

KIC 004072955

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})
004072955-01	OBS	3041.01	5.082949	133.999213	94.7	2.533	10.2	10.1	1.08	6217	1.25	464.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004072955-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

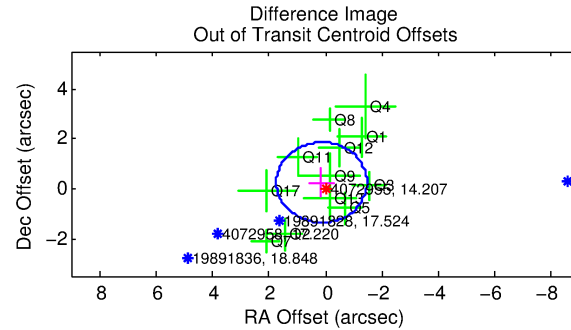
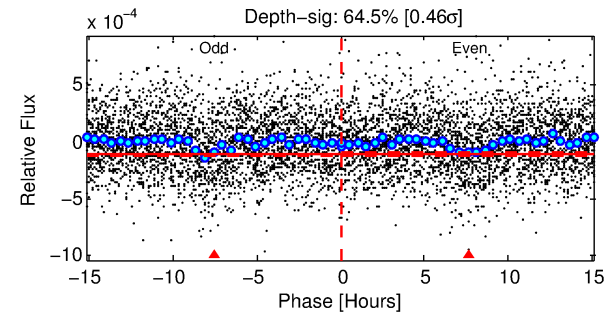
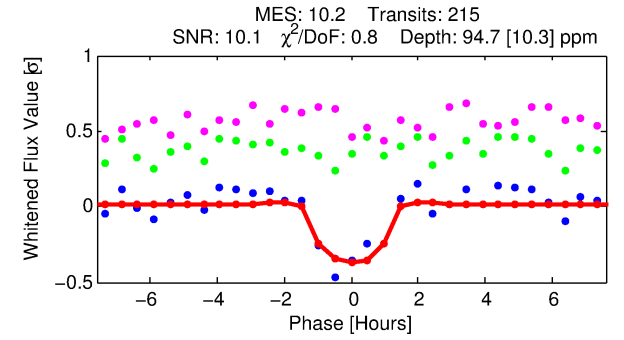
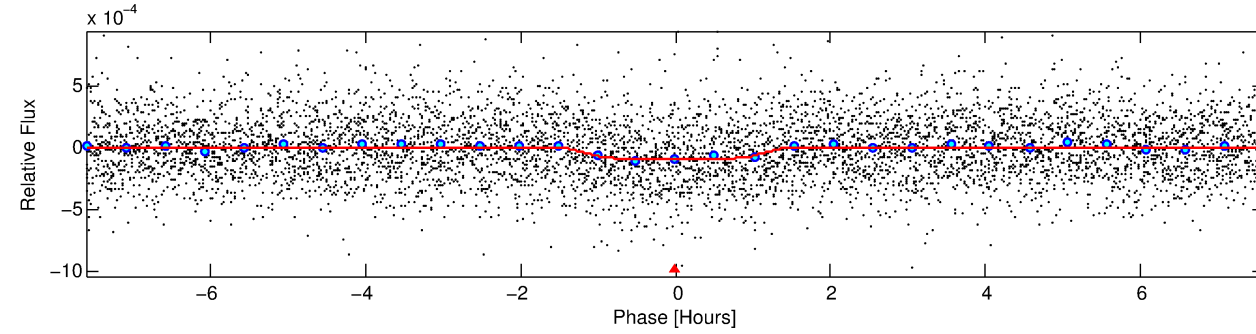
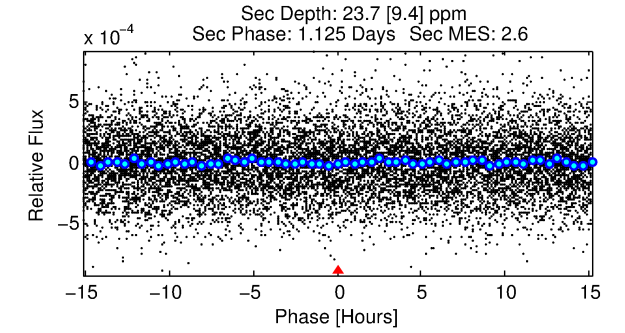
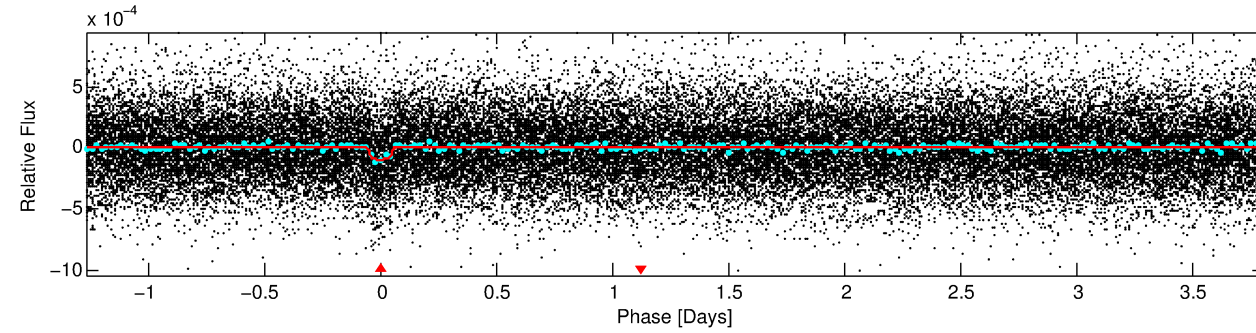
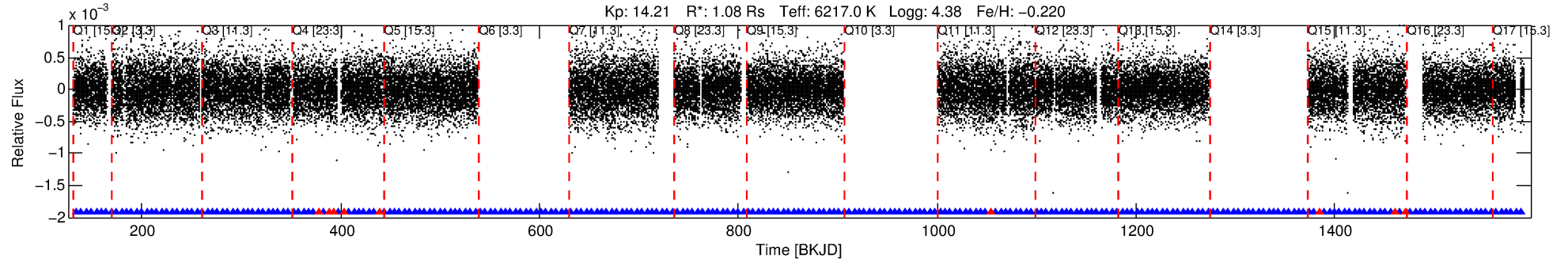
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004072955-01

No Significant Match Found

DV One-Page Summary

KIC: 4072955 Candidate: 1 of 1 Period: 5.083 d
KOI: K03041.01 Corr: 0.938



DV Fit Results:

Period = 5.08295 [0.00003] d
Epoch = 133.9992 [0.0044] BKJD
Rp/R* = 0.0106 [0.0060]
a/R* = 6.62 [20.28]
b = 0.92 [0.56]
Seff = 464.32 [180.26]
Teq = 1184 [115] K
Rp = 1.26 [0.81] Re
a = 0.0581 [0.0149] AU
Ag = 27.92 [34.95] [0.77σ]
Teffp = 4207 [1267] K [2.38σ]

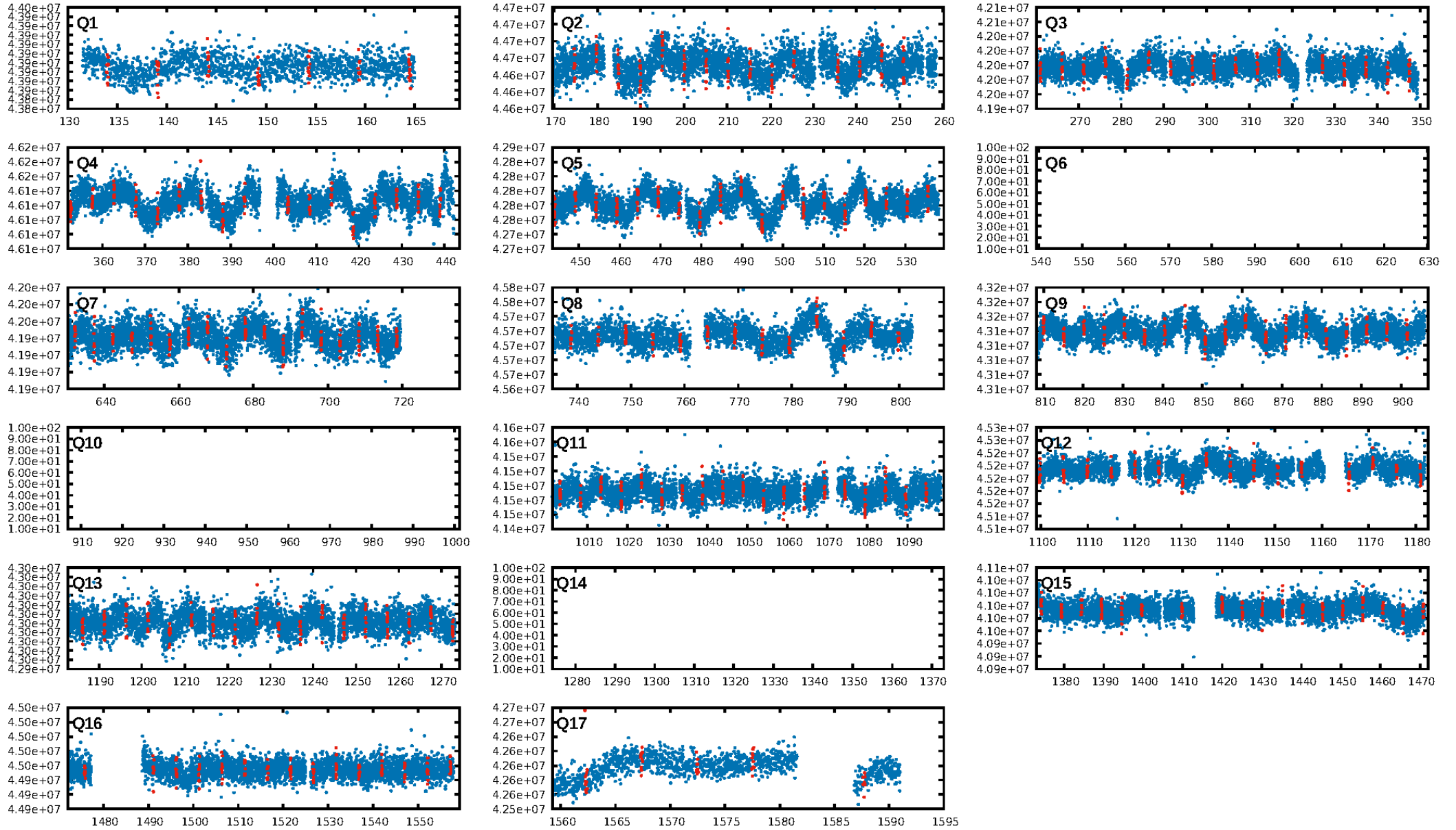
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.84e-24
RollingBand-fgt: 0.96 [194/203]
GhostDiagnostic-chr: -4.68
Centroid-sig: 15.1%
Centroid-so: 1.131 arcsec [0.85σ]
OotOffset-rm: 0.283 arcsec [0.53σ]
KicOffset-rm: 0.286 arcsec [0.62σ]
OotOffset-st: 1/3/3/5 [12]
KicOffset-st: 1/3/3/5 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [14/14]

