

KIC 008710947

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})
008710947-01	OBS	No	562.700497	387.916807	105.2	8.640	10.5	10.3	4.92	7360	5.89	20.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008710947-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

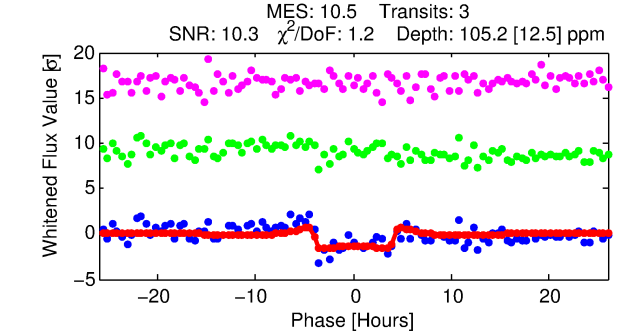
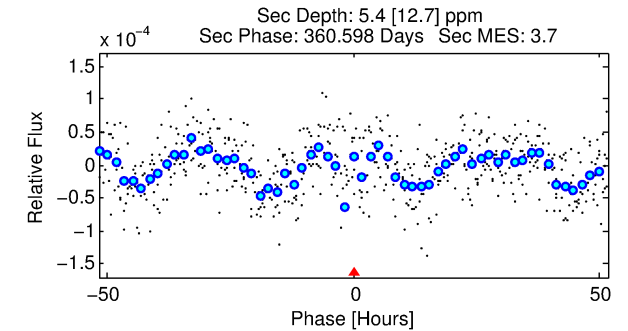
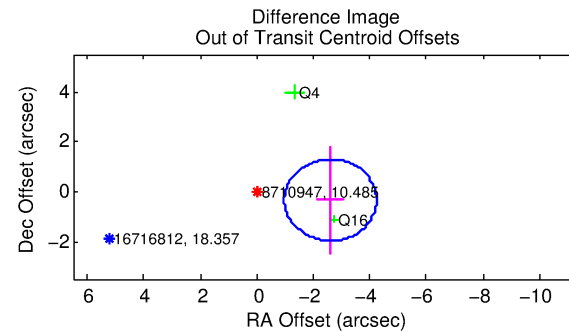
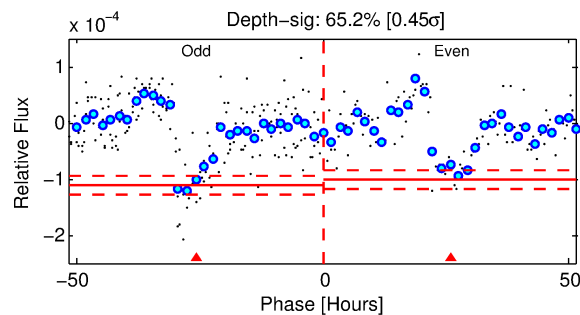
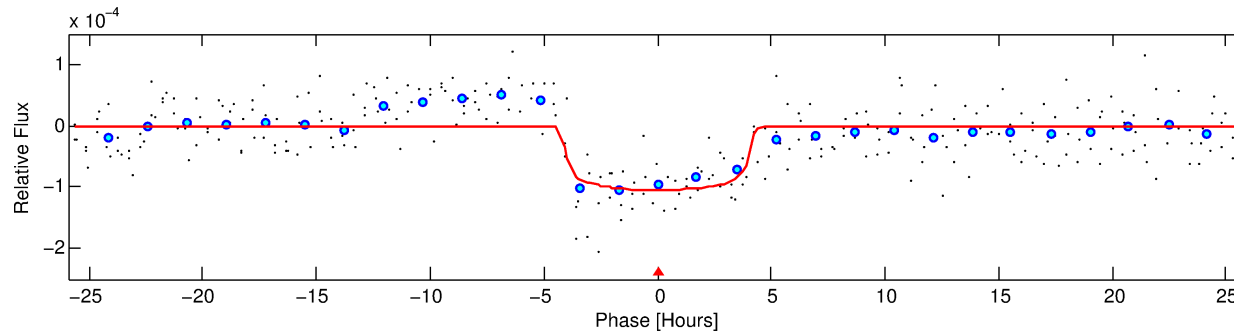
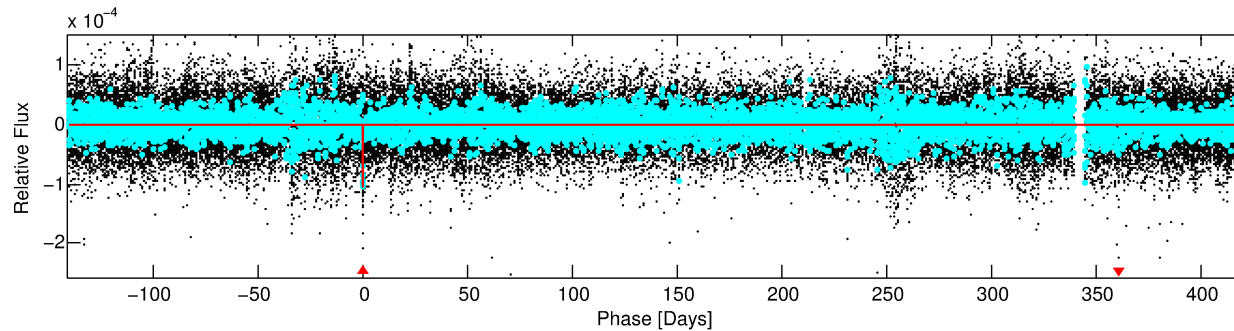
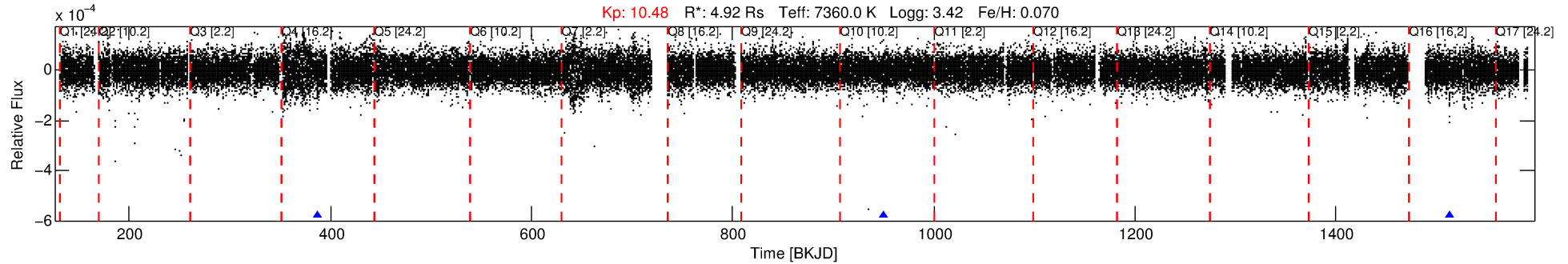
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008710947-01

No Significant Match Found

DV One-Page Summary

KIC: 8710947 Candidate: 1 of 1 Period: 562.700 d



DV Fit Results:

Period = 562.70050 [0.00621] d
Epoch = 387.9168 [0.0088] BKJD
Rp/R* = 0.0110 [0.0016]
a/R* = 223.07 [168.98]
b = 0.91 [0.15]
Seff = 20.35 [21.96]
Teq = 542 [146] K
Rp = 5.89 [3.75] Re
a = 1.7679 [1.1358] AU
Ag = 266.89 [692.94] [0.38 σ]
Teffp = 3385 [2008] K [1.41 σ]

