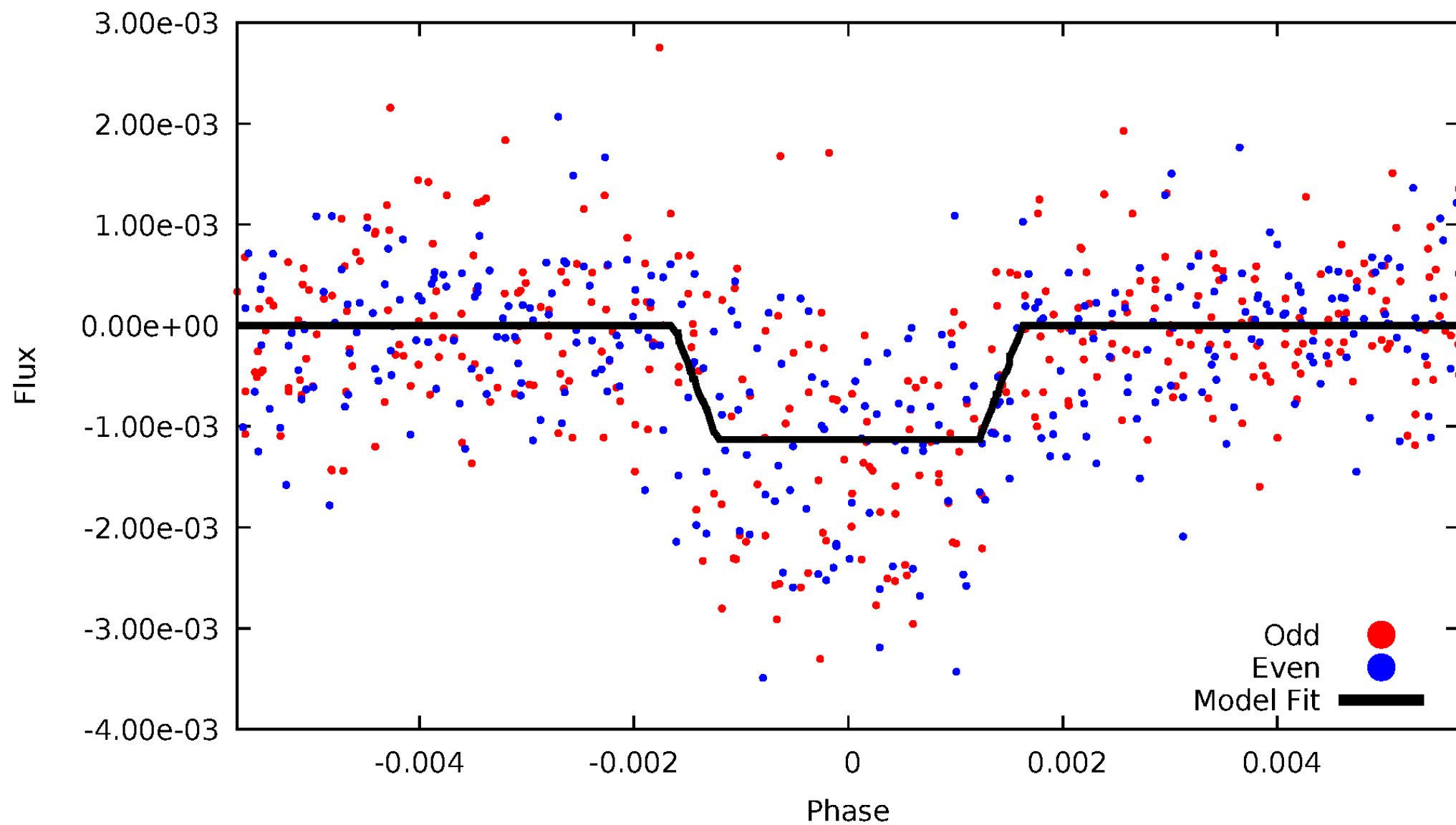
DV Odd/Even

TCE 008345172-01

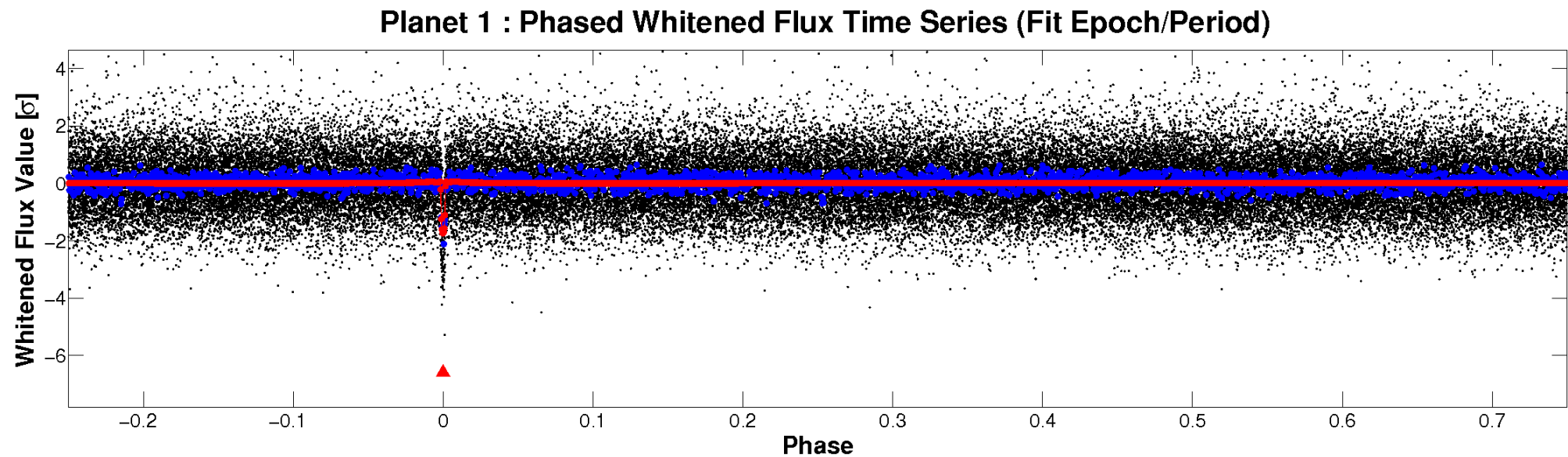
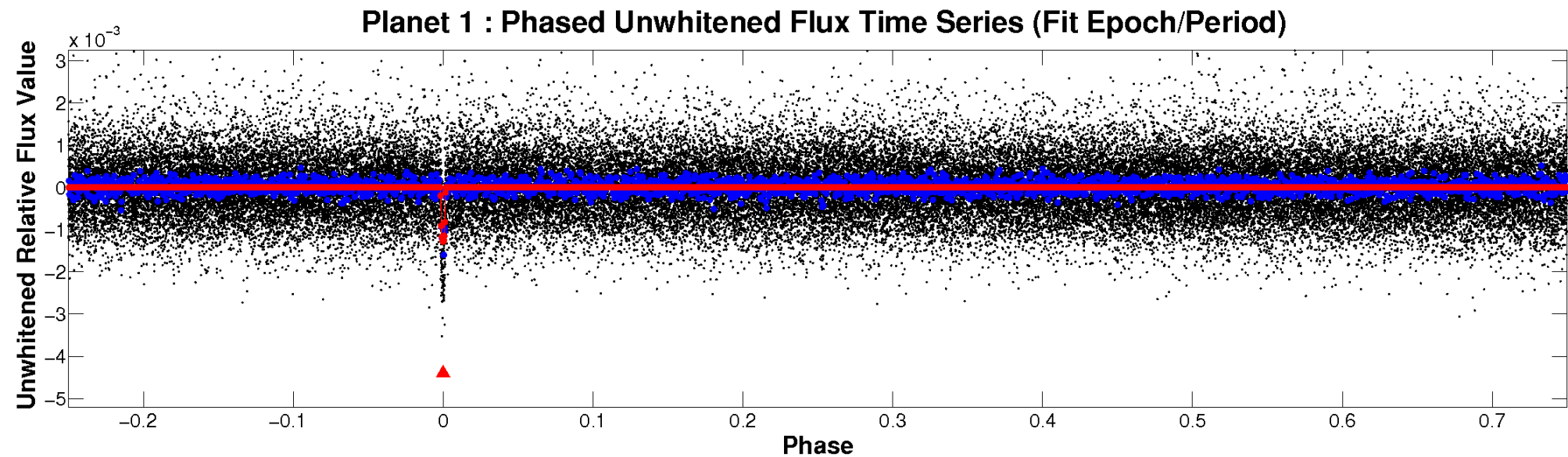


