

KIC 004372768

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})
004372768-01	OBS	1327.01	15.640320	140.113518	650.0	4.544	14.4	15.0	0.83	5346	2.39	39.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372768-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—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 004372768-01

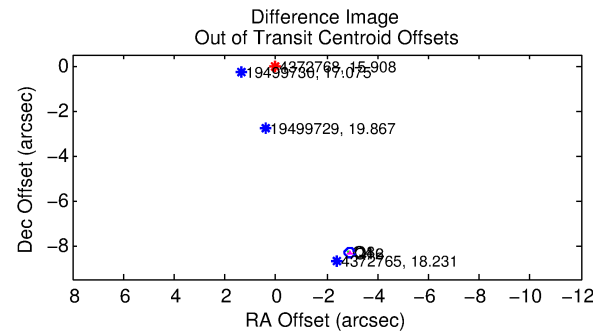
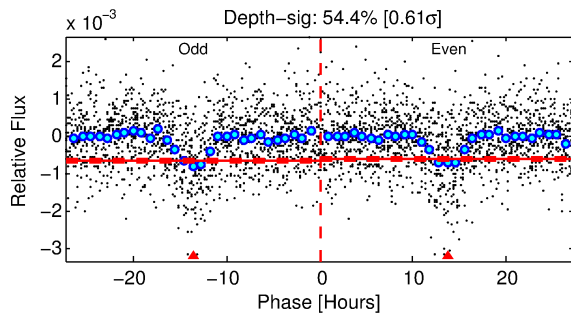
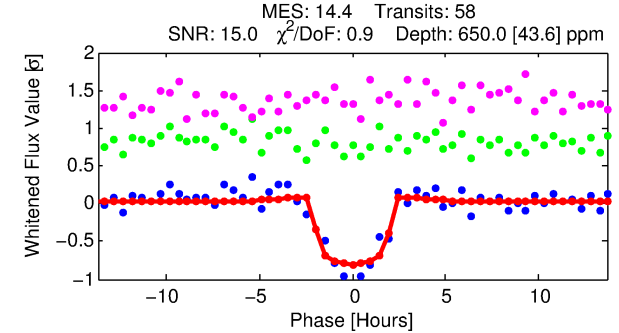
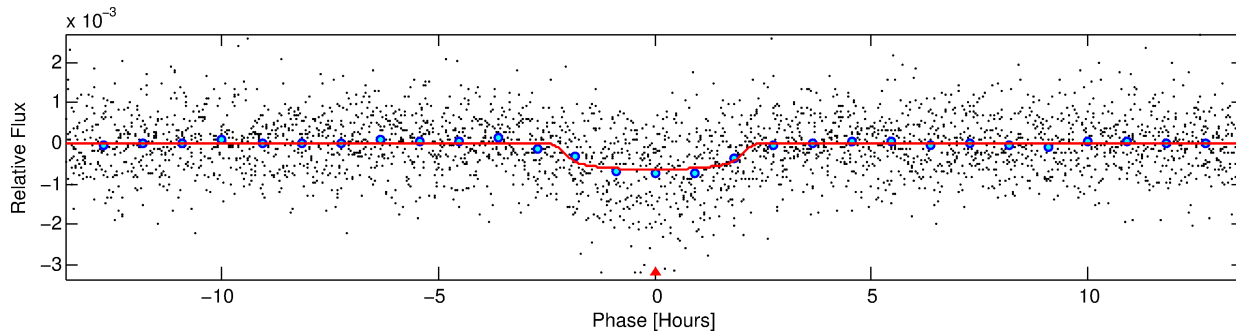
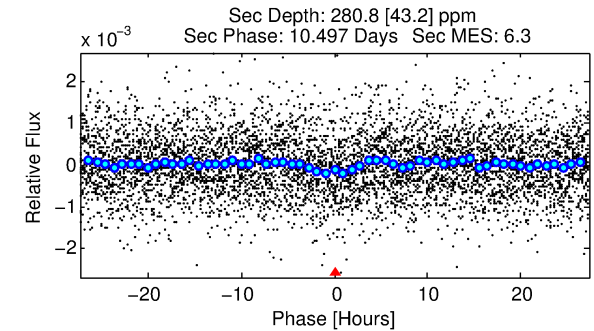
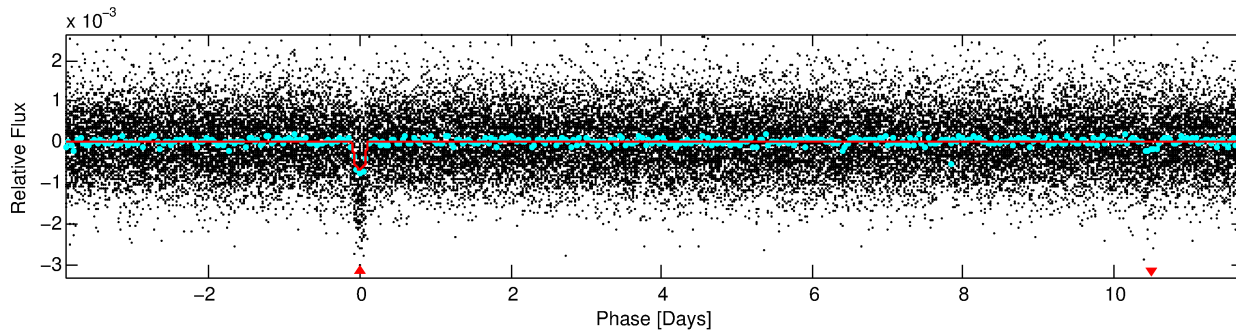
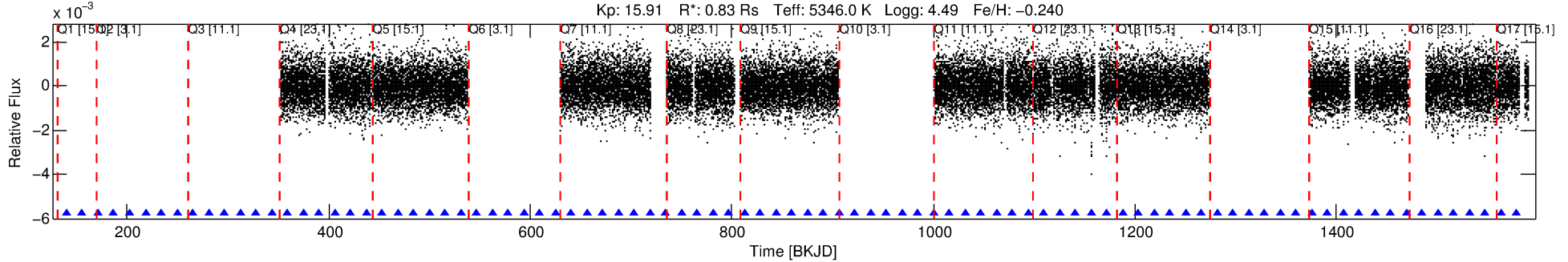
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004372768-01	4372768	3698.01	4372765	1:1	9.1	-1	1	18.23	15.91	477.75	Direct-PRF	0	0.65	0.75

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: 4372768 Candidate: 1 of 1 Period: 15.640 d
KOI: K01327.01 Corr: 0.863

Kp: 15.91 R*: 0.83 Rs Teff: 5346.0 K Logg: 4.49 Fe/H: -0.240



DV Fit Results:

Period = 15.64032 [0.00013] d
Epoch = 140.1135 [0.0072] BKJD
Rp/R* = 0.0266 [0.0075]
a/R* = 15.77 [18.16]
b = 0.83 [0.43]
Seff = 39.63 [10.14]
Teq = 640 [41] K
Rp = 2.39 [0.78] Re
a = 0.1122 [0.0154] AU
Ag = 339.74 [211.84] [1.60σ]
Teffp = 4247 [646] K [5.57σ]

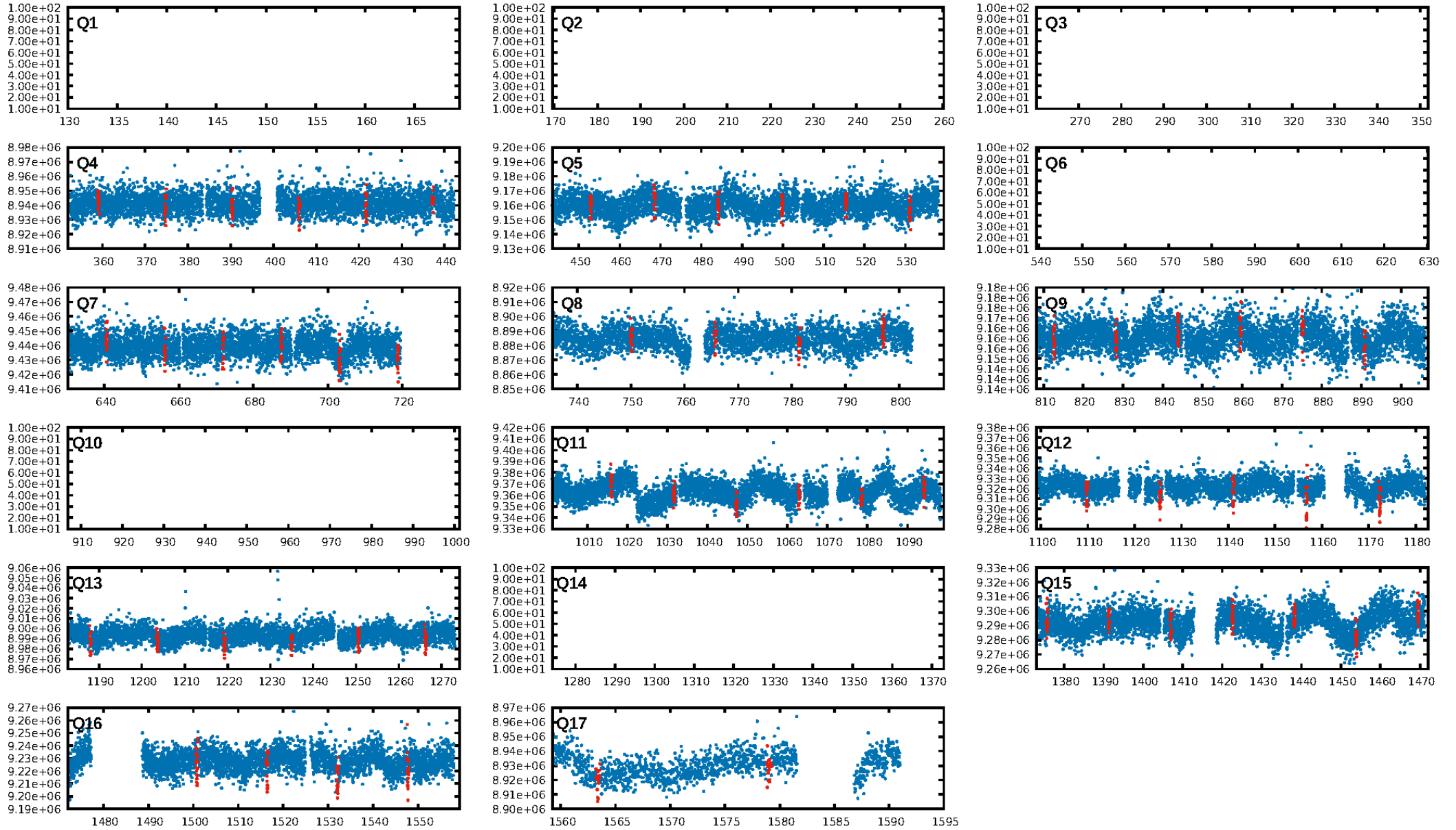
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-46
RollingBand-fgt: 1.00 [56/56]
GhostDiagnostic-chr: -0.8994
Centroid-sig: 0.0%
Centroid-so: 135.312 arcsec [179.42σ]
OotOffset-rm: 8.826 arcsec [130.16σ]
KicOffset-rm: 8.868 arcsec [130.93σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 0/0/4/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [11/11]