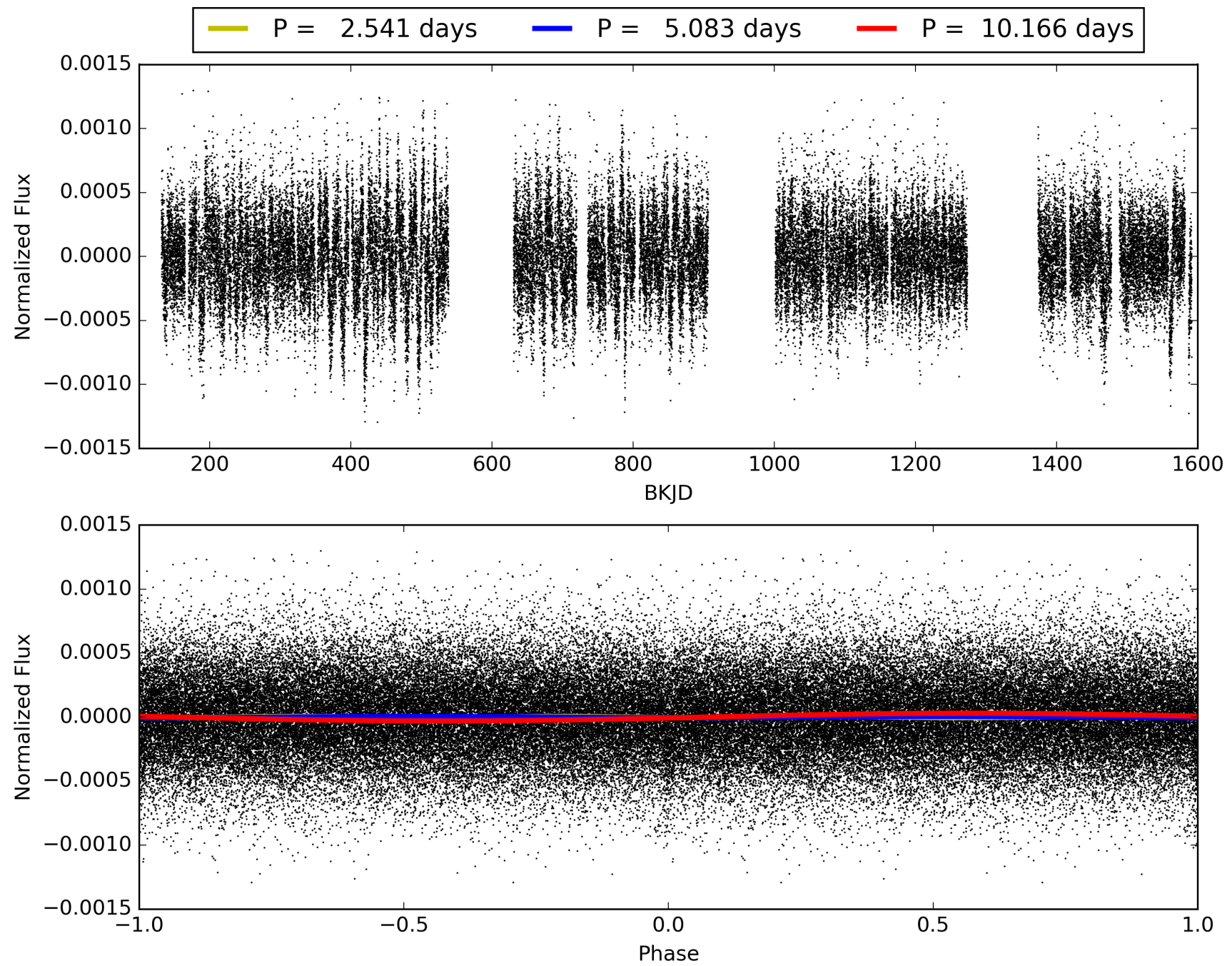
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:29:59 Z