ALT Odd/Even

TCE 008345172-01

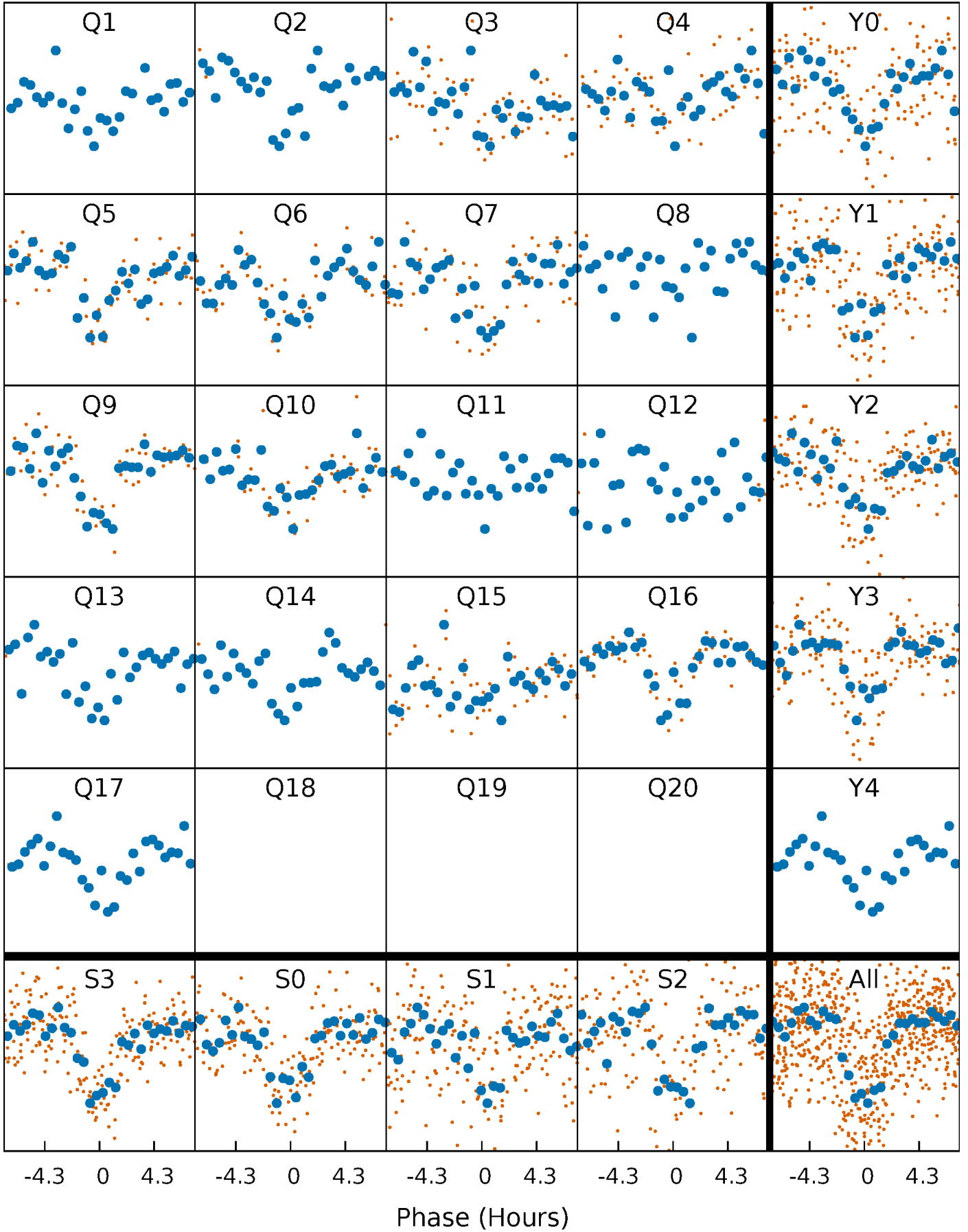


Non-Whitened Vs. Whitened Light Curve



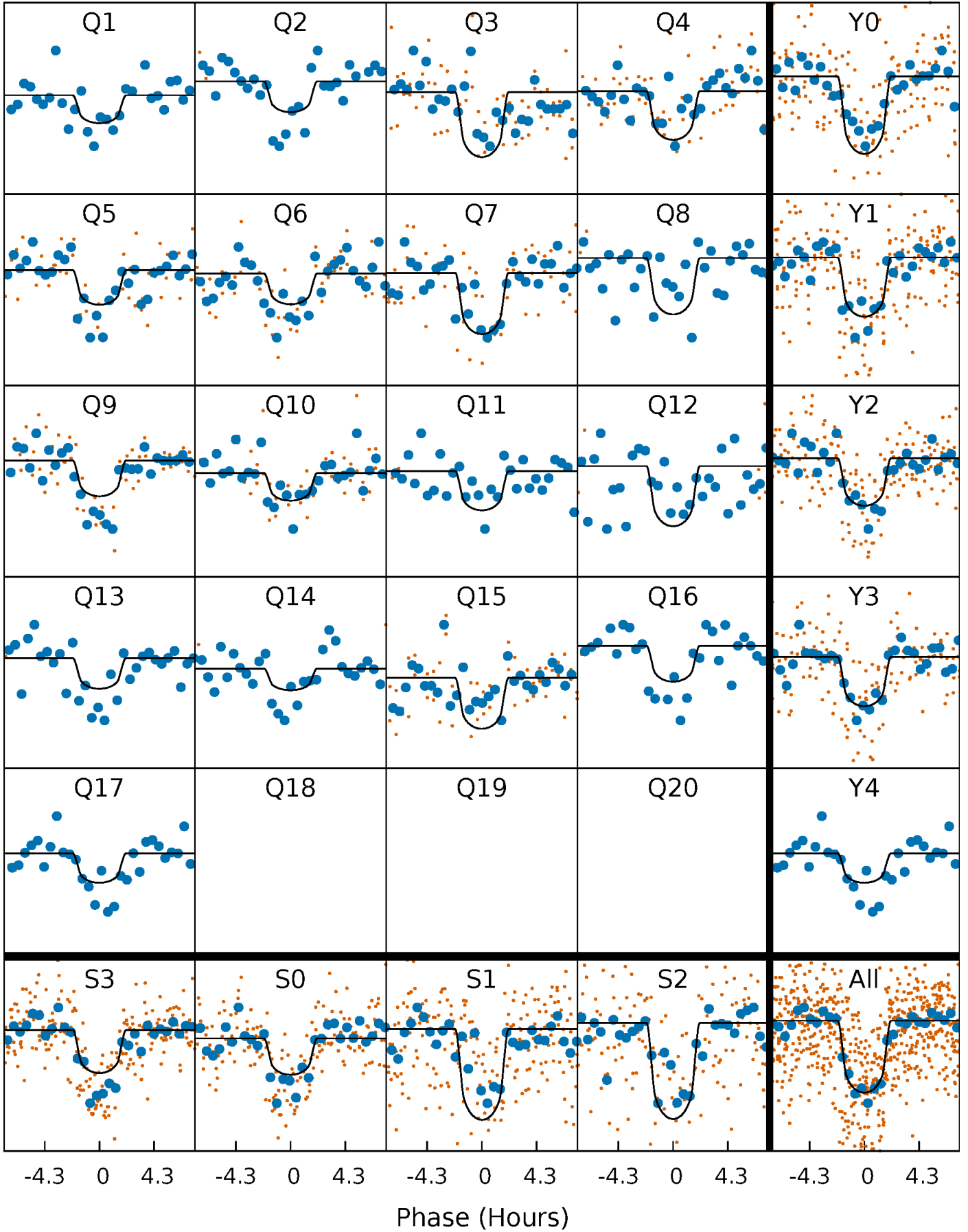
PDC Quarter-Phased Transit Curves

TCE 008345172-01 P= 50.571492 Days $T_0=161.114731$ (BKJD)