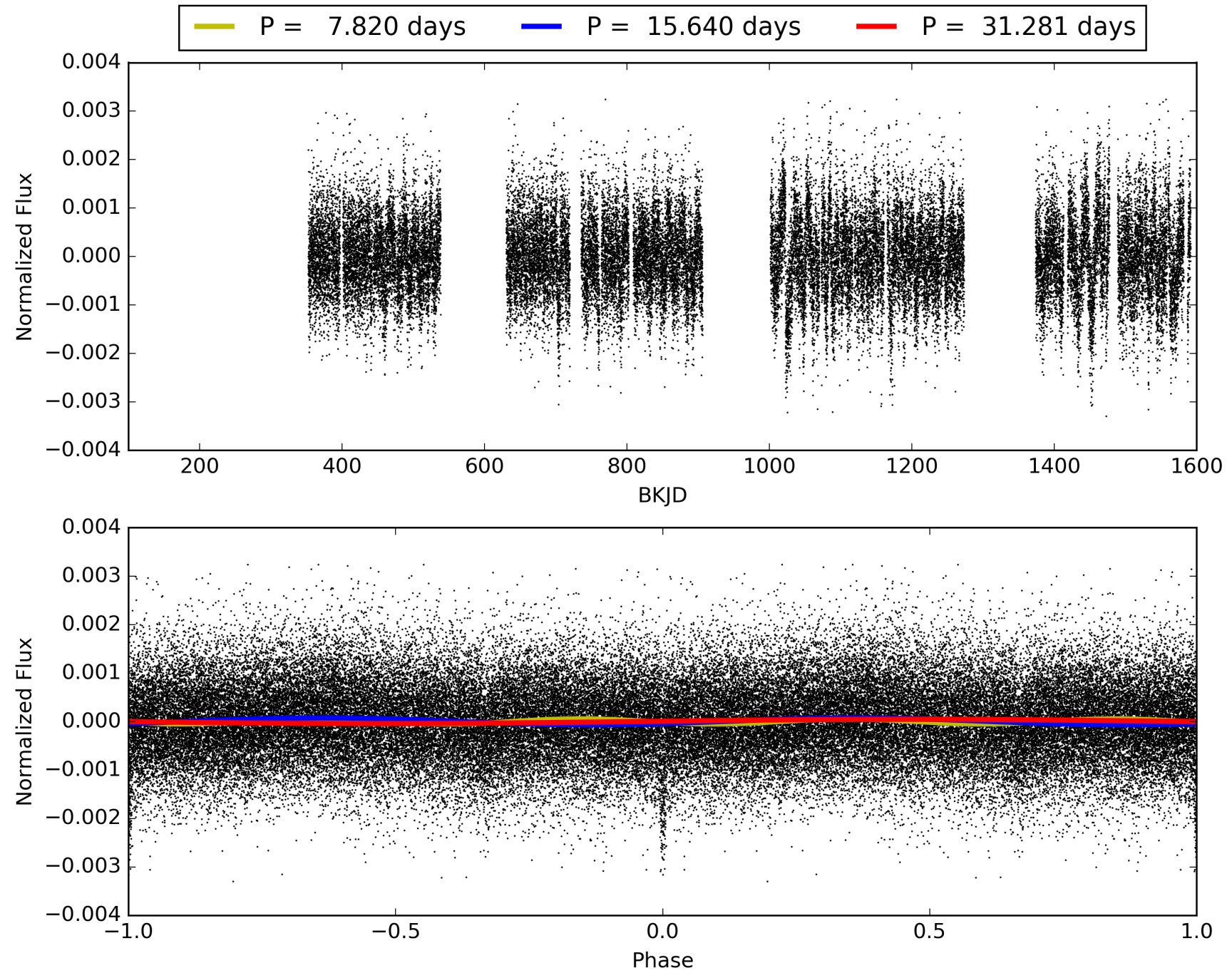
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:25:33 Z

