

KIC 008742953

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})
008742953-01	OBS	No	564.433315	173.026785	1266.5	11.314	7.6	7.1	1.08	6214	4.11	0.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008742953-01	OBS	FP	0.08	1	0	0	0	MOD_NONUNIQ_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.

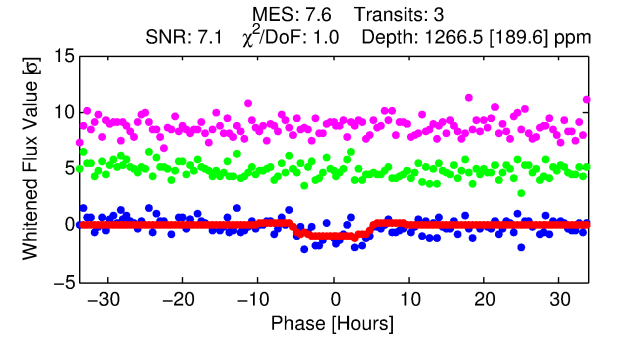
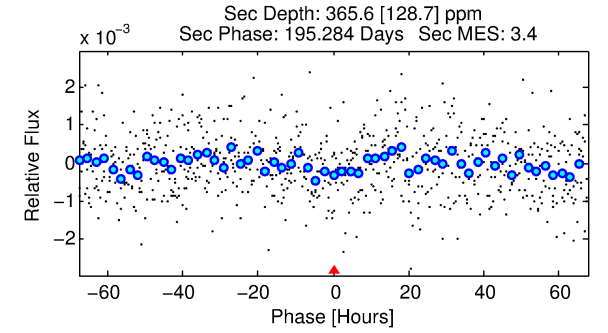
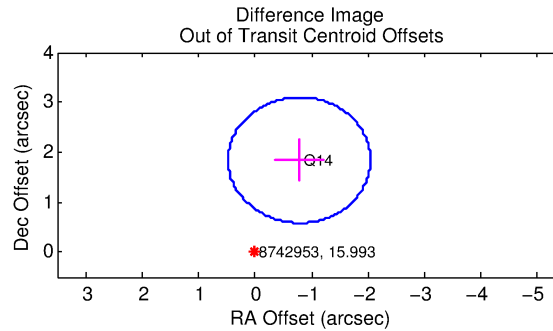
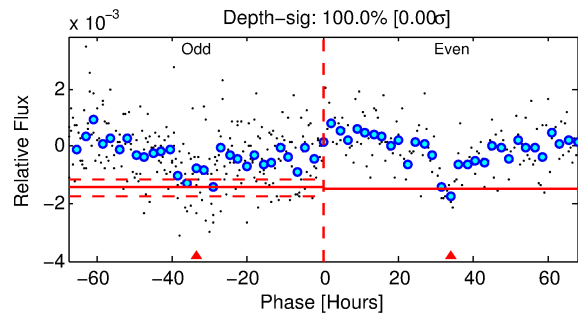
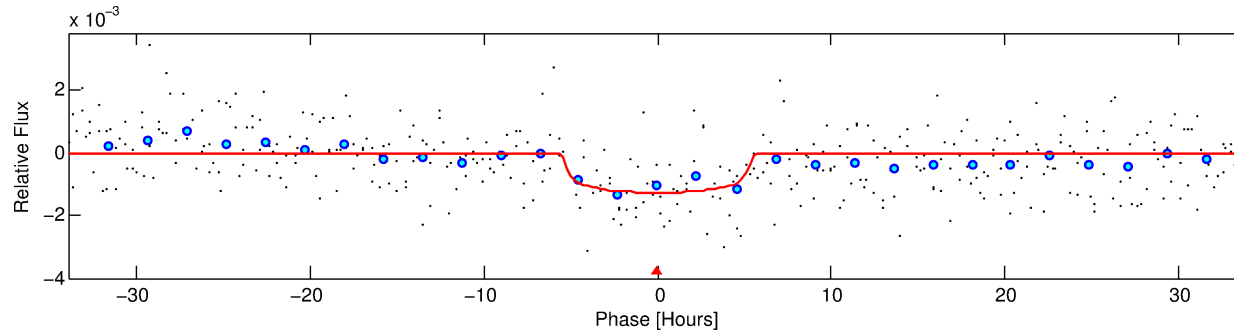
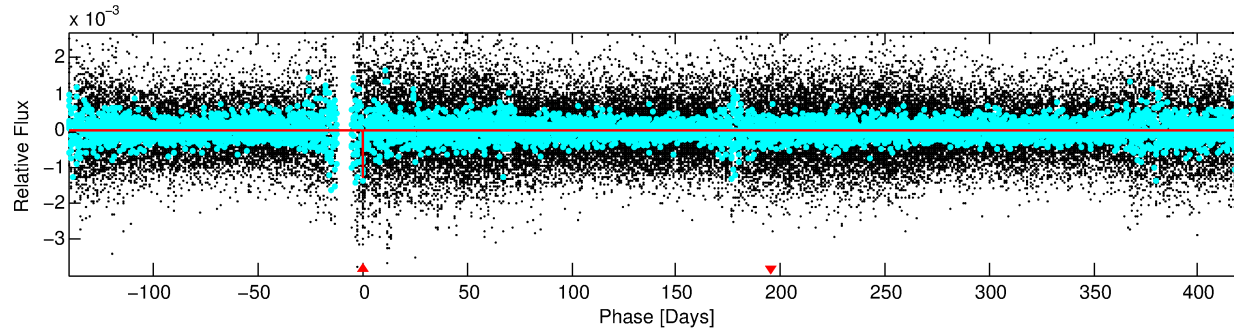
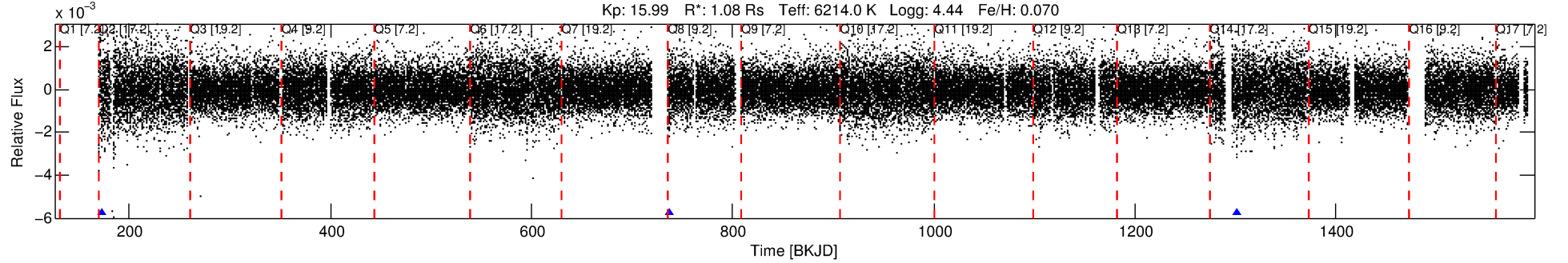
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008742953-01

No Significant Match Found

DV One-Page Summary

KIC: 8742953 Candidate: 1 of 1 Period: 564.433 d



DV Fit Results:

Period = 564.43331 [0.01651] d
Epoch = 173.0268 [0.0212] BKJD
Rp/R* = 0.0350 [0.0093]
a/R* = 285.01 [351.82]
b = 0.72 [0.84]
Seff = 0.78 [0.34]
Teq = 240 [26] K
Rp = 4.11 [1.77] Re
a = 1.4081 [0.3981] AU
Ag = 23594.23 [17821.76] [1.32σ]
Teffp = 4592 [751] K [5.79σ]