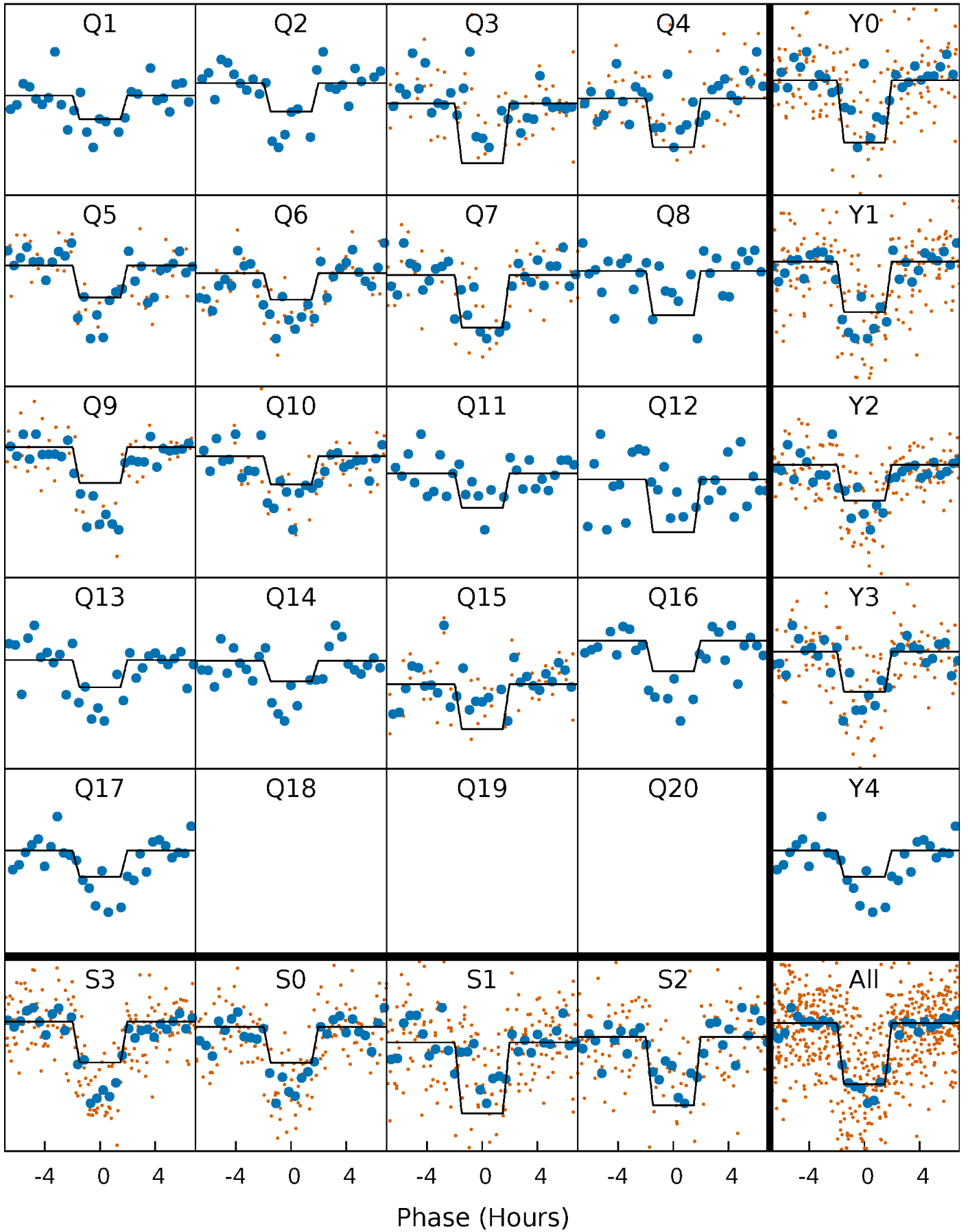
DV Quarter-Phased Transit Curves

TCE 008345172-01 P= 50.571492 Days $T_0=161.114731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

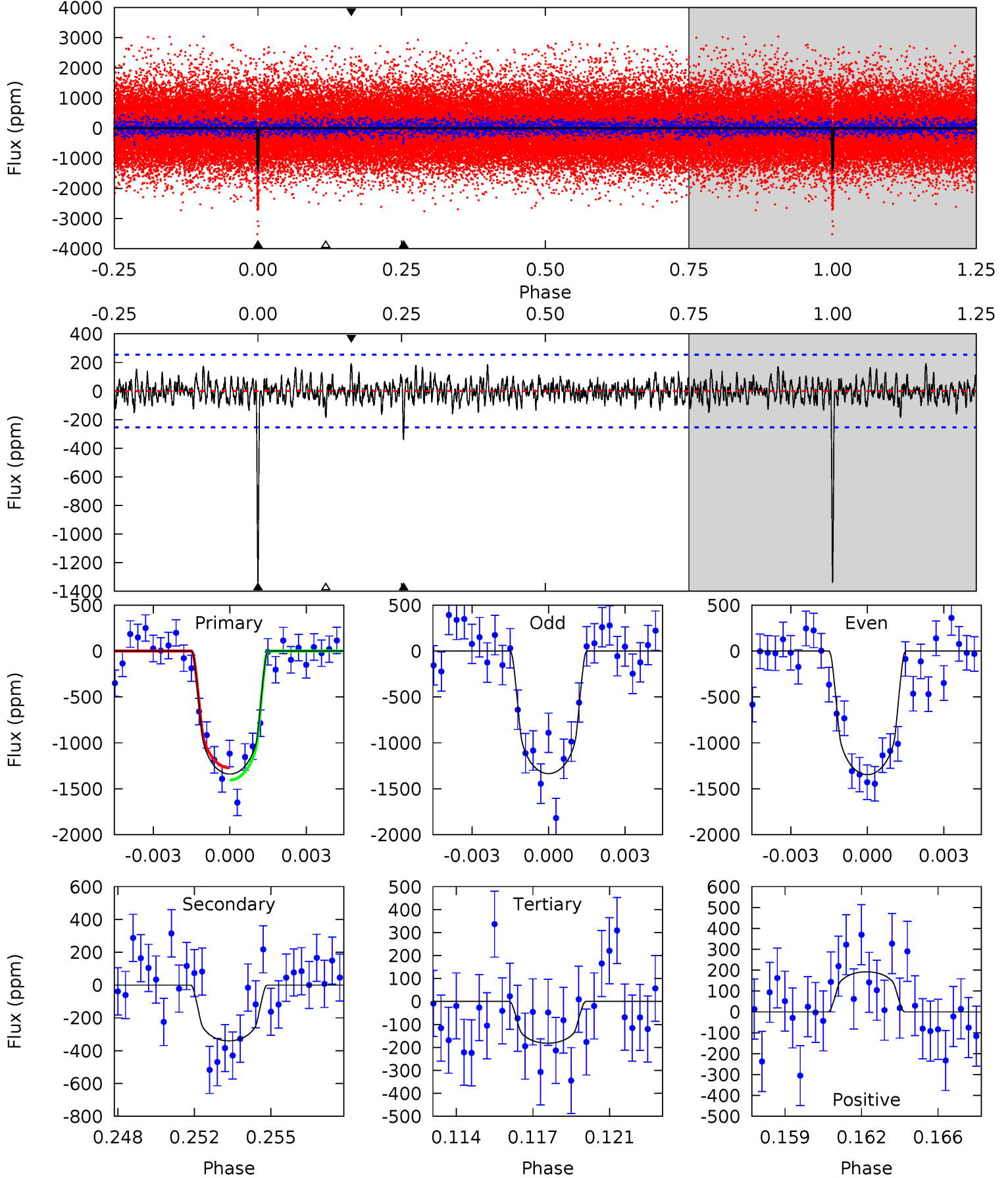
TCE 008345172-01 P= 50.571356 Days $T_0=161.115743$ (BKJD)