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

TCE 004372768-01, PDC Light Curves

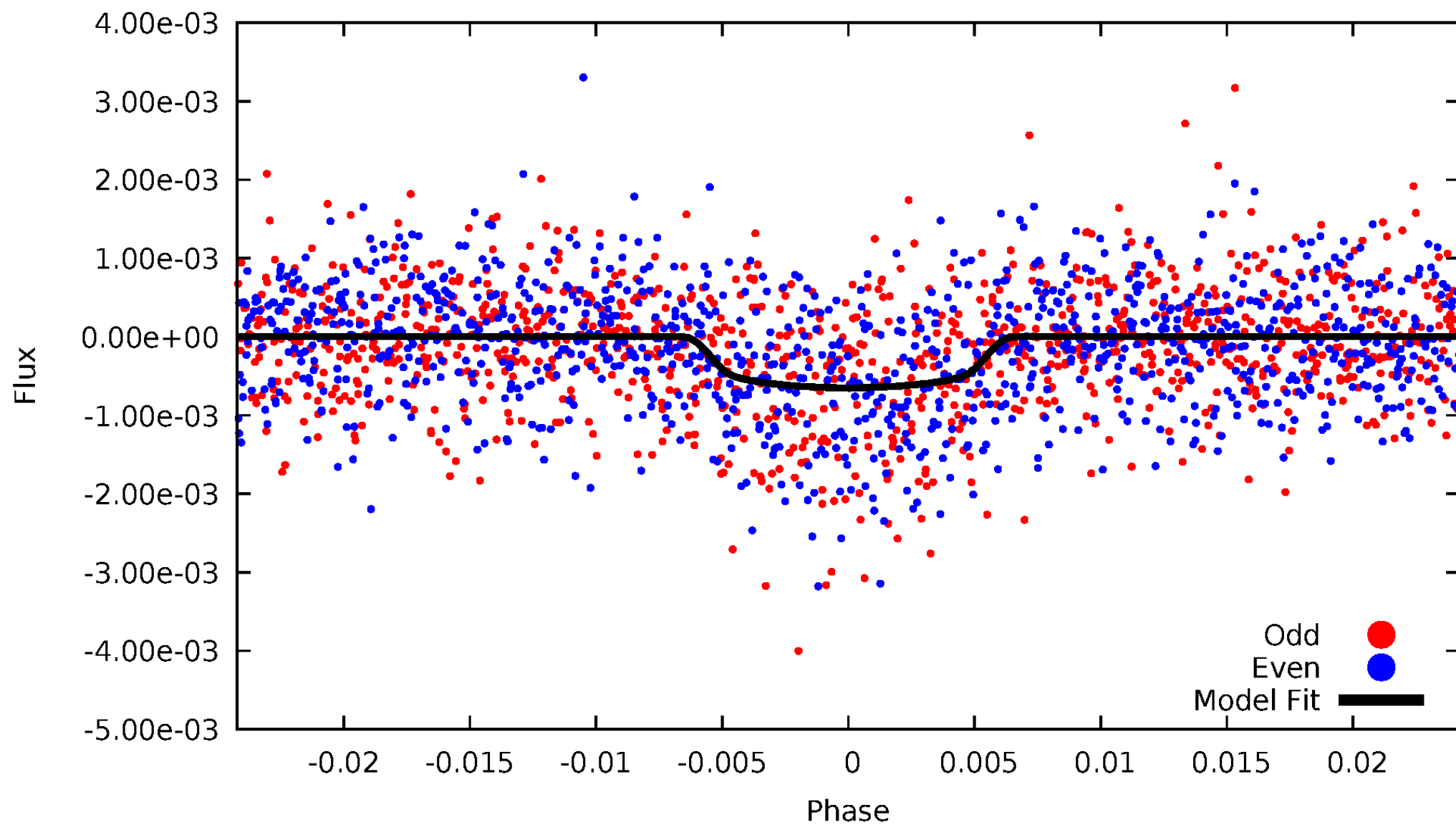


TCE 004372768-01



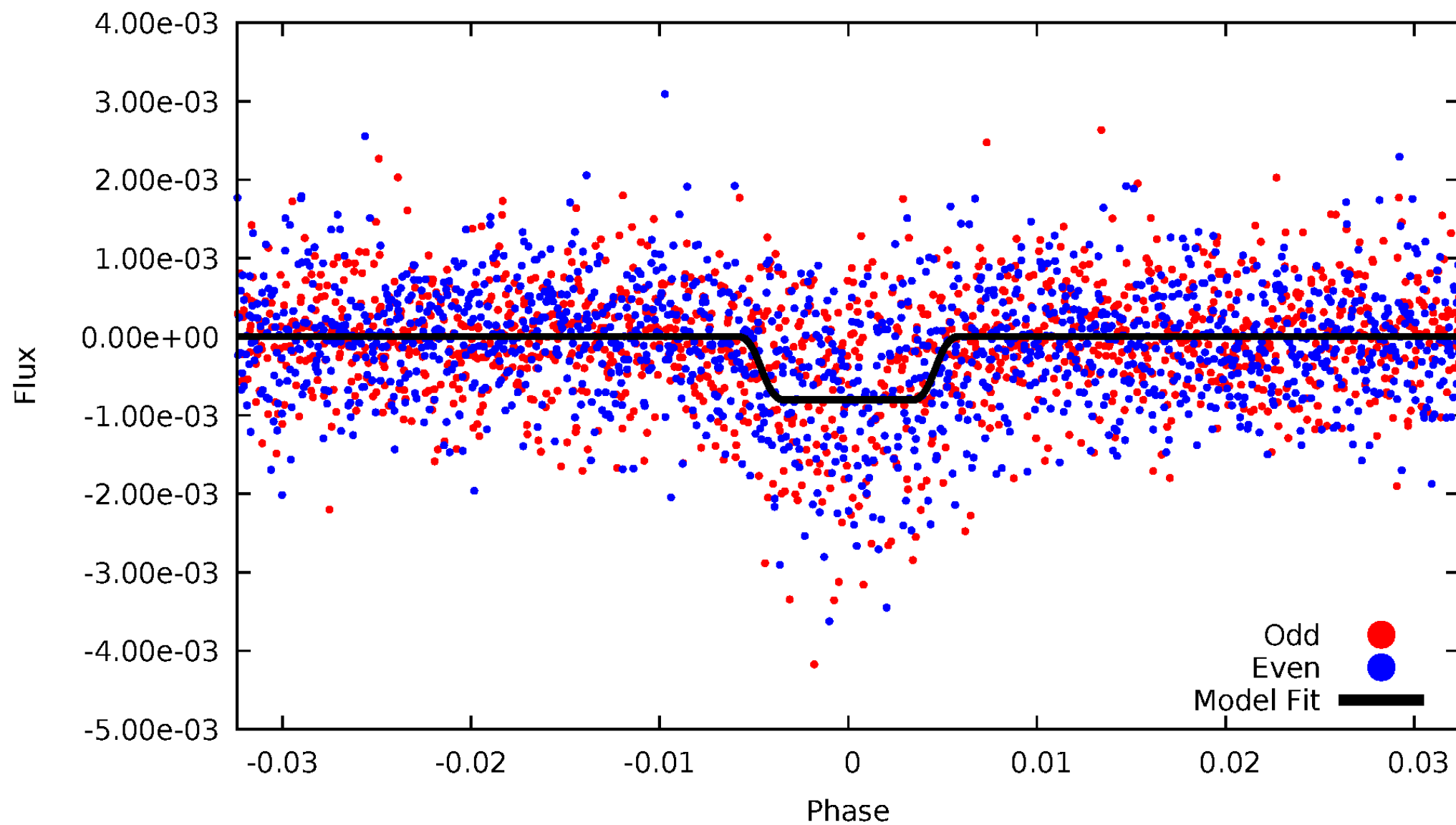
DV Odd/Even

TCE 004372768-01



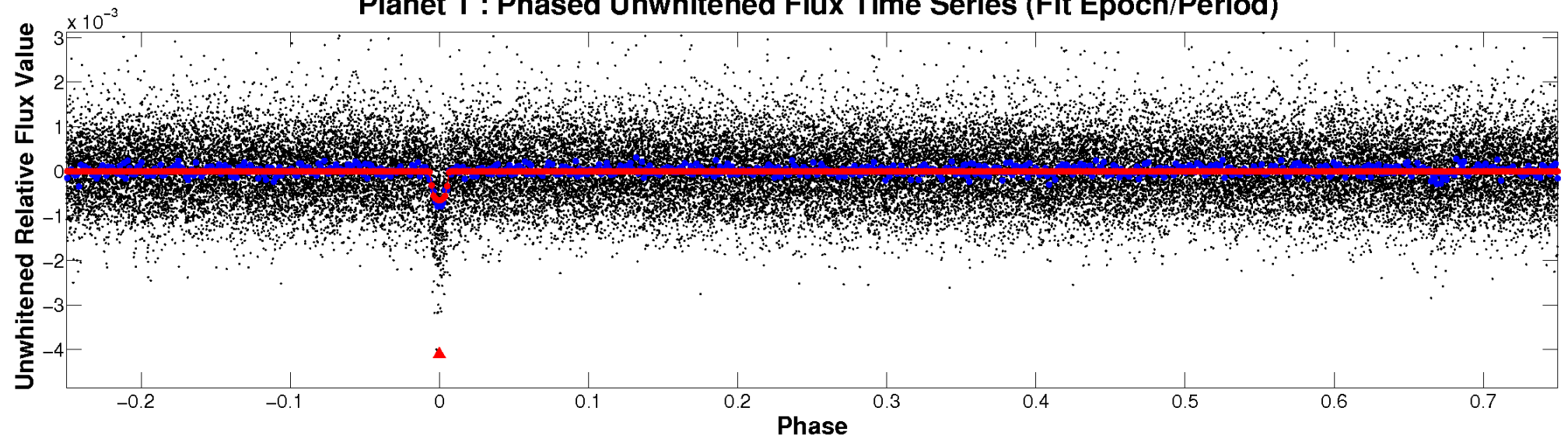
ALT Odd/Even

TCE 004372768-01

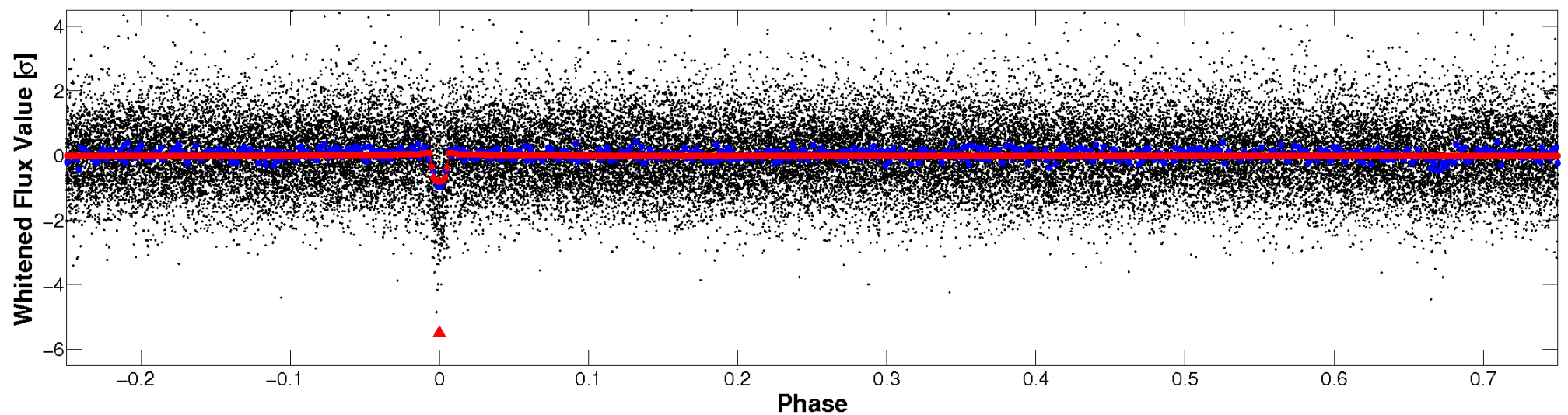


Non-Whitened Vs. Whitened Light Curve

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

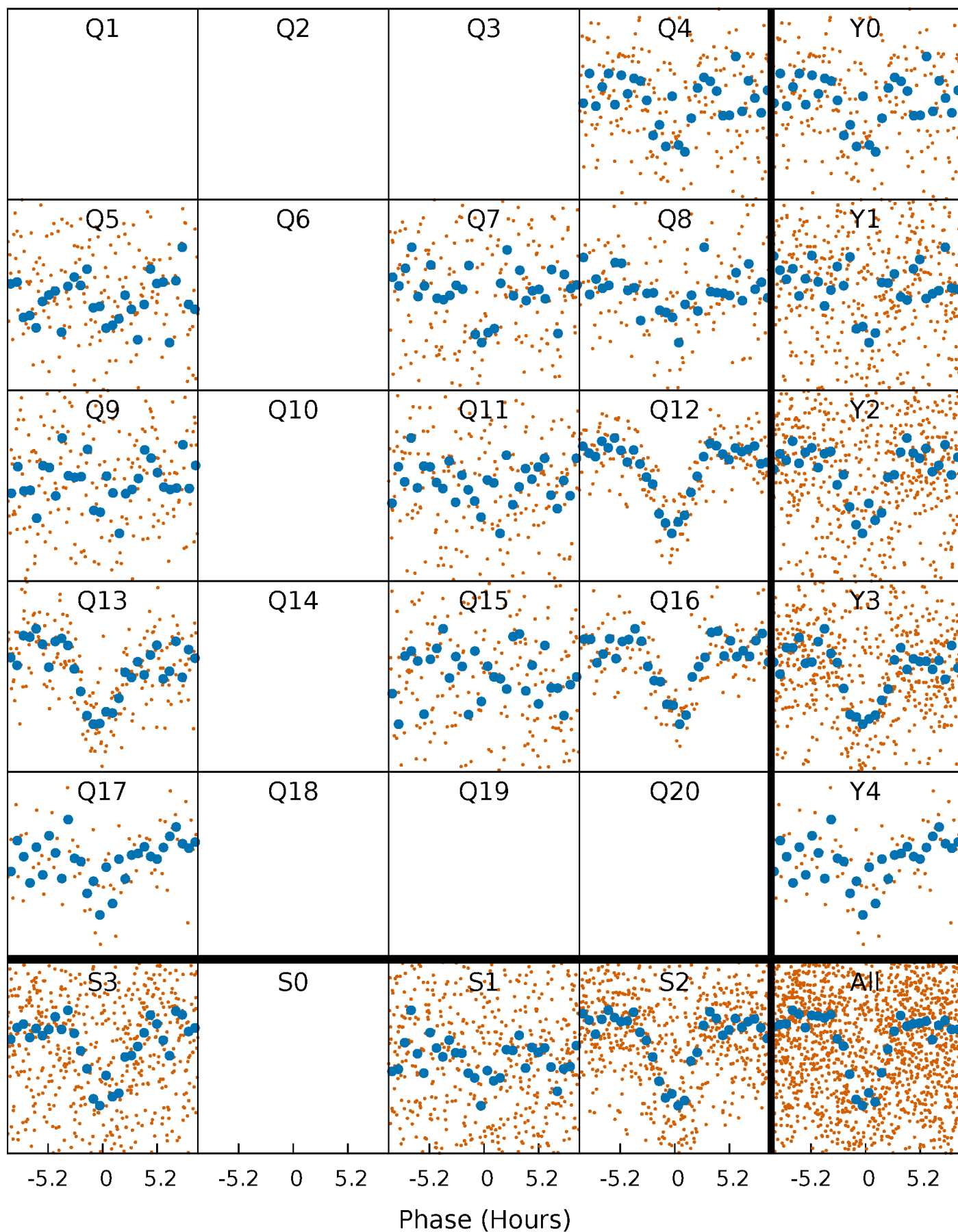


