

KIC 008869507

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})
008869507-01	OBS	No	508.482291	488.474112	779.6	8.460	10.7	7.1	0.88	5641	2.64	0.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008869507-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

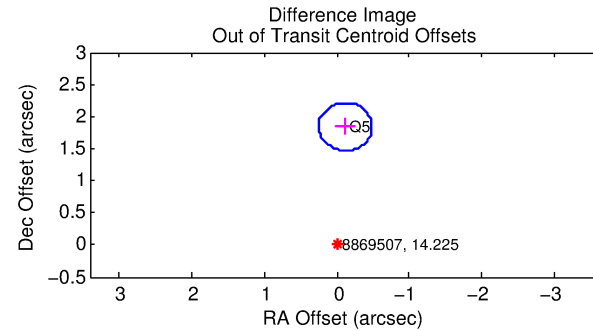
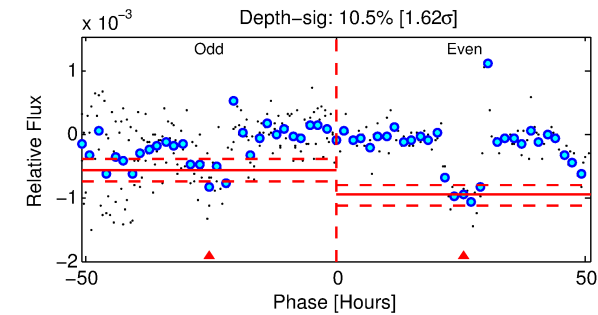
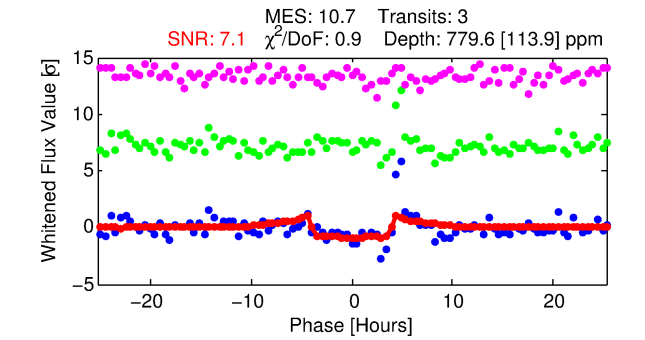
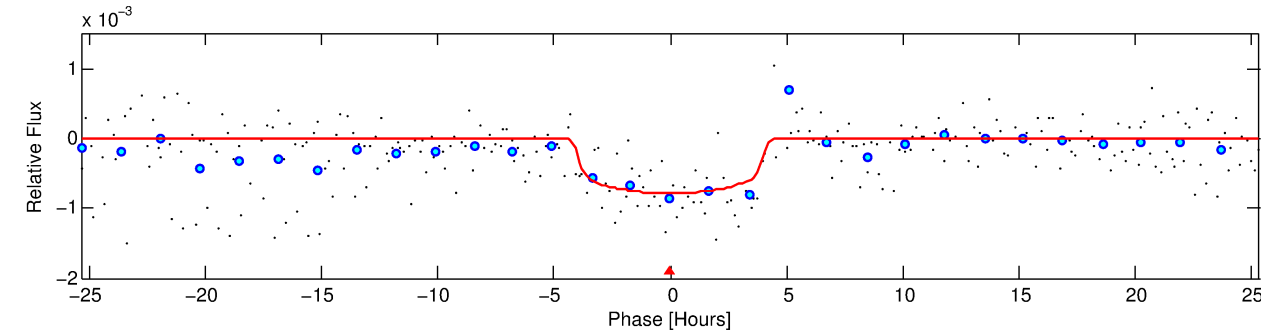
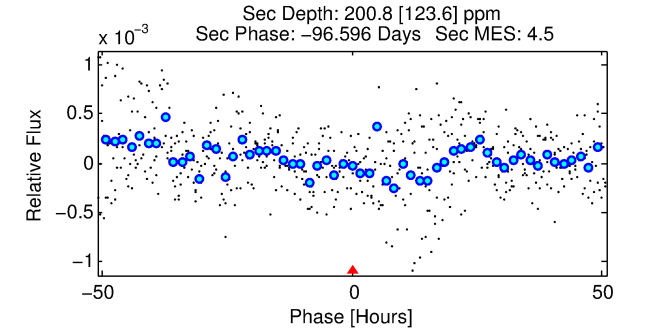
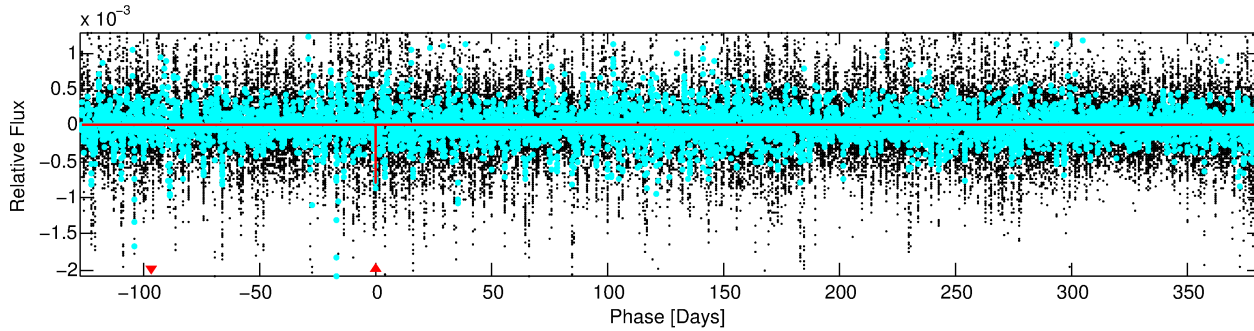
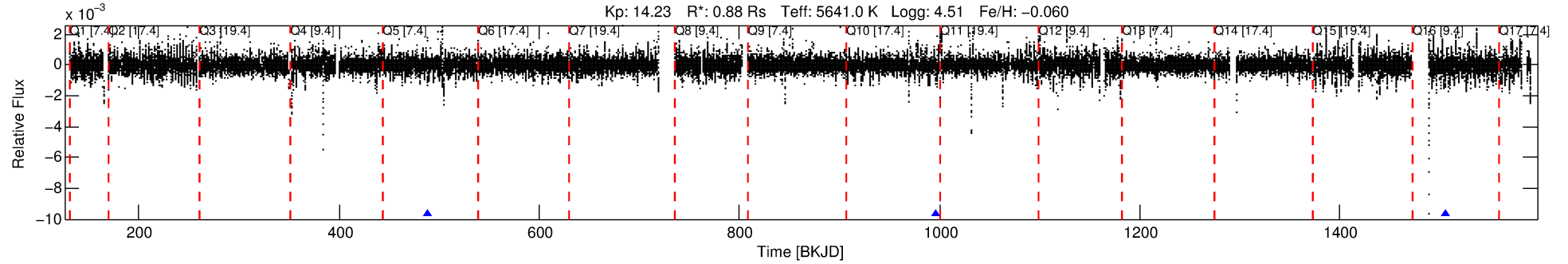
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008869507-01

No Significant Match Found

DV One-Page Summary

KIC: 8869507 Candidate: 1 of 1 Period: 508.482 d



DV Fit Results:

- Period = 508.48229 [0.00914] d
- Epoch = 488.4741 [0.0103] BKJD
- Rp/R* = 0.0274 [0.0105]
- a/R* = 339.47 [527.48]
- b = 0.71 [1.08]
- Seff = 0.48 [0.17]
- Teq = 212 [19] K
- Rp = 2.64 [1.25] Re
- a = 1.2158 [0.2839] AU
- Ag = 23438.75 [24324.25] [0.96σ]
- Teffp = 4055 [1002] K [3.83σ]

