

KIC 002715070

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})
002715070-01	OBS	No	464.092764	447.472276	1094.4	11.572	7.5	7.0	0.77	5477	3.16	0.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002715070-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

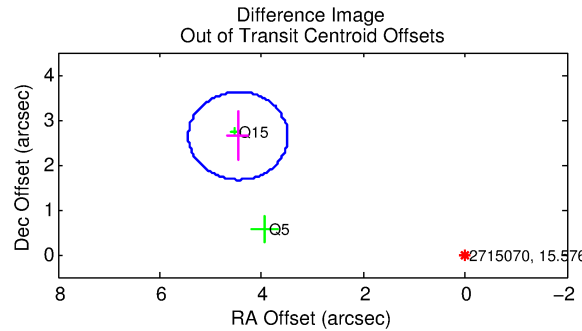
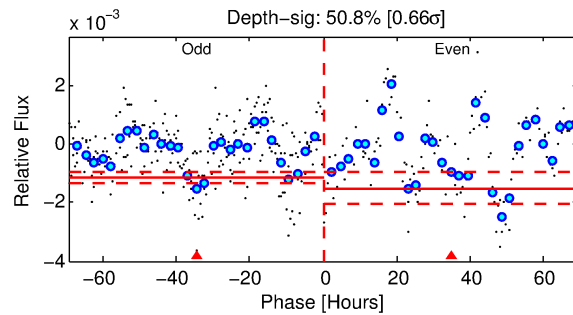
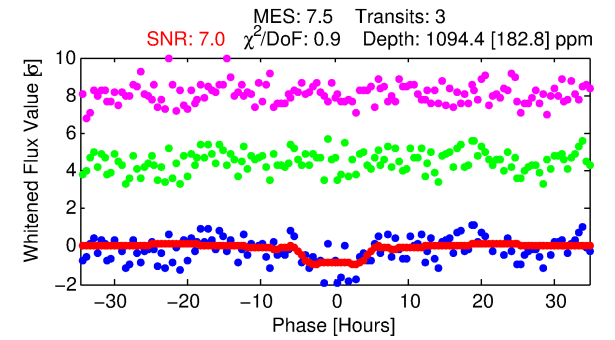
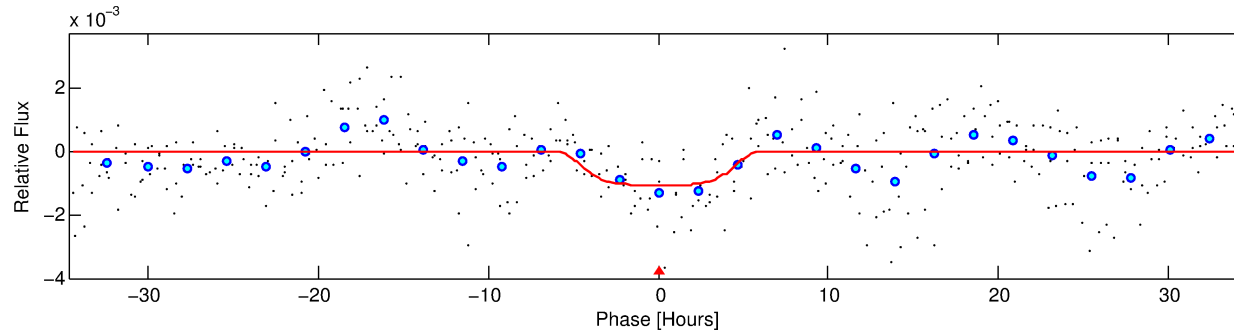
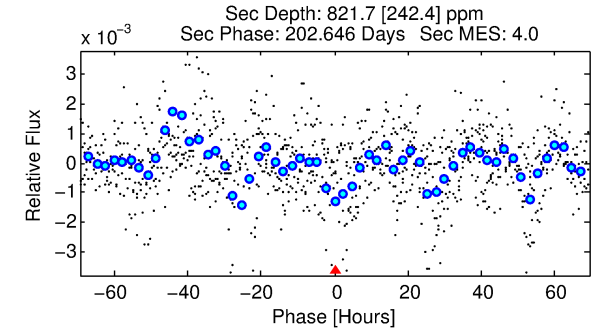
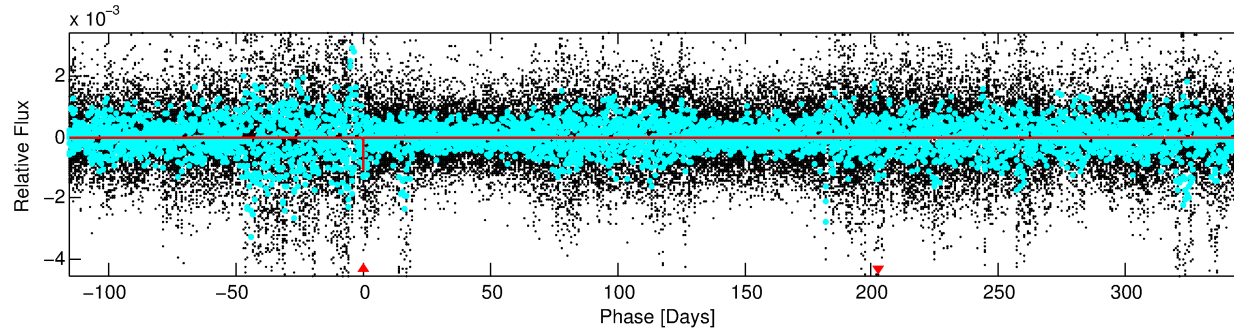
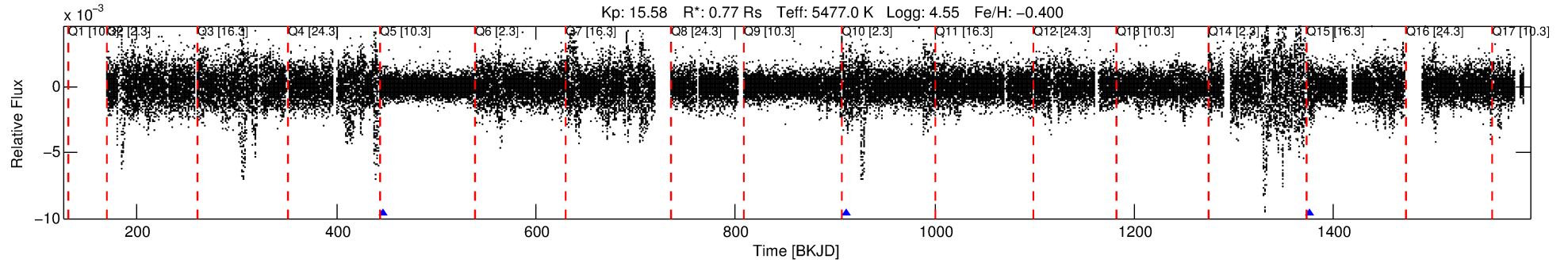
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002715070-01

No Significant Match Found

DV One-Page Summary

KIC: 2715070 Candidate: 1 of 1 Period: 464.093 d



DV Fit Results:

Period = 464.09276 [0.02177] d
Epoch = 447.4723 [0.0224] BKJD
Rp/R* = 0.0375 [0.0046]
a/R* = 141.53 [45.30]
b = 0.93 [0.05]
Seff = 0.41 [0.10]
Teq = 205 [12] K
Rp = 3.16 [0.70] Re
a = 1.0796 [0.1560] AU
Ag = 52636.96 [22742.08] [2.31σ]
Teffp = 4791 [481] K [9.53σ]

