

KIC 009850957

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
009850957-01	OBS	2446.01	8.480301	135.869218	106.2	6.218	13.0	13.4	2.43	6541	2.96	1232.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009850957-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—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.

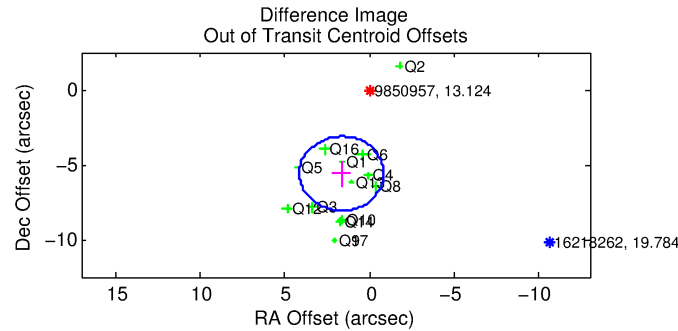
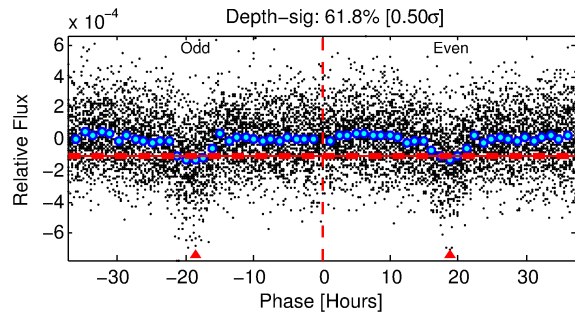
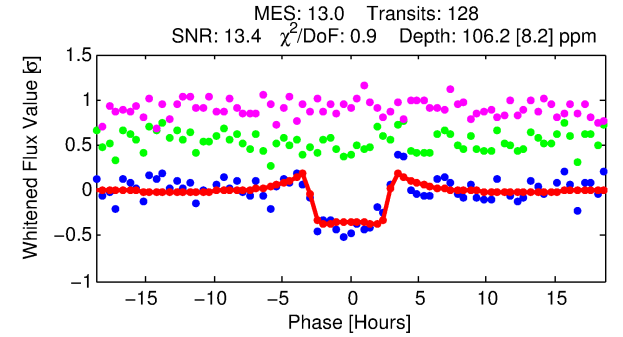
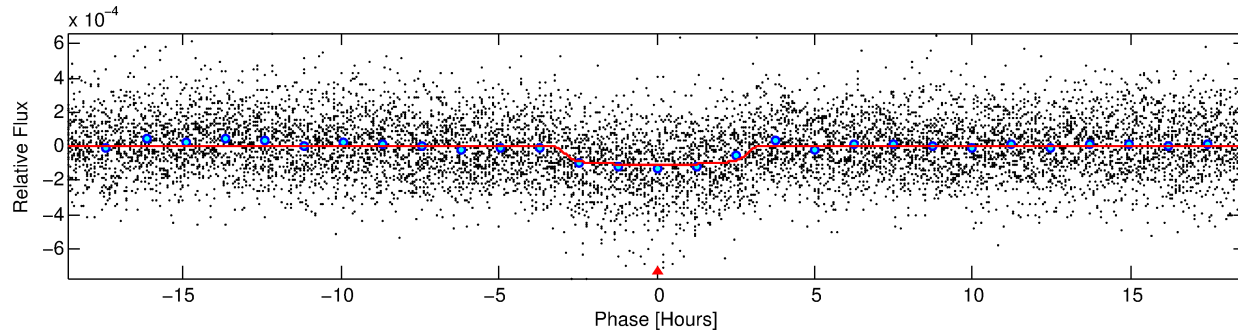
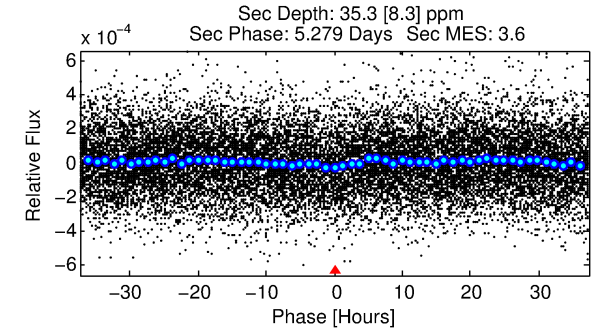
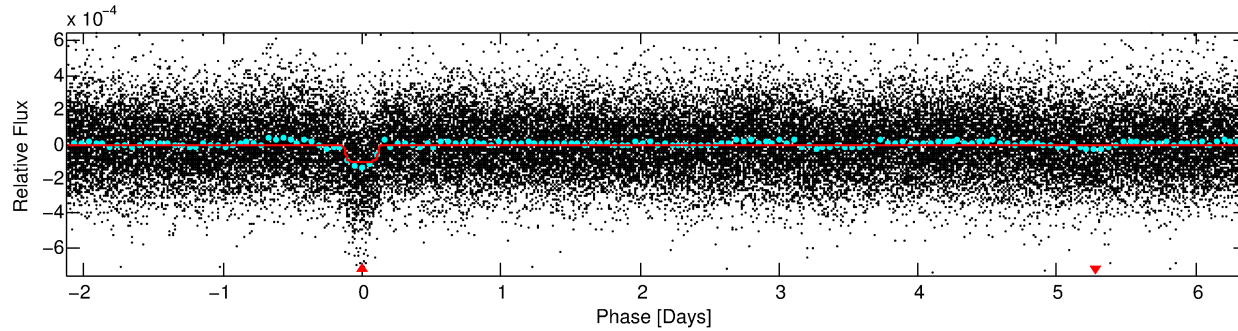
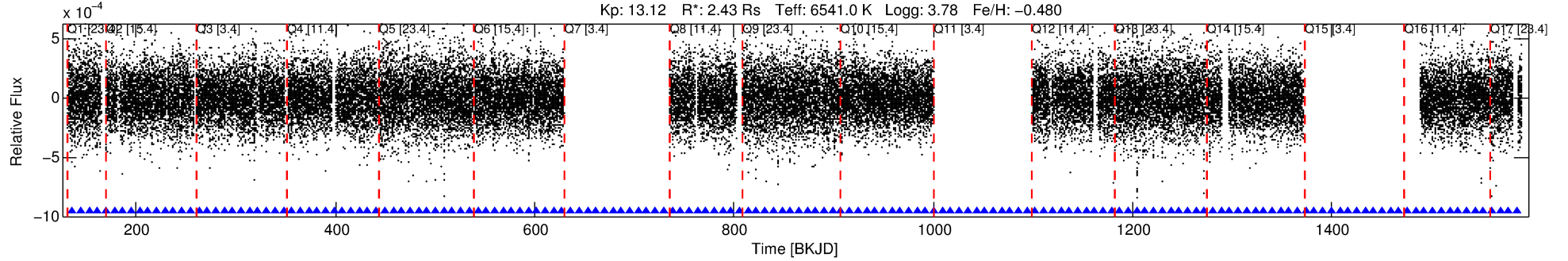
Ephemeris Match Information For 009850957-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
009850957-01	9850957	009851142-pri	9851142	1:1	138.4	22	27	7.63	13.12	859.43	Direct-PRF	0	0.01	0.47

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 9850957 Candidate: 1 of 1 Period: 8.480 d
KOI: K02446.01 Corr: 0.891



DV Fit Results:

Period = 8.48030 [0.00005] d
Epoch = 135.8692 [0.0046] BKJD
Rp/R* = 0.0112 [0.0013]
a/R* = 4.52 [2.61]
b = 0.92 [0.11]
Seff = 1232.14 [677.70]
Teq = 1511 [208] K
Rp = 2.97 [1.11] Re
a = 0.0887 [0.0300] AU
Ag = 17.37 [10.93] [1.50σ]
Teffp = 4768 [410] K [7.08σ]