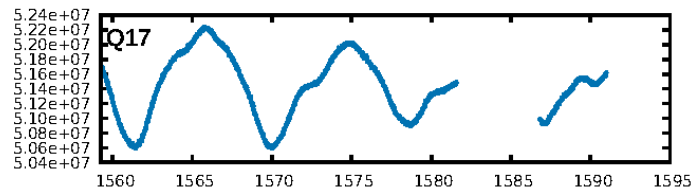
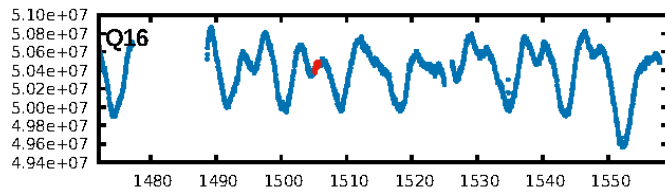
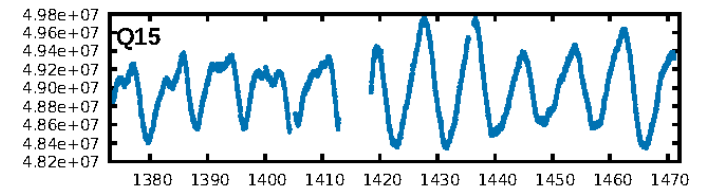
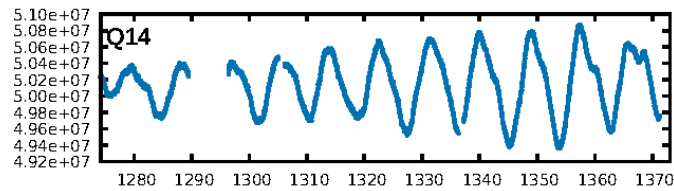
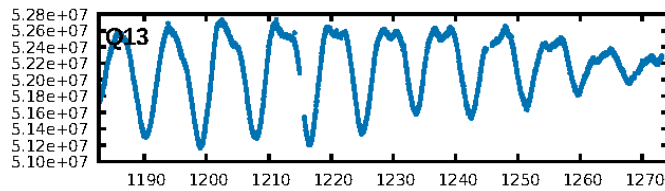
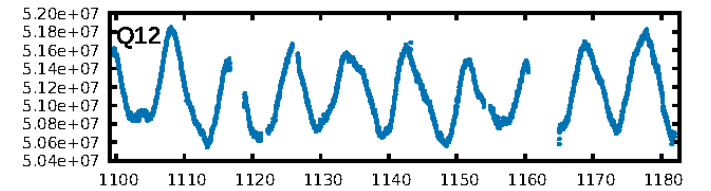
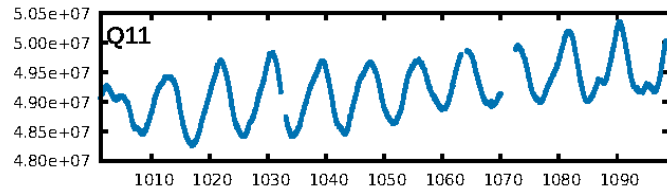
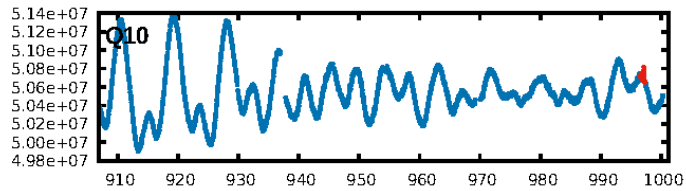
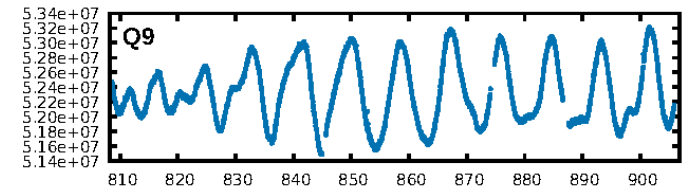
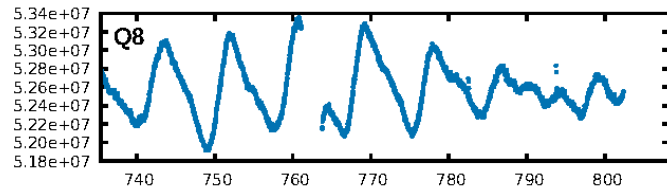
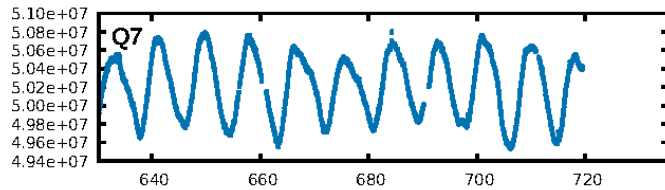
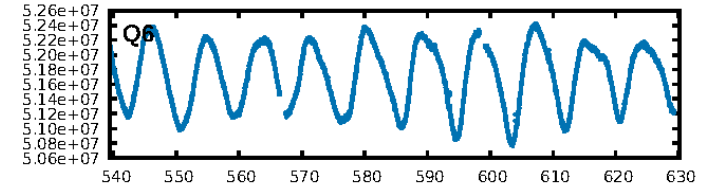
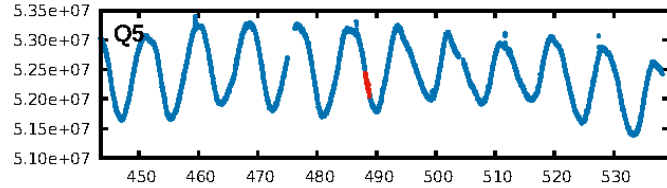
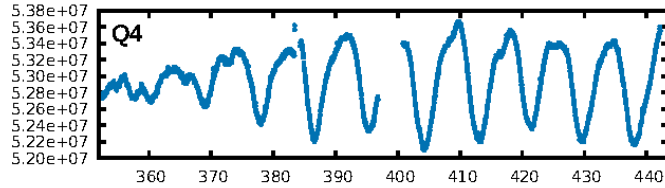
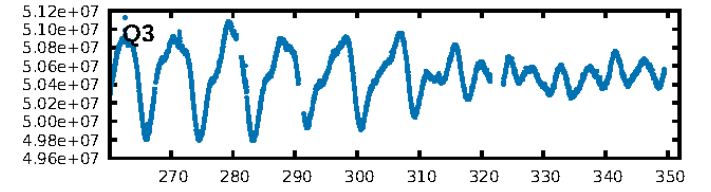
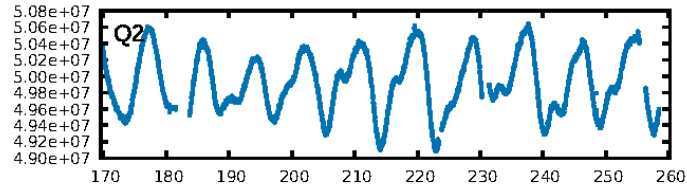
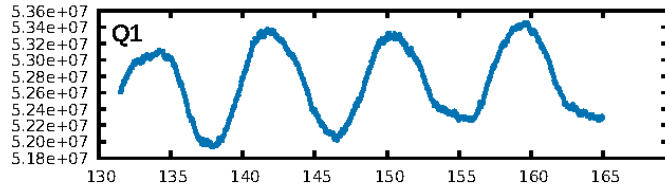
DV Diagnostic Results:

- ShortPeriod-sig: N/A
- LongPeriod-sig: N/A
- ModelChiSquare2-sig: 10.4%
- ModelChiSquareGof-sig: 98.2%
- Bootstrap-pfa: 1.31e-10
- RollingBand-fgt: 1.00 [3/3]
- GhostDiagnostic-chr: 0.8873
- Centroid-sig: 27.0%
- Centroid-so: 4.094 arcsec [1.65σ]
- OotOffset-rm: 1.845 arcsec [14.96σ]
- KicOffset-rm: 0.612 arcsec [4.97σ]
- OotOffset-st: 0/0/0/1 [1]
- KicOffset-st: 0/0/0/1 [1]
- DiffImageQuality-fgm: 1.00 [1/1]
- DiffImageOverlap-fno: 1.00 [2/2]