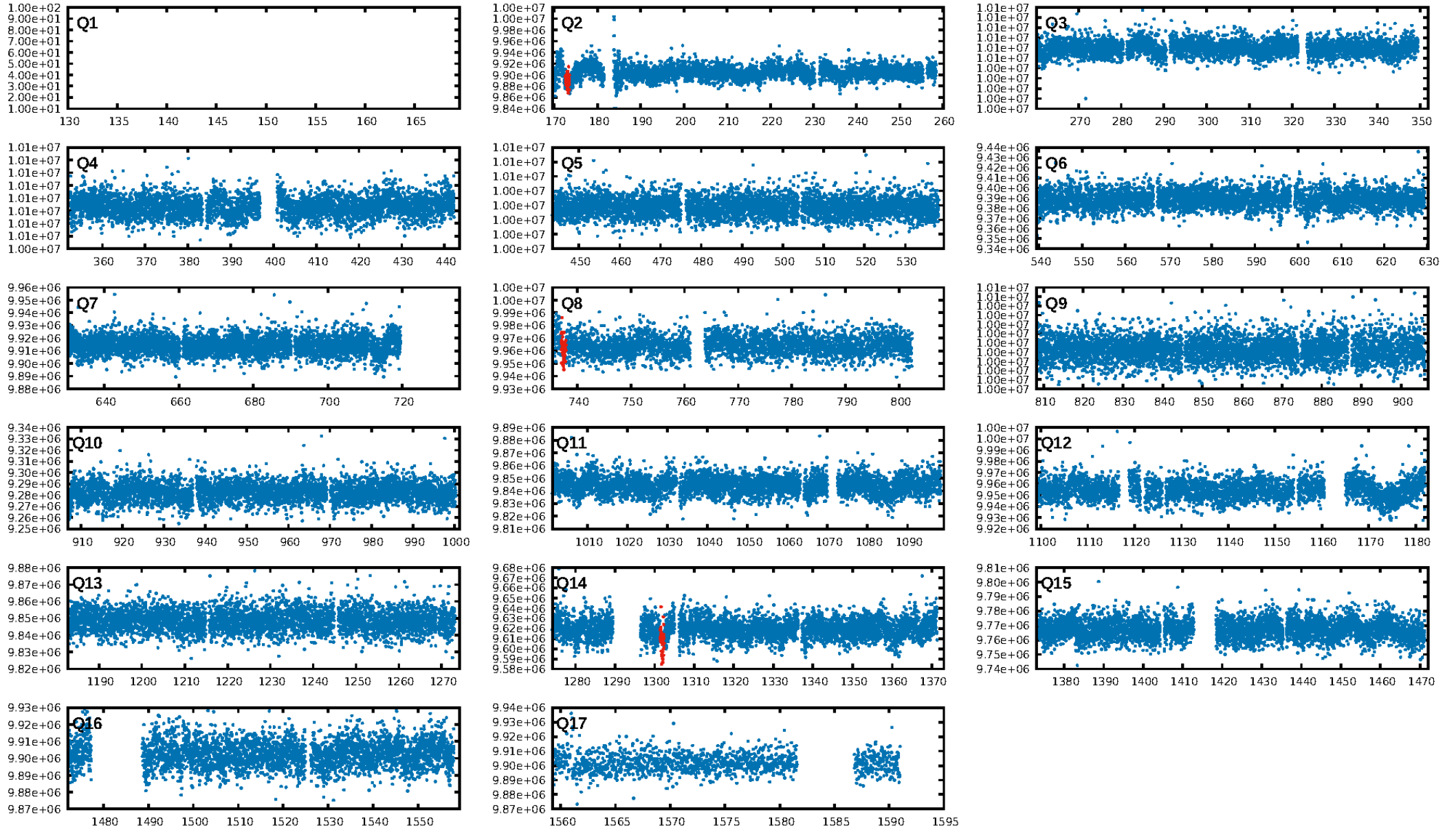
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 60.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.50e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -264.6
Centroid-sig: 46.9%
Centroid-so: 1.442 arcsec [0.59σ]
OotOffset-rm: 1.998 arcsec [4.76σ]
KicOffset-rm: 2.166 arcsec [5.16σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

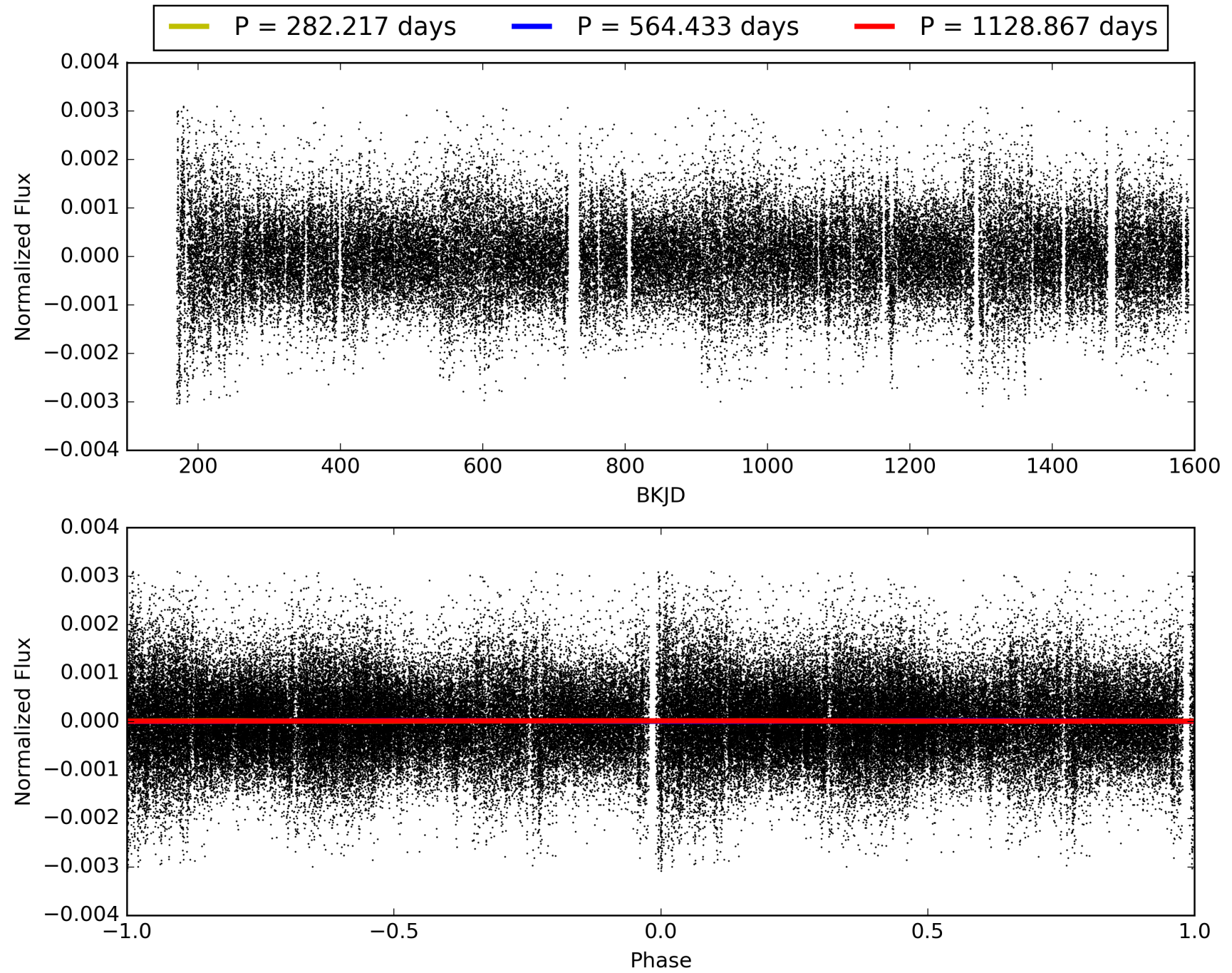
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:12:26 Z