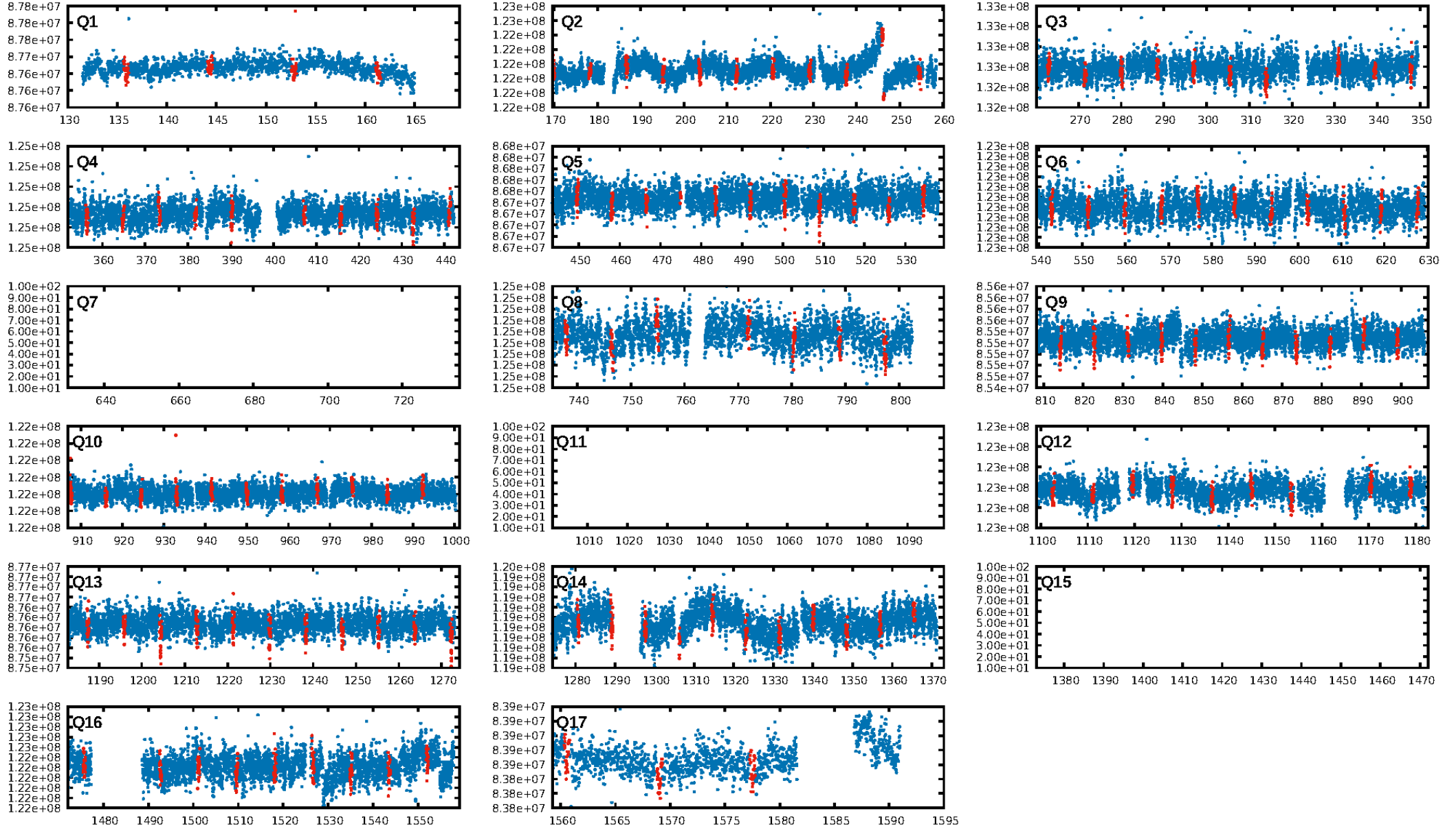
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.43e-34
RollingBand-fgt: 1.00 [121/121]
GhostDiagnostic-chr: -0.1368
Centroid-sig: 0.0%
Centroid-so: 3.287 arcsec [5.82σ]
OotOffset-rm: 5.839 arcsec [7.06σ]
KicOffset-rm: 5.639 arcsec [7.18σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.07 [1/14]
DiffImageOverlap-fno: 1.00 [14/14]

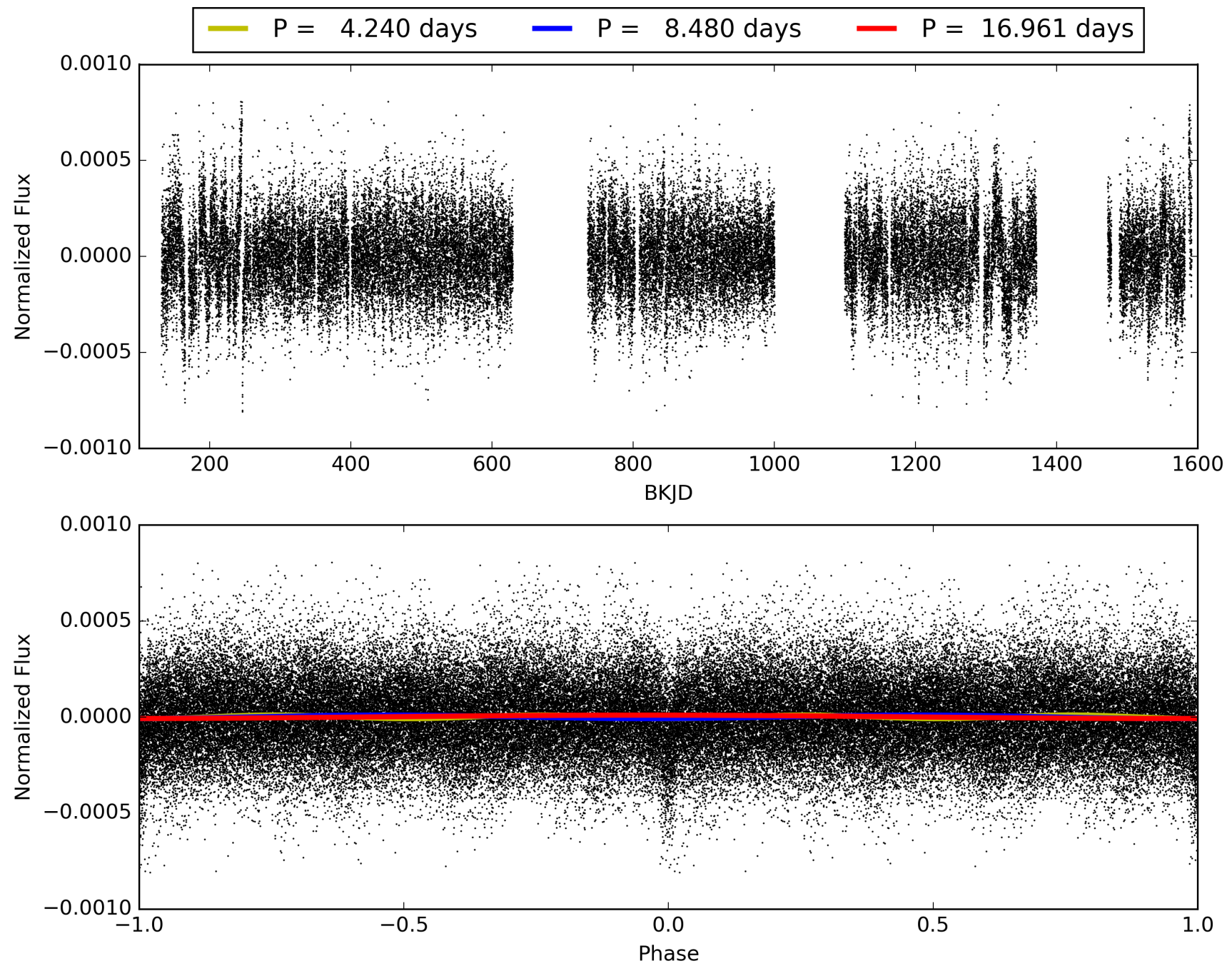
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:09:05 Z