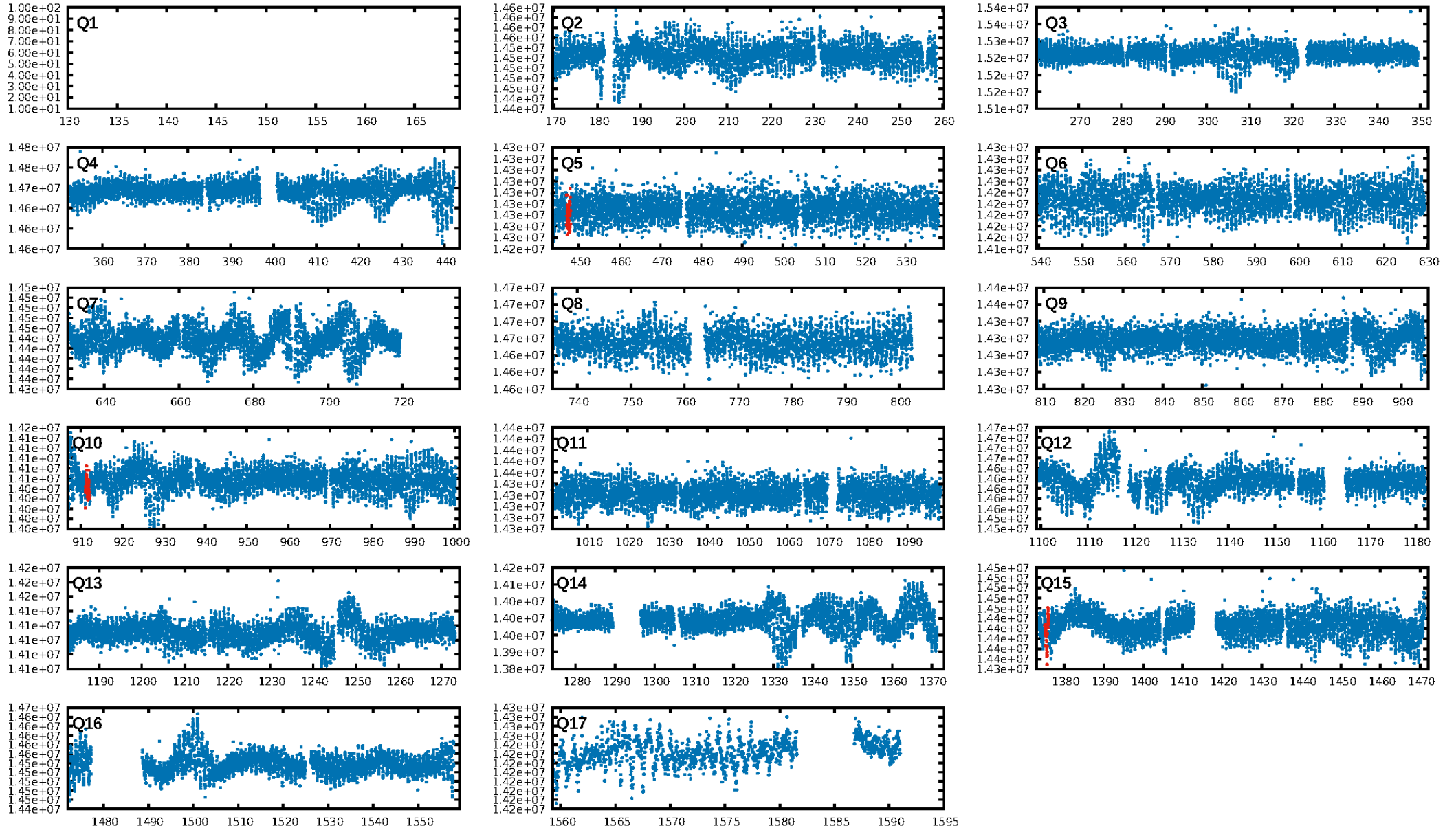
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 23.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.55e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.4686
Centroid-sig: 83.3%
Centroid-so: 0.626 arcsec [0.49σ]
OotOffset-rm: 5.183 arcsec [15.93σ]
KicOffset-rm: 5.512 arcsec [6.64σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

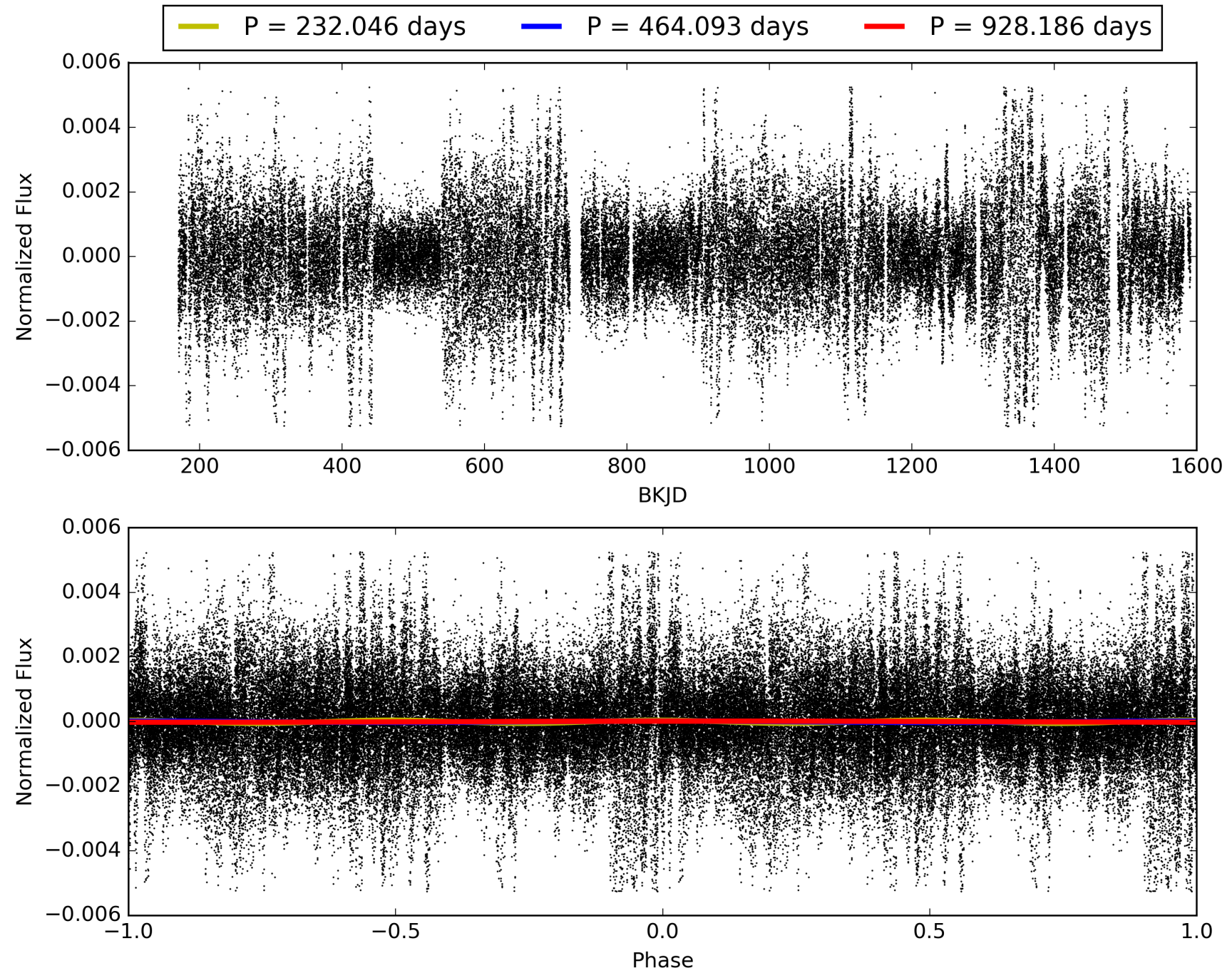
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:56:00 Z