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

TCE 004072955-01, PDC Light Curves

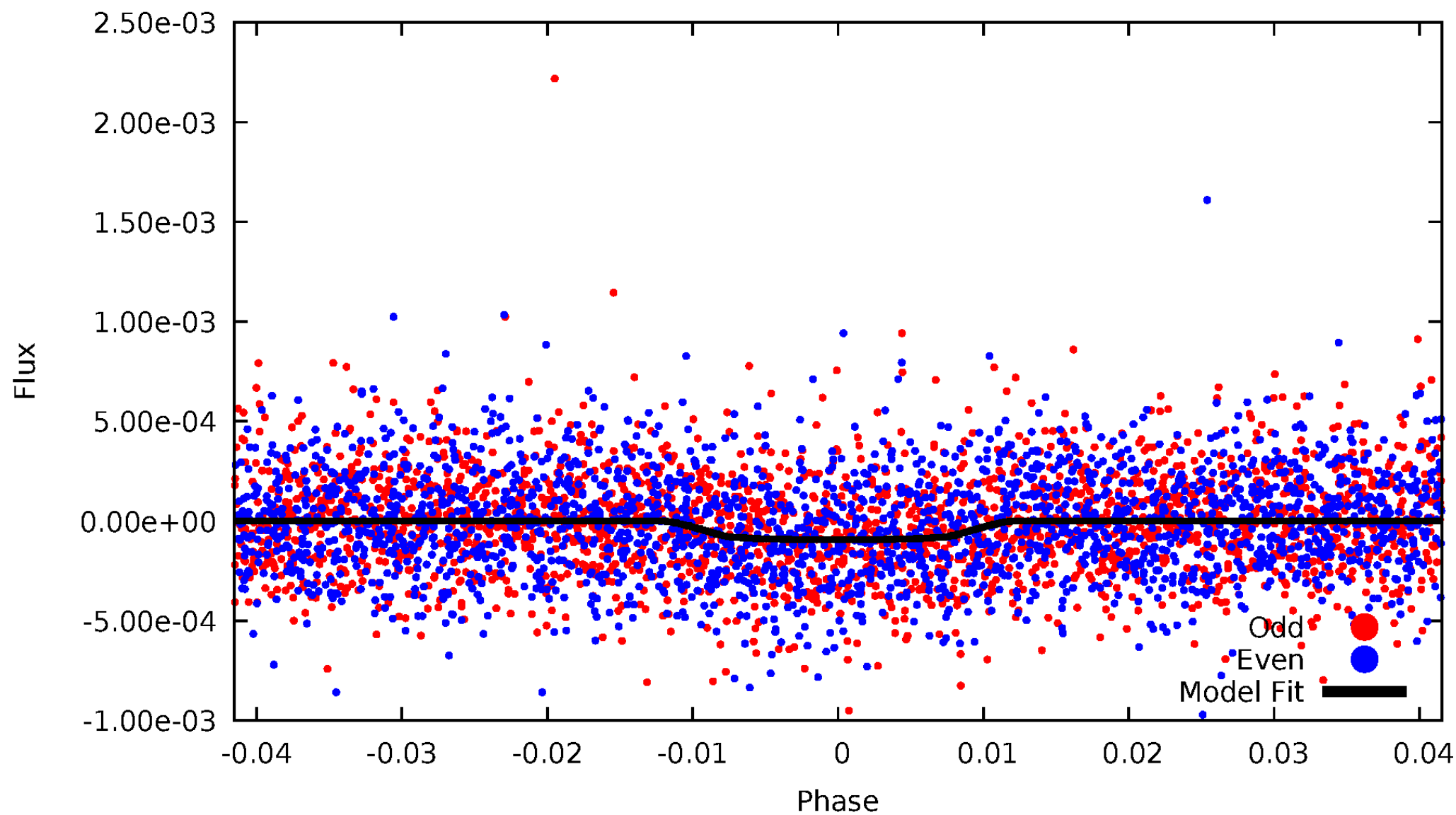


TCE 004072955-01



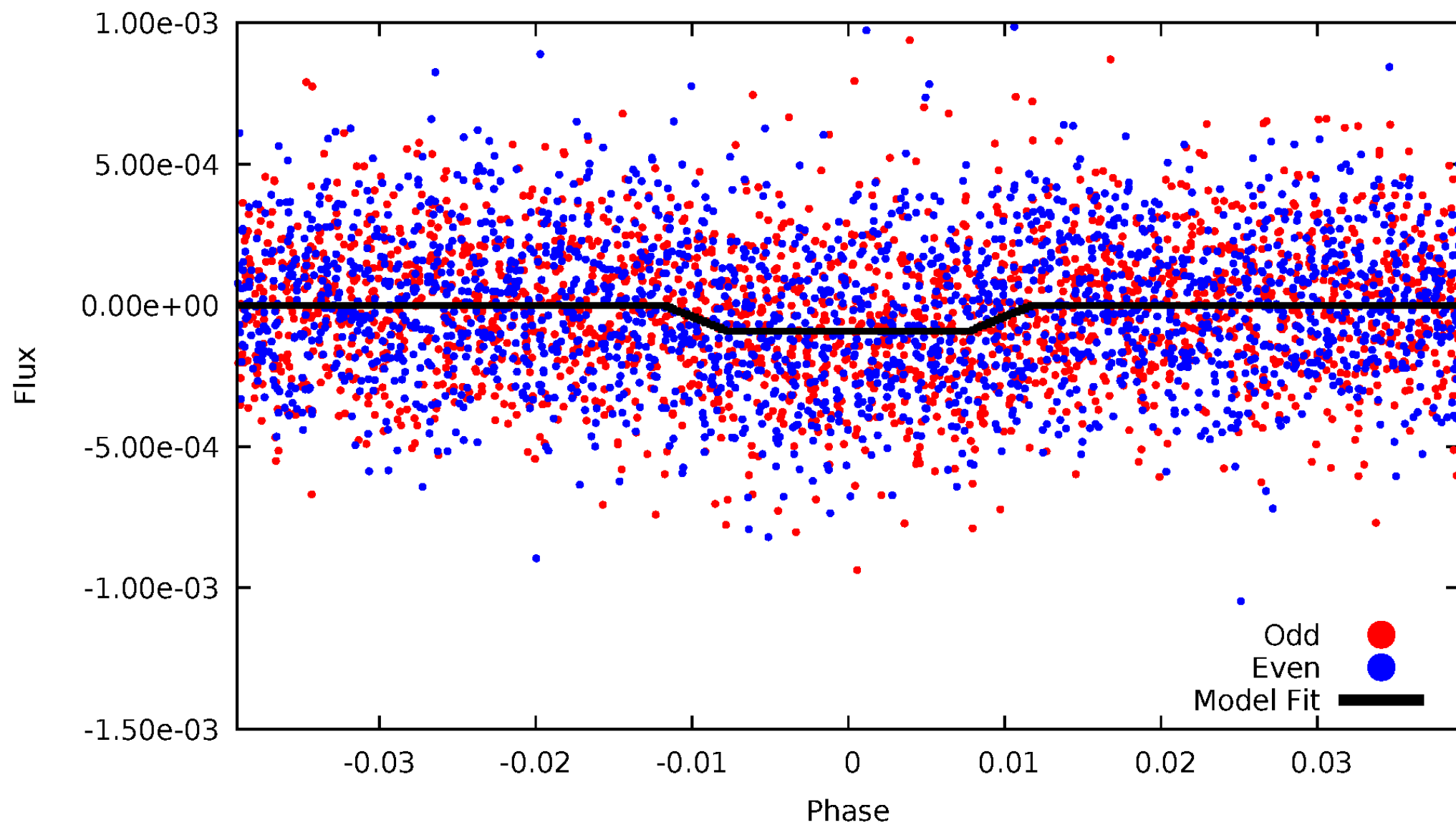
DV Odd/Even

TCE 004072955-01

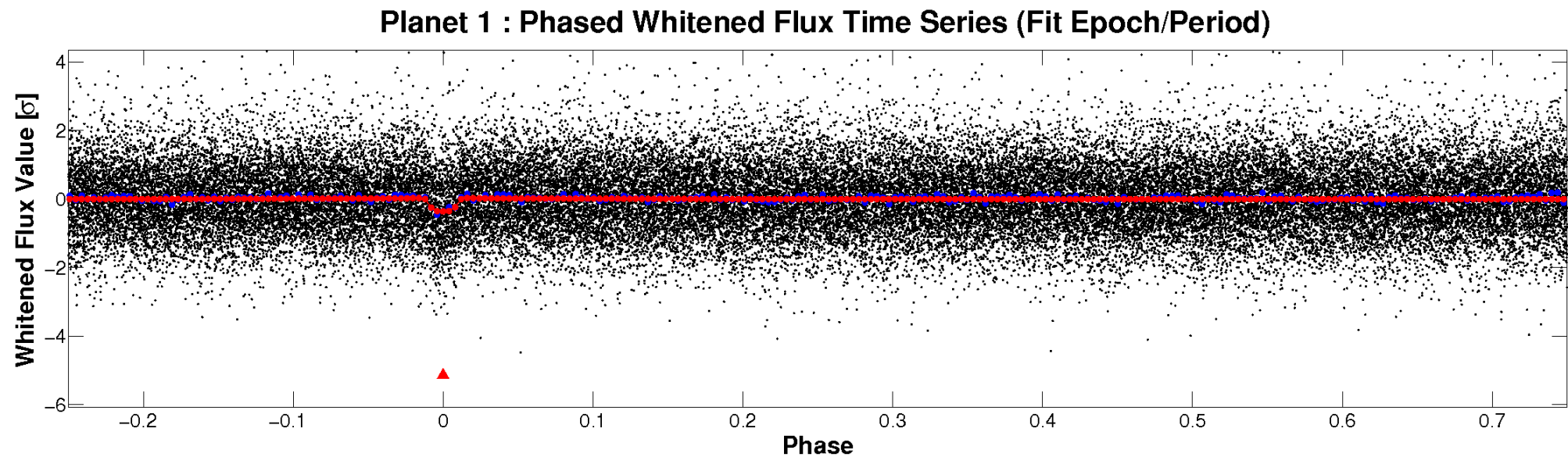
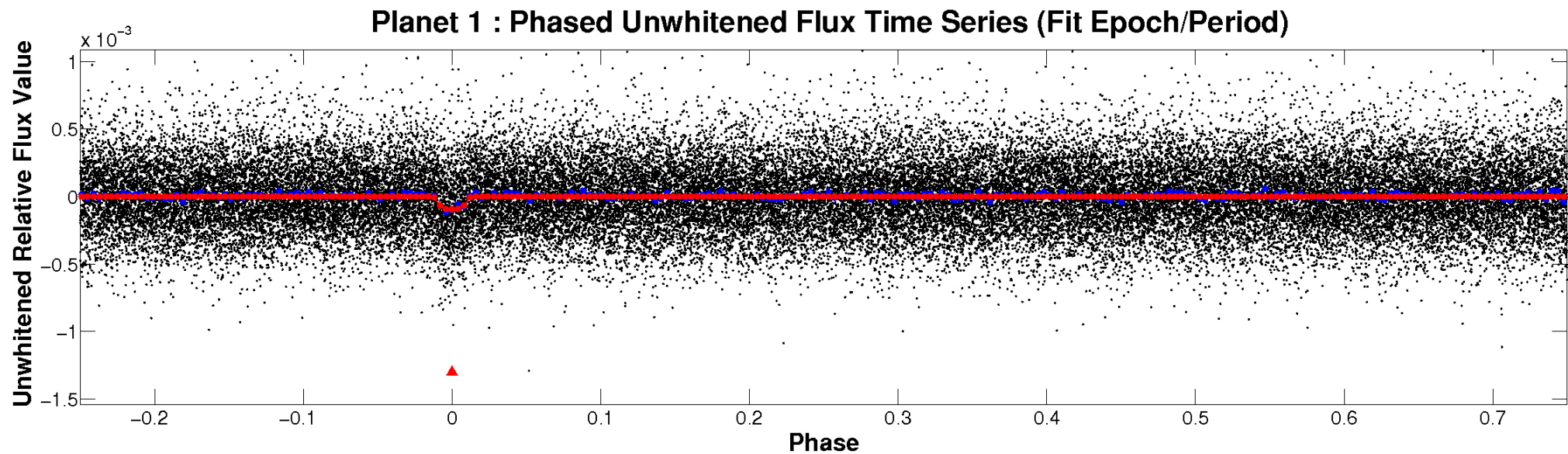


