

KIC 007515308

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})
007515308-01	OBS	No	503.929346	159.397267	1283.6	12.120	9.7	8.9	0.75	5481	2.70	0.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007515308-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

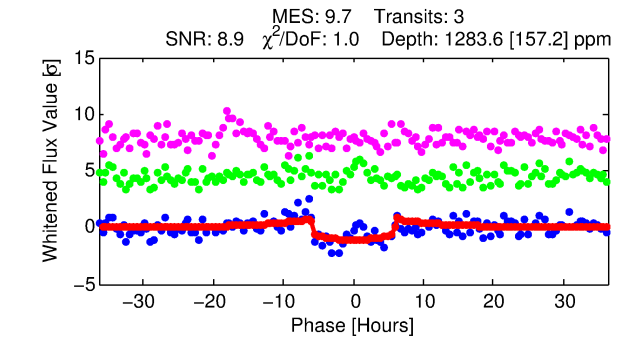
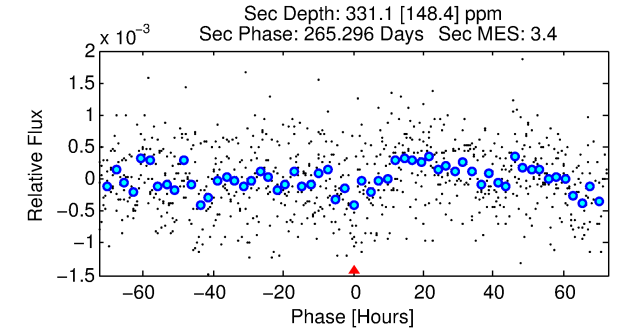
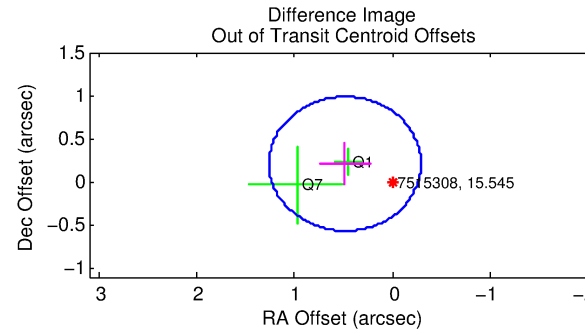
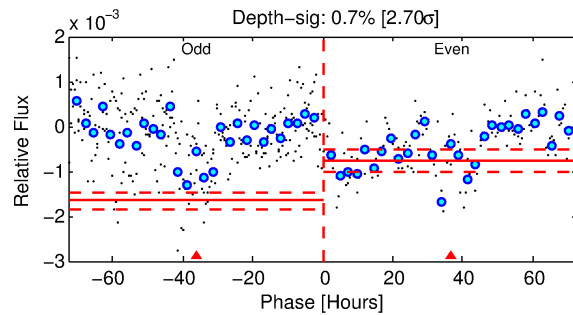
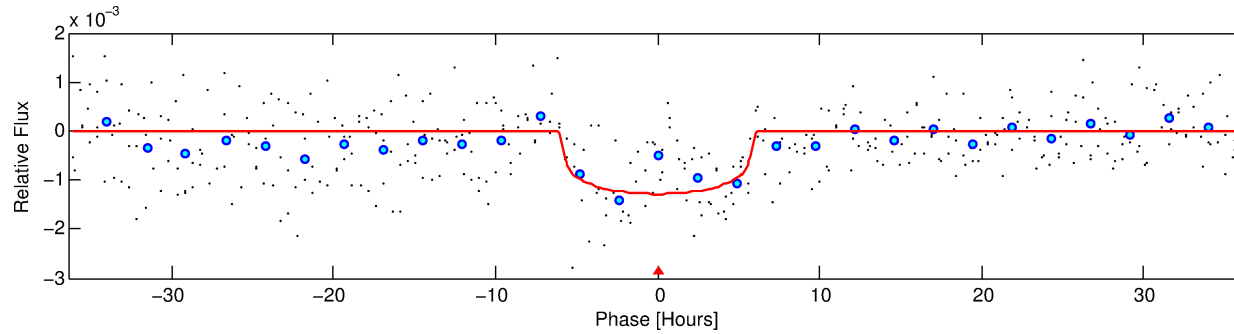
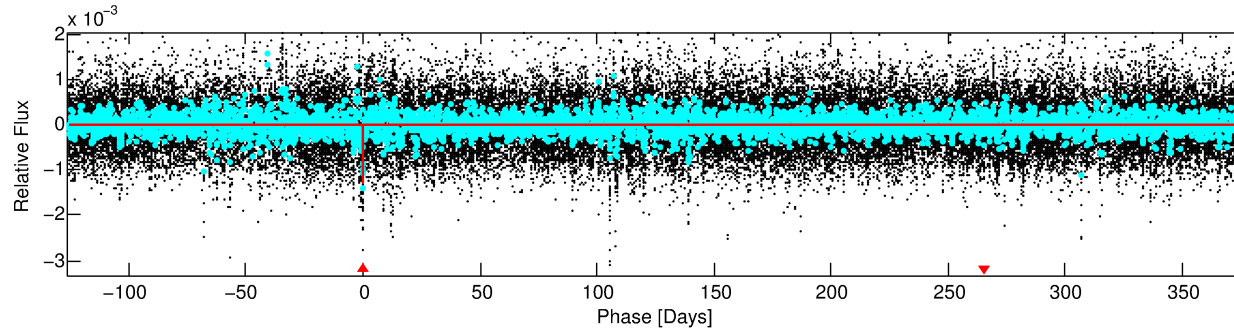
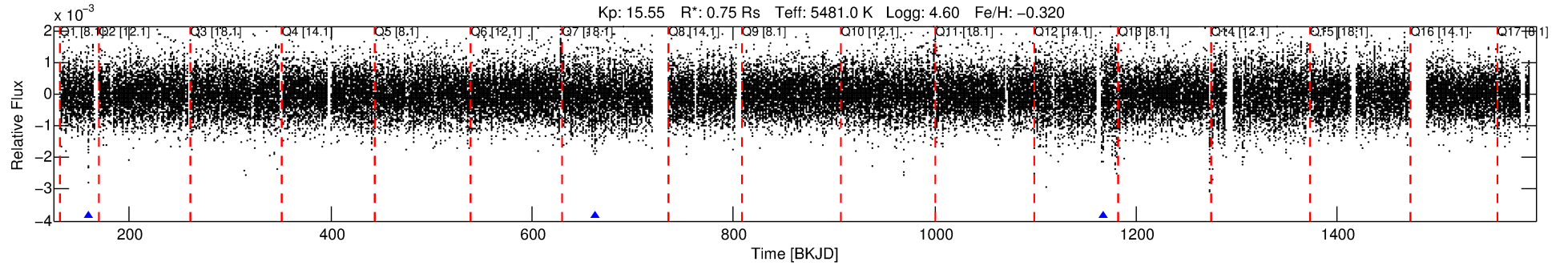
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007515308-01

No Significant Match Found

DV One-Page Summary

KIC: 7515308 Candidate: 1 of 1 Period: 503.929 d



DV Fit Results:

Period = 503.92935 [0.00919] d
Epoch = 159.3973 [0.0111] BKJD
Rp/R* = 0.0329 [0.0120]
a/R* = 308.32 [458.19]
b = 0.35 [3.68]
Seff = 0.34 [0.09]
Teq = 194 [12] K
Rp = 2.70 [1.11] Re
a = 1.1655 [0.1798] AU
Ag = 33832.10 [29905.95] [1.13 σ]
Teffp = 4078 [881] K [4.41 σ]