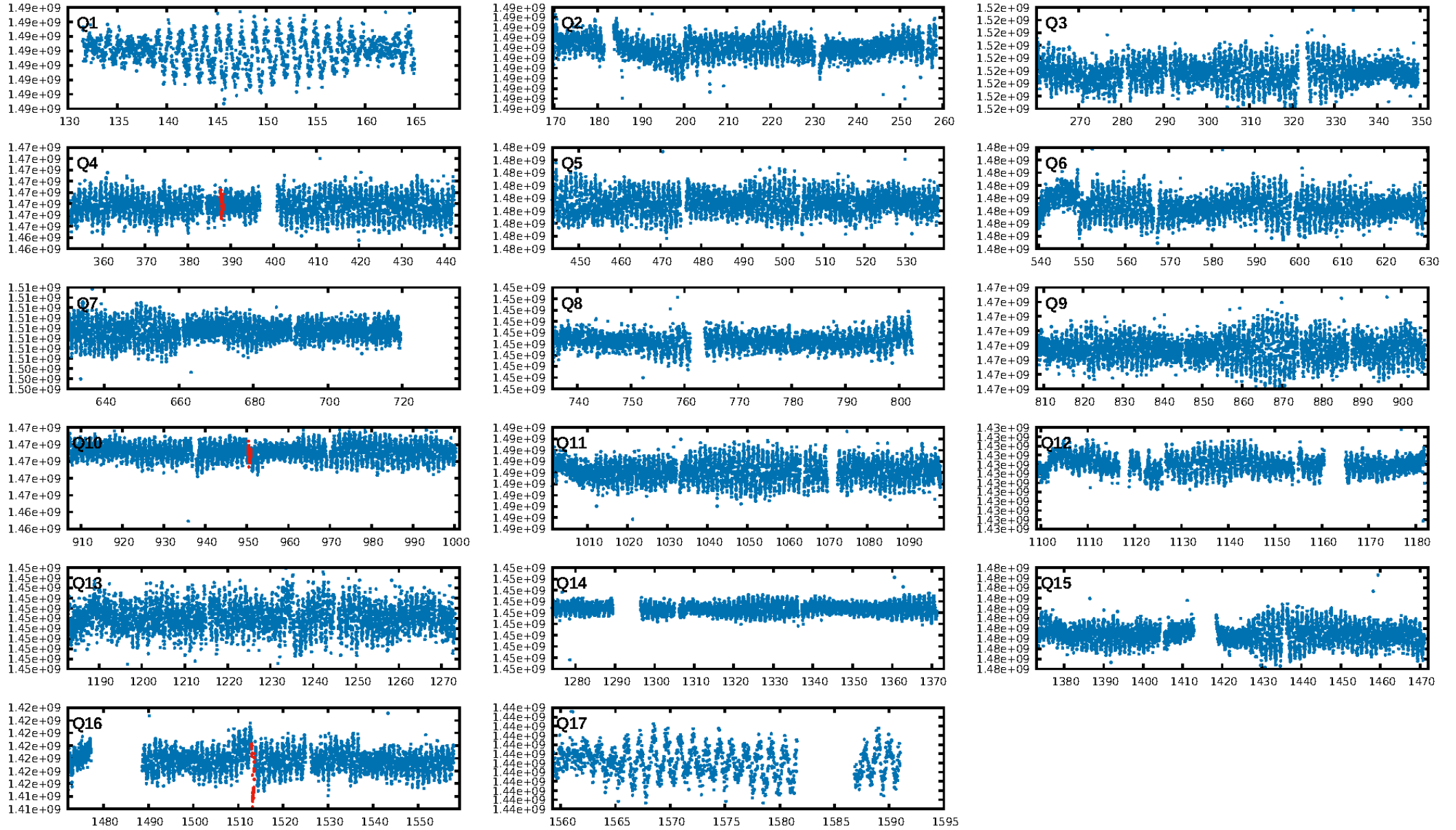
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 6.76e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -9.594
Centroid-sig: 12.1%
Centroid-so: 1.644 arcsec [0.95 σ]
OotOffset-rm: 2.622 arcsec [4.82 σ]
KicOffset-rm: 2.399 arcsec [2.97 σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

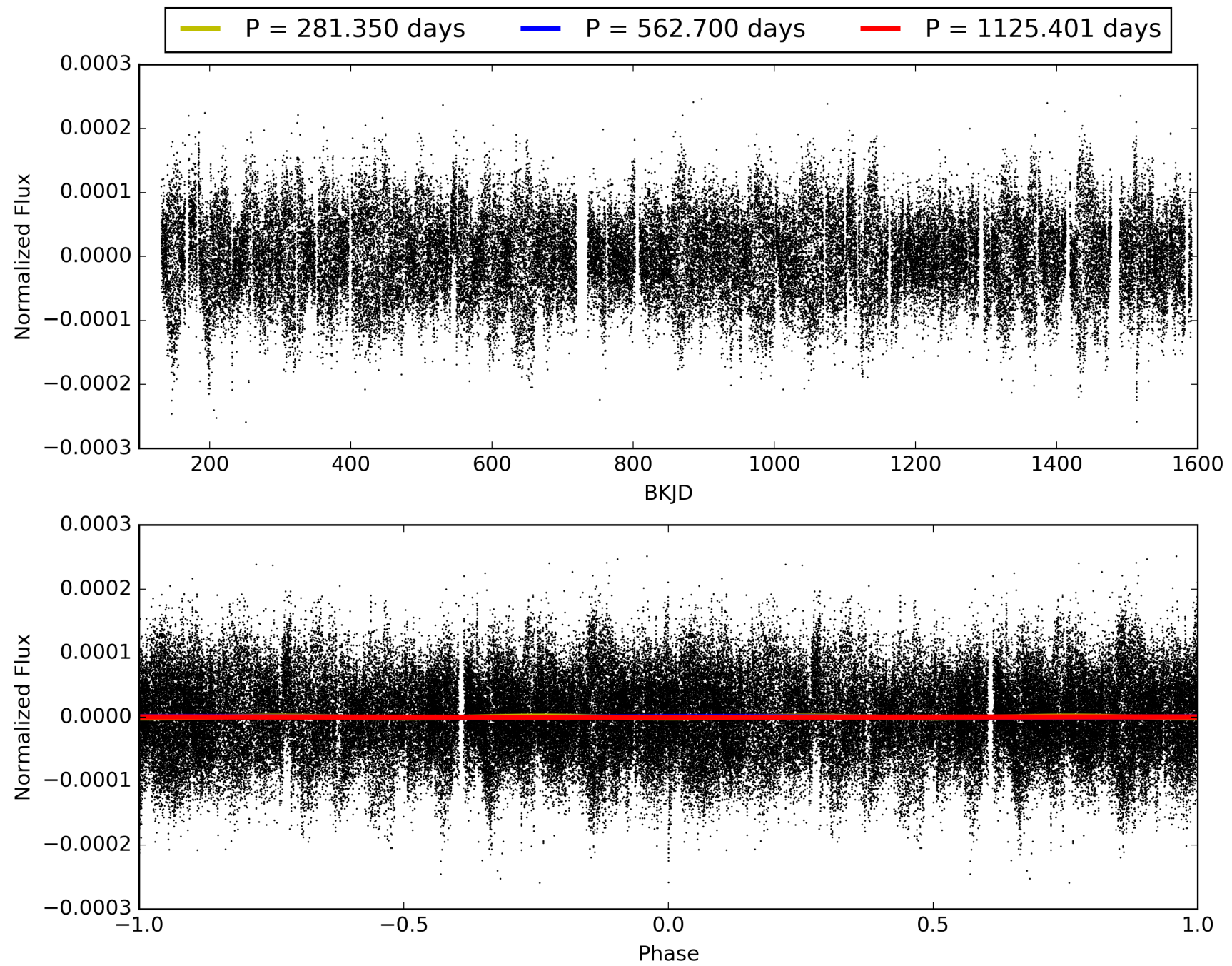
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:07:06 Z