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

TCE 002715070-01, PDC Light Curves

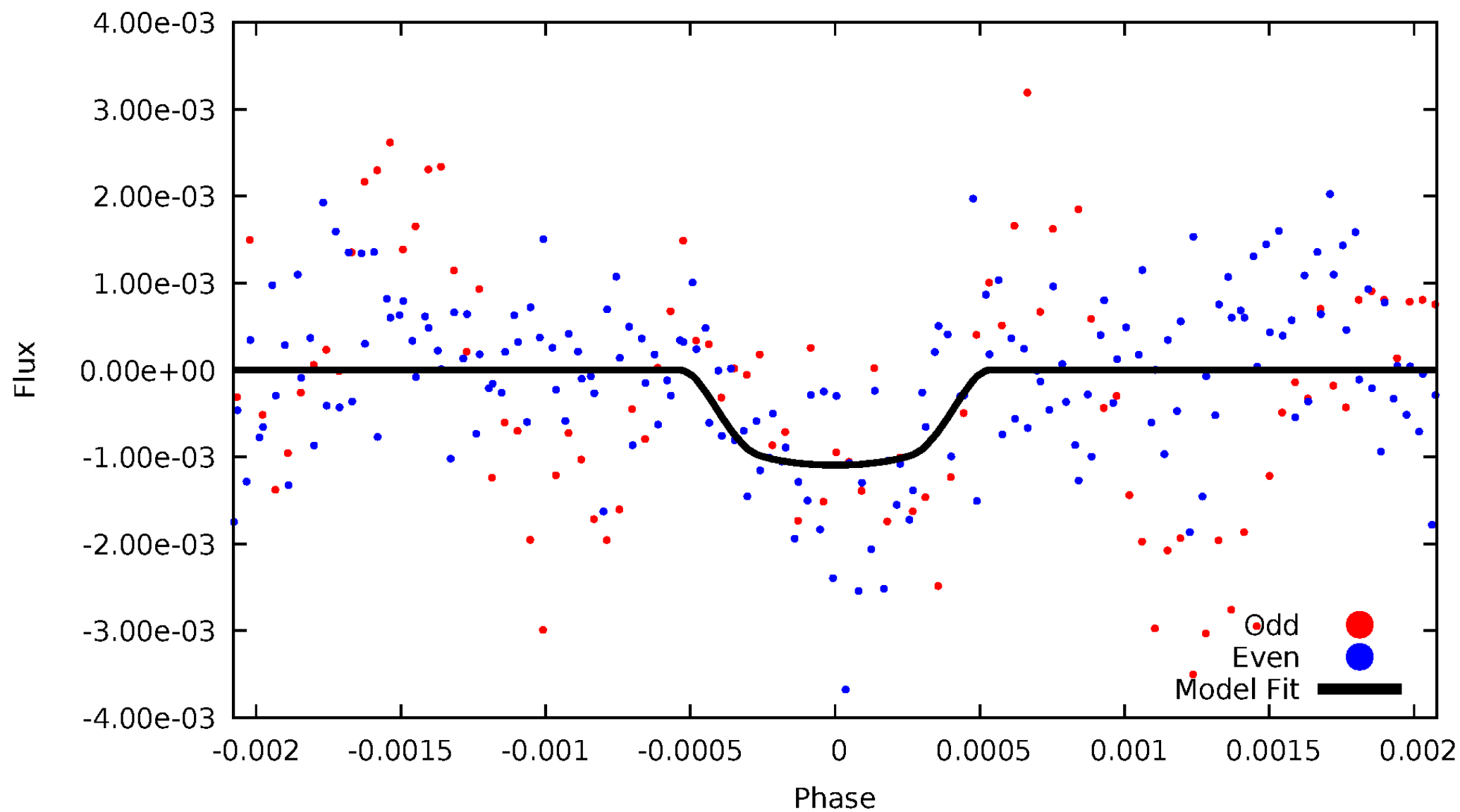


TCE 002715070-01



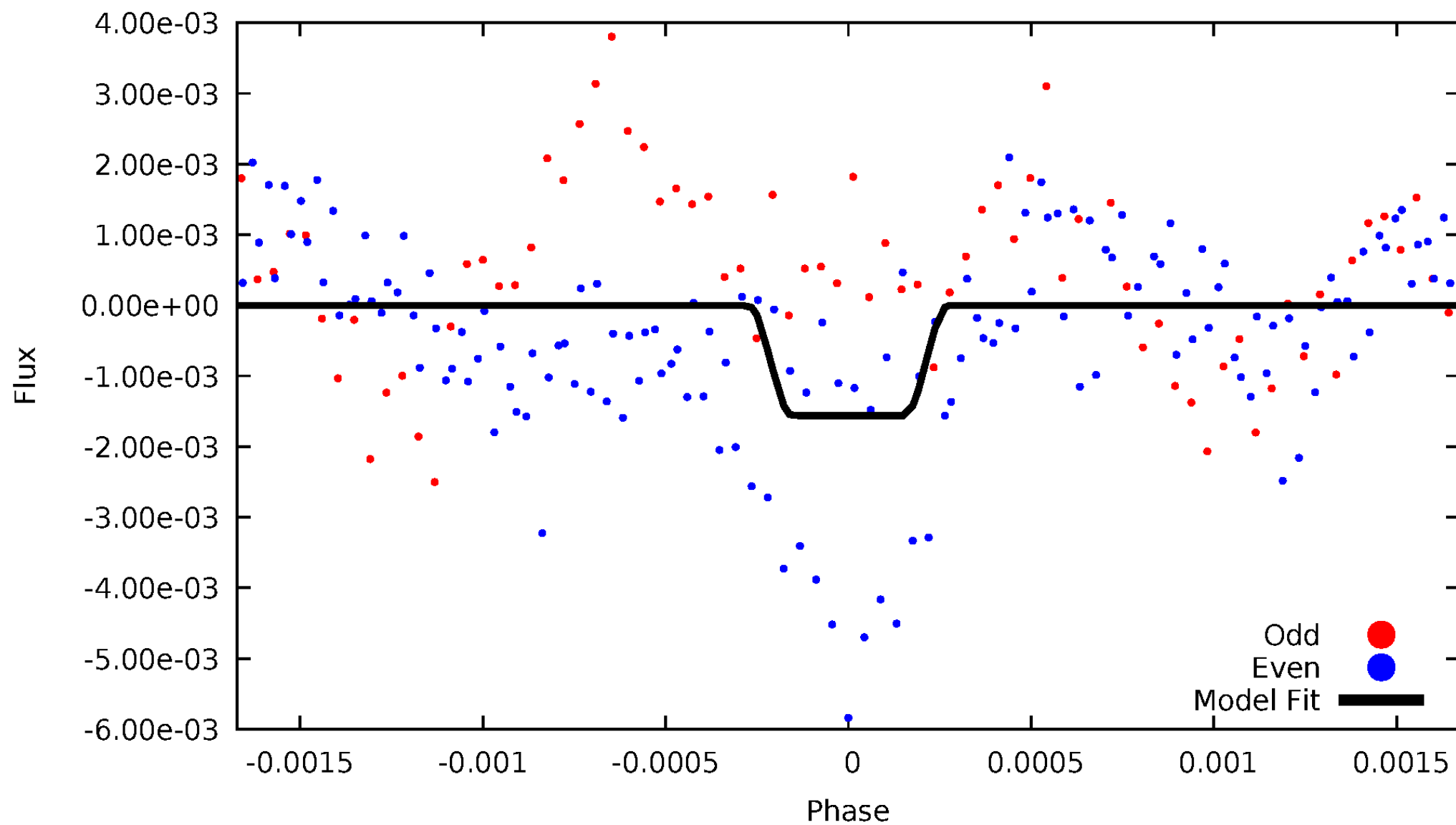
DV Odd/Even

TCE 002715070-01

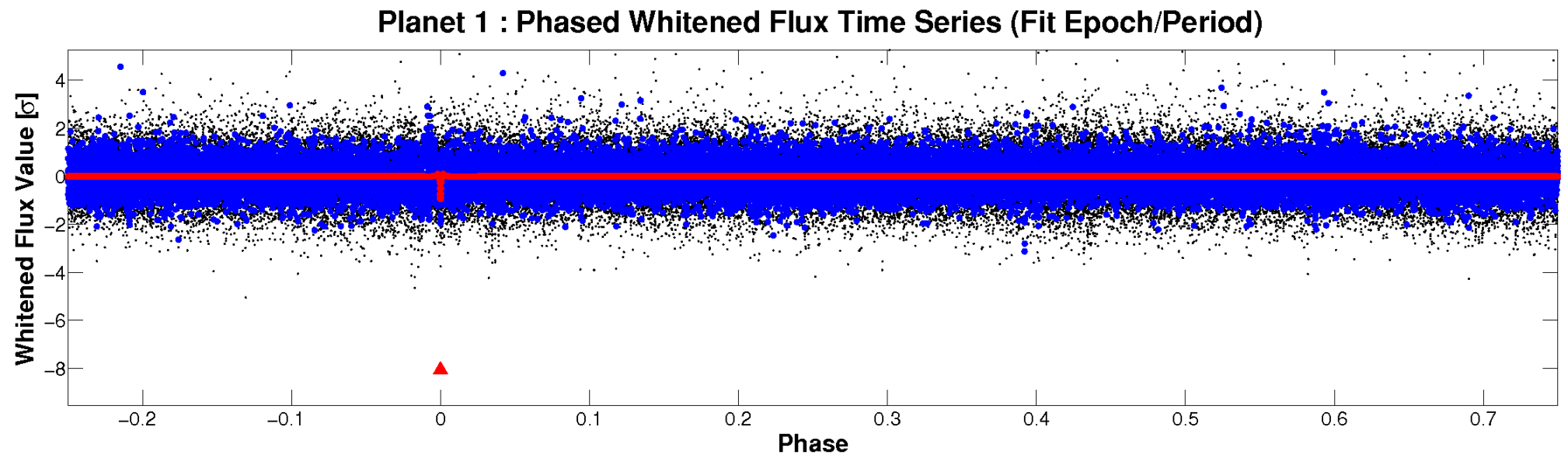
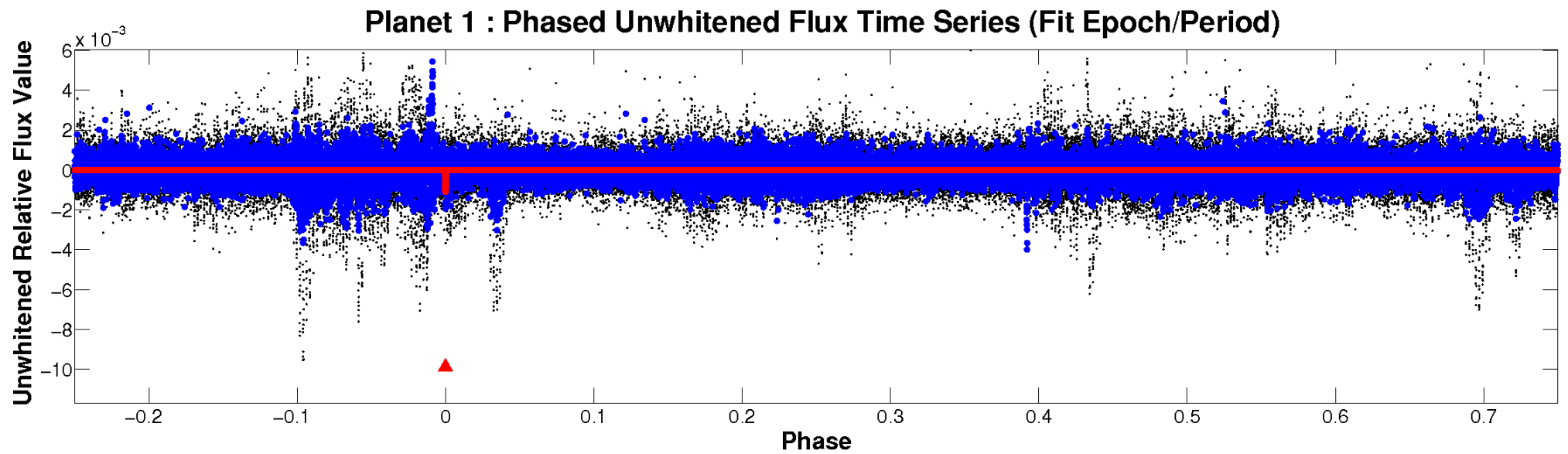