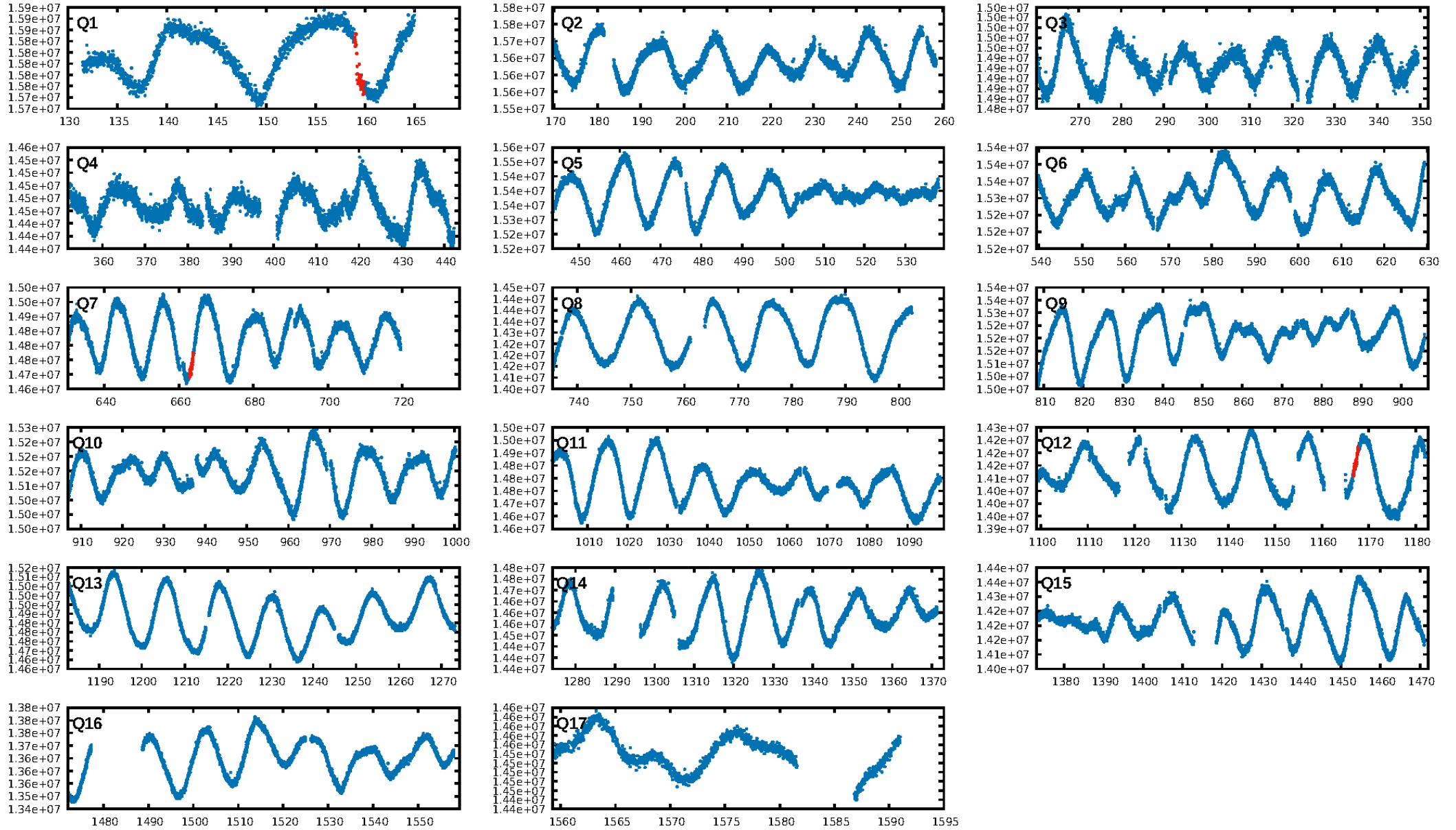
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.1%
ModelChiSquareGof-sig: 86.1%
Bootstrap-pfa: 2.41e-14
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -9.156
Centroid-sig: 23.1%
Centroid-so: 0.441 arcsec [0.54 σ]
OotOffset-rm: 0.529 arcsec [2.04 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.471 arcsec [1.80 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

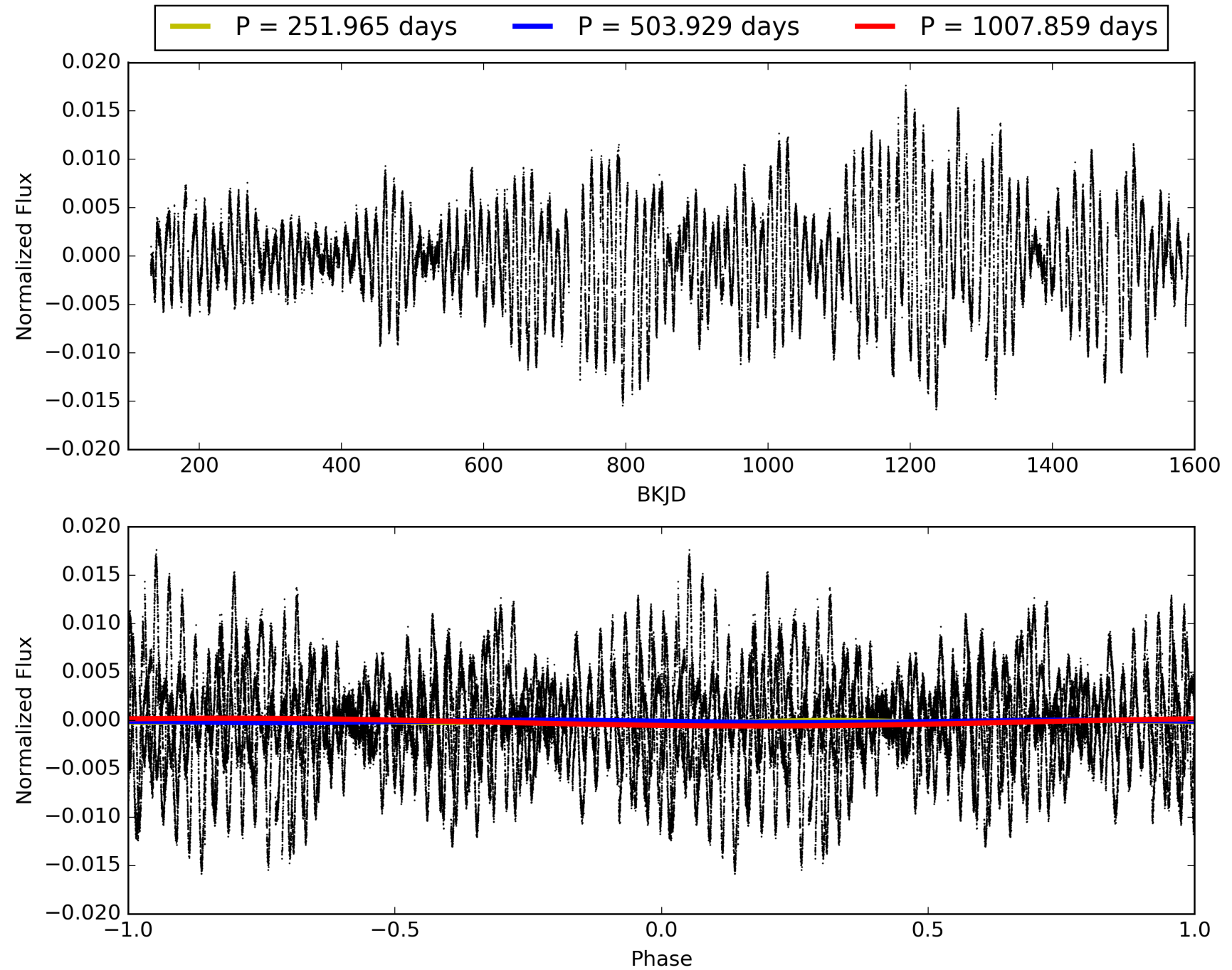
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:28:47 Z