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

TCE 008742953-01, PDC Light Curves

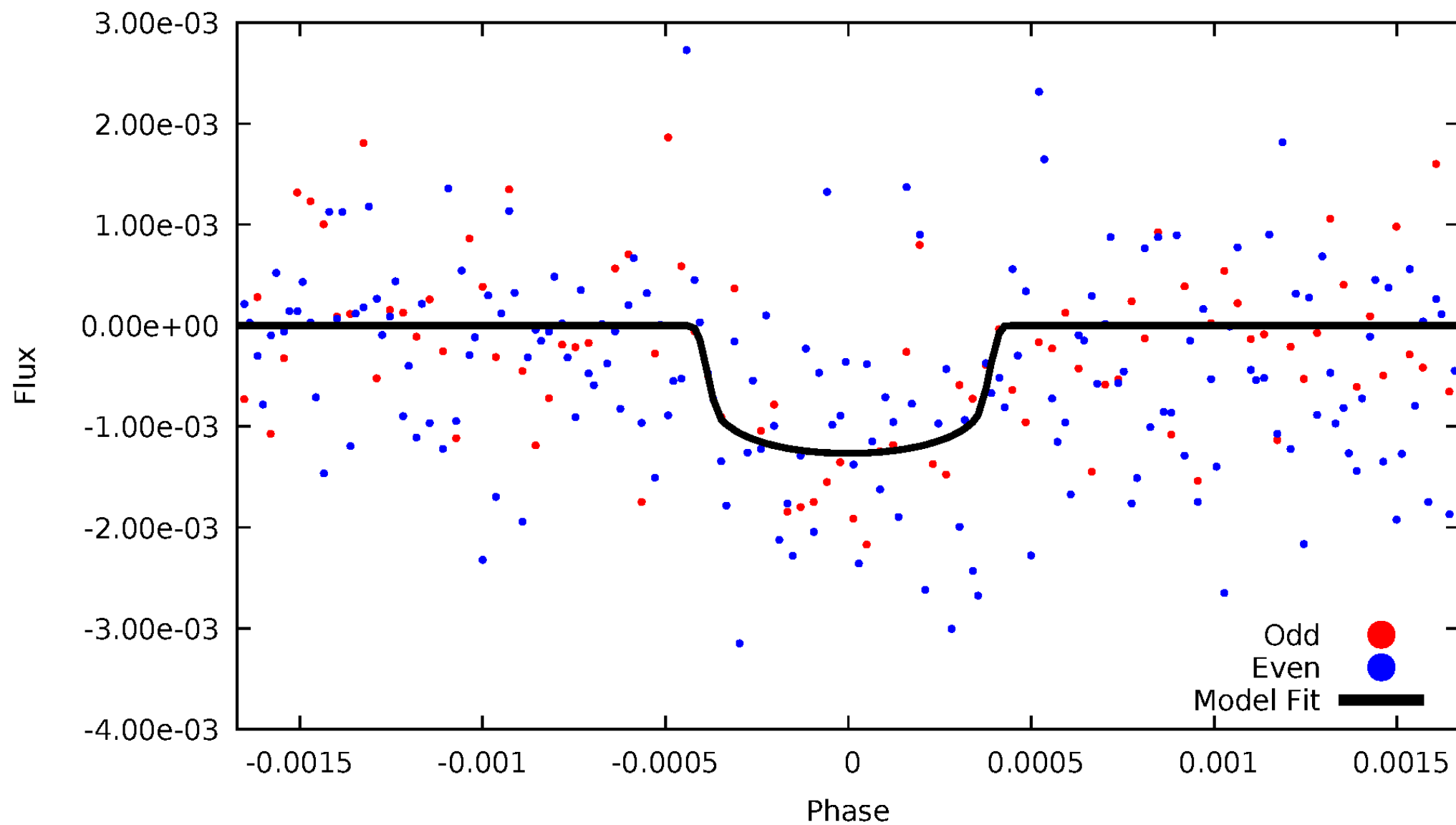


TCE 008742953-01



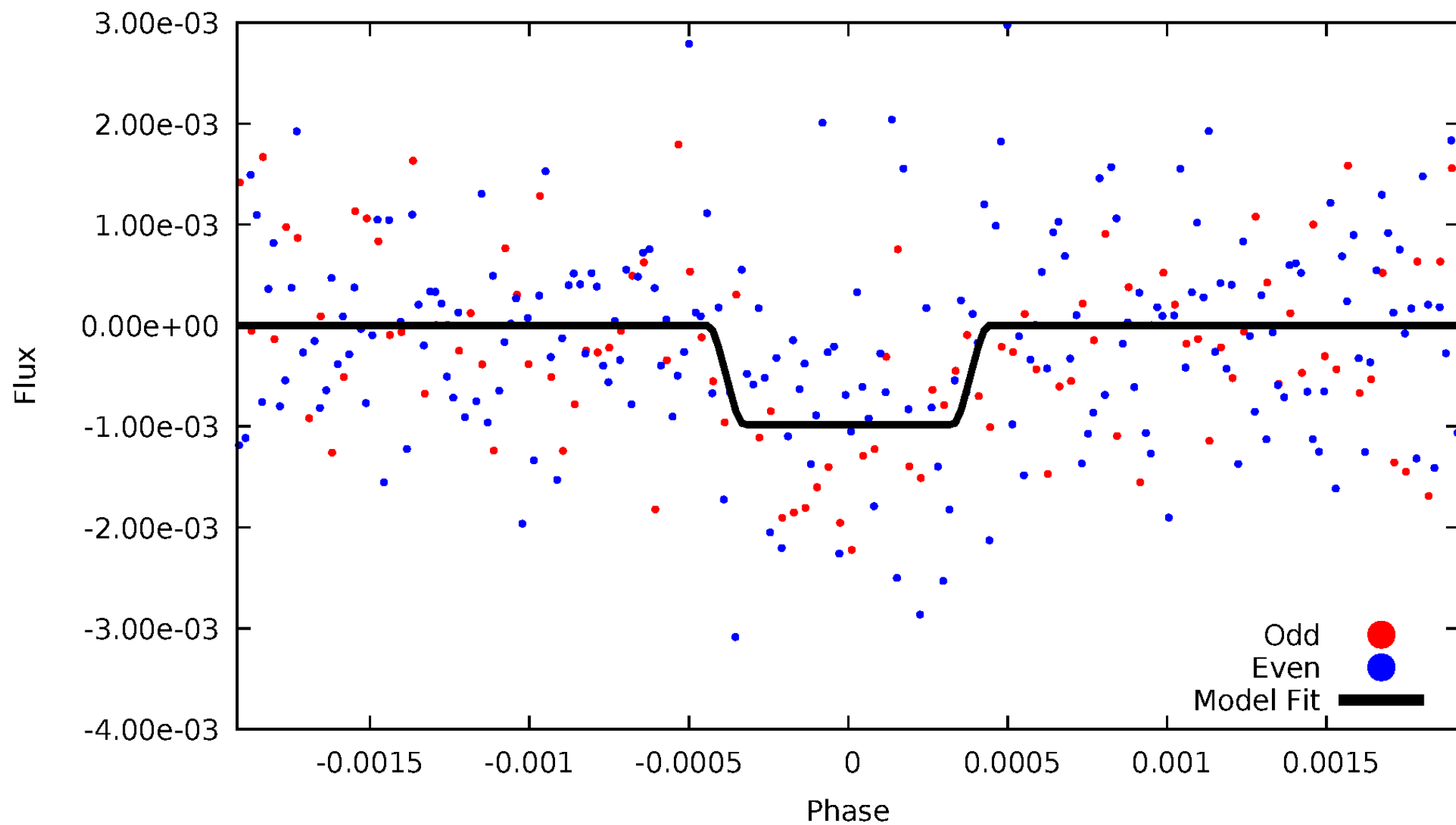
DV Odd/Even

TCE 008742953-01



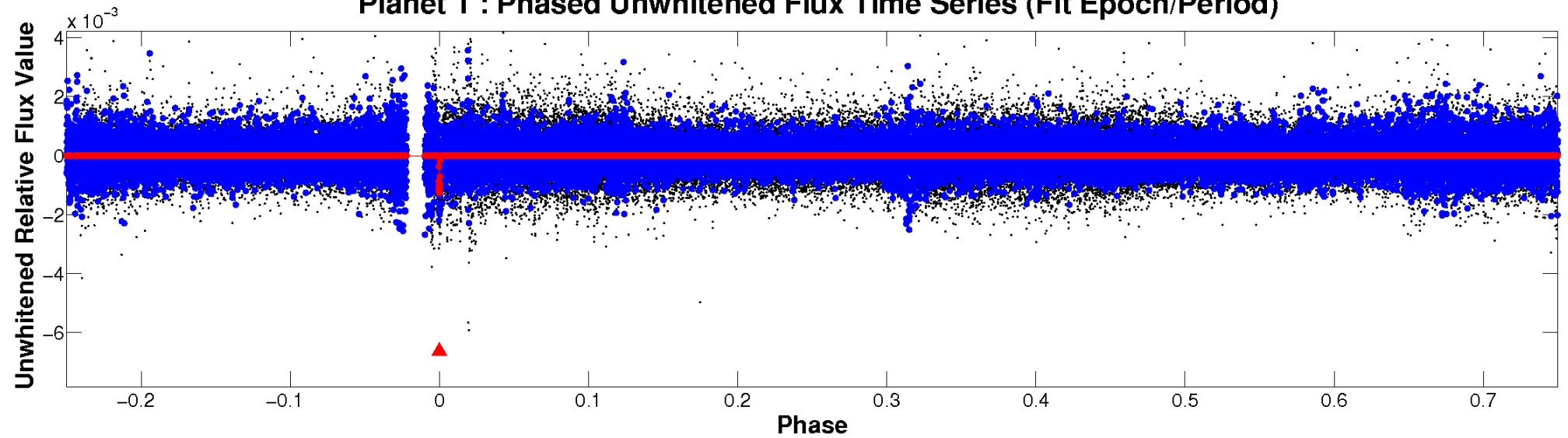
ALT Odd/Even

TCE 008742953-01