DV Model-Shift Uniqueness Test

008345172-01, $P = 50.571492$ Days, $E = 110.543239$ Days

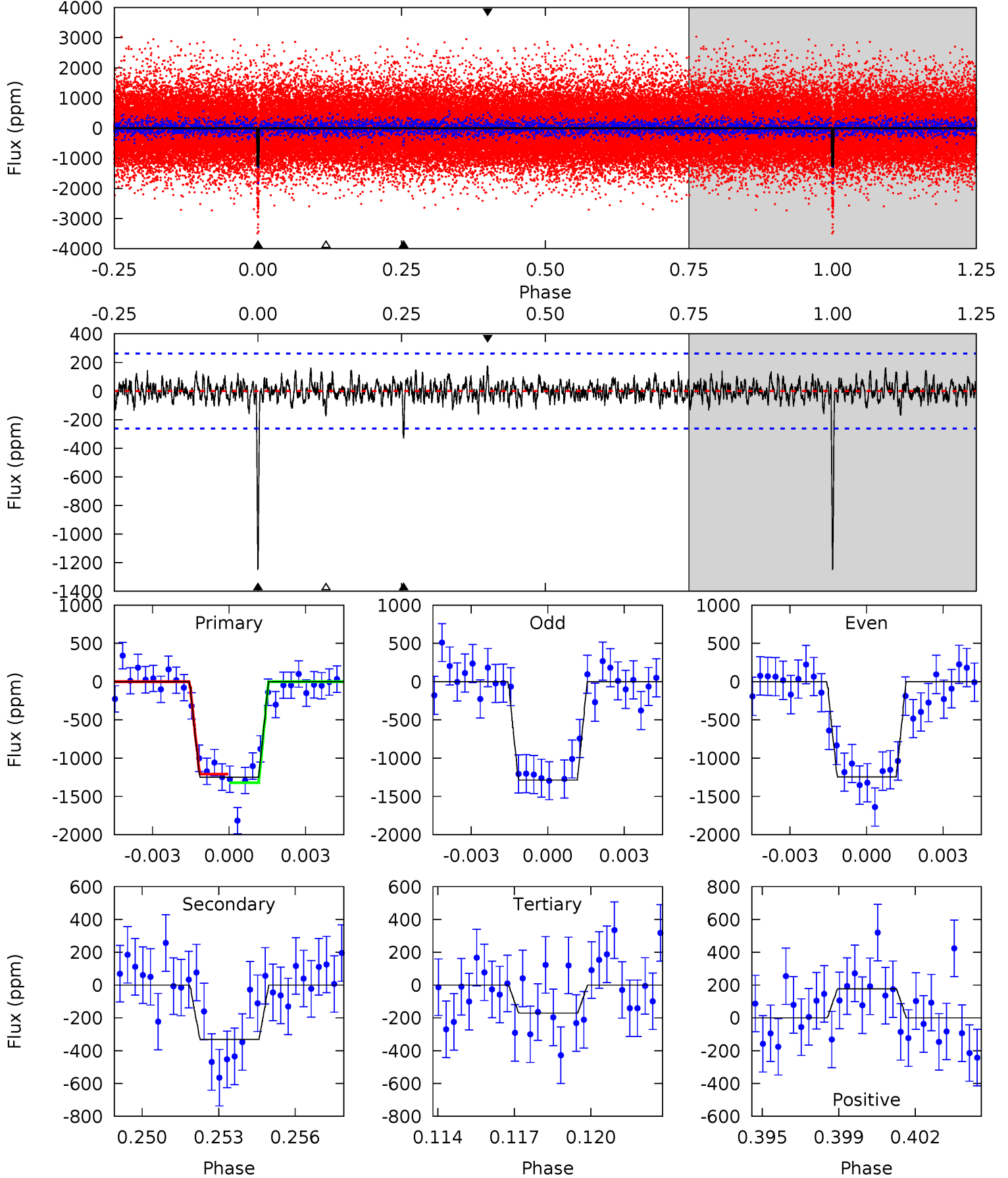
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.6	7.01	3.75	3.96	5.23	2.92	1.15	23.9	23.7	3.26	3.05	0.11	0.92	0.13	1.37



Alt Model-Shift Uniqueness Test

008345172-01, P = 50.571356 Days, E = 110.544387 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	6.63	3.42	3.53	5.24	2.95	1.01	21.5	21.4	3.21	3.09	0.40	0.85	0.12	1.14



Stellar Parameters For KIC 008345172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5262^{+158}_{-158}	$4.590^{+0.032}_{-0.104}$	$-0.020^{+0.300}_{-0.300}$	$0.783^{+0.122}_{-0.066}$	$0.875^{+0.060}_{-0.095}$	$2.569^{+0.384}_{-0.831}$
	+3%/-3%	+1%/-2%	+1500%/-1500%	+16%/-8%	+7%/-11%	+15%/-32%
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 008345172-01 / KOI 2385.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-340 ± 49	$3.28^{+1.99}_{-1.77}$	576^{+26}_{-22}	3976^{+1530}_{-578}	1104^{+4380}_{-680}
Alt.	-332 ± 50	$3.21^{+1.93}_{-1.79}$	576^{+23}_{-22}	4003^{+1506}_{-587}	1142^{+4642}_{-702}

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

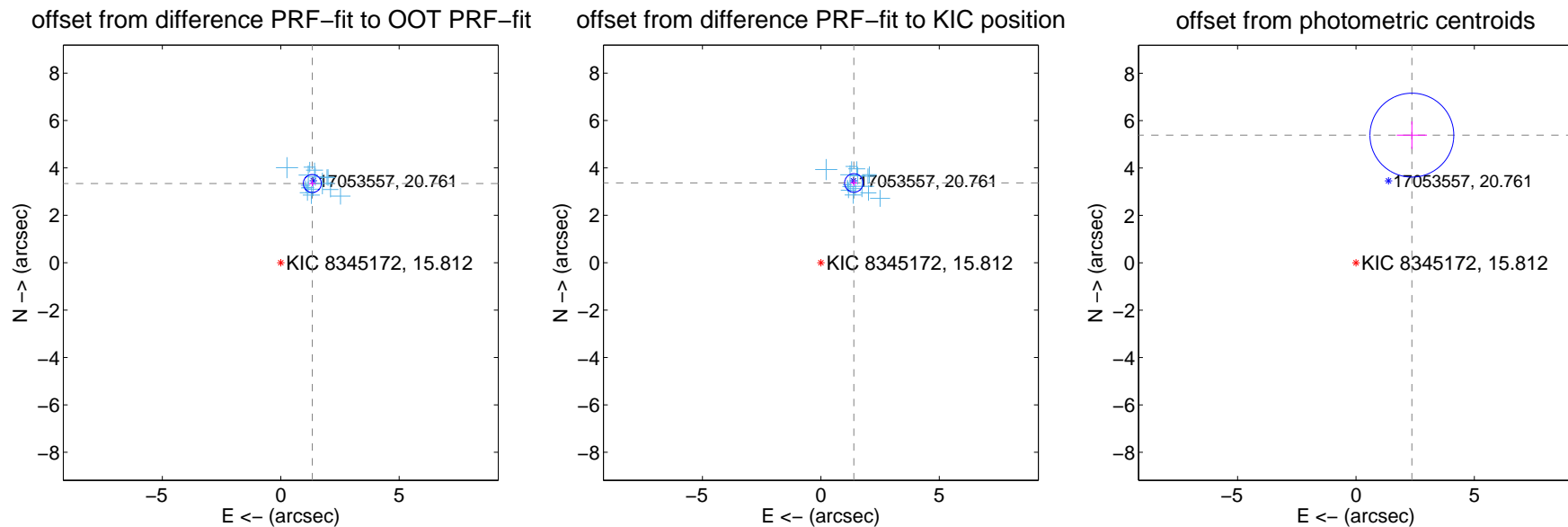
DV Centroid Data

Supplemental centroid analysis for 008345172-01. Kepler magnitude: 15.81. Transit SNR 19.29

