

KIC 003542588

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})
003542588-01	OBS	1217.01	3.471490	133.736229	92.6	4.322	23.2	24.5	1.11	6341	1.27	806.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003542588-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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 003542588-01

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
003542588-01	3542588	003542574-01	3542574	1:1	17.4	-3	4	19.03	13.60	3151.40	Direct-PRF	0	1.20	0.09

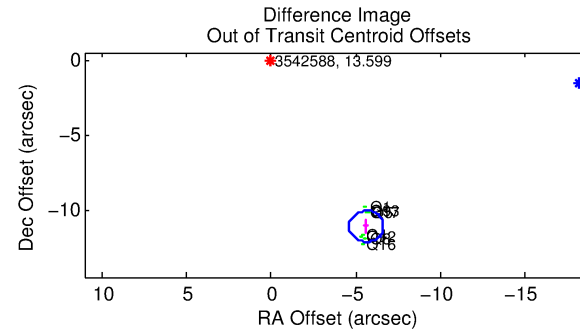
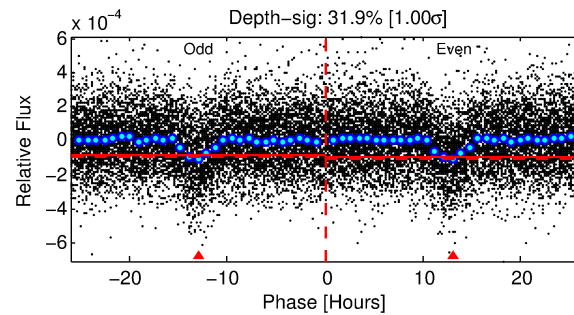
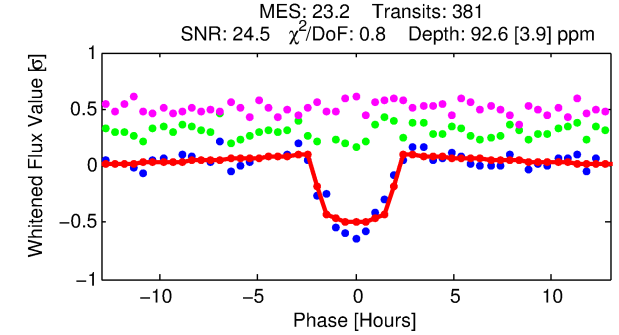
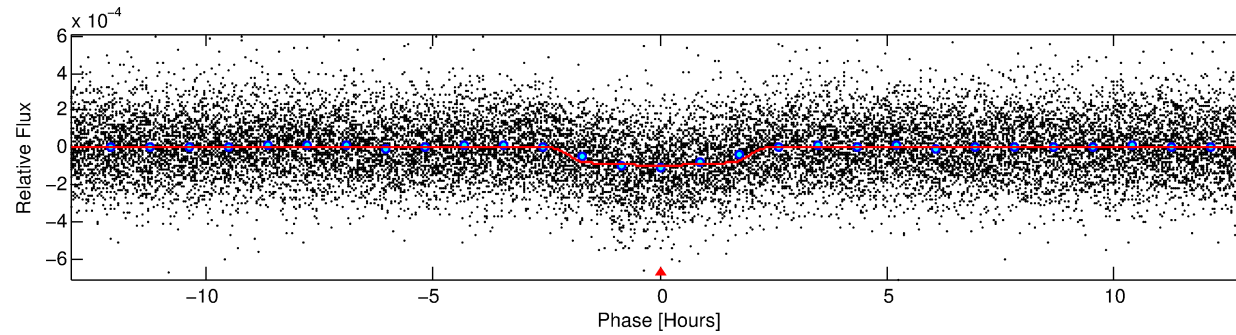
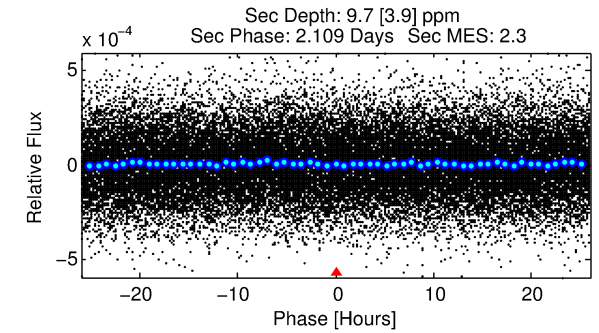
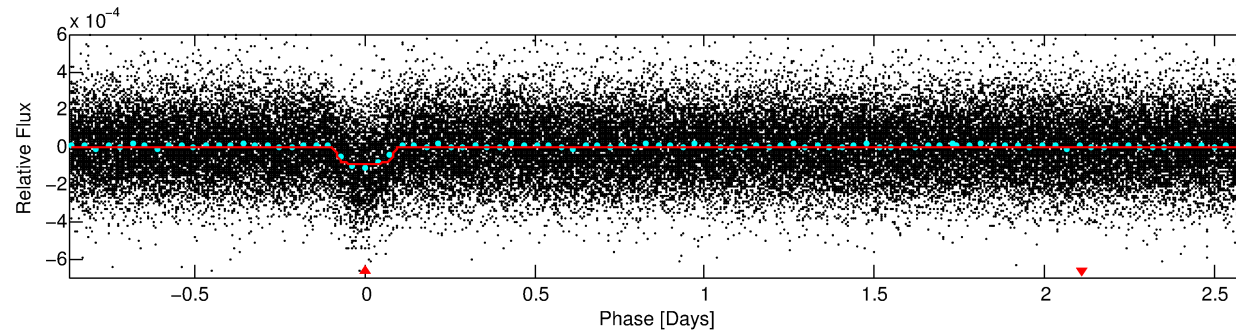
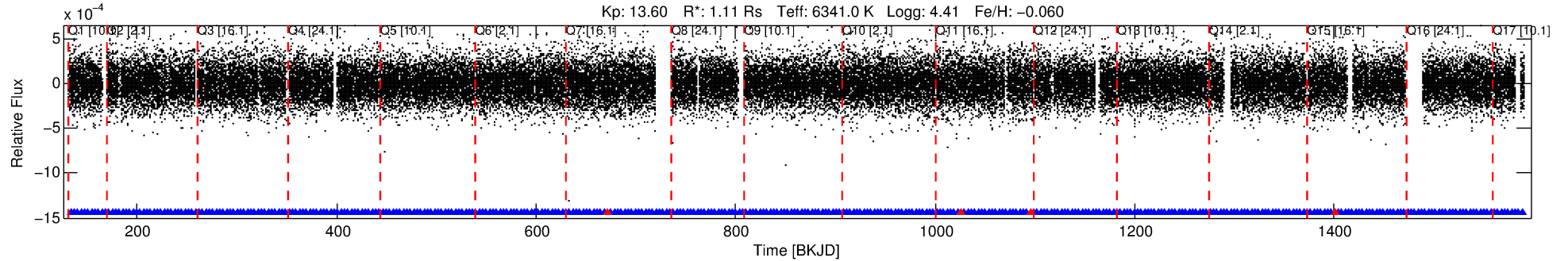
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 3542588 Candidate: 1 of 1 Period: 3.471 d

KOI: K01217.01 Corr: 0.904

Kp: 13.60 R*: 1.11 Rs Teff: 6341.0 K Logg: 4.41 Fe/H: -0.060



DV Fit Results:

Period = 3.47149 [0.00001] d
Epoch = 133.7362 [0.0022] BKJD
Rp/R* = 0.0105 [0.0014]
a/R* = 2.79 [1.82]
b = 0.92 [0.13]
Seff = 806.58 [331.90]
Teq = 1359 [140] K
Rp = 1.27 [0.44] Re
a = 0.0471 [0.0127] AU
Ag = 7.32 [4.59] [1.38σ]
Teff = 3455 [434] K [4.60σ]

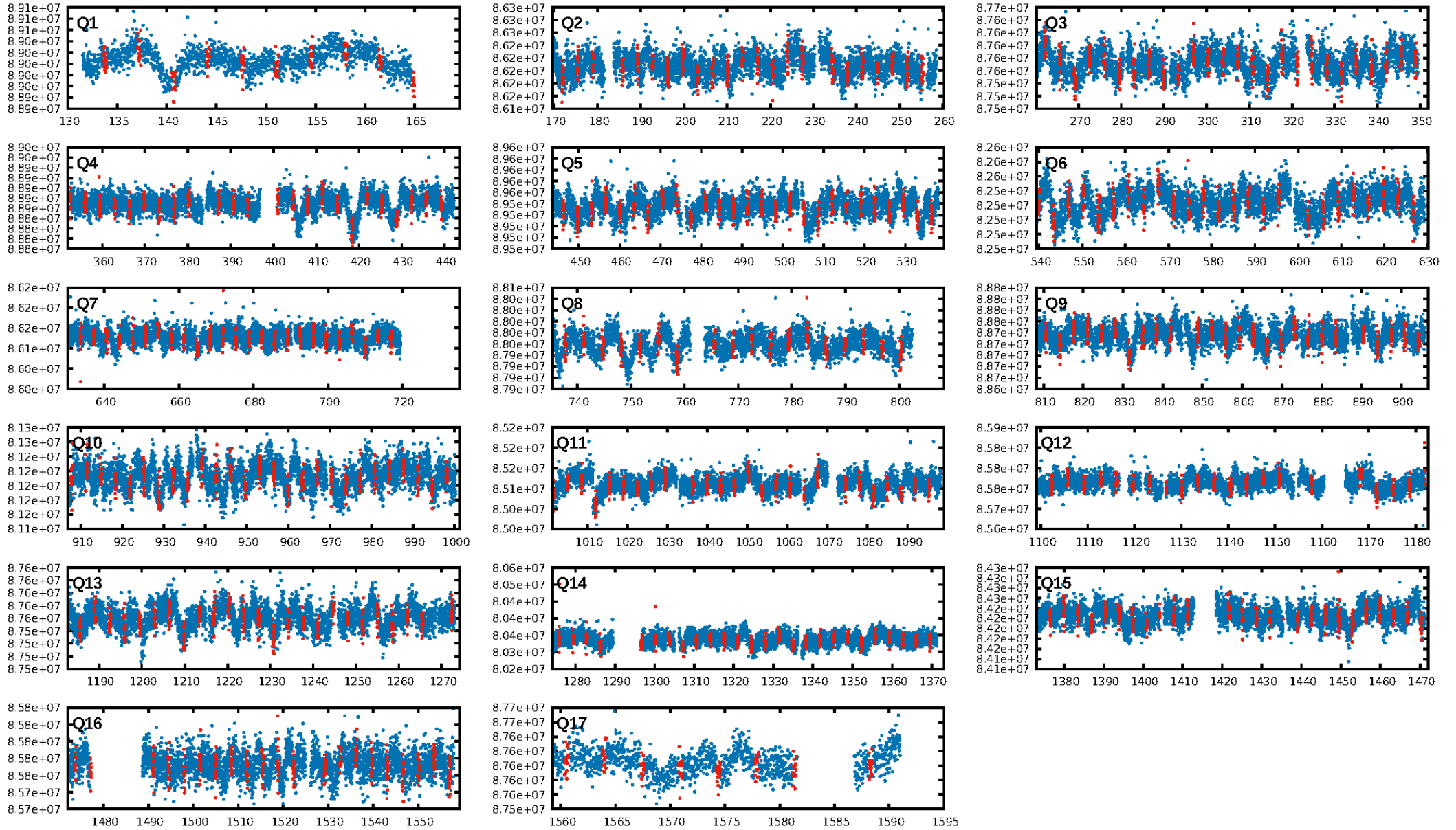
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.59e-115
RollingBand-fgt: 0.99 [359/363]
GhostDiagnostic-chr: -0.6137
Centroid-sig: 0.0%
Centroid-so: 42.259 arcsec [62.30σ]
OotOffset-rm: 12.456 arcsec [36.22σ]
KicOffset-rm: 12.479 arcsec [36.24σ]
OotOffset-st: 0/0/4/5 [9]
KicOffset-st: 0/0/4/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [17/17]