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

TCE 007515308-01, PDC Light Curves

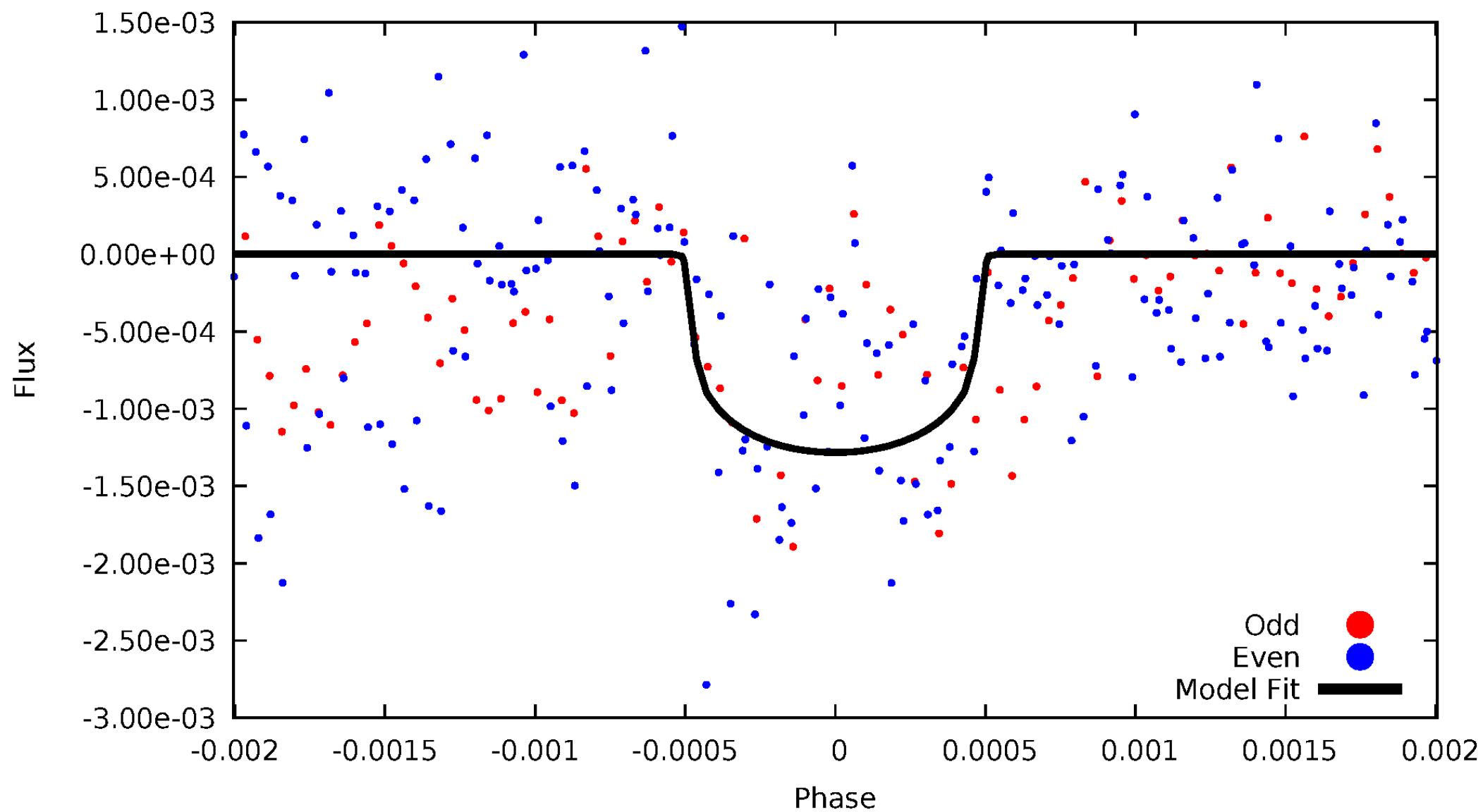


TCE 007515308-01



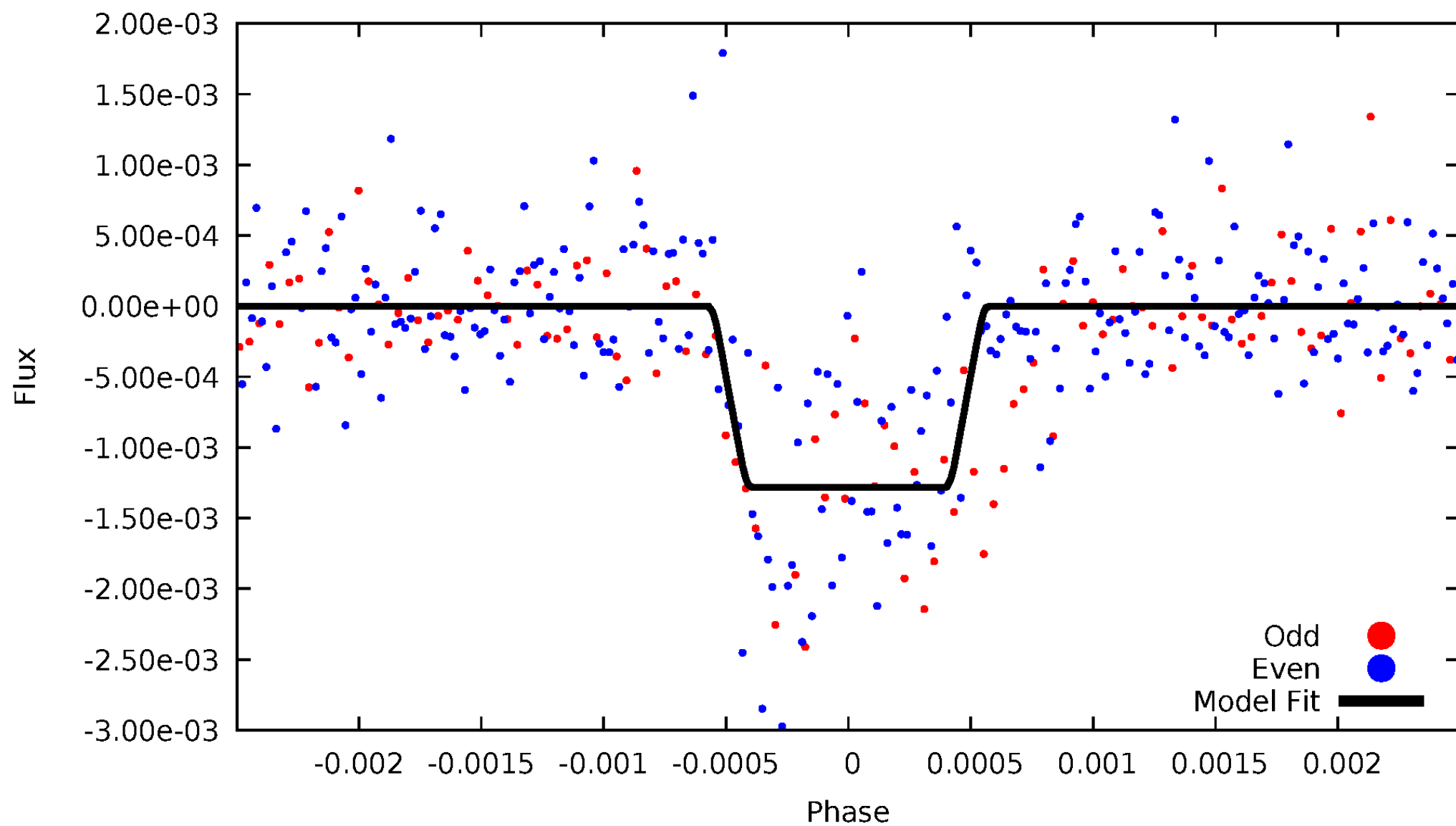
DV Odd/Even

TCE 007515308-01

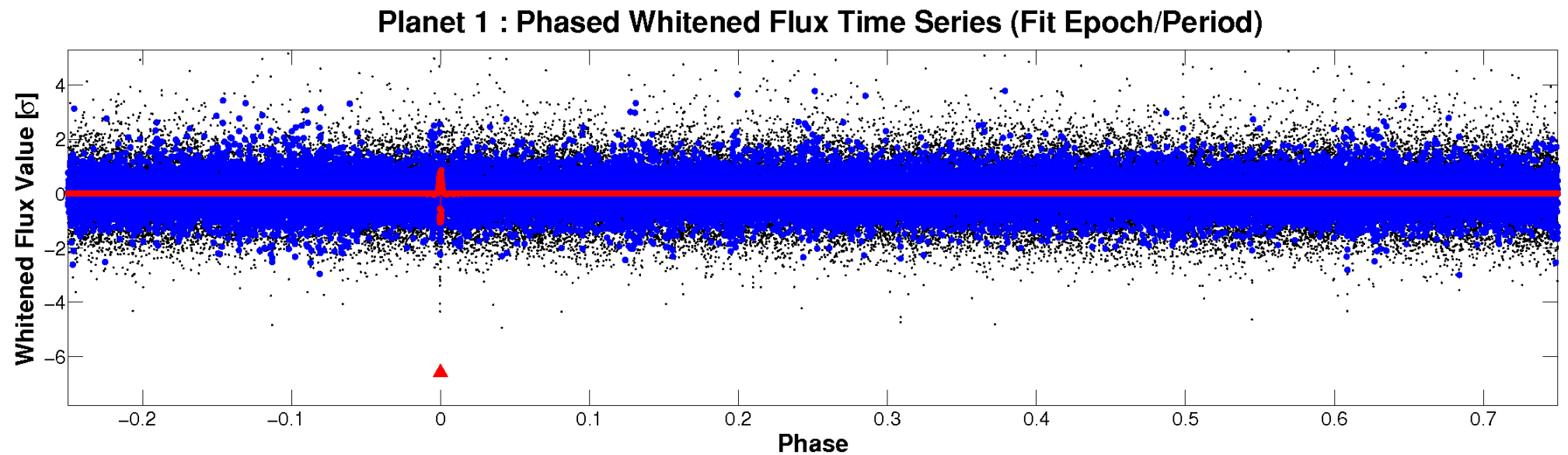
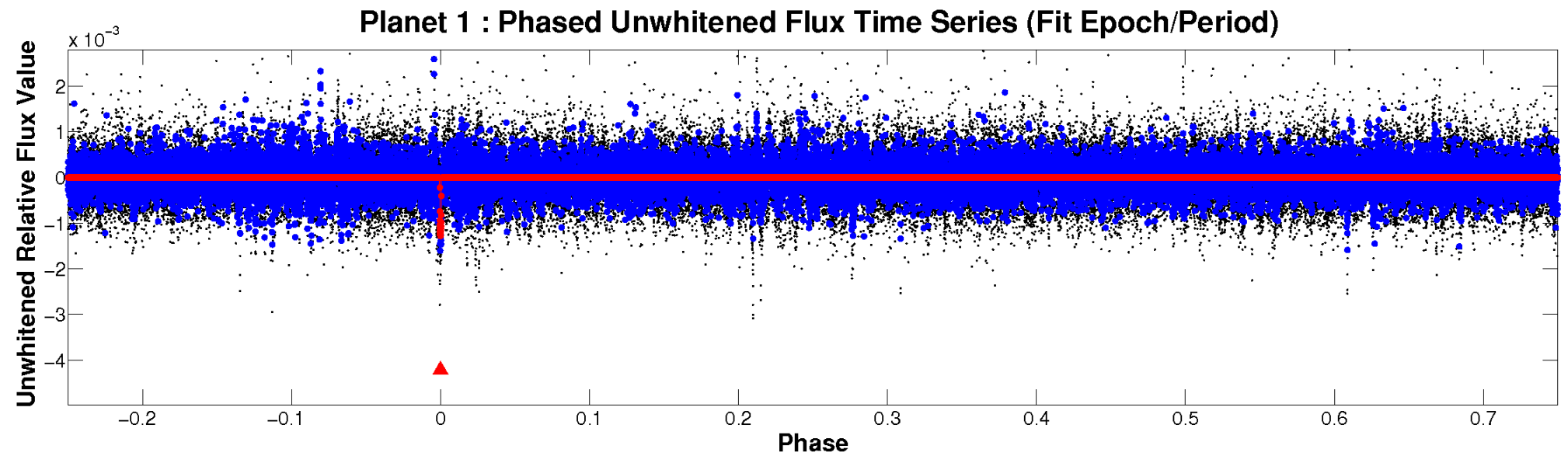


