

KIC 009512687

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})
009512687-01	OBS	0942.01	11.515184	140.312367	1367.0	2.331	45.0	50.0	0.80	5177	3.65	44.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009512687-01	OBS	PC	1.00	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 009512687-01

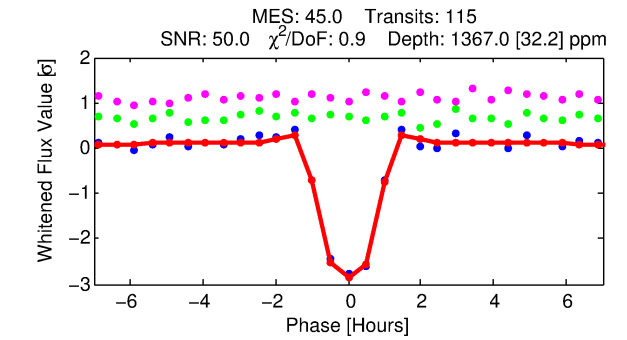
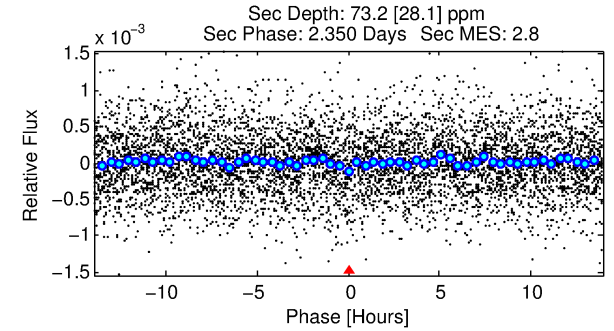
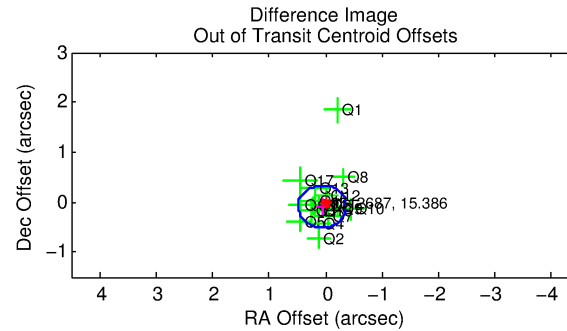
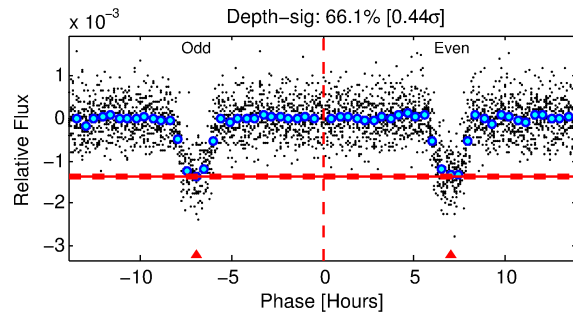
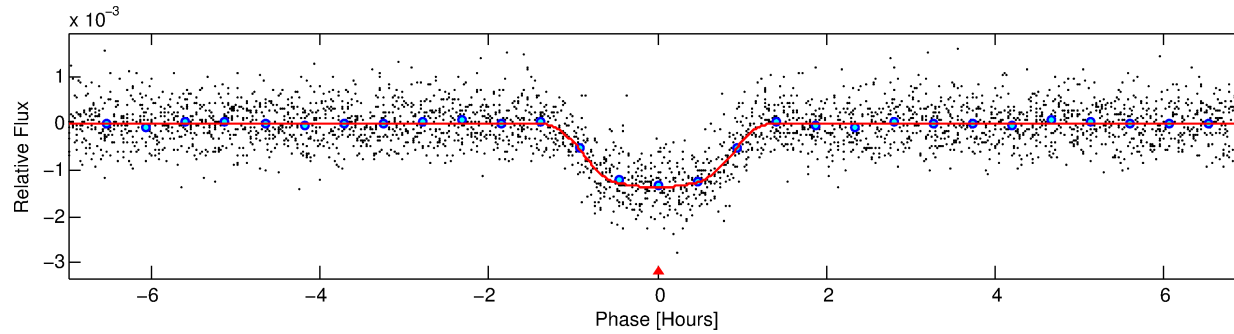
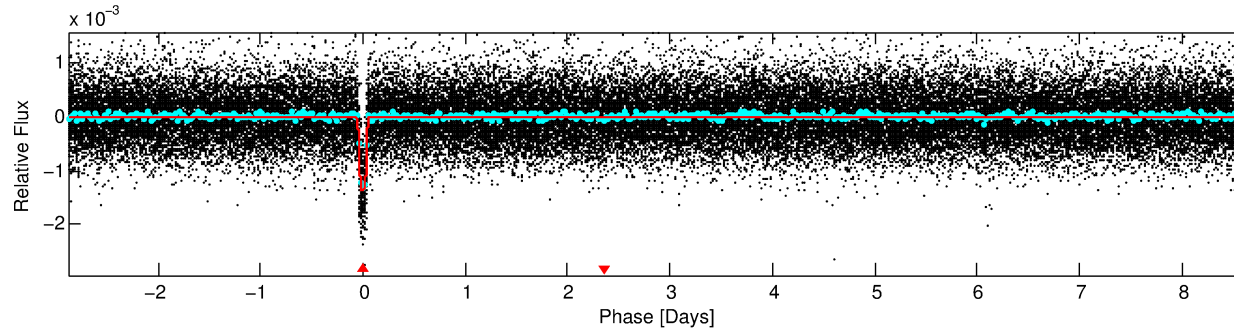
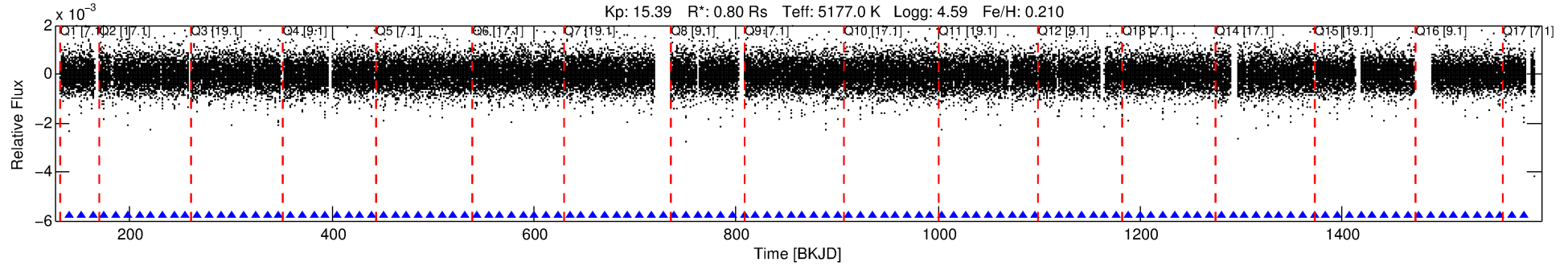
No Significant Match Found

DV One-Page Summary

KIC: 9512687 Candidate: 1 of 1 Period: 11.515 d

KOI: K00942.01 Corr: 0.931

Kp: 15.39 R*: 0.80 Rs Teff: 5177.0 K Logg: 4.59 Fe/H: 0.210



DV Fit Results:

Period = 11.51518 [0.00001] d
Epoch = 140.3124 [0.0010] BKJD
Rp/R* = 0.0420 [0.0017]
a/R* = 18.98 [2.60]
b = 0.91 [0.03]
Seff = 44.01 [9.54]
Teq = 657 [36] K
Rp = 3.65 [0.52] Re
a = 0.0965 [0.0115] AU
Ag = 28.08 [12.13] [2.23σ]
Teffp = 2337 [240] K [6.93σ]

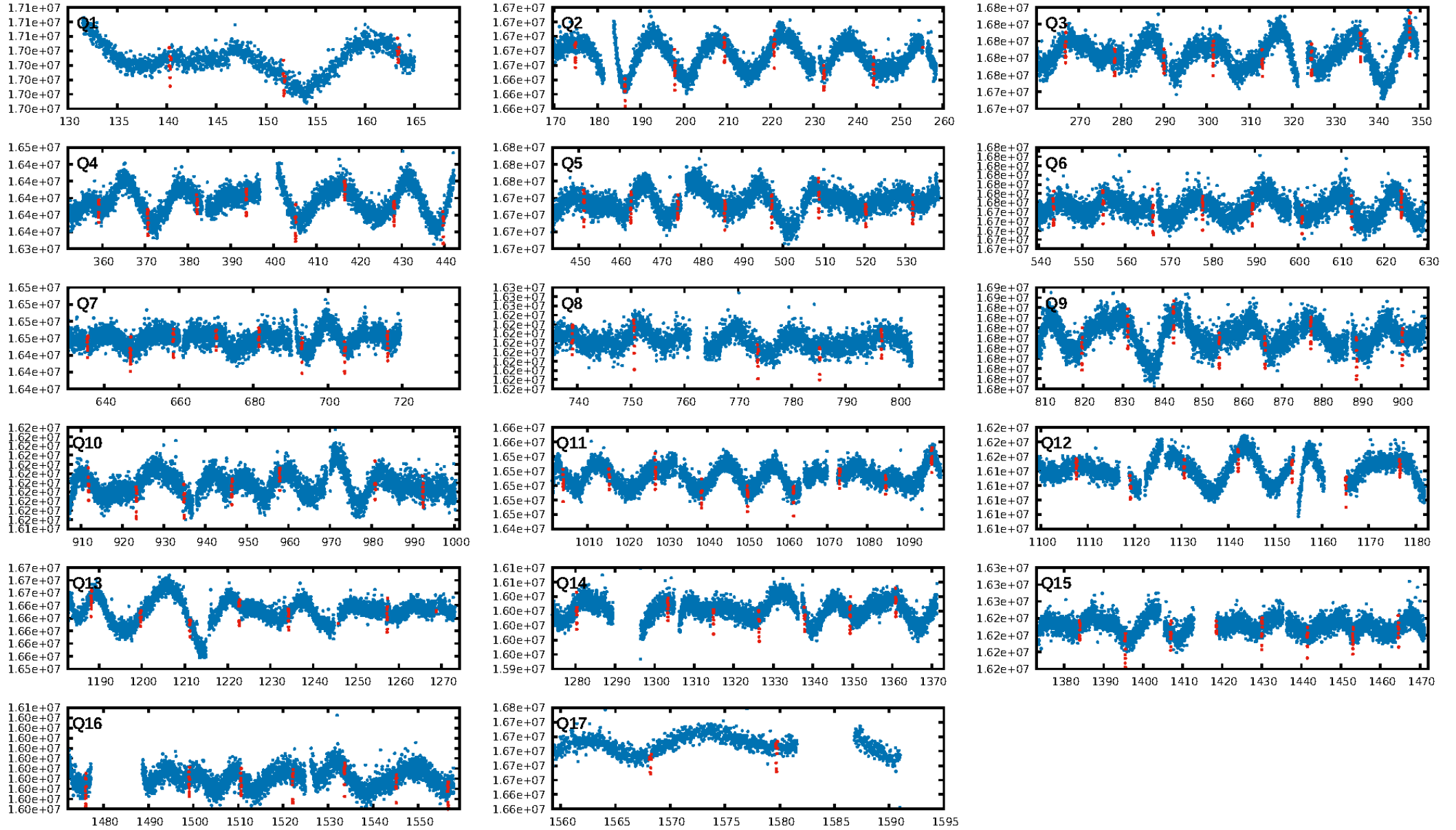
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [110/110]
GhostDiagnostic-chr: 3.167
Centroid-sig: 38.3%
Centroid-so: 0.346 arcsec [1.42σ]
OotOffset-rm: 0.107 arcsec [0.75σ]
KicOffset-rm: 0.319 arcsec [2.19σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