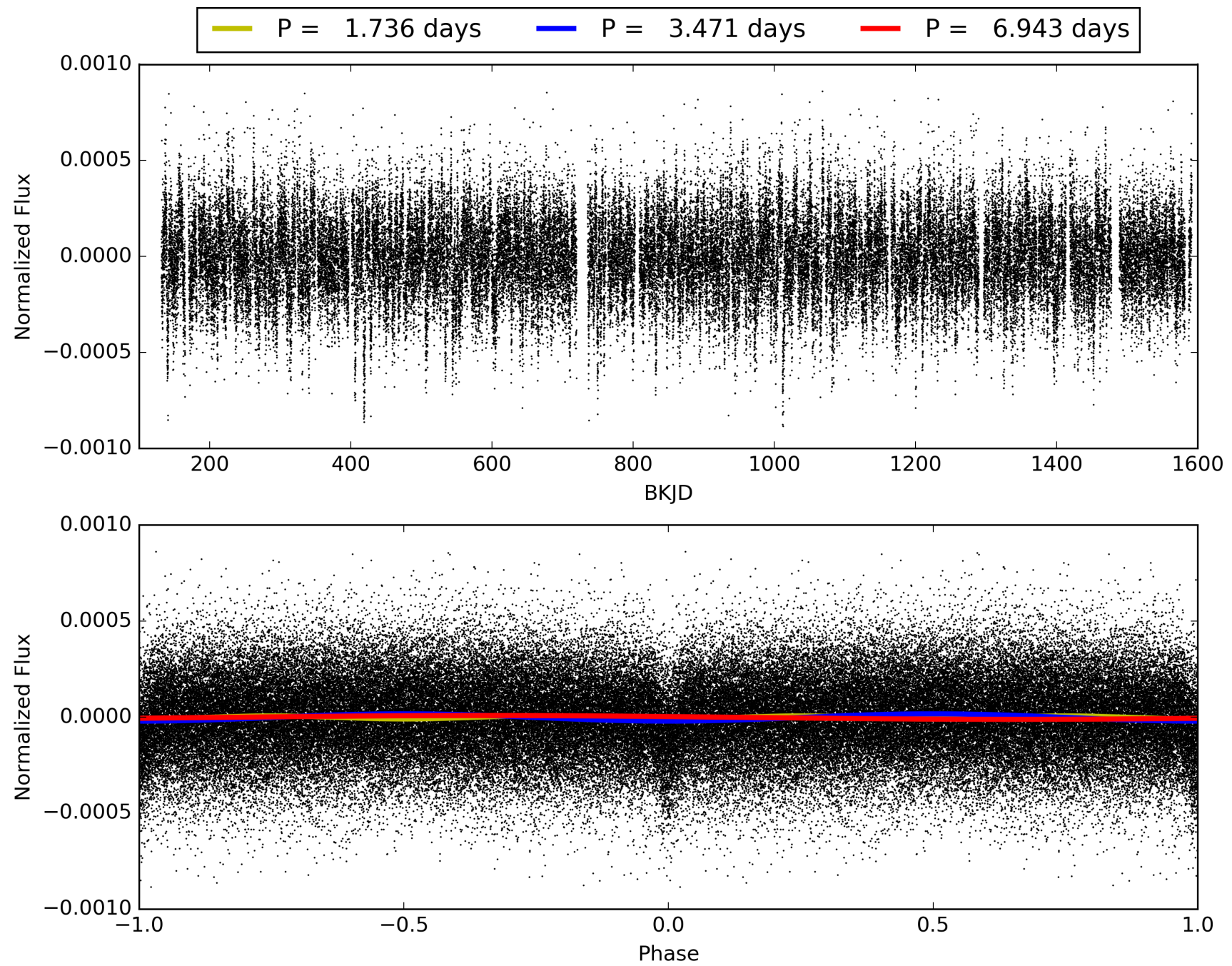
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:00:38 Z