There are 16 quarters with good PRF difference image offsets

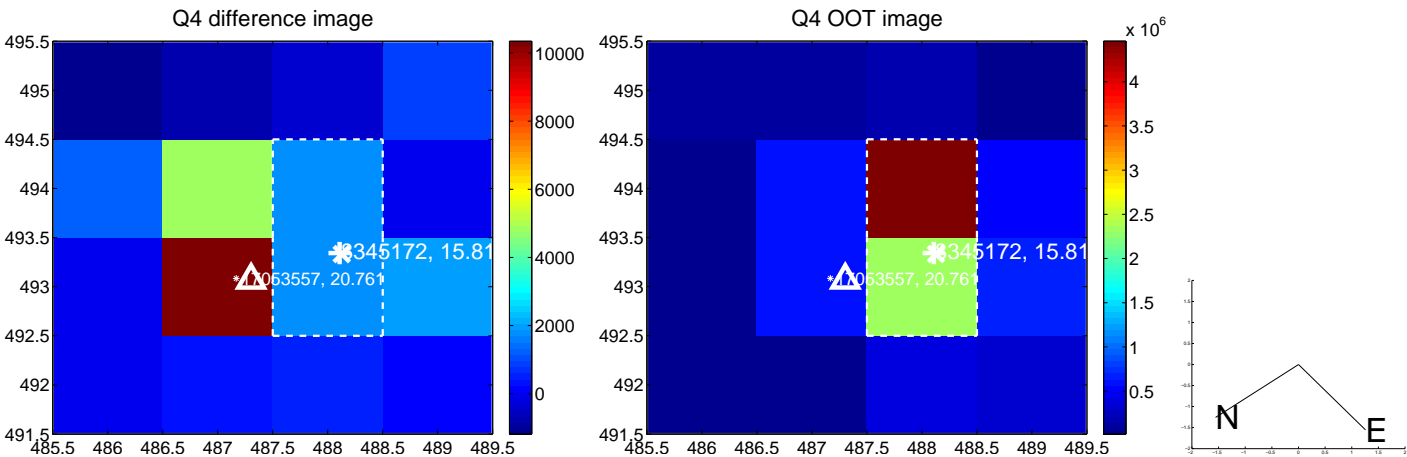
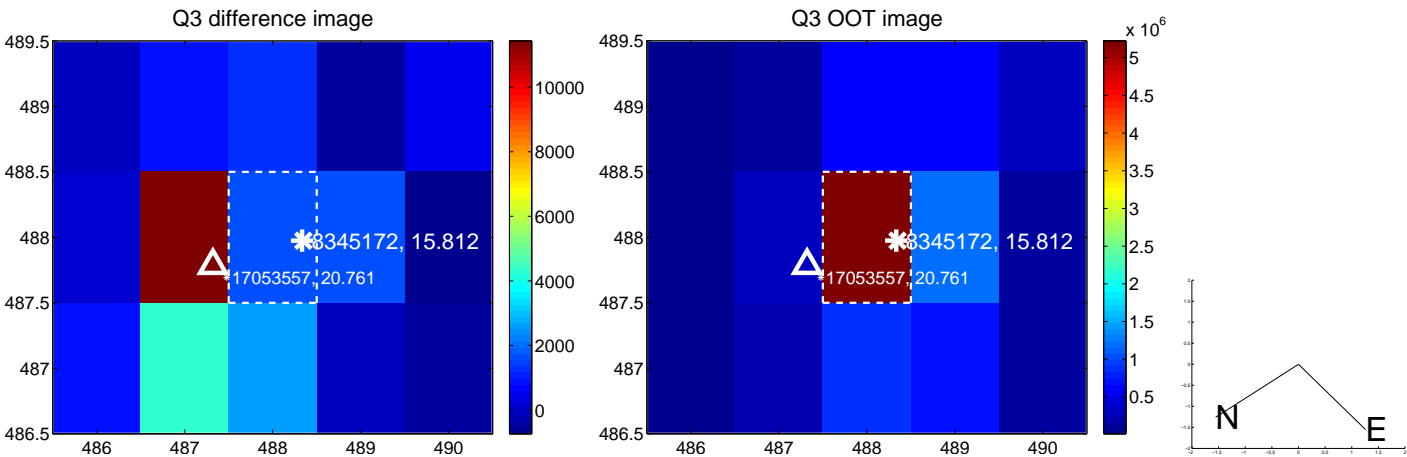
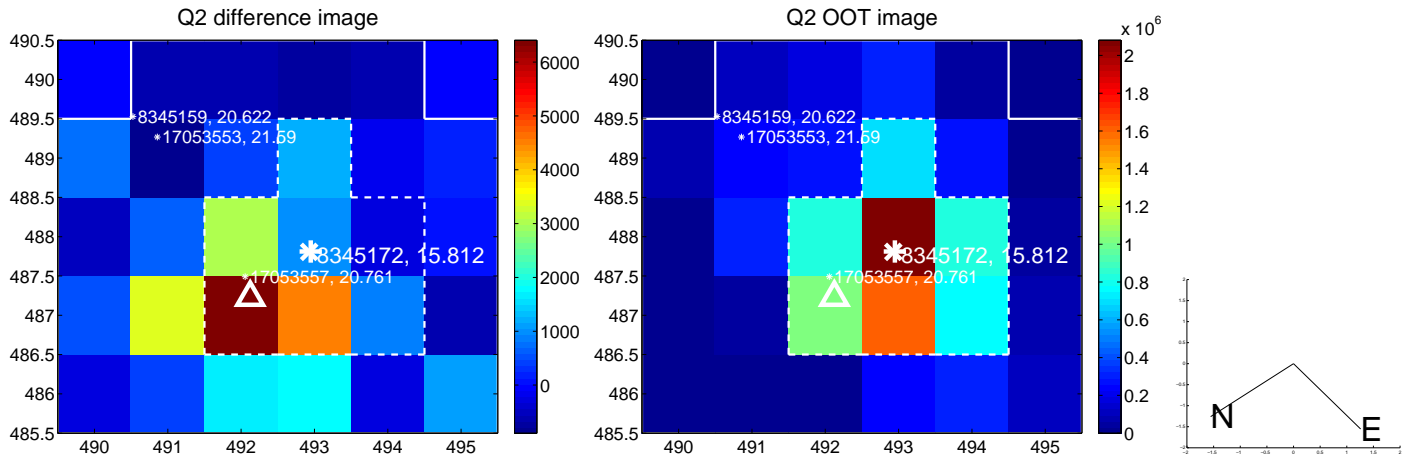
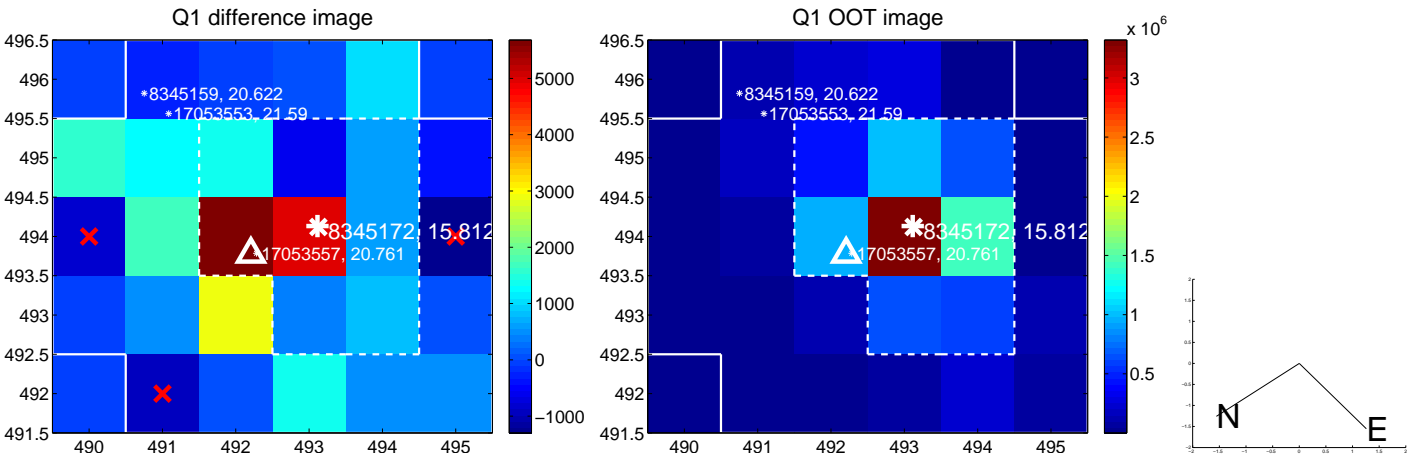
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.599 ± 0.126	28.46	-1.334 ± 0.145	3.343 ± 0.123
PRF-fit source offset from KIC position	3.643 ± 0.131	27.90	-1.394 ± 0.144	3.366 ± 0.128
photometric centroid source offset	5.88 ± 0.59	9.96	-2.36 ± 0.64	5.39 ± 0.58