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

TCE 008710947-01, PDC Light Curves

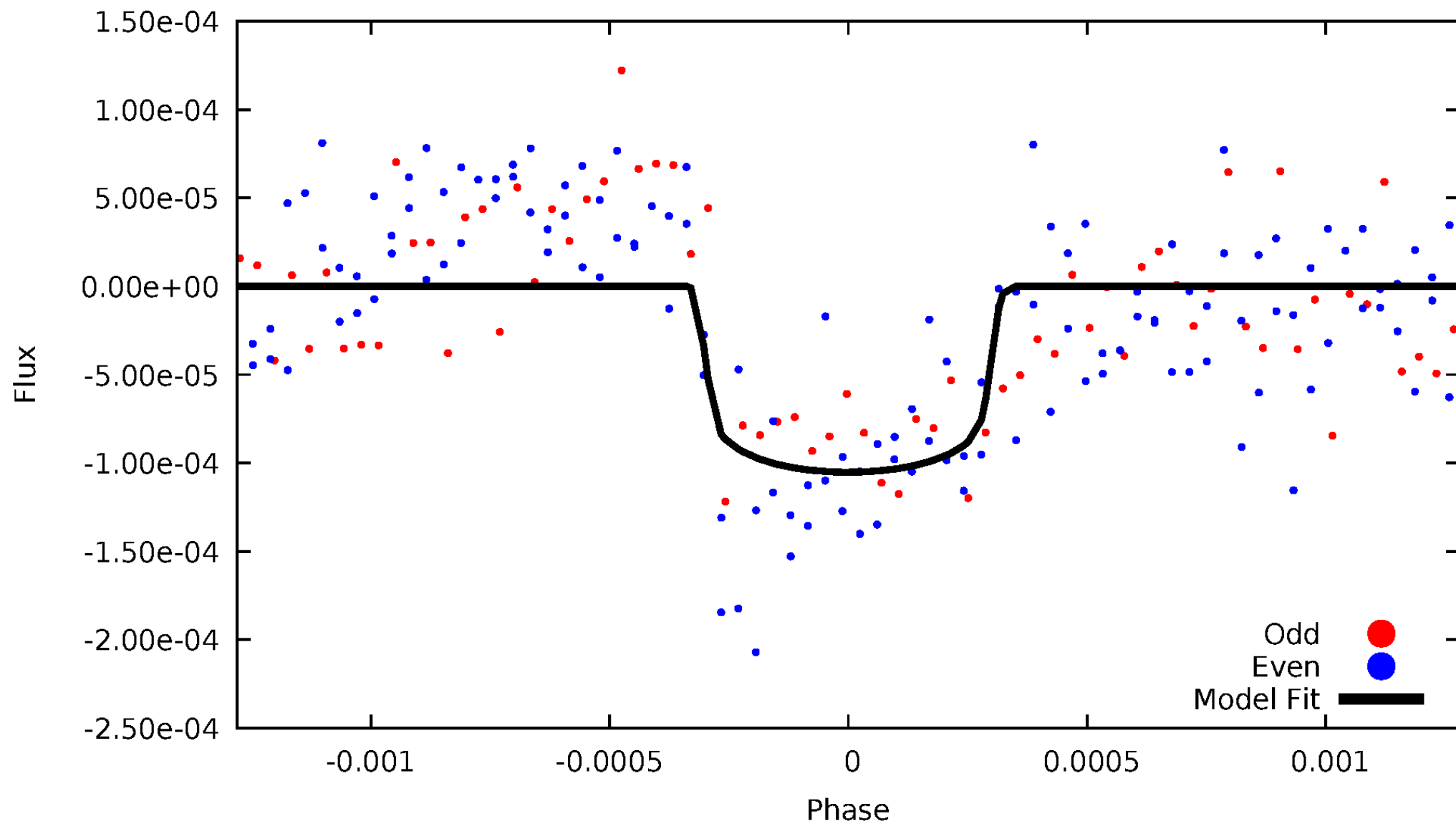


TCE 008710947-01



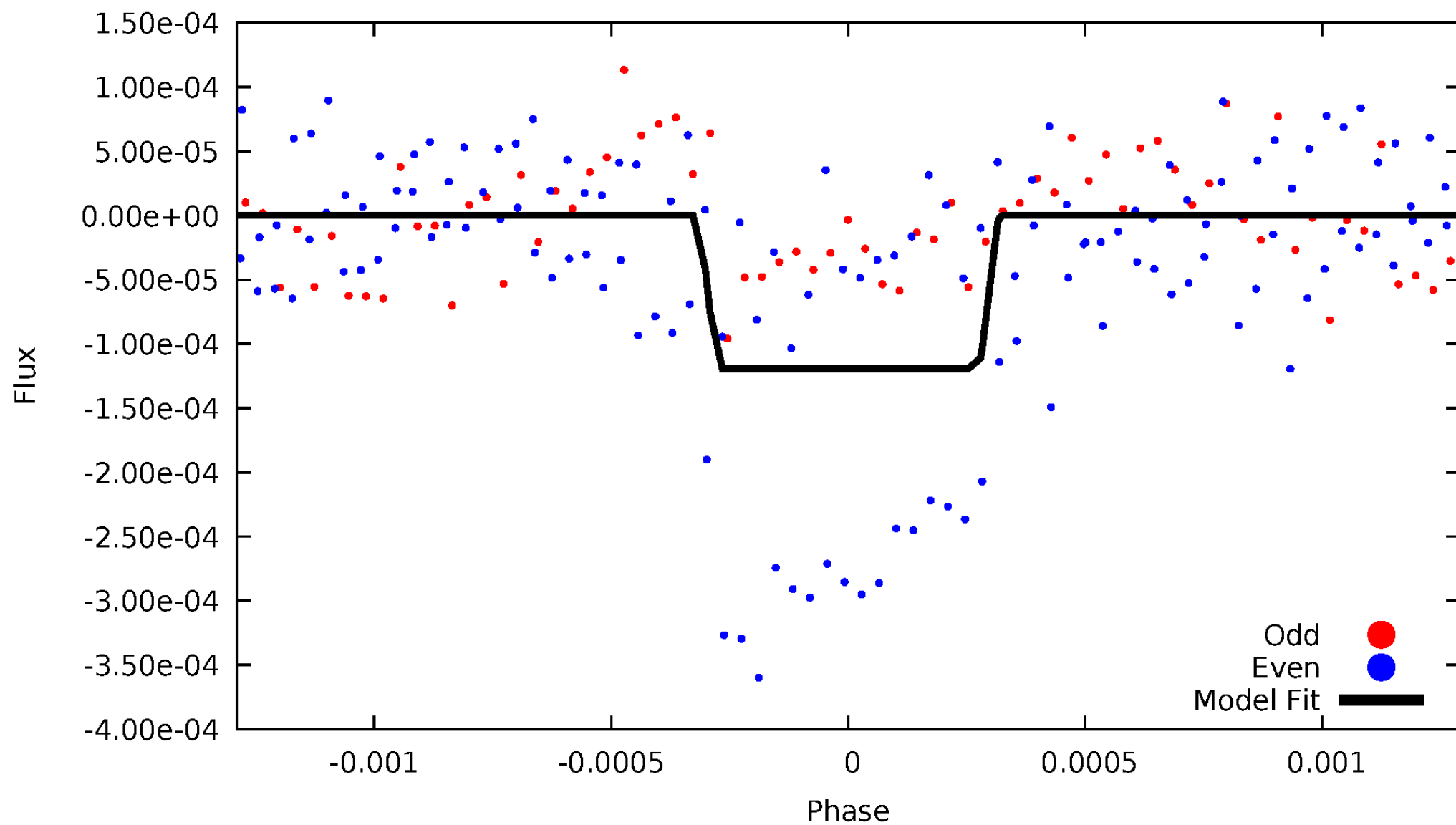
DV Odd/Even

TCE 008710947-01



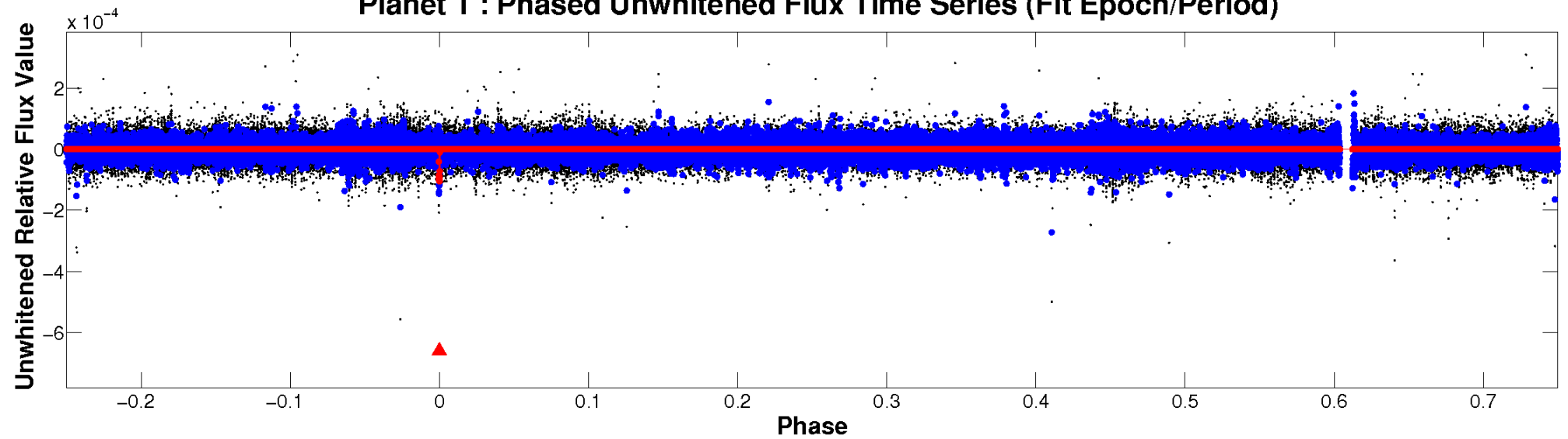
ALT Odd/Even