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

TCE 003542588-01, PDC Light Curves

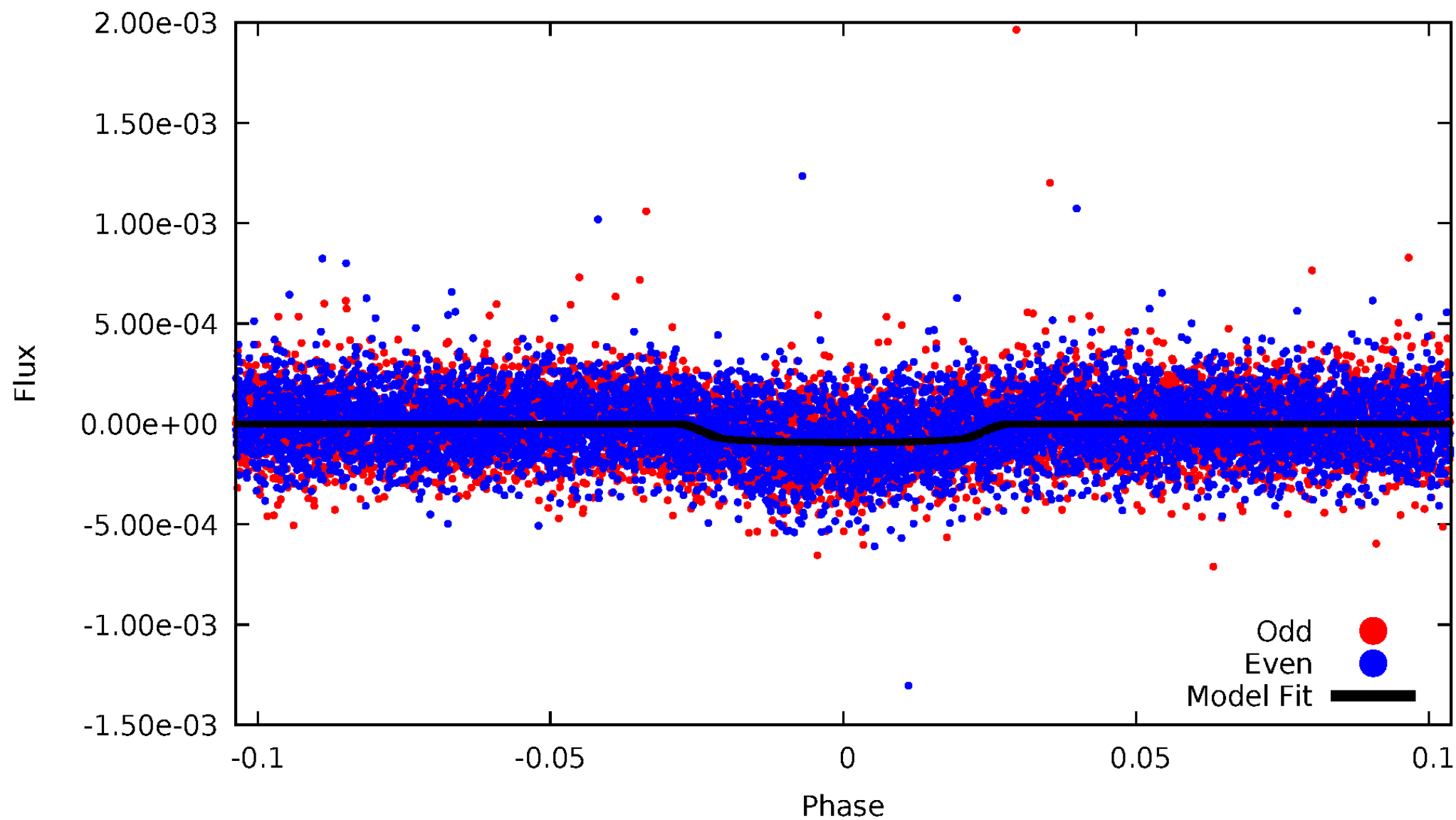


TCE 003542588-01



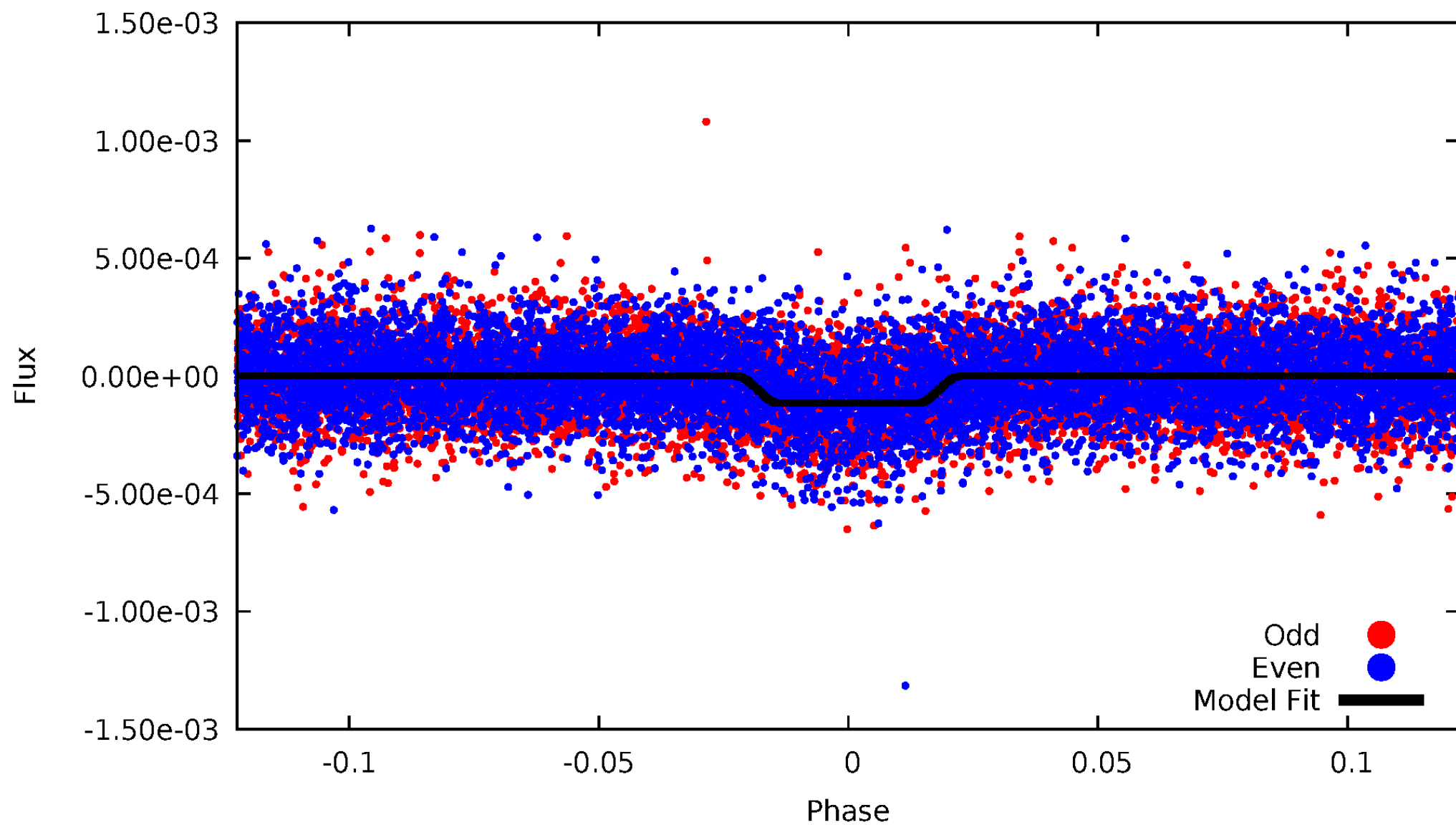
DV Odd/Even

TCE 003542588-01



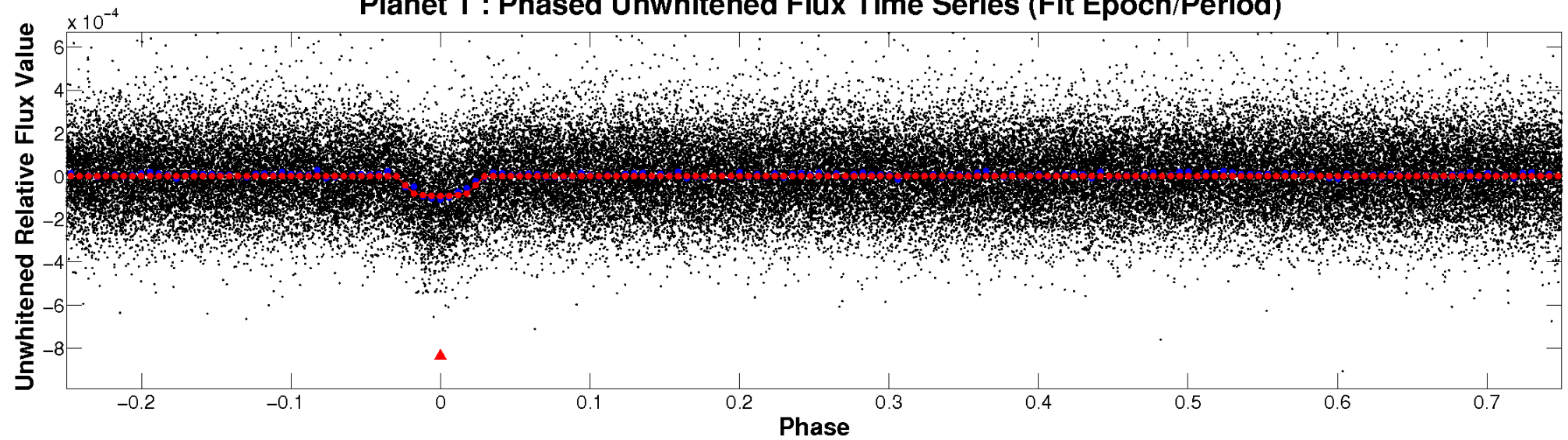
ALT Odd/Even

TCE 003542588-01

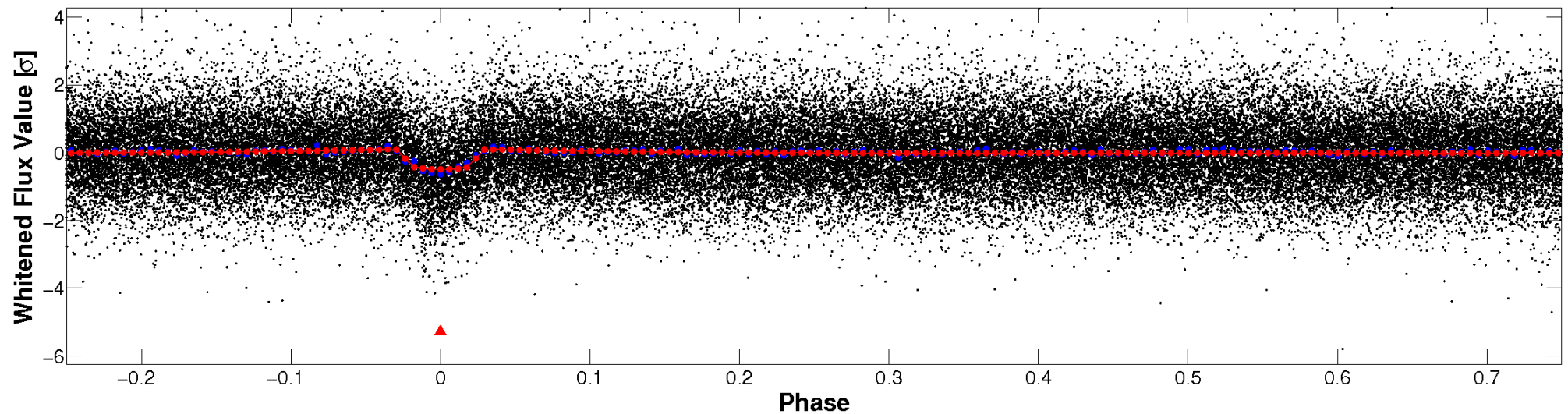


Non-Whitened Vs. Whitened Light Curve

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

