

KIC 002710685

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})
002710685-01	OBS	No	436.117543	221.643769	534.4	15.773	7.5	7.4	0.99	5869	2.46	0.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002710685-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—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.

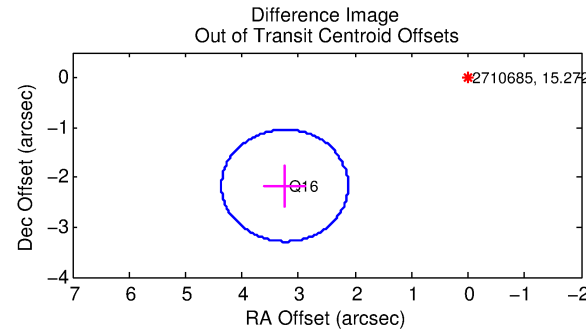
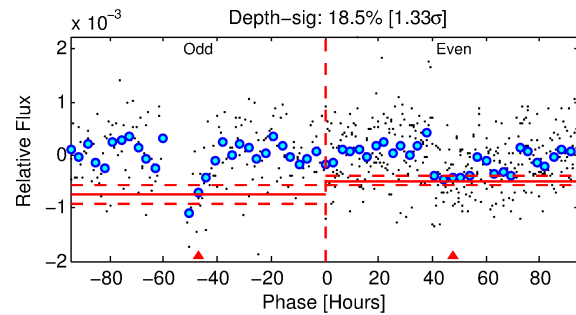
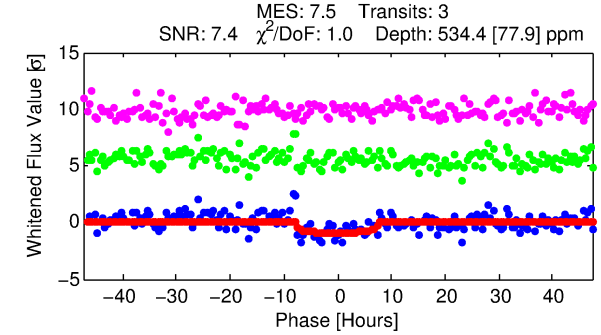
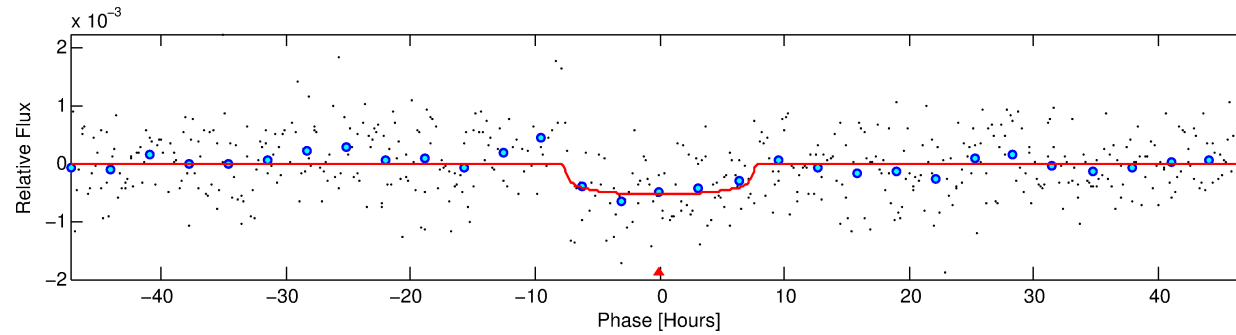
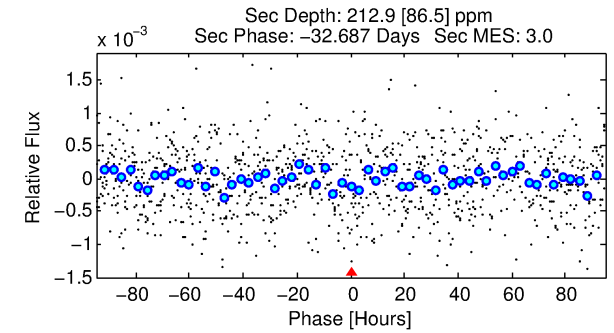
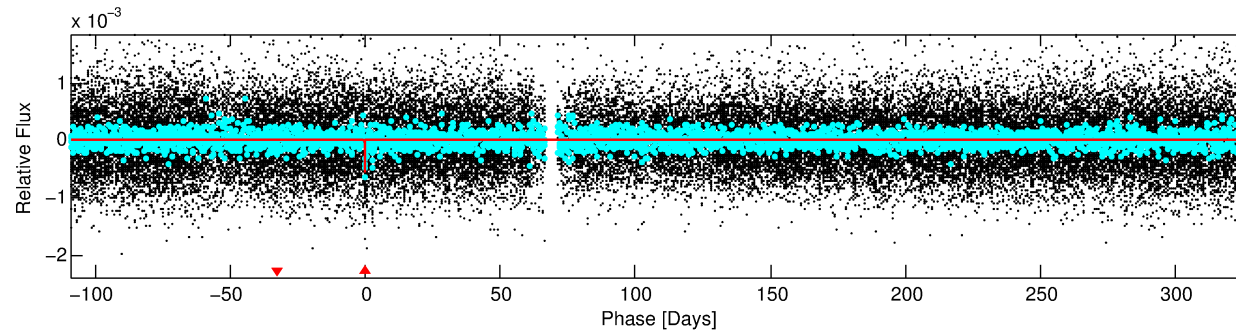
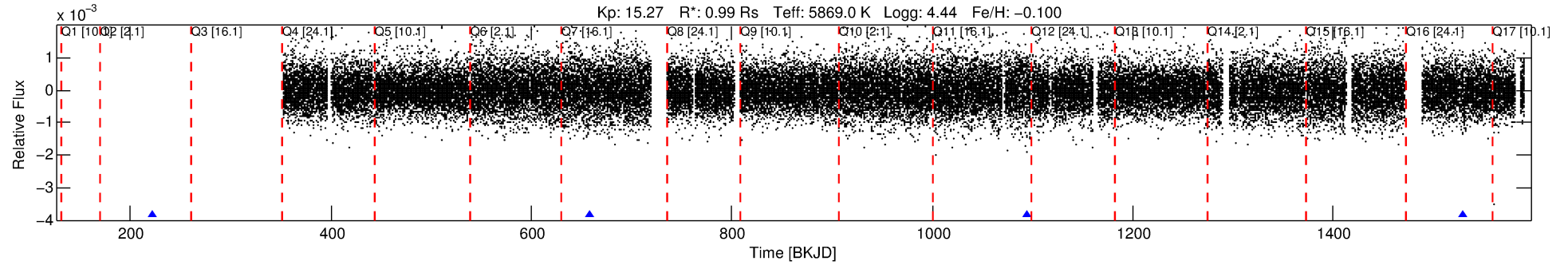
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002710685-01

No Significant Match Found

DV One-Page Summary

KIC: 2710685 Candidate: 1 of 1 Period: 436.118 d



DV Fit Results:

Period = 436.11754 [0.02076] d
Epoch = 221.6438 [0.0499] BKJD
Rp/R* = 0.0229 [0.0090]
a/R* = 150.14 [268.63]
b = 0.74 [1.13]
Seff = 0.83 [0.33]
Teq = 244 [24] K
Rp = 2.46 [1.20] Re
a = 1.1143 [0.2750] AU
Ag = 23996.83 [23046.08] [1.04σ]
Teff = 4687 [1053] K [4.22σ]