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

TCE 009850957-01, PDC Light Curves

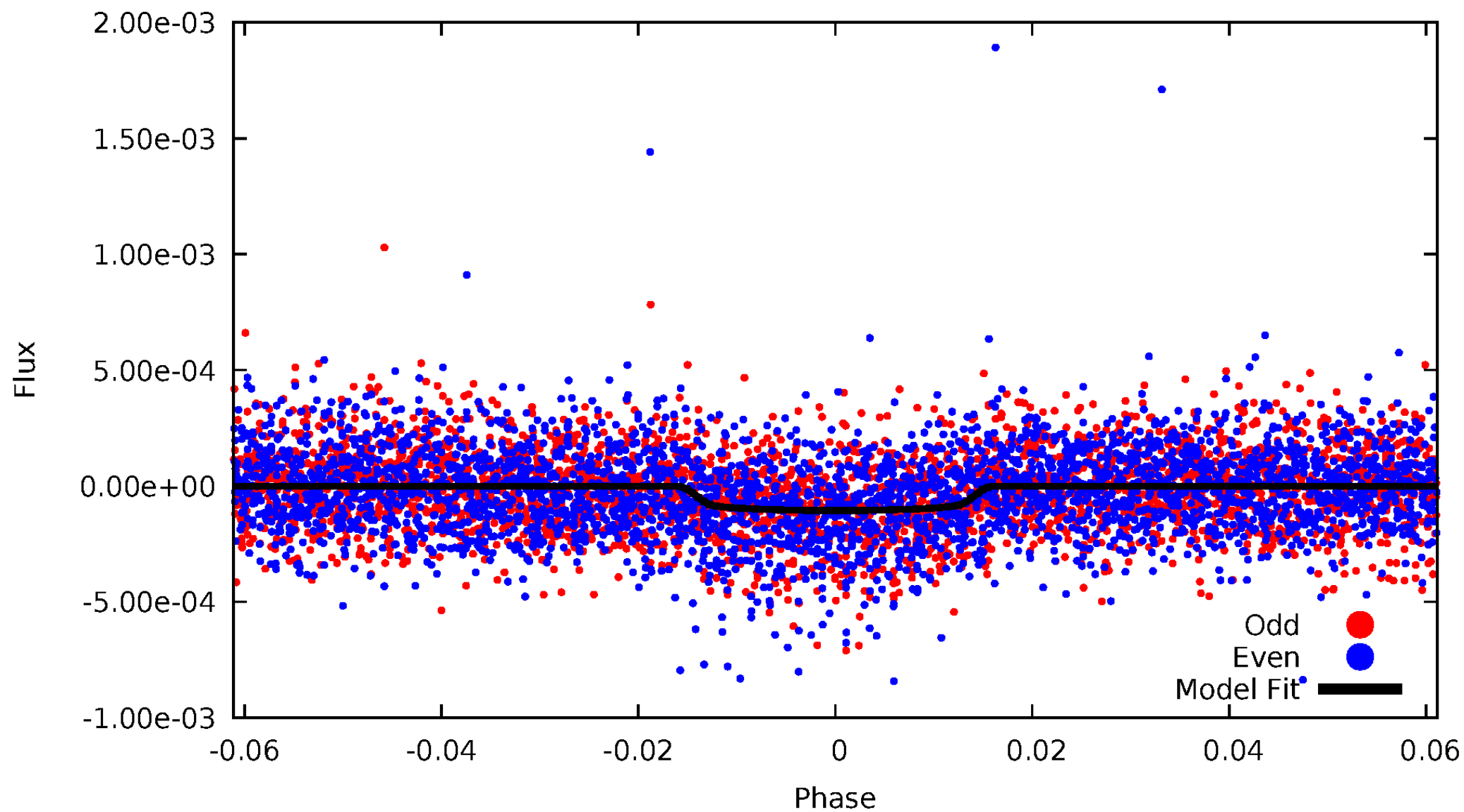


TCE 009850957-01



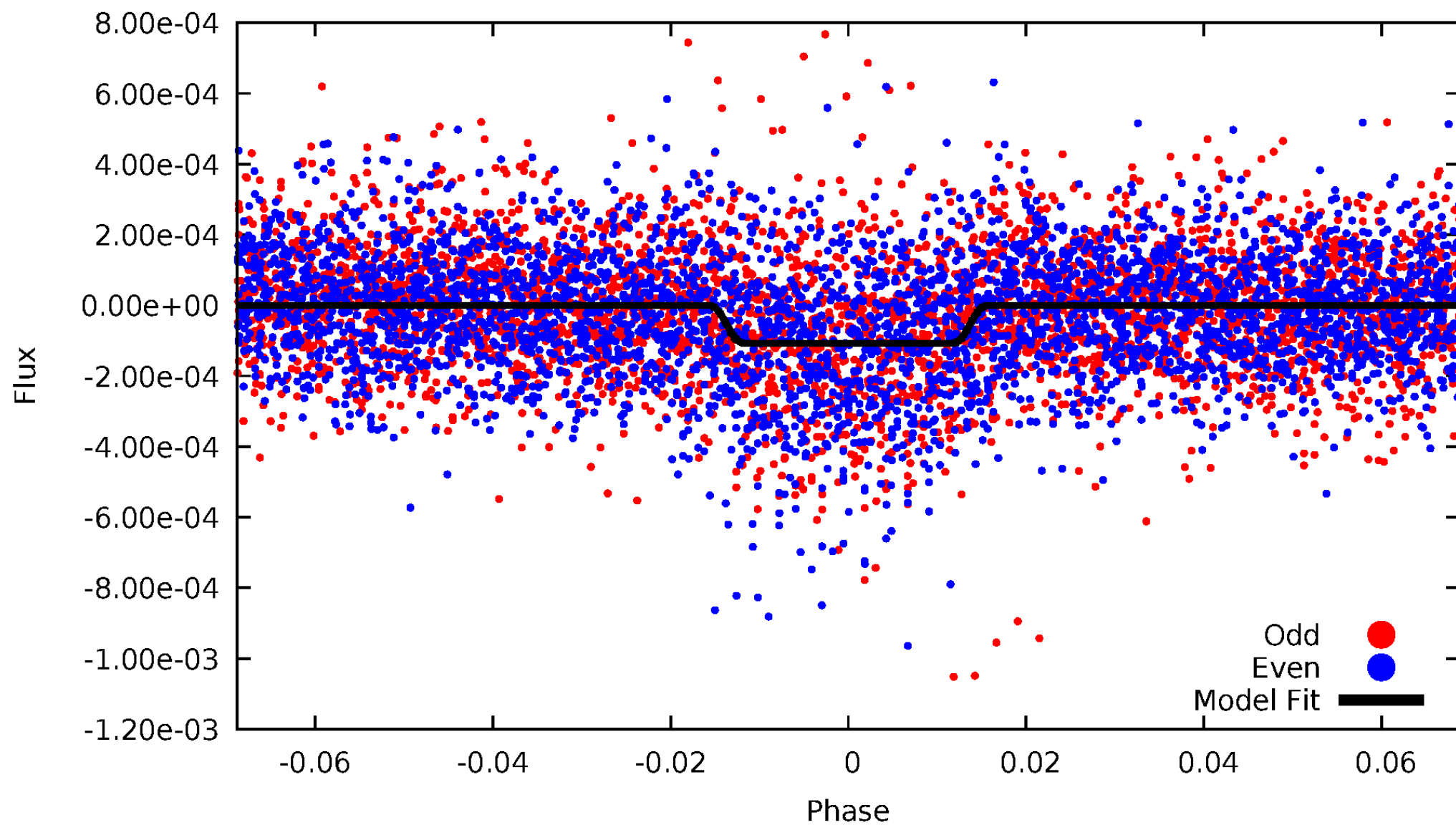
DV Odd/Even

TCE 009850957-01

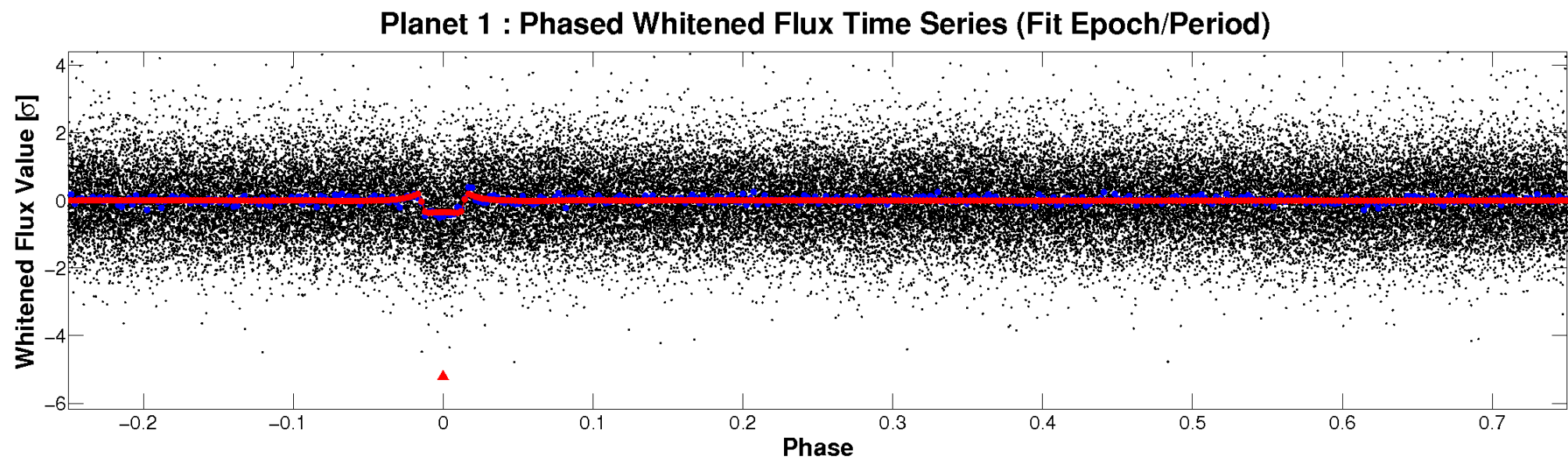
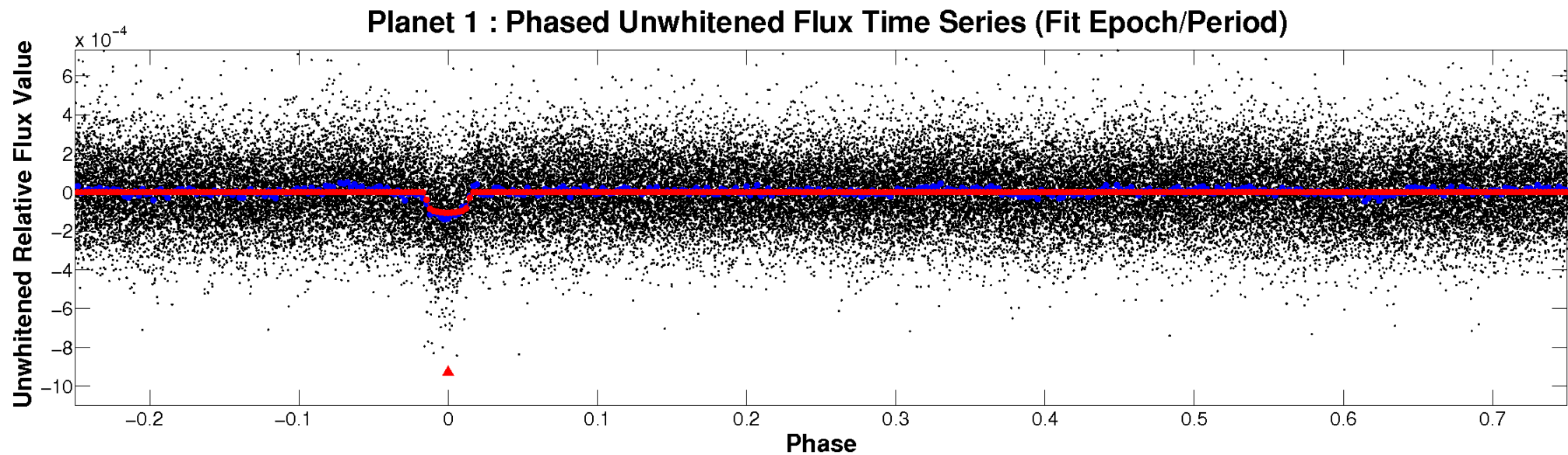