TCE 008710947-01

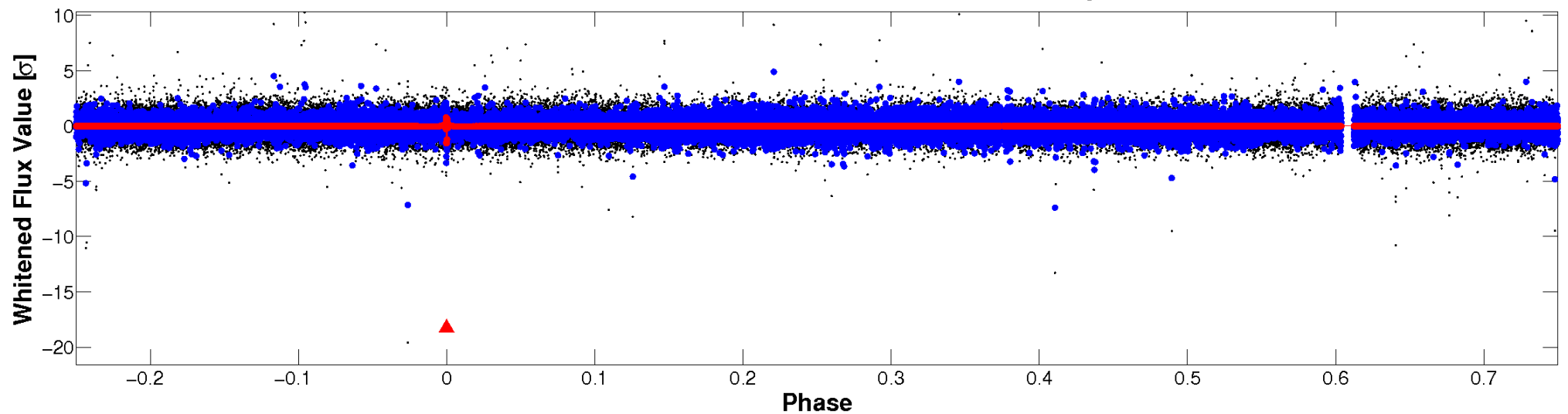


Non-Whitened Vs. Whitened Light Curve

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

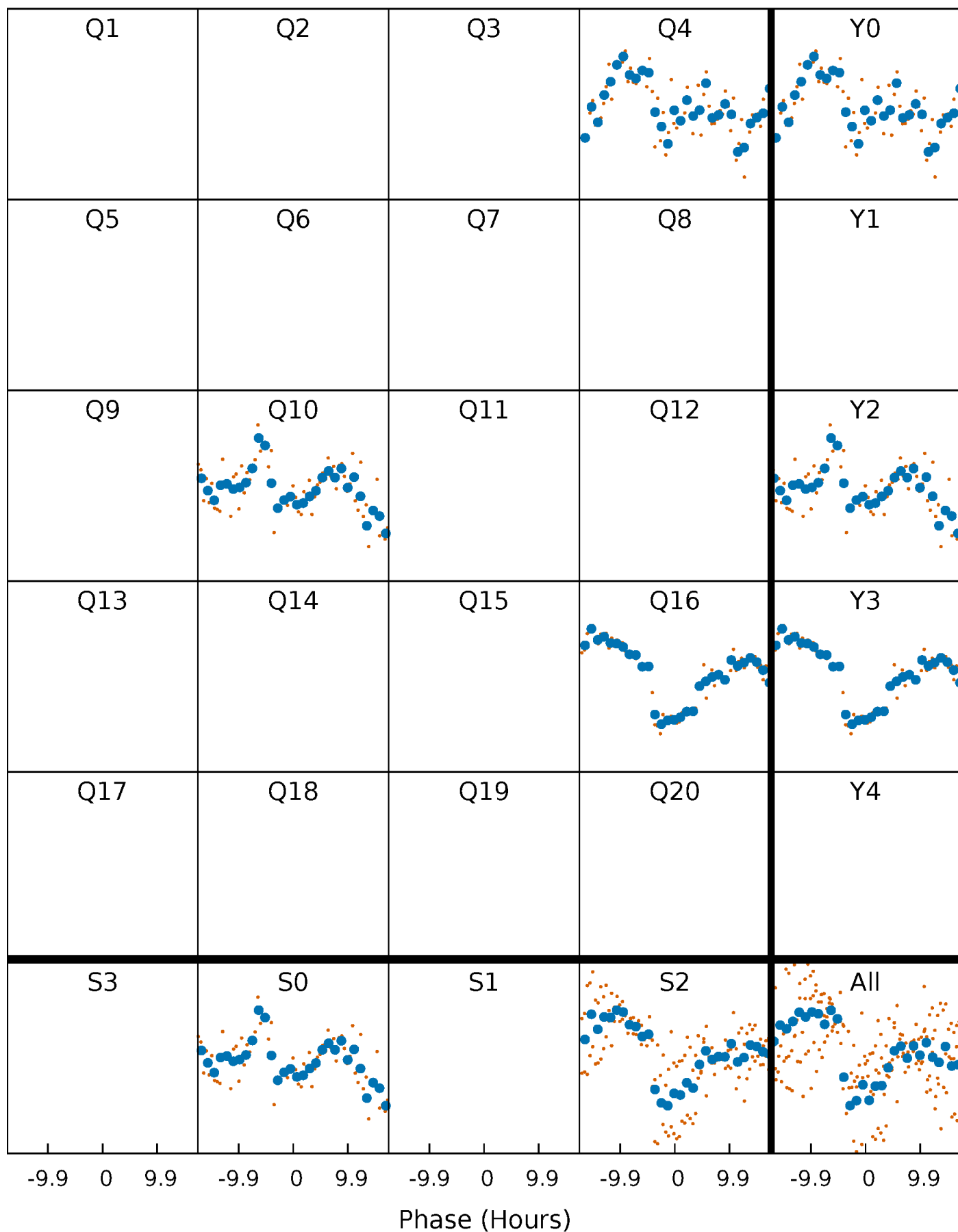


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



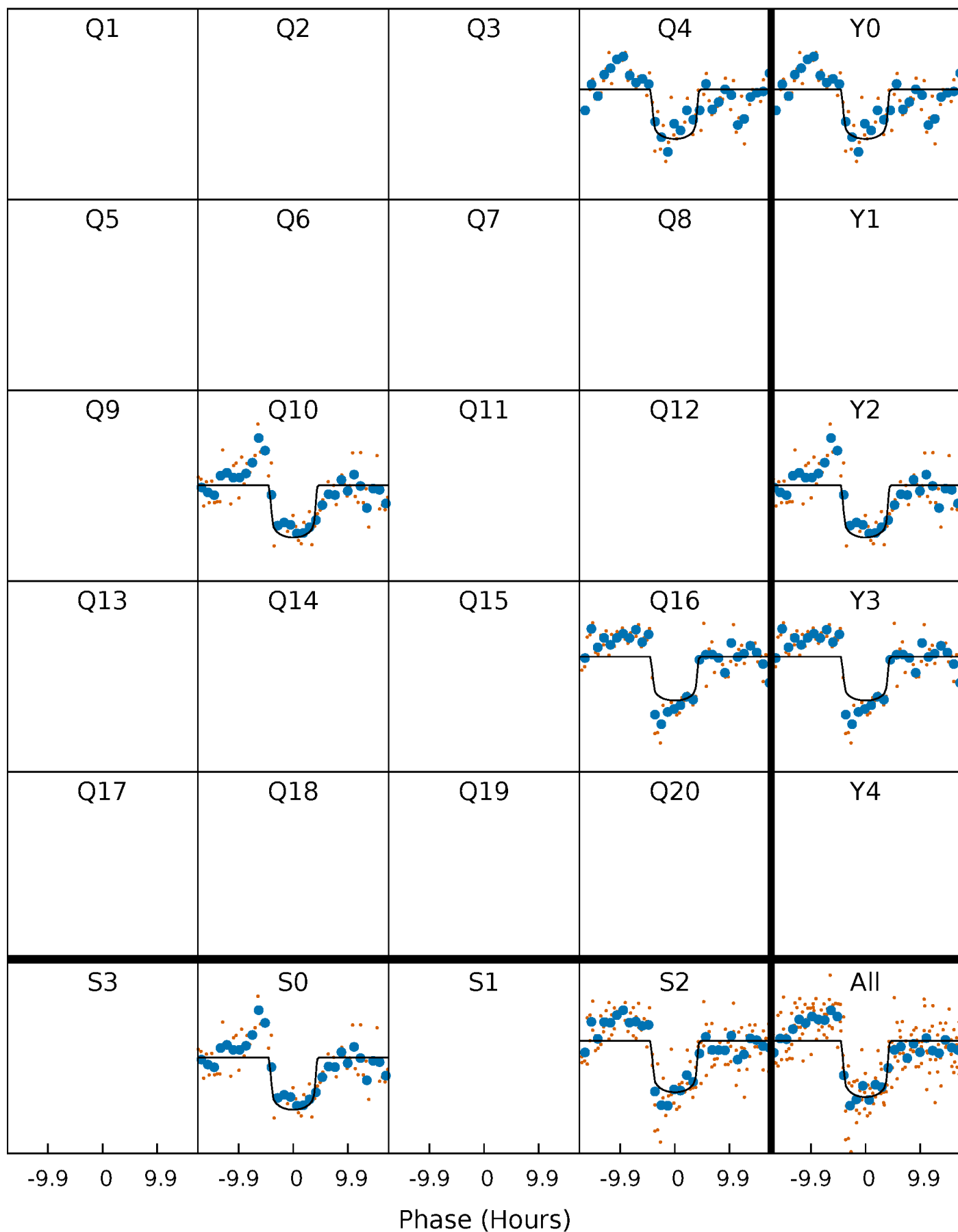