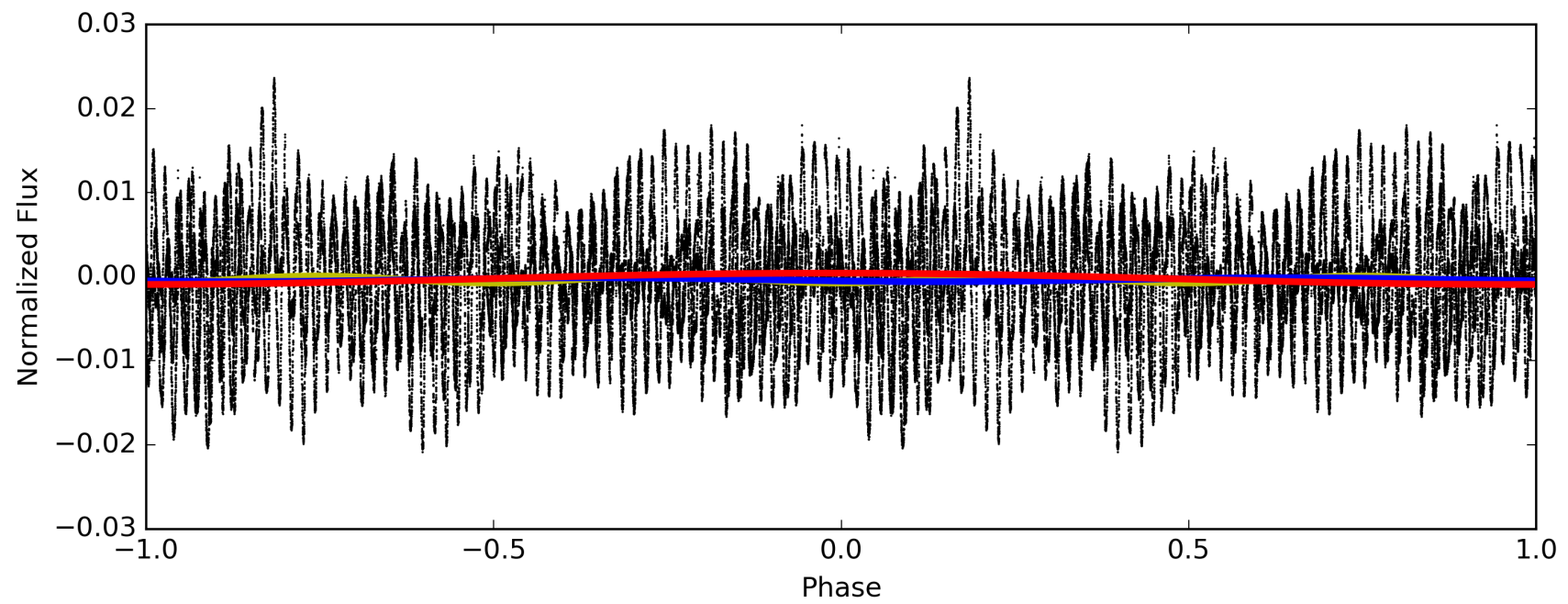
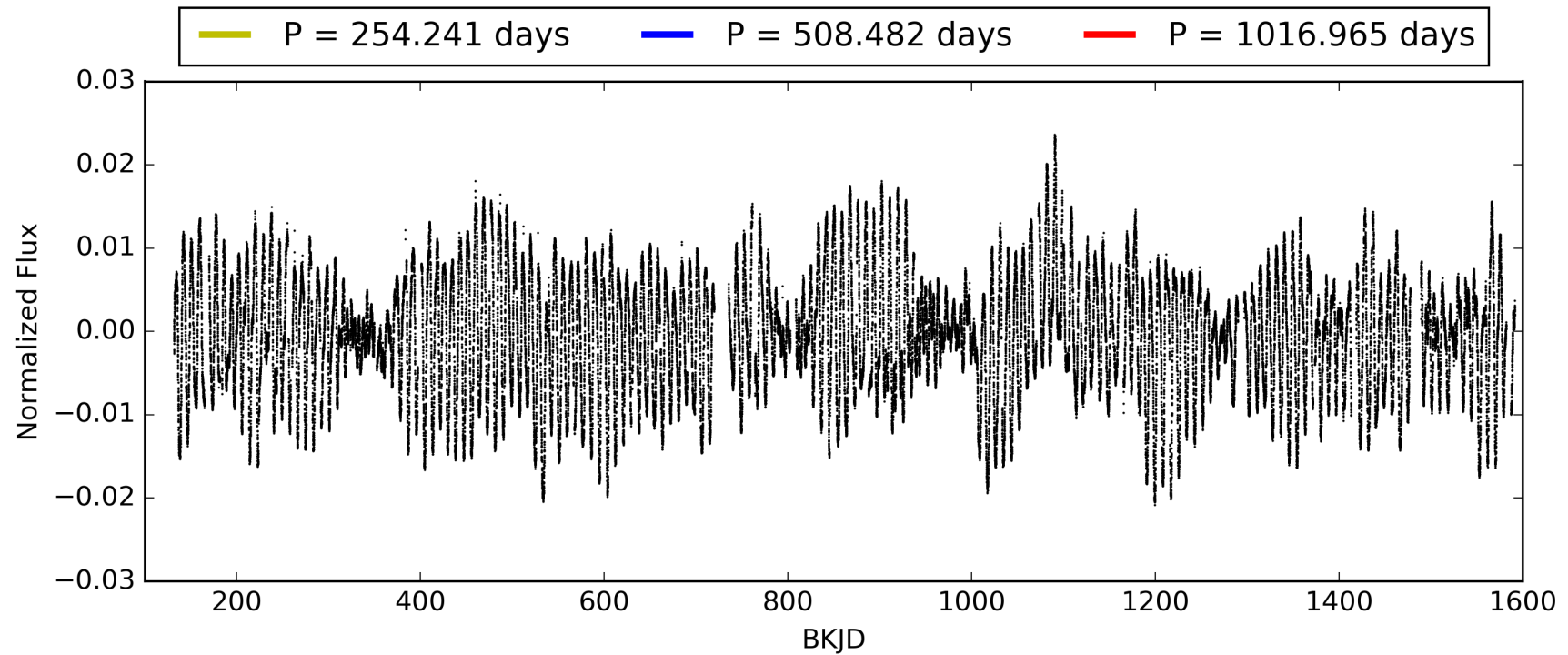
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:12:45 Z