ALT Odd/Even

TCE 009850957-01

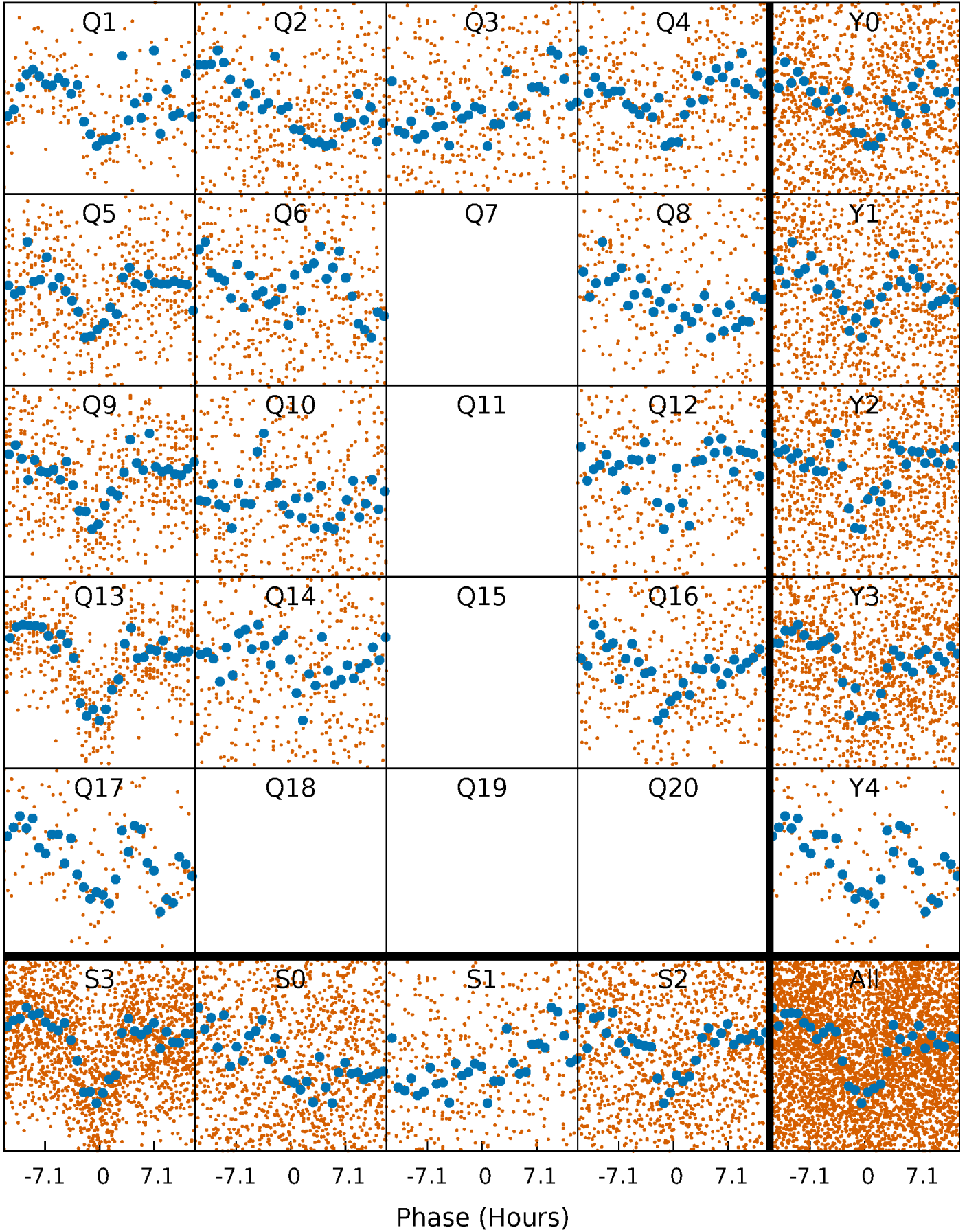


Non-Whitened Vs. Whitened Light Curve



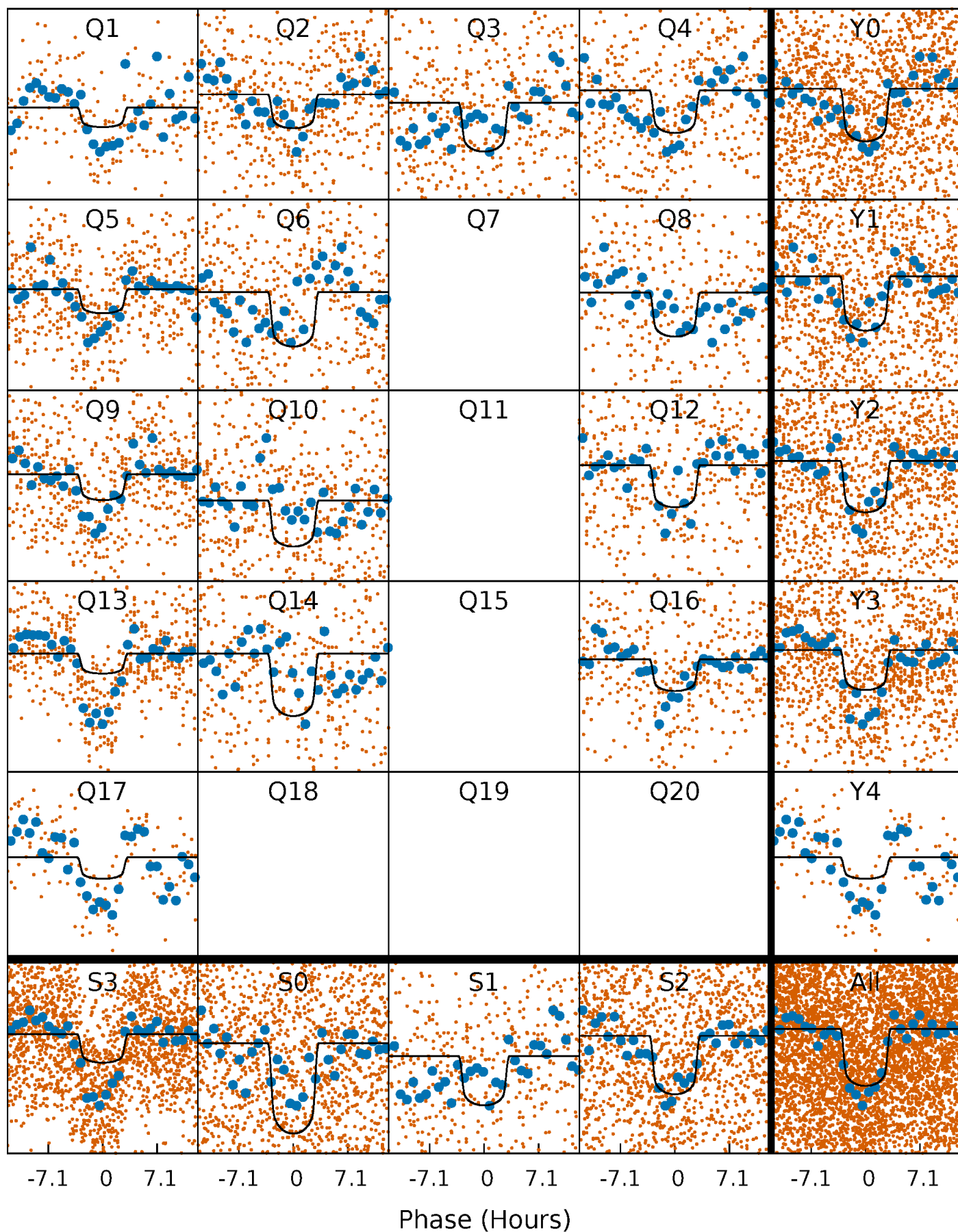
PDC Quarter-Phased Transit Curves

TCE 009850957-01 P= 8.480301 Days $T_0=135.869218$ (BKJD)



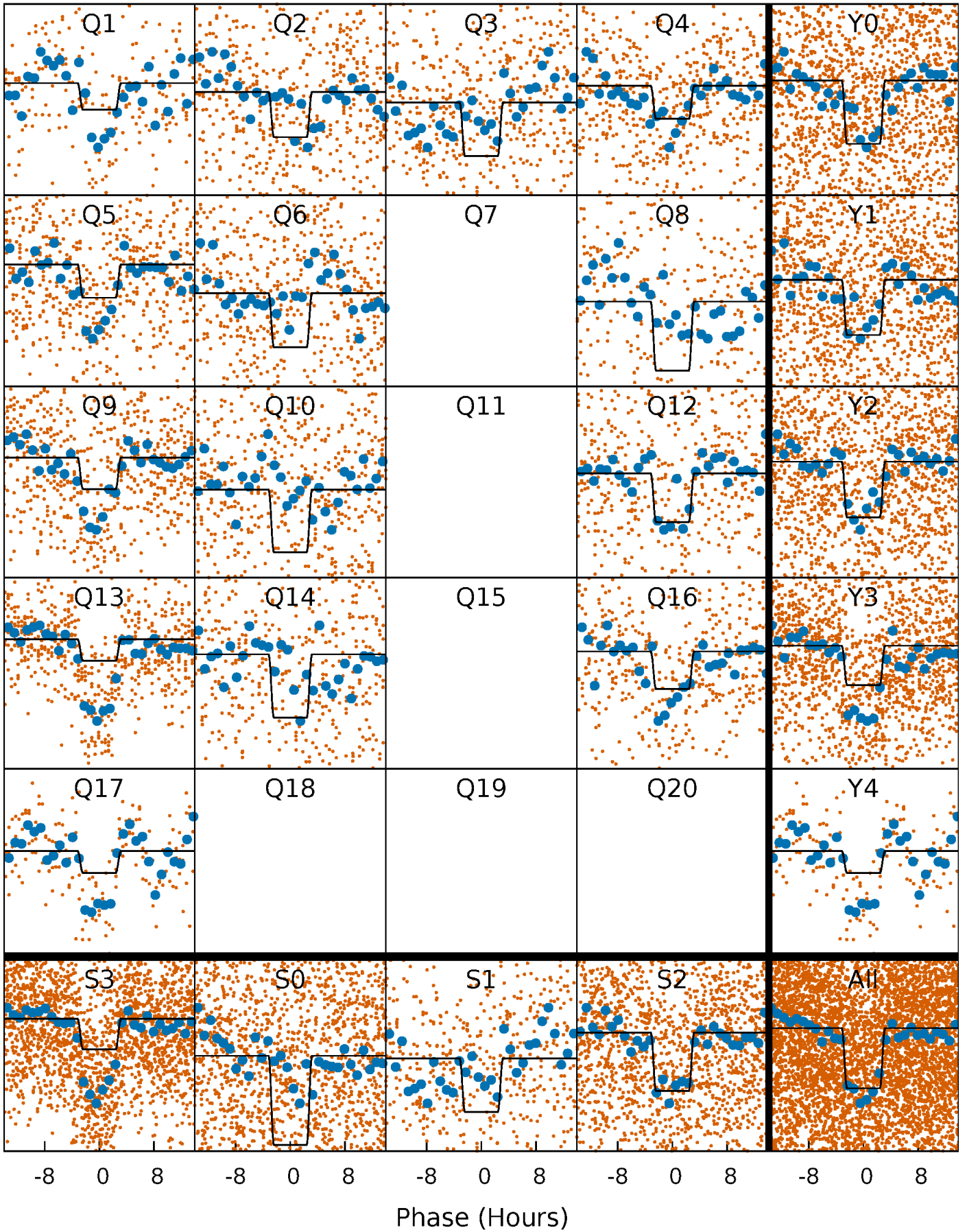
DV Quarter-Phased Transit Curves

TCE 009850957-01 P= 8.480301 Days $T_0=135.869218$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