ALT Odd/Even

TCE 007515308-01

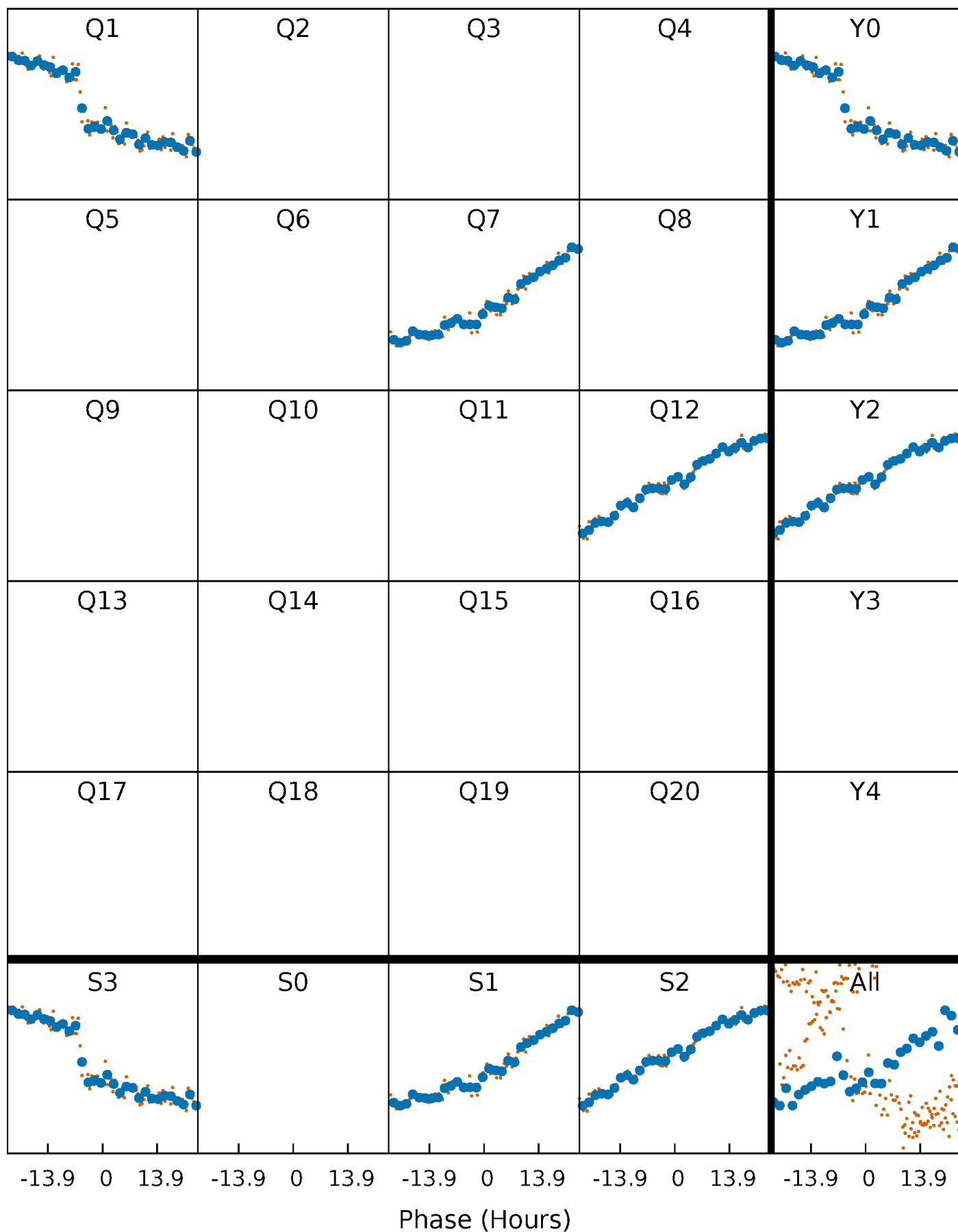


Non-Whitened Vs. Whitened Light Curve



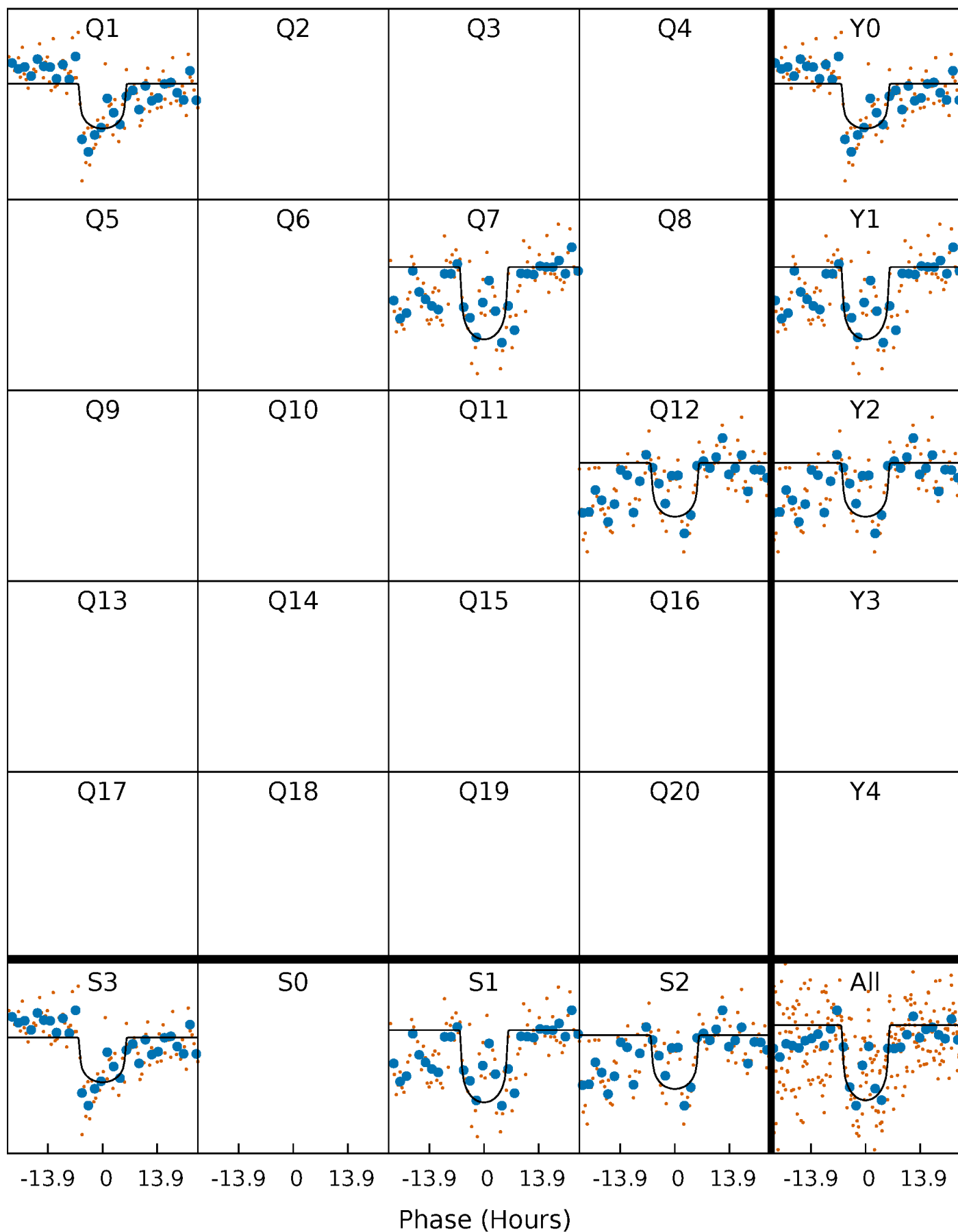
PDC Quarter-Phased Transit Curves

TCE 007515308-01 P=503.929346 Days $T_0=159.397267$ (BKJD)