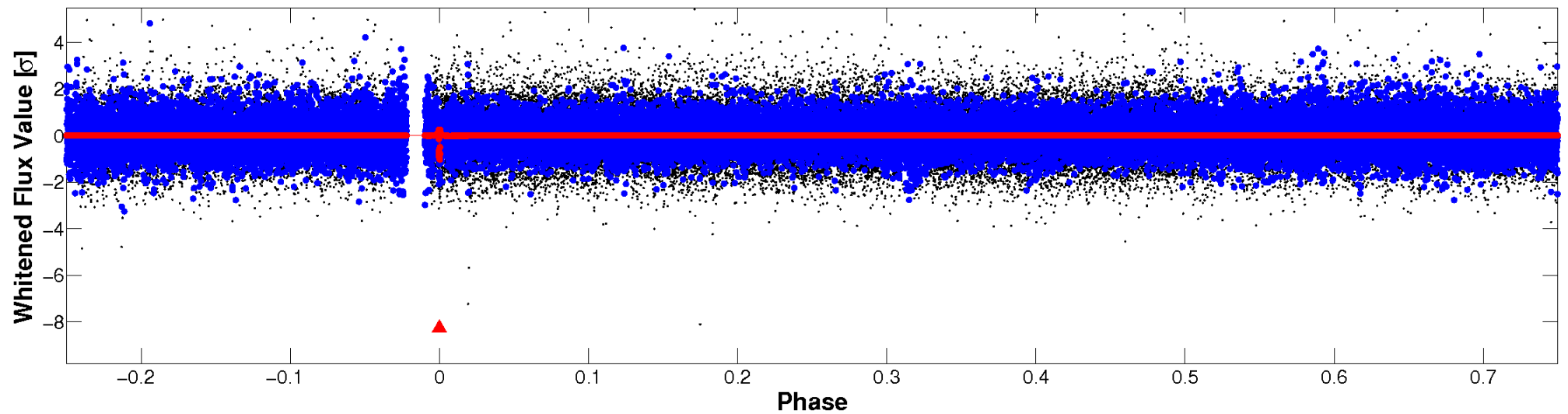


Non-Whitened Vs. Whitened Light Curve

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

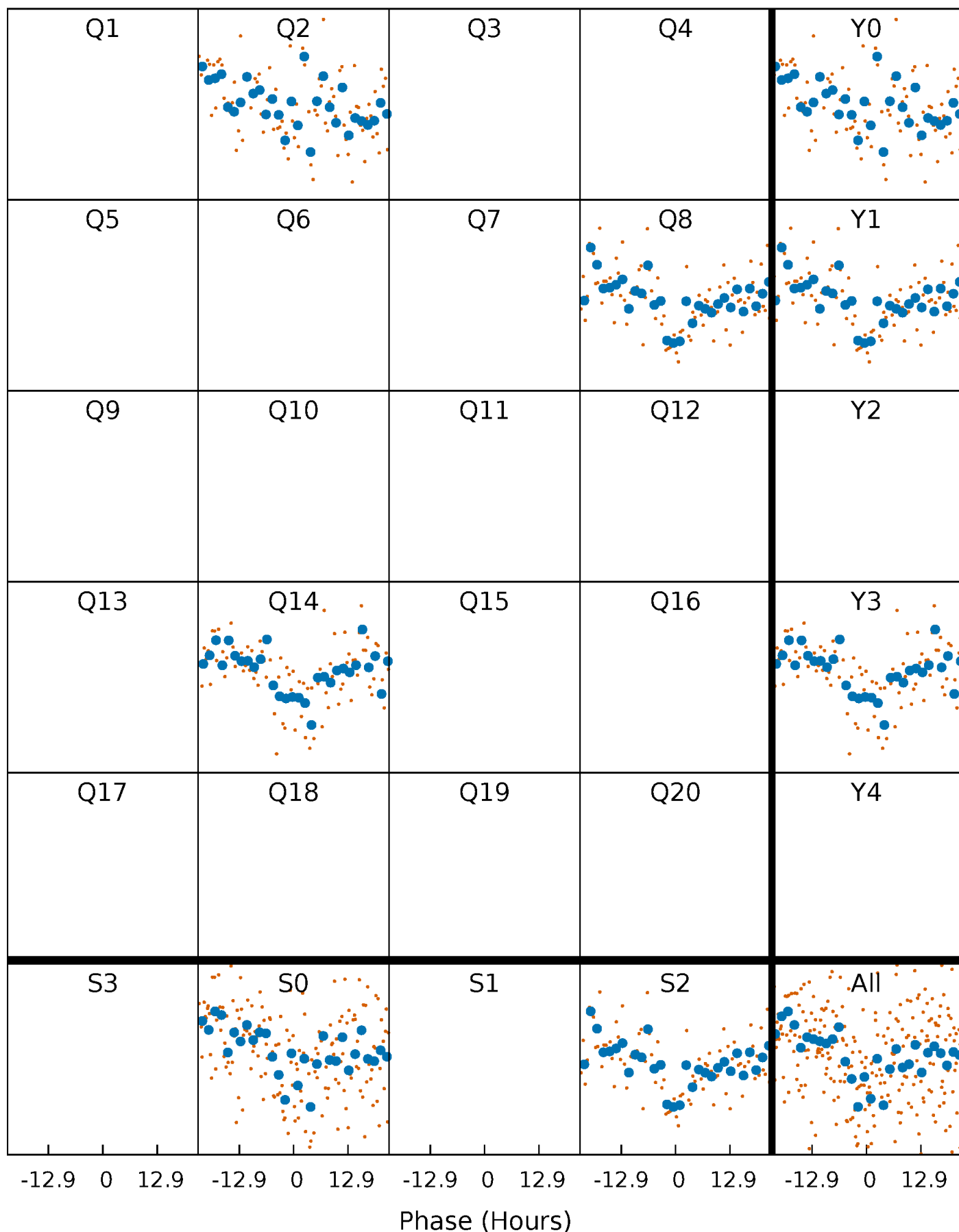


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



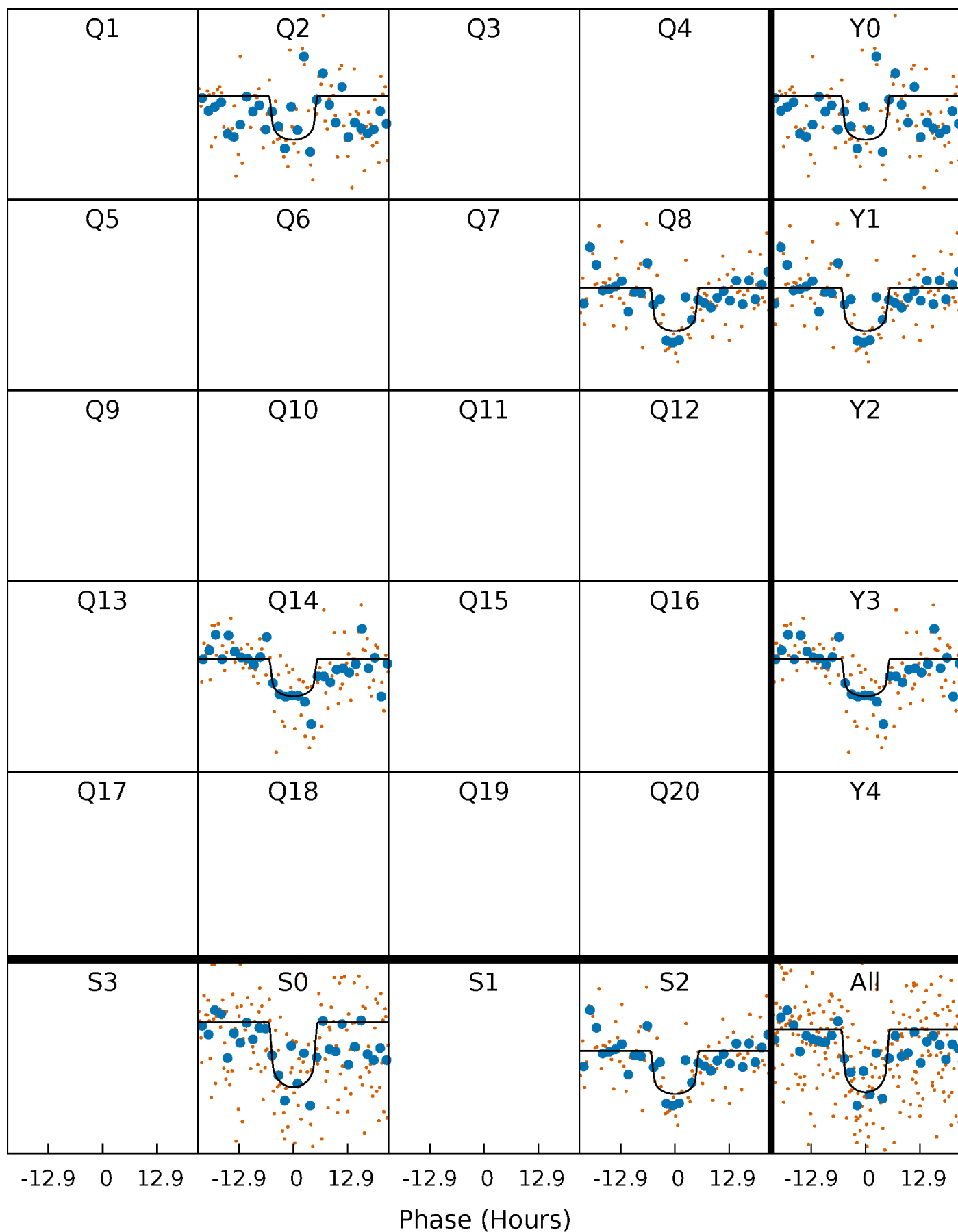
PDC Quarter-Phased Transit Curves