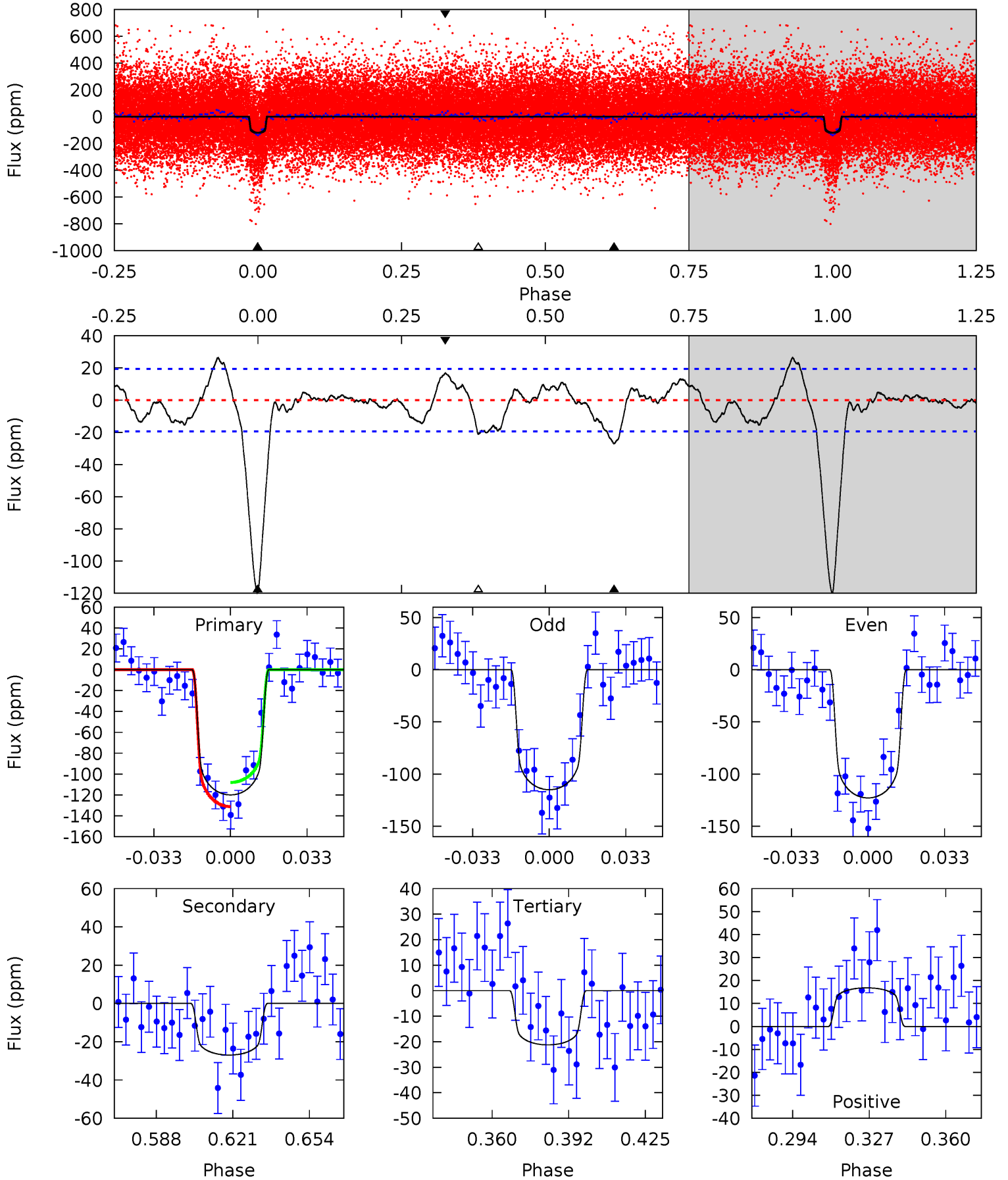
TCE 009850957-01 P= 8.480296 Days $T_0=135.863624$ (BKJD)



DV Model-Shift Uniqueness Test

009850957-01, P = 8.480301 Days, E = 127.388917 Days

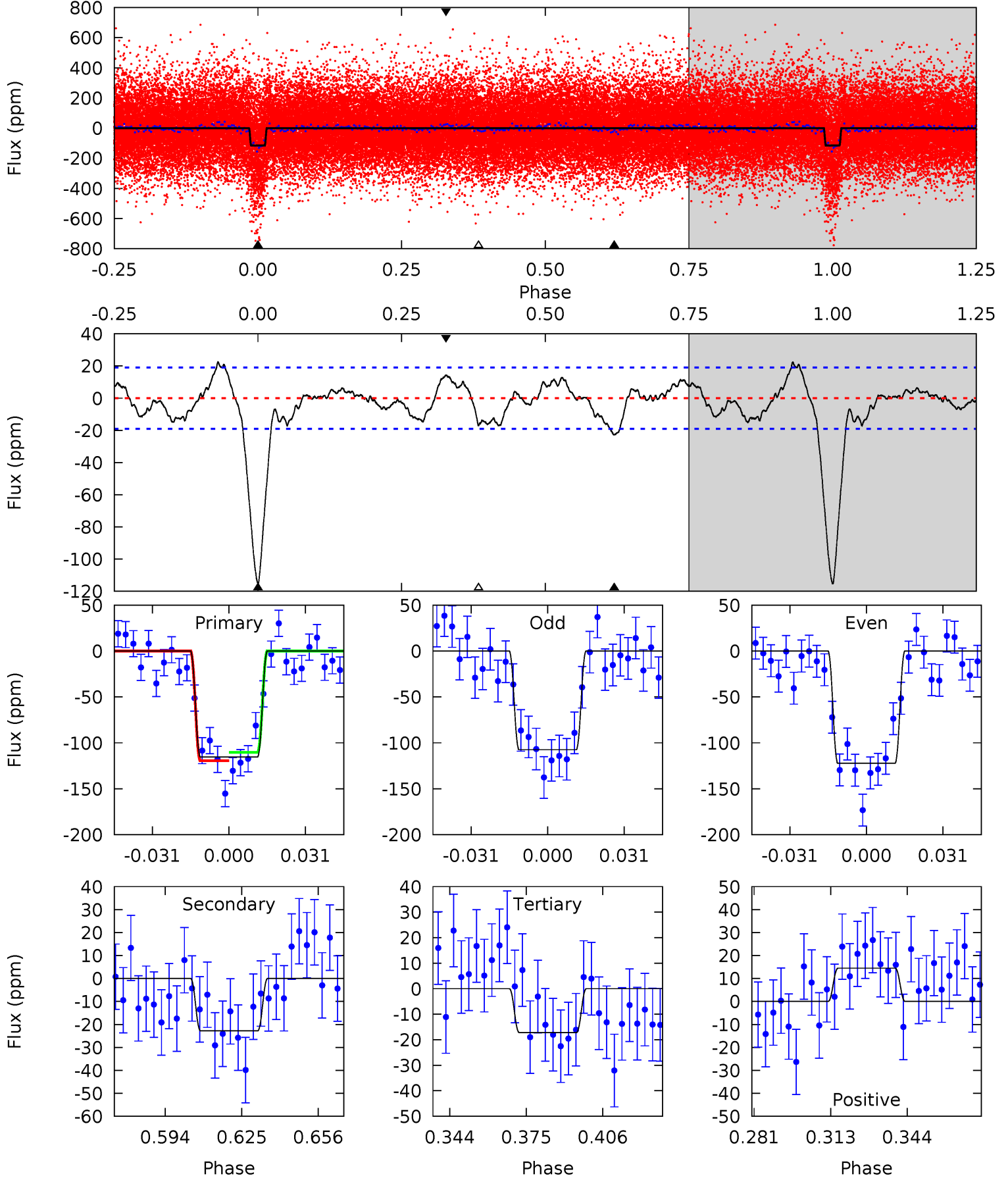
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	6.65	5.24	4.14	4.79	2.14	2.22	24.4	25.4	1.41	2.51	0.97	1.07	0.18	2.86



Alt Model-Shift Uniqueness Test

009850957-01, P = 8.480296 Days, E = 127.383328 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	5.74	4.33	3.65	4.80	2.15	2.10	24.7	25.4	1.41	2.09	1.86	1.01	0.16	1.12



Stellar Parameters For KIC 009850957

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6541^{+166}_{-182}	$3.778^{+0.315}_{-0.084}$	$-0.480^{+0.350}_{-0.250}$	$2.430^{+0.399}_{-0.865}$	$1.291^{+0.214}_{-0.262}$	$0.127^{+0.306}_{-0.033}$
	+3%/-3%	+8%/-2%	+73%/-52%	+16%/-36%	+17%/-20%	+241%/-26%
Source	PHO1	FLK73	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 009850957-01 / KOI 2446.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 4	$2.80^{+0.56}_{-0.54}$	2066^{+123}_{-183}	4591^{+270}_{-235}	15^{+8}_{-5}
Alt.	-23 ± 4	$2.57^{+0.53}_{-0.53}$	2061^{+124}_{-180}	4576^{+345}_{-266}	15^{+9}_{-5}