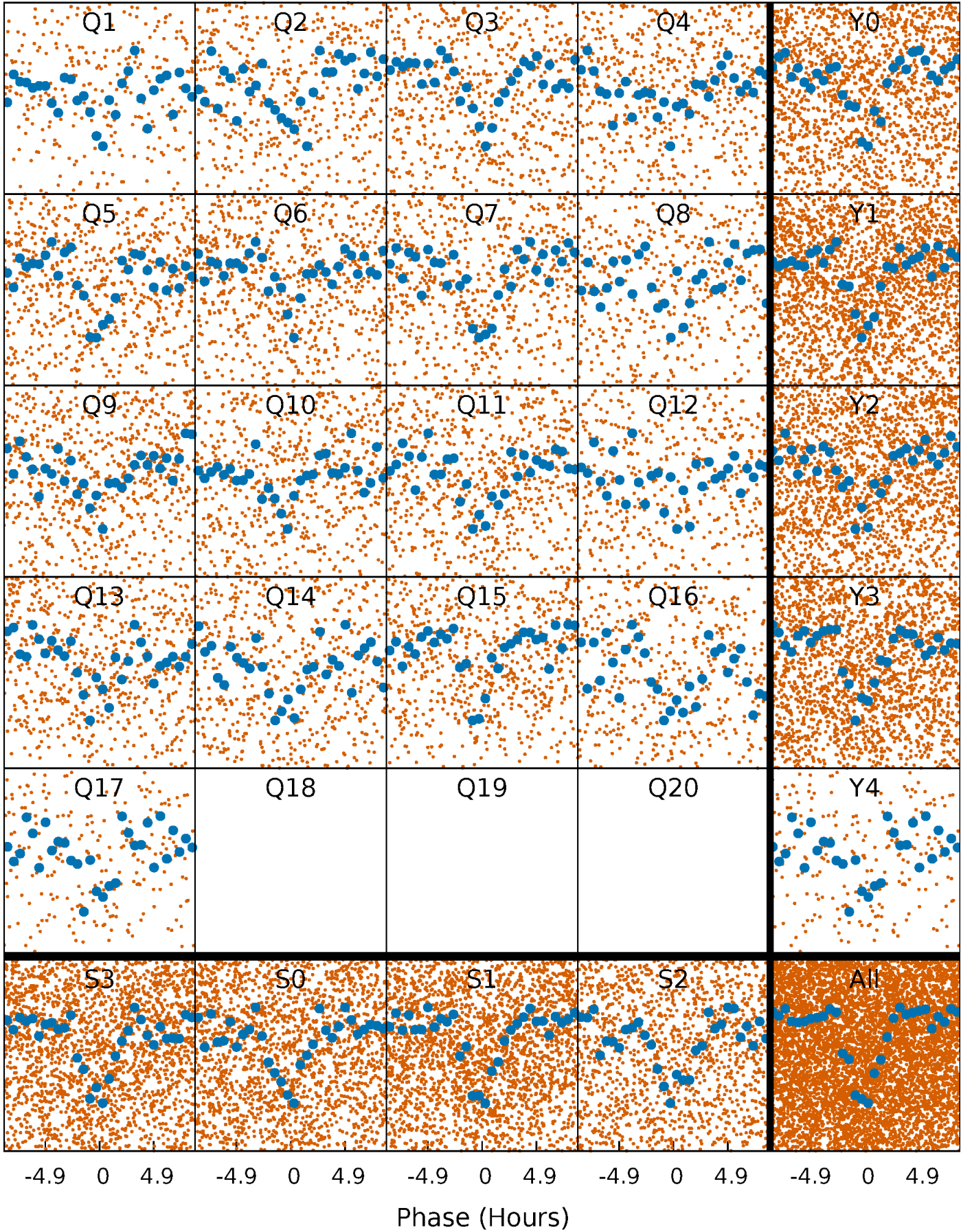


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



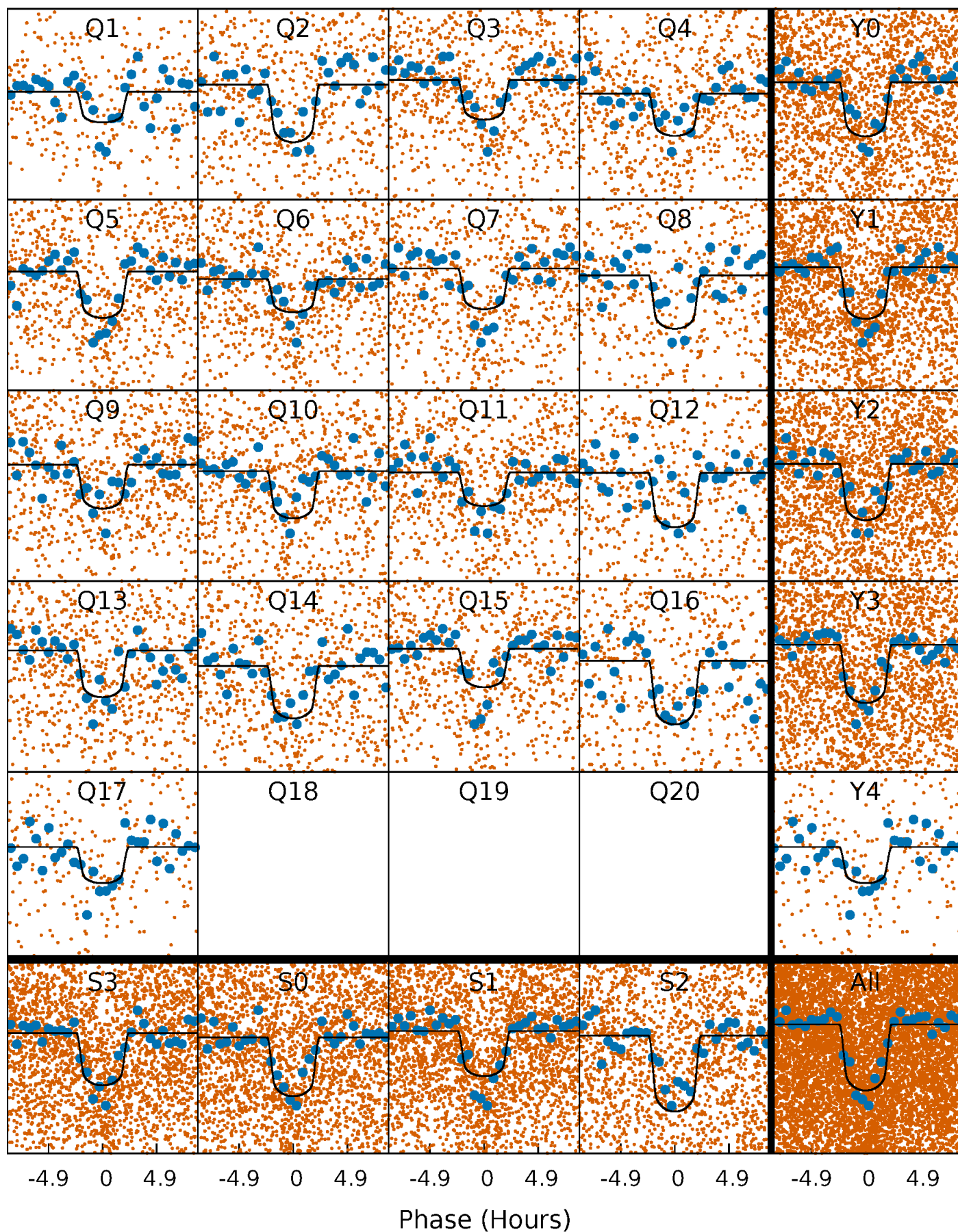
PDC Quarter-Phased Transit Curves

TCE 003542588-01 P= 3.471490 Days $T_0=133.736230$ (BKJD)



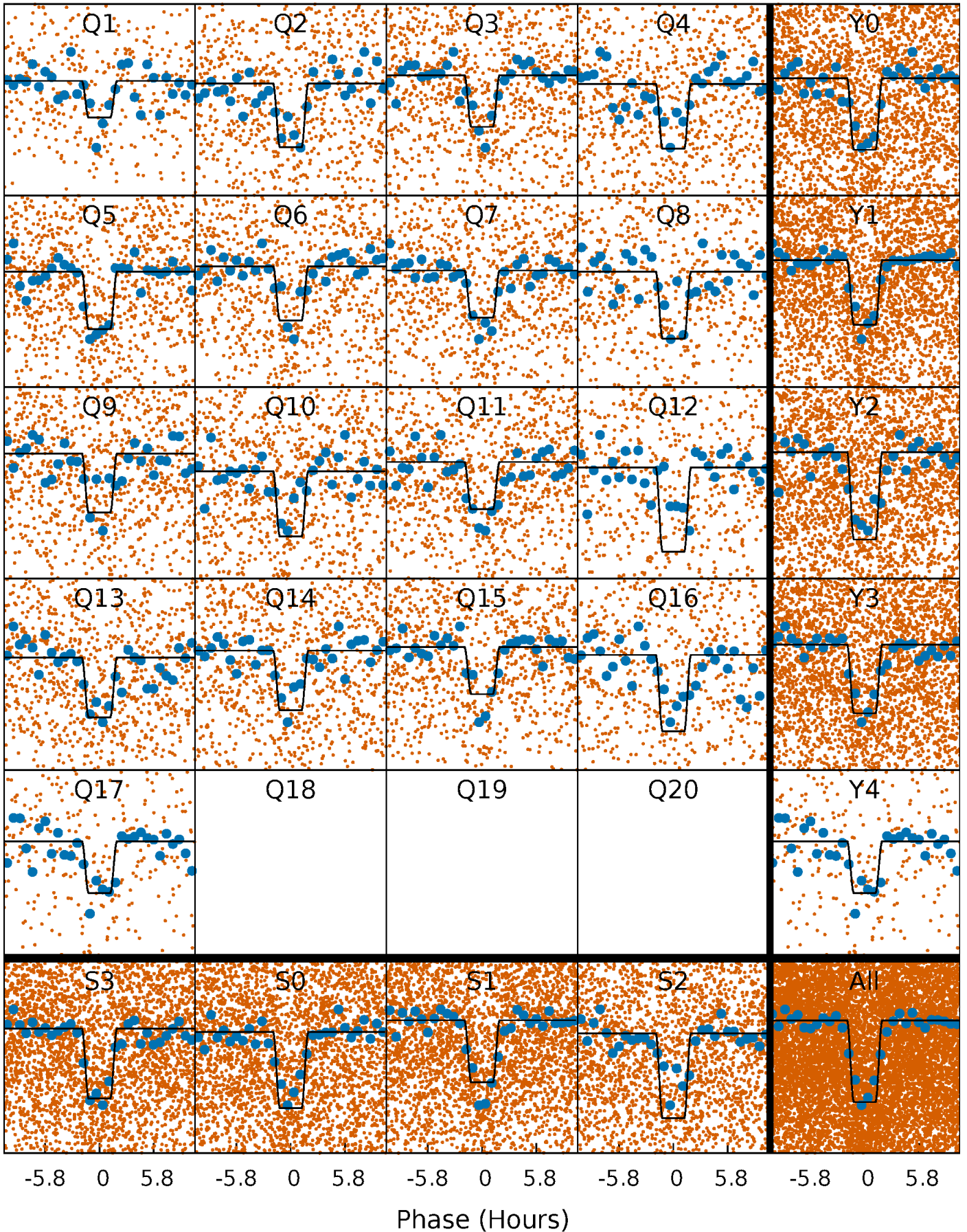
DV Quarter-Phased Transit Curves

TCE 003542588-01 P= 3.471490 Days $T_0=133.736230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