PDC Quarter-Phased Transit Curves

TCE 008710947-01 P=562.700497 Days $T_0=387.916808$ (BKJD)



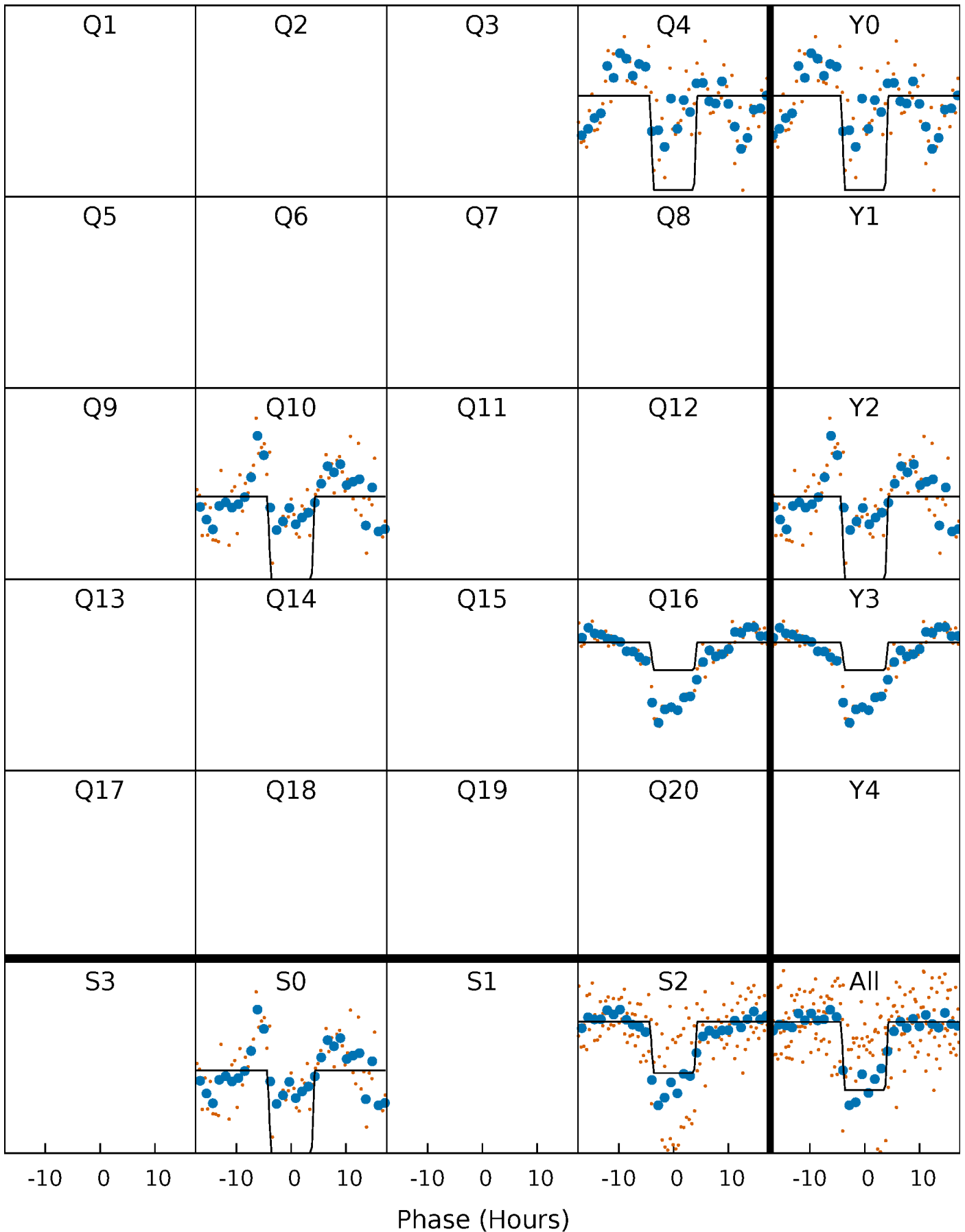
DV Quarter-Phased Transit Curves

TCE 008710947-01 P=562.700497 Days $T_0=387.916808$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