ALT Odd/Even

TCE 002715070-01

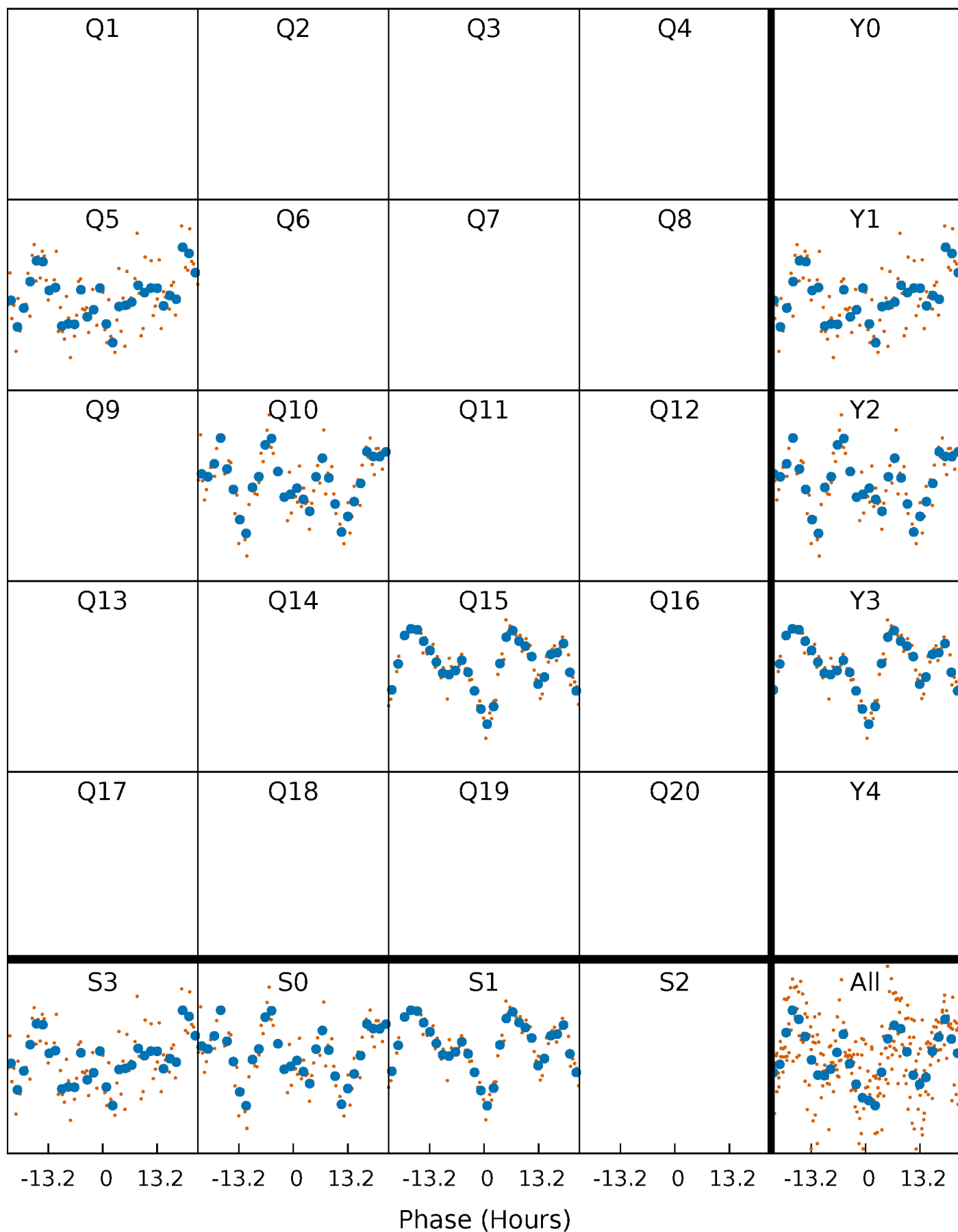


Non-Whitened Vs. Whitened Light Curve



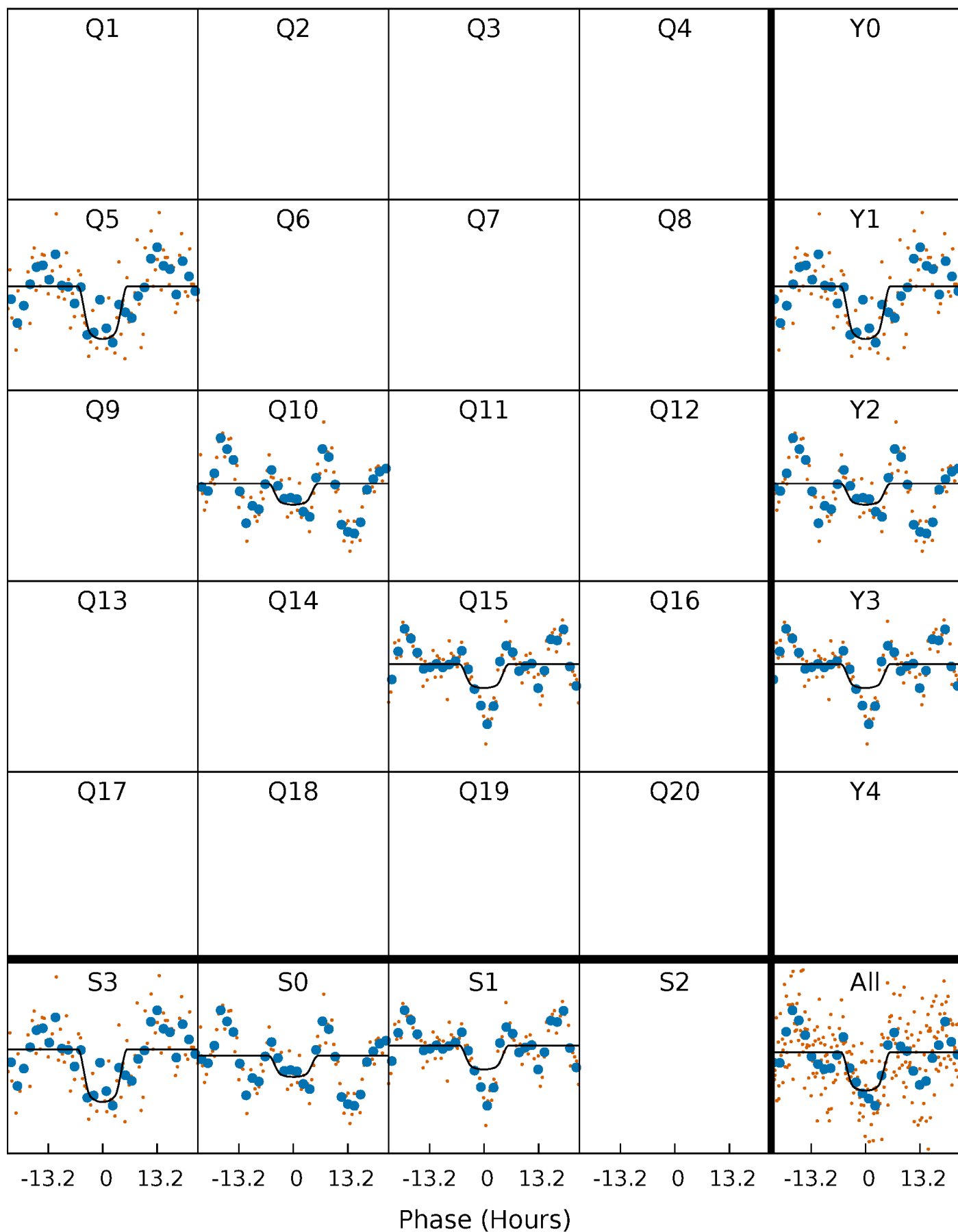
PDC Quarter-Phased Transit Curves

TCE 002715070-01 P=464.092764 Days $T_0=447.472276$ (BKJD)