TCE 008742953-01 P=564.433315 Days $T_0=173.026785$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008742953-01 P=564.433315 Days $T_0=173.026785$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

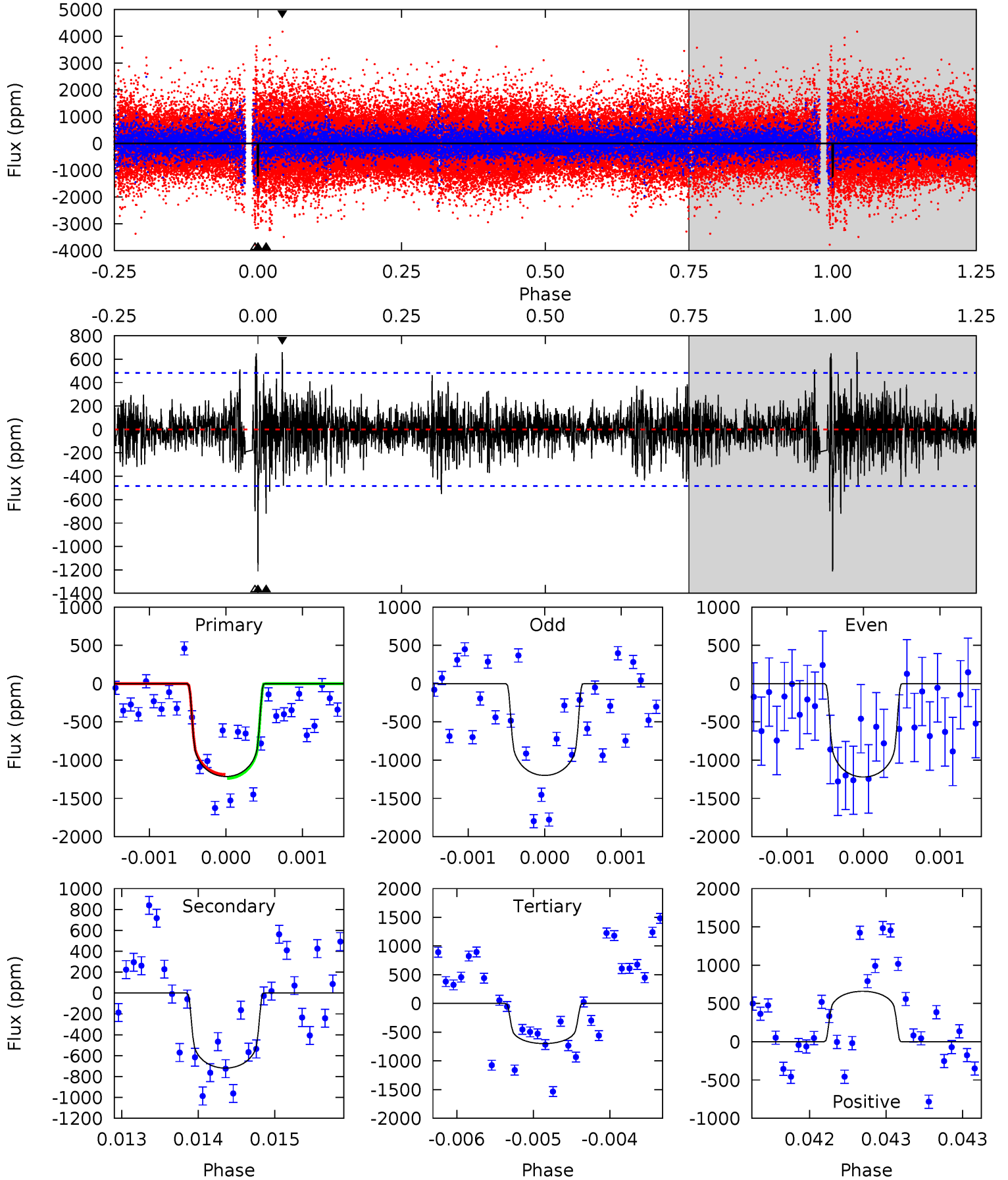
TCE 008742953-01 P=564.443039 Days $T_0=173.039584$ (BKJD)