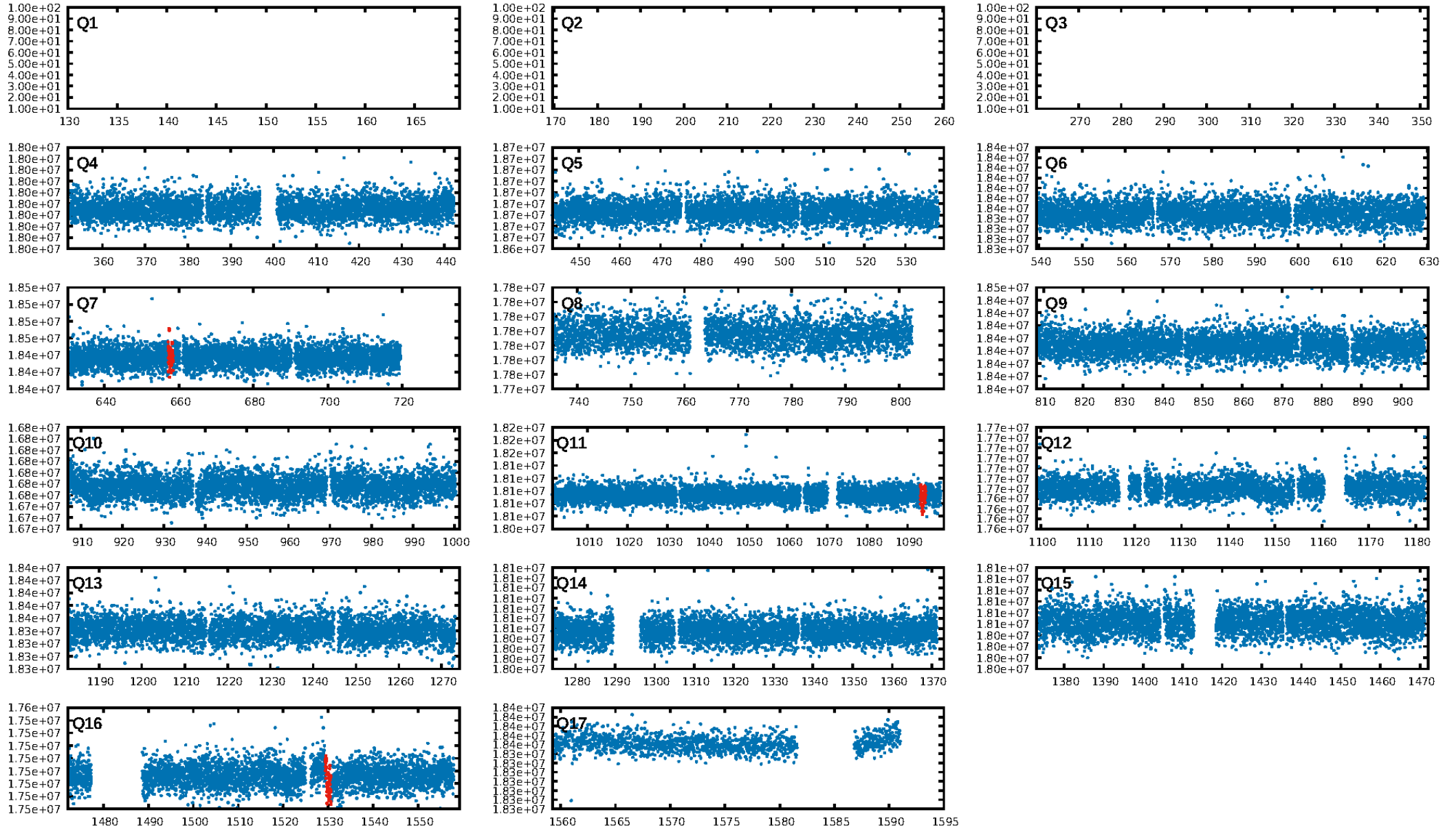
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.18e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.719
Centroid-sig: 1.0%
Centroid-so: 4.155 arcsec [2.33σ]
OotOffset-rm: 3.902 arcsec [10.45σ]
KicOffset-rm: 3.956 arcsec [10.59σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

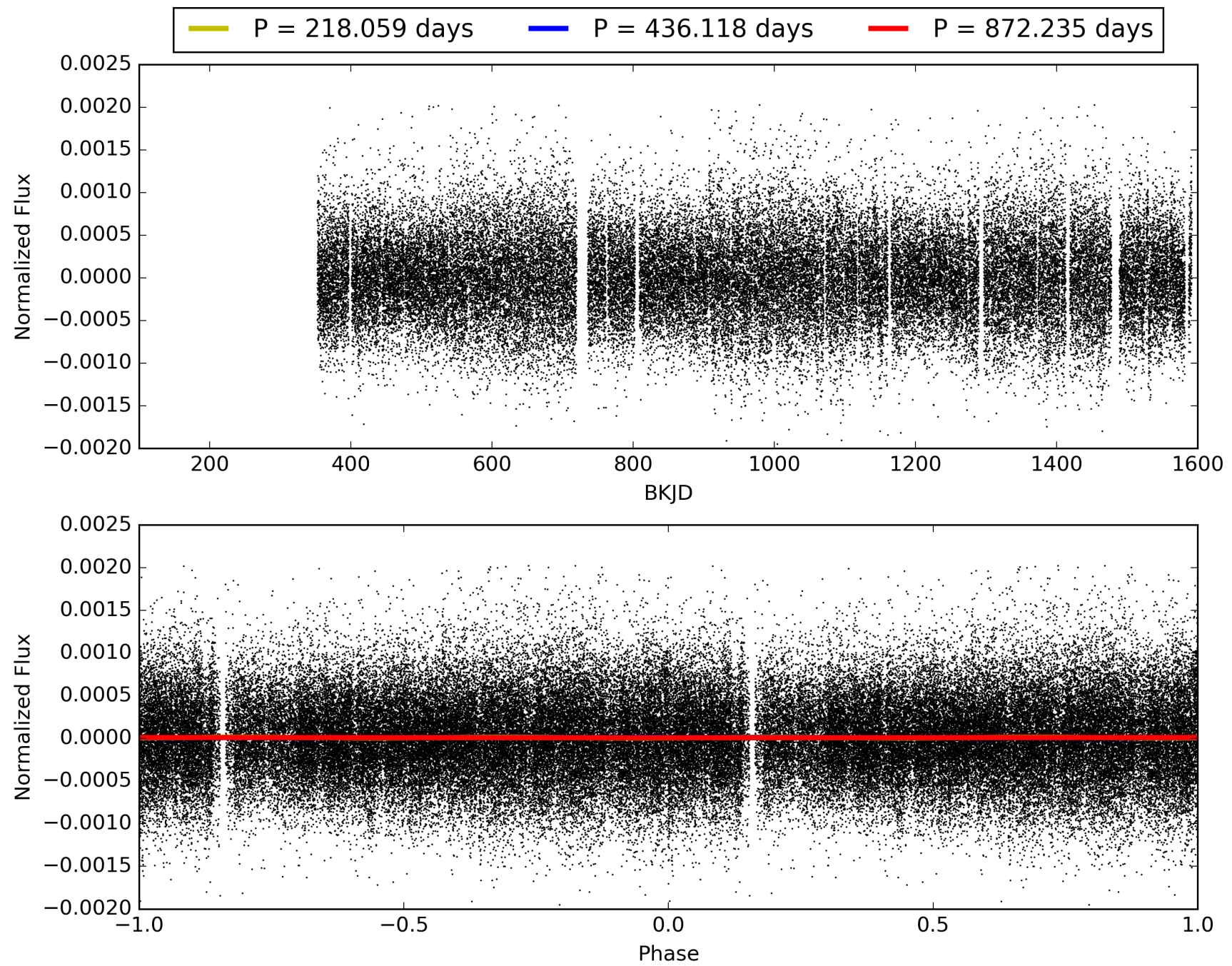
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:18:47 Z