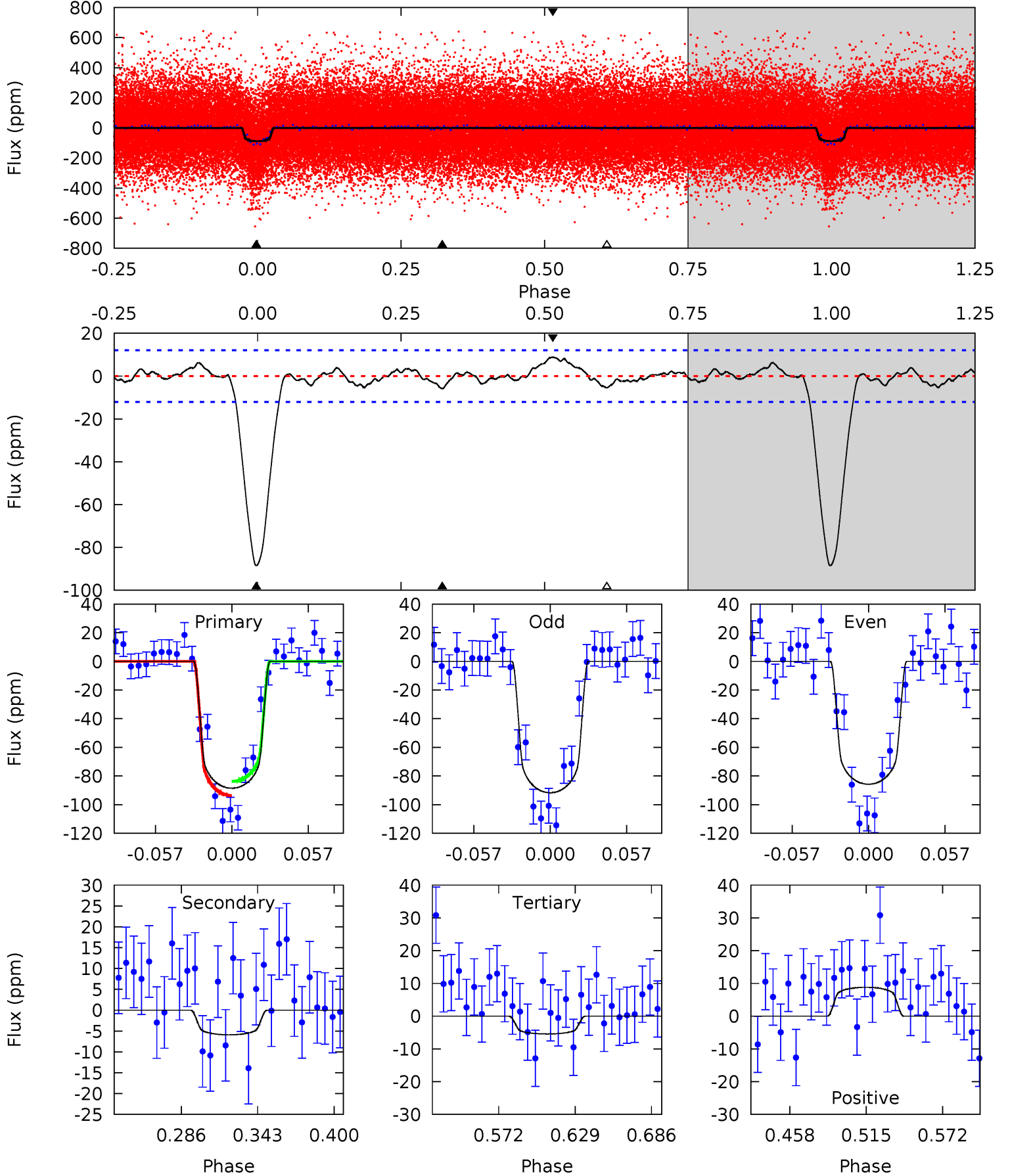
TCE 003542588-01 P= 3.471417 Days $T_0=133.745671$ (BKJD)



DV Model-Shift Uniqueness Test

003542588-01, P = 3.471490 Days, E = 130.264740 Days

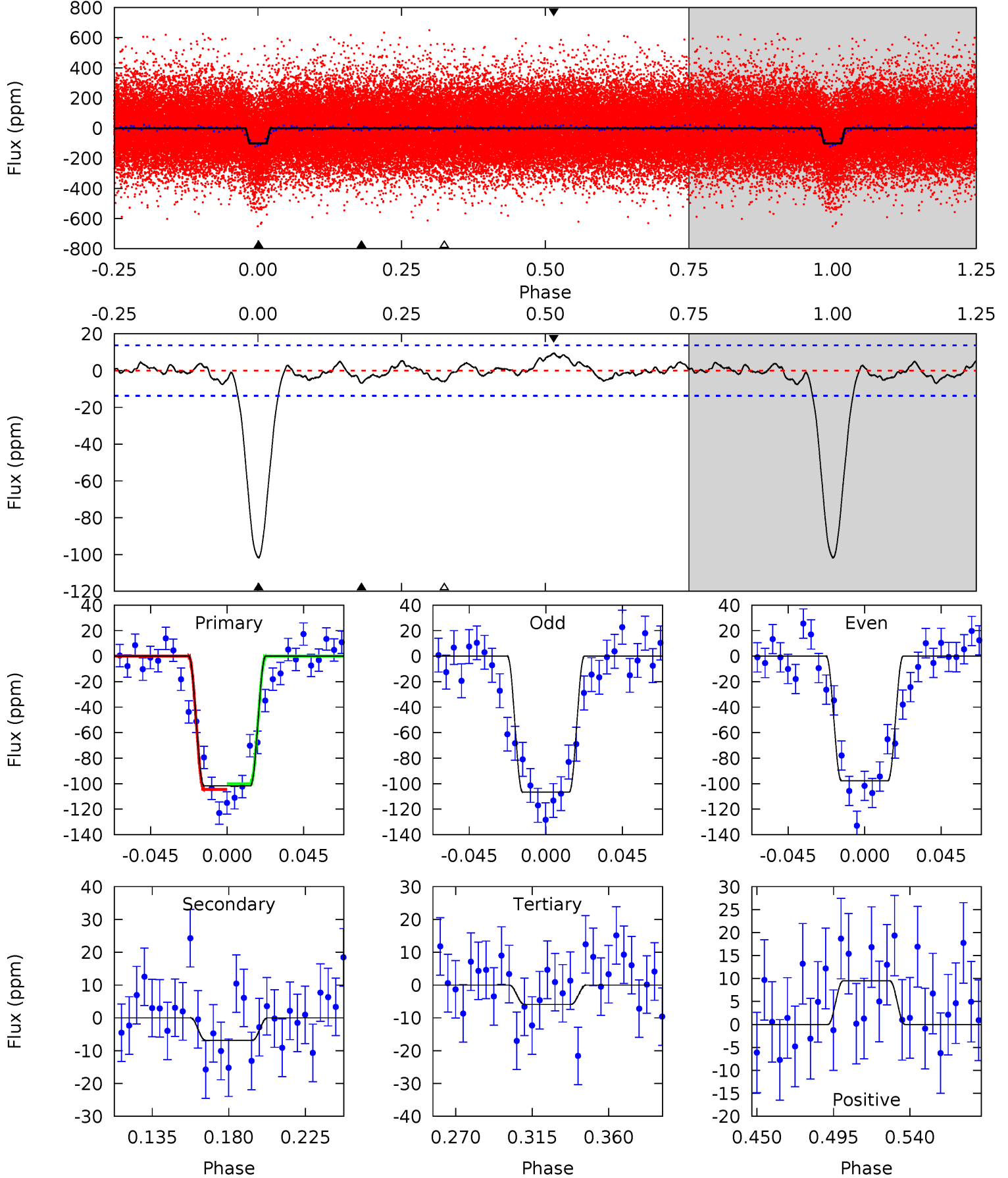
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.4	2.29	2.11	3.42	4.68	1.90	1.18	32.2	30.9	0.18	-1.13	1.15	1.01	0.09	1.94



Alt Model-Shift Uniqueness Test

003542588-01, P = 3.471417 Days, E = 130.274254 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	2.37	2.03	3.27	4.73	2.00	1.13	33.0	31.8	0.34	-0.90	1.54	0.99	0.09	0.77



Stellar Parameters For KIC 003542588

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6341^{+153}_{-191}	$4.409^{+0.054}_{-0.216}$	$-0.060^{+0.250}_{-0.300}$	$1.111^{+0.353}_{-0.141}$	$1.154^{+0.170}_{-0.154}$	$1.187^{+0.333}_{-0.616}$
	+2%/-3%	+1%/-5%	+417%/-500%	+32%/-13%	+15%/-13%	+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 003542588-01 / KOI 1217.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 3	$1.36^{+0.26}_{-0.22}$	1951^{+138}_{-97}	3476^{+273}_{-393}	$3.750^{+2.550}_{-1.858}$
Alt.	-7 ± 3	$1.37^{+0.29}_{-0.21}$	1938^{+138}_{-89}	3520^{+313}_{-365}	$4.301^{+2.676}_{-2.145}$

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

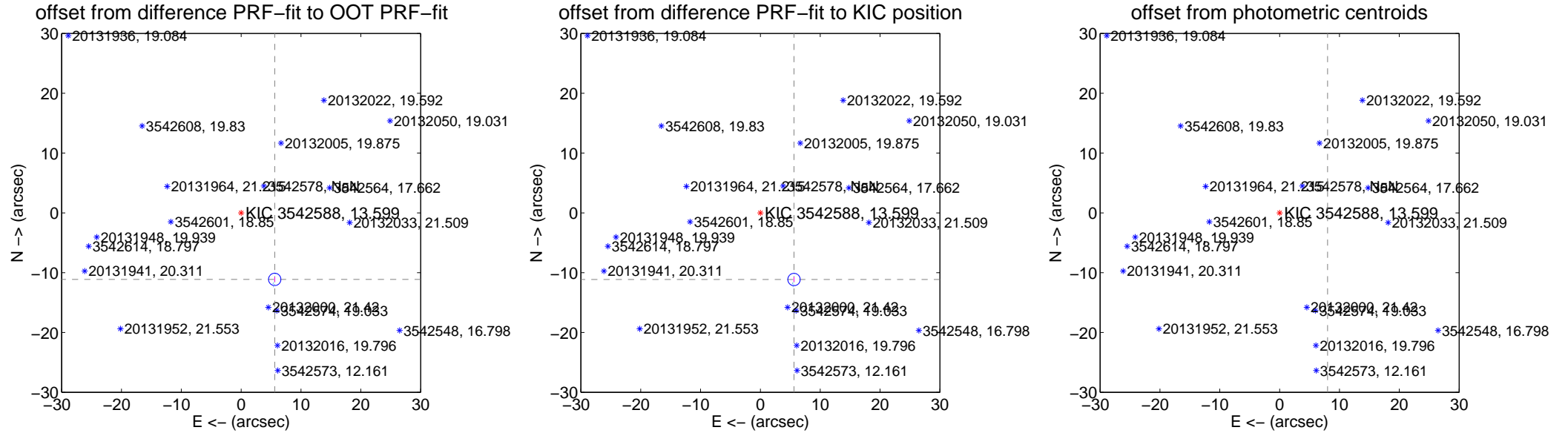
DV Centroid Data

Supplemental centroid analysis for 003542588-01. Kepler magnitude: 13.60. Transit SNR 24.47