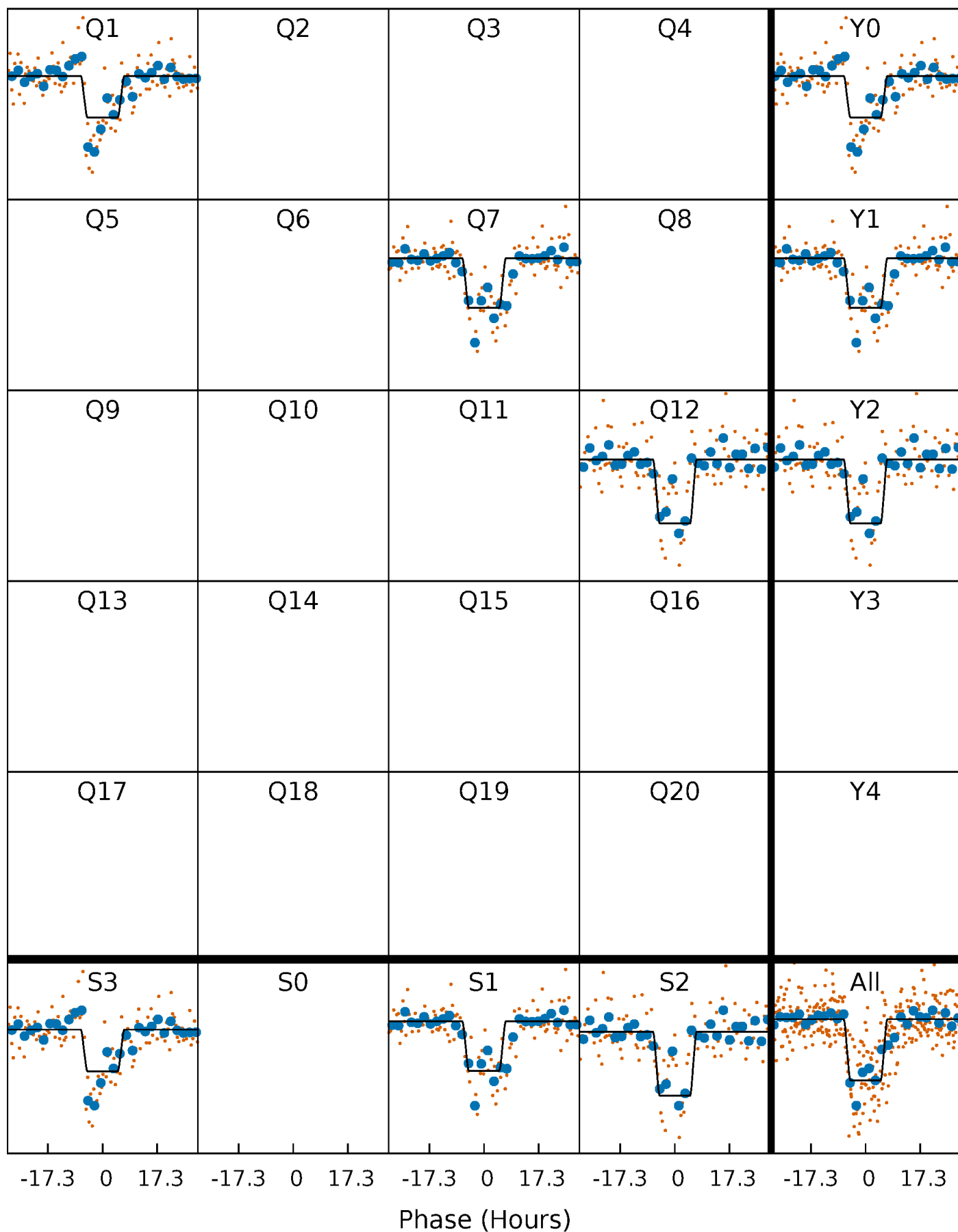
DV Quarter-Phased Transit Curves

TCE 007515308-01 P=503.929346 Days $T_0=159.397267$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

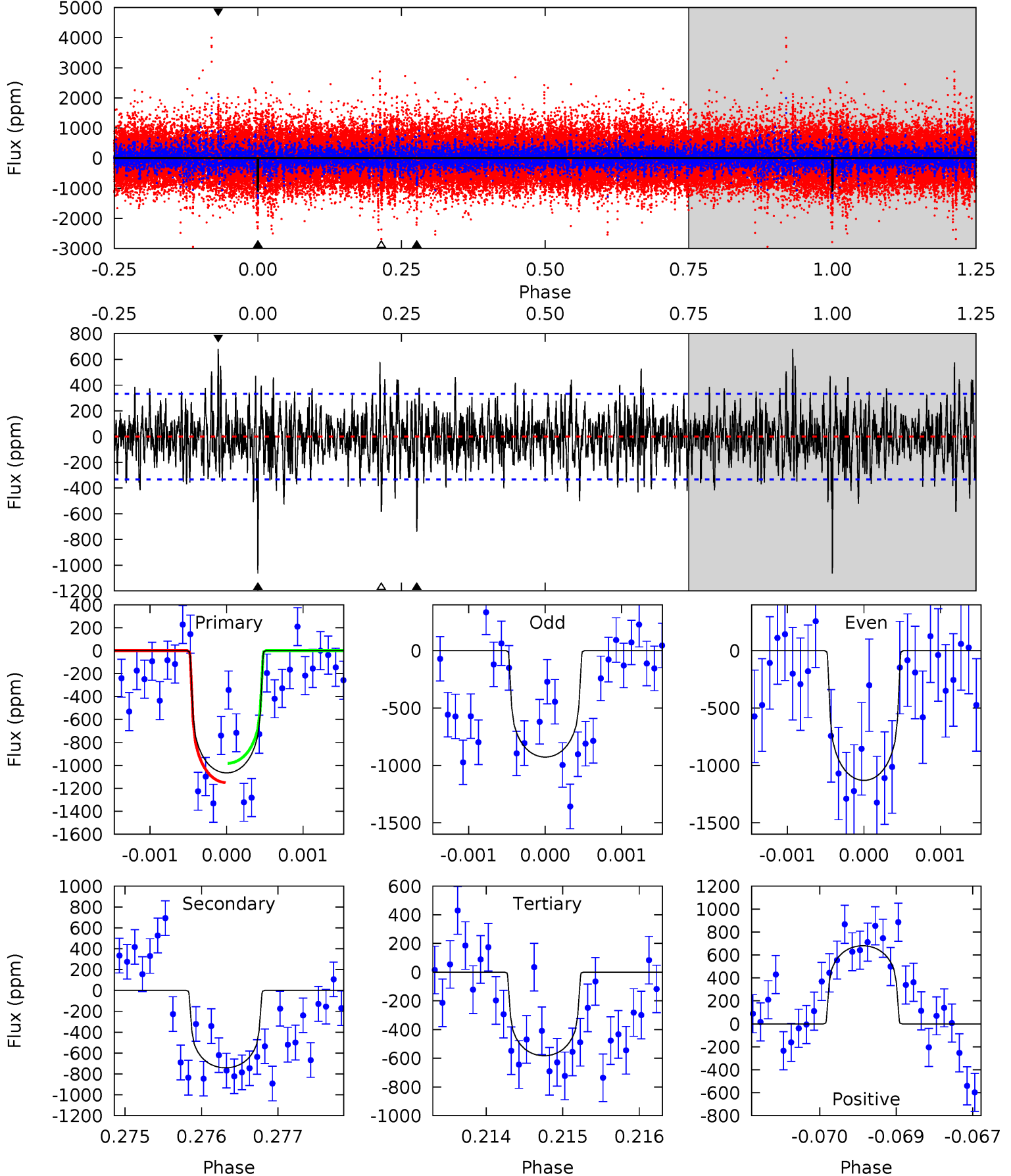
TCE 007515308-01 P=503.946079 Days $T_0=159.398487$ (BKJD)