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

TCE 002710685-01, PDC Light Curves

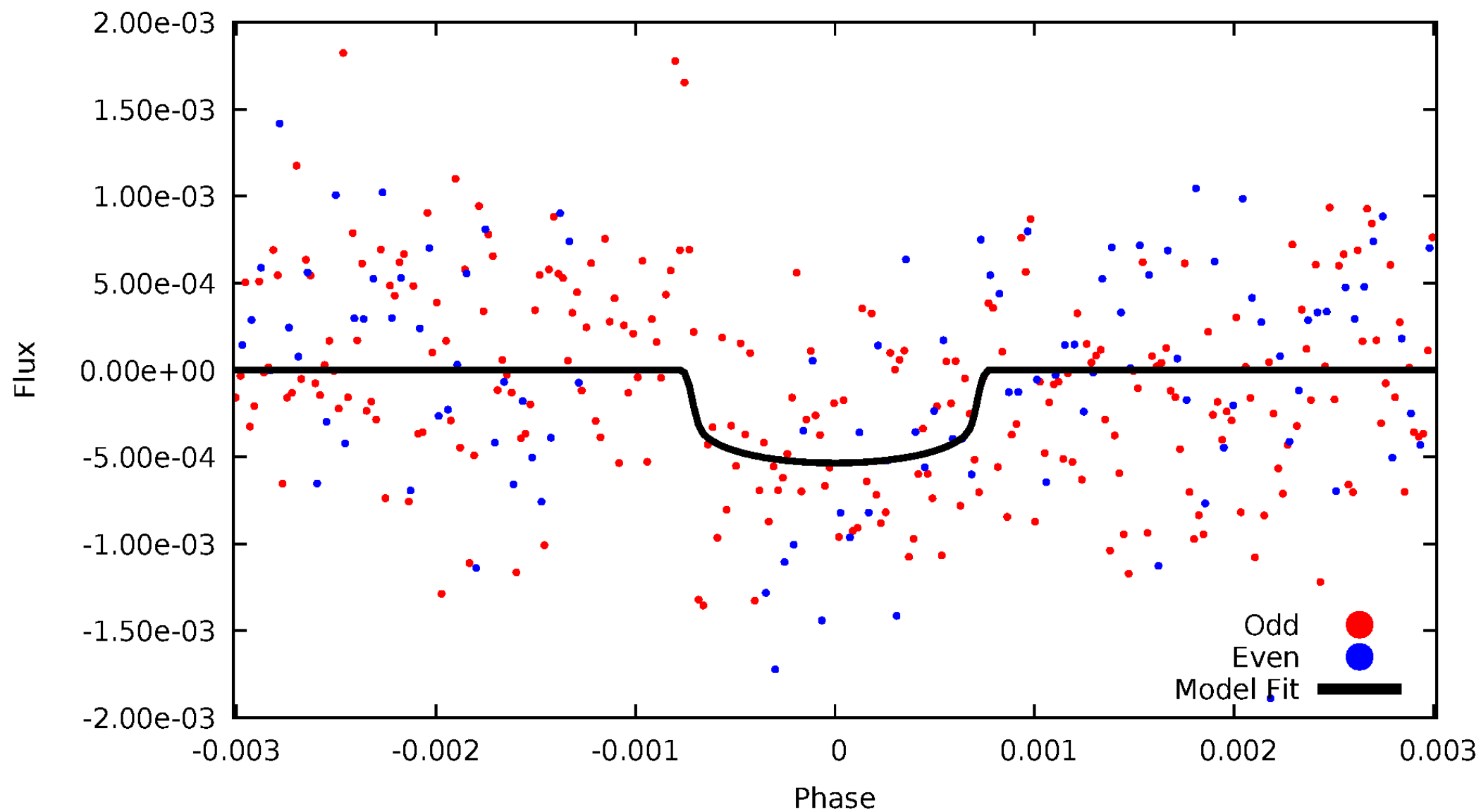


TCE 002710685-01



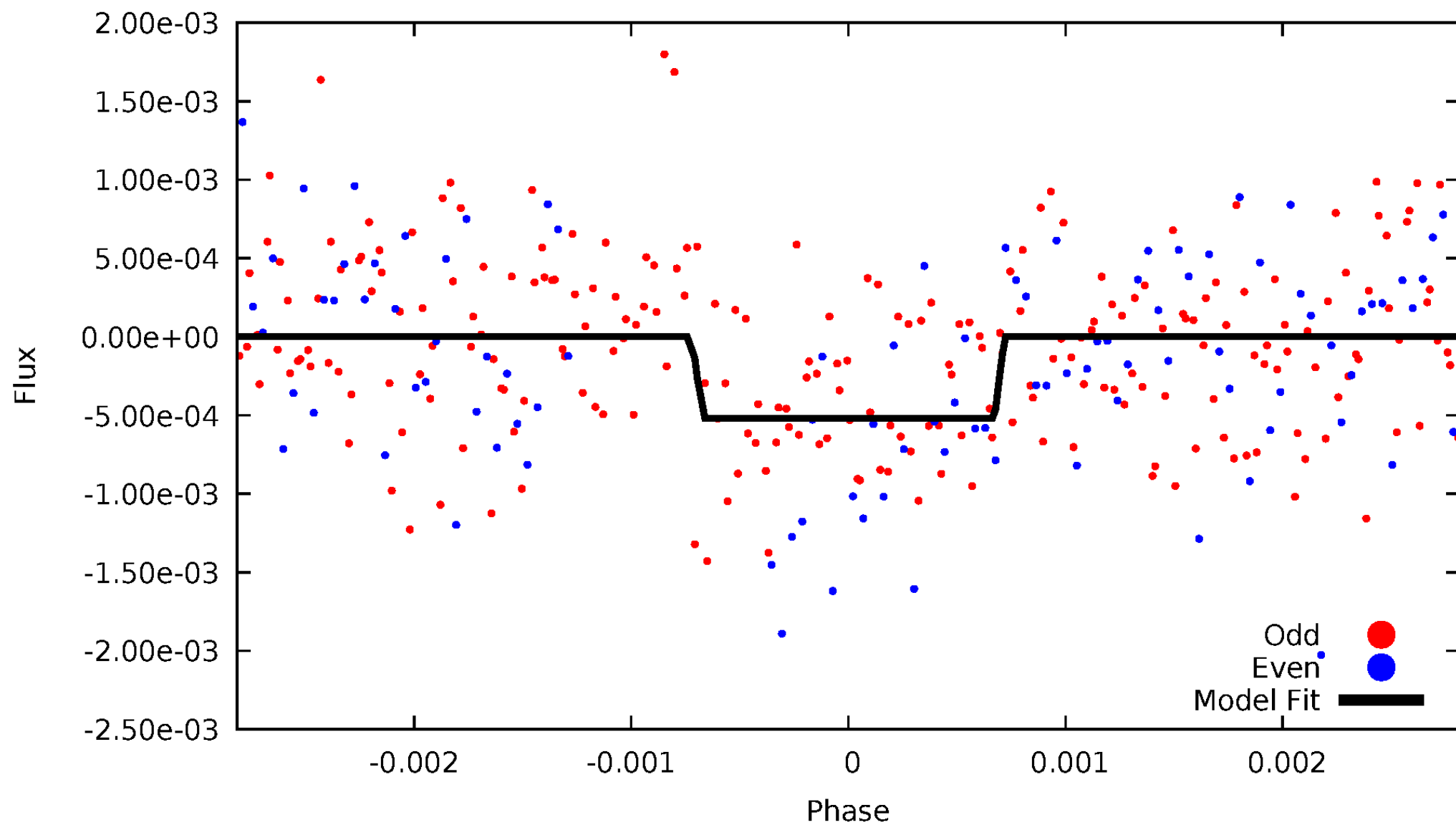
DV Odd/Even

TCE 002710685-01



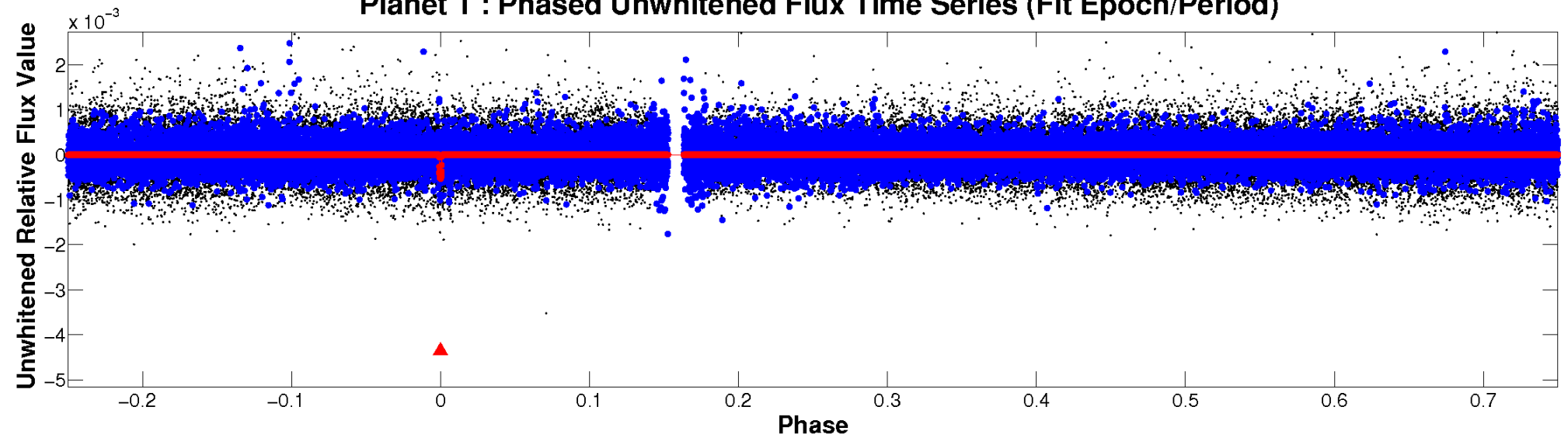
ALT Odd/Even

TCE 002710685-01