There are 9 quarters with good PRF difference image offsets

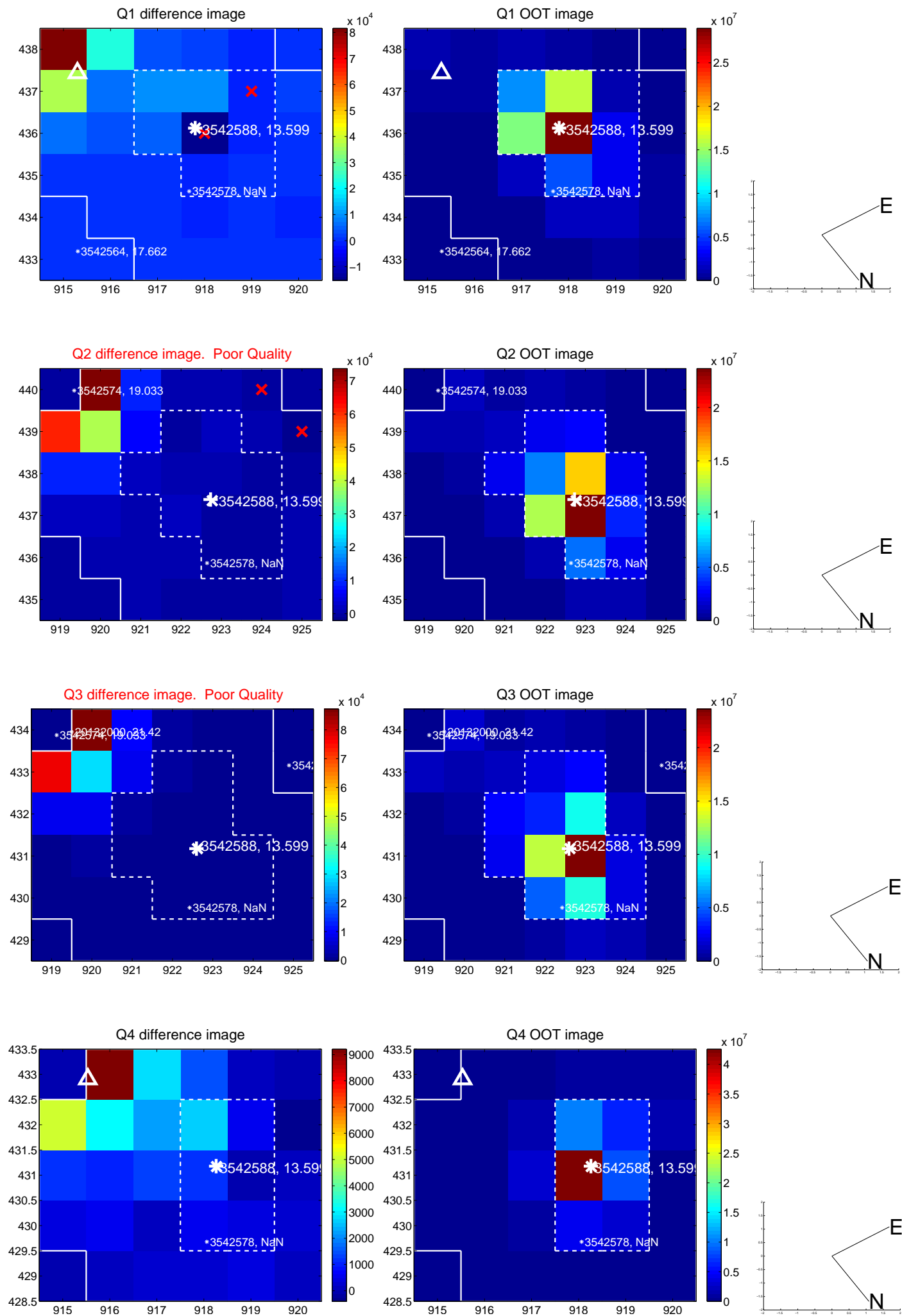
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.456 ± 0.344	36.22	-5.610 ± 0.069	-11.121 ± 0.384
PRF-fit source offset from KIC position	12.479 ± 0.344	36.24	-5.621 ± 0.068	-11.142 ± 0.384
photometric centroid source offset	42.26 ± 0.68	62.30	-8.02 ± 0.48	-41.49 ± 0.68

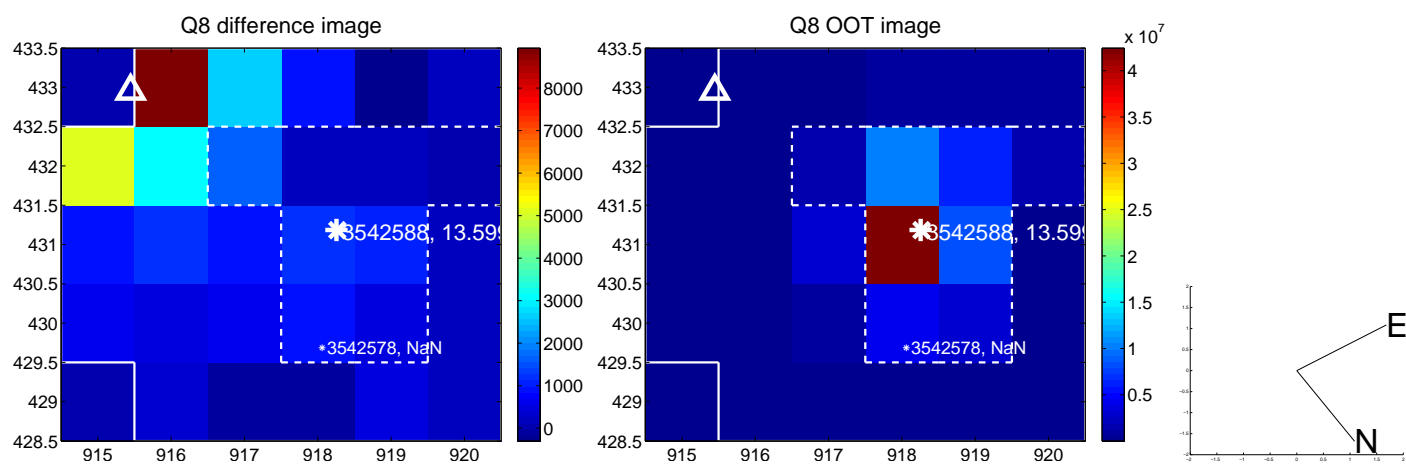
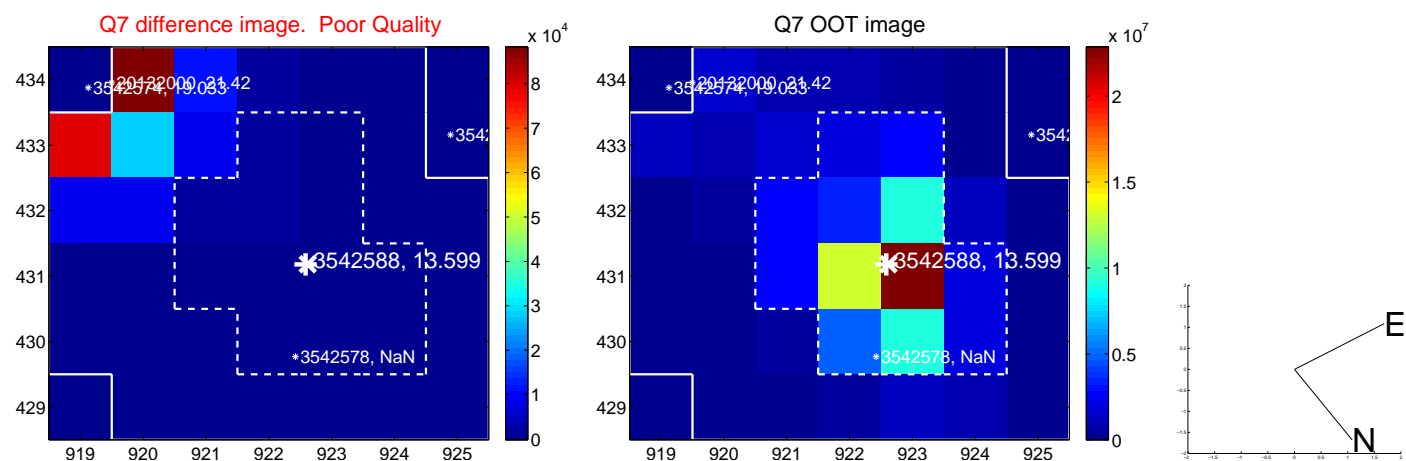
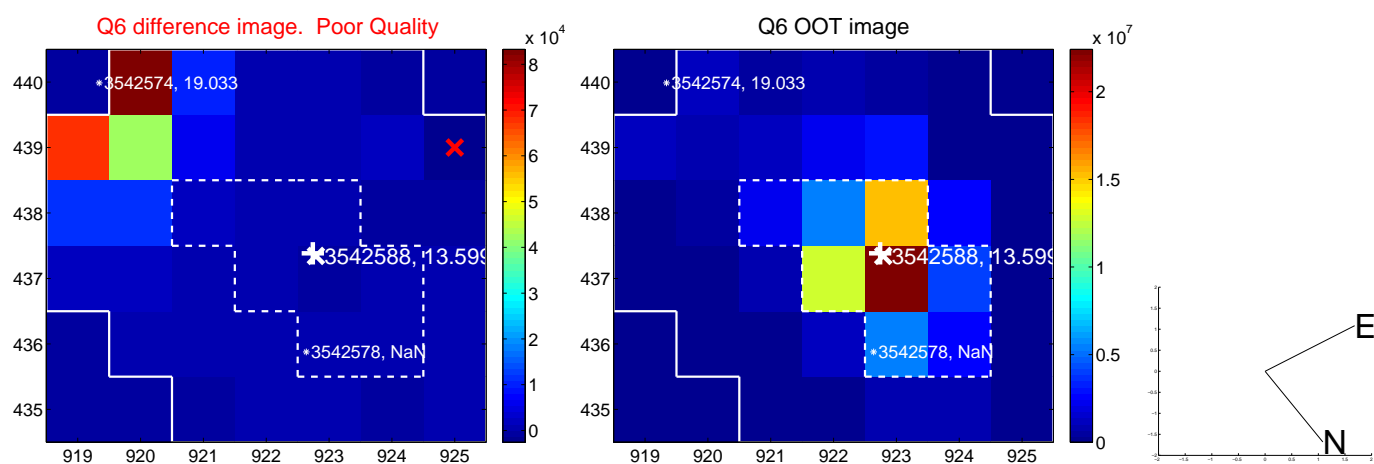
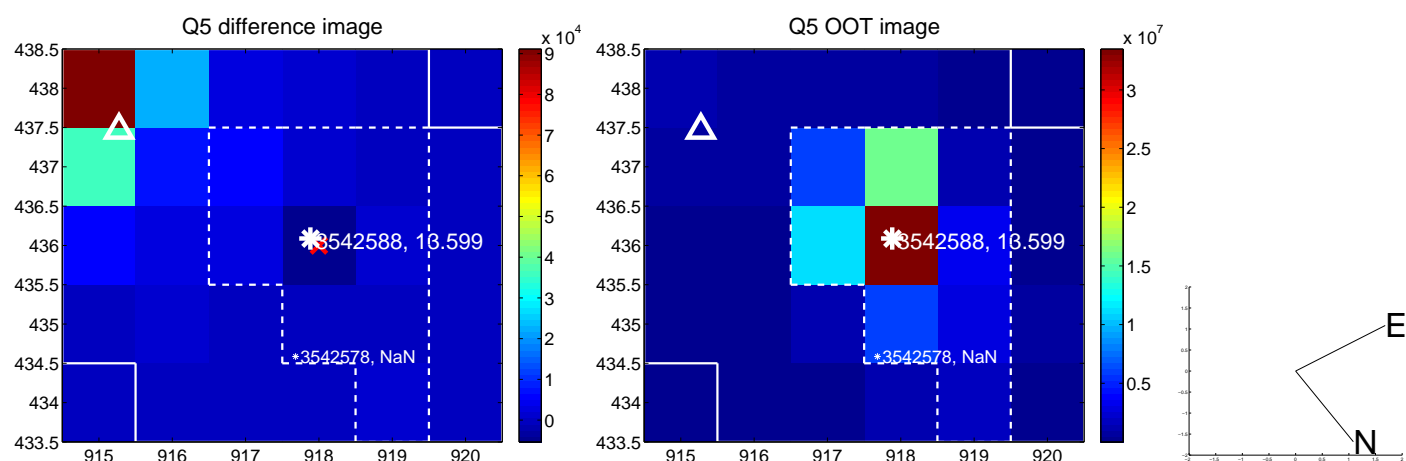