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

TCE 008869507-01, PDC Light Curves

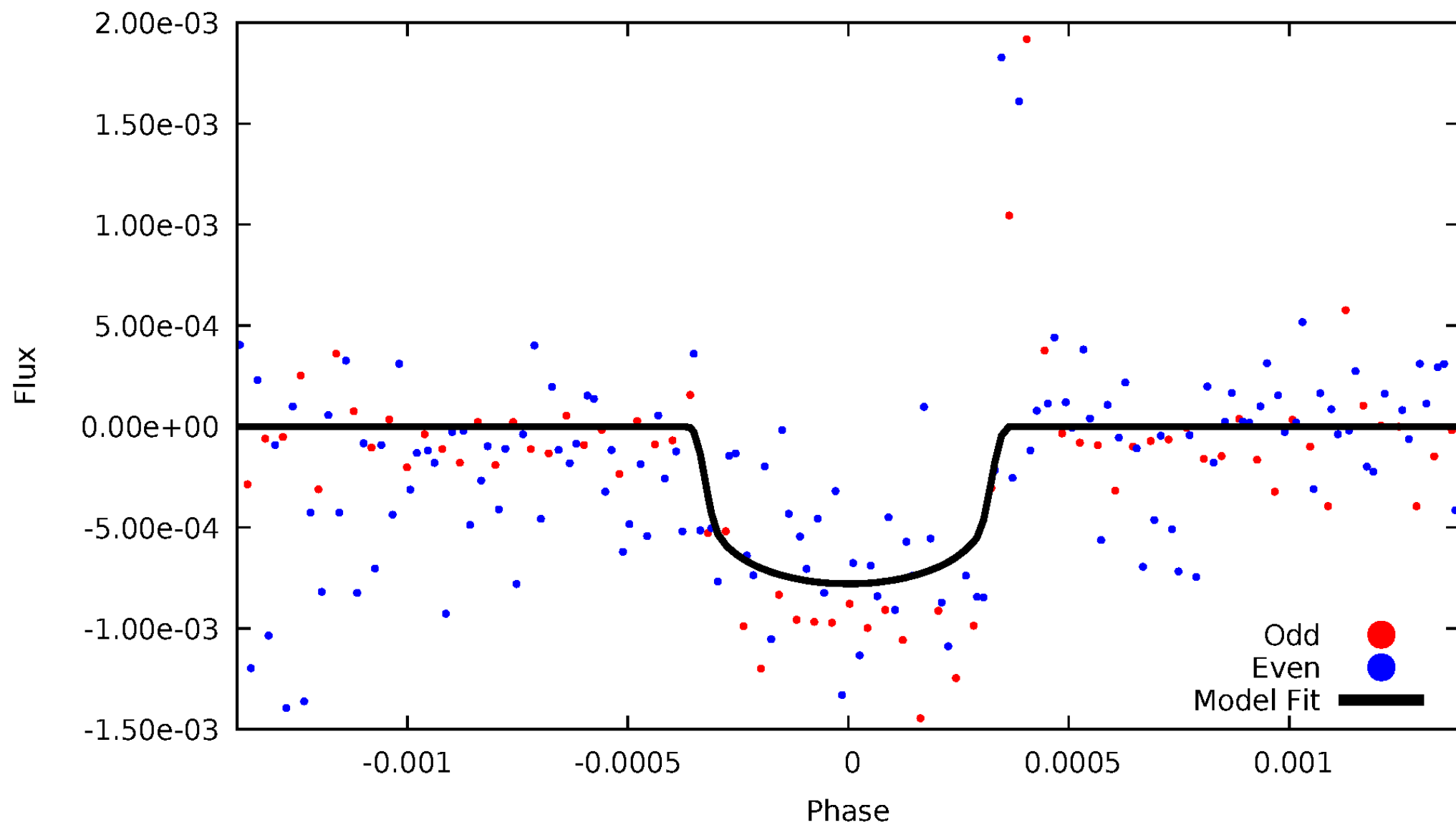


TCE 008869507-01



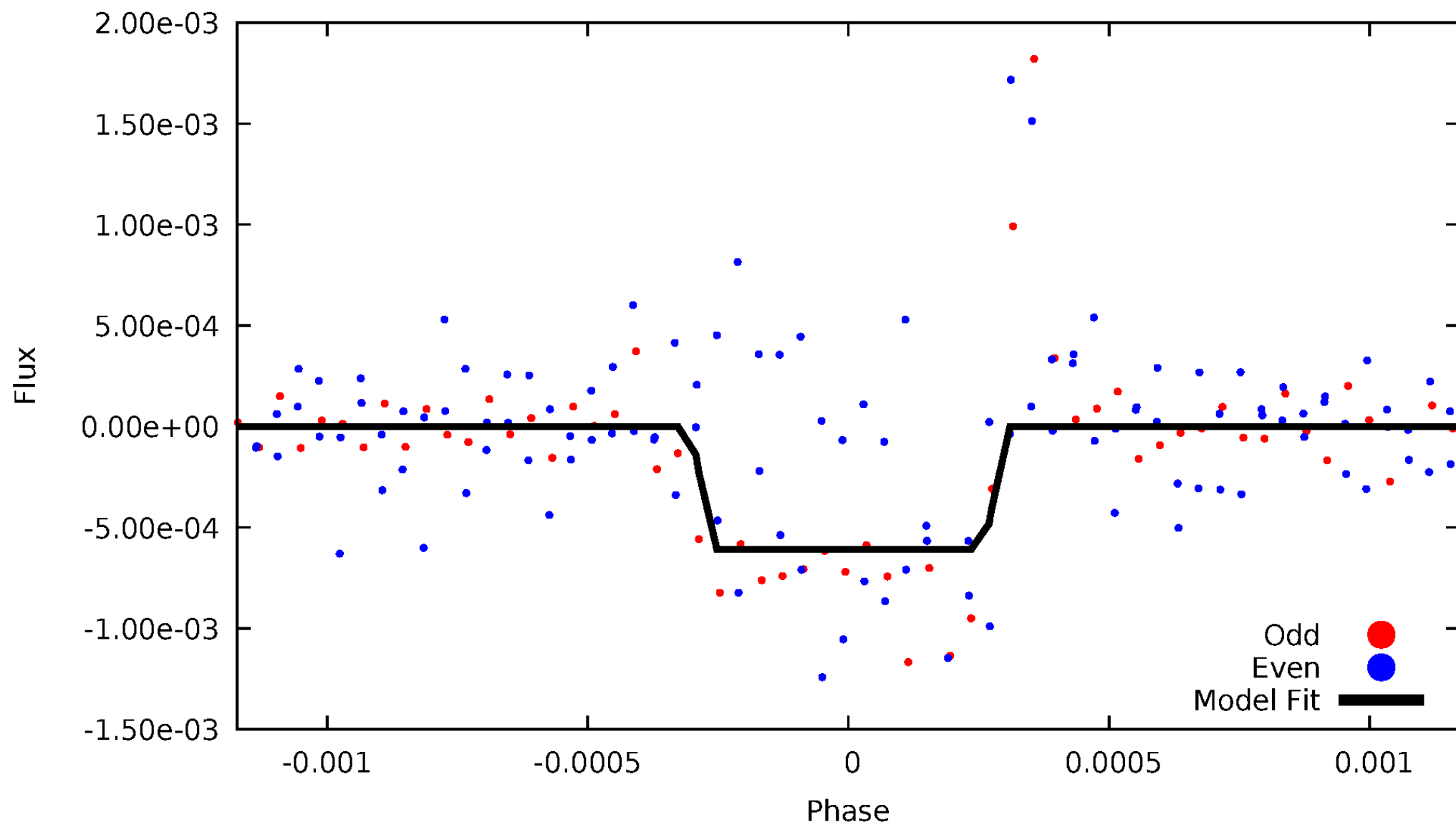
DV Odd/Even

TCE 008869507-01

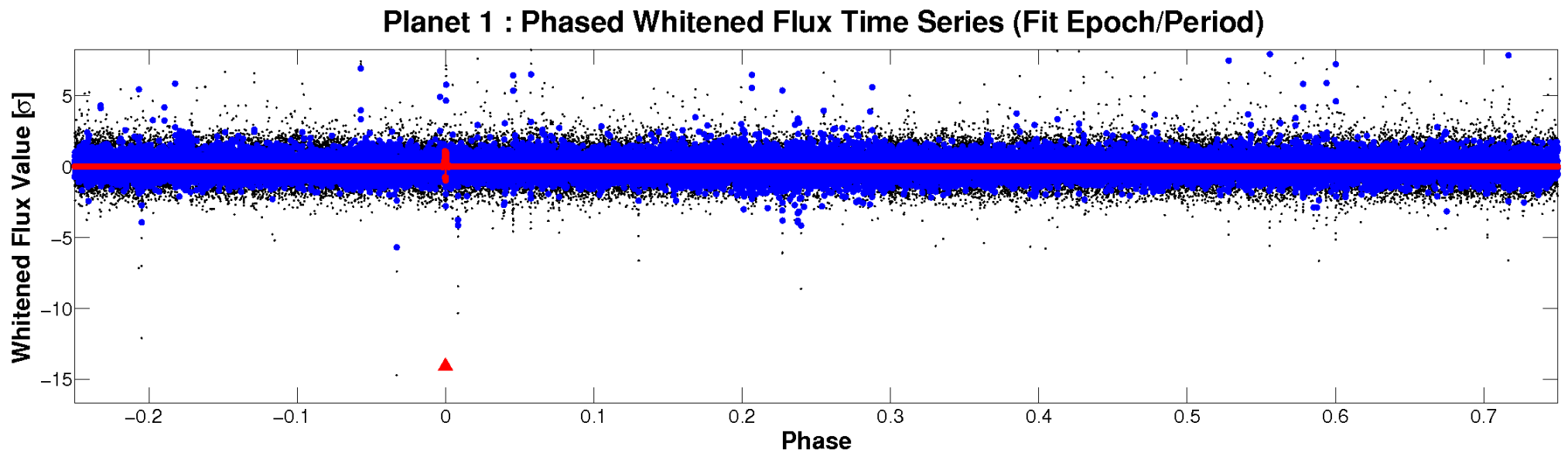
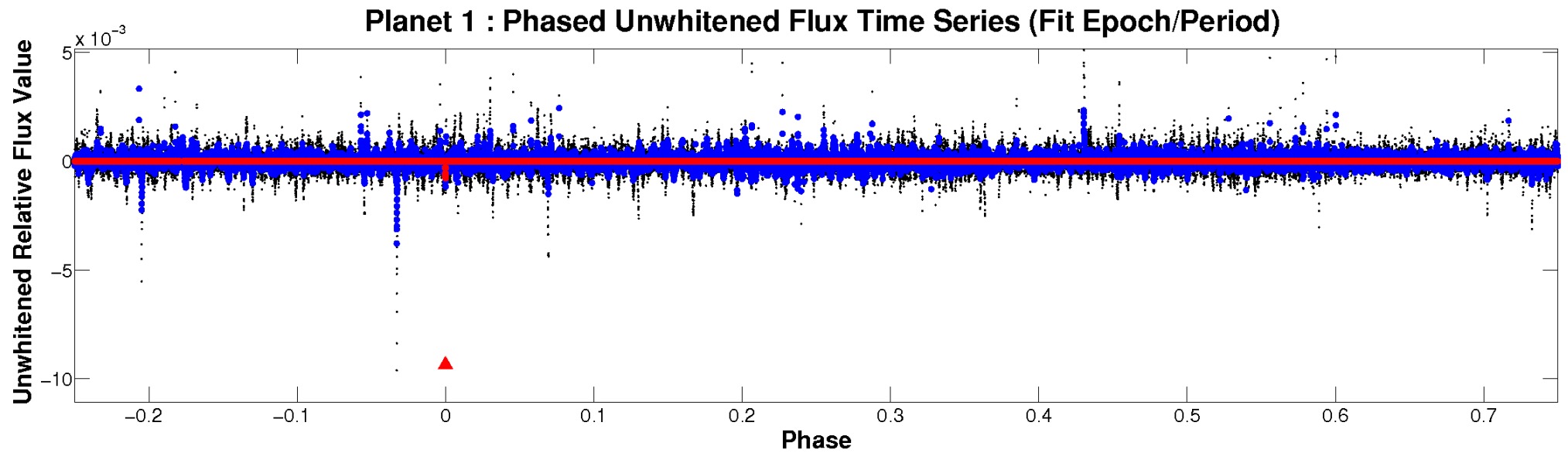