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



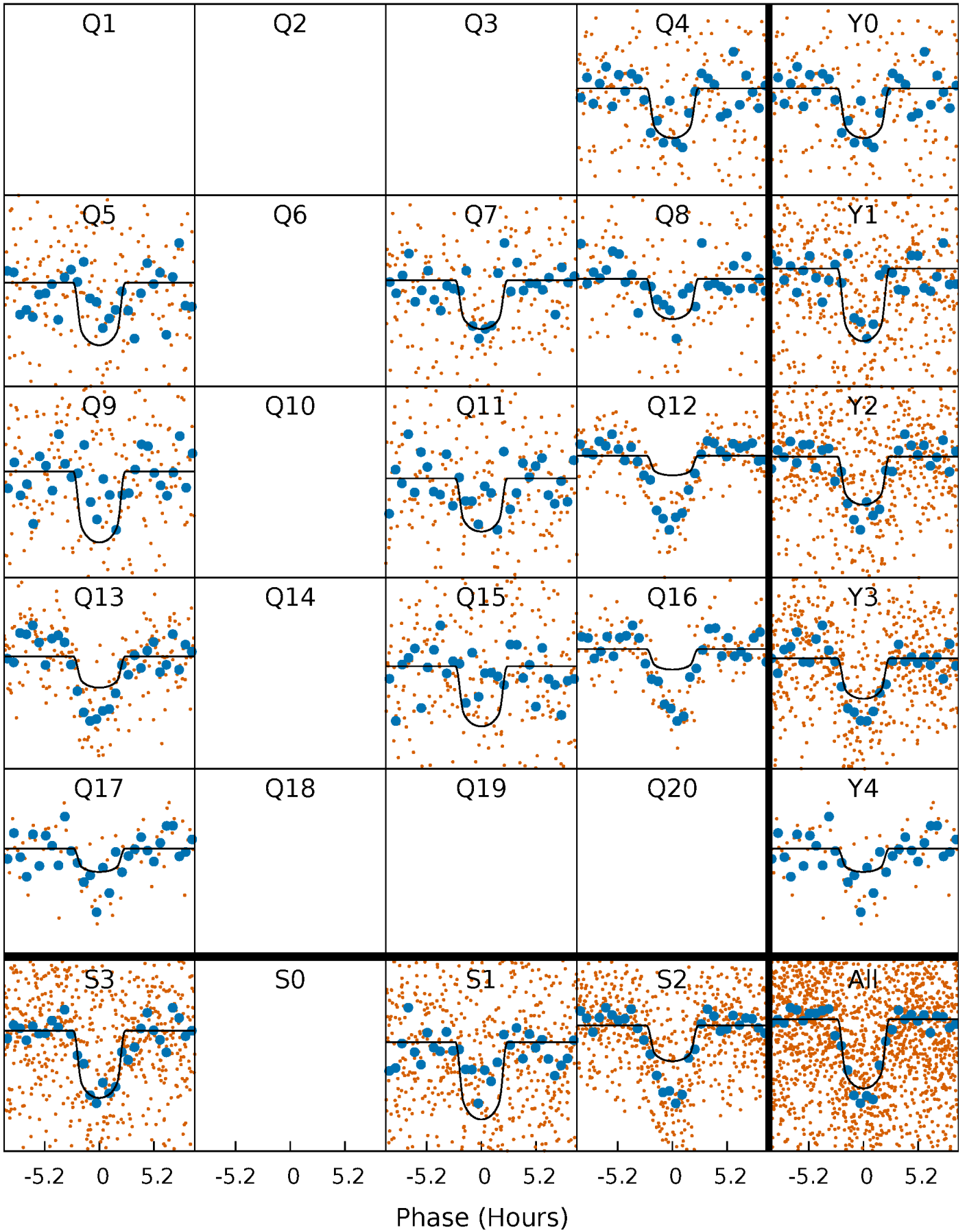
PDC Quarter-Phased Transit Curves

TCE 004372768-01 P= 15.640320 Days $T_0=140.113518$ (BKJD)



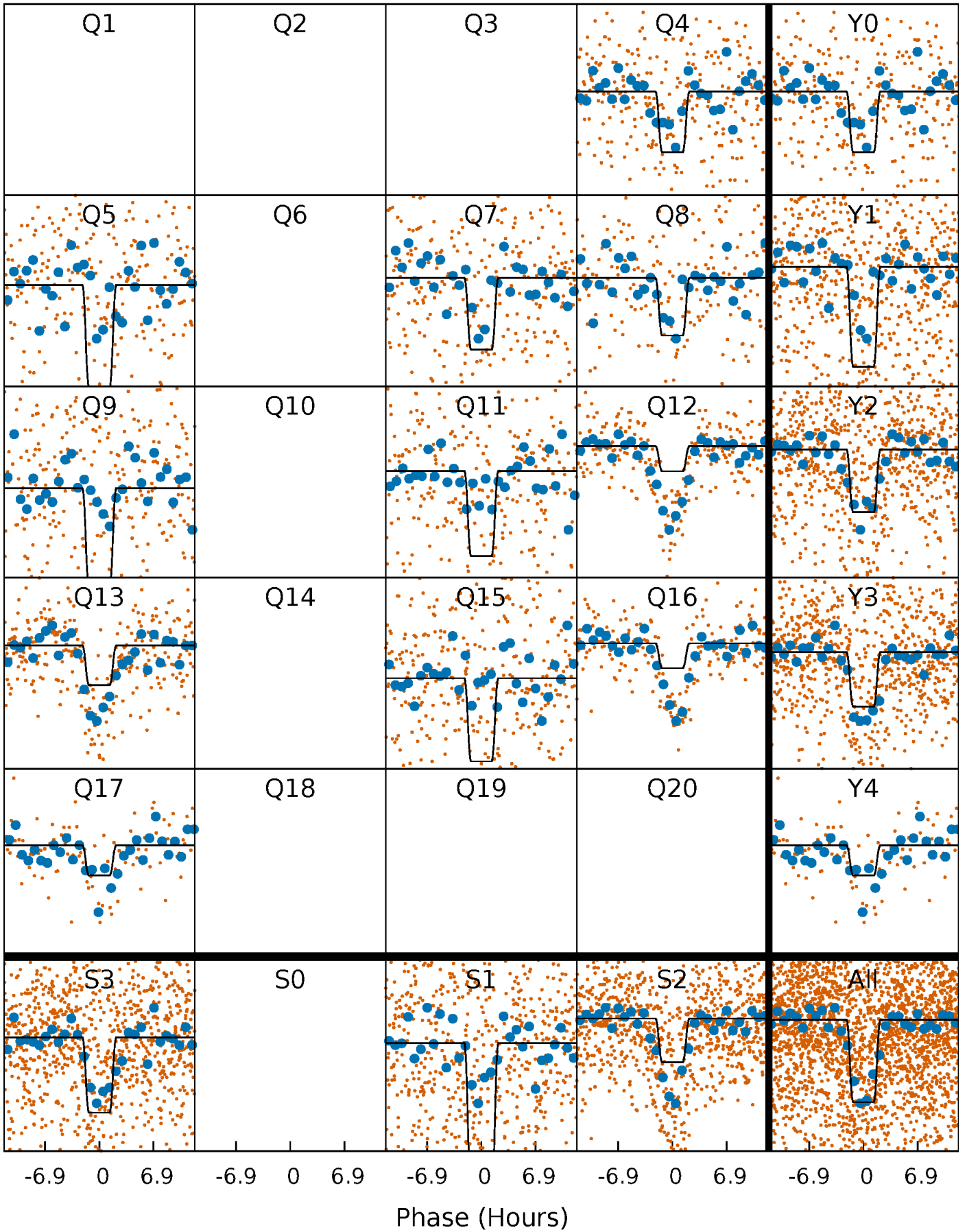
DV Quarter-Phased Transit Curves

TCE 004372768-01 P= 15.640320 Days $T_0=140.113518$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

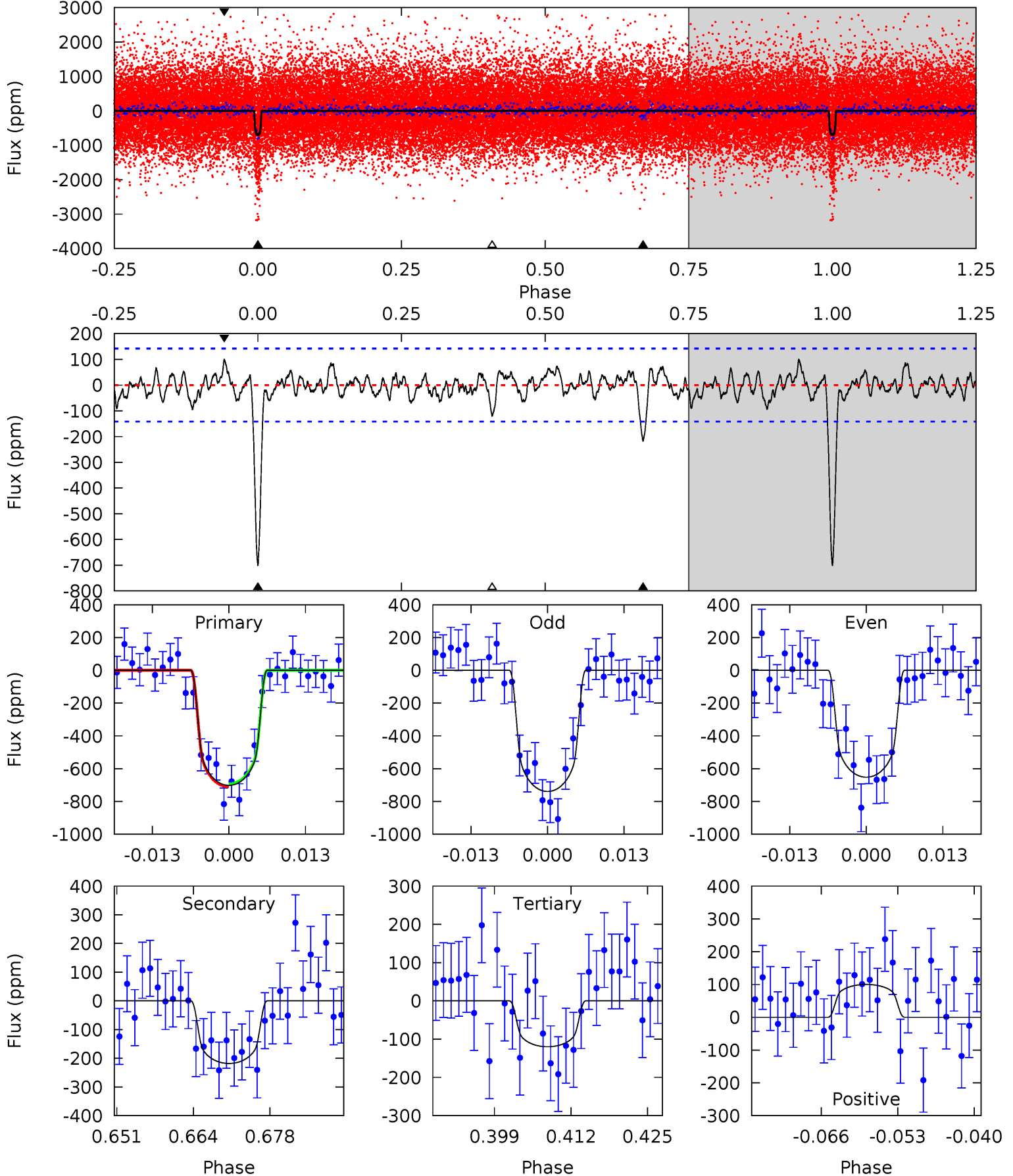
TCE 004372768-01 P= 15.639943 Days $T_0=140.135451$ (BKJD)