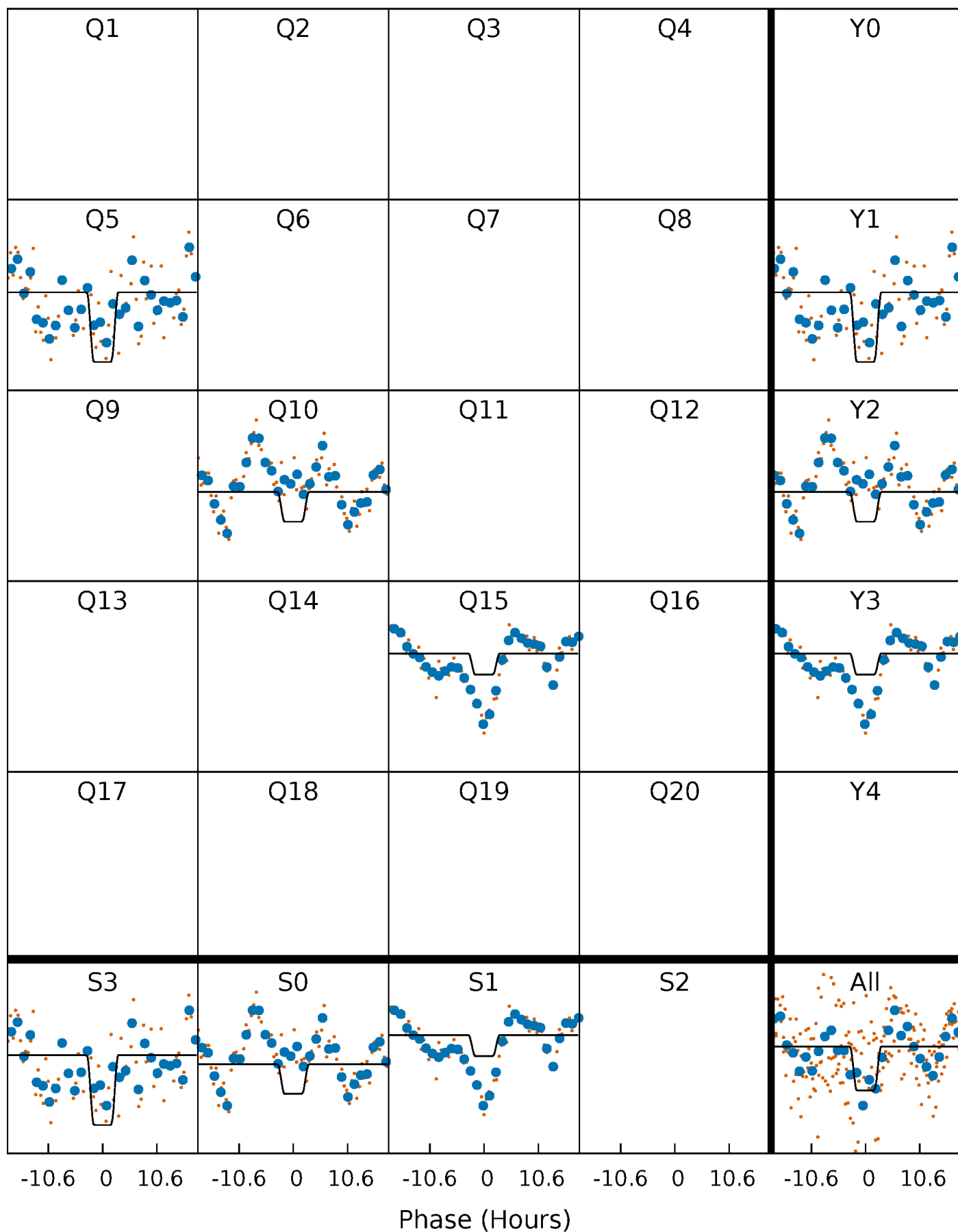
DV Quarter-Phased Transit Curves

TCE 002715070-01 P=464.092764 Days $T_0=447.472276$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

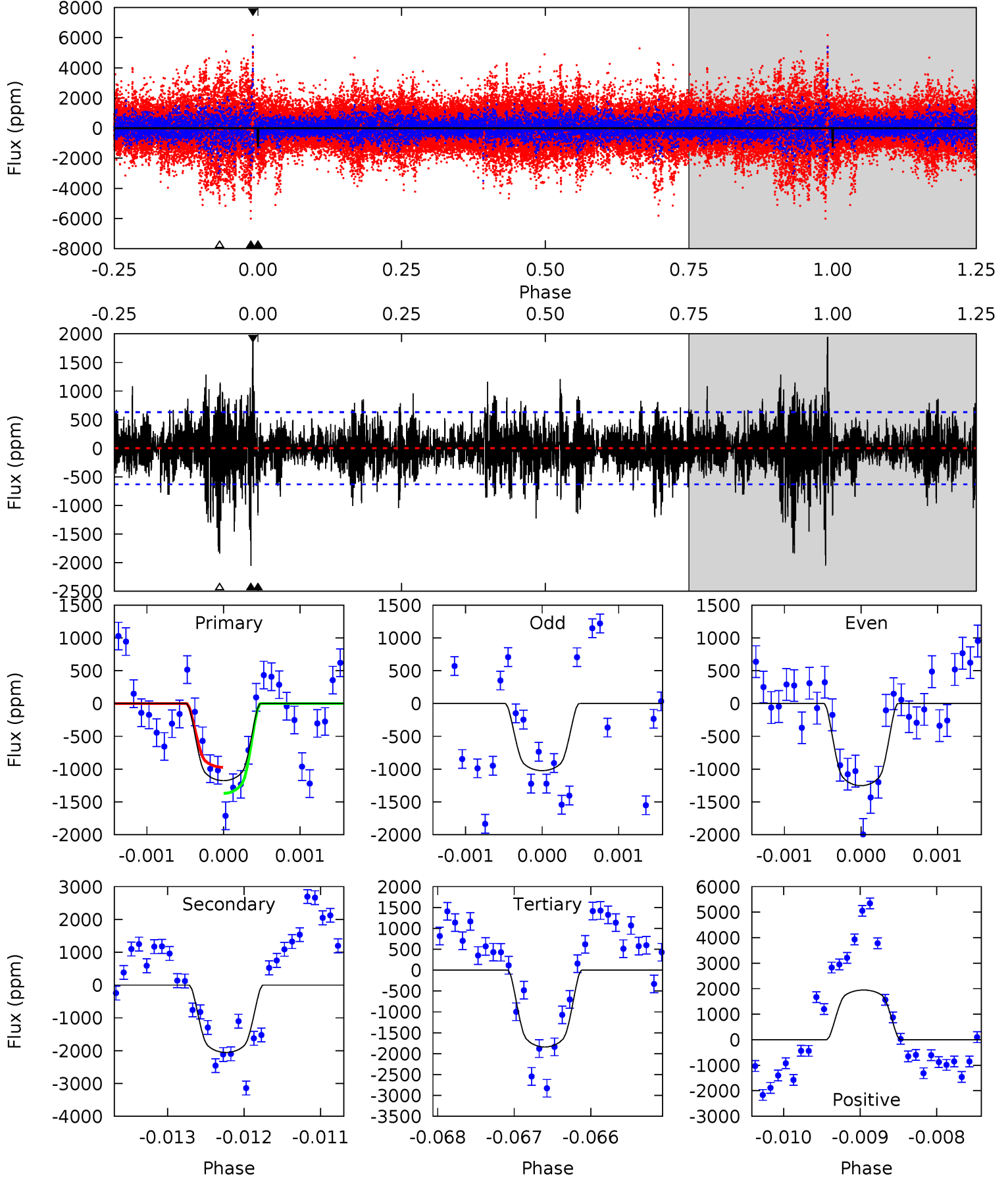
TCE 002715070-01 P=464.052959 Days $T_0=447.569014$ (BKJD)