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

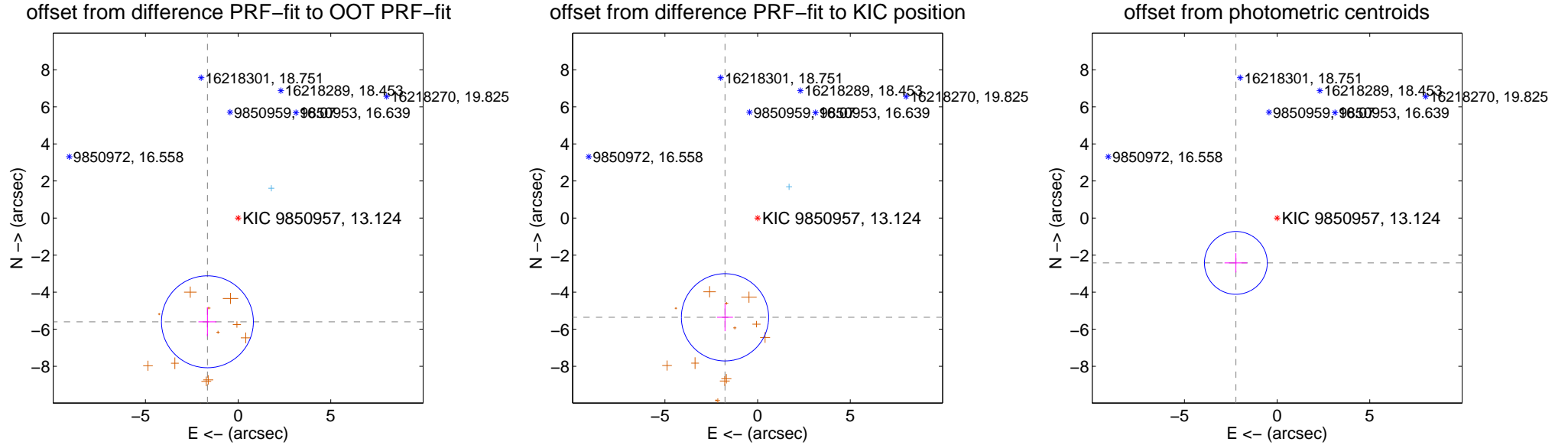
DV Centroid Data

Supplemental centroid analysis for 009850957-01. Kepler magnitude: 13.12. Transit SNR 13.41

There are 1 quarters with good PRF difference image offsets

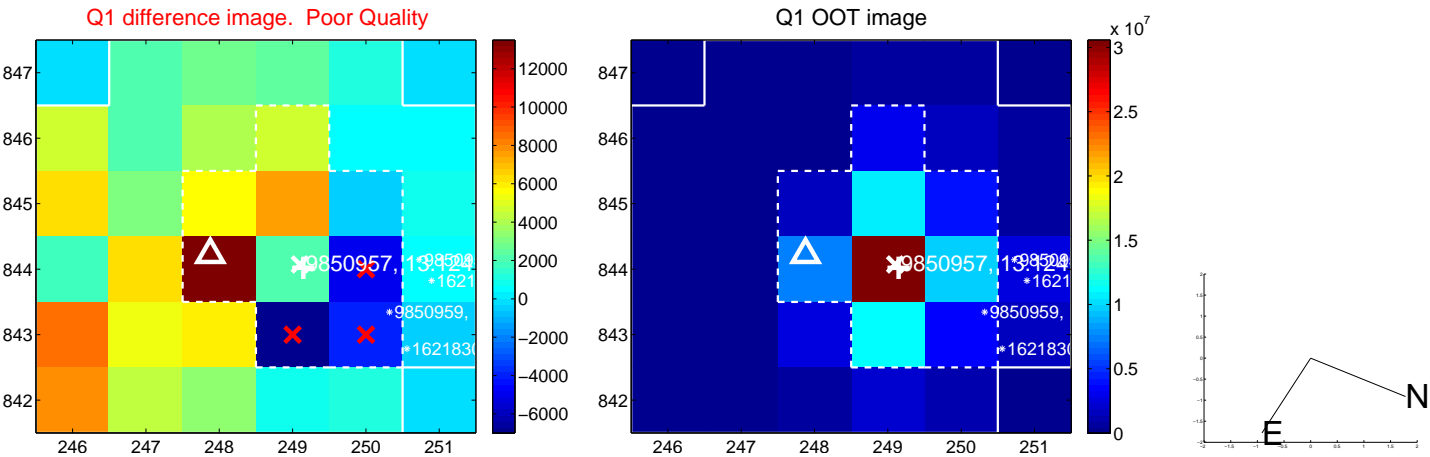
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.839 ± 0.827	7.06	1.657 ± 0.487	-5.599 ± 0.779
PRF-fit source offset from KIC position	5.639 ± 0.785	7.18	1.760 ± 0.429	-5.357 ± 0.751
photometric centroid source offset	3.29 ± 0.56	5.82	2.22 ± 0.61	-2.42 ± 0.52

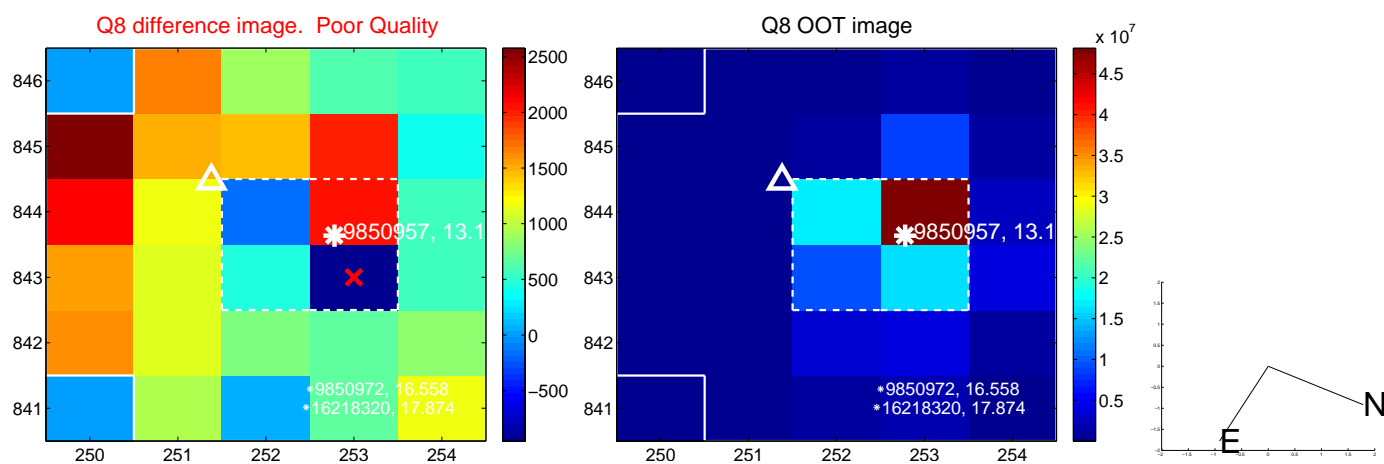
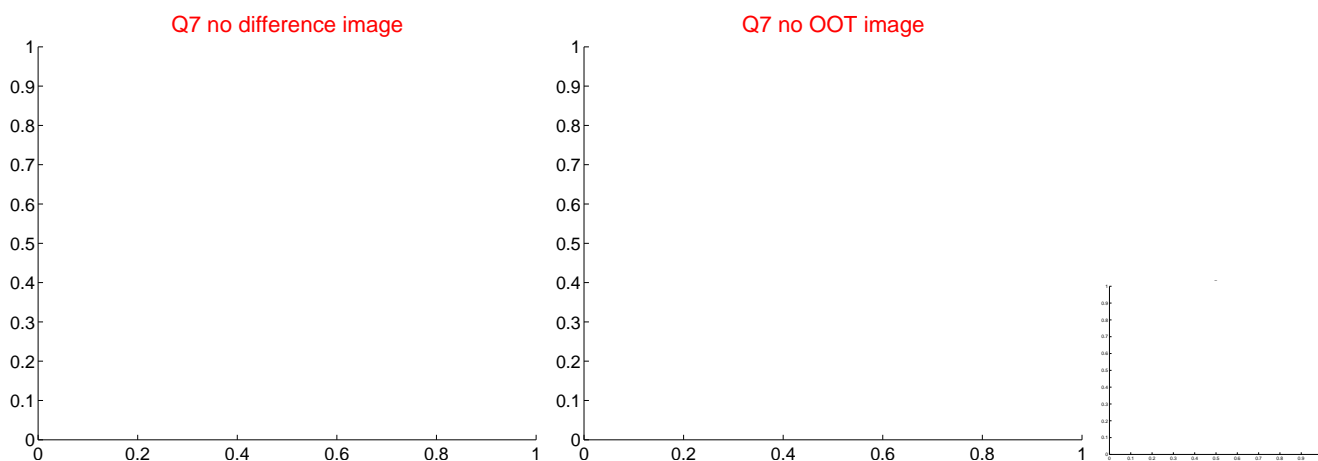
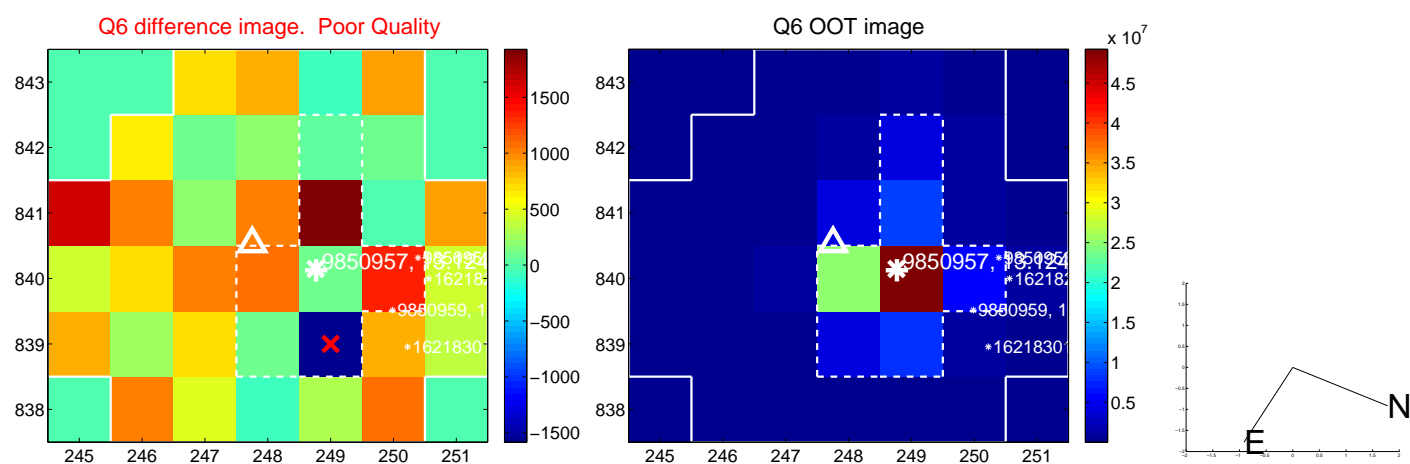
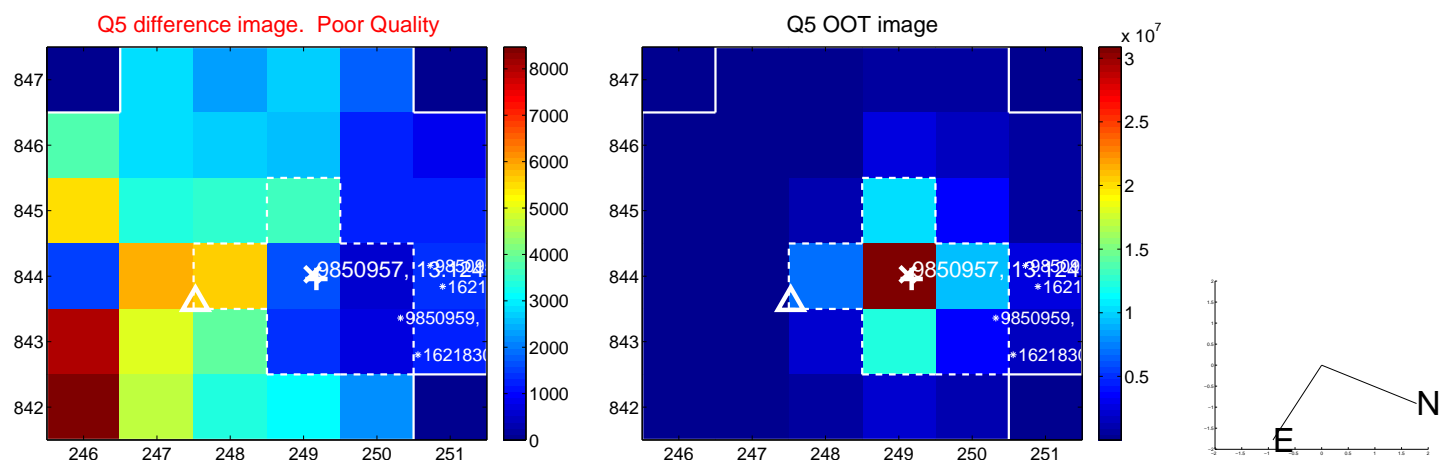