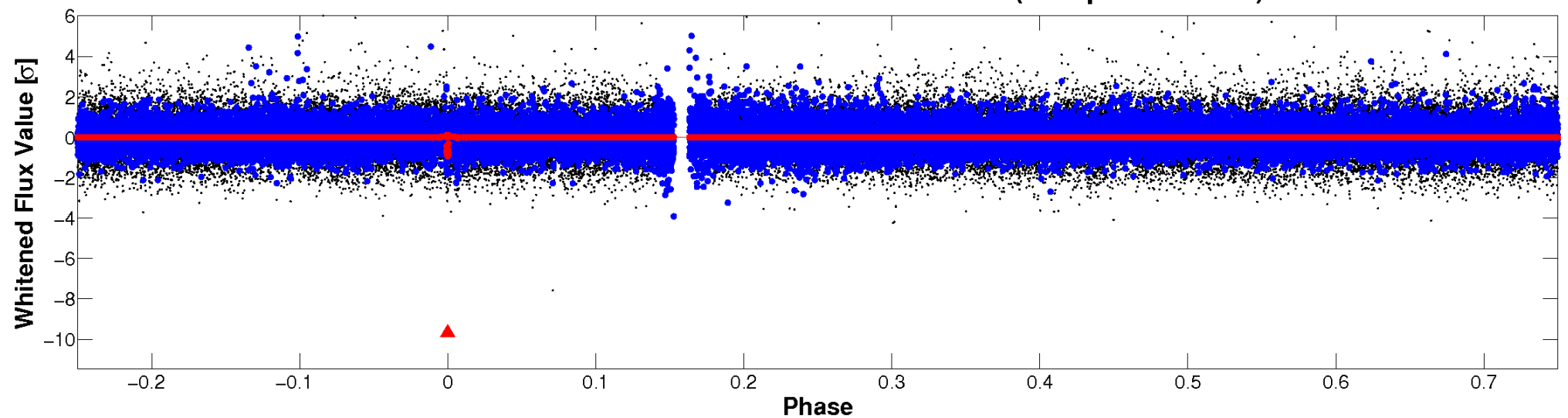


Non-Whitened Vs. Whitened Light Curve

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



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



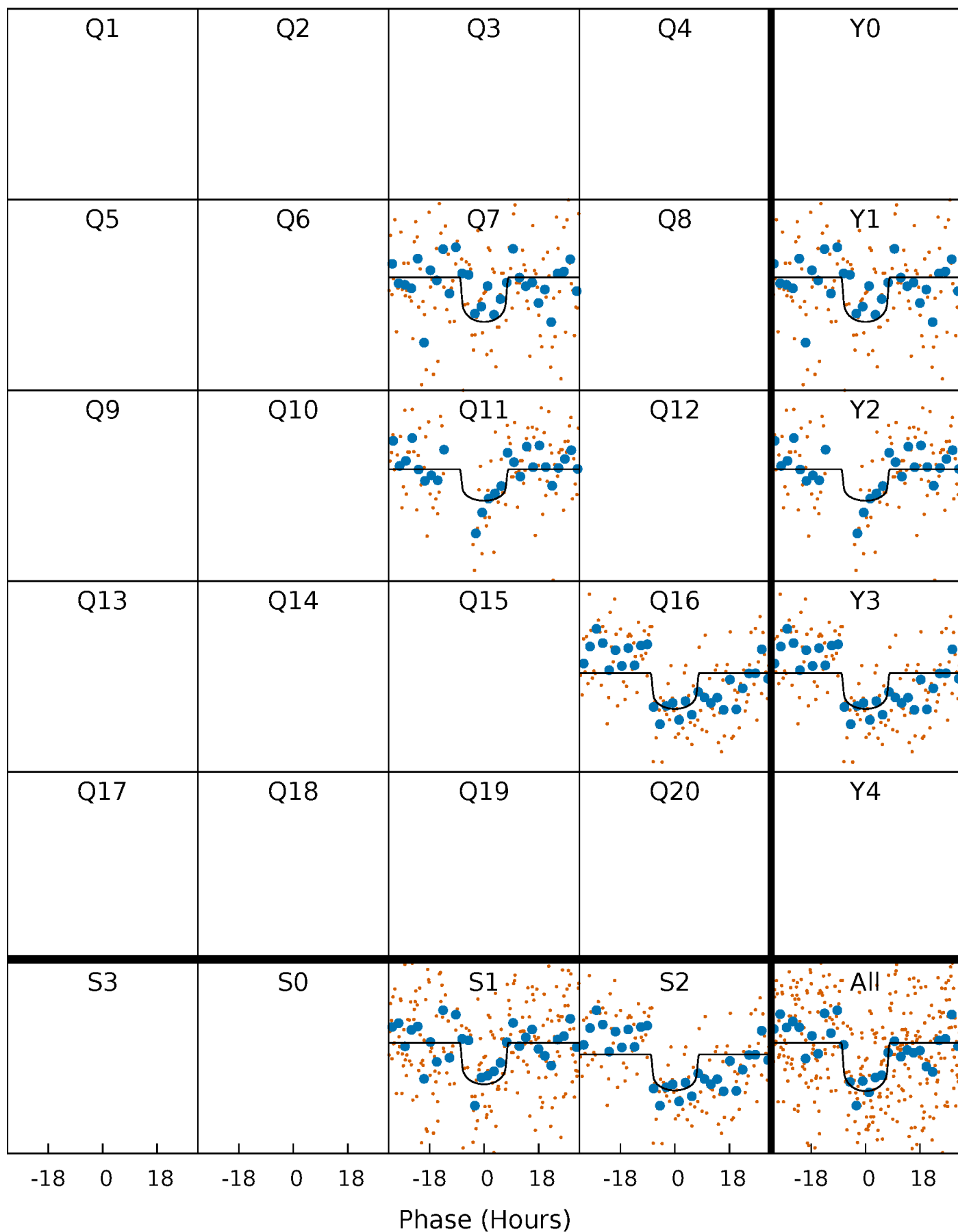
PDC Quarter-Phased Transit Curves