ALT Odd/Even

TCE 008869507-01

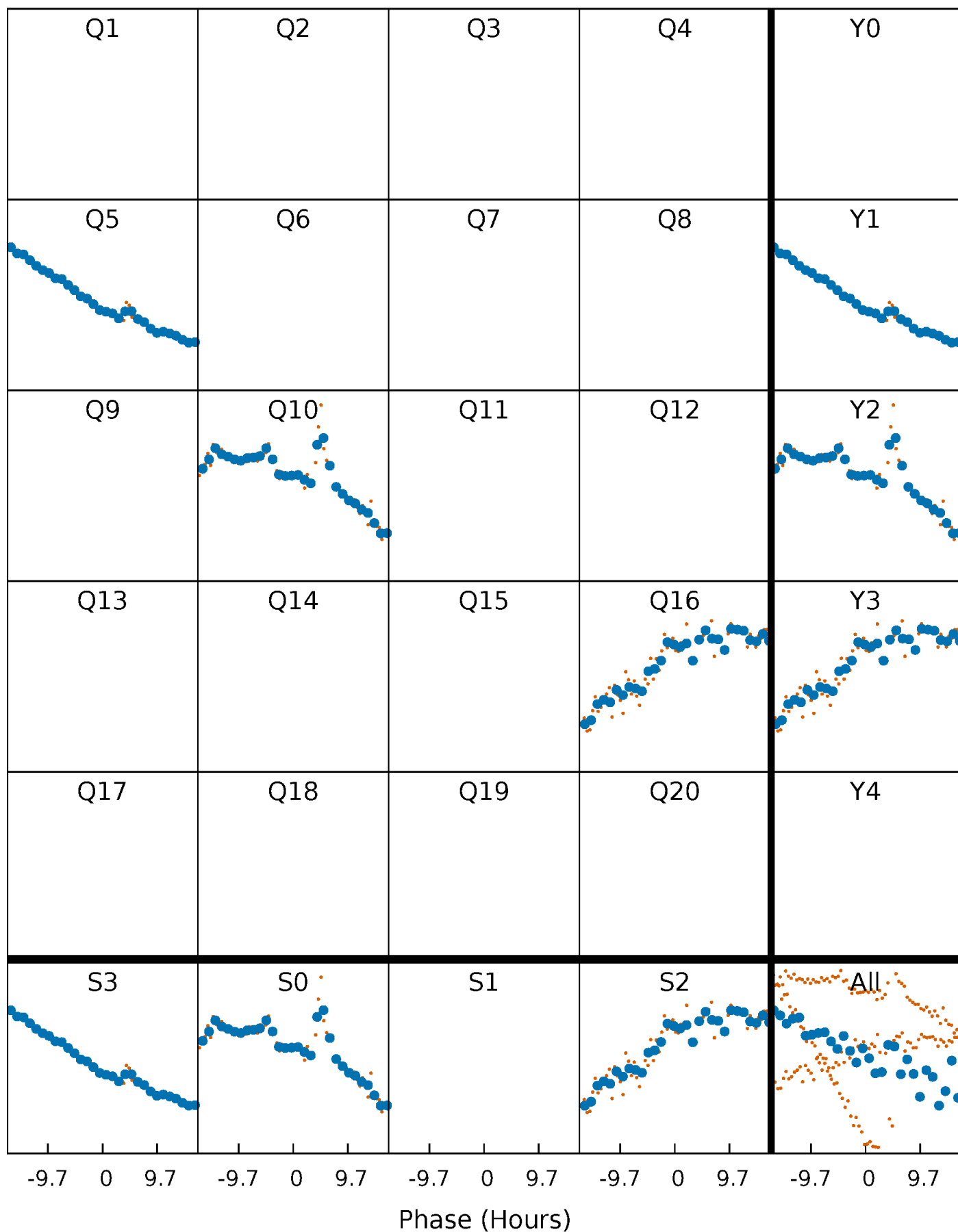


Non-Whitened Vs. Whitened Light Curve



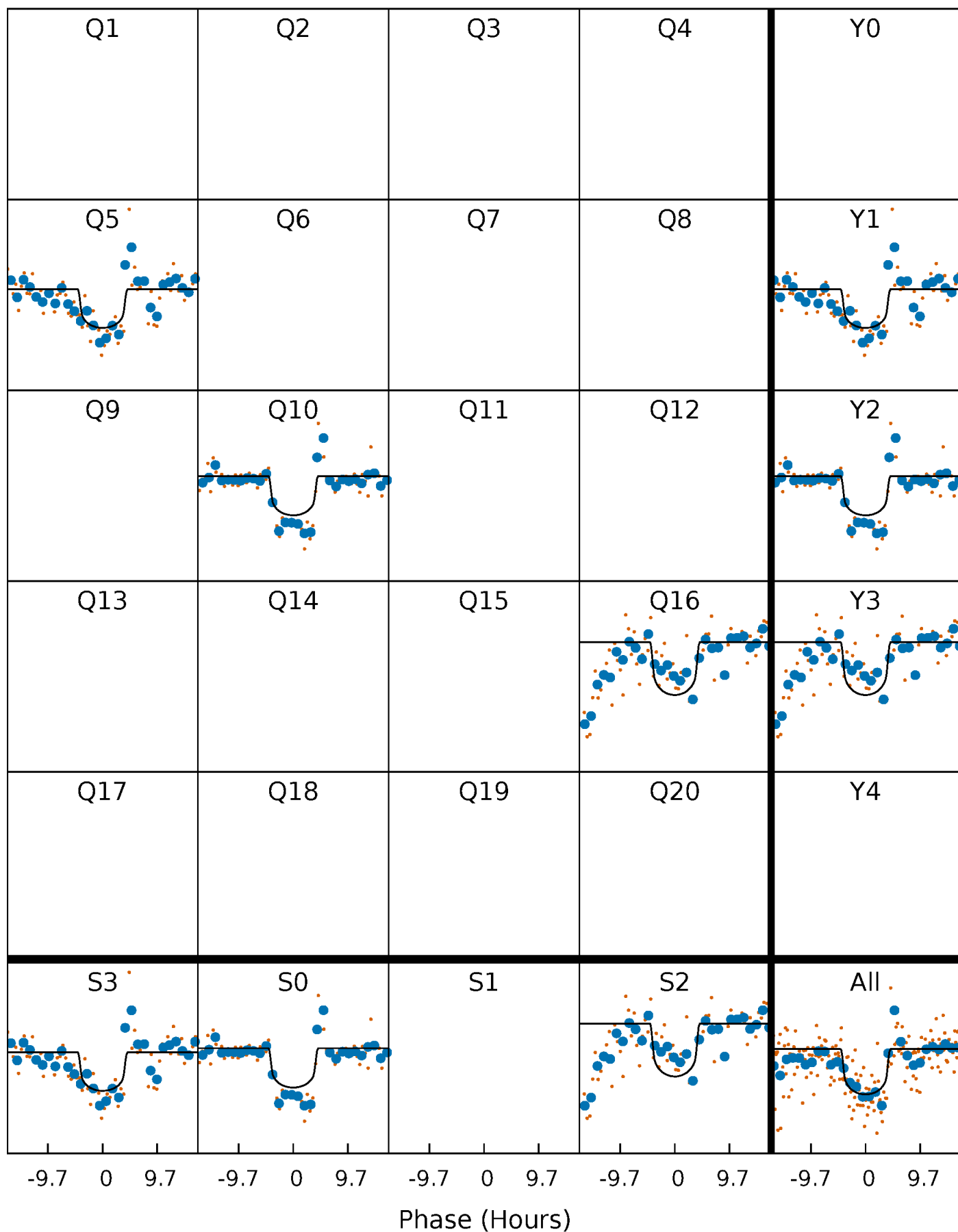
PDC Quarter-Phased Transit Curves

TCE 008869507-01 P=508.482291 Days $T_0=488.474112$ (BKJD)



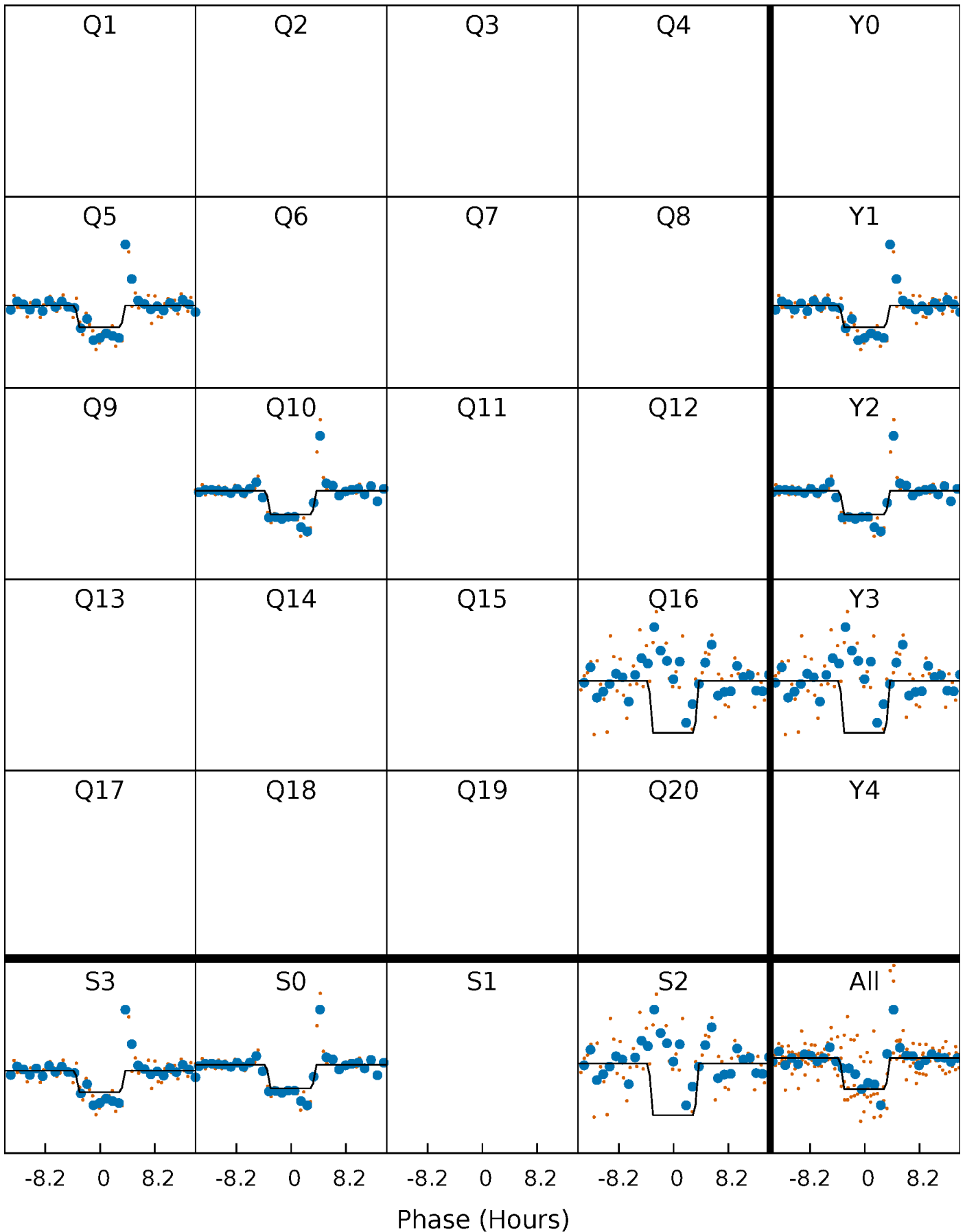
DV Quarter-Phased Transit Curves

TCE 008869507-01 P=508.482291 Days $T_0=488.474112$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