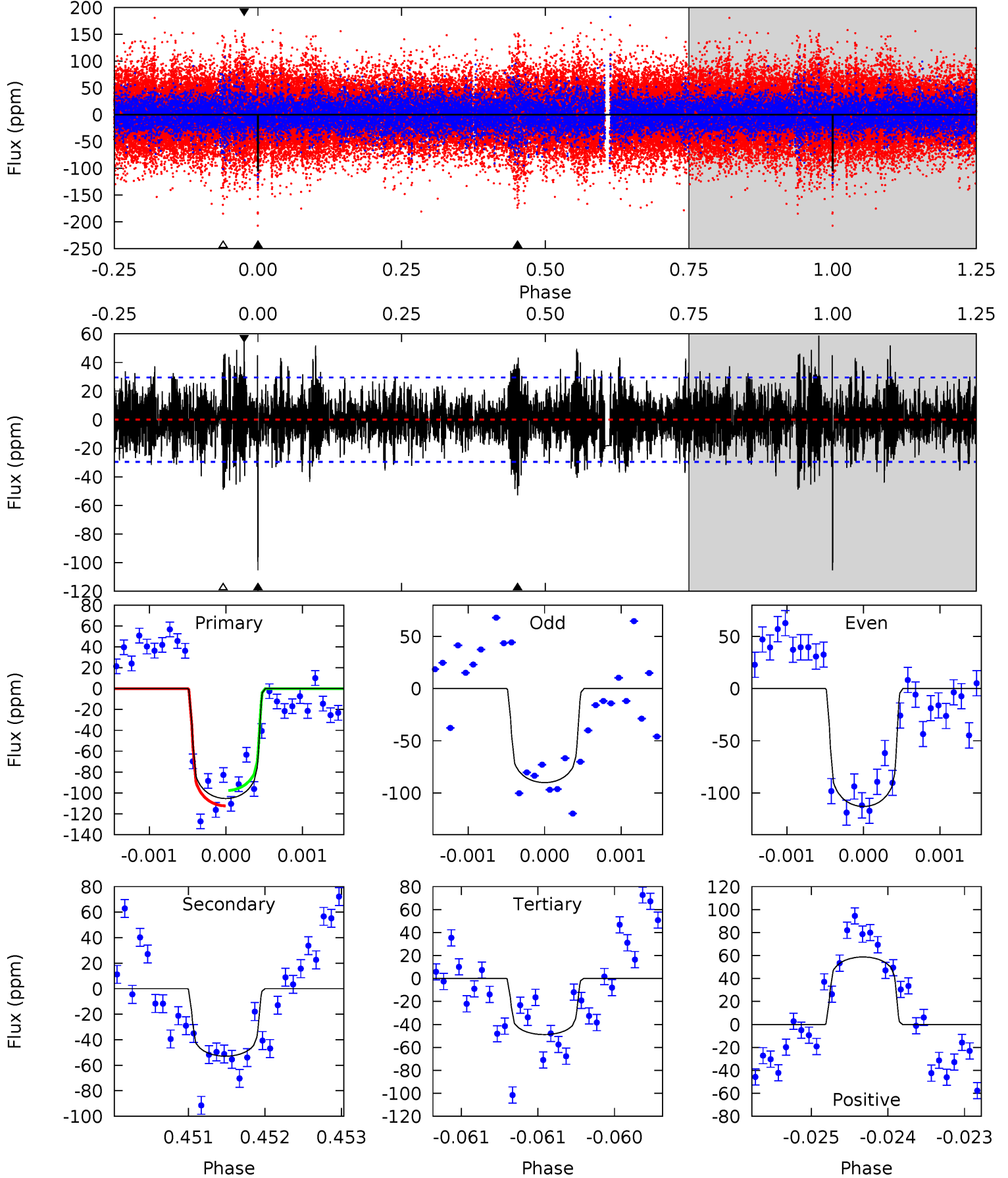
TCE 008710947-01 P=562.699375 Days $T_0=387.916640$ (BKJD)



DV Model-Shift Uniqueness Test

008710947-01, P = 562.700497 Days, E = 387.916808 Days

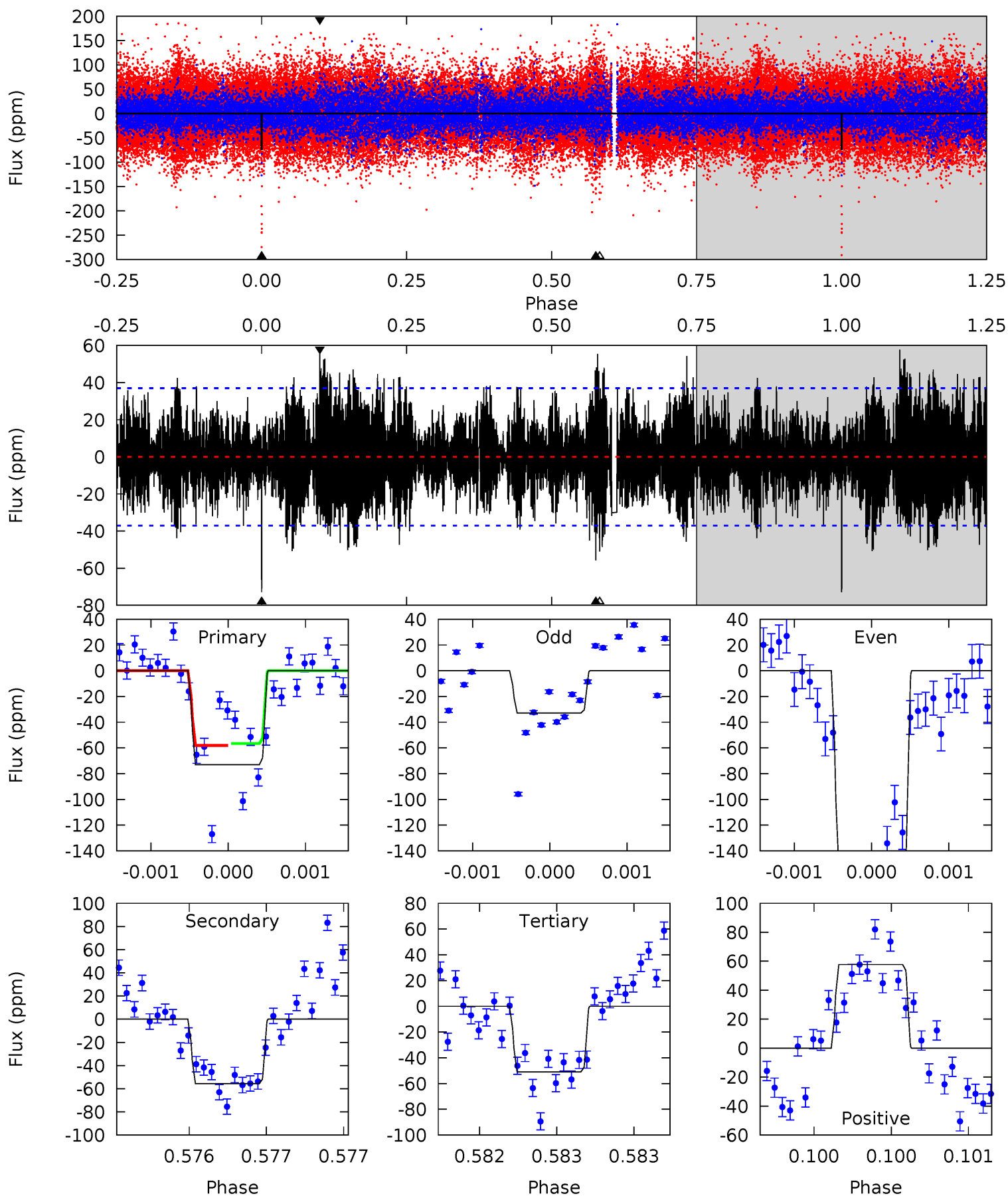
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	9.90	9.14	11.0	5.52	3.40	2.56	10.6	8.73	0.76	-1.09	2.06	1.17	0.36	1.38



Alt Model-Shift Uniqueness Test

008710947-01, P = 562.699375 Days, E = 387.916640 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	8.32	7.61	8.62	5.53	3.42	2.45	3.29	2.28	0.71	-0.30	9.62	3.49	0.44	0.11



Stellar Parameters For KIC 008710947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7360^{+205}_{-308}	$3.421^{+0.640}_{-0.160}$	$0.070^{+0.200}_{-0.350}$	$4.919^{+1.880}_{-3.055}$	$2.328^{+0.143}_{-0.810}$	$0.028^{+0.313}_{-0.014}$
	+3%/-4%	+19%/-5%	+286%/-500%	+38%/-62%	+6%/-35%	+1135%/-52%
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 008710947-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 5	$5.10^{+1.65}_{-1.61}$	718^{+84}_{-116}	5883^{+566}_{-429}	3281^{+3548}_{-1349}
Alt.	-56 ± 7	$5.17^{+1.60}_{-1.67}$	722^{+78}_{-107}	5969^{+515}_{-463}	3336^{+3287}_{-1272}

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

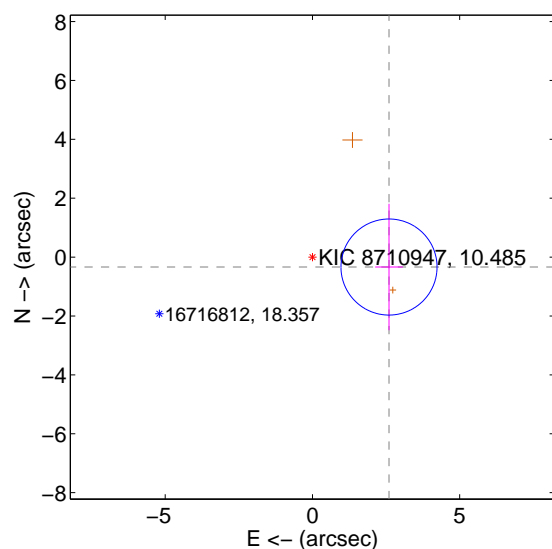
Supplemental centroid analysis for 008710947-01. **Kepler magnitude: 10.48.** Transit SNR 10.30