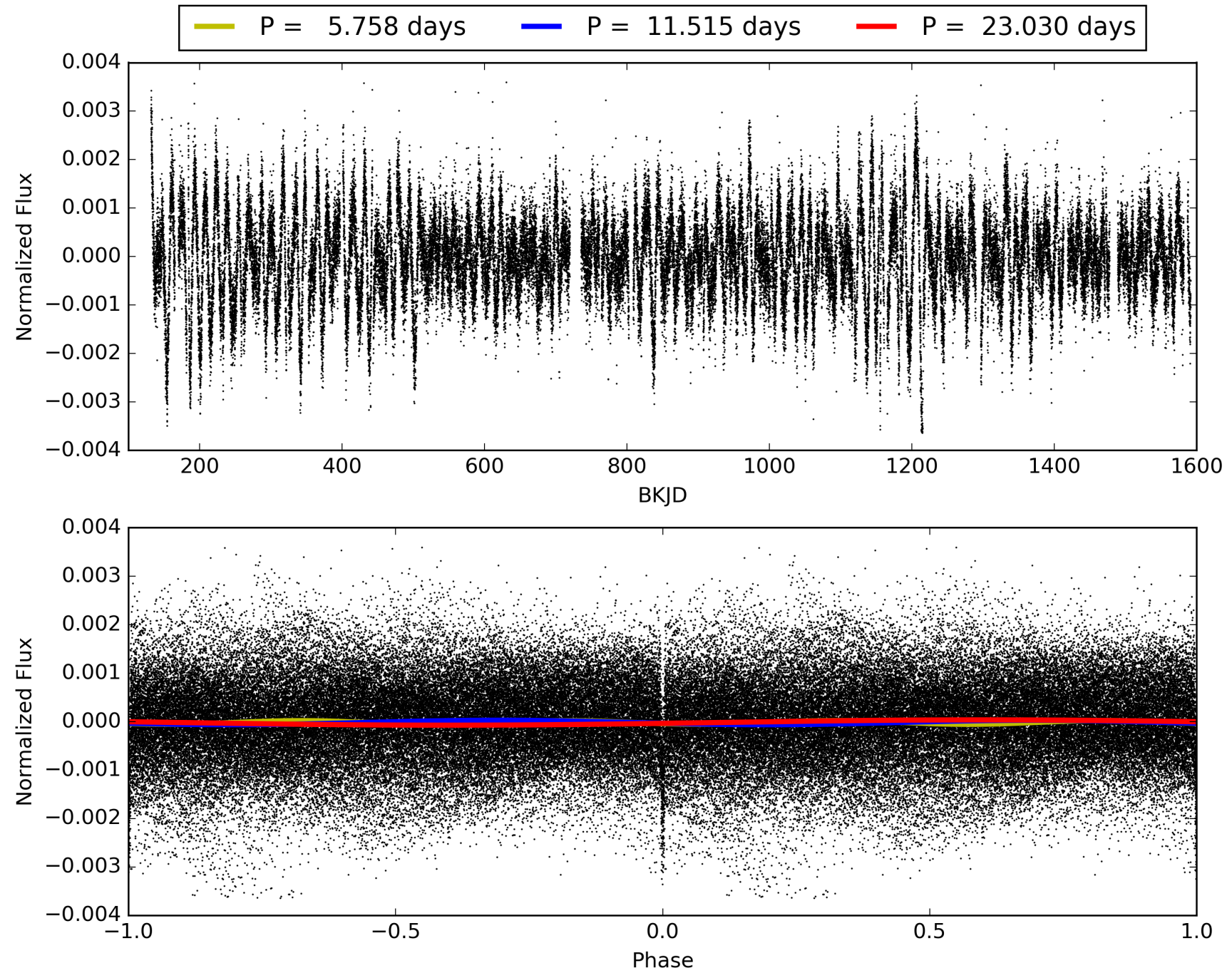
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:47:28 Z