DV Model-Shift Uniqueness Test

002715070-01, P = 464.092764 Days, E = 447.472276 Days

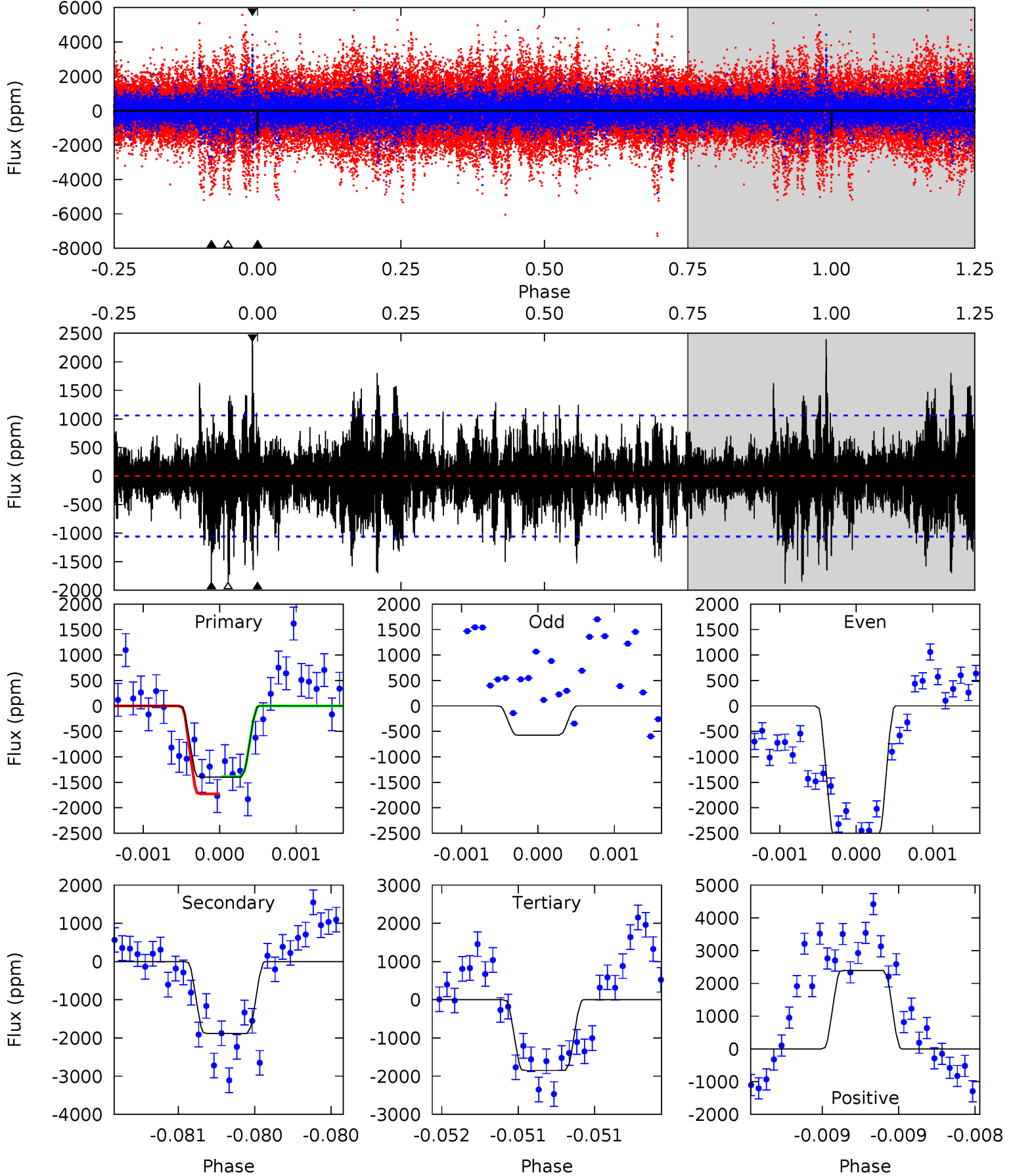
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	17.7	15.8	16.8	5.43	3.26	2.87	-5.72	-6.64	1.85	0.92	0.93	1.15	0.49	1.70



Alt Model-Shift Uniqueness Test

002715070-01, P = 464.052959 Days, E = 447.569014 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.31	9.86	9.70	12.5	5.56	3.46	2.18	-2.39	-5.23	0.16	-2.68	5.05	1.93	0.56	0.90



Stellar Parameters For KIC 002715070

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5477^{+162}_{-162}	$4.552^{+0.059}_{-0.102}$	$-0.400^{+0.350}_{-0.300}$	$0.774^{+0.141}_{-0.076}$	$0.778^{+0.098}_{-0.068}$	$2.367^{+0.693}_{-0.756}$
	+3%/-3%	+1%/-2%	+87%/-75%	+18%/-10%	+13%/-9%	+29%/-32%
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 002715070-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2055 ± 116	$3.21^{+0.45}_{-0.44}$	288^{+13}_{-13}	6007^{+441}_{-402}	128081^{+43900}_{-29593}
Alt.	-1881 ± 191	$3.41^{+0.49}_{-0.45}$	288^{+12}_{-12}	5700^{+421}_{-379}	104319^{+33269}_{-26317}

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

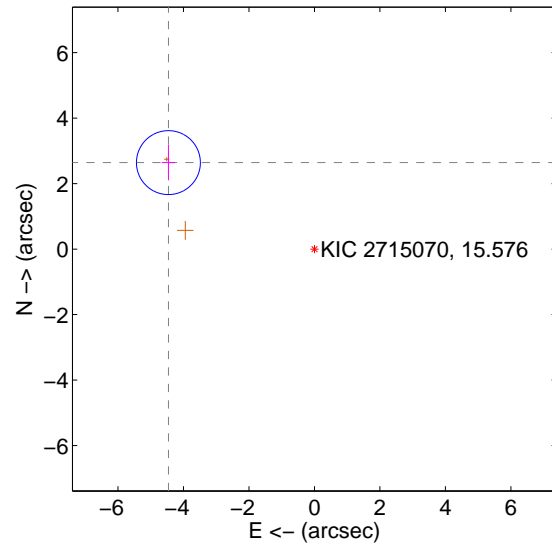
Supplemental centroid analysis for 002715070-01. Kepler magnitude: 15.58. Transit SNR 7.00

There are 0 quarters with good PRF difference image offsets

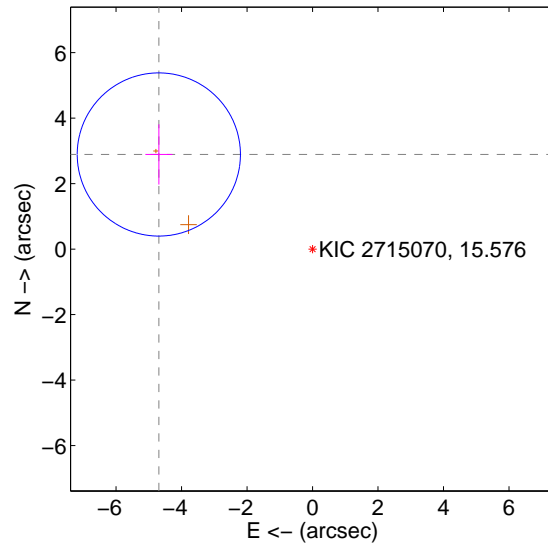
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.183 ± 0.325	15.93	4.459 ± 0.202	2.641 ± 0.540
PRF-fit source offset from KIC position	5.512 ± 0.831	6.64	4.694 ± 0.413	2.889 ± 0.920
photometric centroid source offset	0.63 ± 1.28	0.49	-0.36 ± 1.43	-0.51 ± 1.21

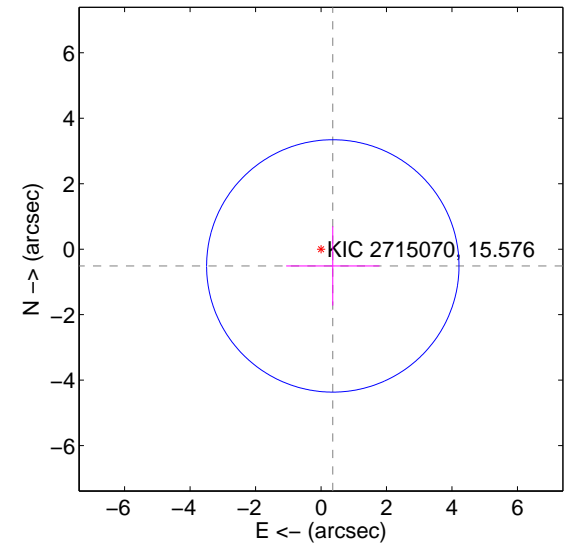
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