DV Model-Shift Uniqueness Test

004372768-01, P = 15.640320 Days, E = 140.113518 Days

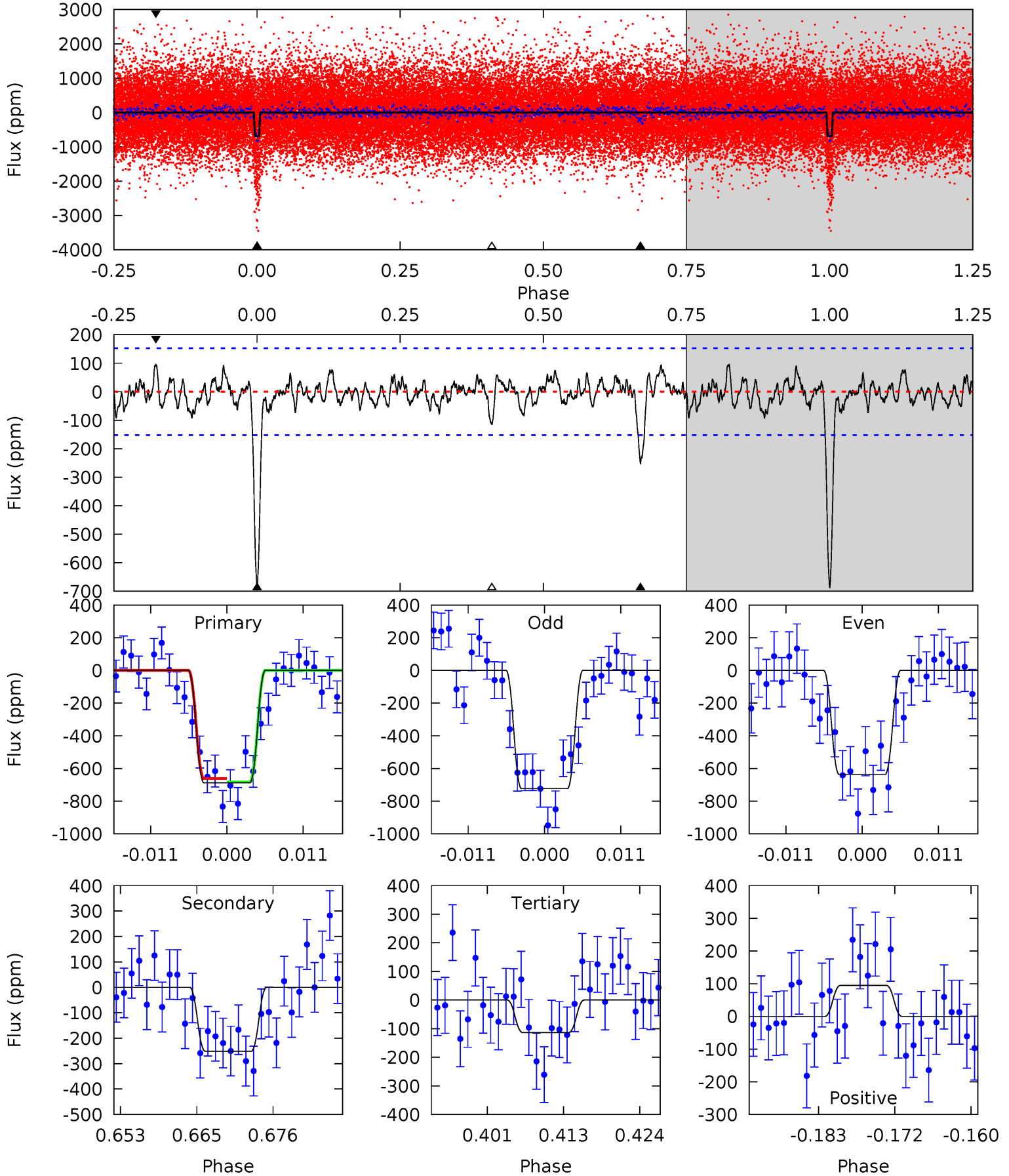
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.6	7.65	4.20	3.51	4.97	2.48	1.23	20.4	21.1	3.44	4.14	1.53	1.34	0.12	0.30



Alt Model-Shift Uniqueness Test

004372768-01, P = 15.639943 Days, E = 140.135451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.5	8.24	3.73	3.11	5.00	2.53	1.15	18.8	19.4	4.51	5.13	1.43	1.54	0.12	0.34



Stellar Parameters For KIC 004372768

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5346^{+204}_{-185}	$4.491^{+0.105}_{-0.115}$	$-0.240^{+0.300}_{-0.300}$	$0.826^{+0.130}_{-0.106}$	$0.771^{+0.113}_{-0.061}$	$1.927^{+0.879}_{-0.649}$
	+4%/-3%	+2%/-3%	+125%/-125%	+16%/-13%	+15%/-8%	+46%/-34%
Source	KIC0	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 004372768-01 / KOI 1327.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-218 ± 29	$2.42^{+0.74}_{-0.76}$	896^{+51}_{-46}	4198^{+657}_{-374}	259^{+275}_{-109}
Alt.	-251 ± 30	$2.58^{+0.71}_{-0.75}$	897^{+48}_{-46}	4235^{+603}_{-360}	270^{+244}_{-107}

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 $A_{obs} \gg 1.0$

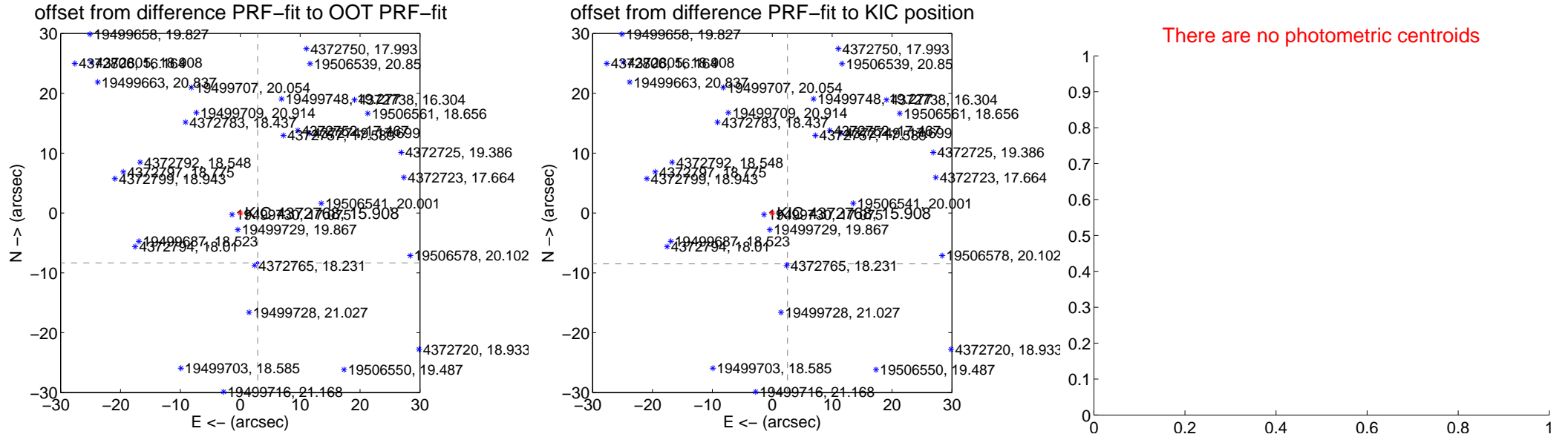
DV Centroid Data

Supplemental centroid analysis for 004372768-01. Kepler magnitude: 15.91. Transit SNR 14.96