ALT Odd/Even

TCE 004072955-01

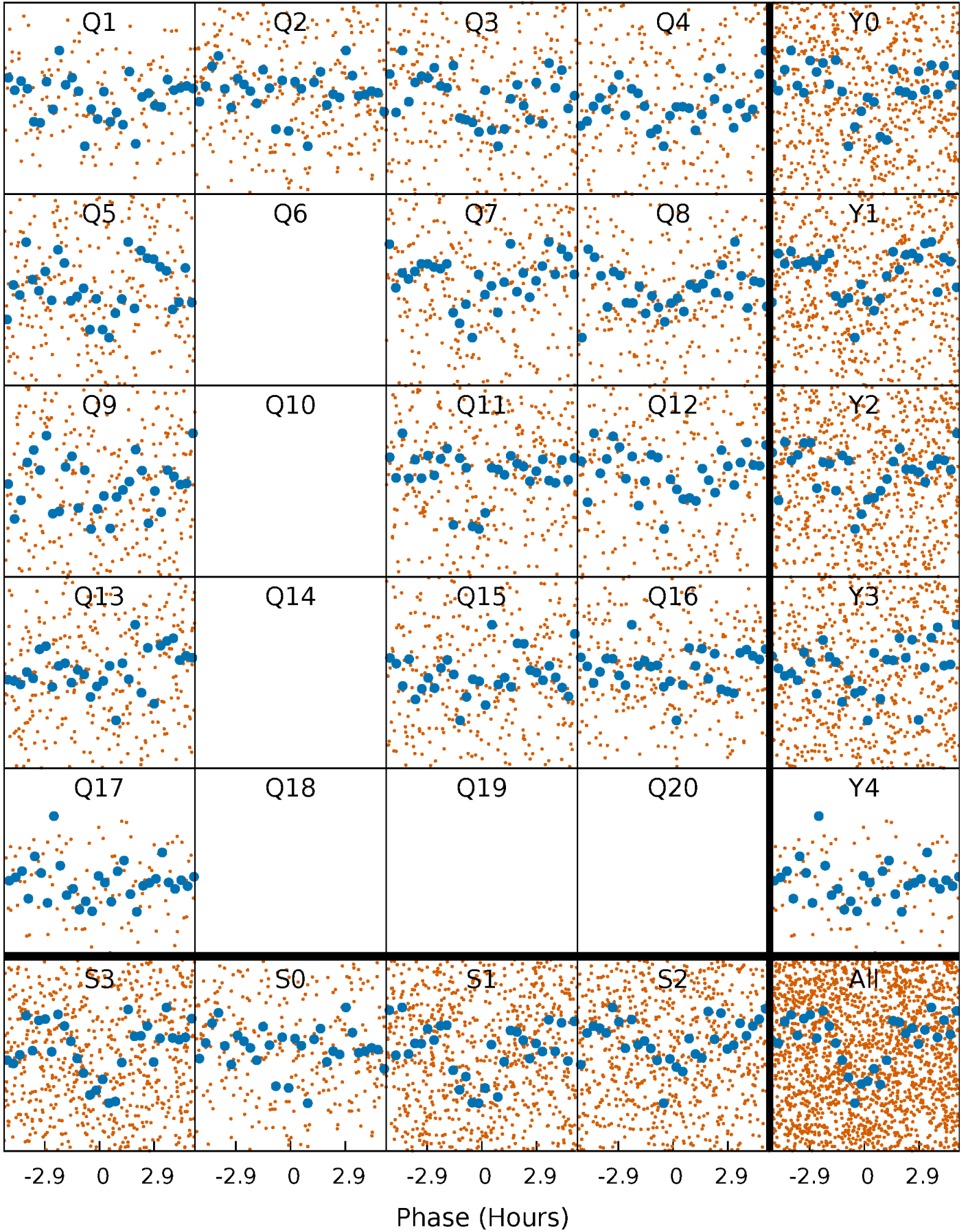


Non-Whitened Vs. Whitened Light Curve



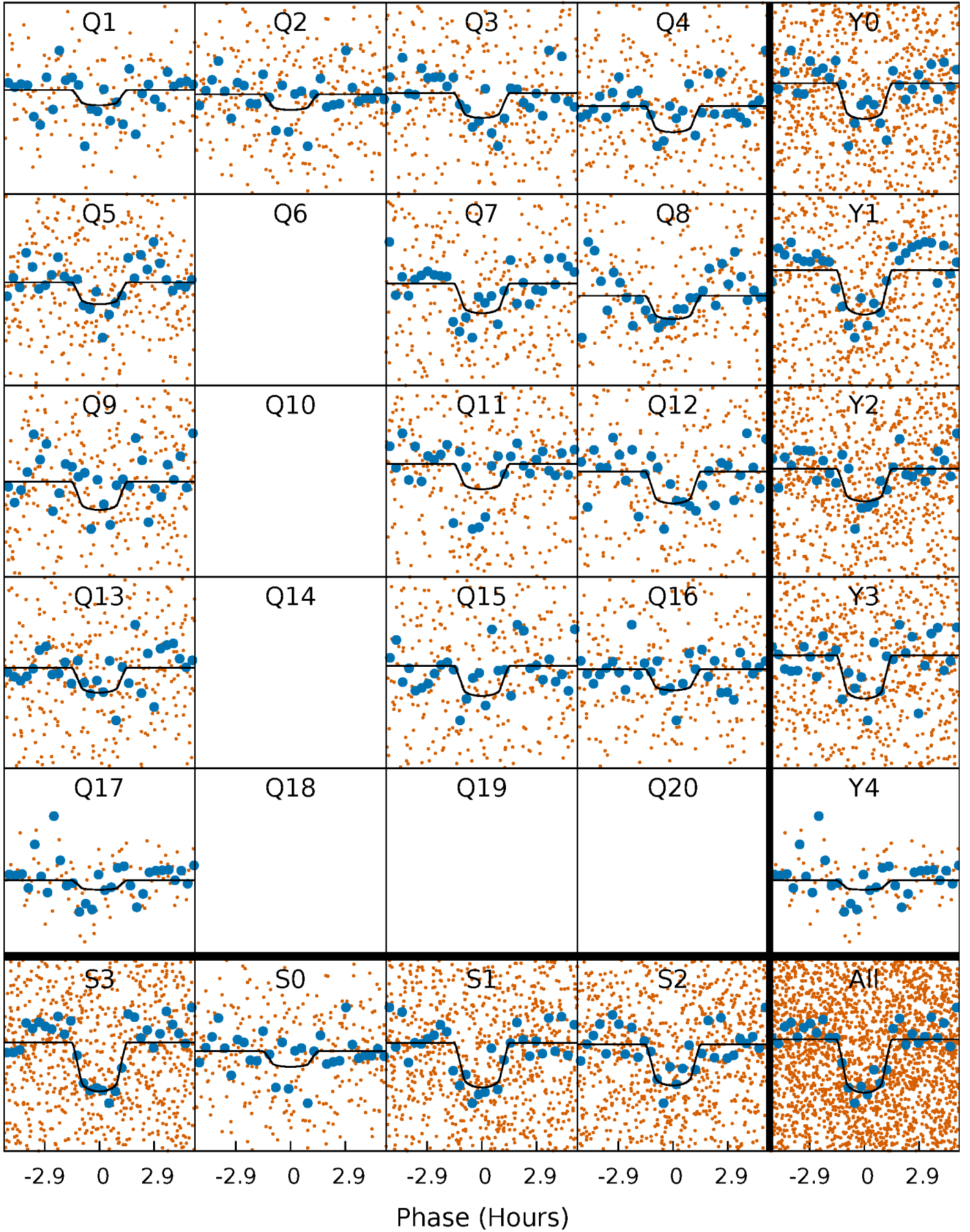
PDC Quarter-Phased Transit Curves

TCE 004072955-01 P= 5.082949 Days $T_0=133.999213$ (BKJD)



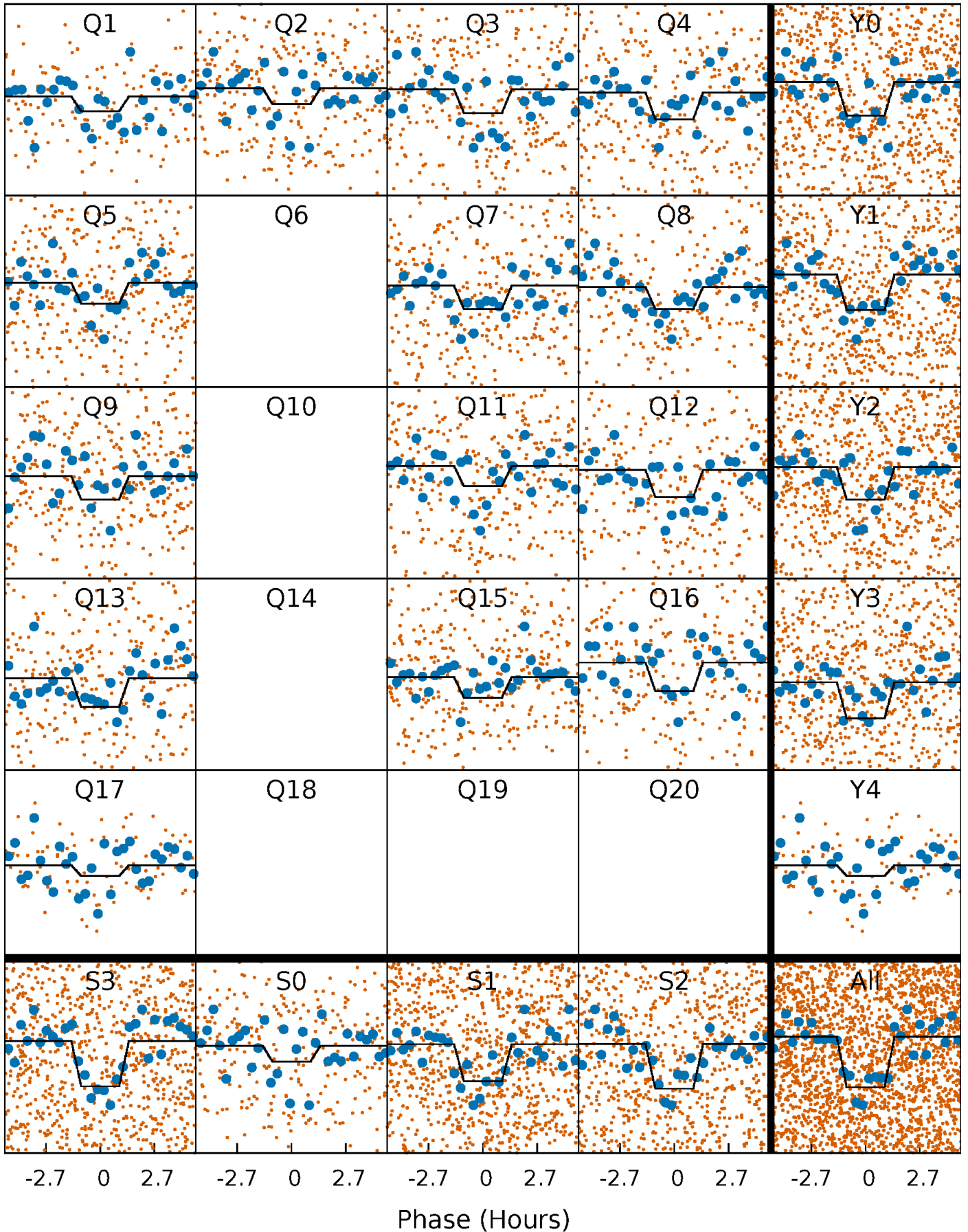
DV Quarter-Phased Transit Curves

TCE 004072955-01 P= 5.082949 Days $T_0=133.999213$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

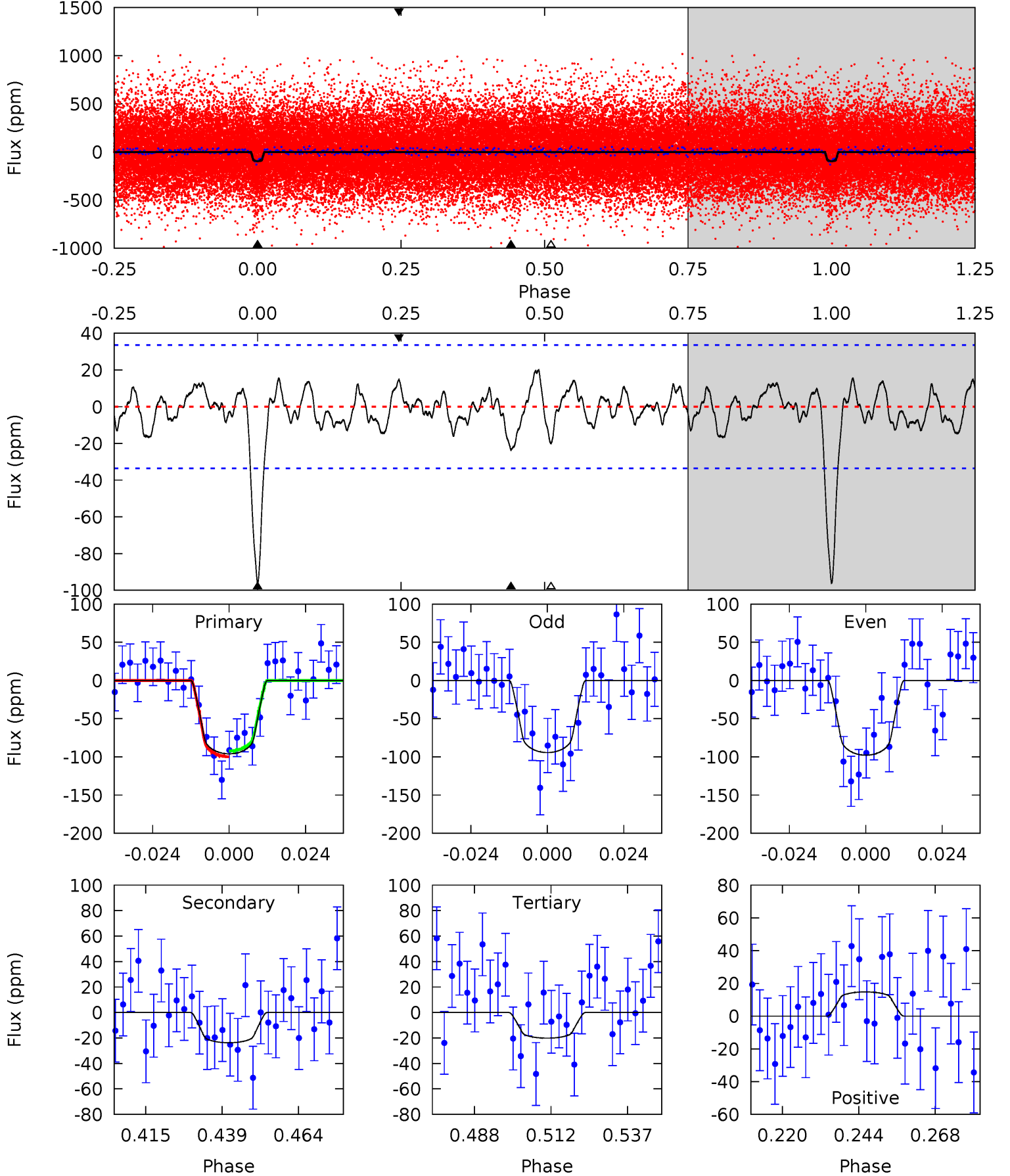
TCE 004072955-01 P= 5.082923 Days $T_0=134.002054$ (BKJD)