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

TCE 009512687-01, PDC Light Curves

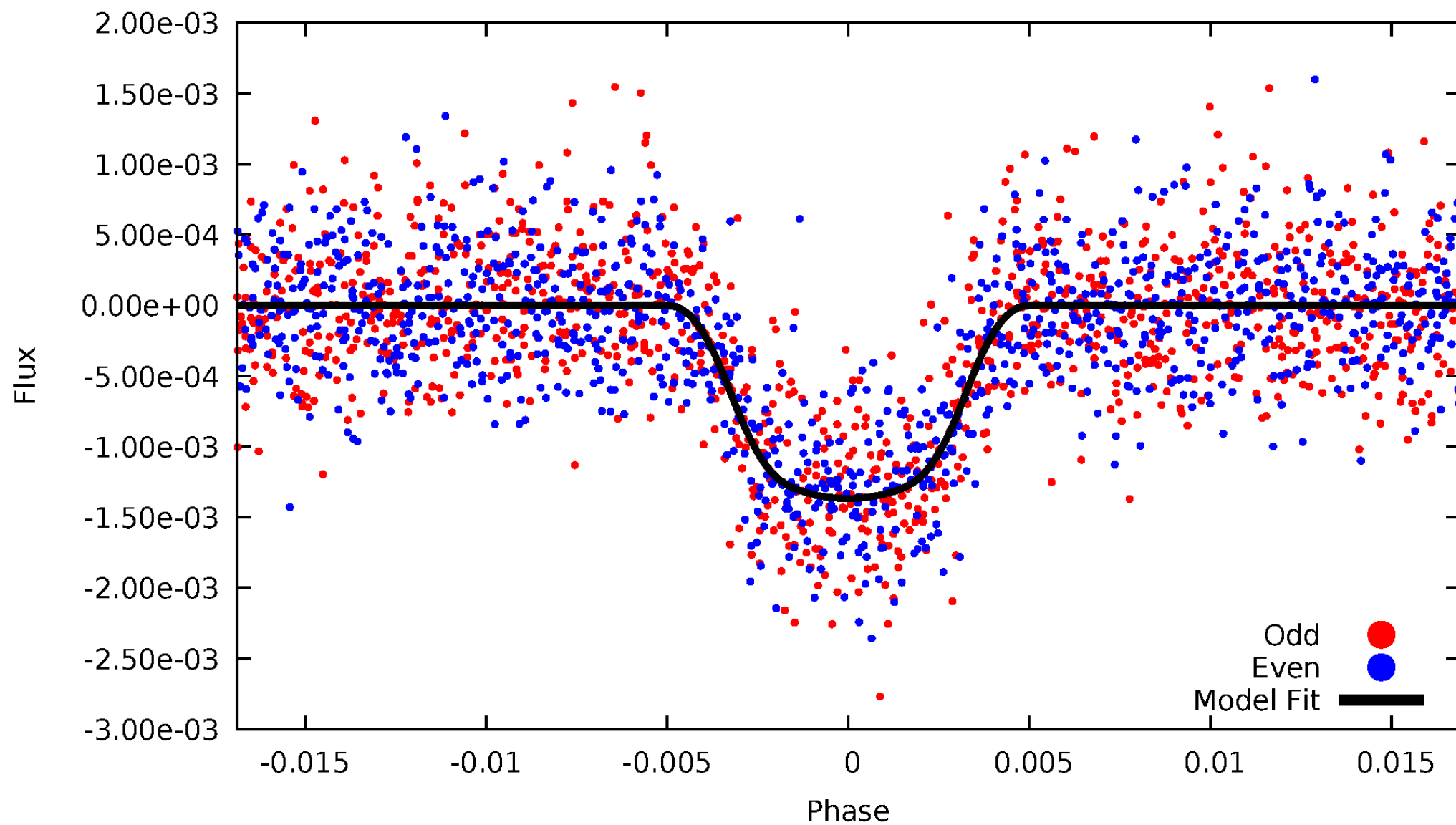


TCE 009512687-01



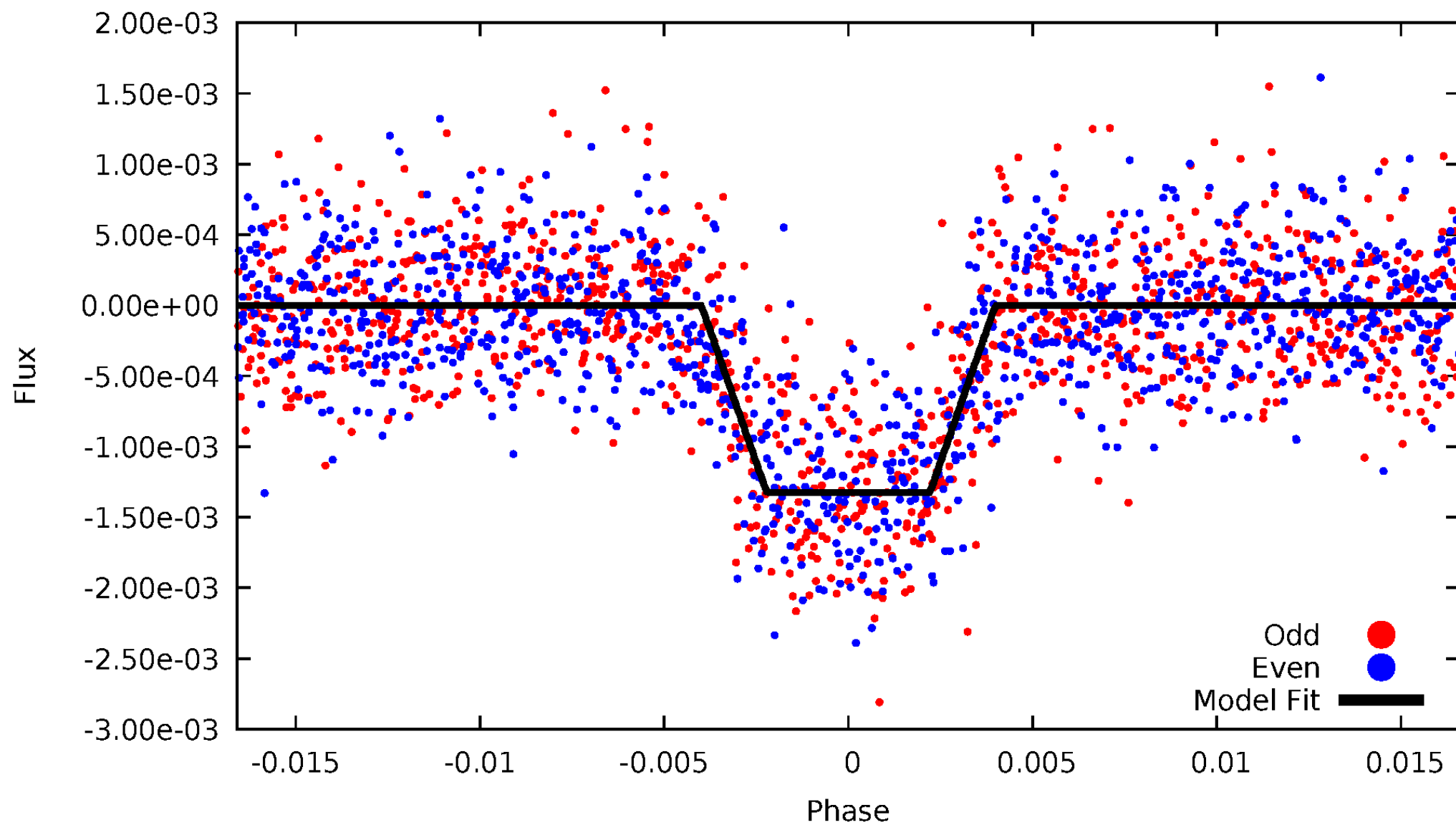
DV Odd/Even

TCE 009512687-01



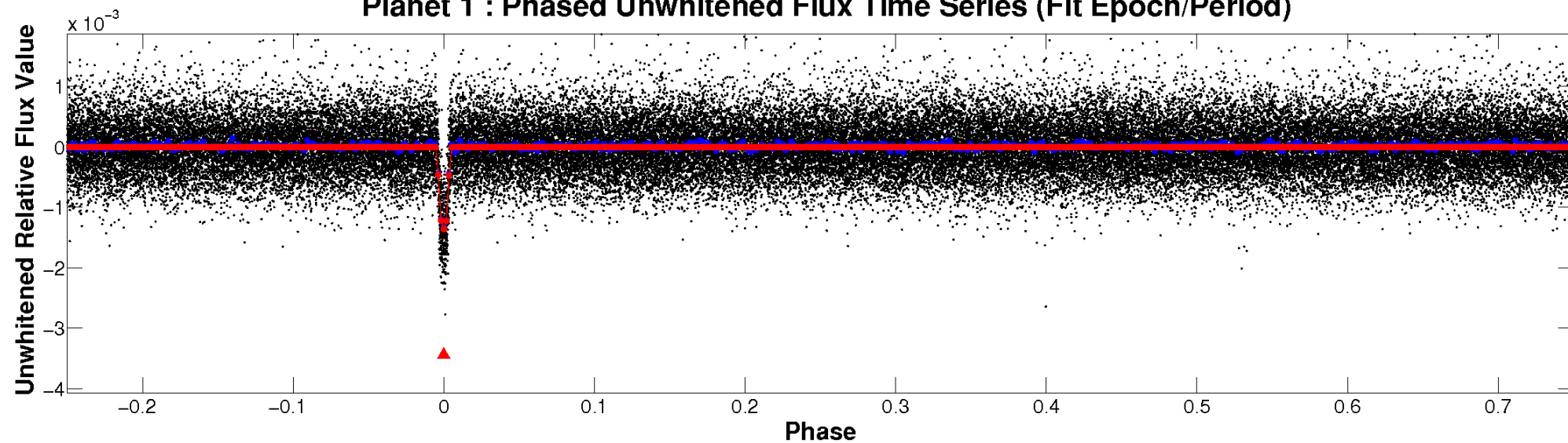
ALT Odd/Even

TCE 009512687-01

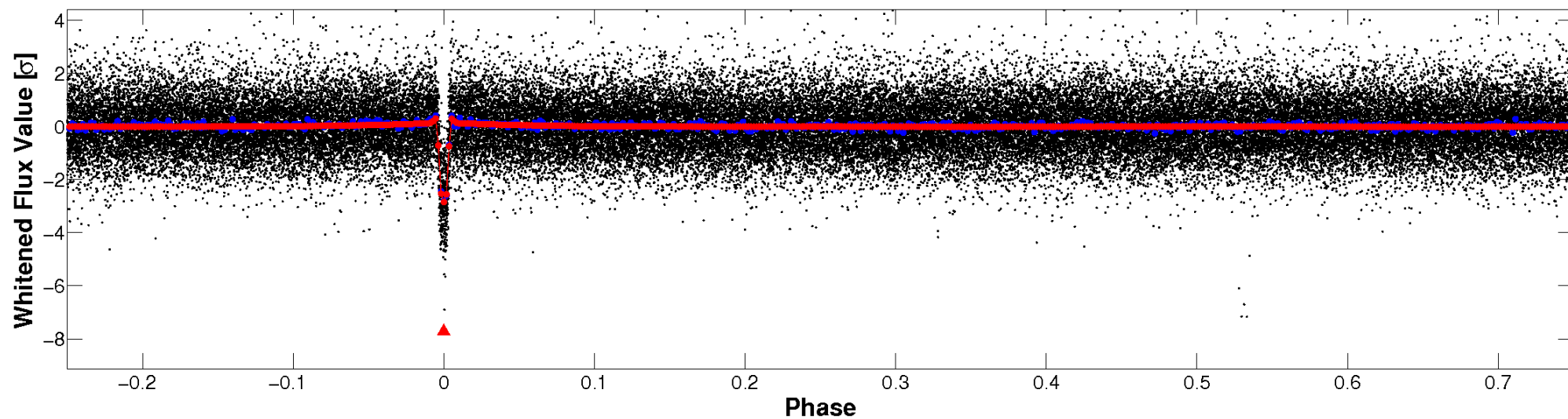


Non-Whitened Vs. Whitened Light Curve

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

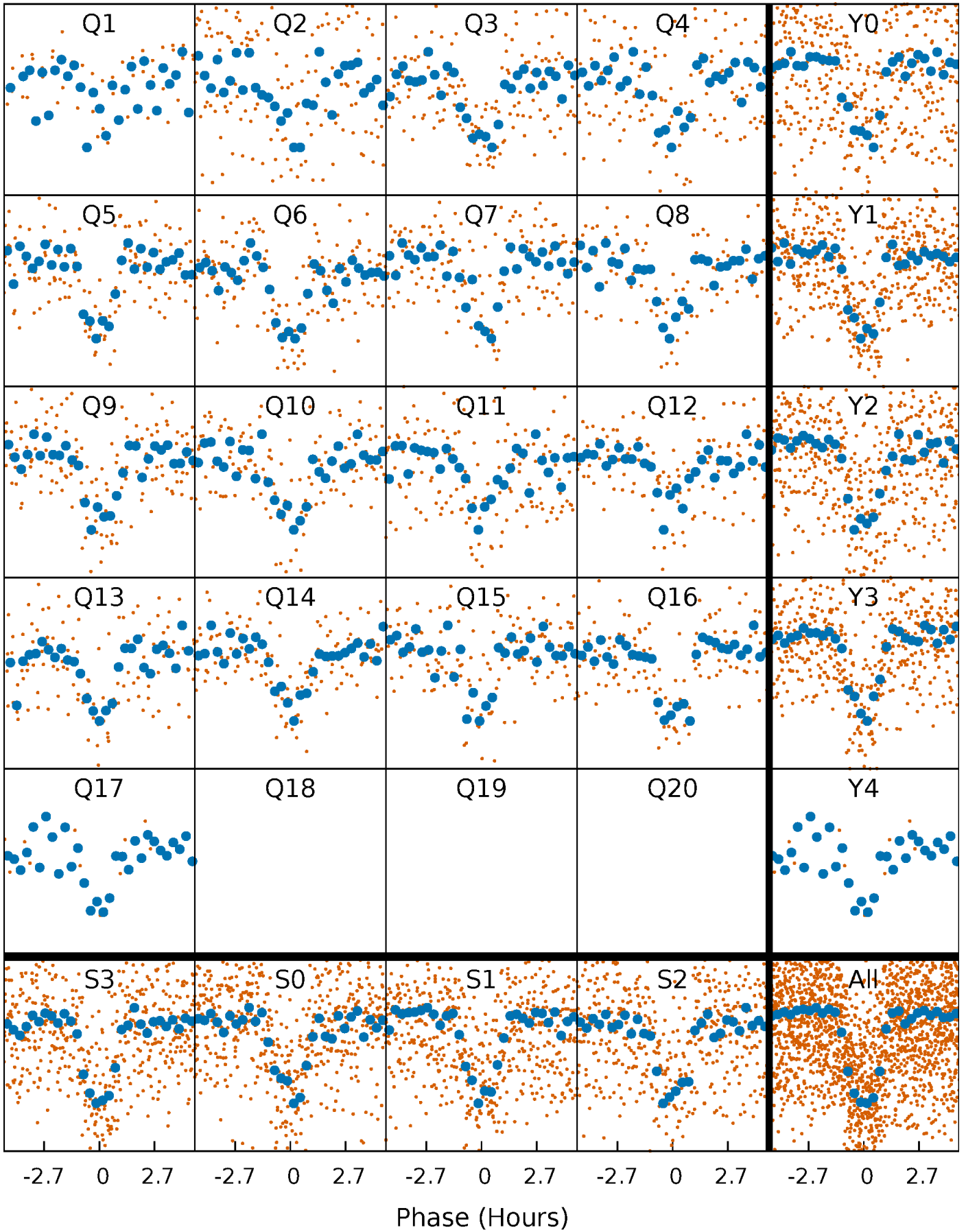


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



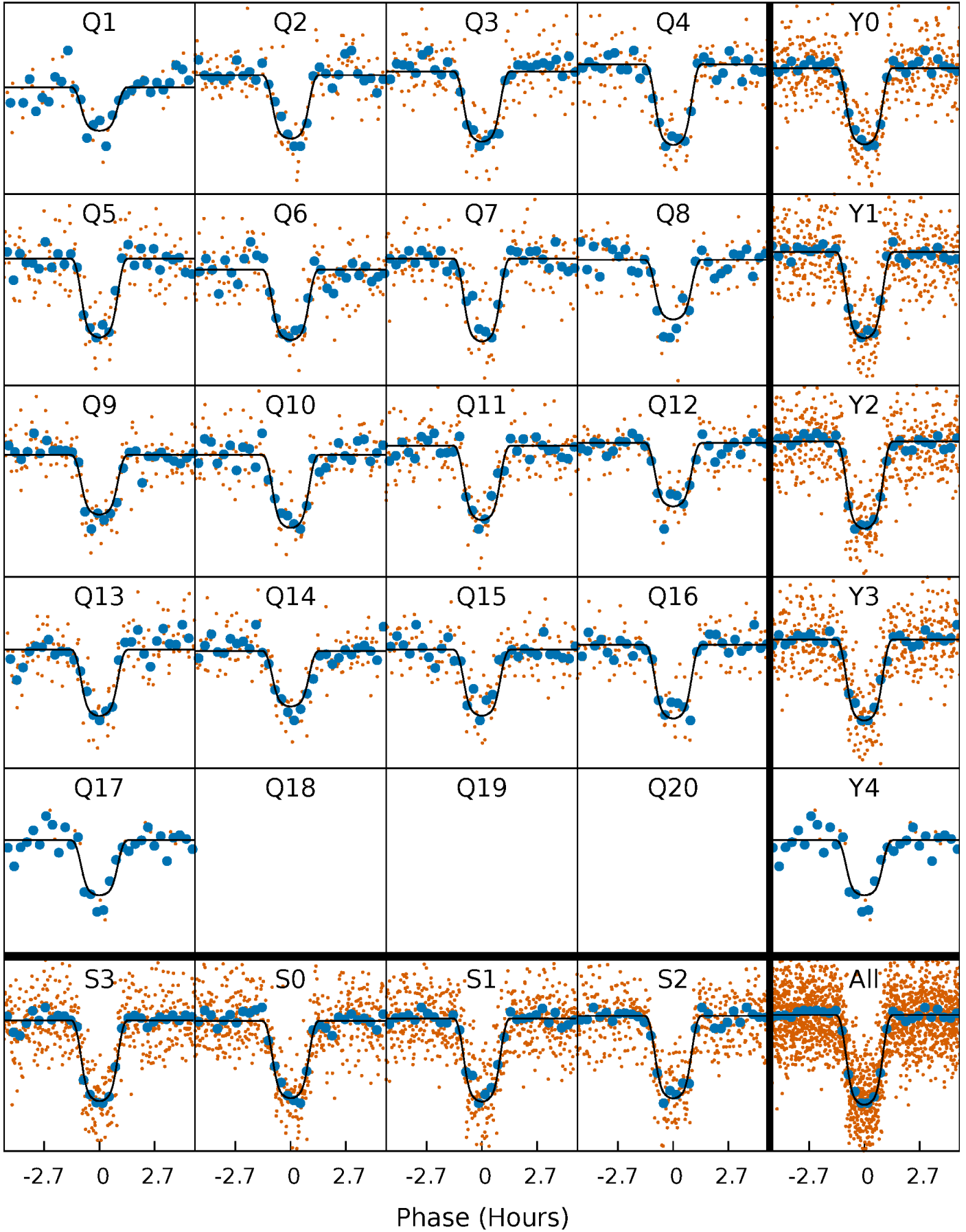
PDC Quarter-Phased Transit Curves

TCE 009512687-01 P= 11.515184 Days $T_0=140.312367$ (BKJD)