There are 4 quarters with good PRF difference image offsets

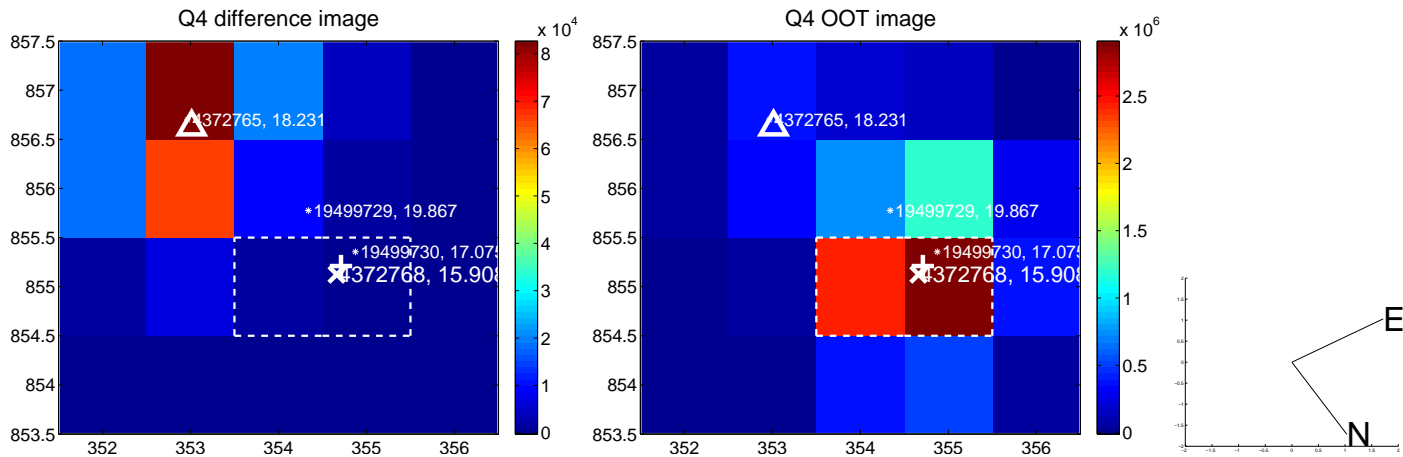
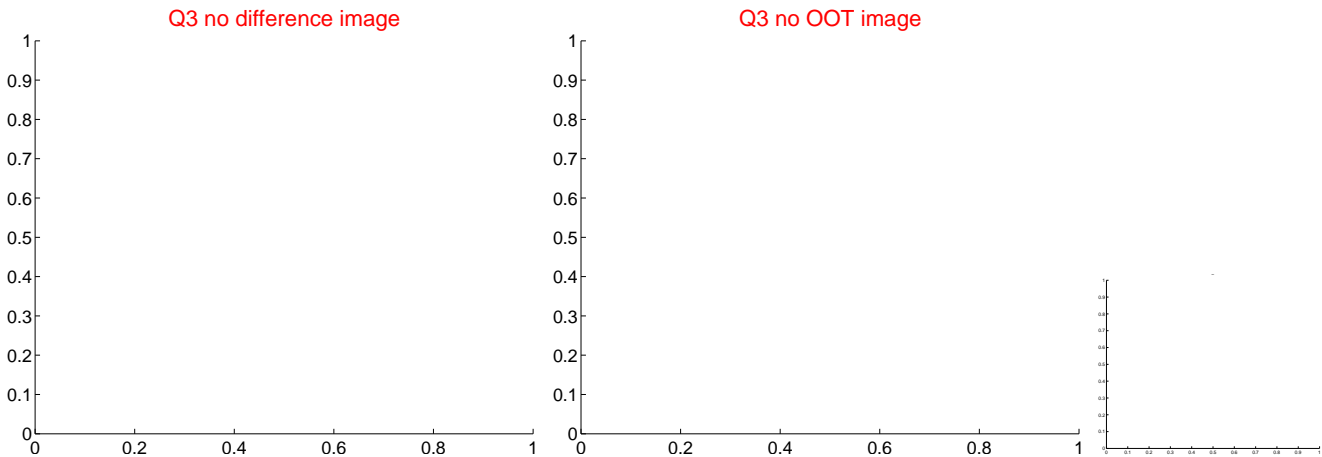
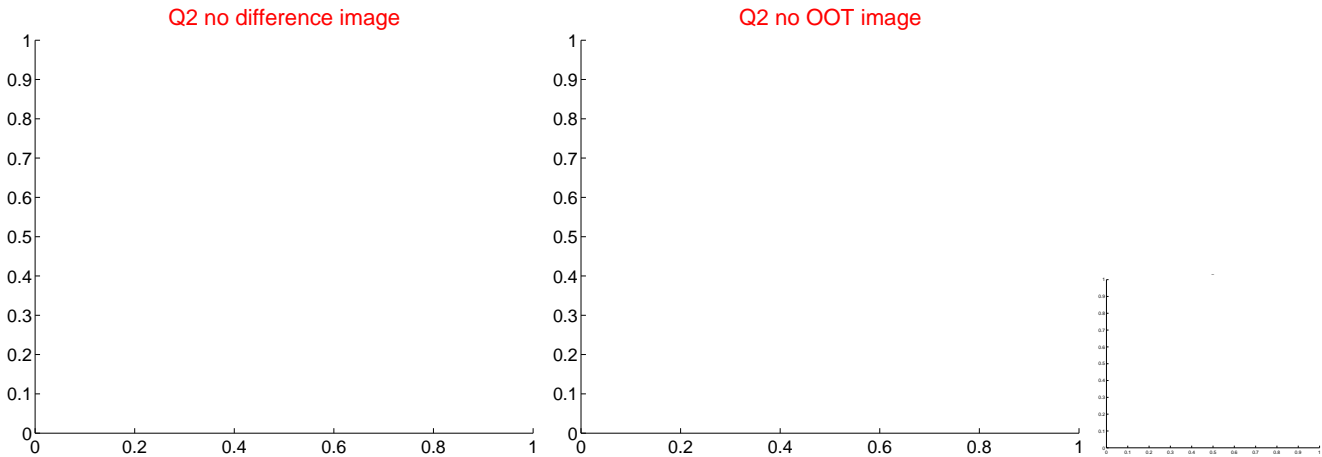
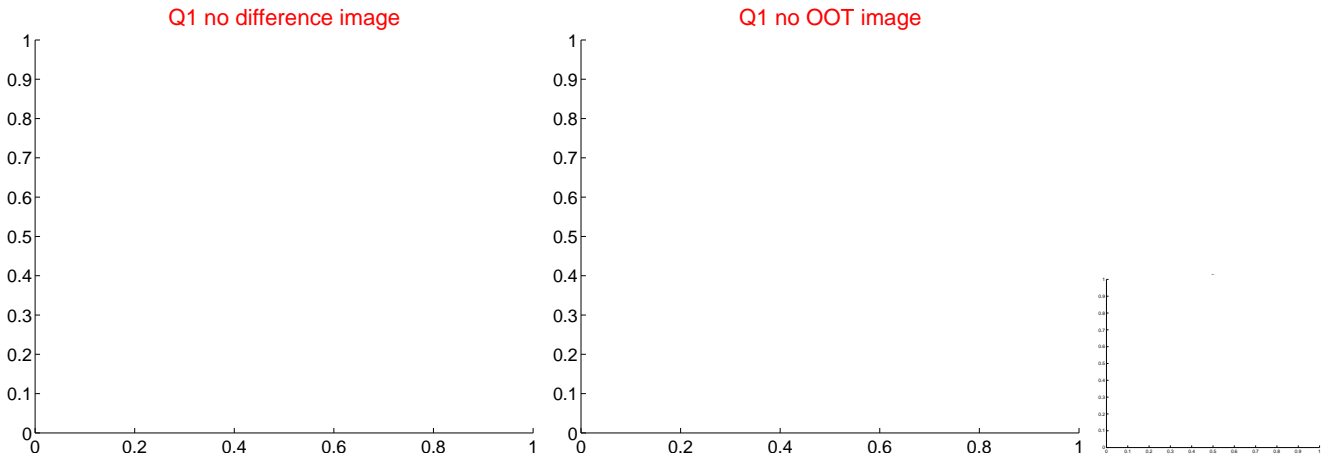
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.826 ± 0.068	130.16	-2.904 ± 0.067	-8.335 ± 0.068
PRF-fit source offset from KIC position	8.868 ± 0.068	130.93	-2.552 ± 0.068	-8.493 ± 0.068
photometric centroid source offset	—	—	—	—

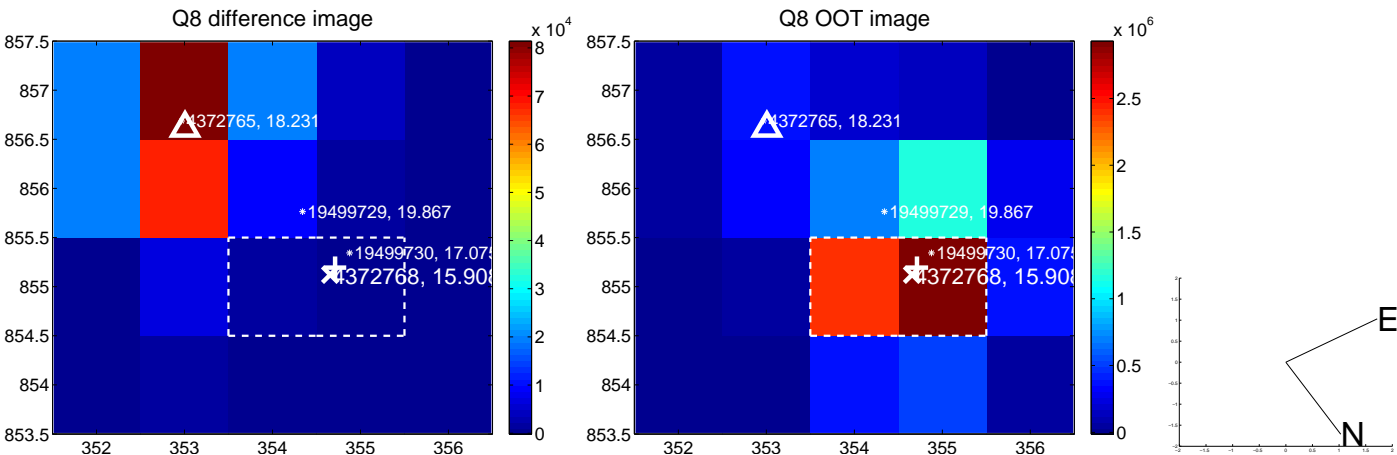
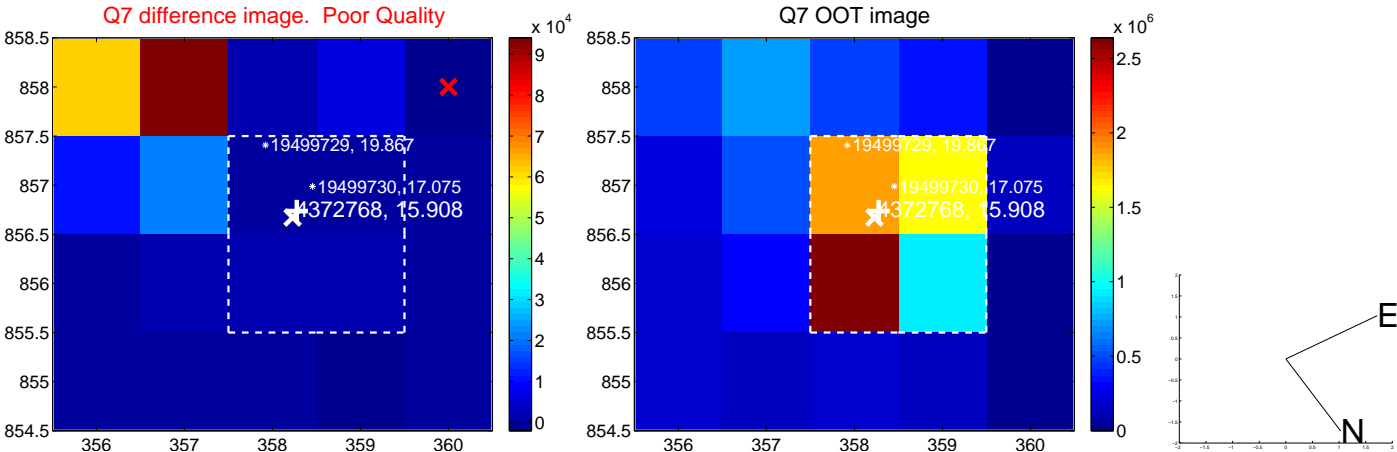
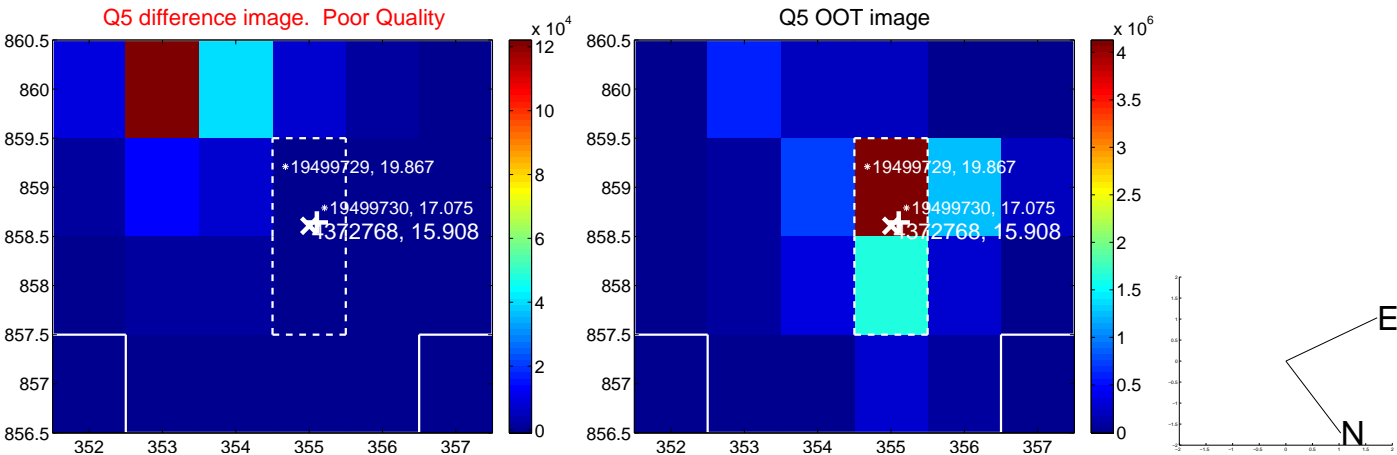