There are 0 quarters with good PRF difference image offsets

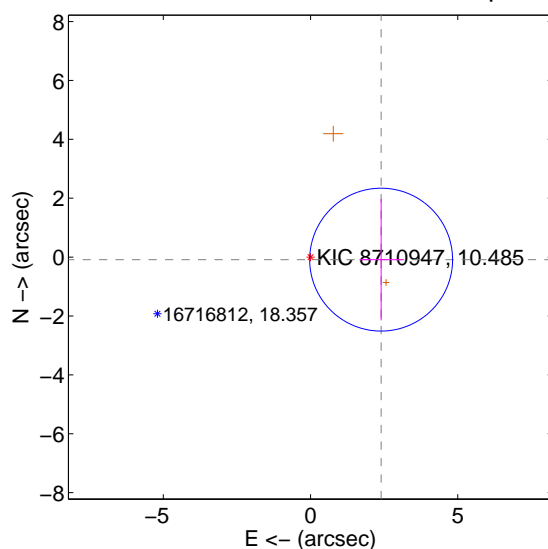
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.622 ± 0.544	4.82	-2.600 ± 0.472	-0.337 ± 2.147
PRF-fit source offset from KIC position	2.399 ± 0.809	2.97	-2.398 ± 0.735	-0.086 ± 2.064
photometric centroid source offset	1.64 ± 1.74	0.95	-0.91 ± 2.69	1.37 ± 1.08

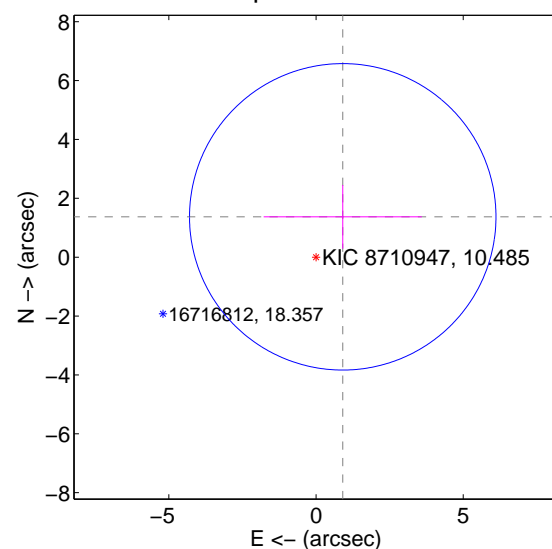
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

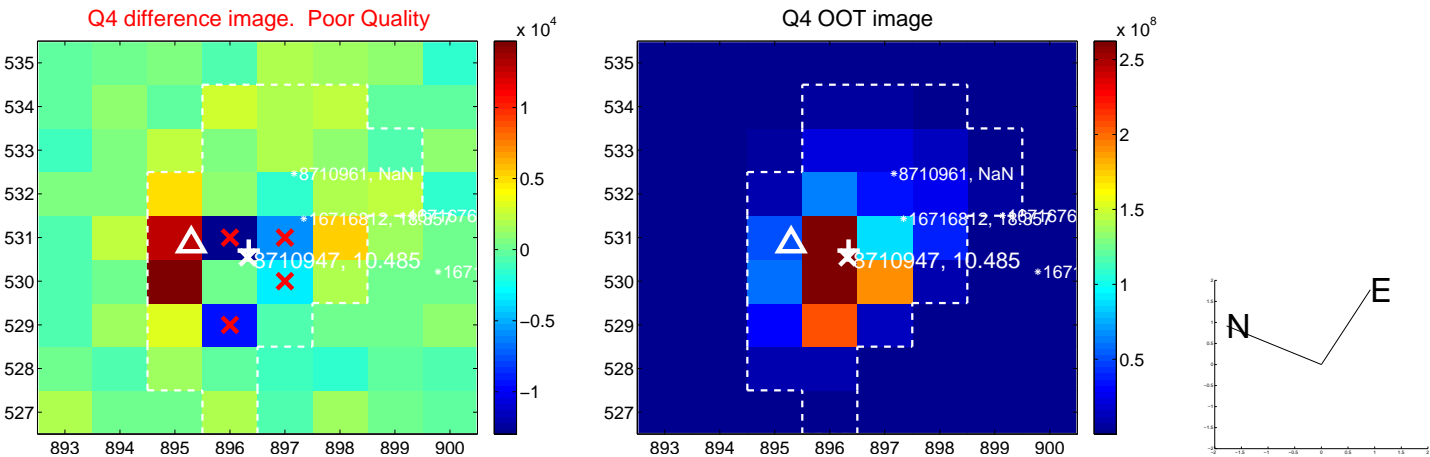


offset from photometric centroids



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.

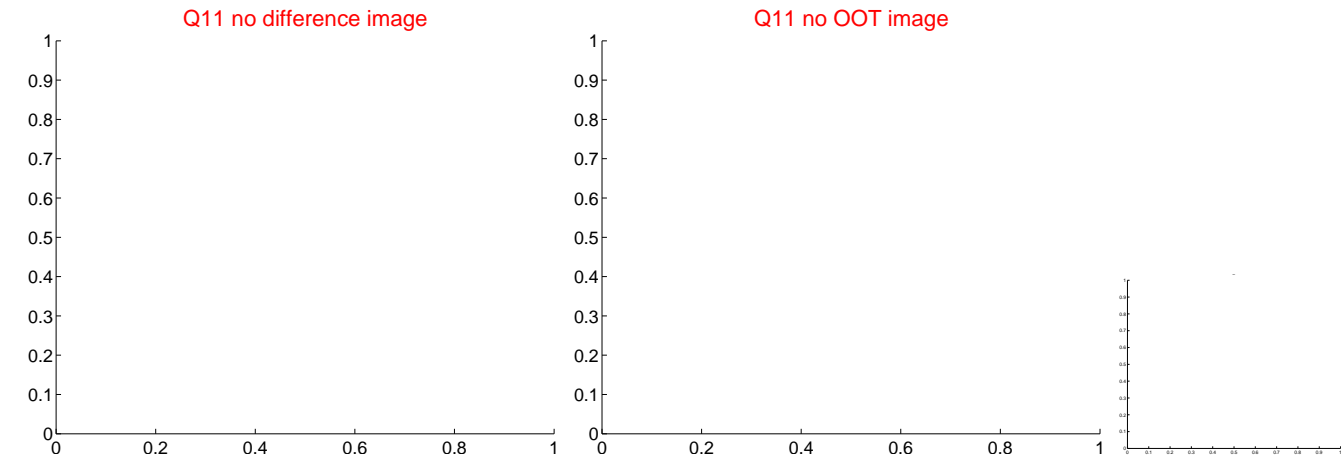
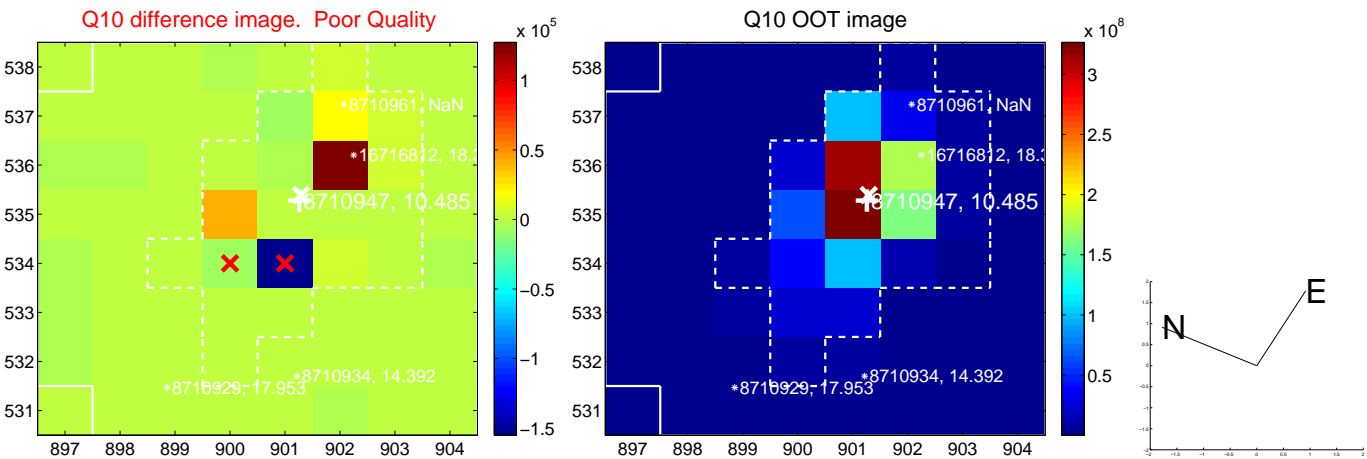
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