DV Model-Shift Uniqueness Test

004072955-01, P = 5.082949 Days, E = 128.916264 Days

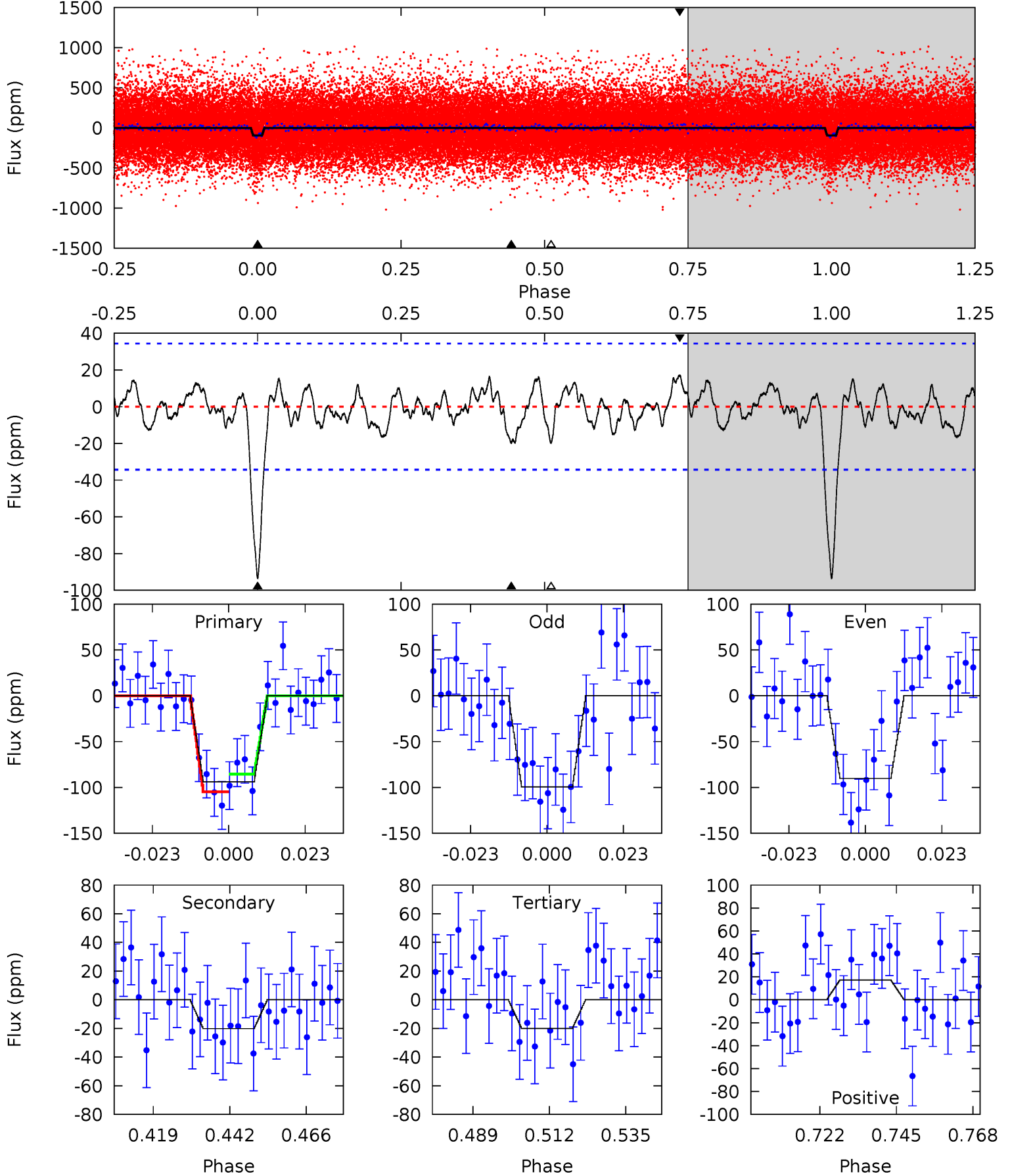
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	3.43	2.91	2.13	4.85	2.25	1.11	11.0	11.8	0.52	1.30	0.25	1.02	0.17	0.55



Alt Model-Shift Uniqueness Test

004072955-01, P = 5.082923 Days, E = 128.919131 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	2.85	2.82	2.44	4.86	2.27	1.05	10.4	10.8	0.03	0.41	0.66	0.98	0.16	1.36



Stellar Parameters For KIC 004072955

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6217^{+169}_{-206}	$4.375^{+0.105}_{-0.195}$	$-0.220^{+0.250}_{-0.350}$	$1.083^{+0.339}_{-0.145}$	$1.011^{+0.158}_{-0.115}$	$1.122^{+0.558}_{-0.599}$
	+3%/-3%	+2%/-4%	+114%/-159%	+31%/-13%	+16%/-11%	+50%/-53%
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 004072955-01 / KOI 3041.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 7	$1.29^{+0.78}_{-0.61}$	1664^{+122}_{-87}	4361^{+1528}_{-694}	26^{+75}_{-17}
Alt.	-20 ± 7	$1.23^{+0.73}_{-0.66}$	1670^{+118}_{-88}	4326^{+1810}_{-711}	24^{+94}_{-15}

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

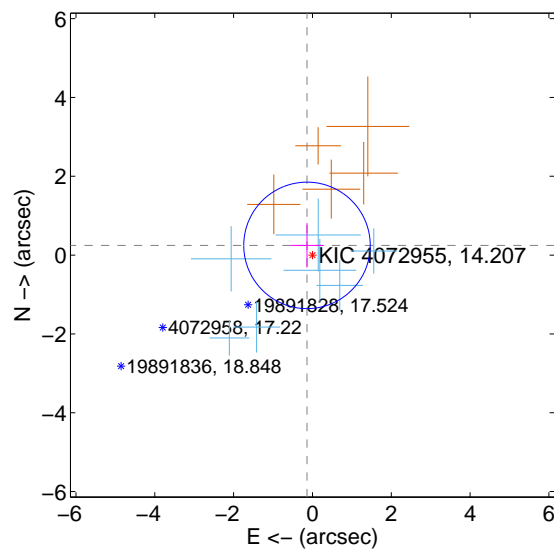
Supplemental centroid analysis for 004072955-01. Kepler magnitude: 14.21. Transit SNR 10.08

There are 7 quarters with good PRF difference image offsets

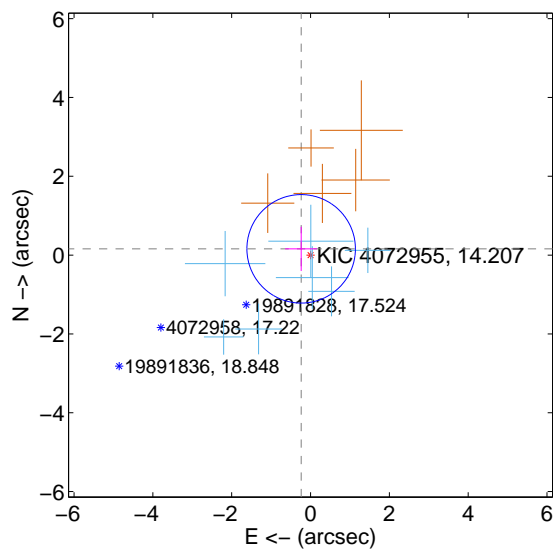
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.283 ± 0.535	0.53	0.138 ± 0.420	0.247 ± 0.566
PRF-fit source offset from KIC position	0.286 ± 0.459	0.62	0.238 ± 0.405	0.159 ± 0.561
photometric centroid source offset	1.13 ± 1.33	0.85	0.80 ± 1.33	0.80 ± 1.33

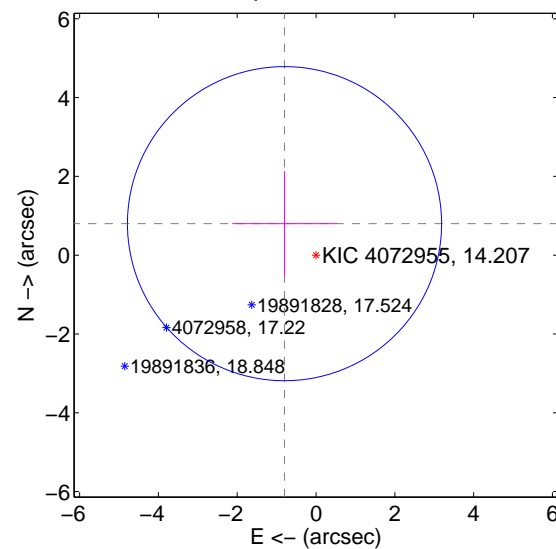
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