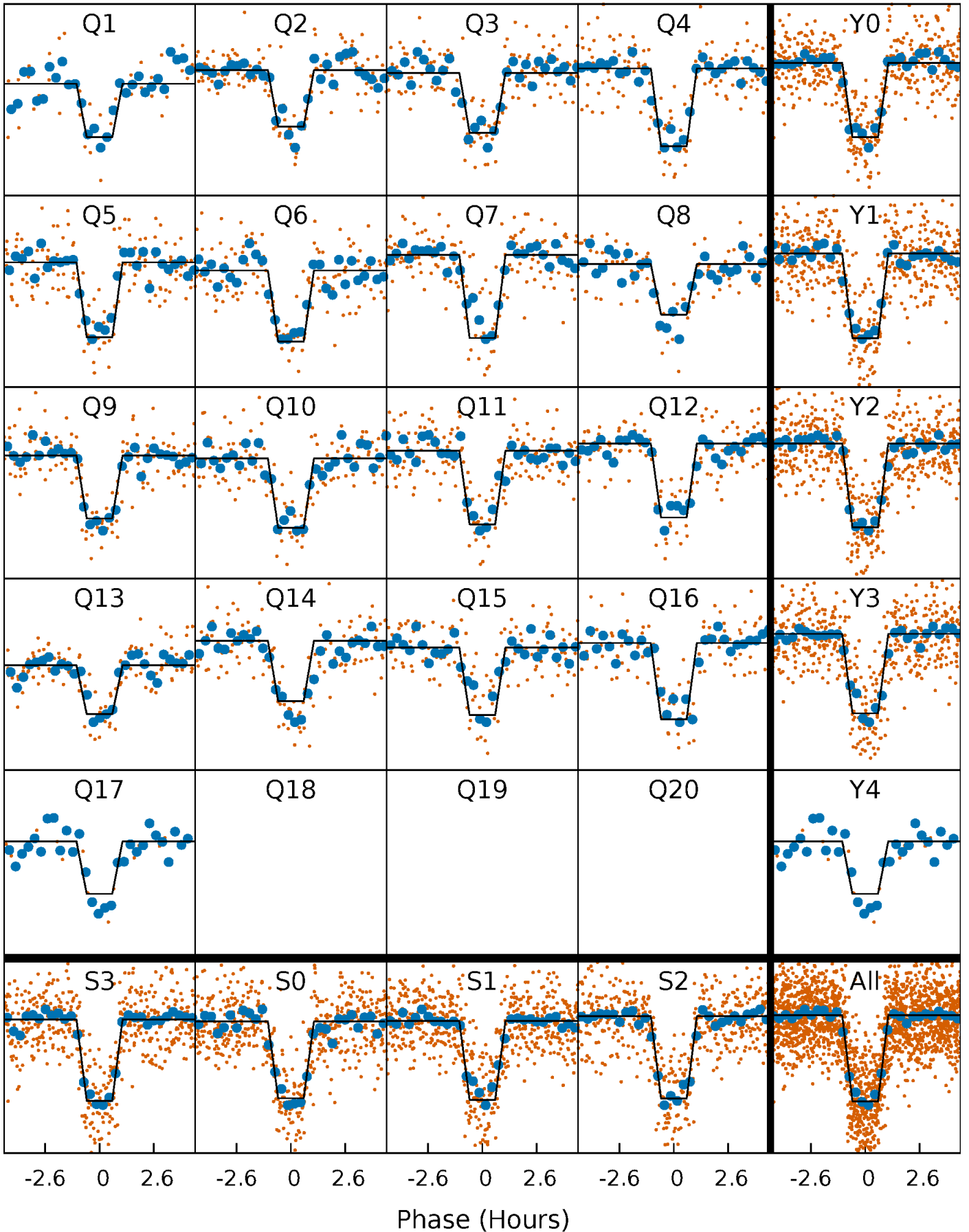
DV Quarter-Phased Transit Curves

TCE 009512687-01 P= 11.515184 Days $T_0=140.312367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

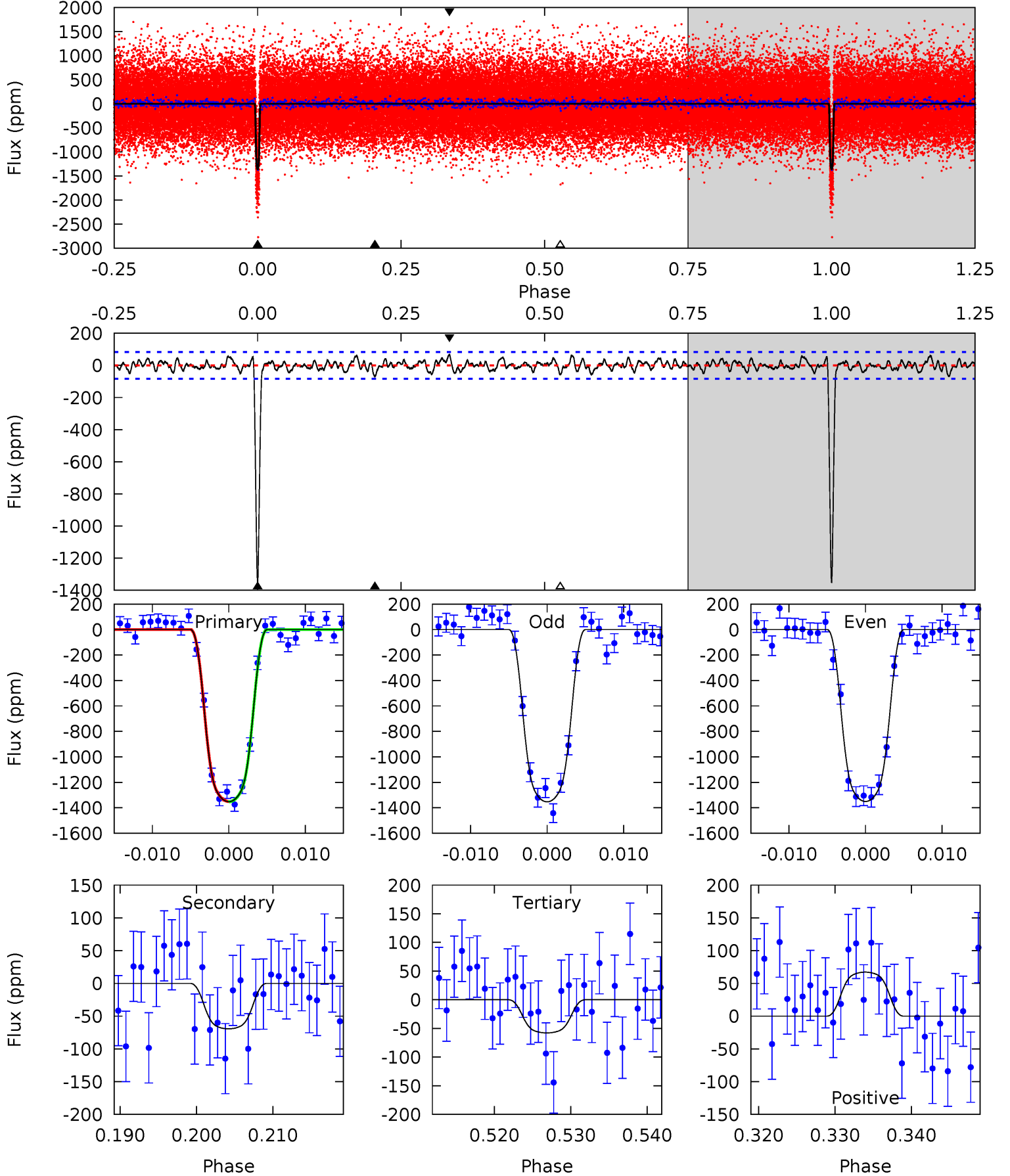
TCE 009512687-01 P= 11.515095 Days $T_0=140.317451$ (BKJD)



DV Model-Shift Uniqueness Test

009512687-01, $P = 11.515184$ Days, $E = 128.797183$ Days

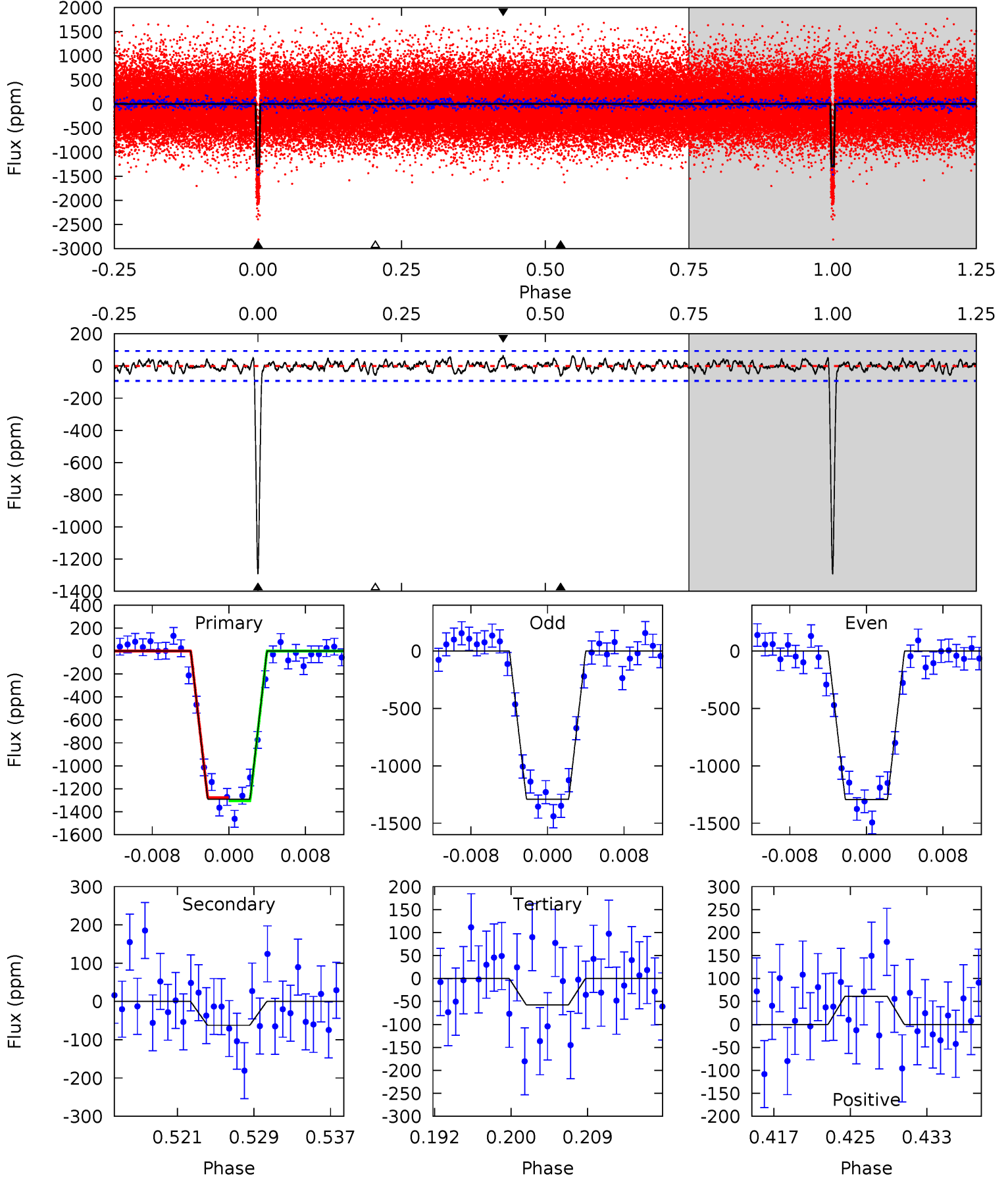
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
81.4	4.18	3.48	4.04	5.03	2.58	1.39	77.9	77.3	0.70	0.13	0.09	0.98	0.05	0.07