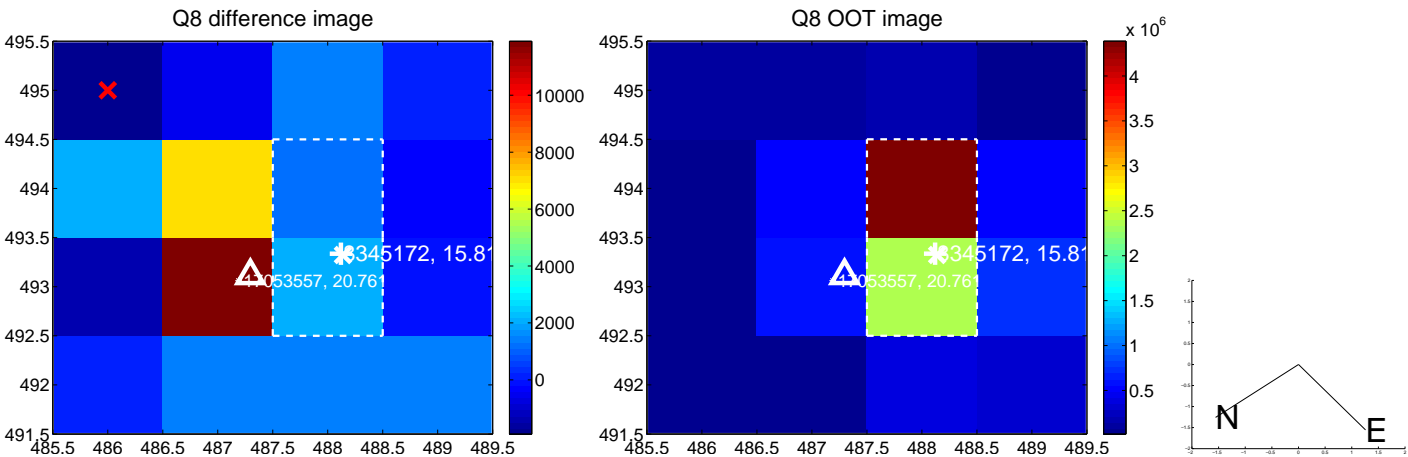
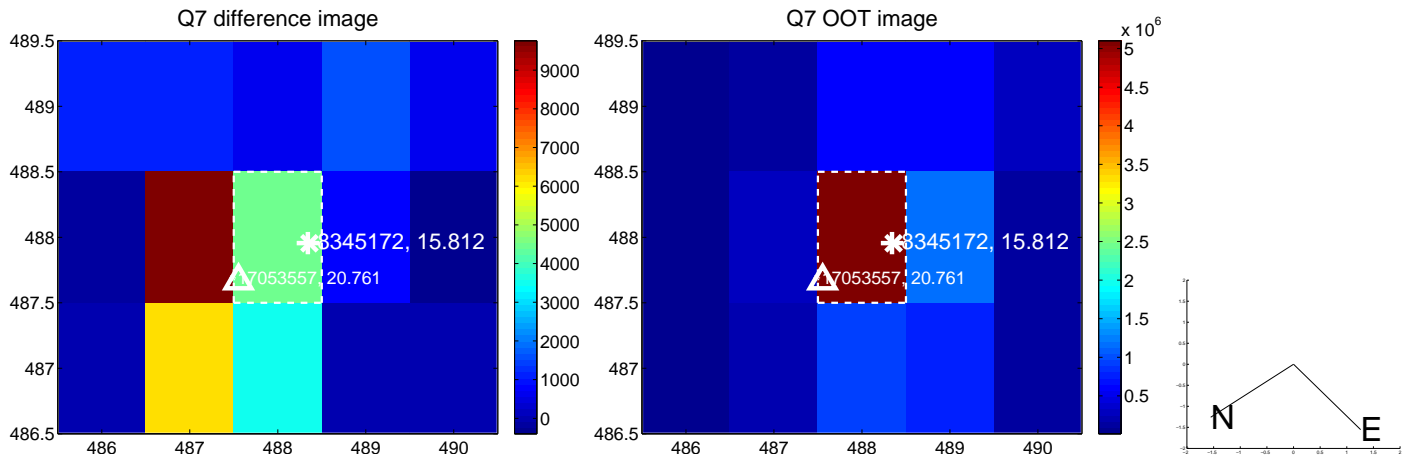
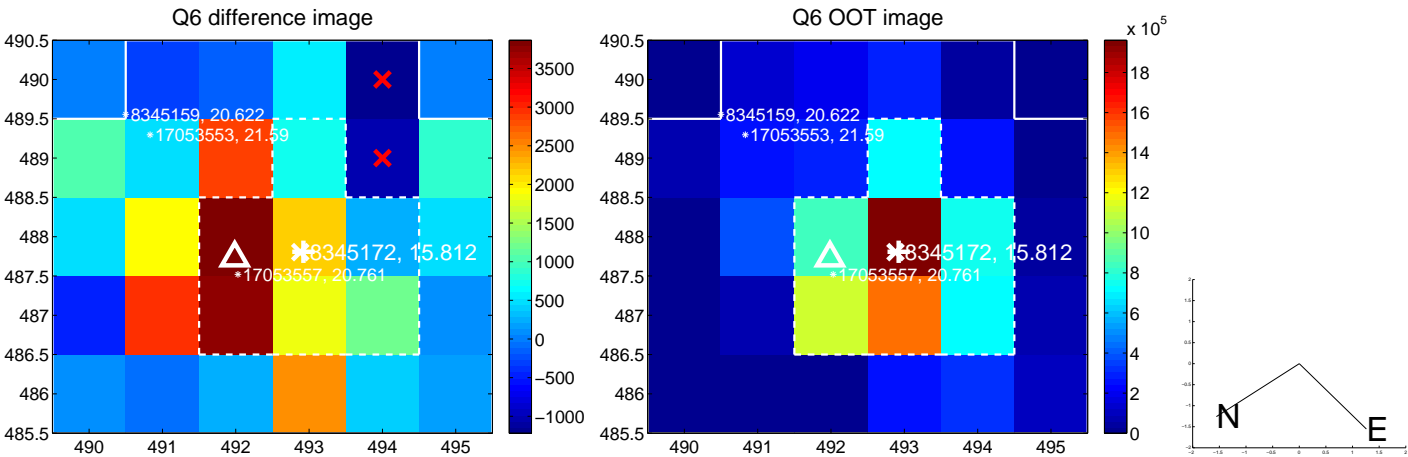
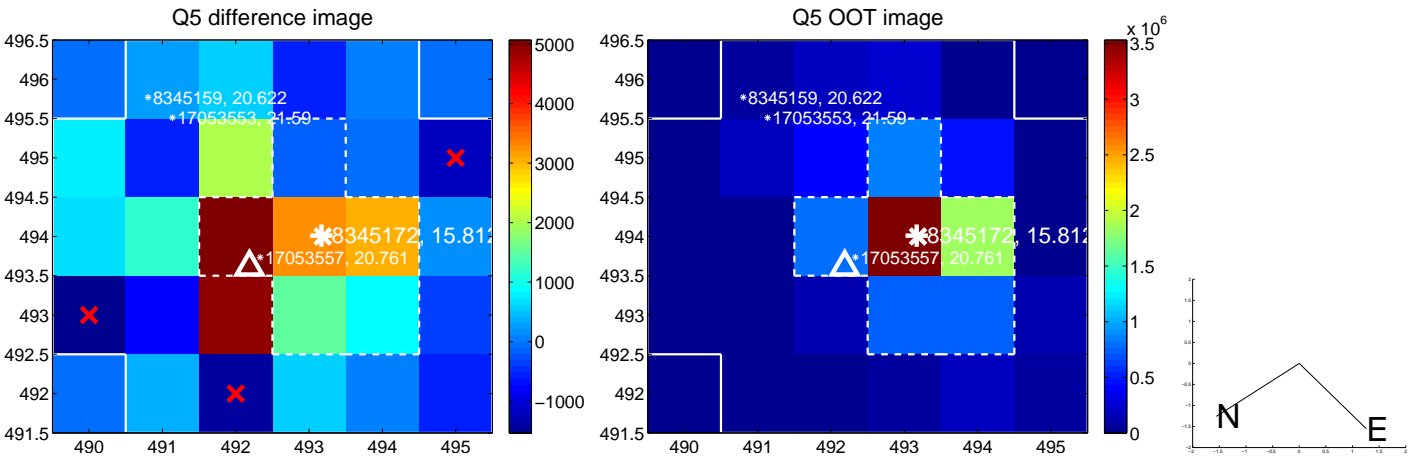