DV Model-Shift Uniqueness Test

007515308-01, P = 503.929346 Days, E = 159.397267 Days

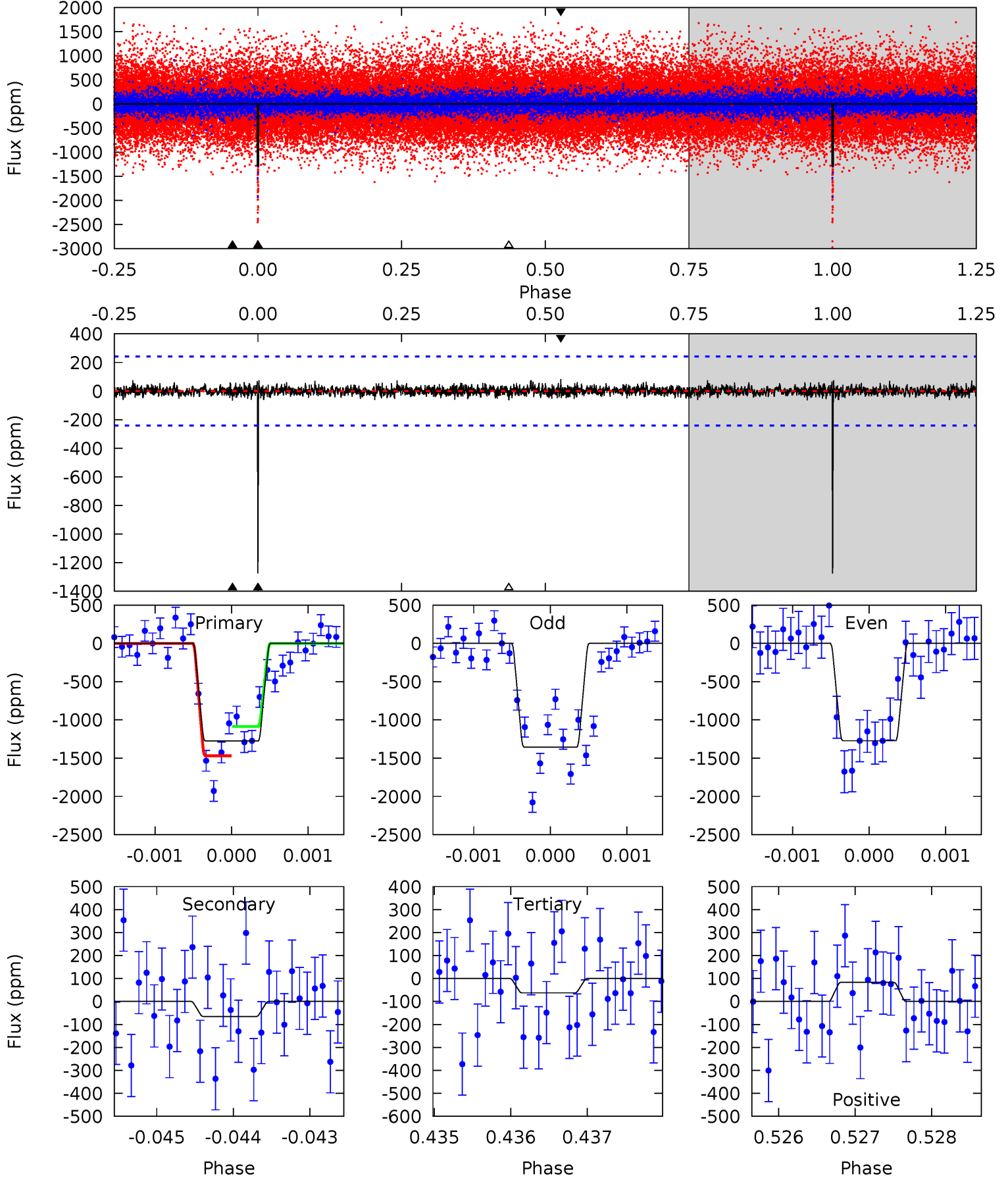
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	12.1	9.51	11.1	5.44	3.28	2.52	7.89	6.29	2.60	1.00	1.58	1.15	0.39	1.37



Alt Model-Shift Uniqueness Test

007515308-01, P = 503.946079 Days, E = 159.398487 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	1.48	1.41	1.87	5.43	3.25	0.42	27.3	26.9	0.06	-0.40	0.88	0.94	0.06	4.31



Stellar Parameters For KIC 007515308

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5481^{+163}_{-147}	$4.603^{+0.032}_{-0.120}$	$-0.320^{+0.300}_{-0.300}$	$0.754^{+0.140}_{-0.060}$	$0.844^{+0.080}_{-0.098}$	$2.770^{+0.448}_{-1.004}$
	+3%/-3%	+1%/-3%	+94%/-94%	+19%/-8%	+9%/-12%	+16%/-36%
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 007515308-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-741 ± 61	$2.80^{+1.14}_{-1.00}$	277^{+13}_{-11}	5075^{+1117}_{-624}	69184^{+98299}_{-32802}
Alt.	-65 ± 44	$3.09^{+1.08}_{-0.98}$	278^{+12}_{-12}	3149^{+501}_{-495}	4703^{+7232}_{-3323}

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

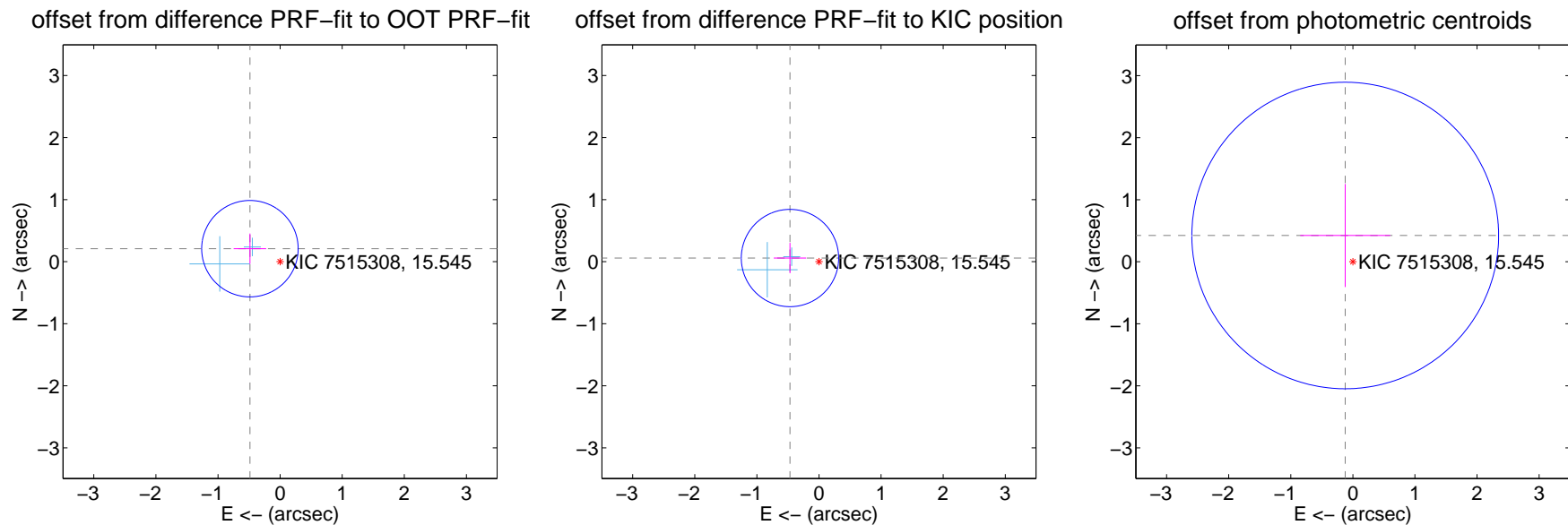
DV Centroid Data

Supplemental centroid analysis for 007515308-01. Kepler magnitude: 15.54. Transit SNR 8.91