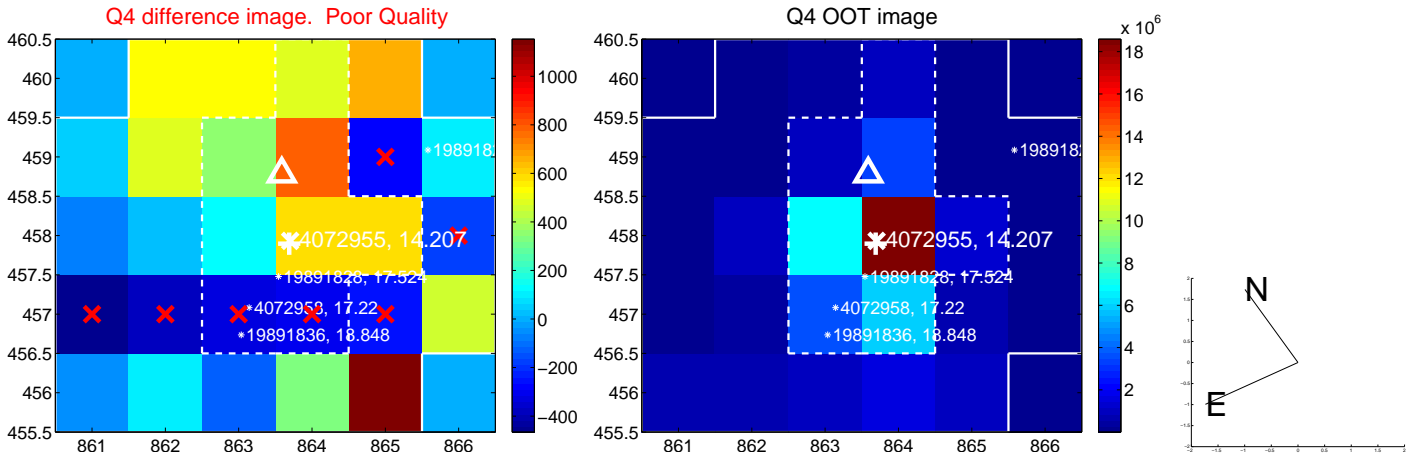
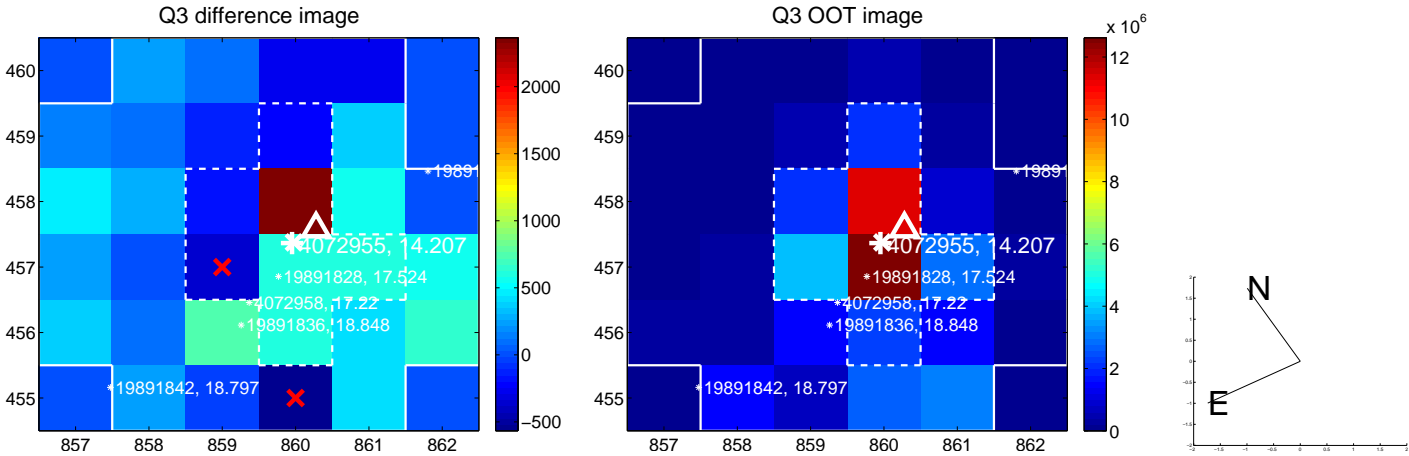
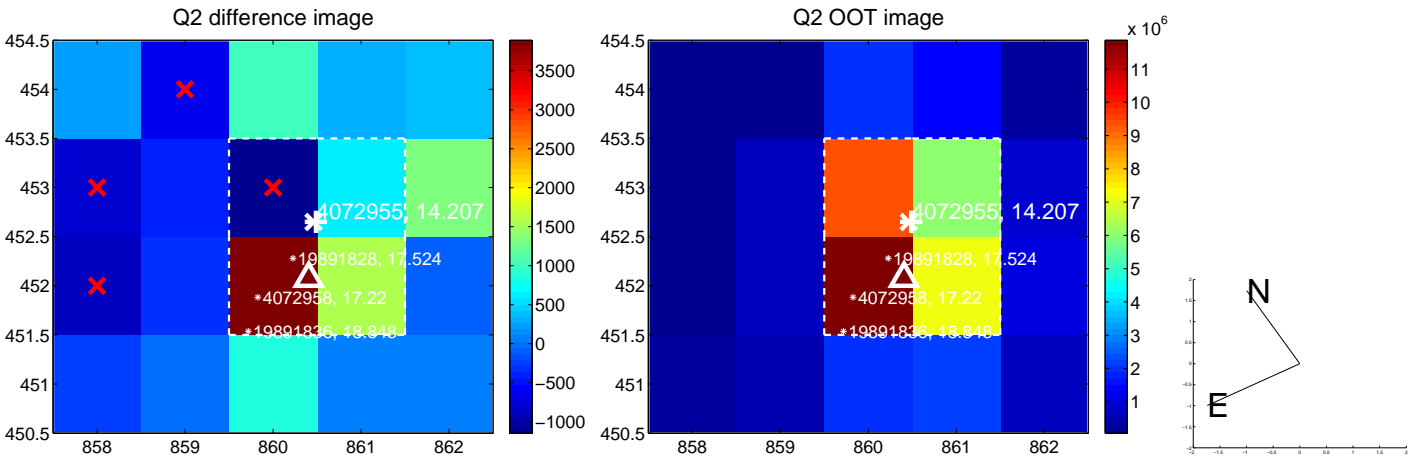
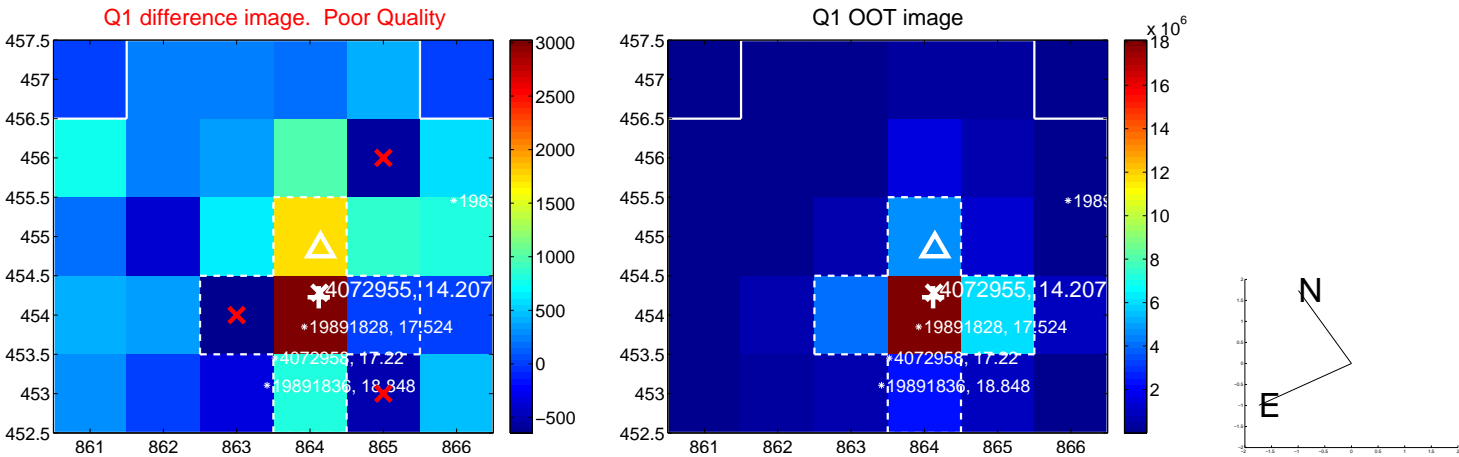


offset from photometric centroids

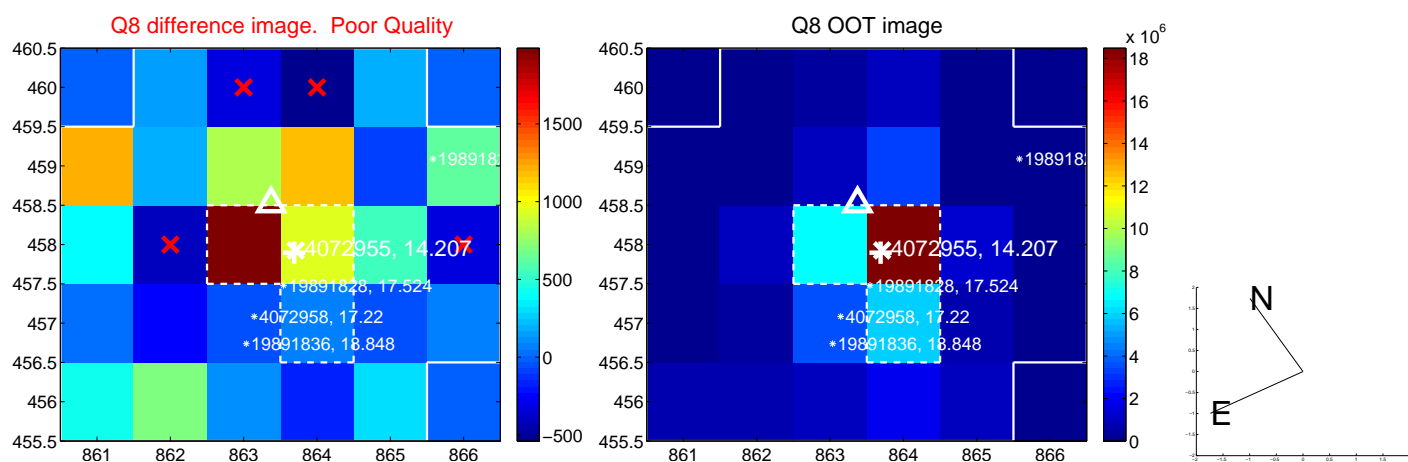
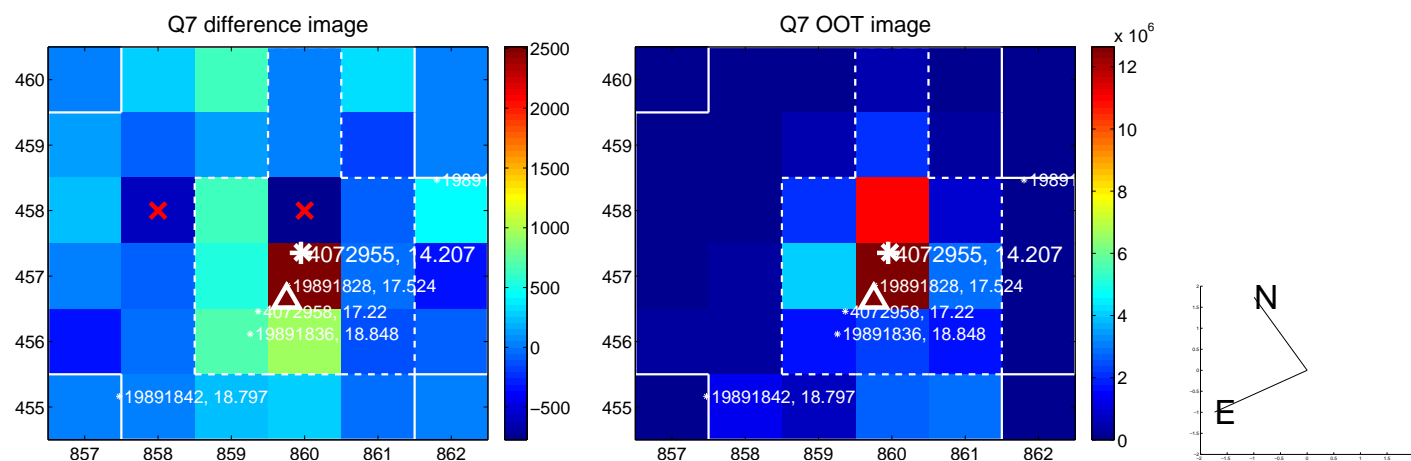
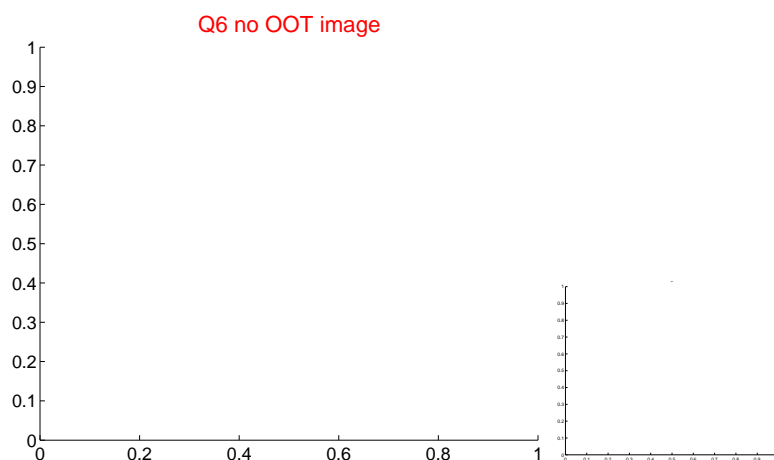
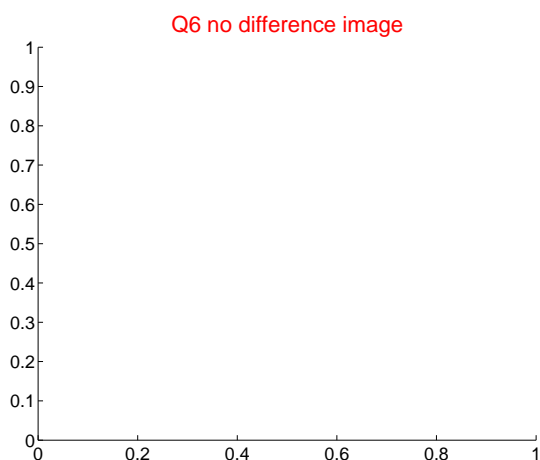
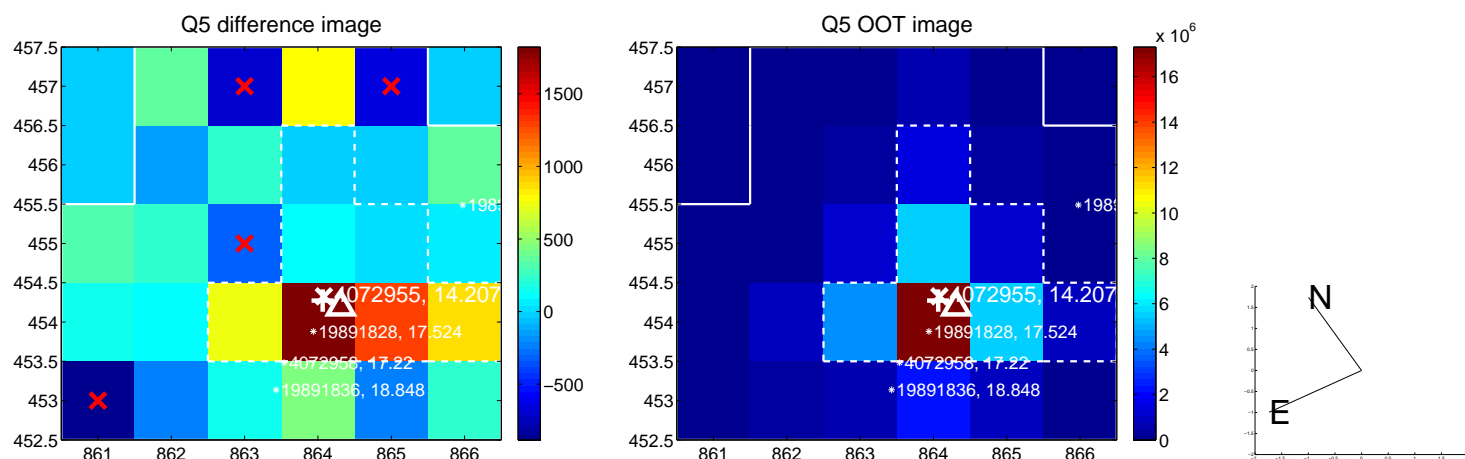