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

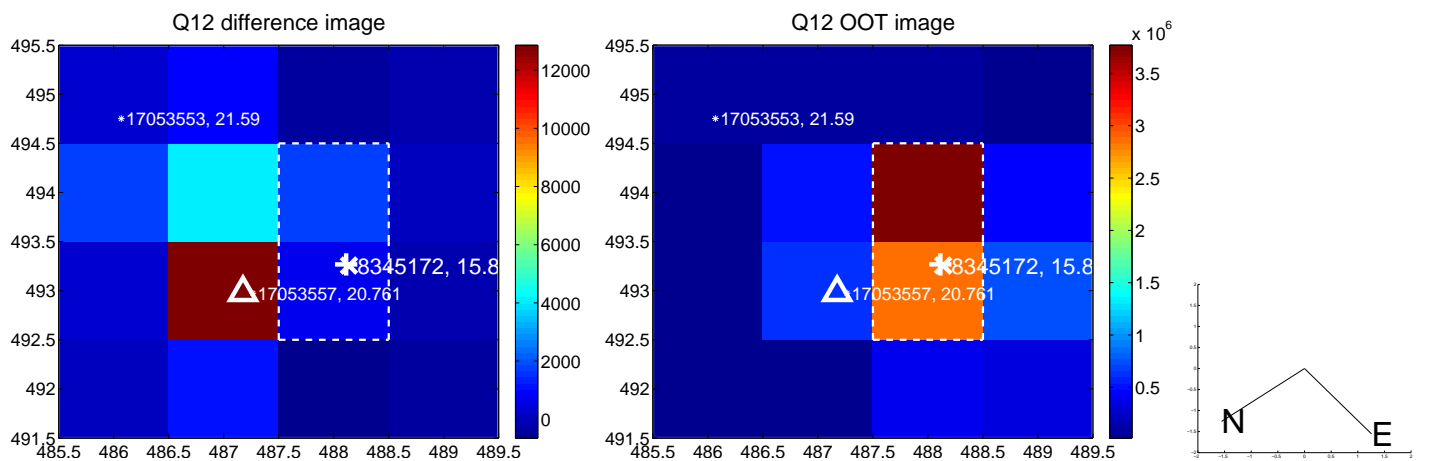
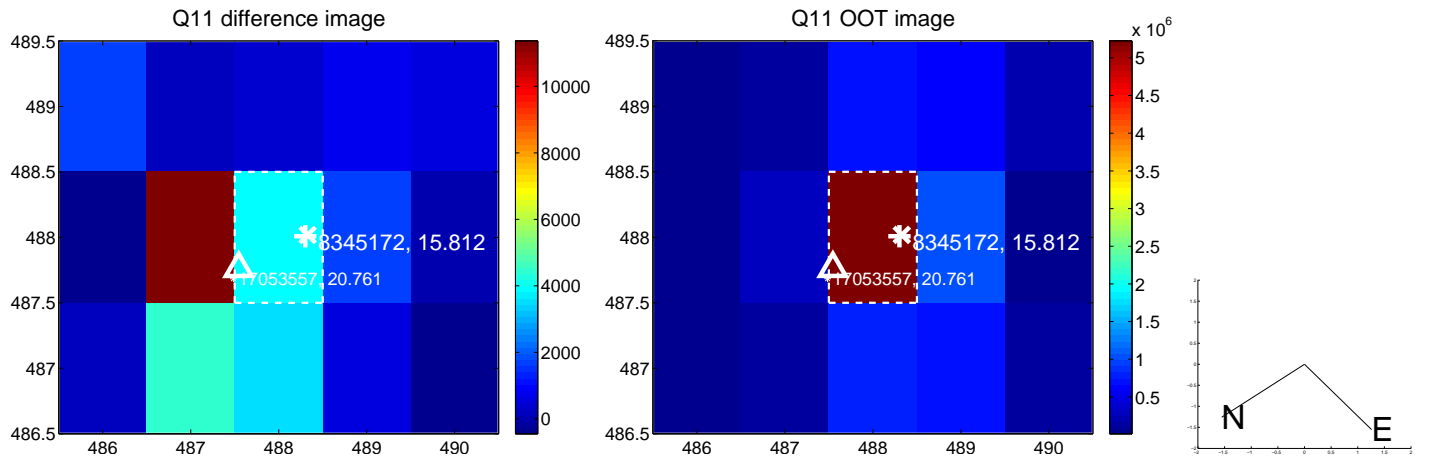
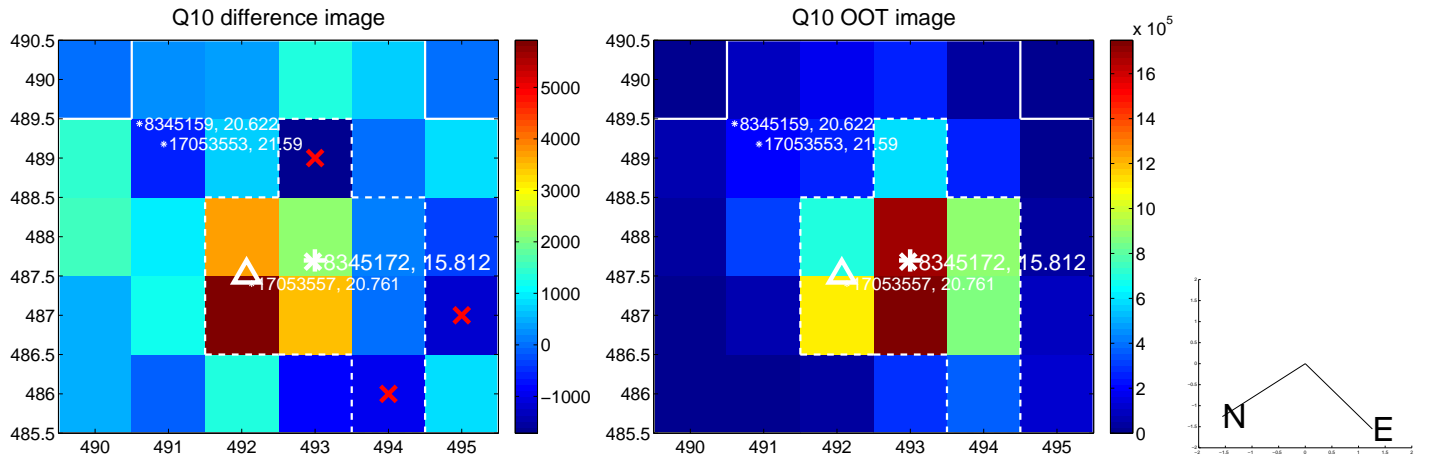
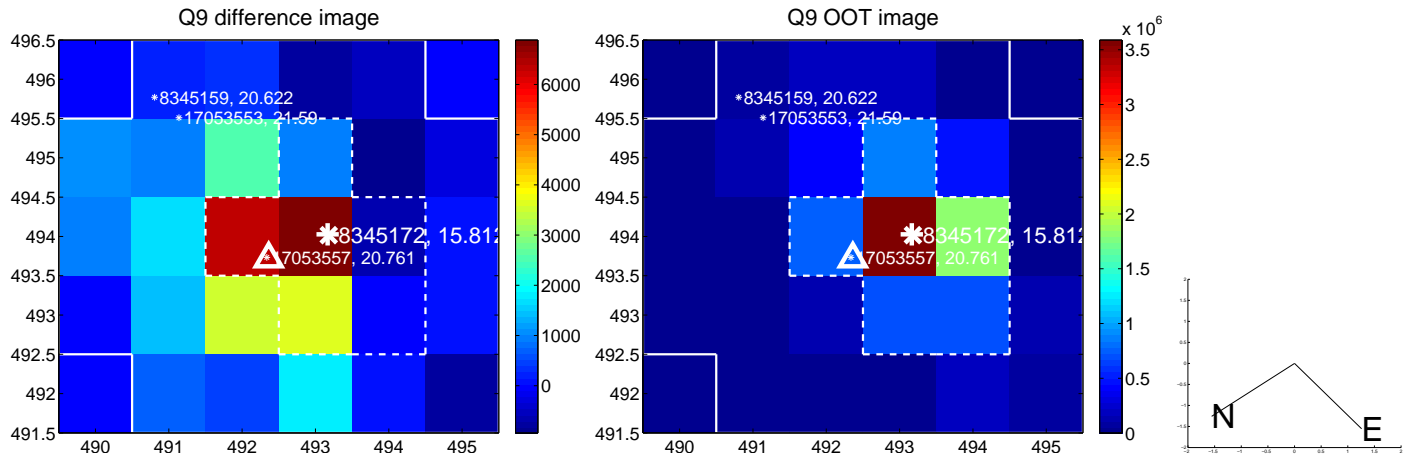
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