Alt Model-Shift Uniqueness Test

009512687-01, $P = 11.515095$ Days, $E = 128.802356$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.4	3.40	3.13	3.35	5.07	2.65	1.19	67.3	67.1	0.26	0.05	0.08	1.01	0.05	0.77



Stellar Parameters For KIC 009512687

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5177^{+155}_{-155}	$4.590^{+0.024}_{-0.102}$	$0.210^{+0.200}_{-0.300}$	$0.798^{+0.108}_{-0.054}$	$0.910^{+0.047}_{-0.093}$	$2.526^{+0.307}_{-0.735}$
	+3%/-3%	+1%/-2%	+95%/-143%	+14%/-7%	+5%/-10%	+12%/-29%
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 009512687-01 / KOI 0942.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-69 ± 17	$3.74^{+0.28}_{-0.25}$	931^{+40}_{-36}	2958^{+120}_{-125}	25^{+7}_{-6}
Alt.	-62 ± 18	$3.25^{+0.26}_{-0.22}$	933^{+41}_{-34}	3036^{+135}_{-172}	29^{+10}_{-10}

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 $A_{obs} \gg 1.0$

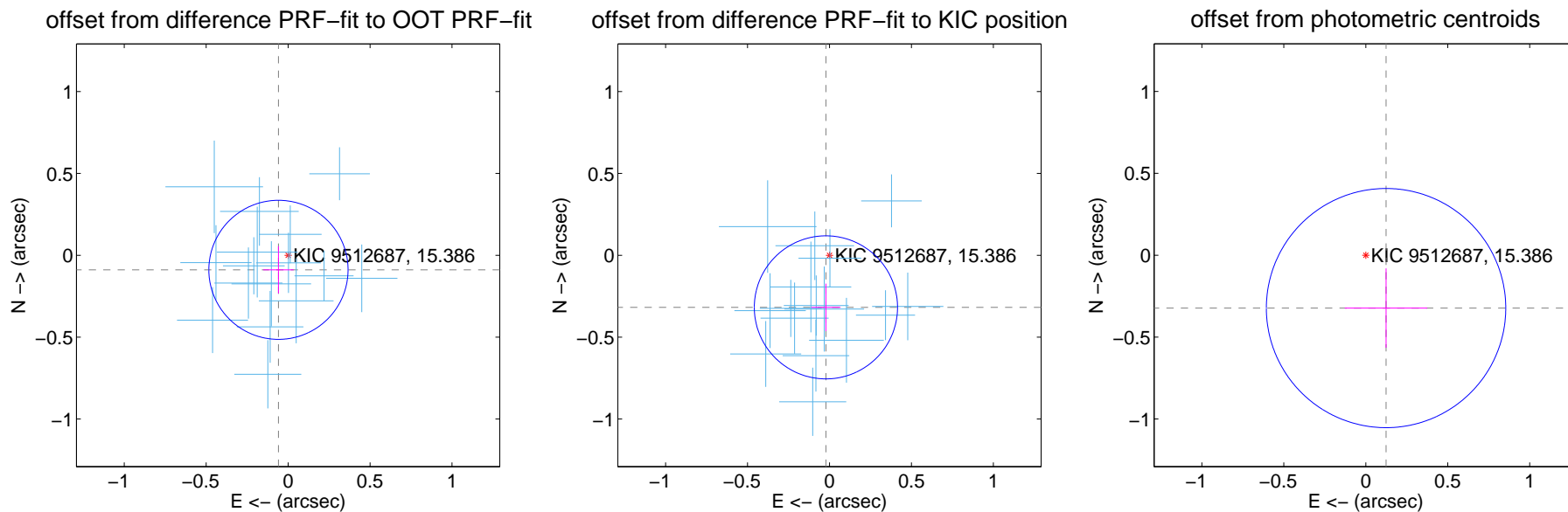
DV Centroid Data

Supplemental centroid analysis for 009512687-01. Kepler magnitude: 15.39. Transit SNR 49.99

There are 17 quarters with good PRF difference image offsets

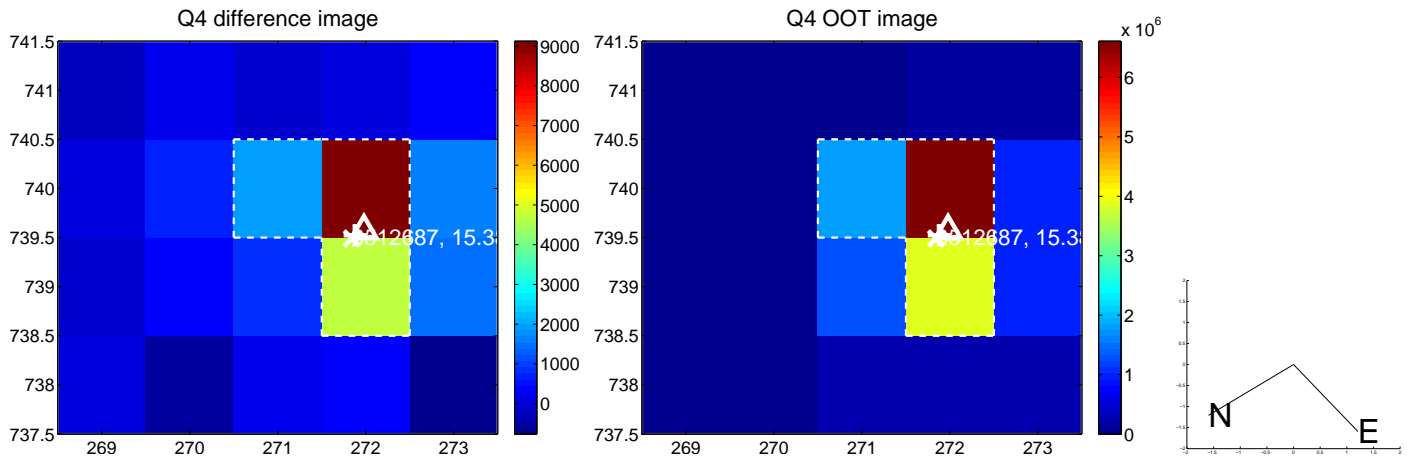
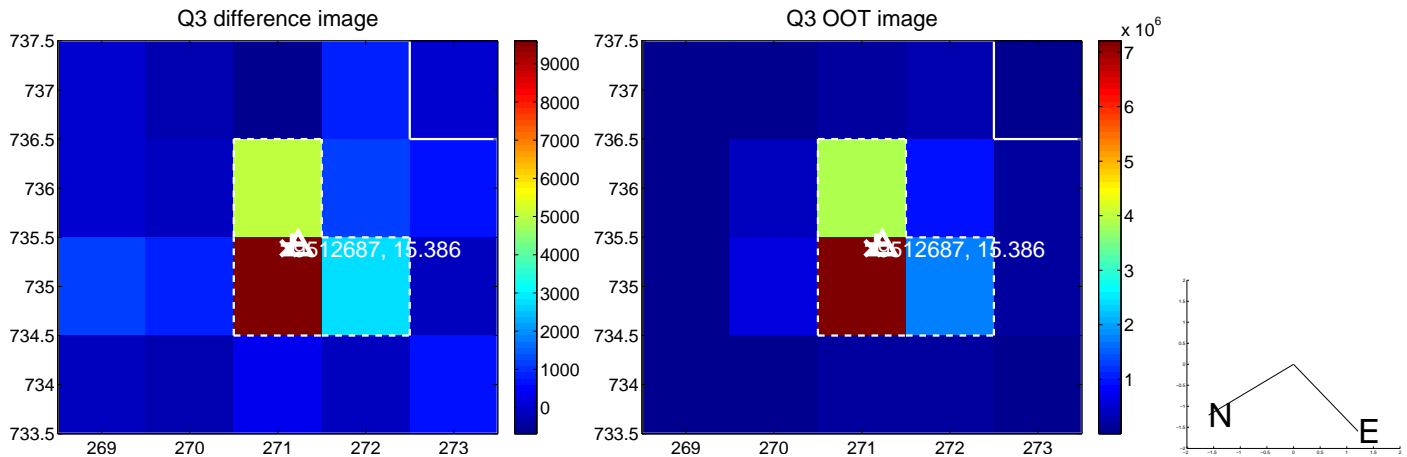
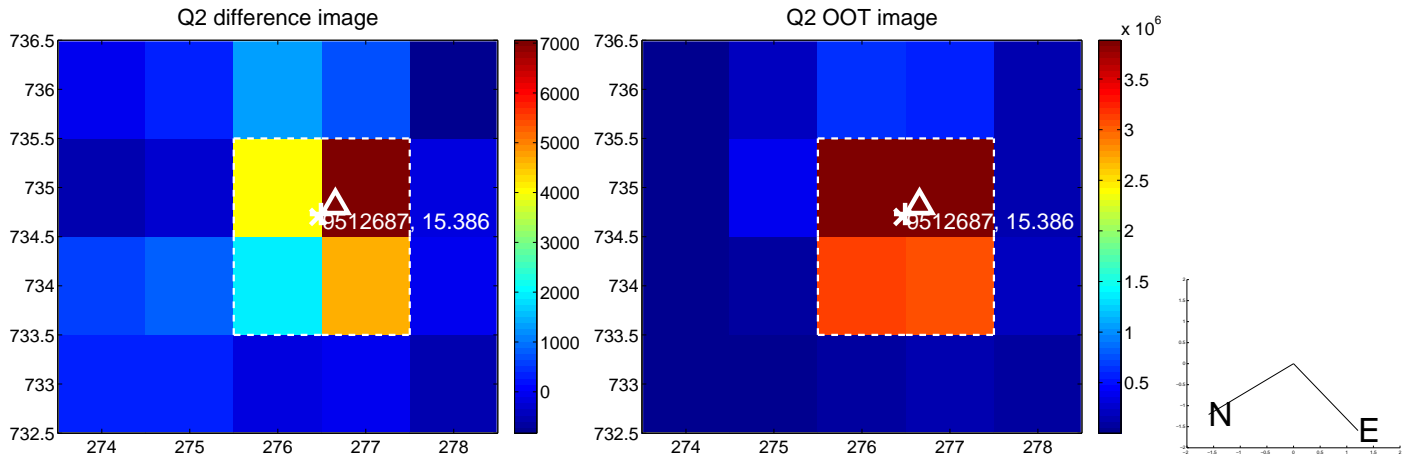
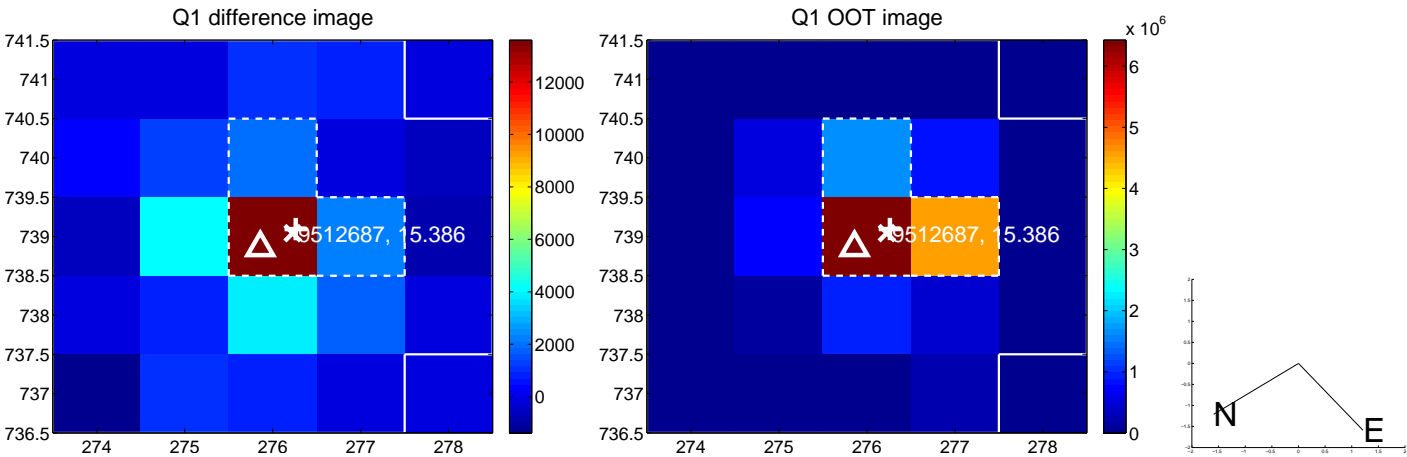
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.107 ± 0.142	0.75	0.059 ± 0.093	-0.089 ± 0.144
PRF-fit source offset from KIC position	0.319 ± 0.146	2.19	0.022 ± 0.089	-0.318 ± 0.145
photometric centroid source offset	0.35 ± 0.24	1.42	-0.12 ± 0.25	-0.32 ± 0.24