TCE 002710685-01 P=436.117543 Days $T_0=221.643769$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002710685-01 P=436.117543 Days $T_0=221.643769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

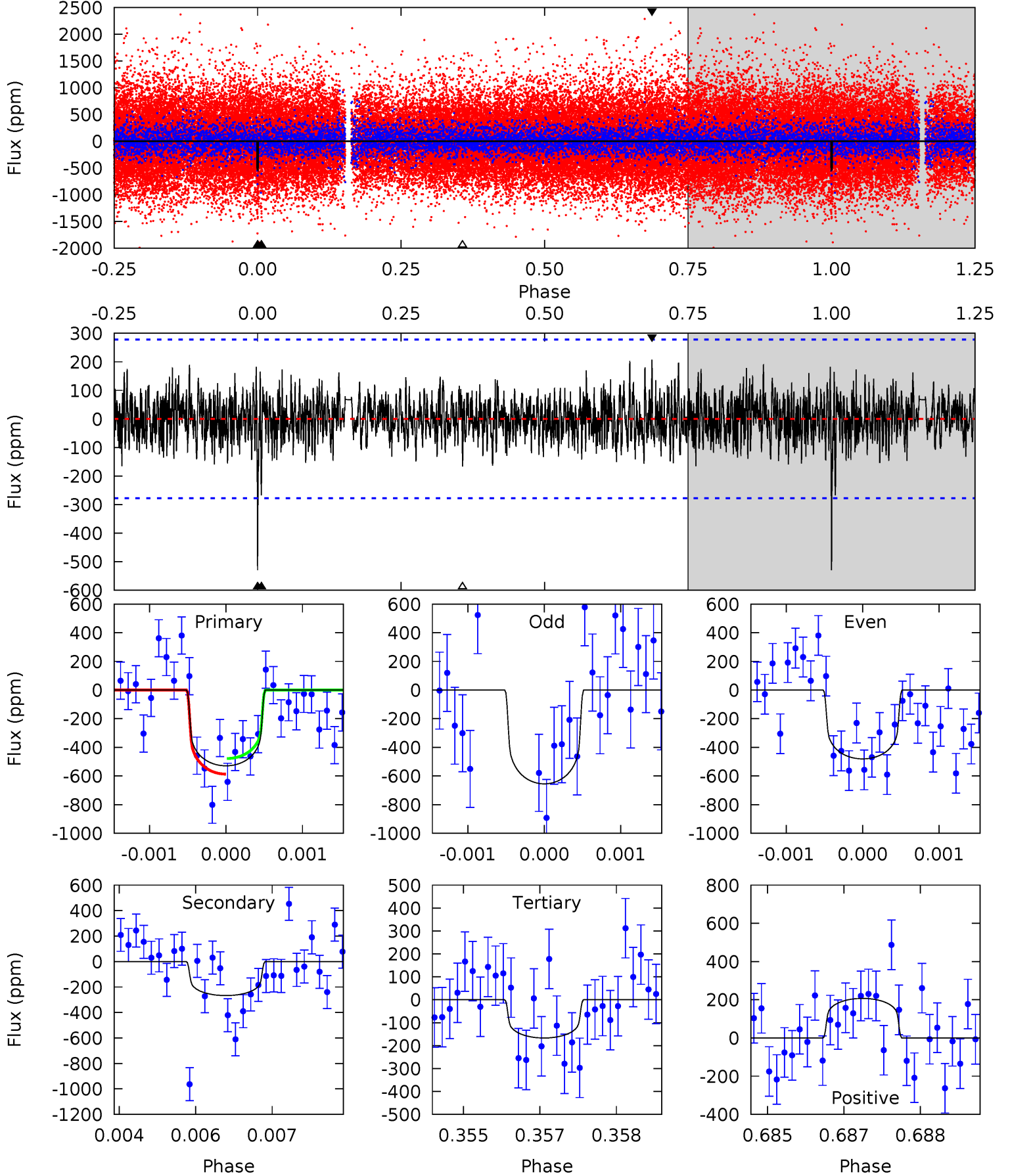
TCE 002710685-01 P=436.099849 Days $T_0=221.682020$ (BKJD)