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

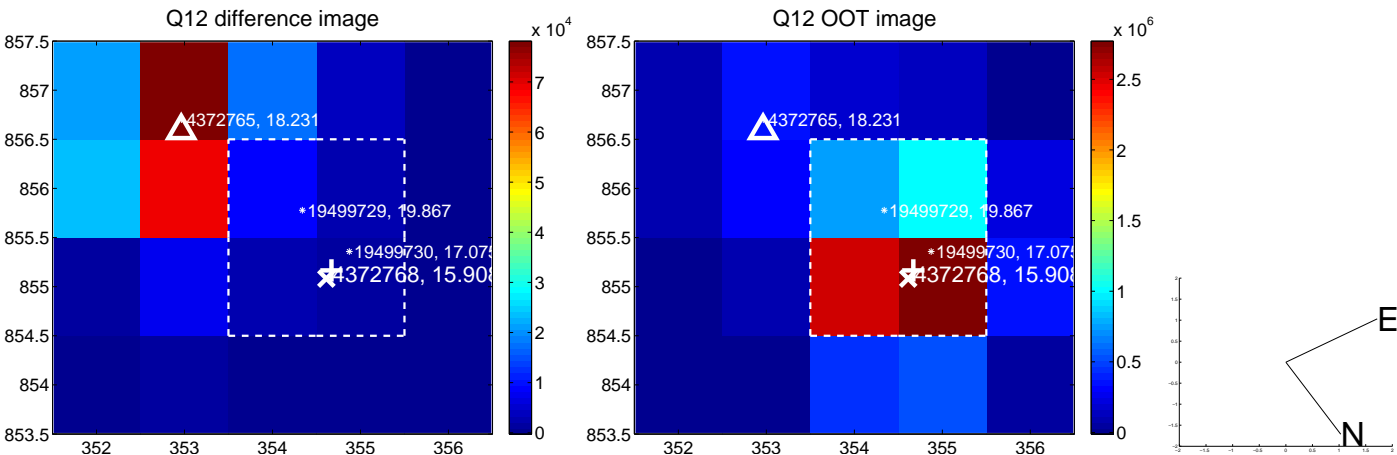
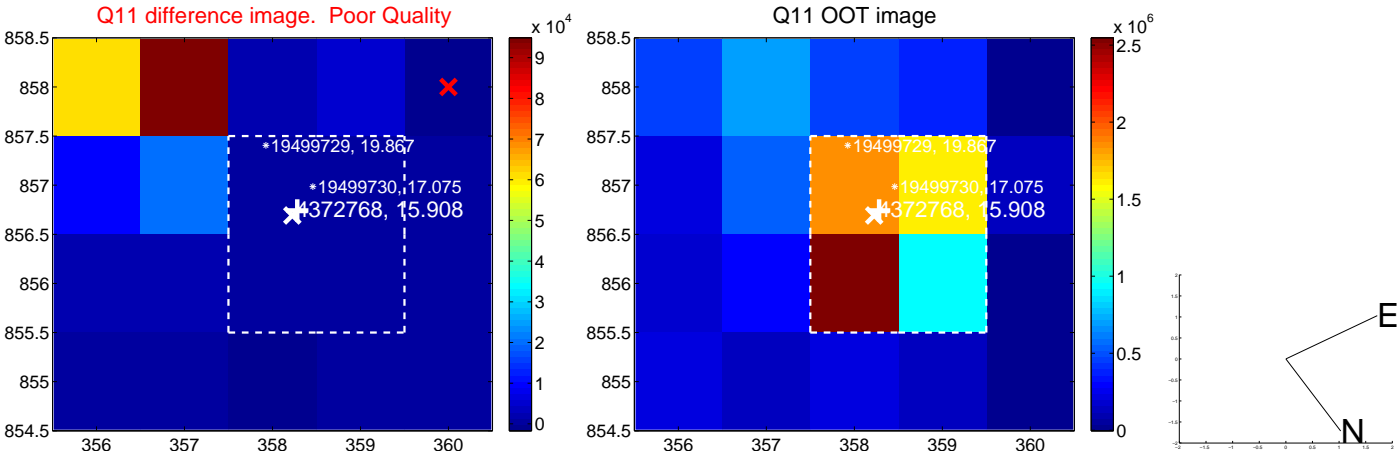
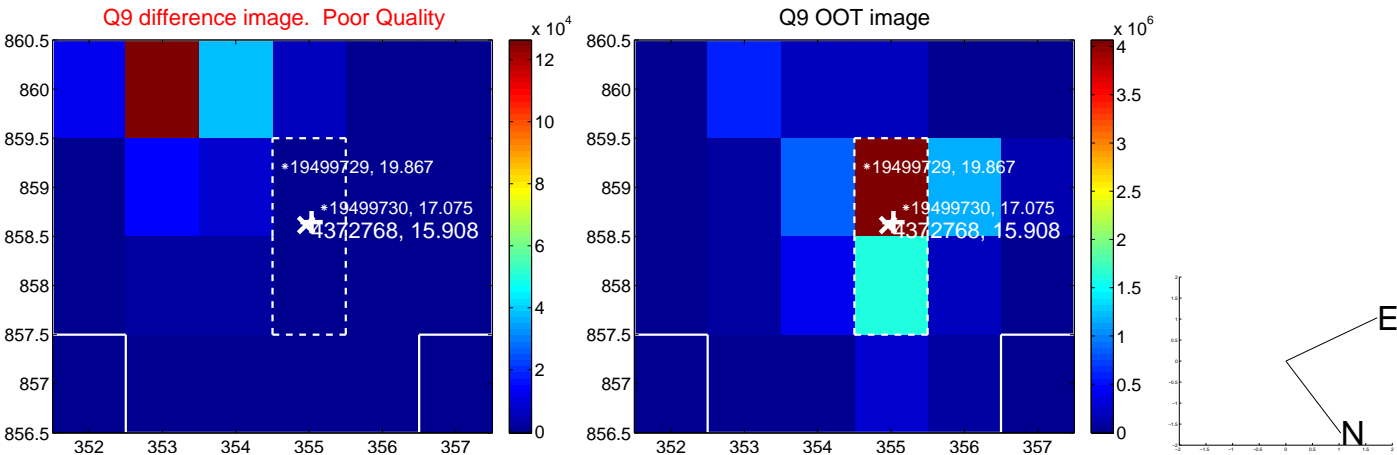
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