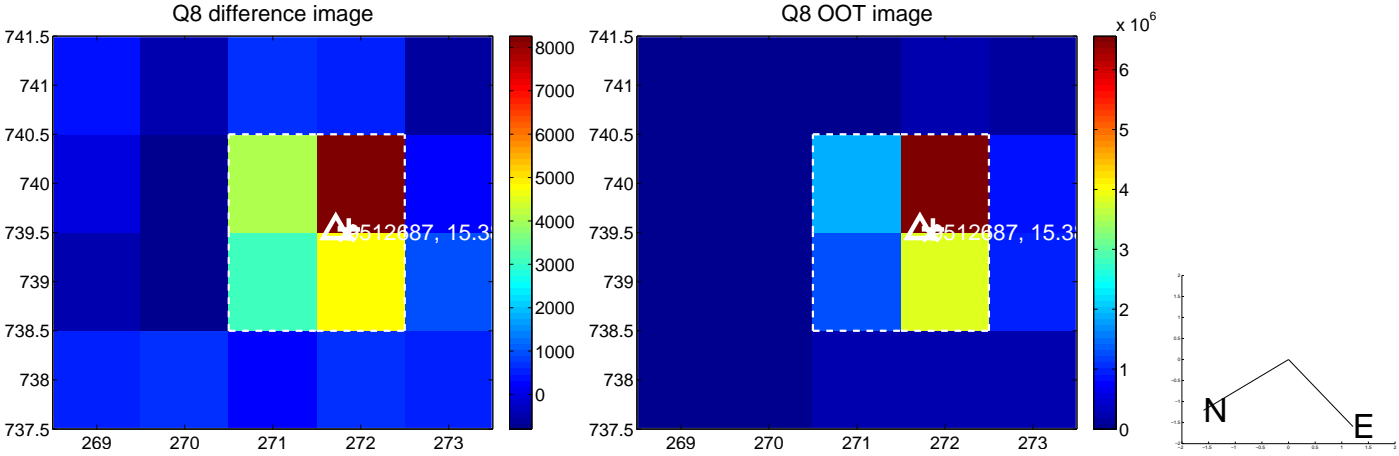
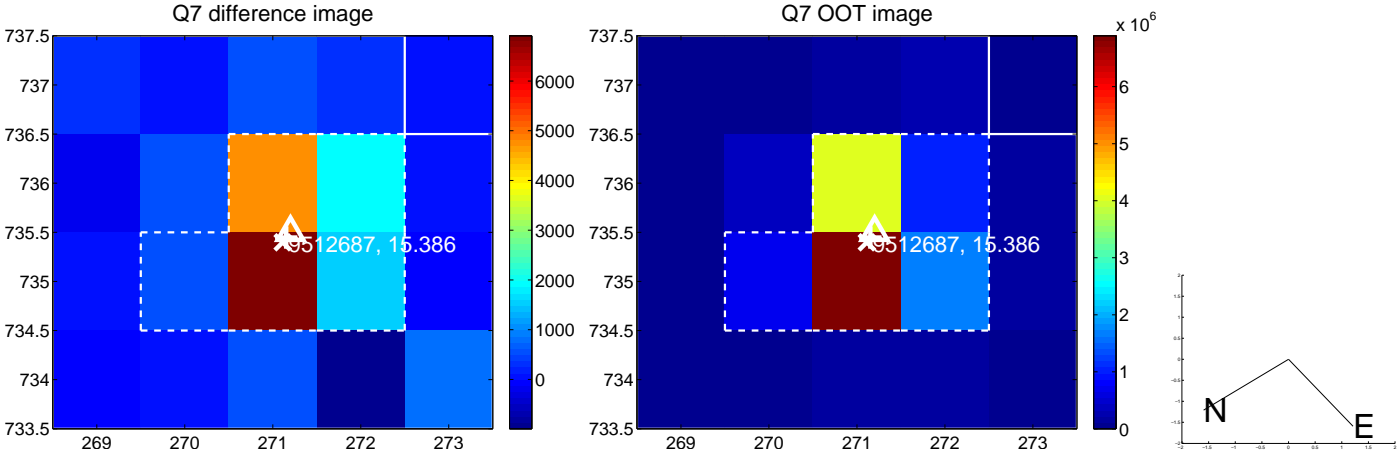
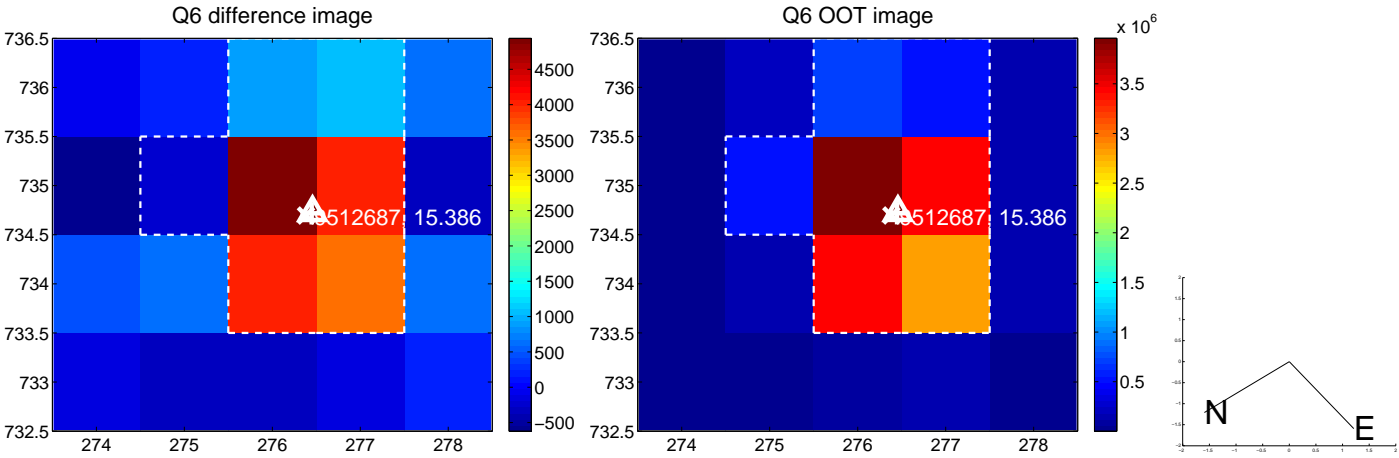
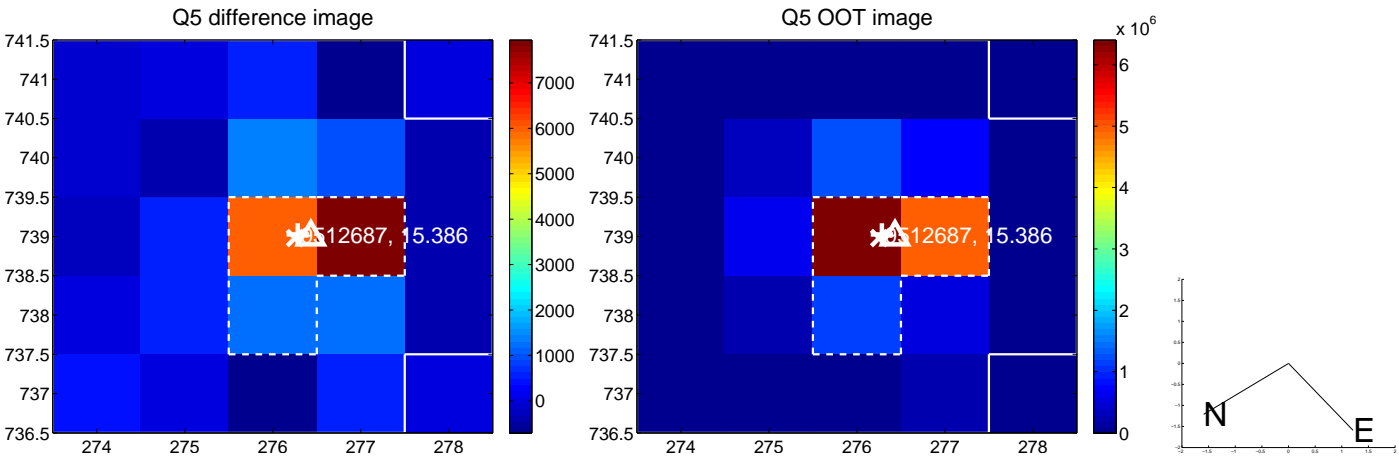