DV Model-Shift Uniqueness Test

008742953-01, $P = 564.433315$ Days, $E = 173.026785$ Days

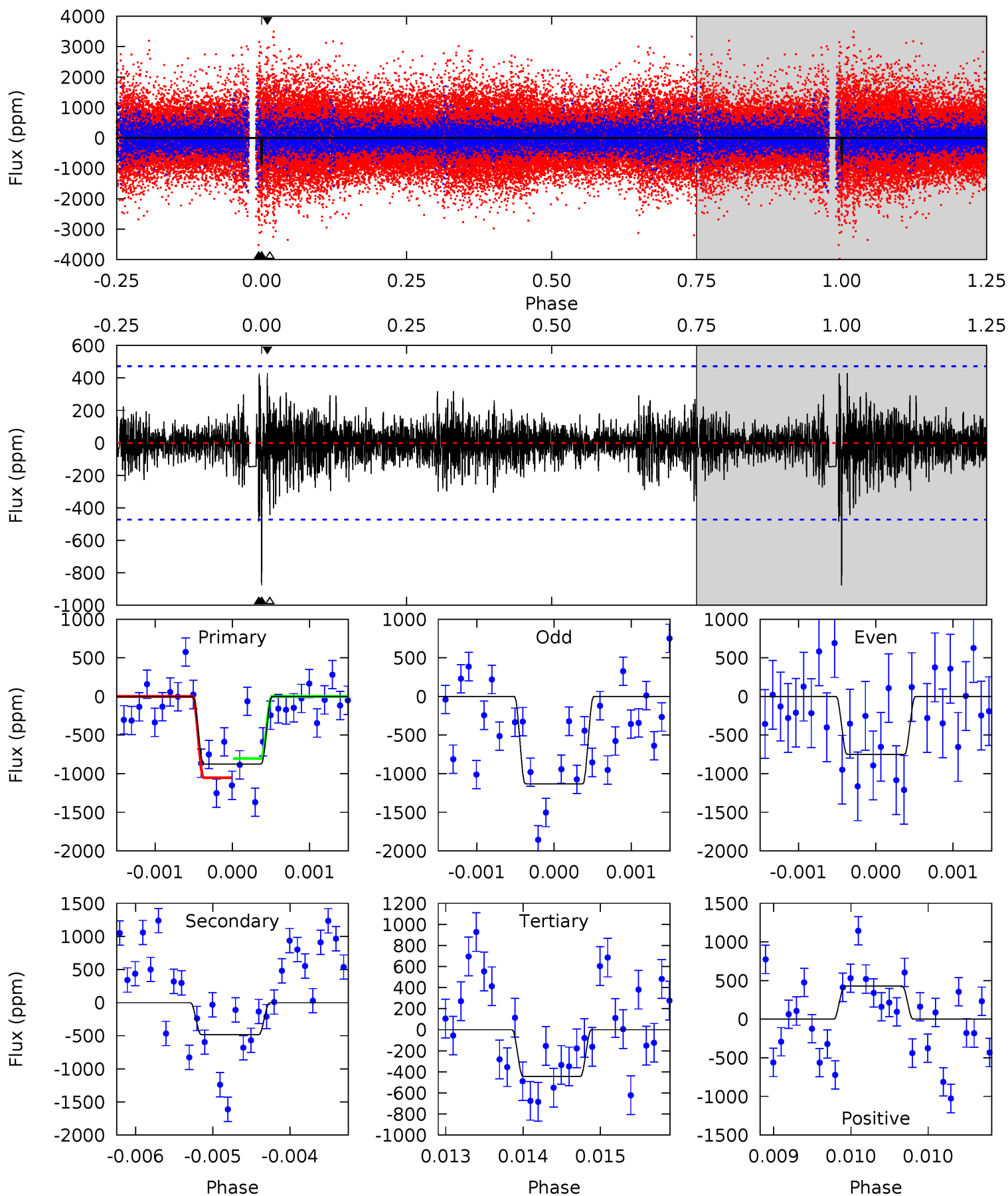
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	8.15	7.93	7.47	5.48	3.33	1.48	5.84	6.29	0.23	0.68	0.11	1.01	0.35	0.30



Alt Model-Shift Uniqueness Test

008742953-01, P = 564.443039 Days, E = 173.039584 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	5.62	5.14	4.98	5.48	3.33	1.02	5.03	5.19	0.48	0.64	2.10	0.77	0.33	1.44



Stellar Parameters For KIC 008742953

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+173}_{-239}	$4.442^{+0.052}_{-0.221}$	$0.070^{+0.250}_{-0.300}$	$1.076^{+0.365}_{-0.122}$	$1.169^{+0.142}_{-0.158}$	$1.321^{+0.303}_{-0.749}$
	+3%/-4%	+1%/-5%	+357%/-429%	+34%/-11%	+12%/-14%	+23%/-57%
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 008742953-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-719 ± 88	$4.29^{+1.32}_{-1.23}$	343^{+25}_{-20}	5469^{+924}_{-578}	42068^{+38267}_{-17386}
Alt.	-484 ± 86	$3.81^{+1.30}_{-1.16}$	342^{+24}_{-18}	5280^{+983}_{-623}	35611^{+36753}_{-16533}

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 $A_{obs} \gg 1.0$

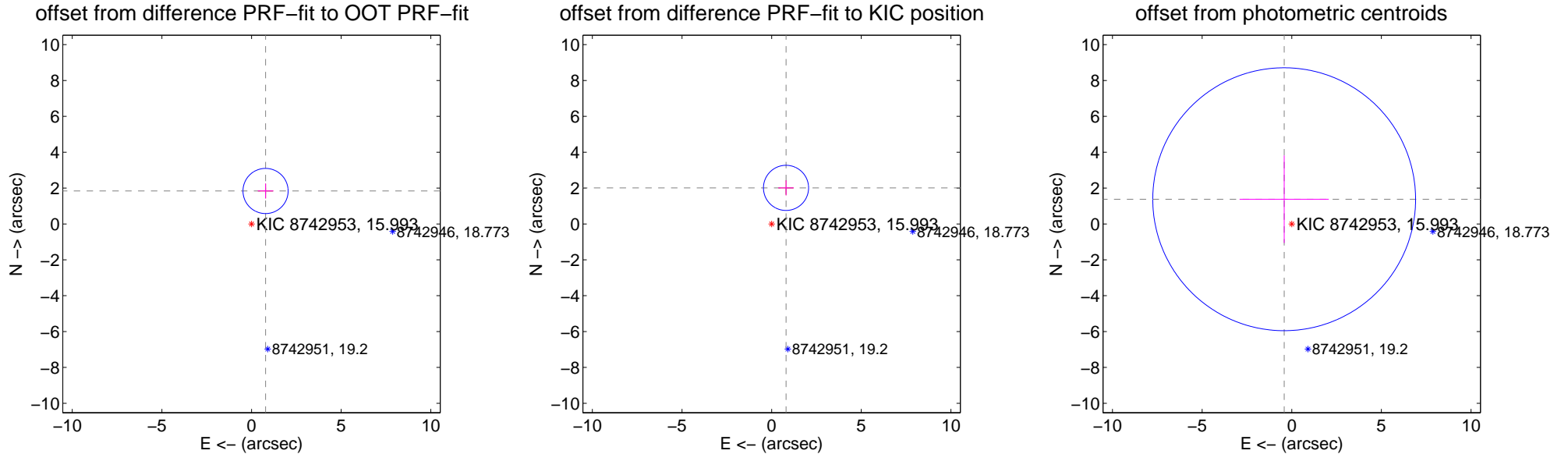
DV Centroid Data

Supplemental centroid analysis for 008742953-01. Kepler magnitude: 15.99. Transit SNR 7.14