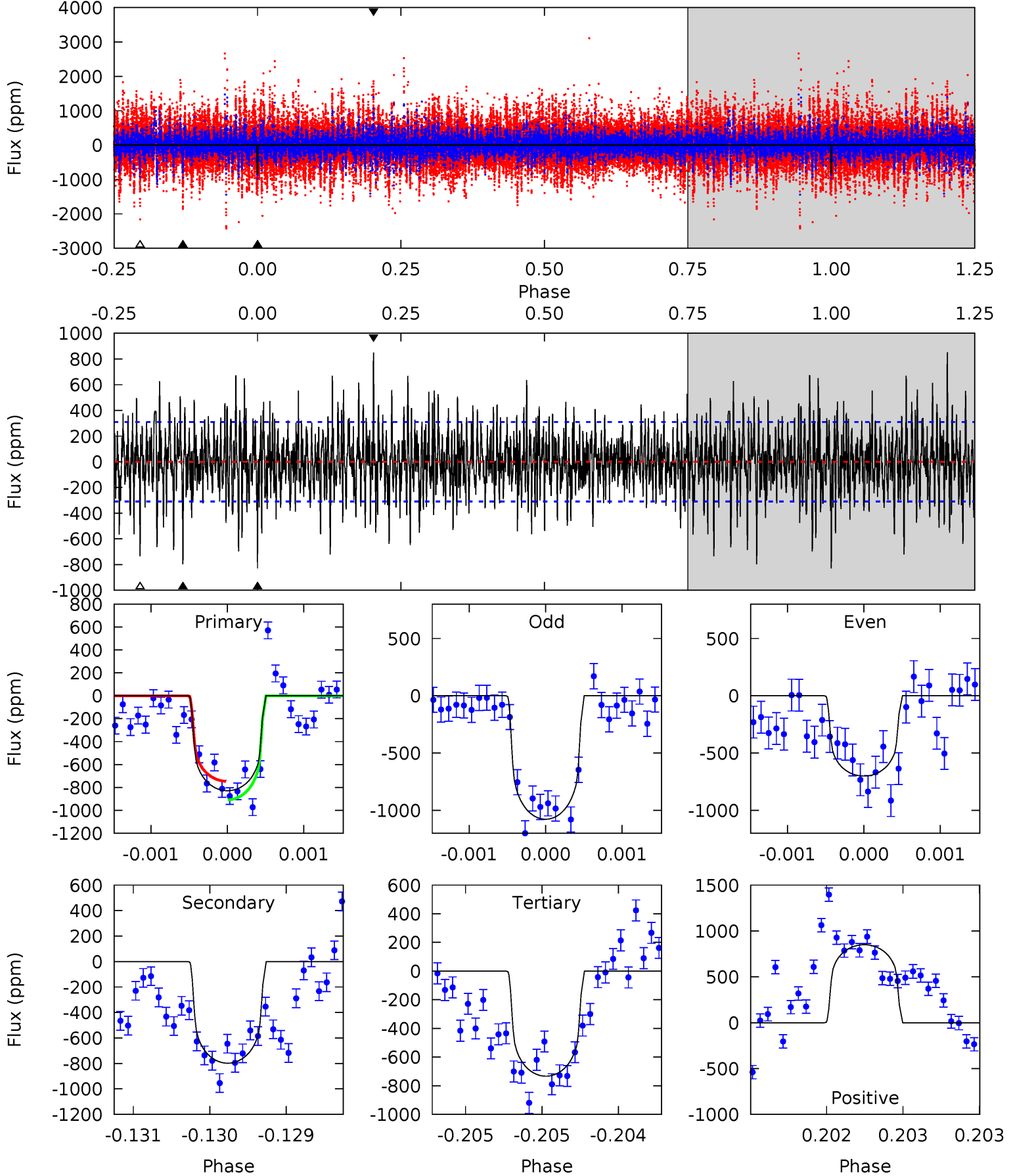
TCE 008869507-01 P=508.489141 Days $T_0=488.492078$ (BKJD)



DV Model-Shift Uniqueness Test

008869507-01, P = 508.482291 Days, E = 488.474112 Days

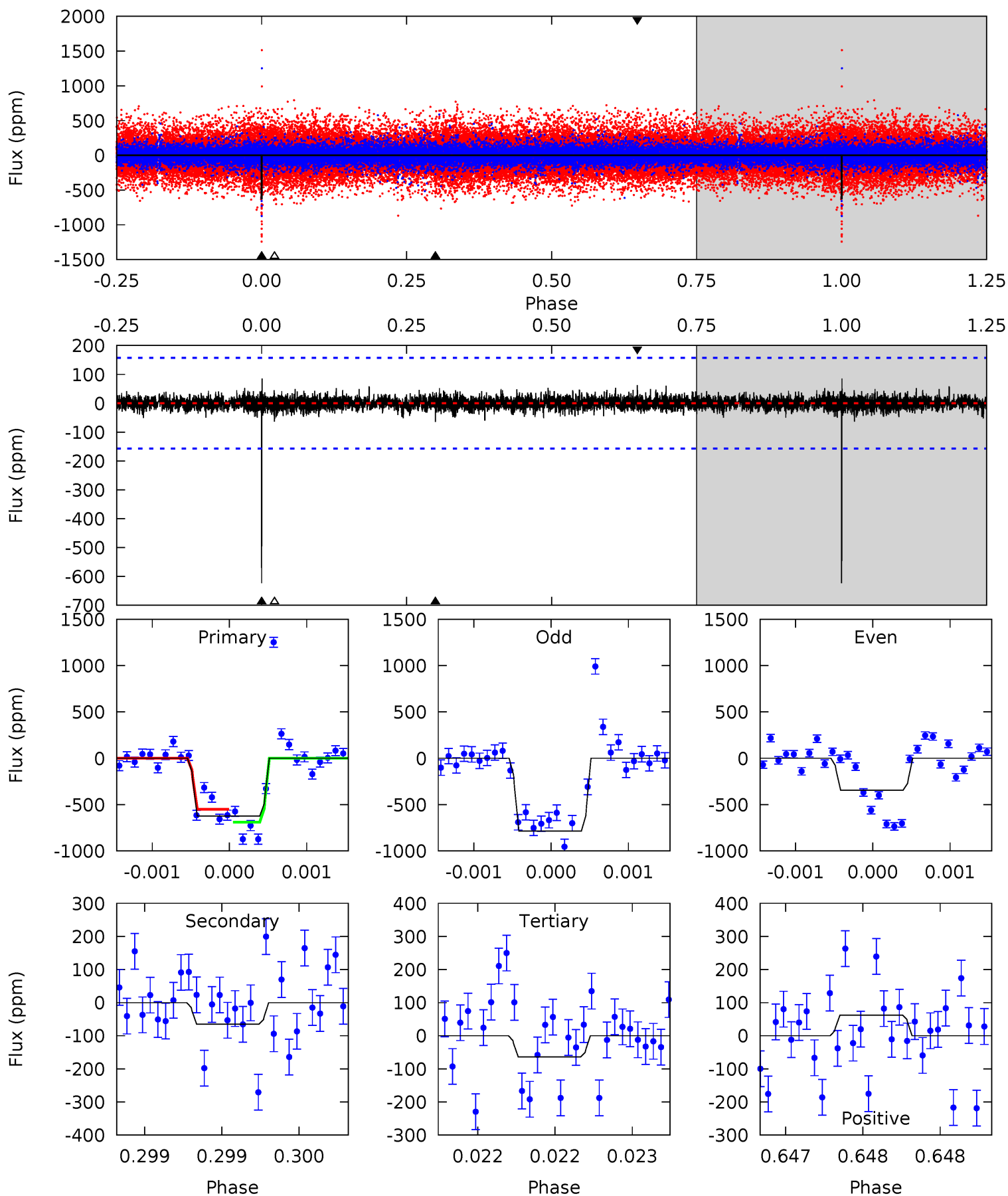
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	14.2	13.0	15.1	5.51	3.38	3.39	1.69	-0.39	1.15	-0.93	2.95	0.92	0.51	1.44



Alt Model-Shift Uniqueness Test

008869507-01, P = 508.489141 Days, E = 488.492078 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.0	2.29	2.25	2.20	5.54	3.43	0.47	19.7	19.8	0.03	0.08	7.86	0.60	0.12	2.44