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

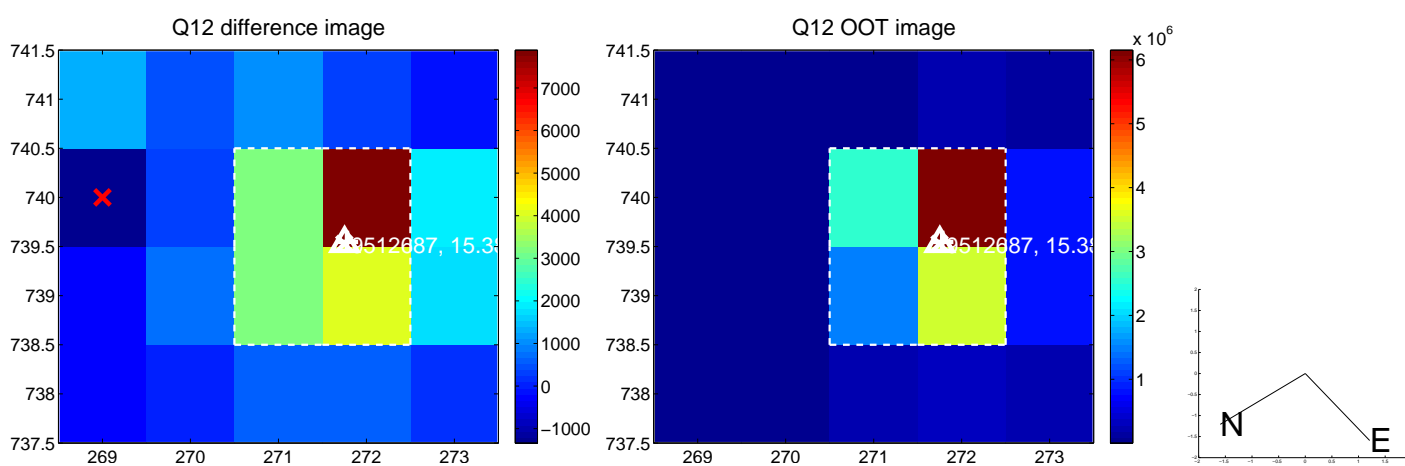
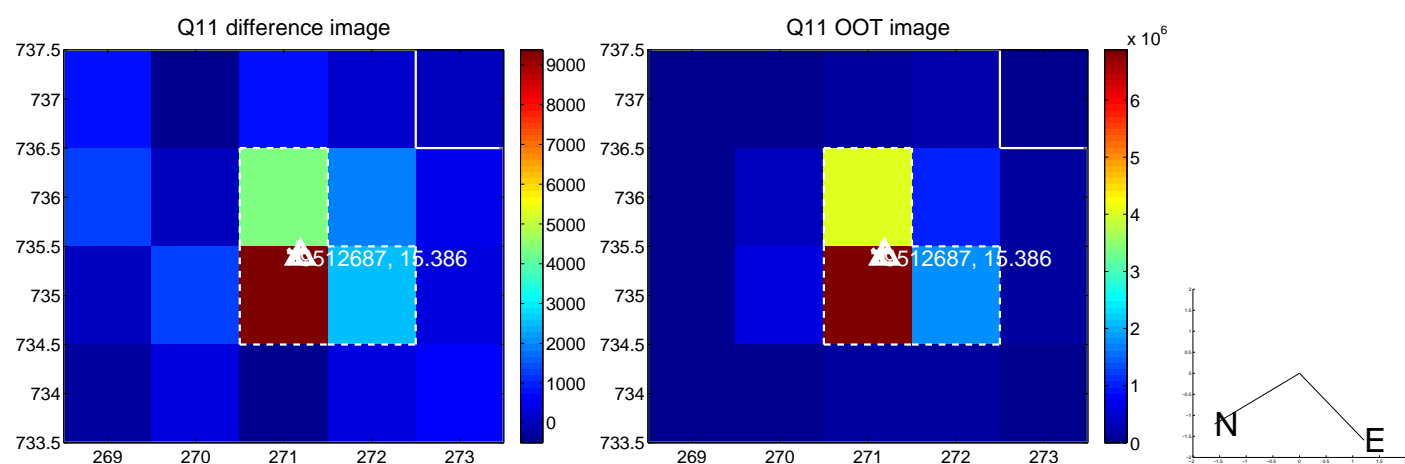
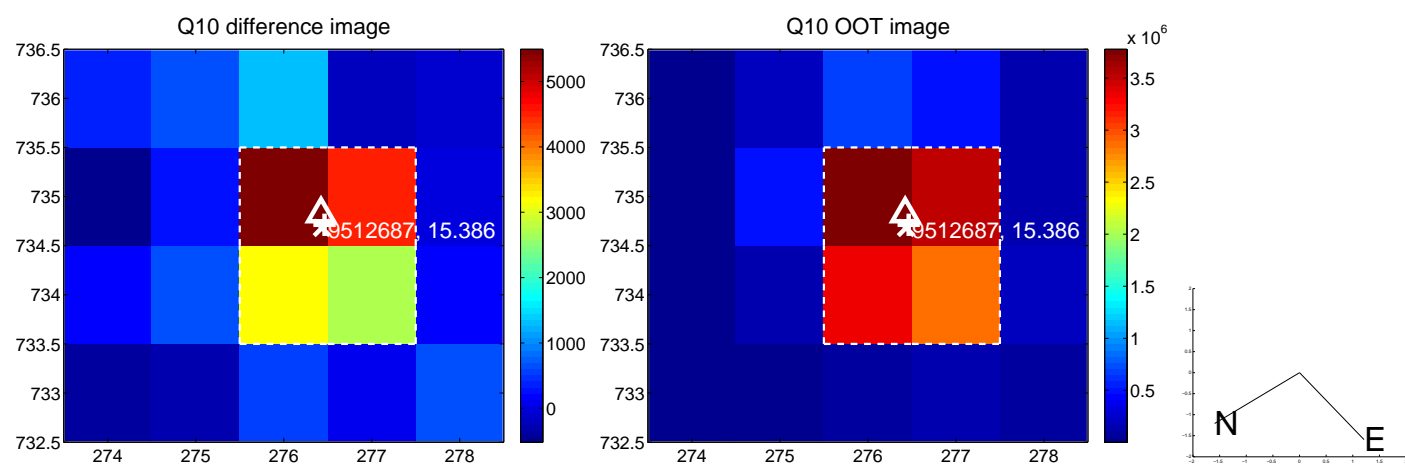
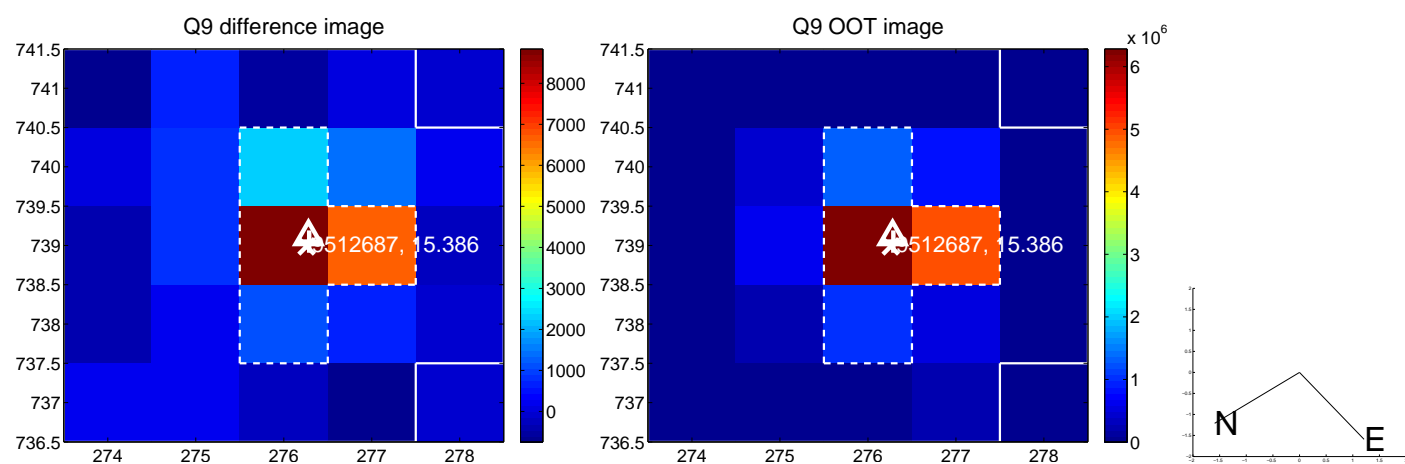
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