DV Model-Shift Uniqueness Test

002710685-01, $P = 436.117543$ Days, $E = 221.643769$ Days

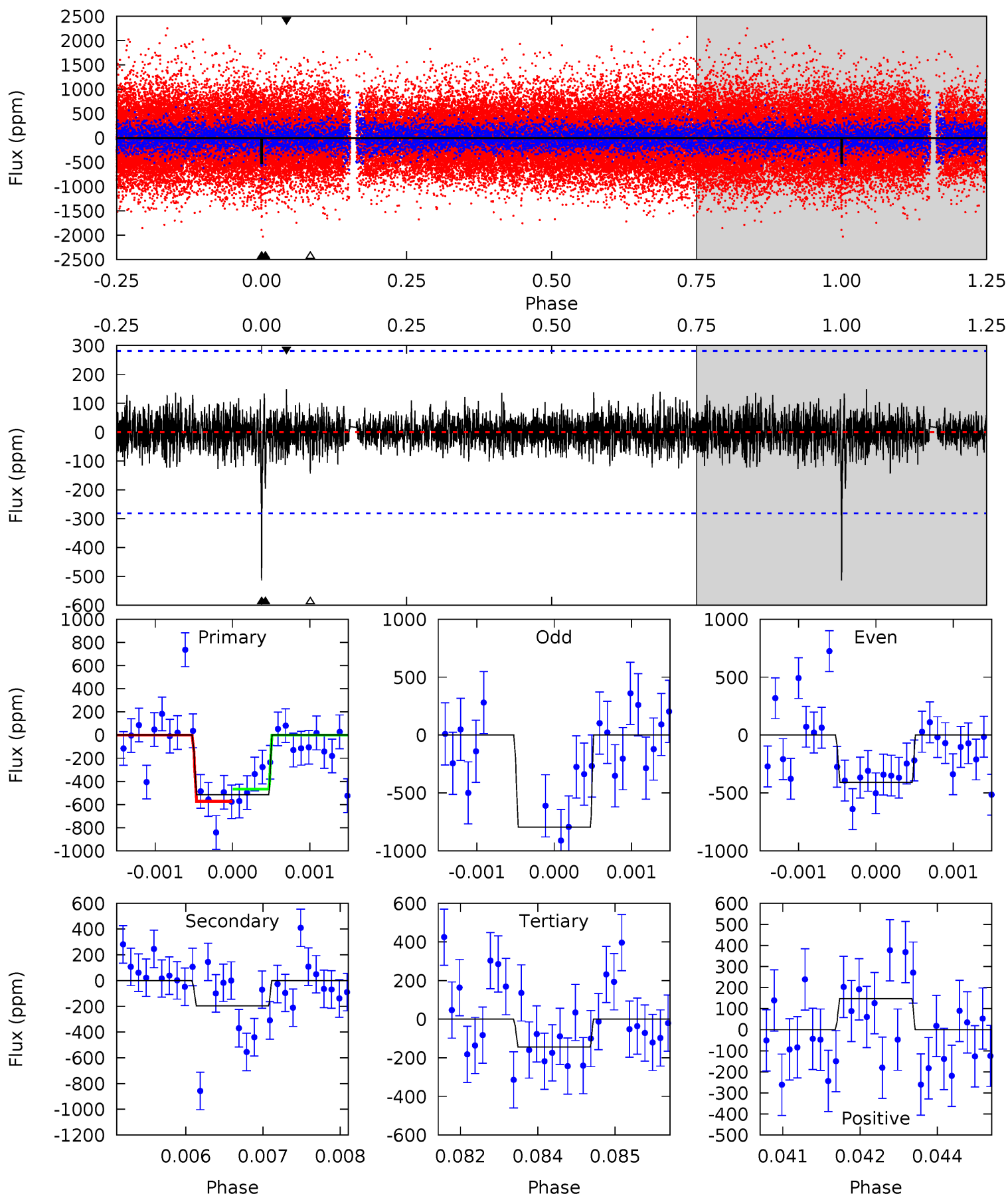
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	5.17	3.23	4.01	5.38	3.17	1.13	7.02	6.24	1.94	1.16	1.49	0.84	0.28	1.04



Alt Model-Shift Uniqueness Test

002710685-01, P = 436.099849 Days, E = 221.682020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.85	3.75	2.75	2.83	5.39	3.19	0.75	7.10	7.02	1.00	0.92	3.27	0.95	0.22	1.01



Stellar Parameters For KIC 002710685

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5869^{+184}_{-205}	$4.437^{+0.087}_{-0.203}$	$-0.100^{+0.300}_{-0.300}$	$0.986^{+0.283}_{-0.131}$	$0.969^{+0.128}_{-0.105}$	$1.426^{+0.624}_{-0.737}$
	+3%/-3%	+2%/-5%	+300%/-300%	+29%/-13%	+13%/-11%	+44%/-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 002710685-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-267 ± 52	$2.59^{+1.09}_{-1.08}$	344^{+25}_{-18}	5011^{+1386}_{-669}	26752^{+51302}_{-13632}
Alt.	-196 ± 52	$2.59^{+1.02}_{-1.04}$	347^{+26}_{-18}	4667^{+1152}_{-599}	18992^{+35020}_{-9983}

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 $A_{obs} \gg 1.0$

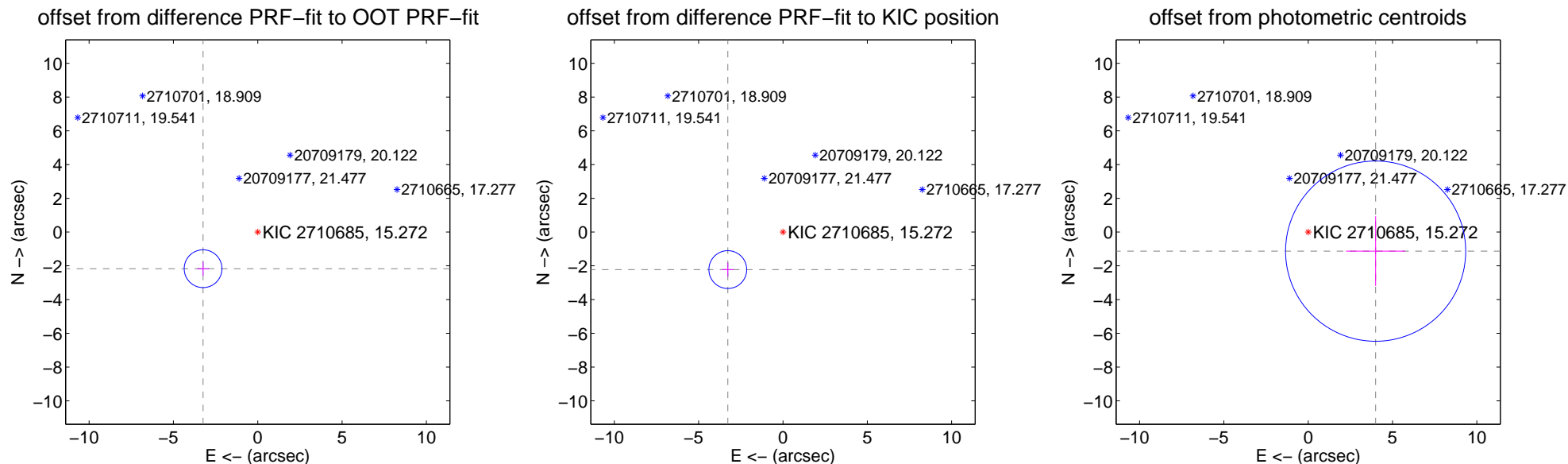
DV Centroid Data

Supplemental centroid analysis for 002710685-01. Kepler magnitude: 15.27. Transit SNR 7.43

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.902 ± 0.373	10.45	3.242 ± 0.356	-2.170 ± 0.410
PRF-fit source offset from KIC position	3.956 ± 0.374	10.59	3.272 ± 0.356	-2.223 ± 0.410
photometric centroid source offset	4.15 ± 1.78	2.33	-4.00 ± 1.76	-1.13 ± 2.06