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

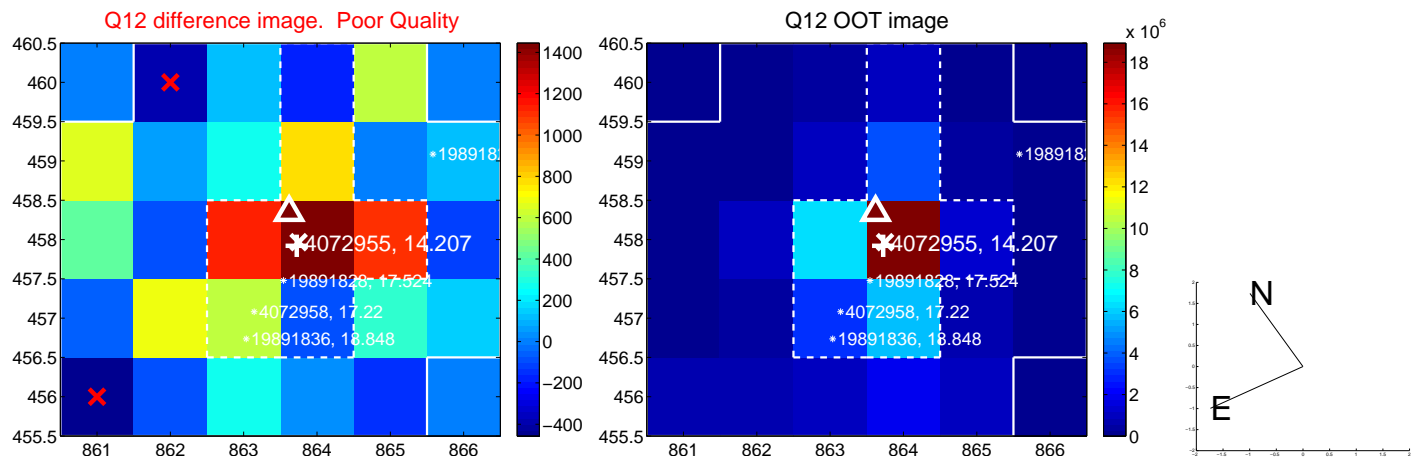
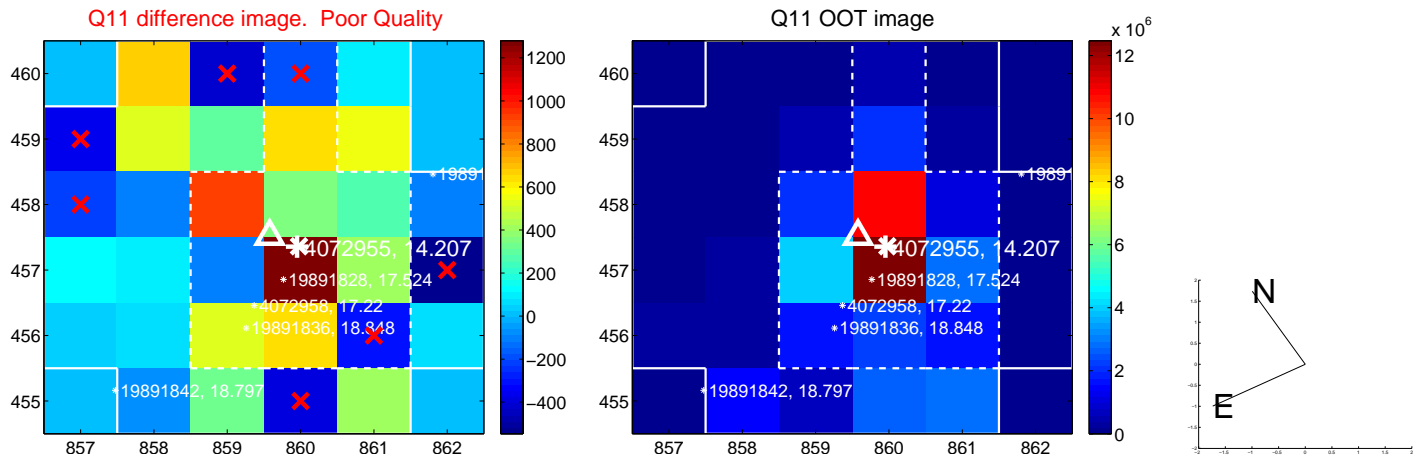
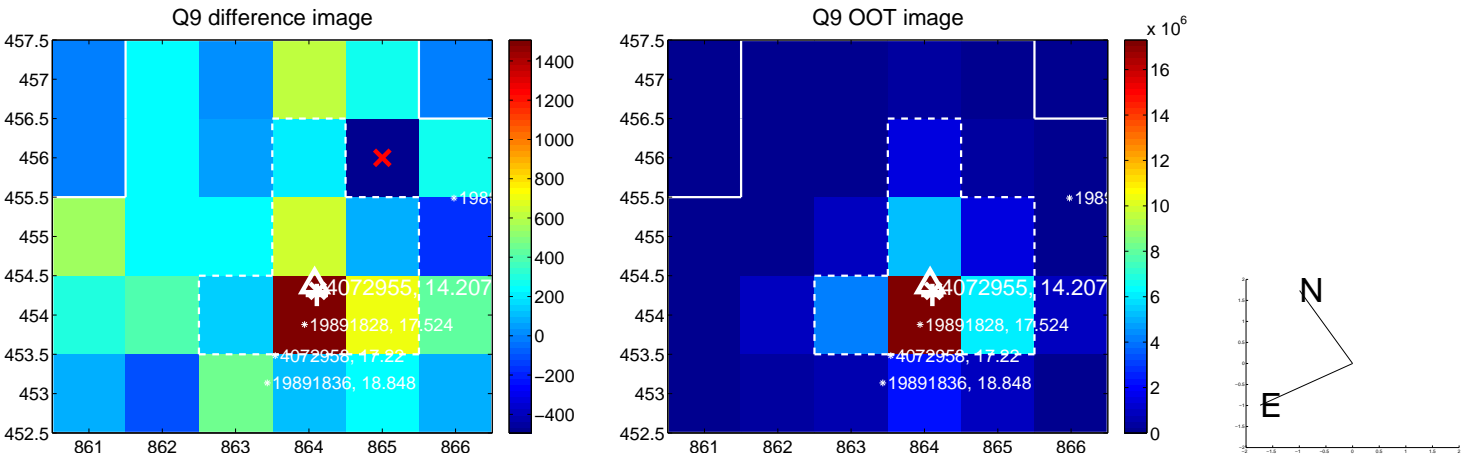
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