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

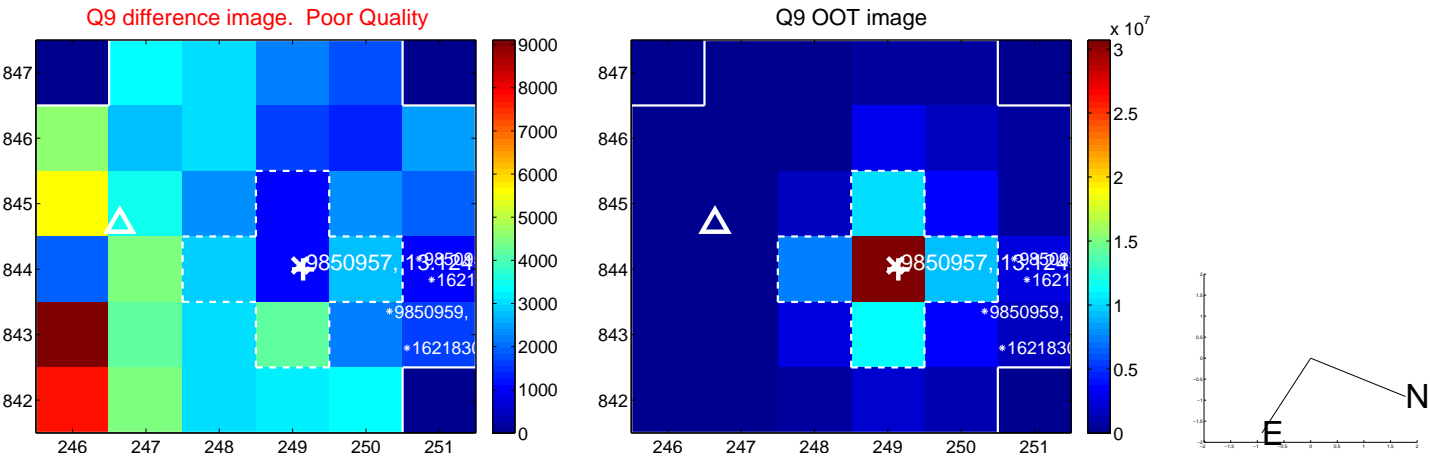
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



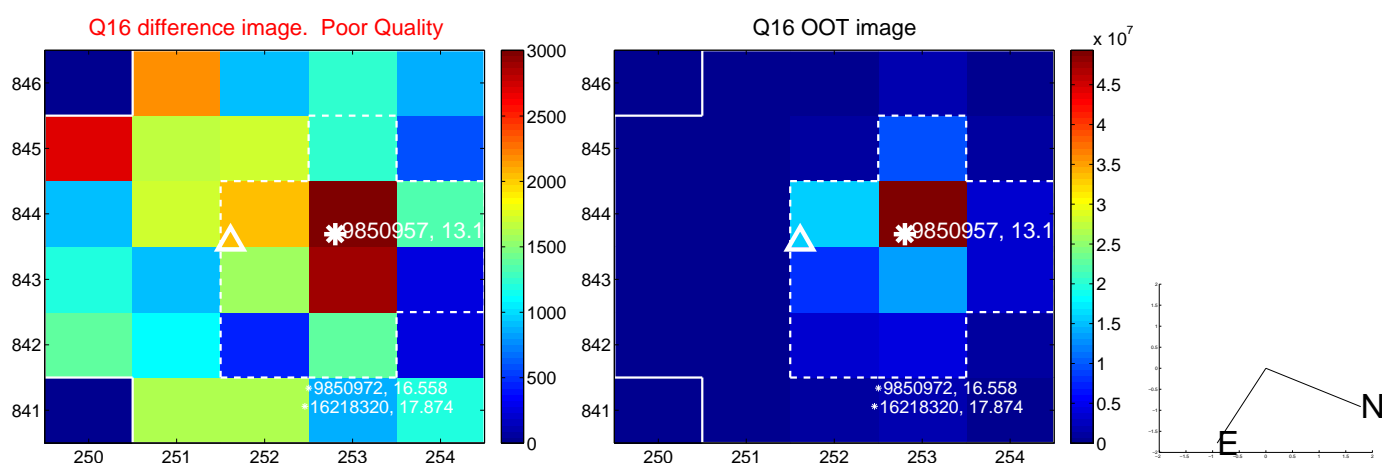
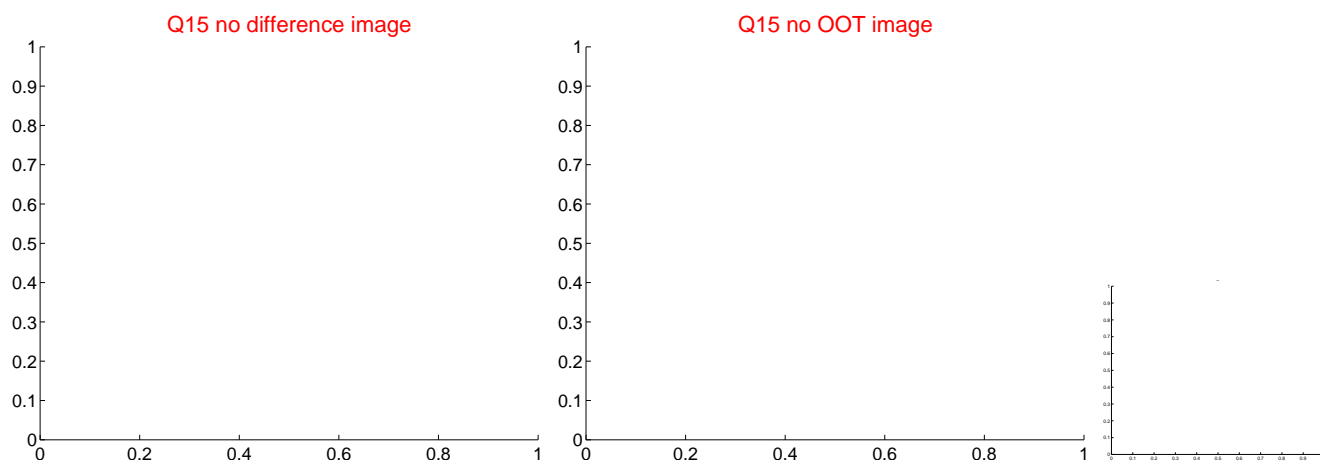
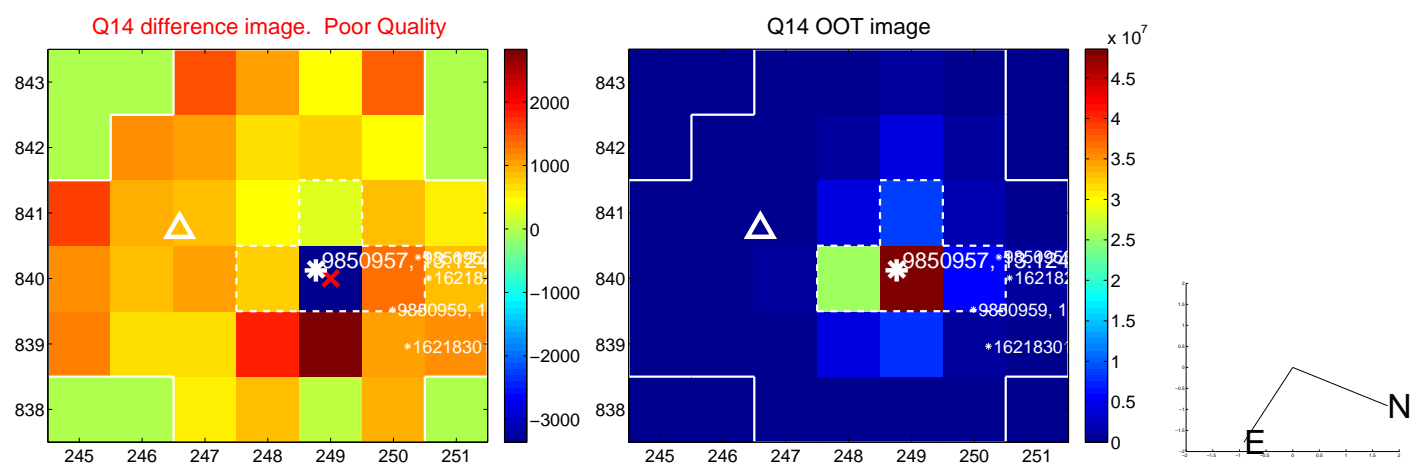
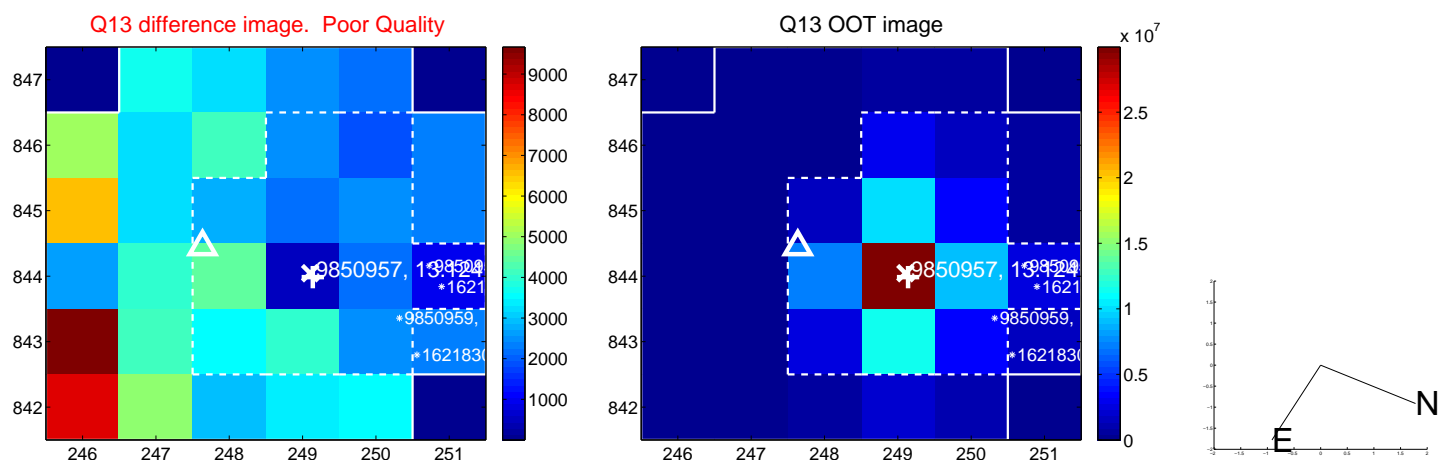
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