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

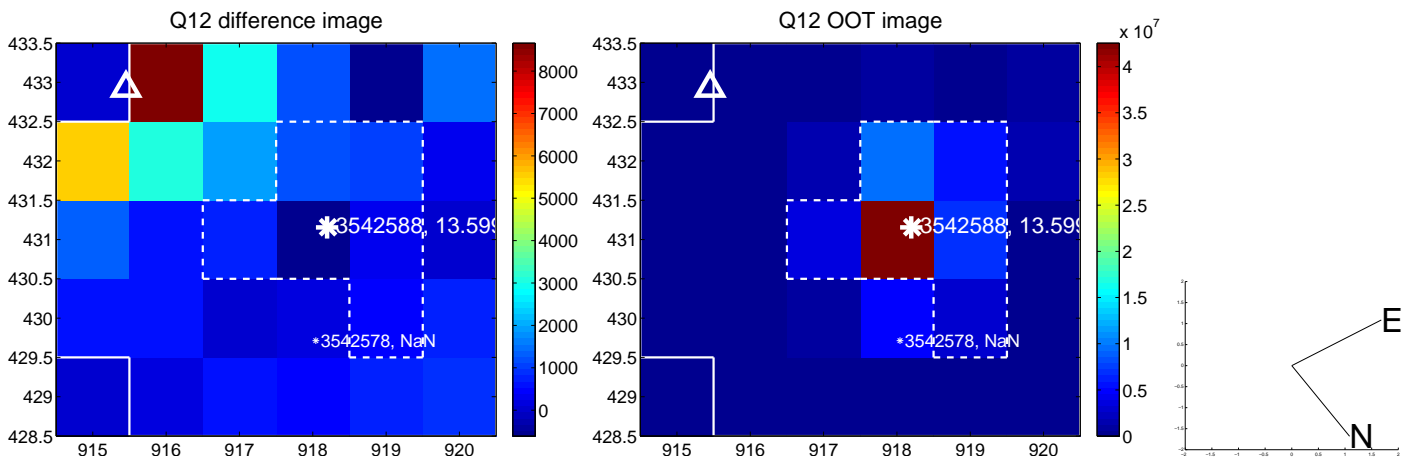
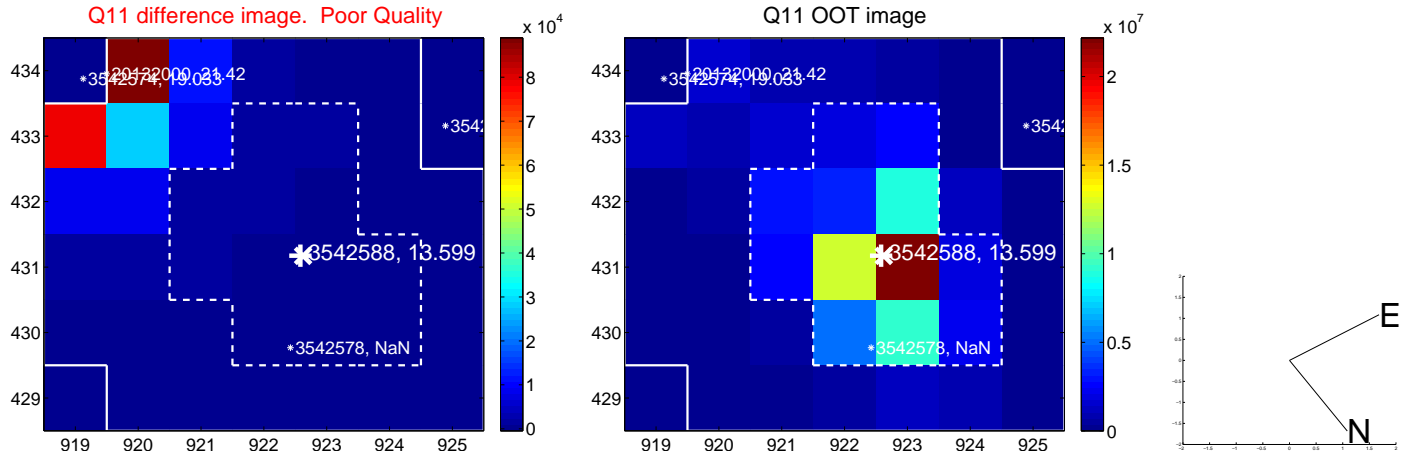
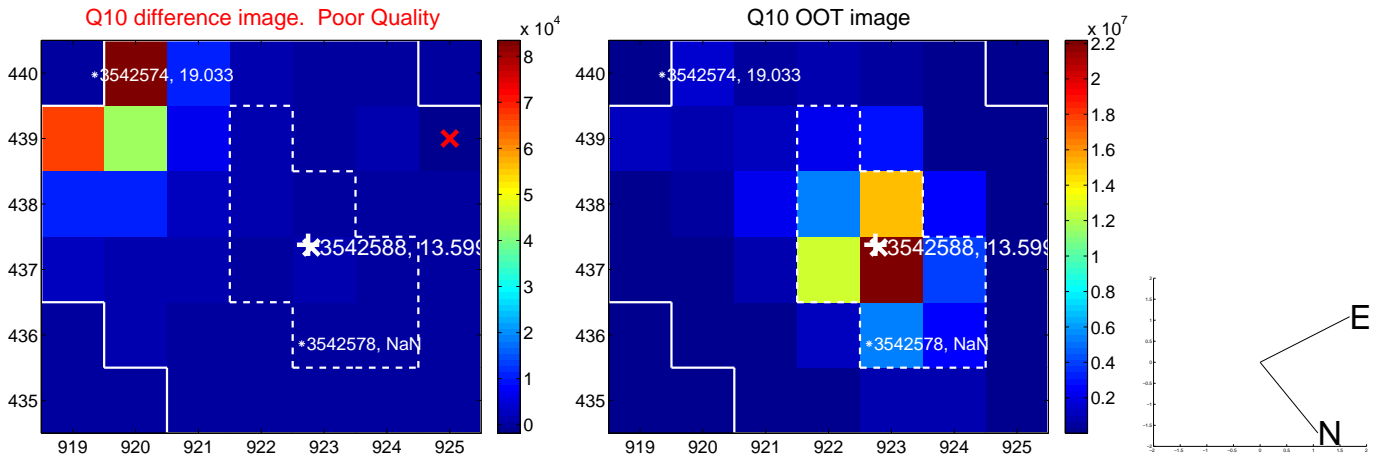
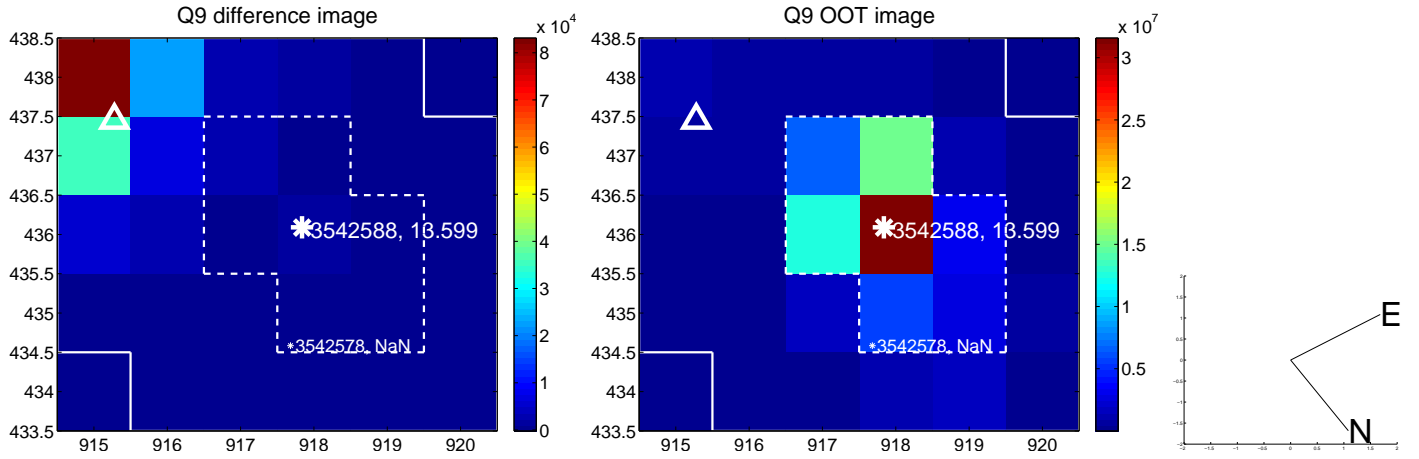
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