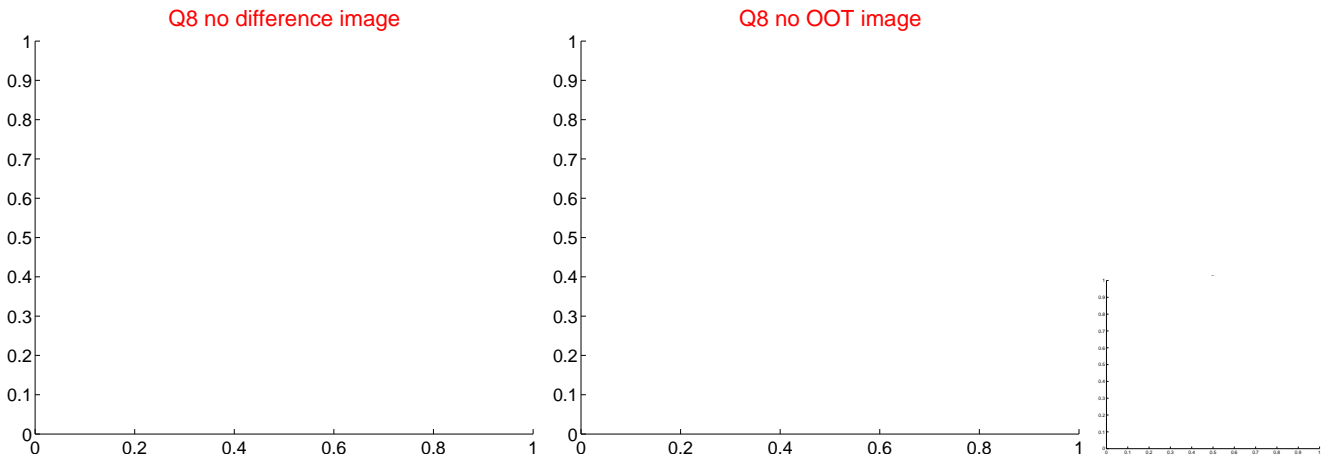
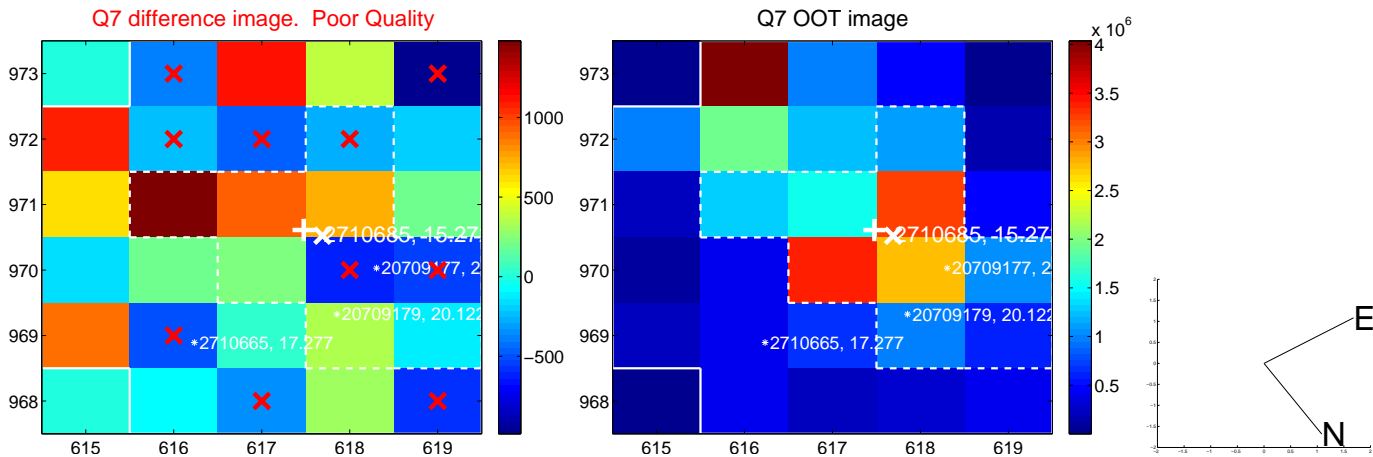
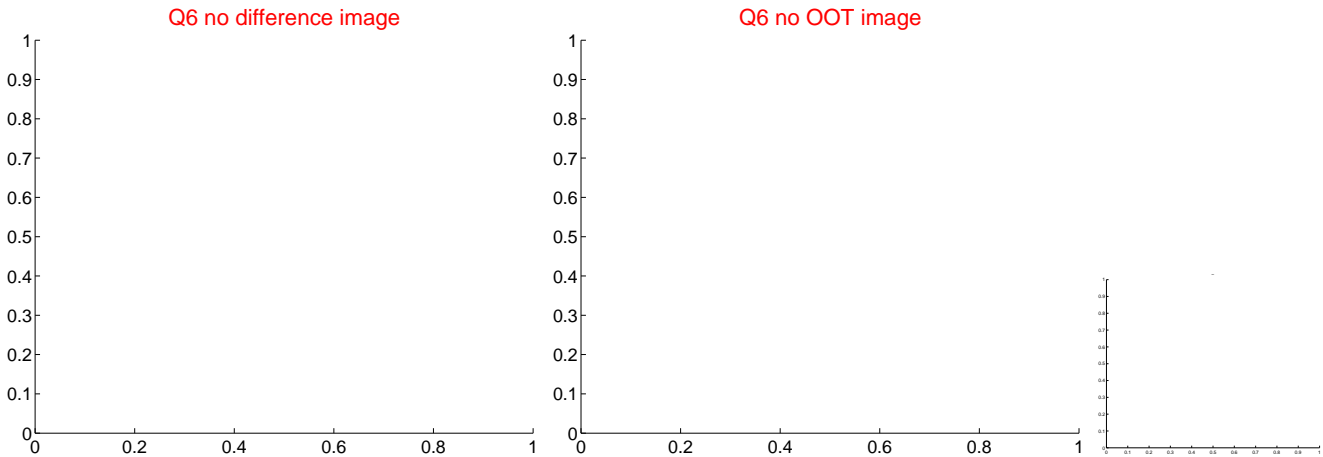
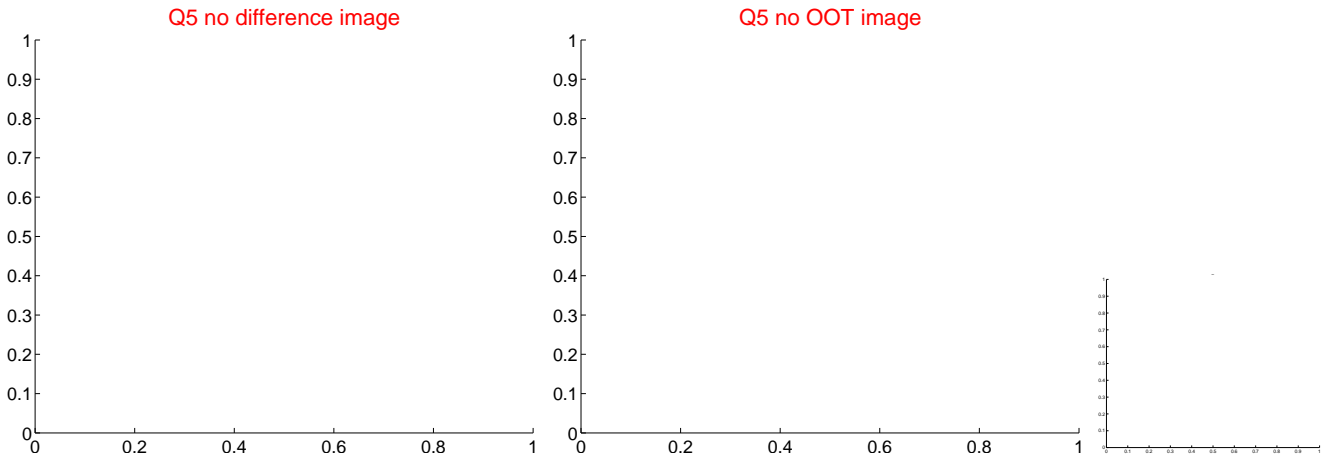