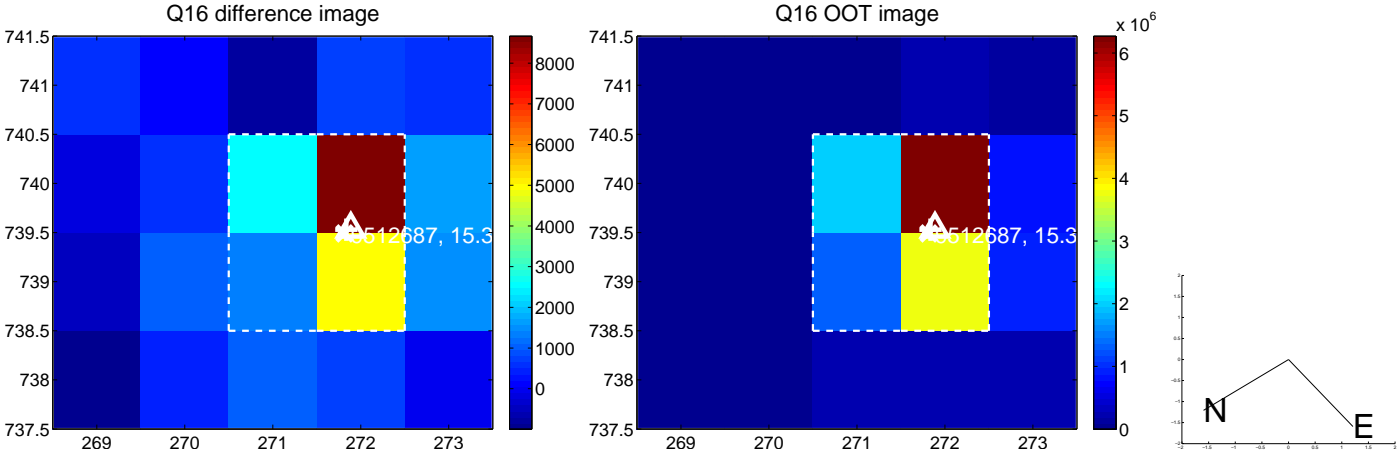
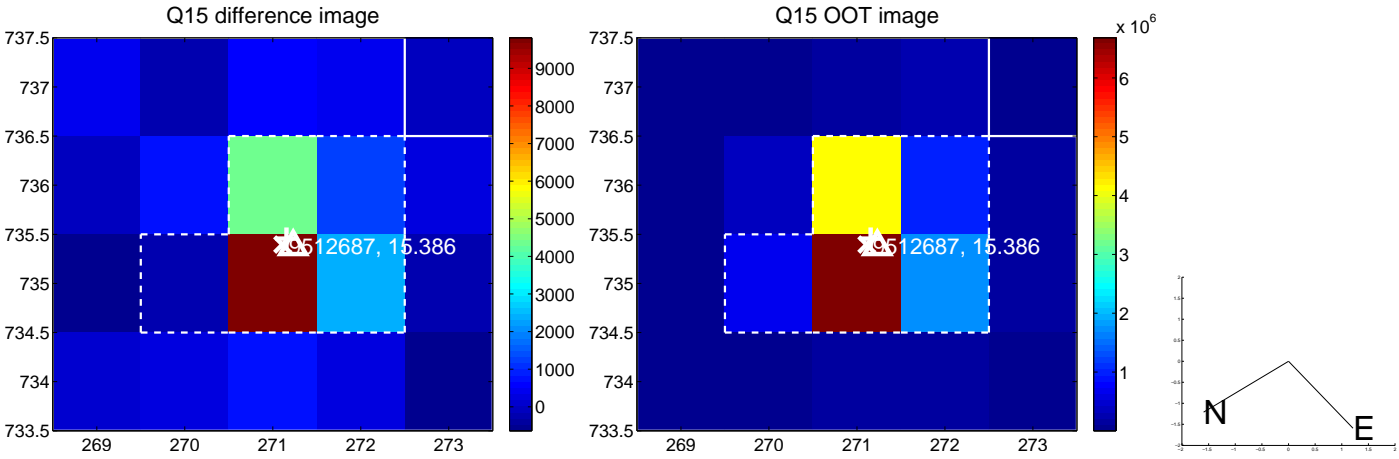
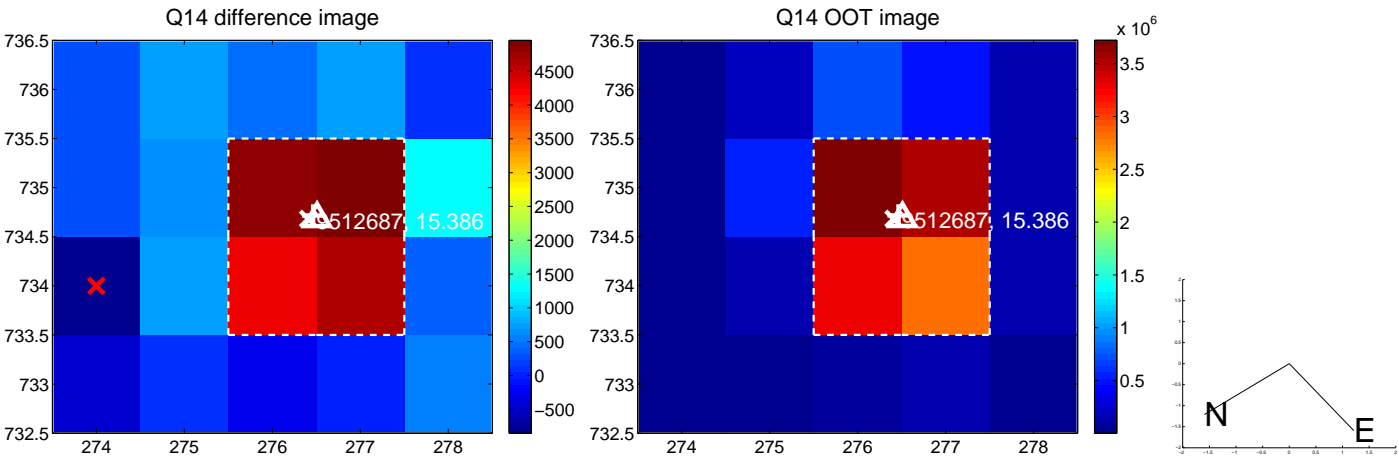
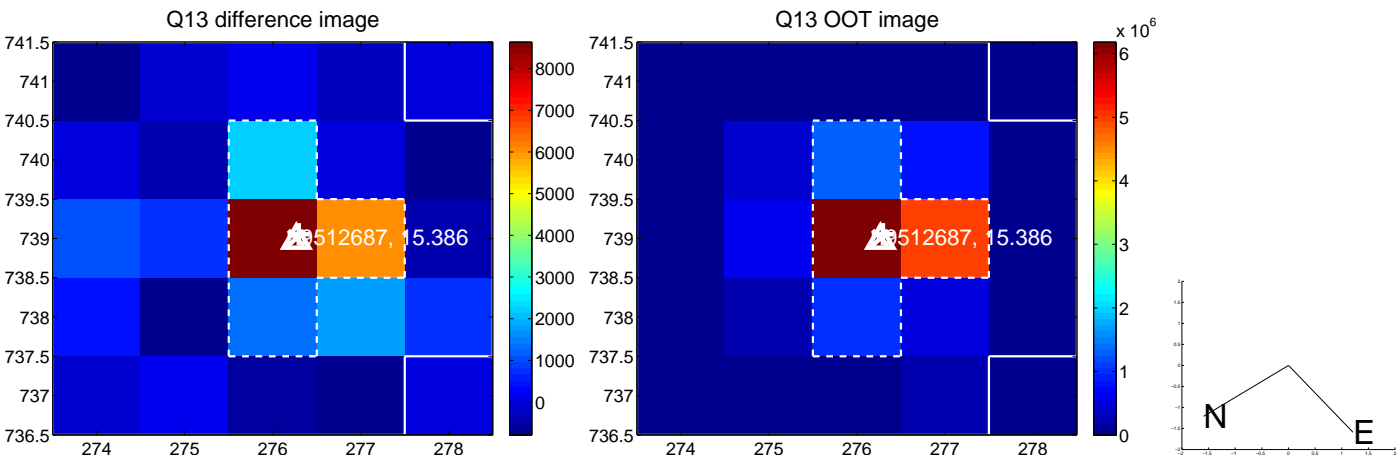
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



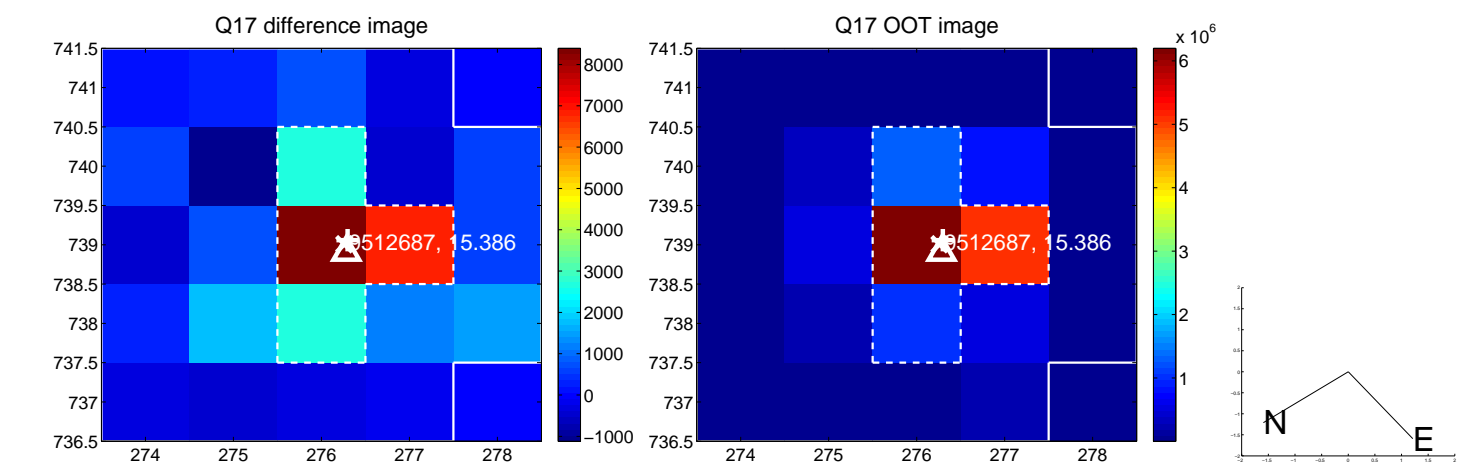
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



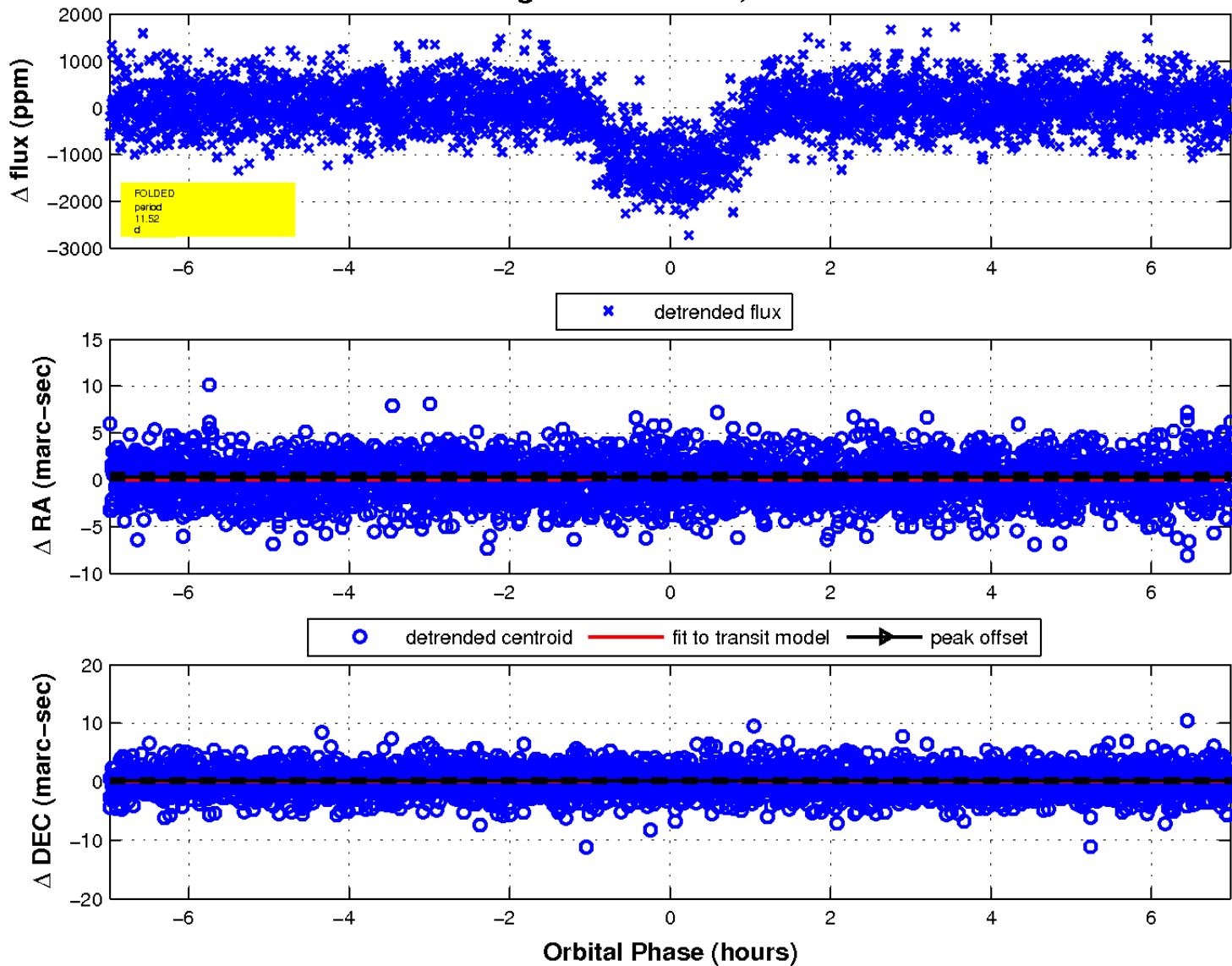
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