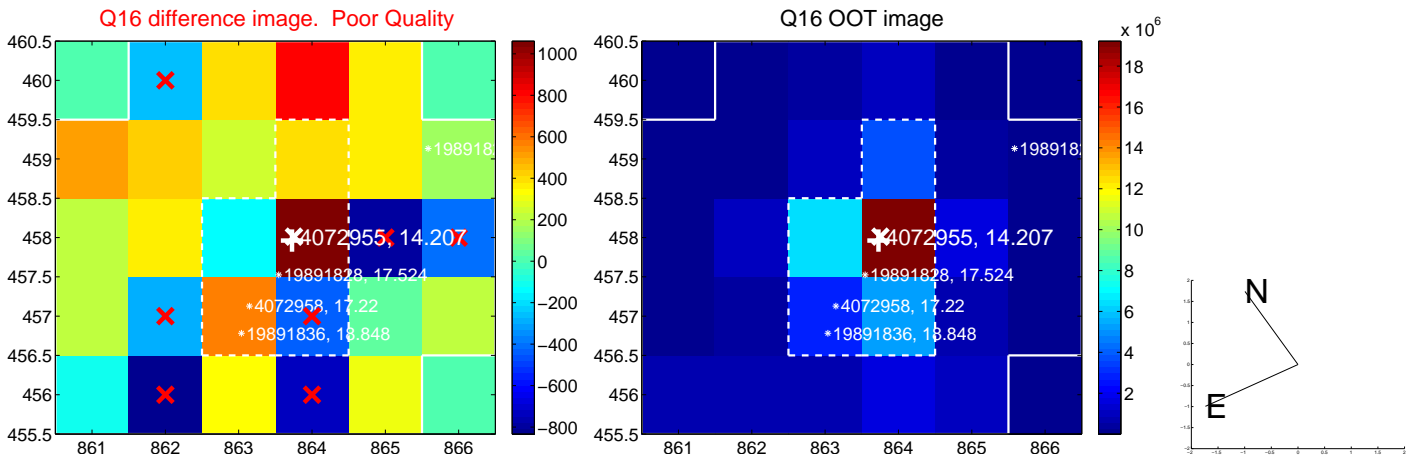
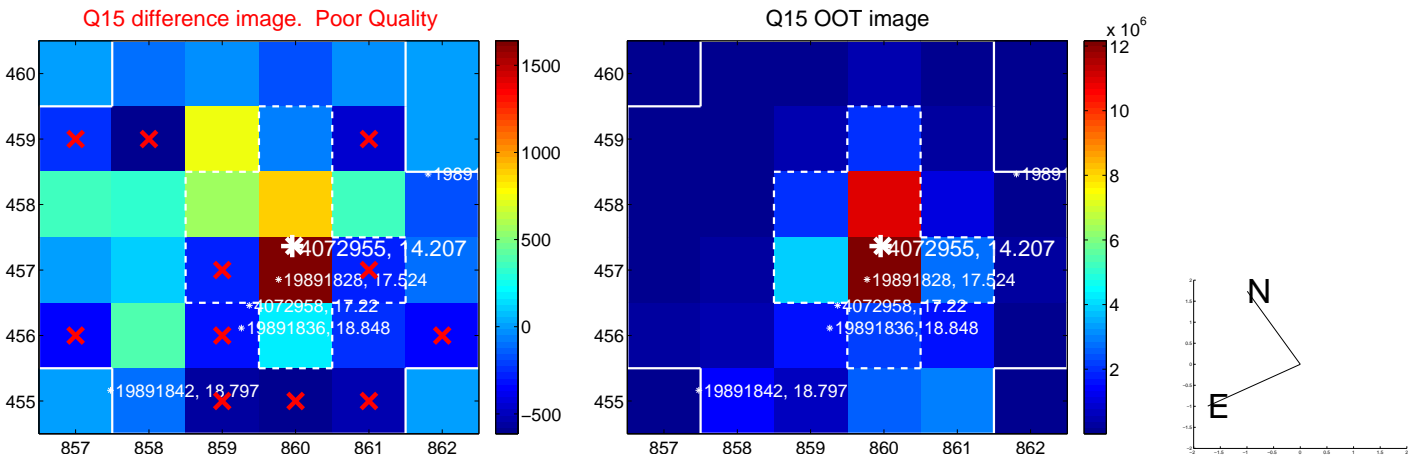
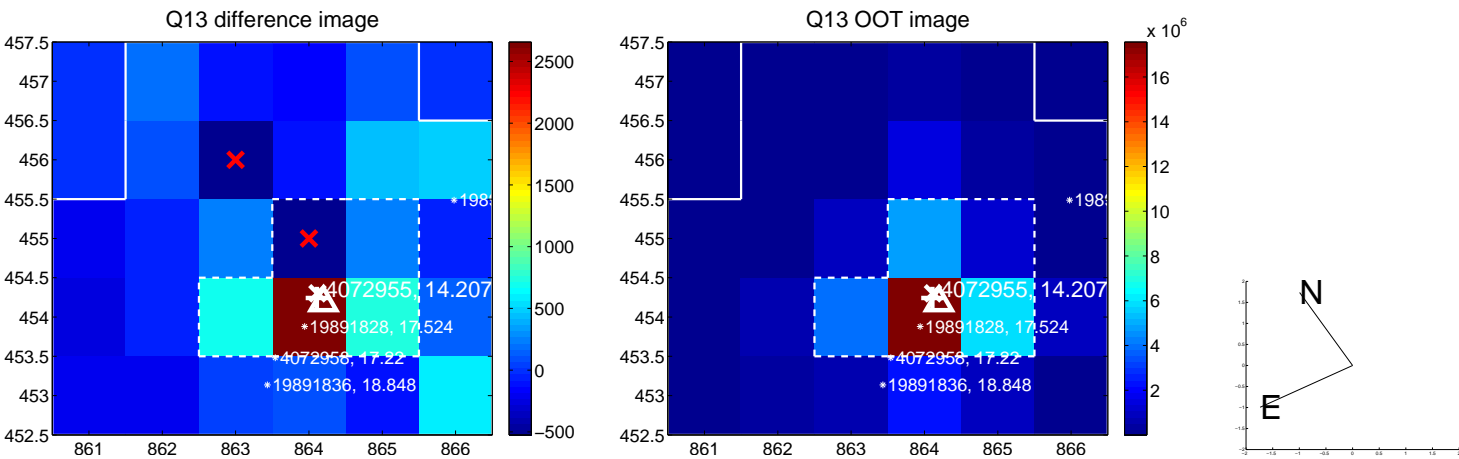
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



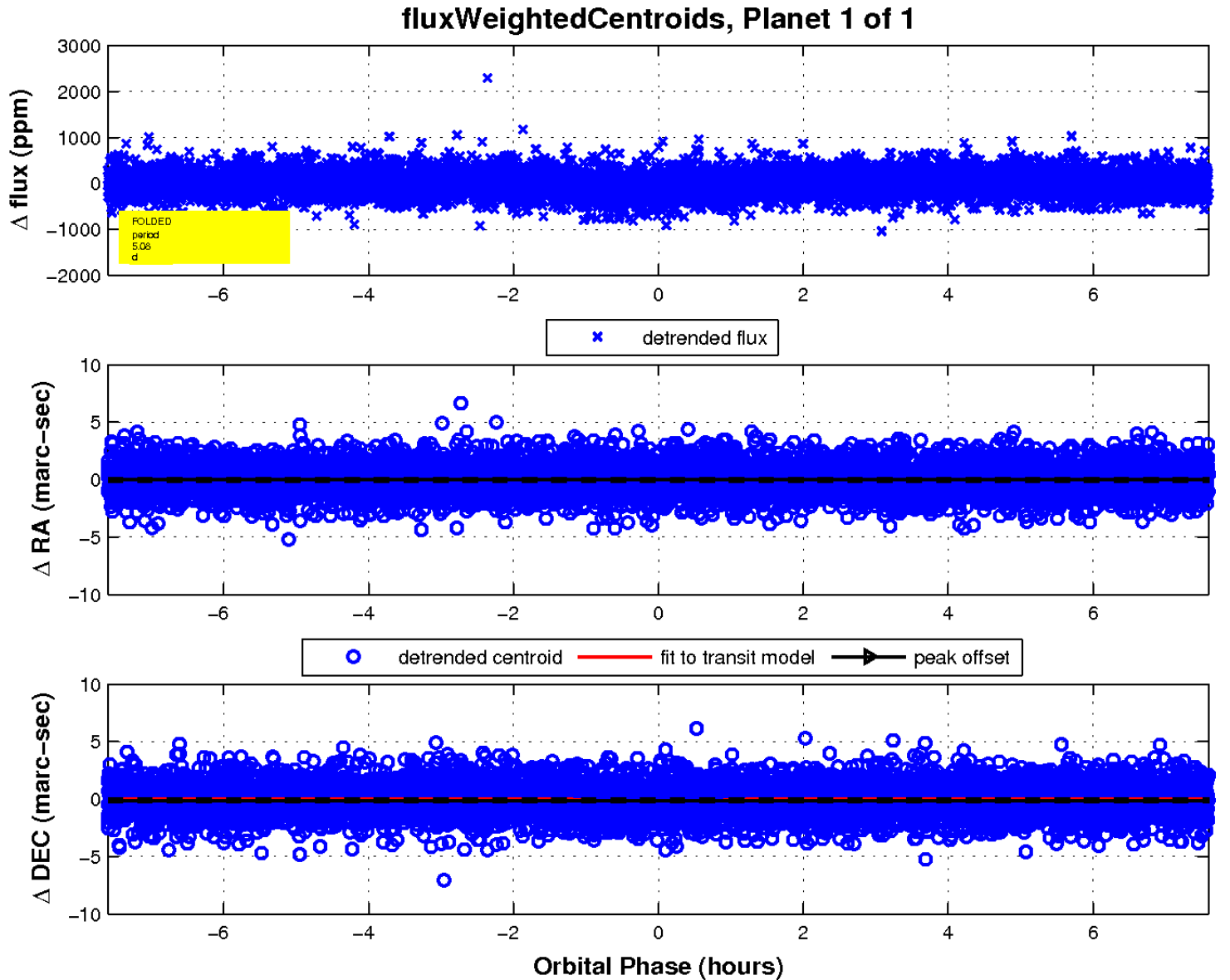
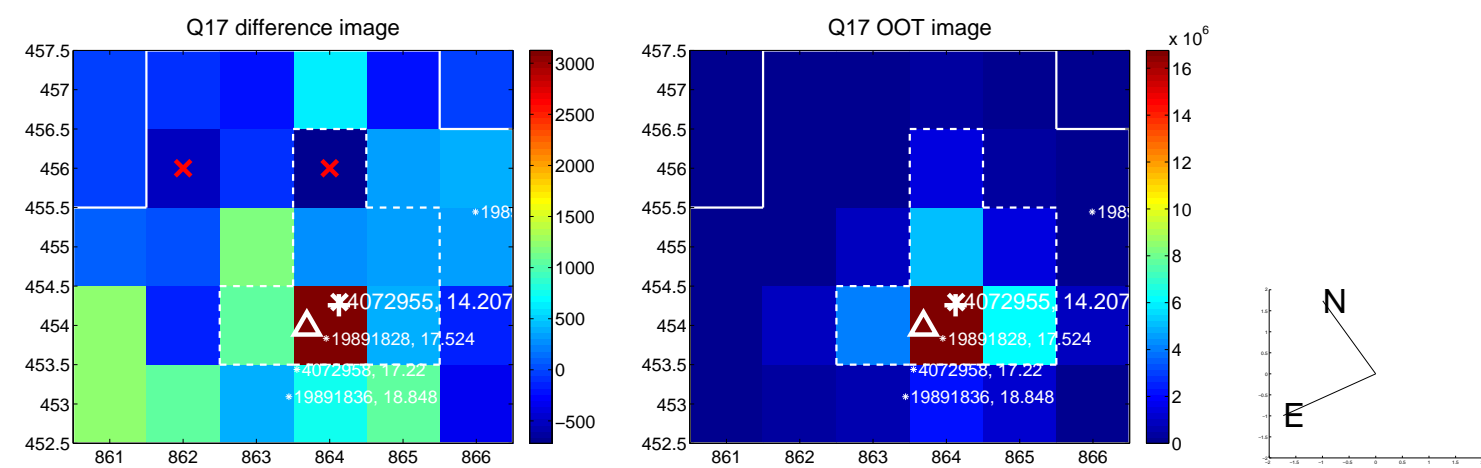
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