There are 2 quarters with good PRF difference image offsets

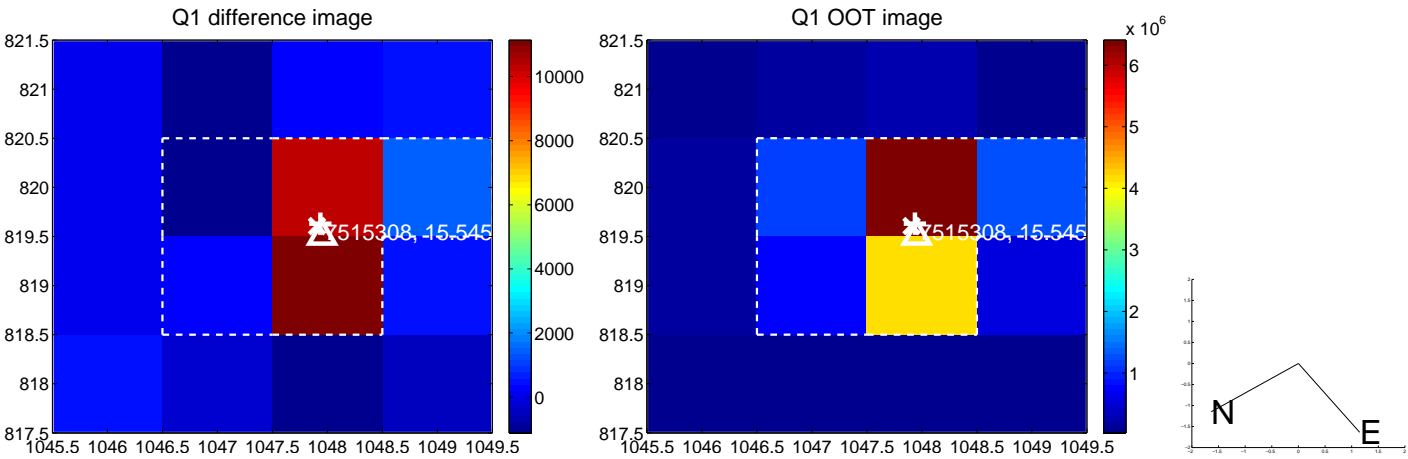
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.529 ± 0.259	2.04	0.486 ± 0.261	0.210 ± 0.244
PRF-fit source offset from KIC position	0.471 ± 0.261	1.80	0.467 ± 0.261	0.059 ± 0.244
photometric centroid source offset	0.44 ± 0.82	0.54	0.12 ± 0.72	0.42 ± 0.83