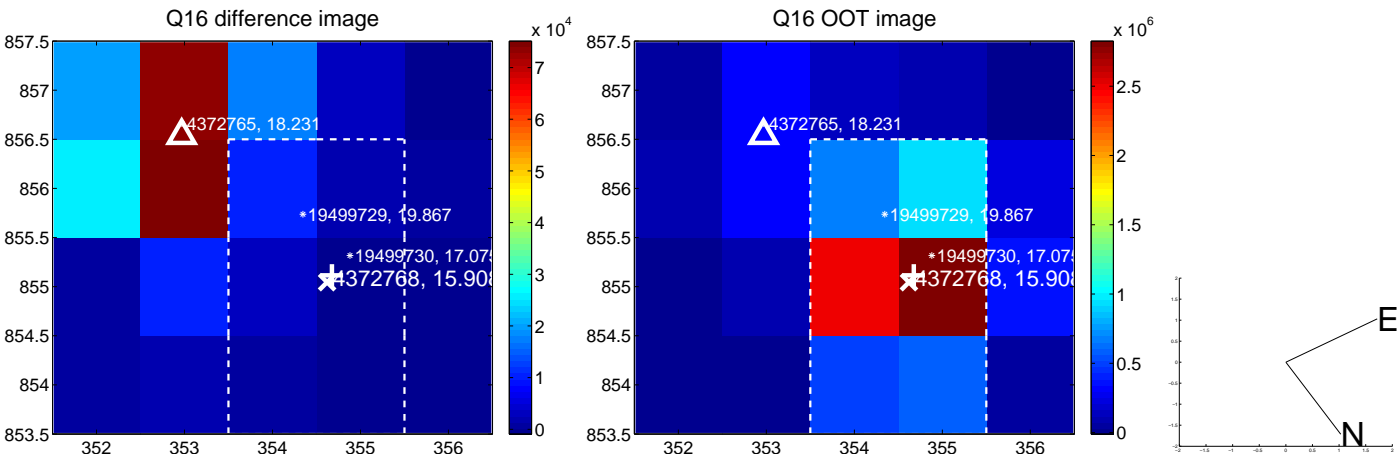
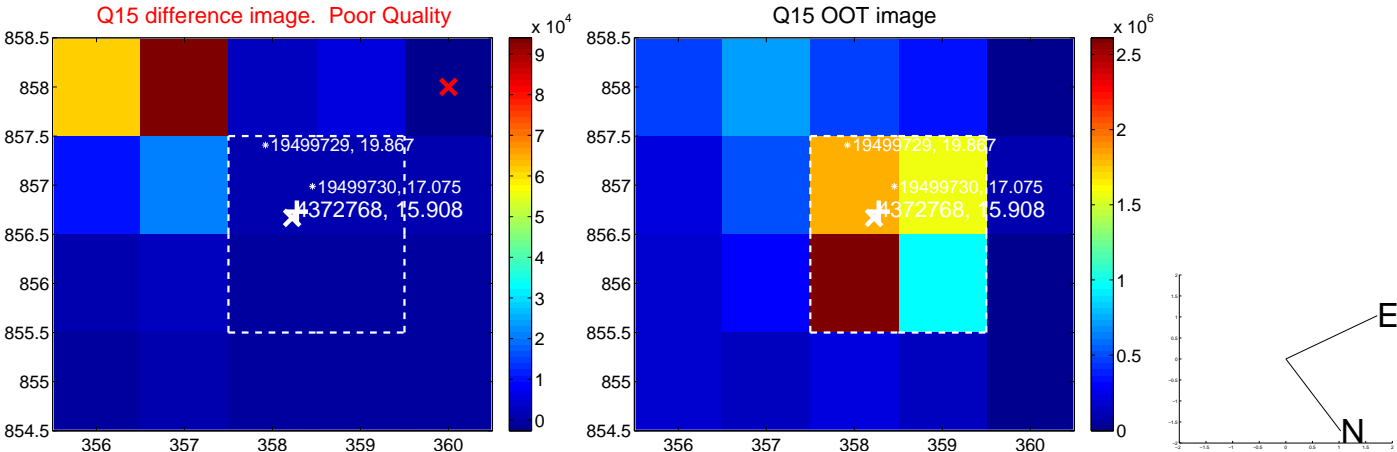
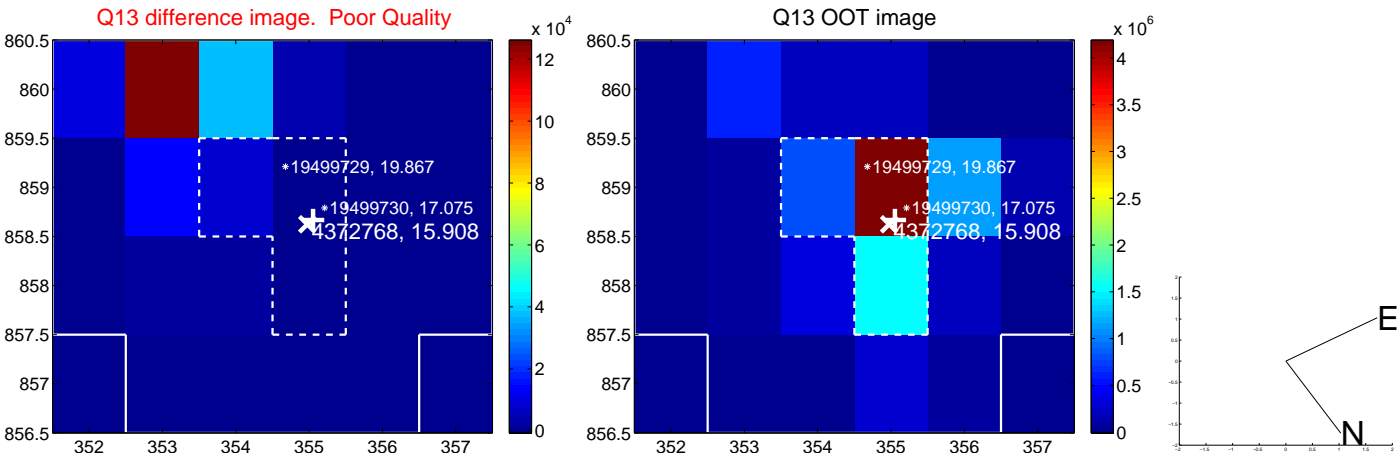
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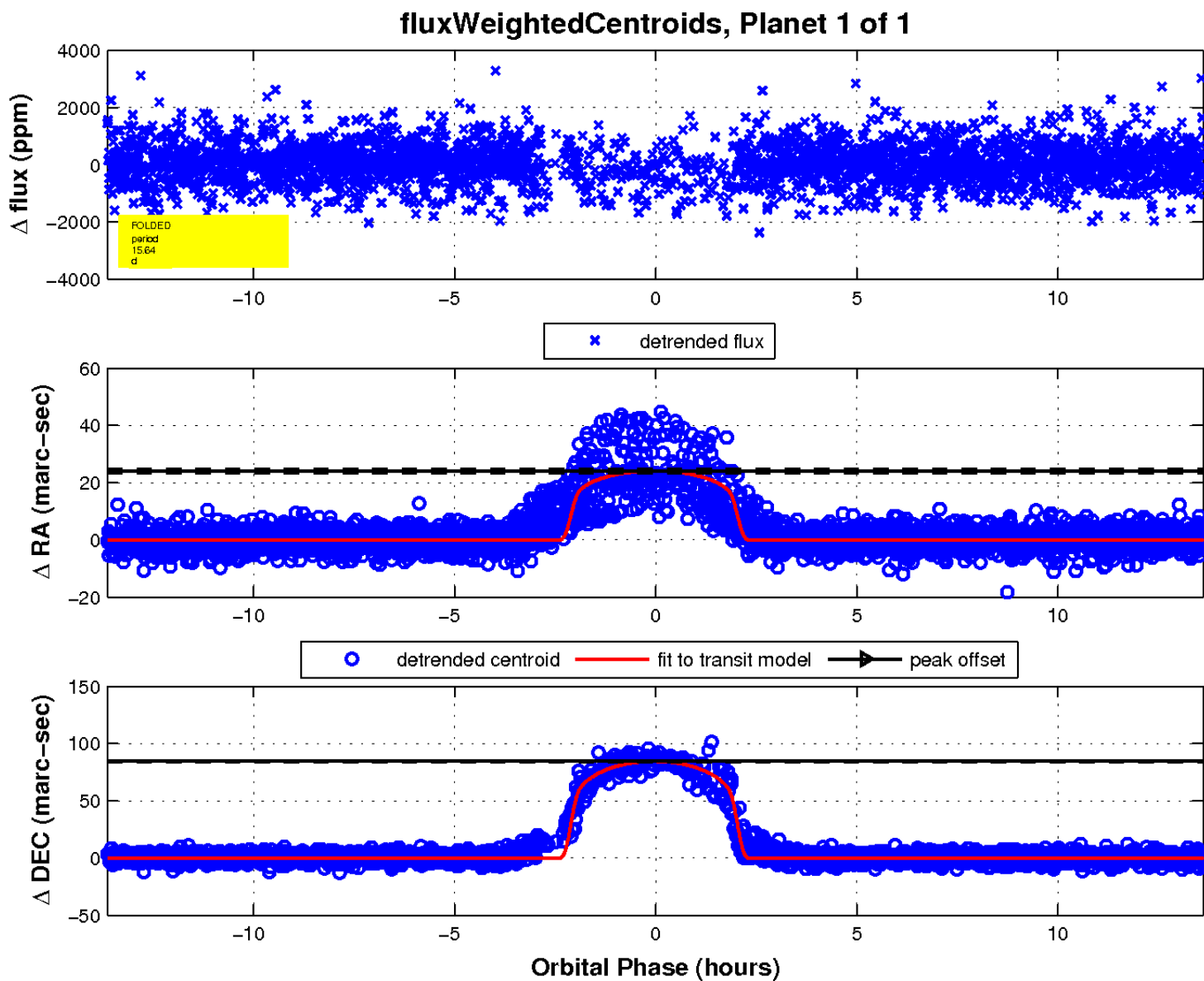
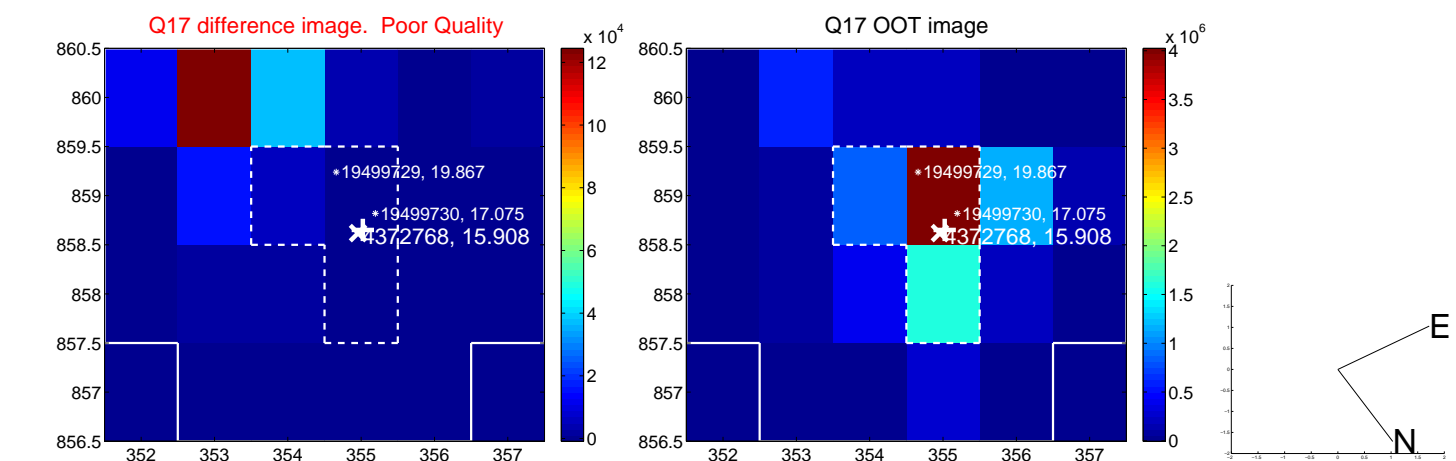
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UKIRT Image

Declination