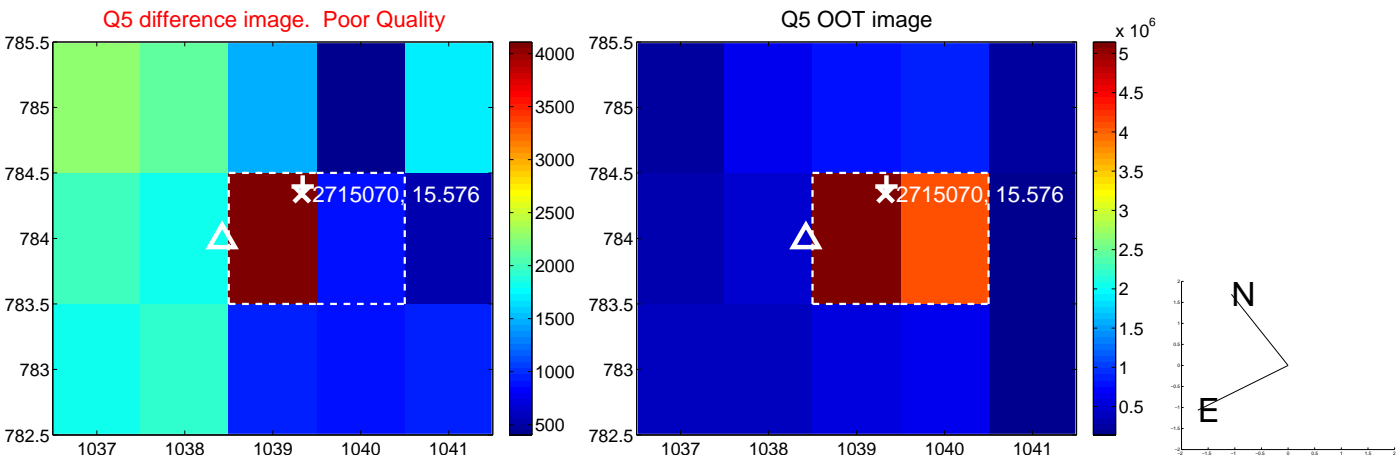


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

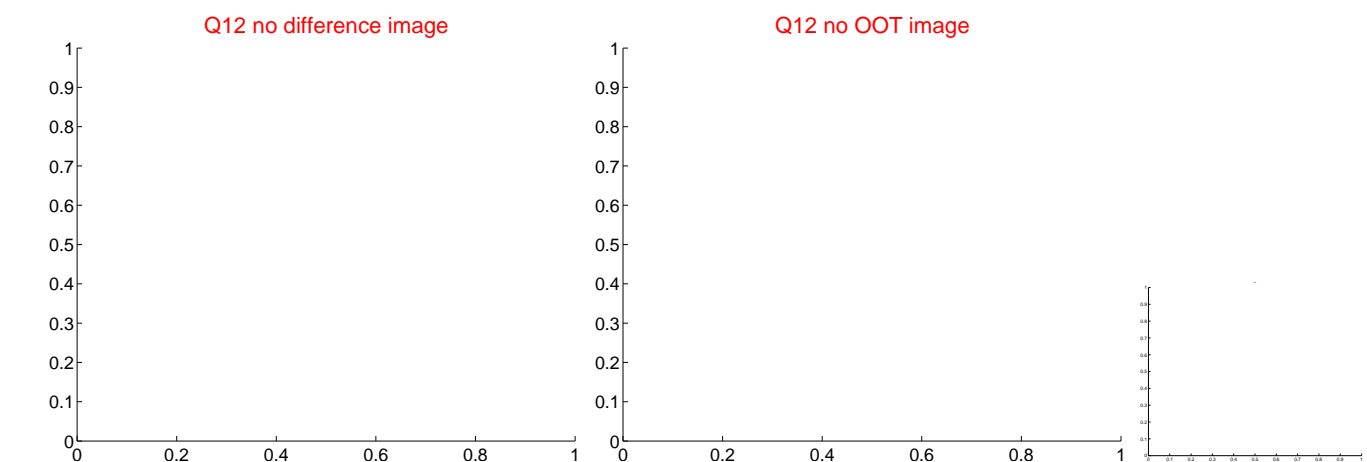
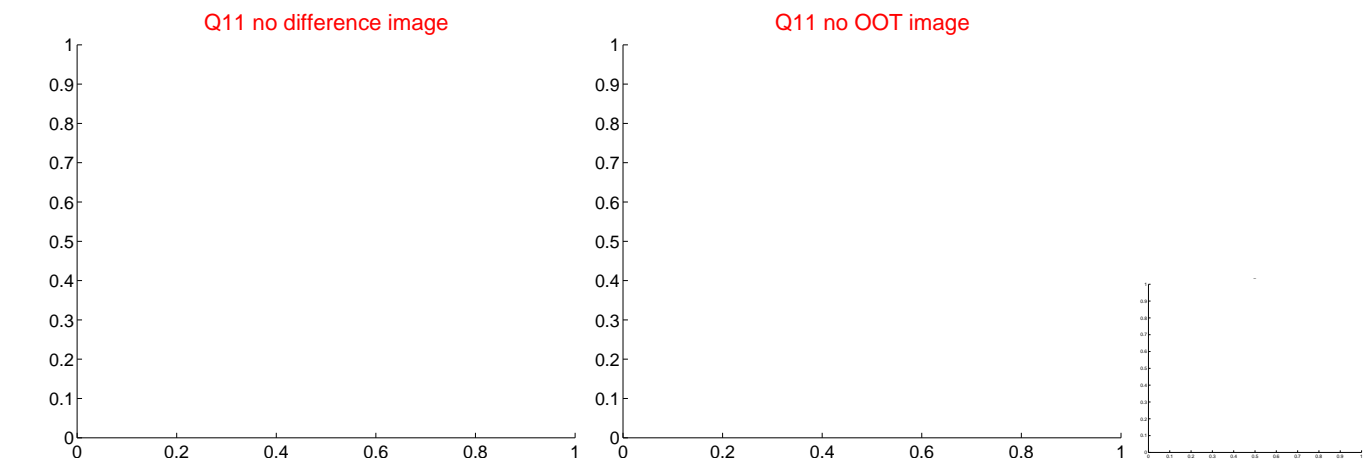
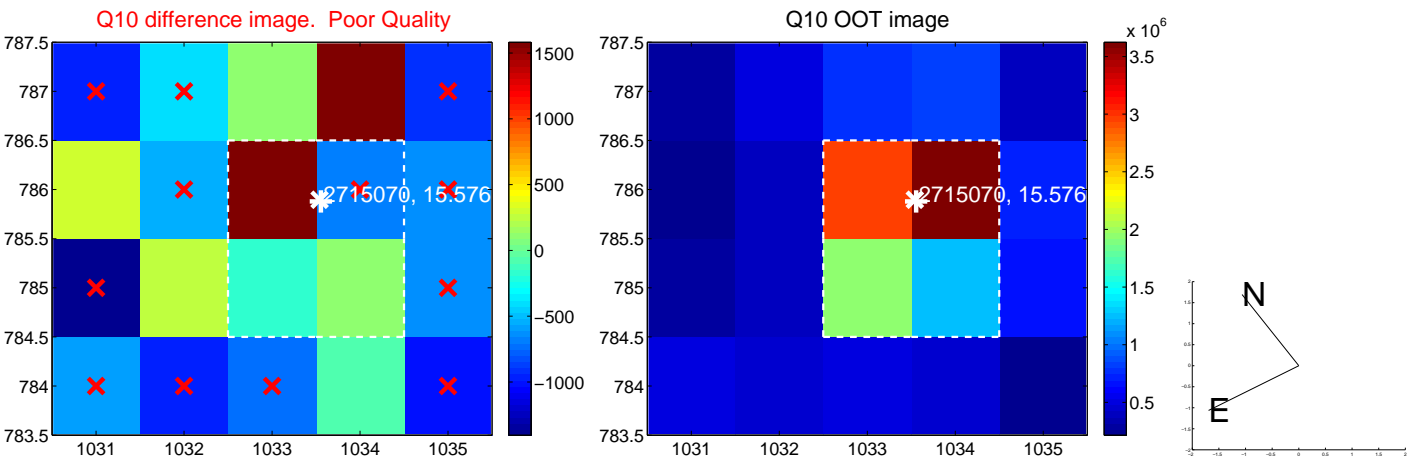
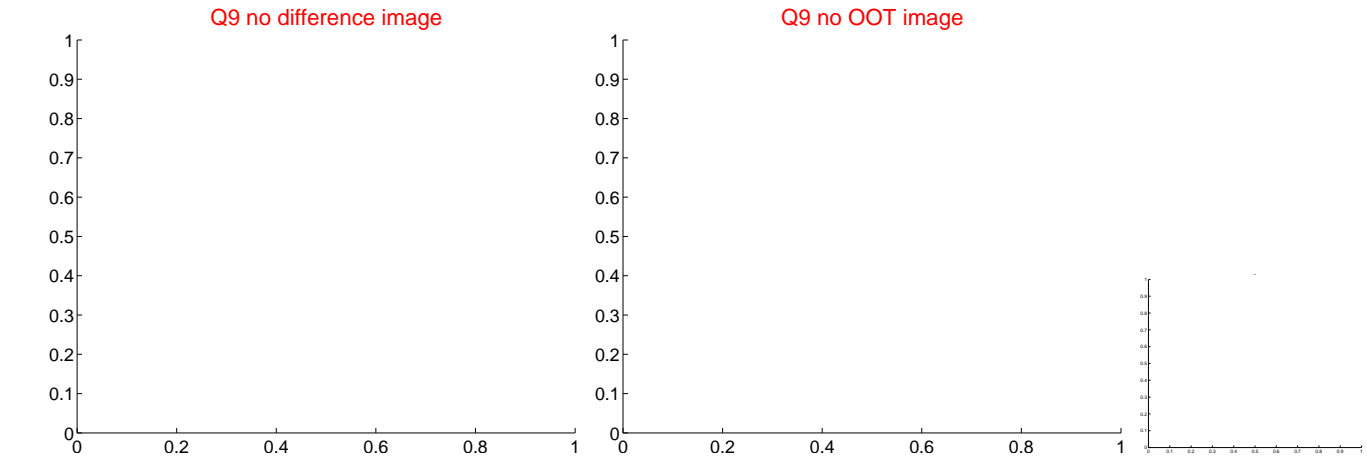
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