There are 0 quarters with good PRF difference image offsets

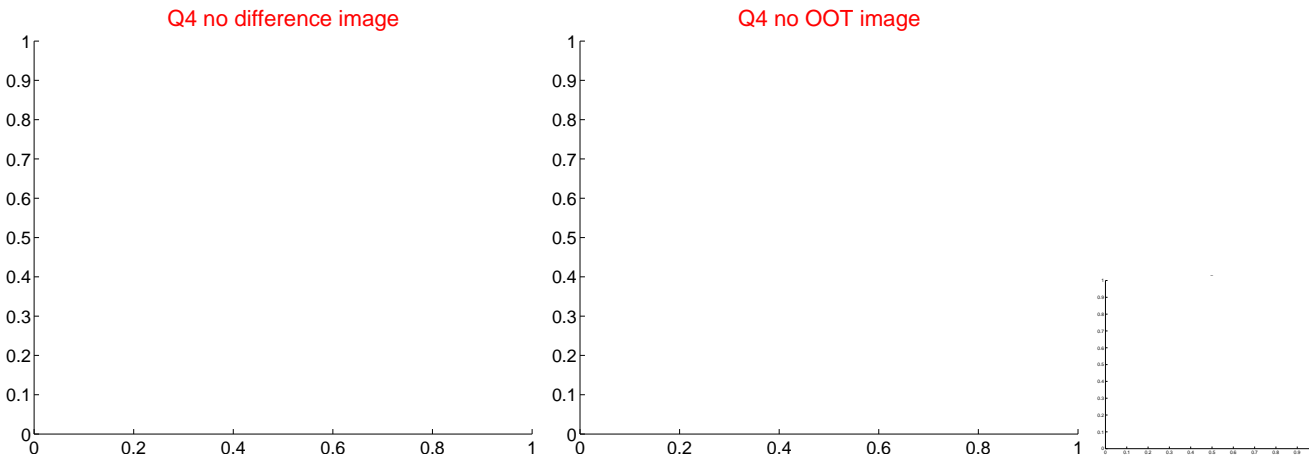
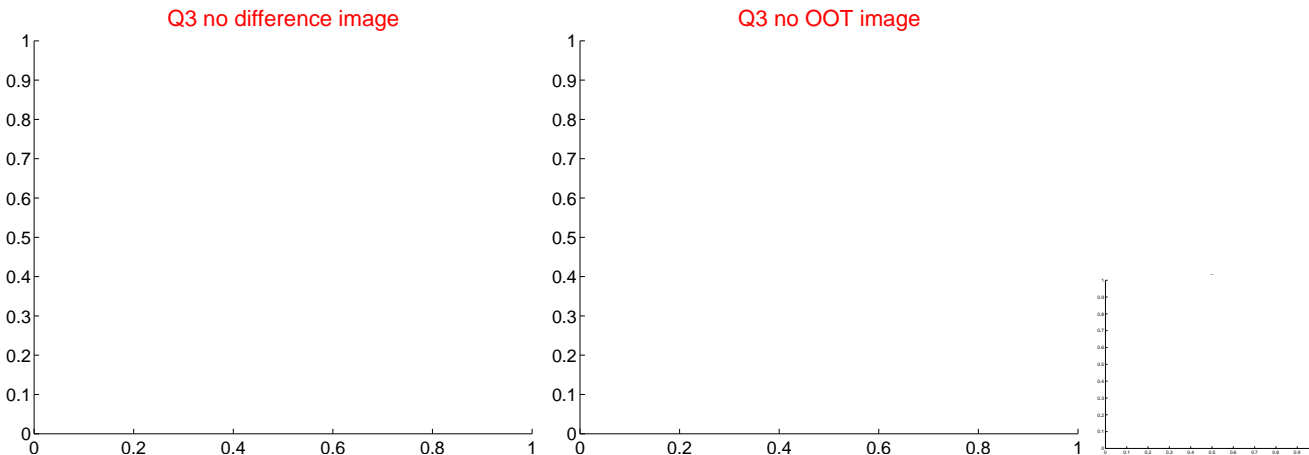
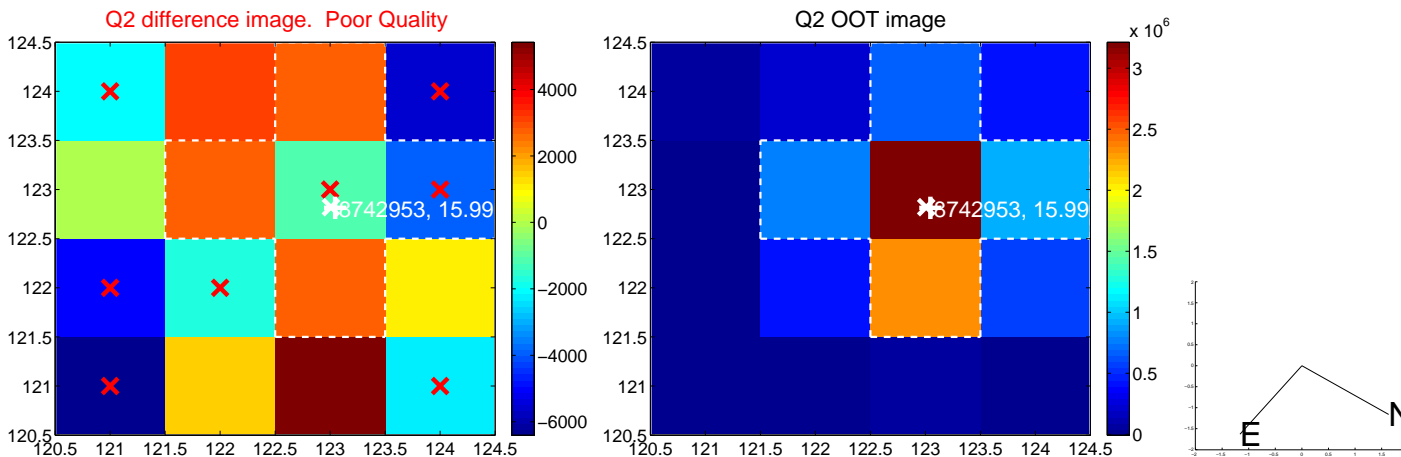
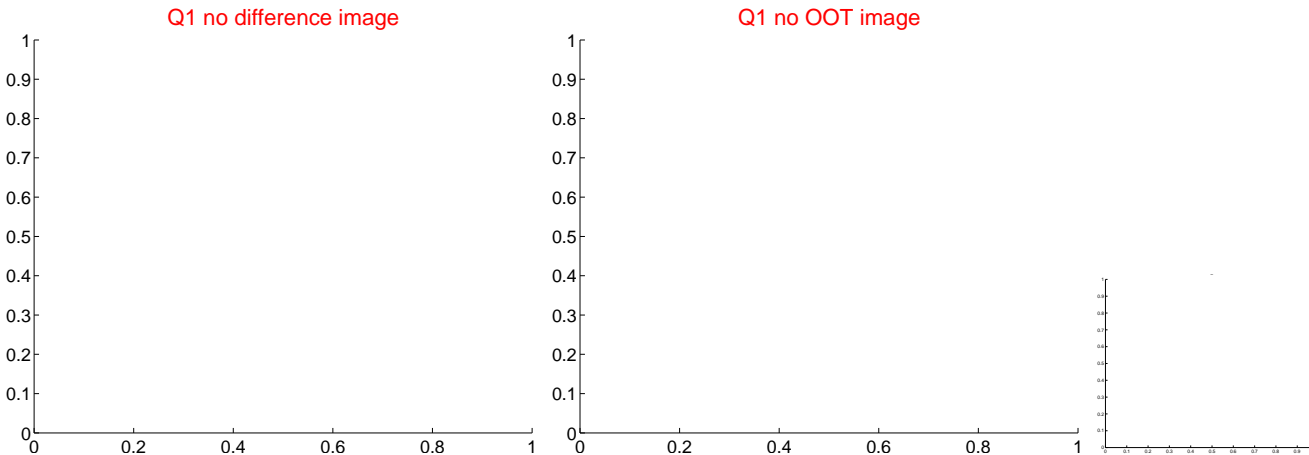
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.998 ± 0.420	4.76	-0.782 ± 0.430	1.839 ± 0.418
PRF-fit source offset from KIC position	2.166 ± 0.420	5.16	-0.802 ± 0.430	2.012 ± 0.418
photometric centroid source offset	1.44 ± 2.44	0.59	0.42 ± 2.49	1.38 ± 2.44