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



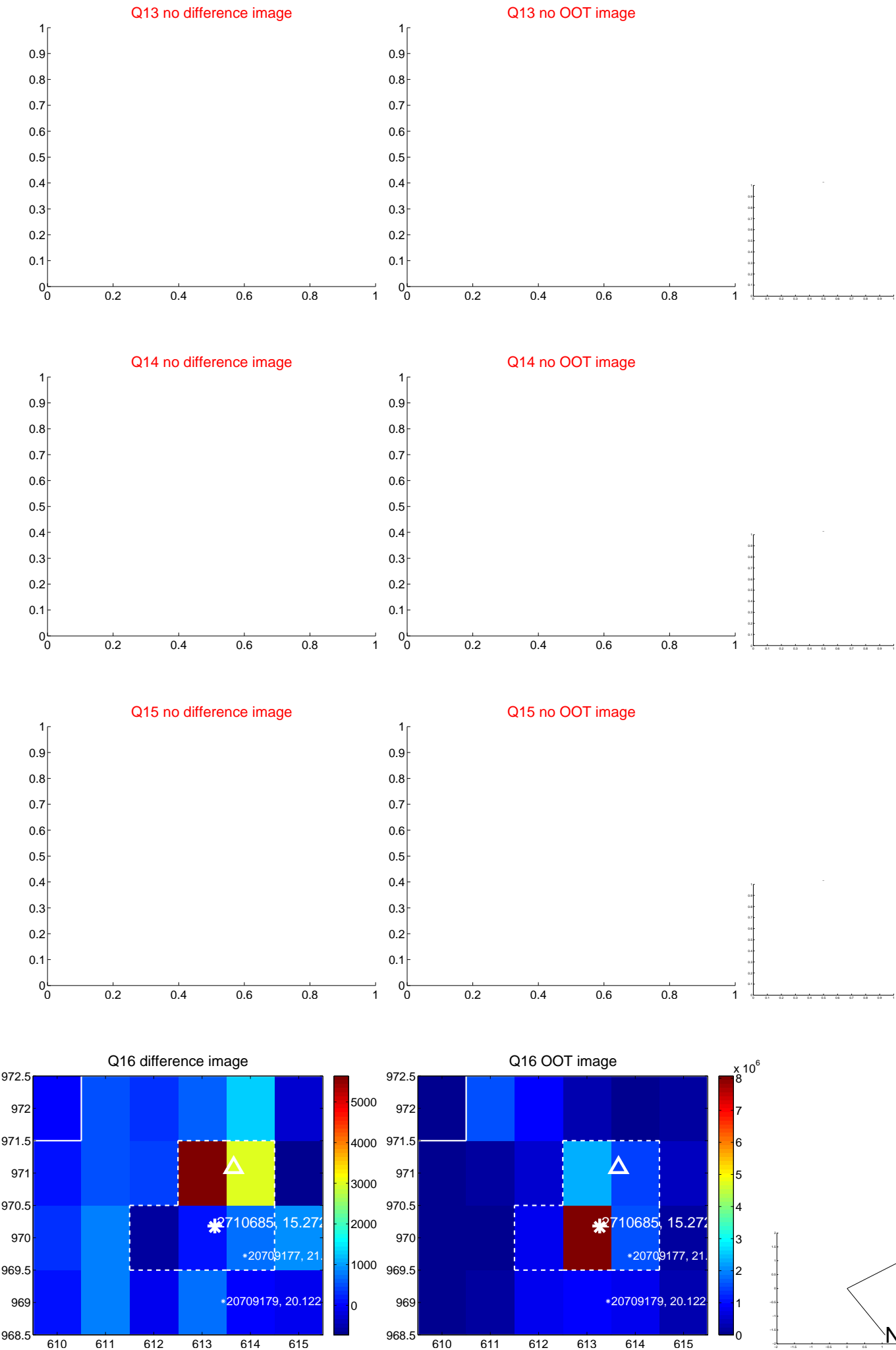
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



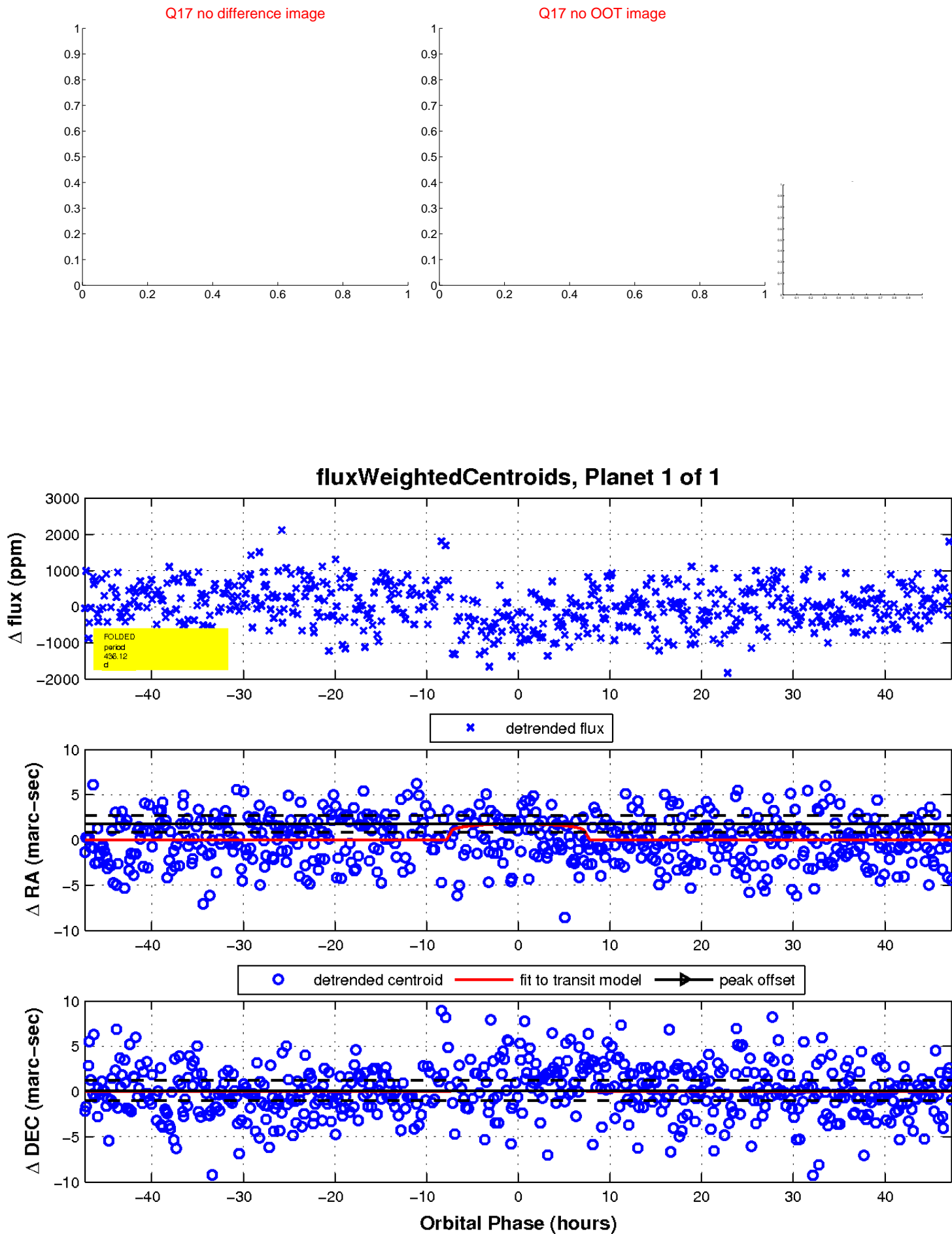
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