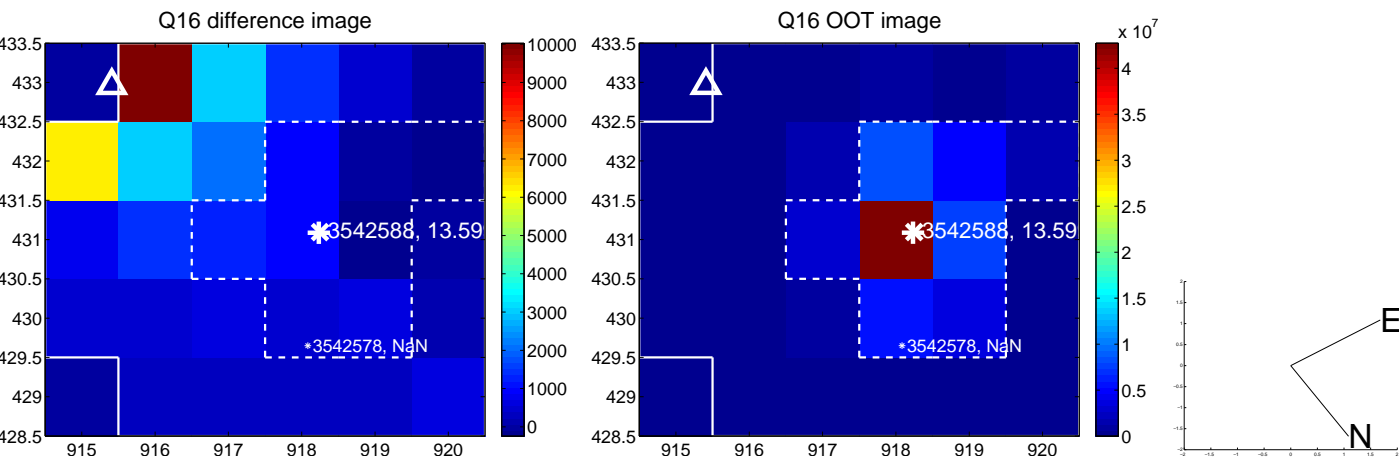
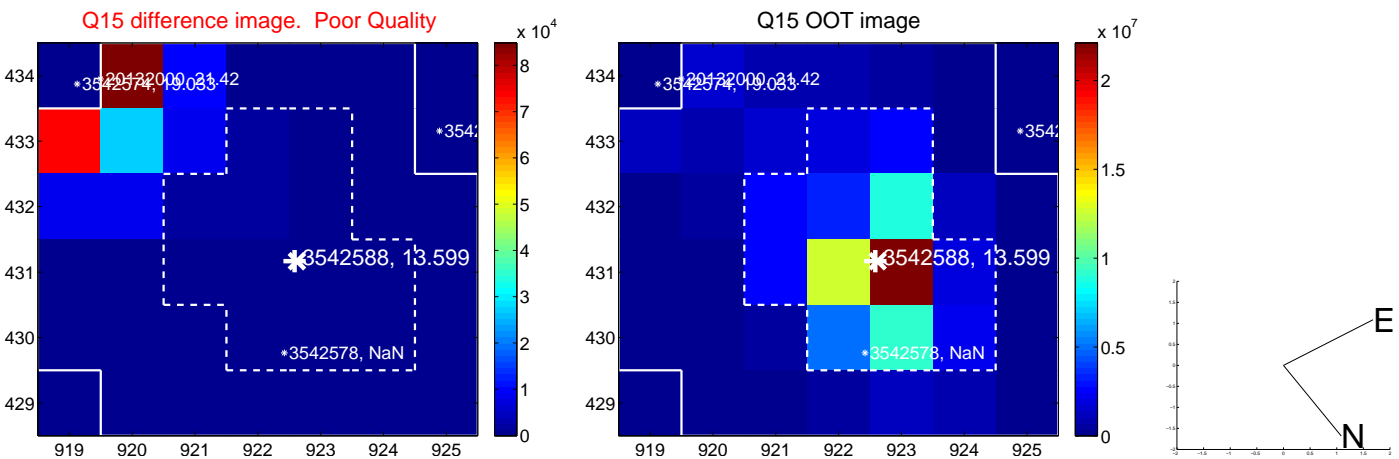
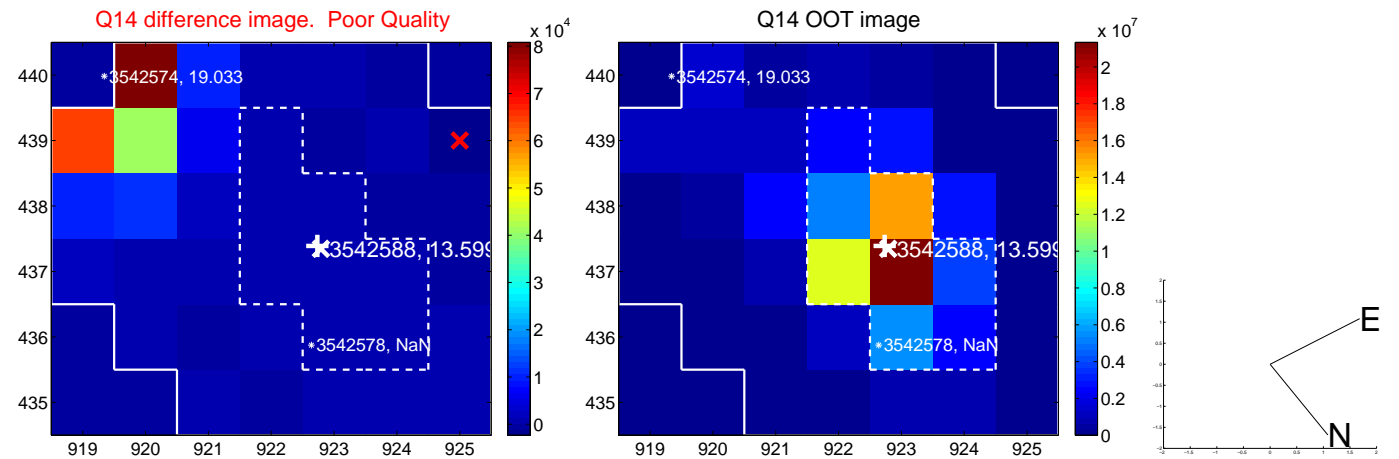
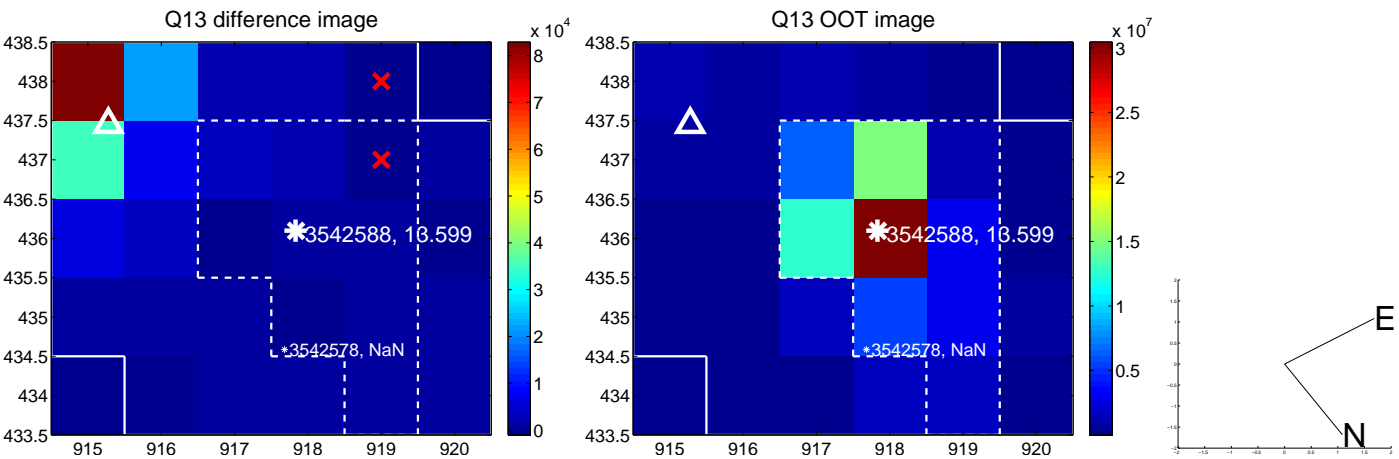
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