Stellar Parameters For KIC 008869507

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5641^{+169}_{-169}	$4.514^{+0.058}_{-0.184}$	$-0.060^{+0.300}_{-0.300}$	$0.882^{+0.246}_{-0.082}$	$0.927^{+0.104}_{-0.095}$	$1.904^{+0.465}_{-0.915}$
	+3%/-3%	+1%/-4%	+500%/-500%	+28%/-9%	+11%/-10%	+24%/-48%
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 008869507-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-798 ± 56	$2.72^{+1.10}_{-1.07}$	301^{+19}_{-13}	5737^{+1653}_{-783}	$87345^{+147473}_{-43259}$
Alt.	-65 ± 28	$2.49^{+1.12}_{-1.05}$	300^{+19}_{-13}	3597^{+825}_{-481}	8064^{+17062}_{-5083}

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

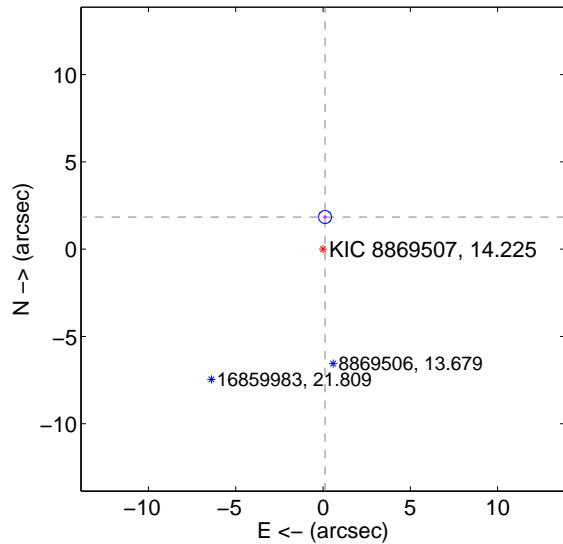
Supplemental centroid analysis for 008869507-01. Kepler magnitude: 14.22. Transit SNR 7.09

There are 1 quarters with good PRF difference image offsets

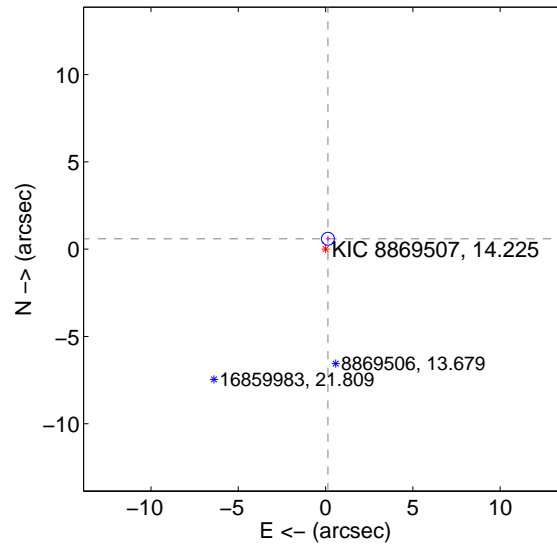
The direct PRF centroid is offset from the target star catalog position by about 1.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.845 ± 0.123	14.96	-0.114 ± 0.120	1.842 ± 0.123
PRF-fit source offset from KIC position	0.612 ± 0.123	4.97	-0.135 ± 0.120	0.596 ± 0.123
photometric centroid source offset	4.09 ± 2.48	1.65	-0.92 ± 0.50	-3.99 ± 2.55

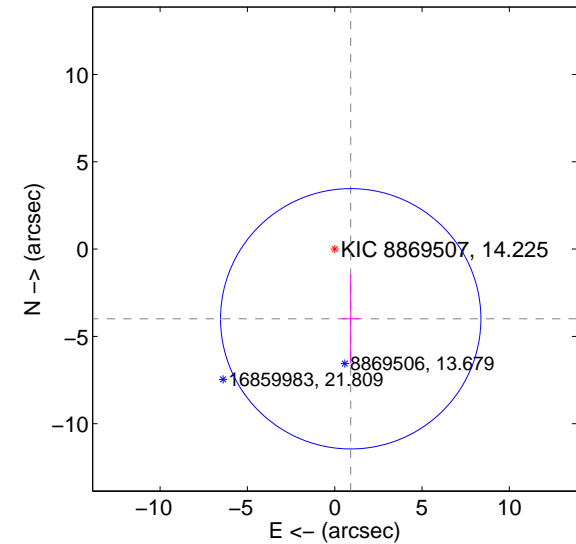
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

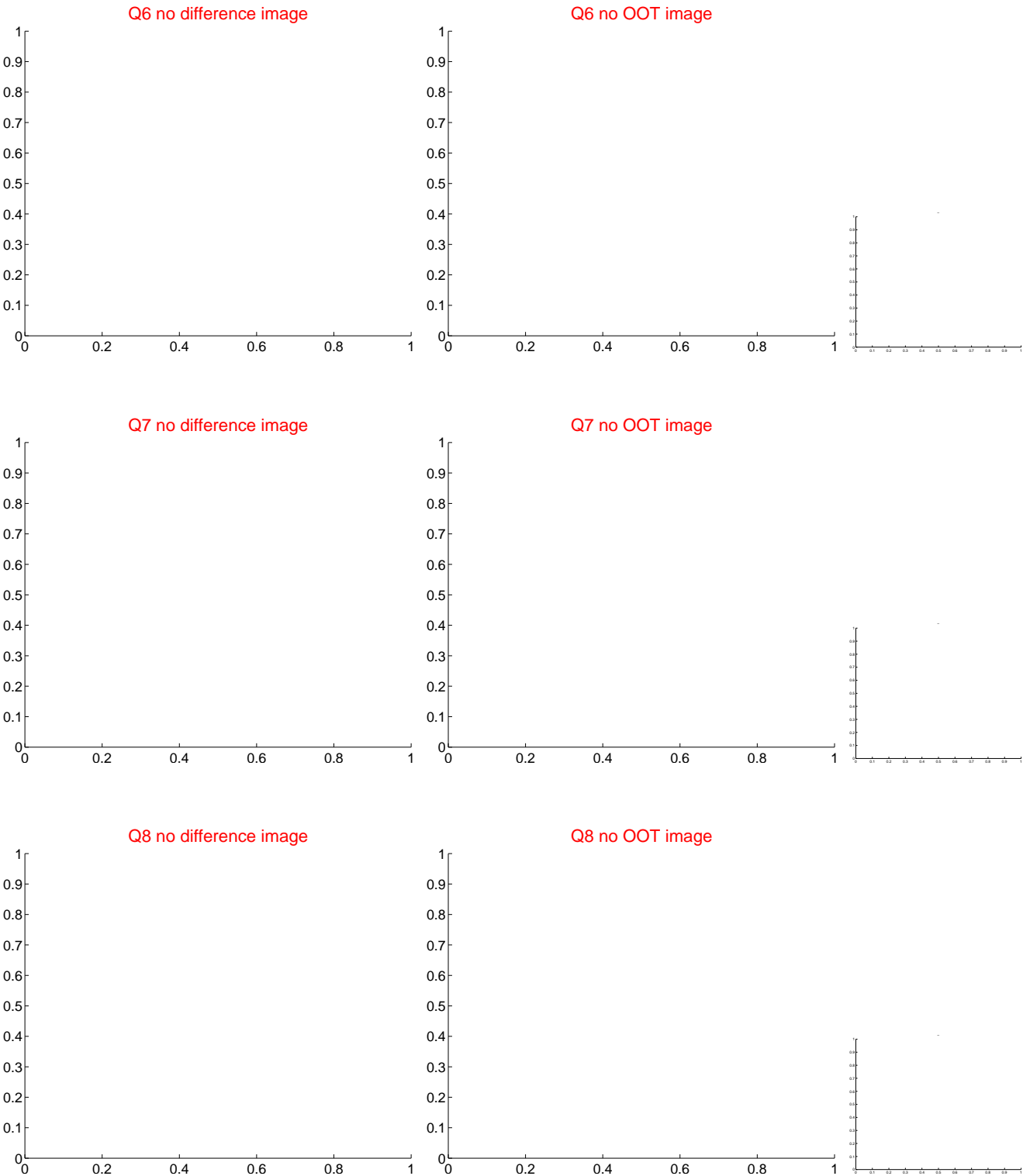
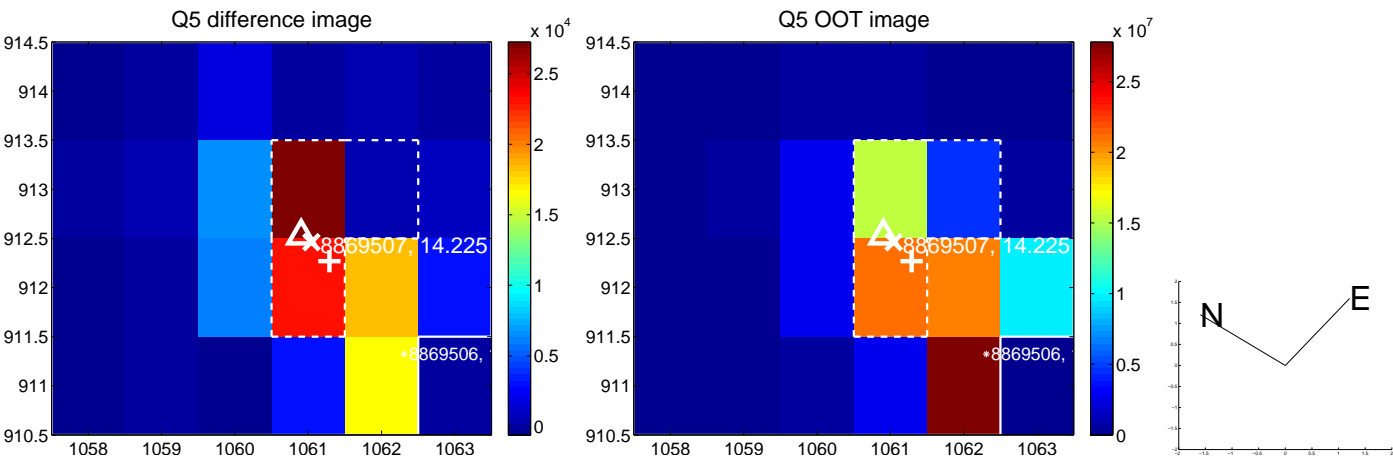