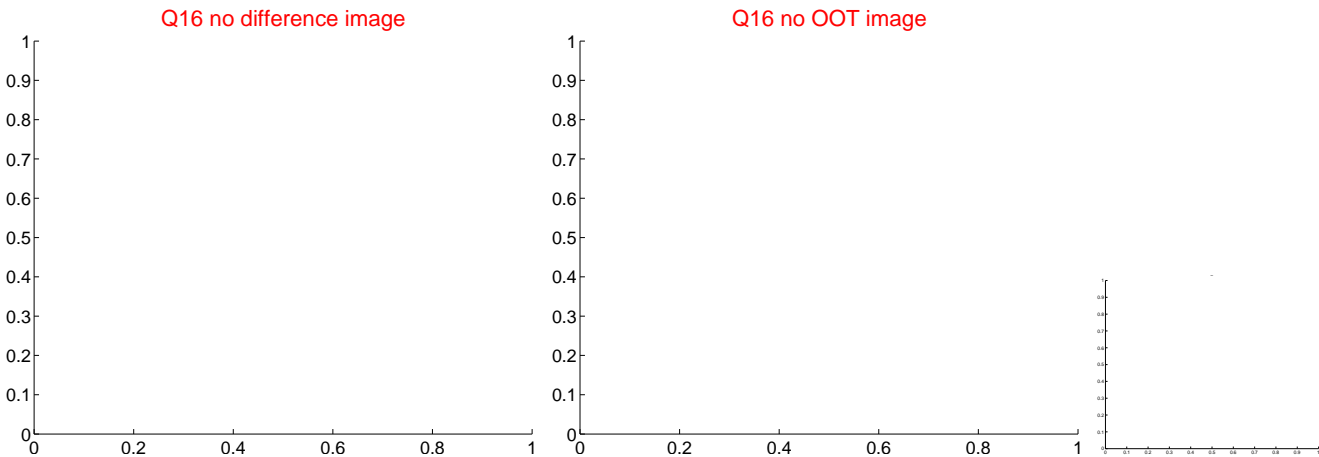
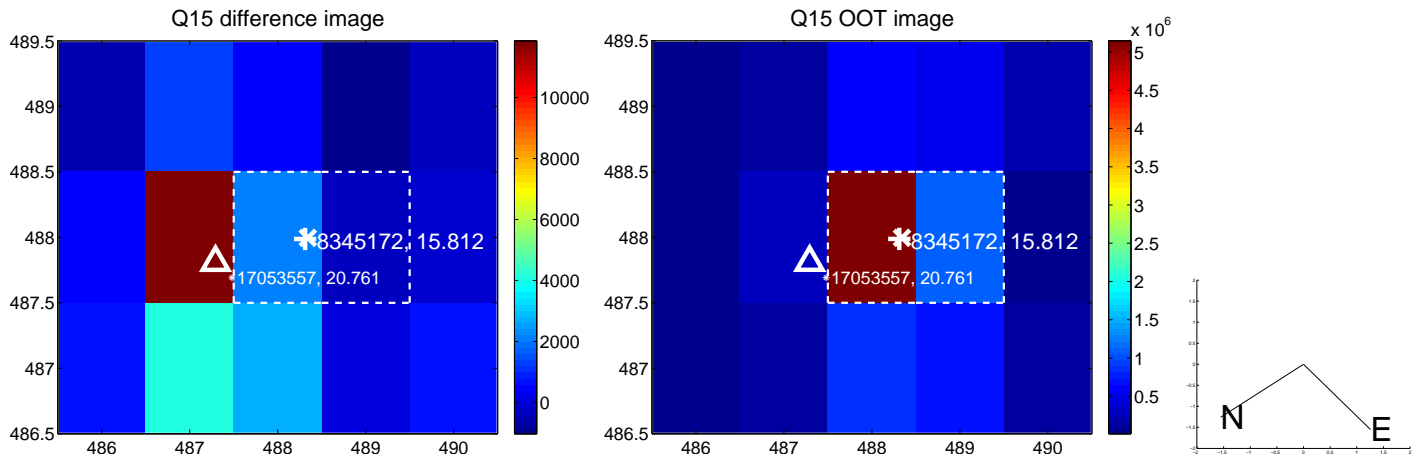
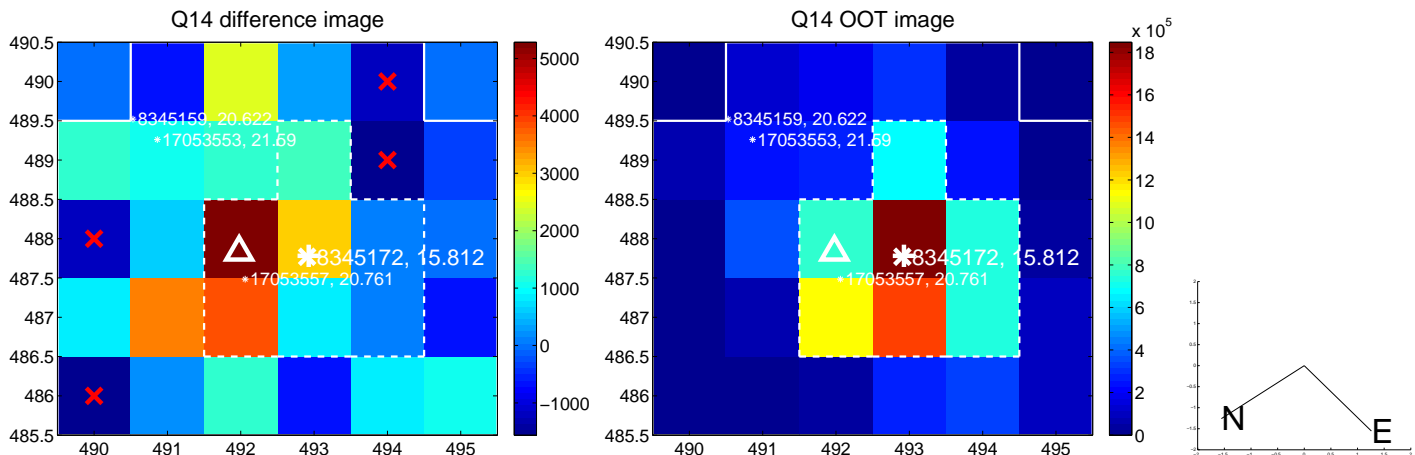
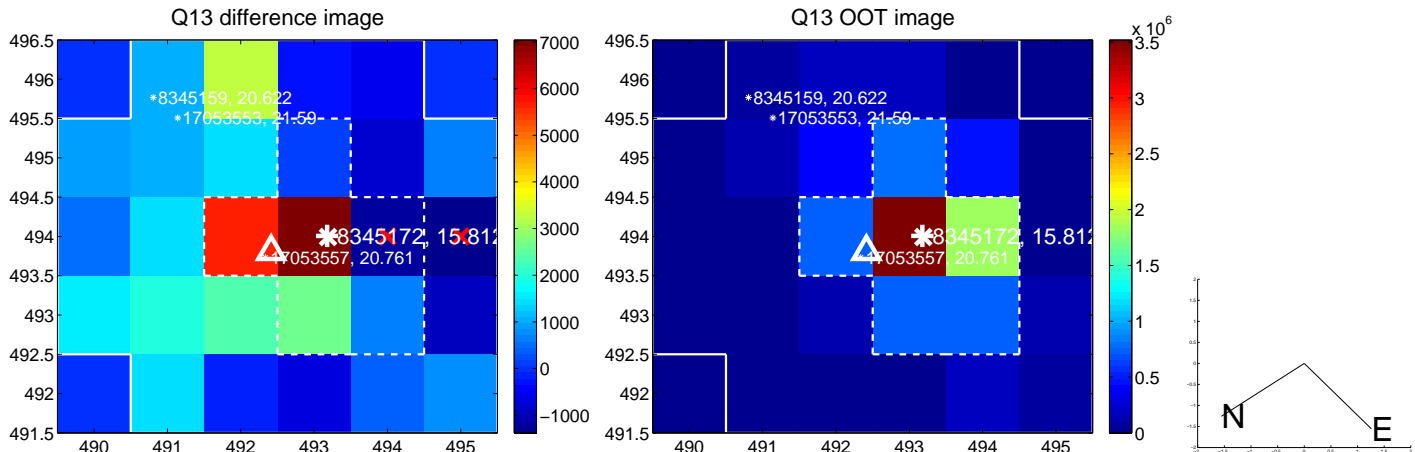
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