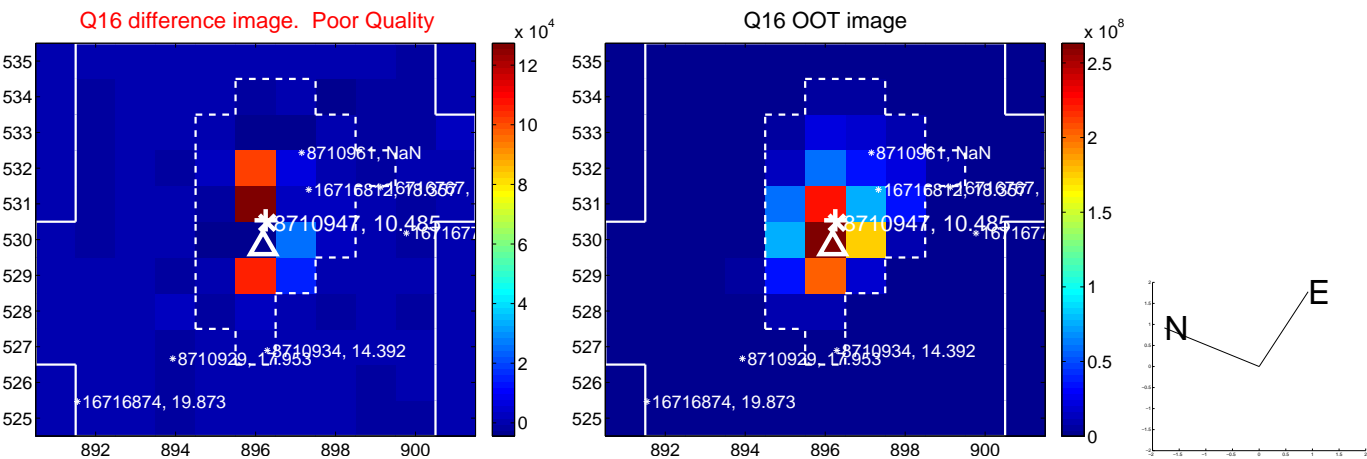
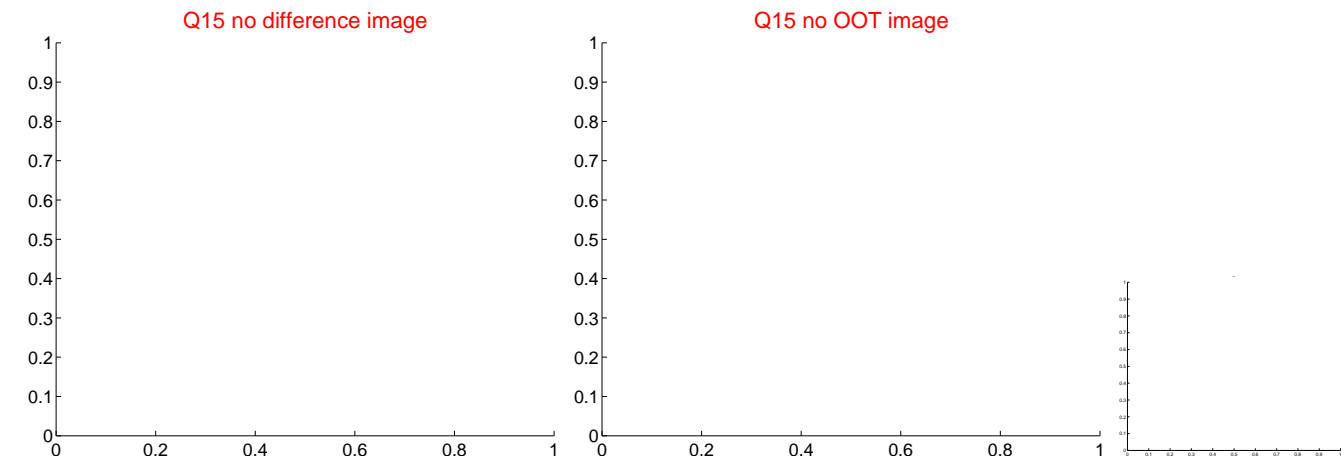
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



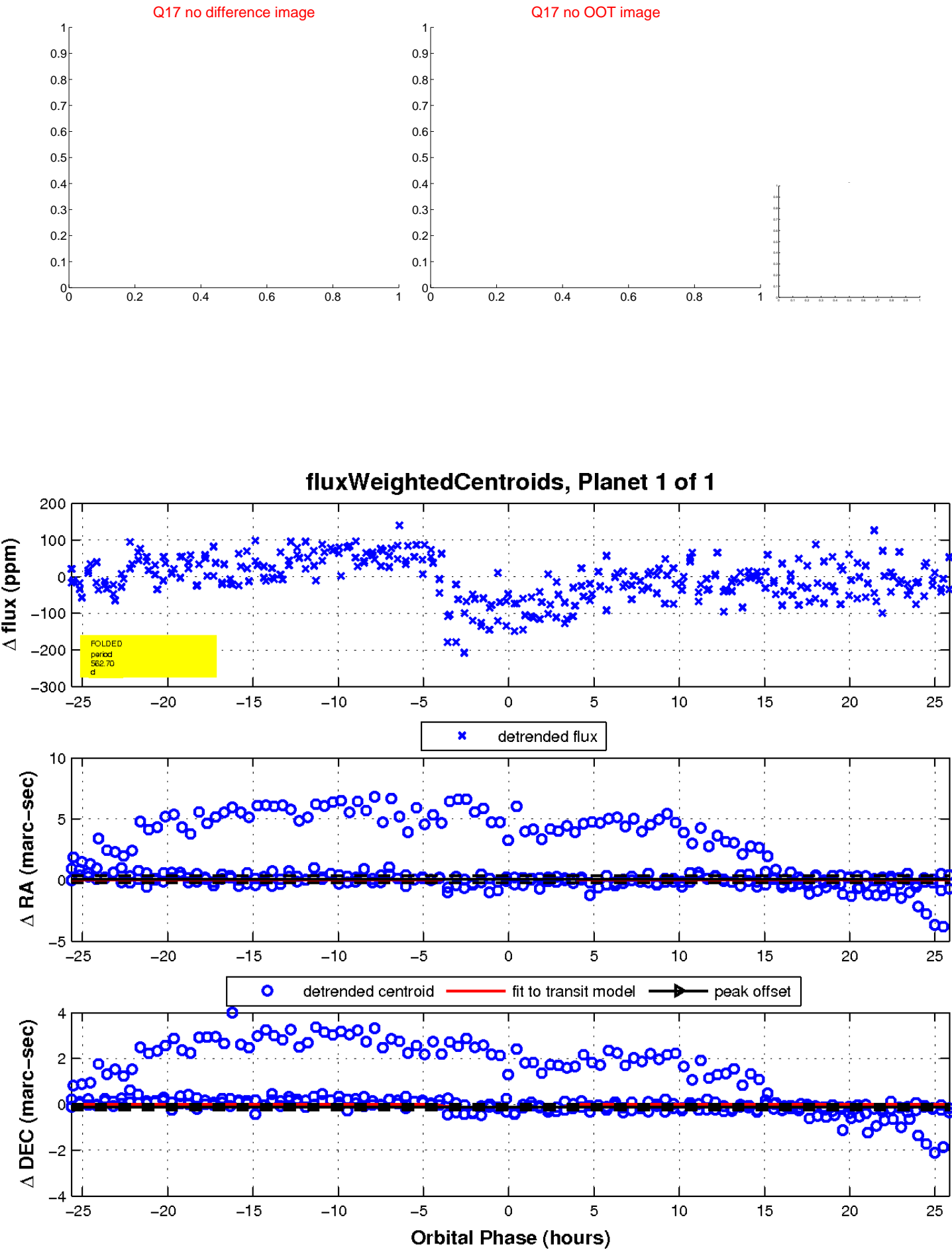
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