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

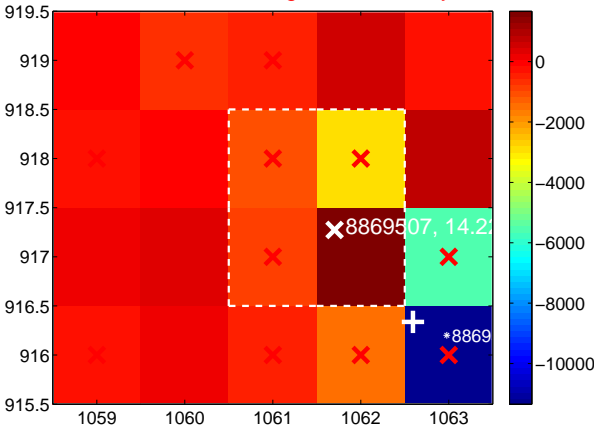
Q9 no difference image



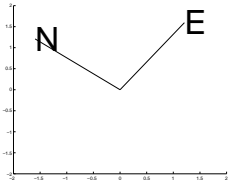
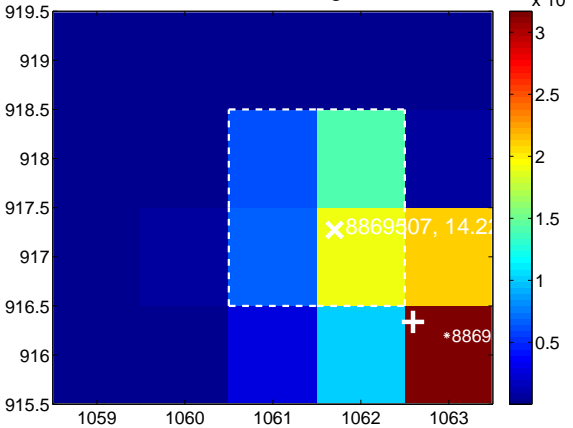
Q9 no OOT image



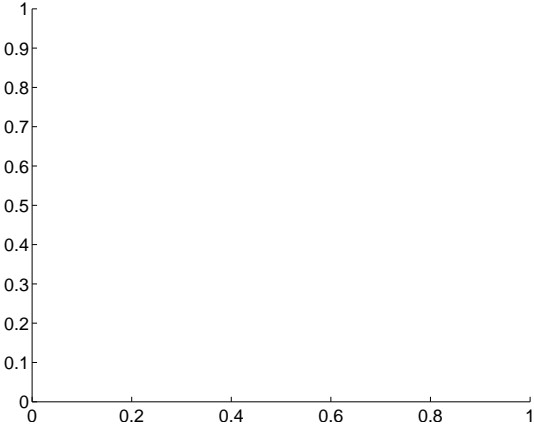
Q10 difference image. Poor Quality



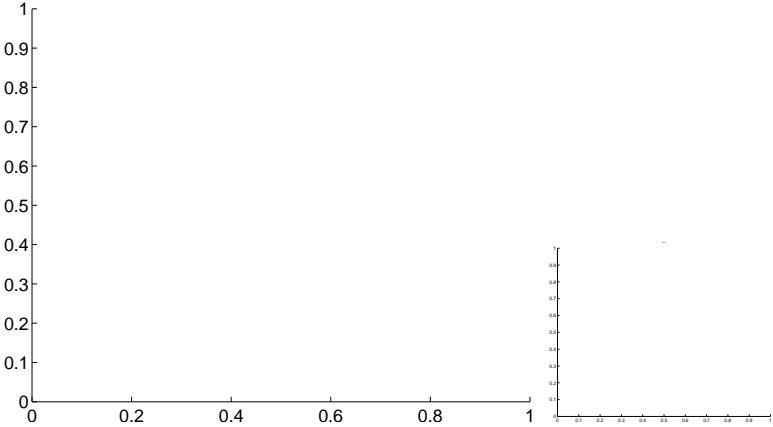
Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



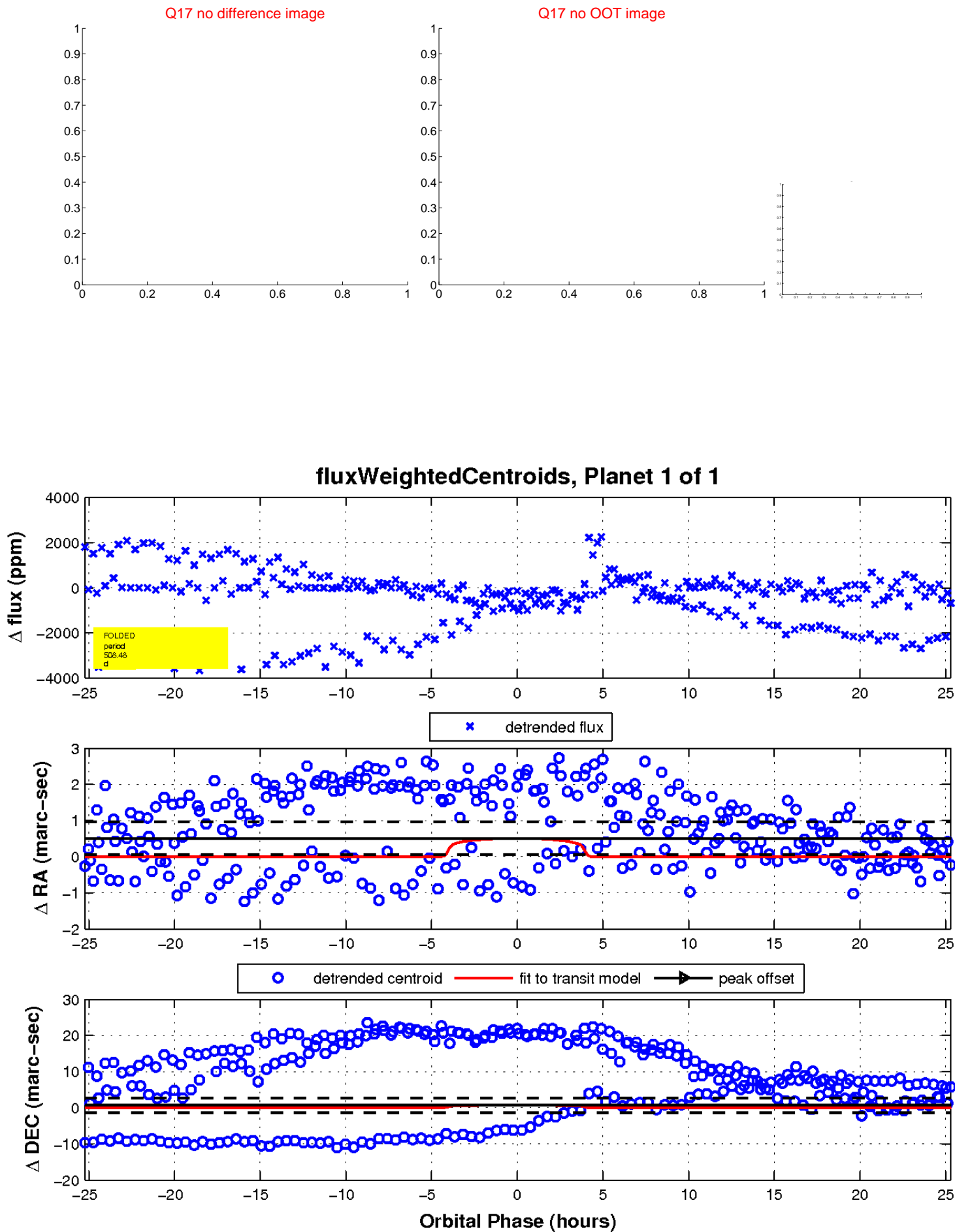
Q12 no OOT image



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.



UKIRT Image

Declination