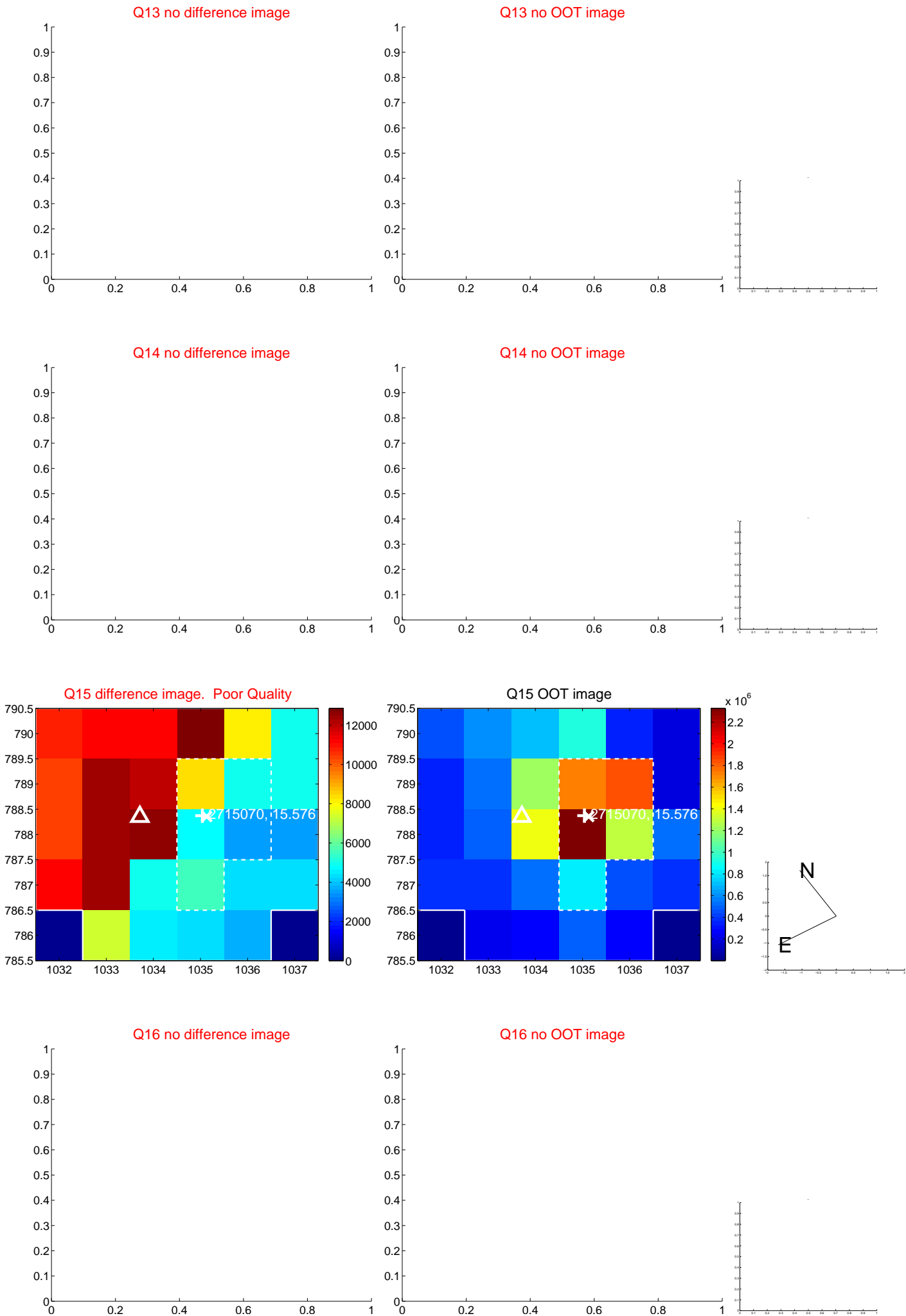
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



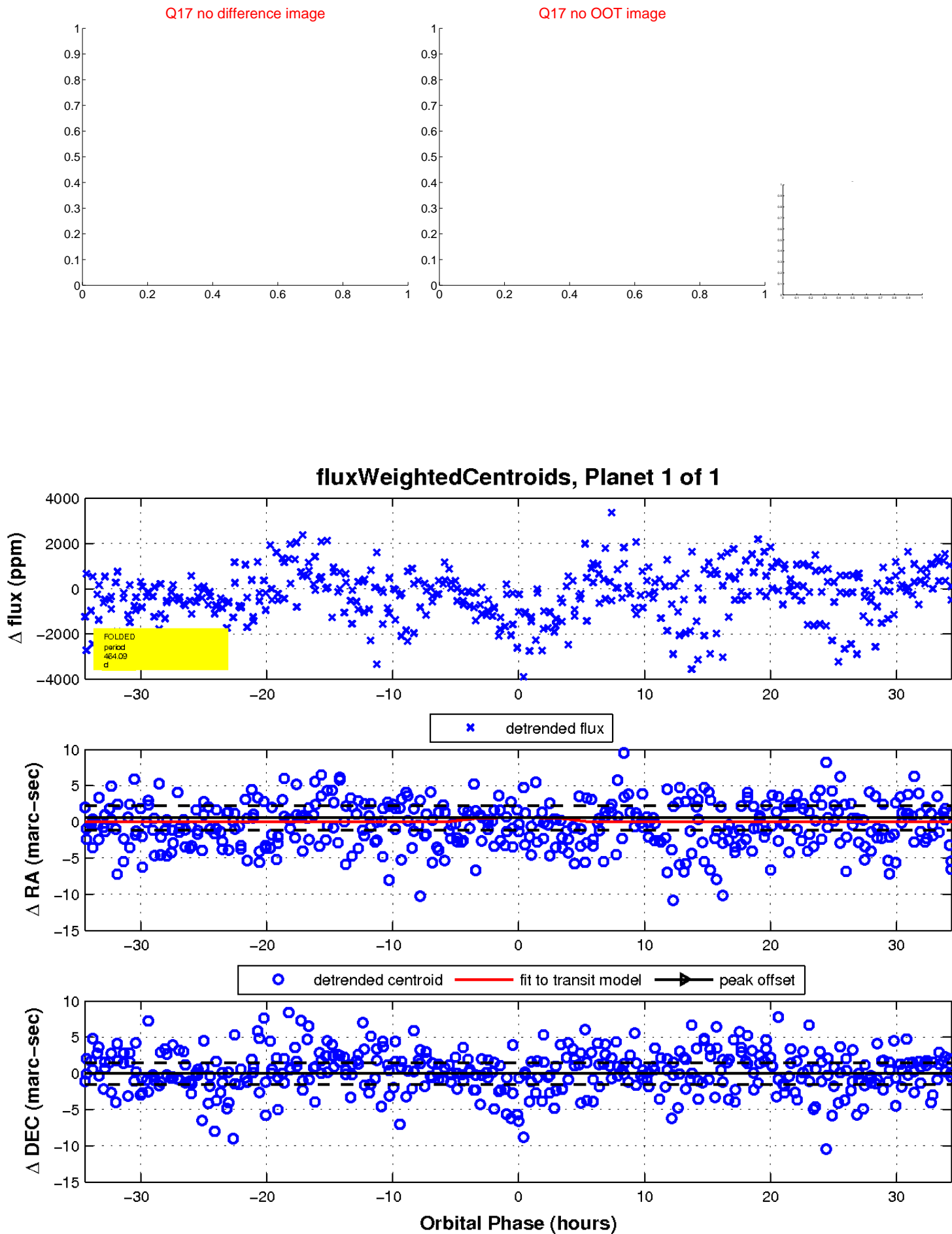
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