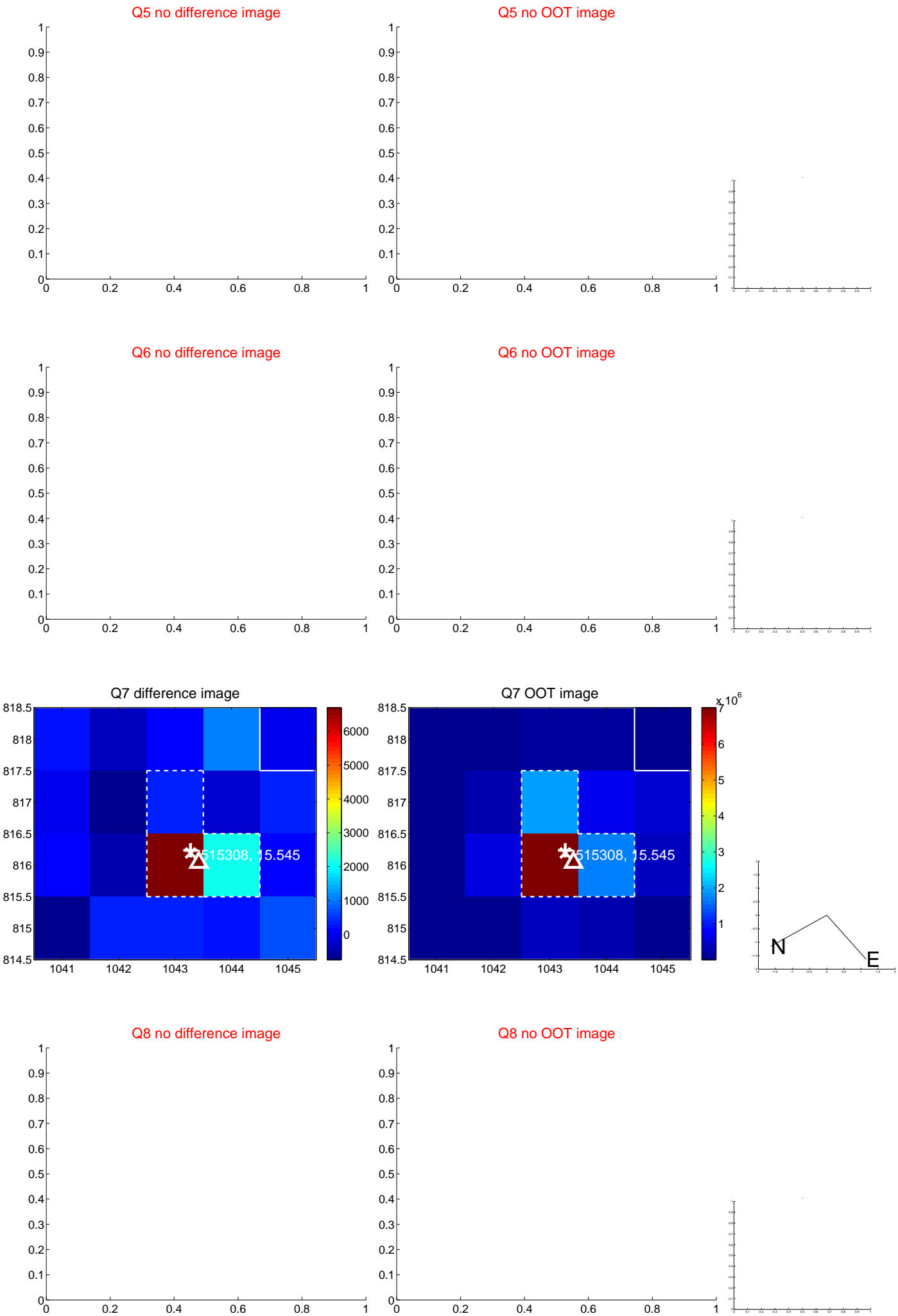


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

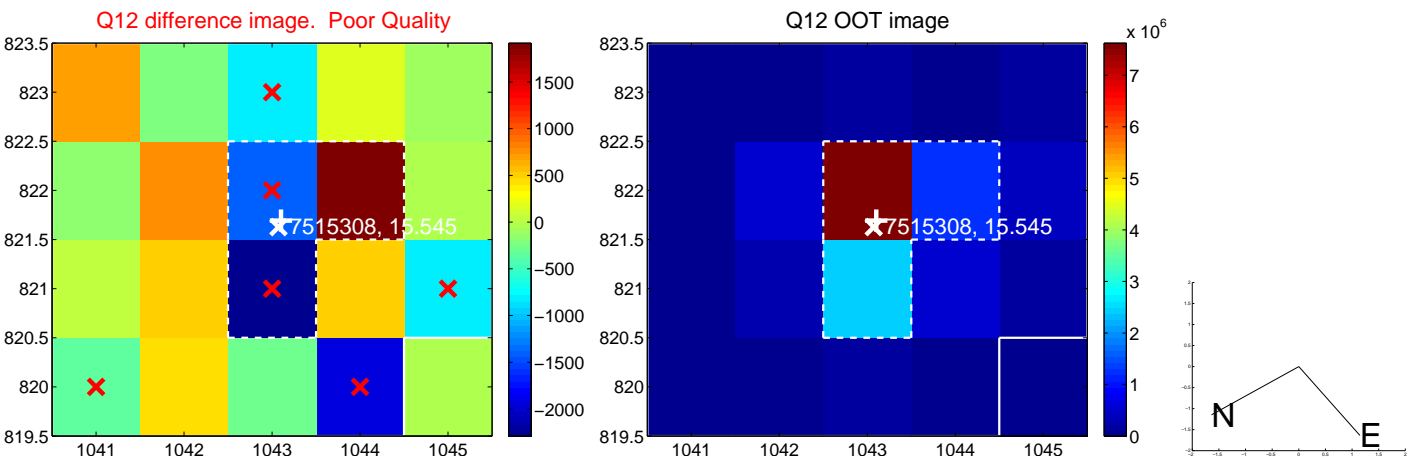
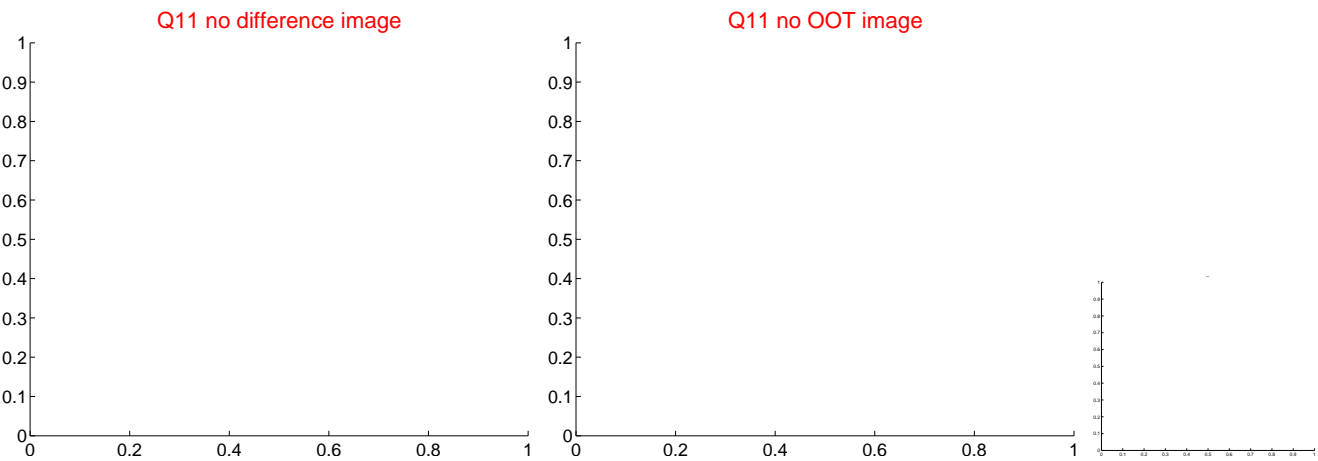
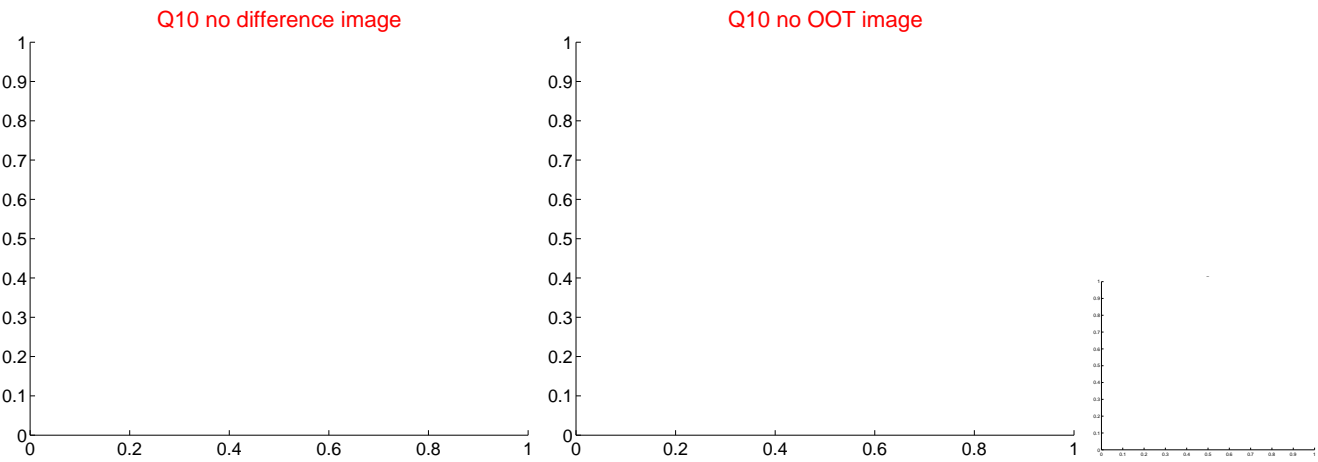
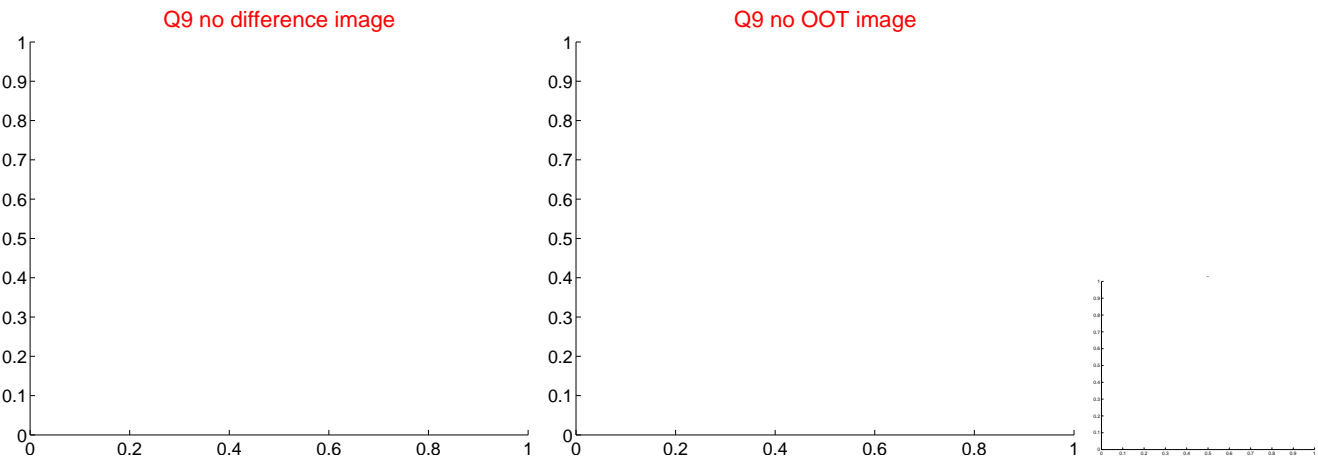
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



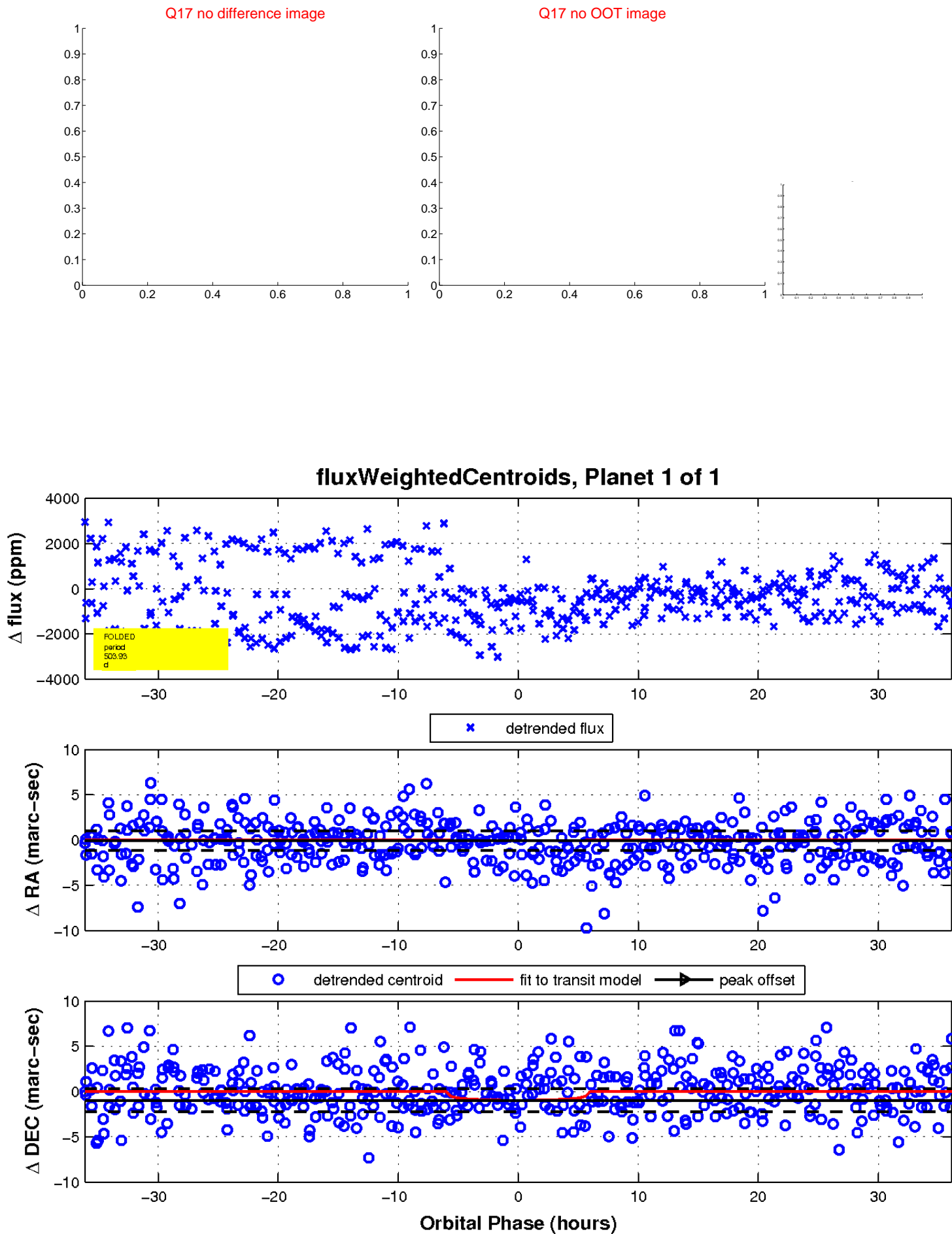
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