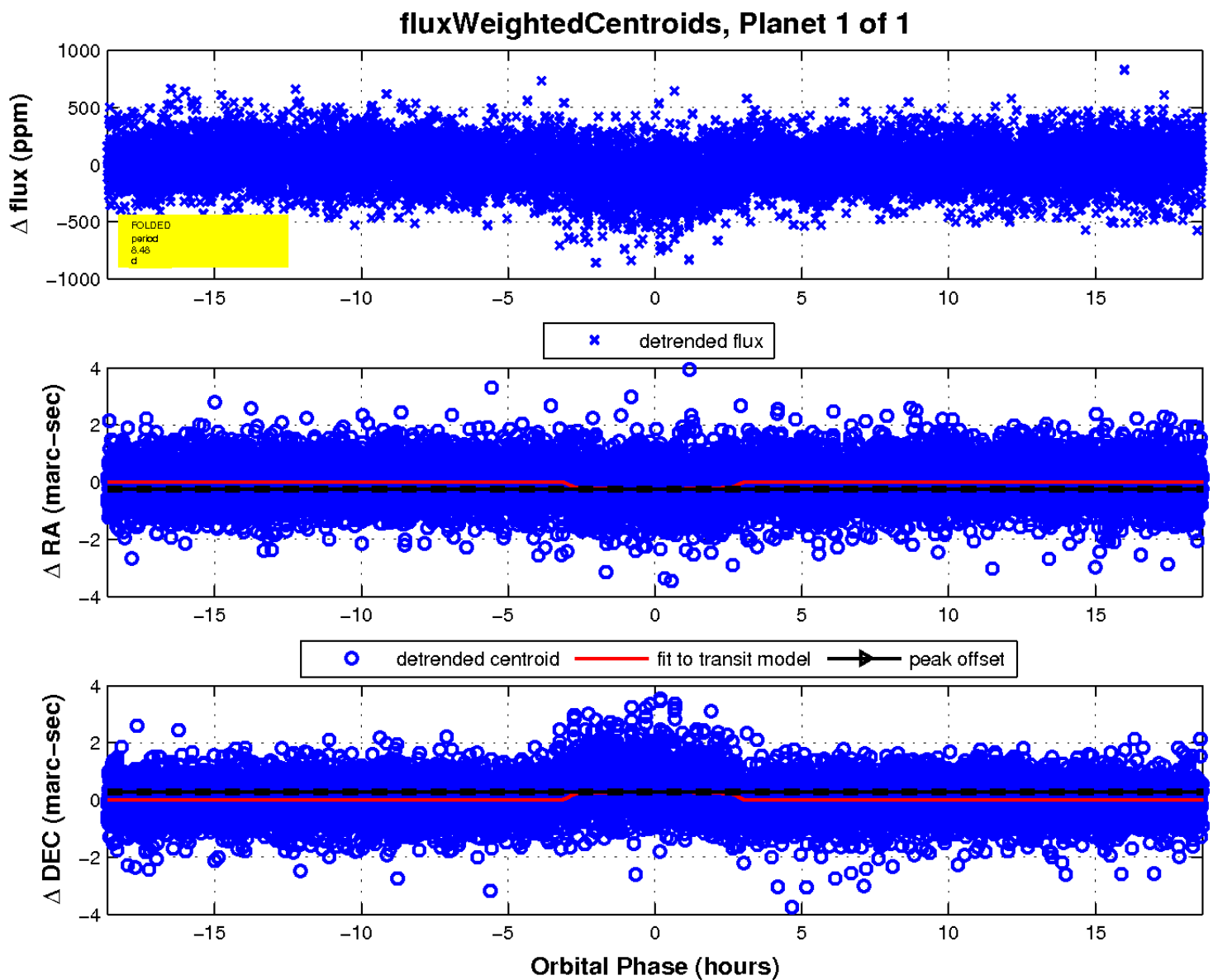
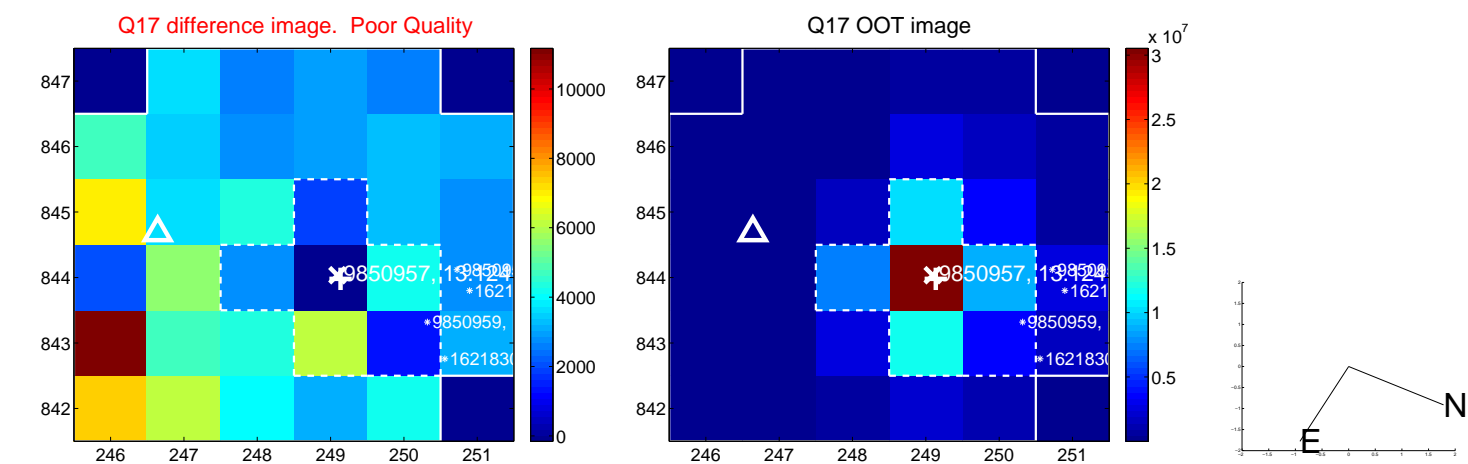
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