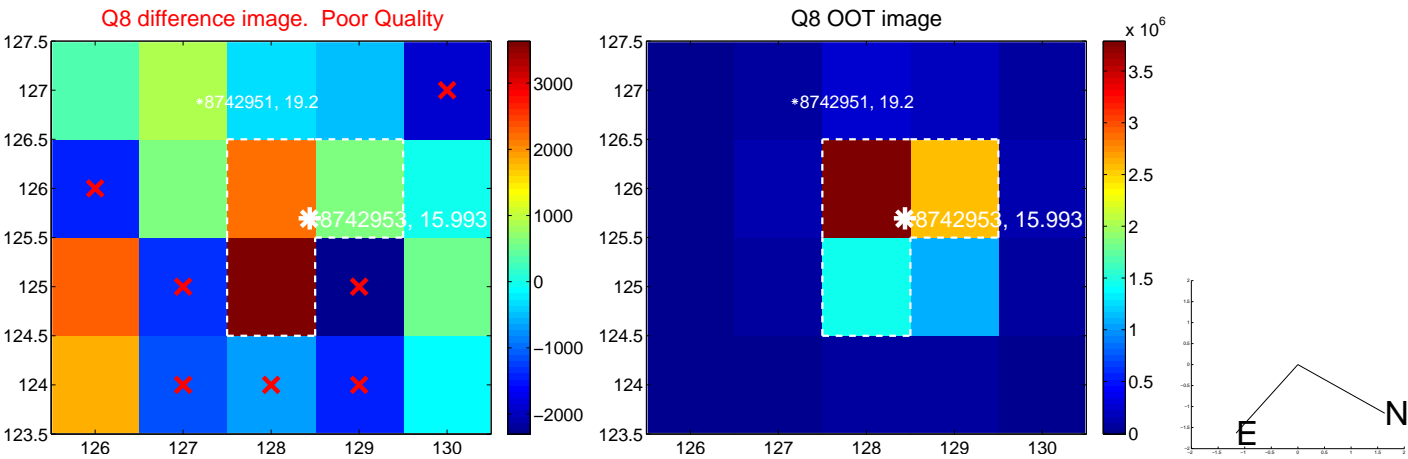
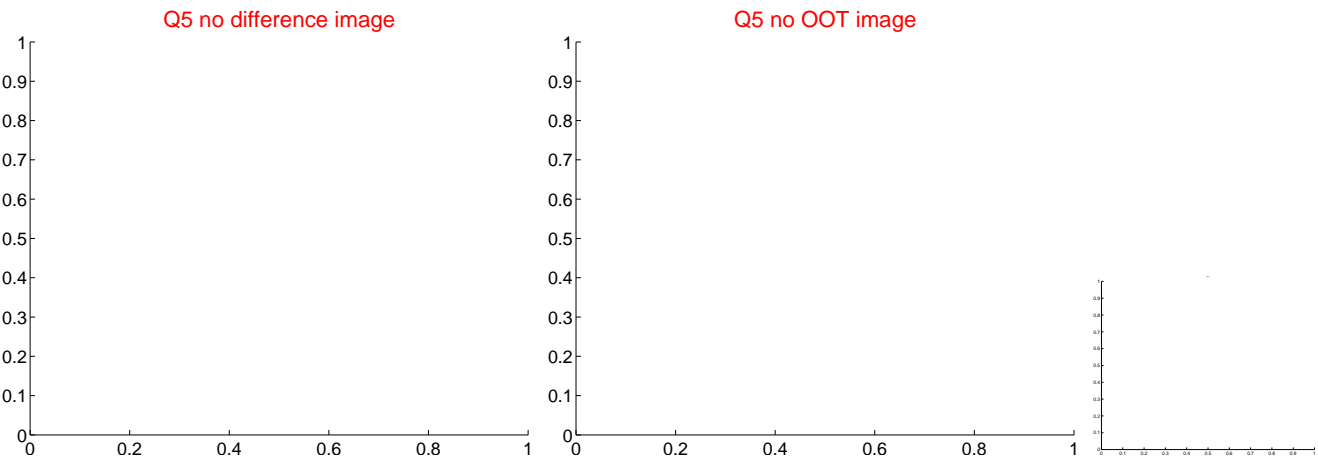


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



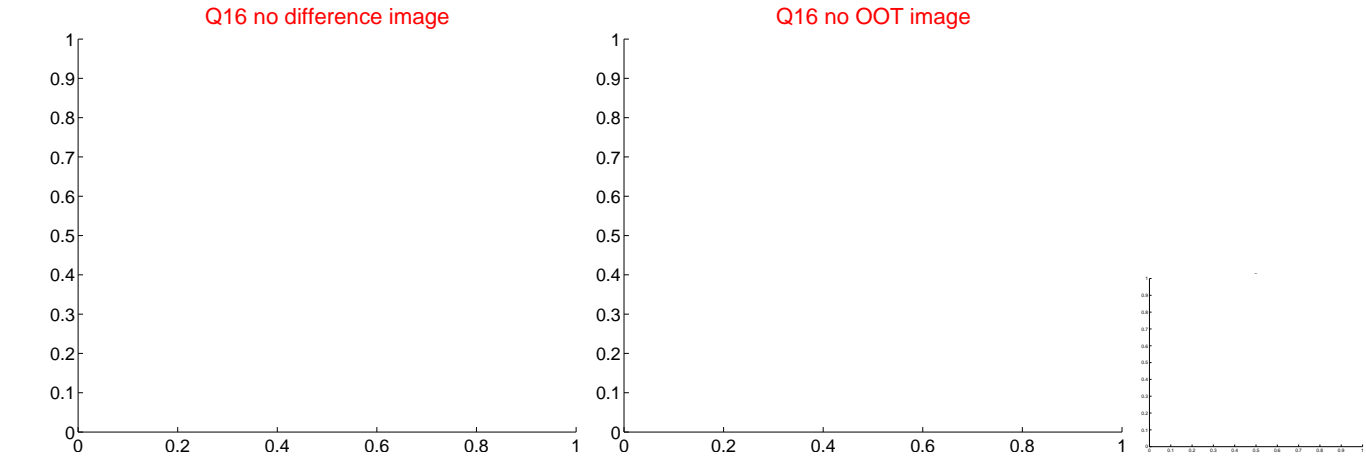
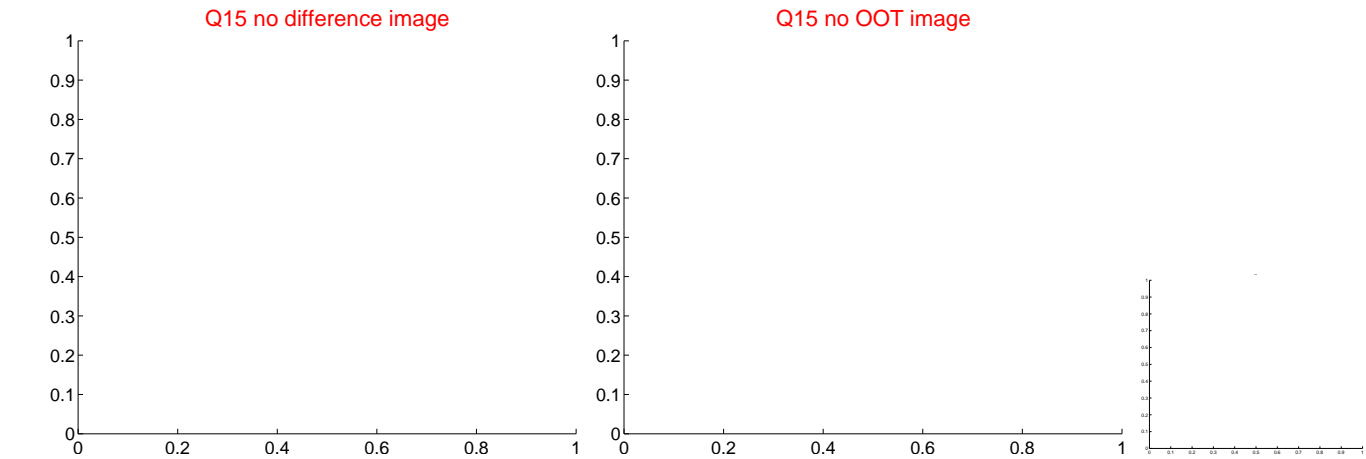
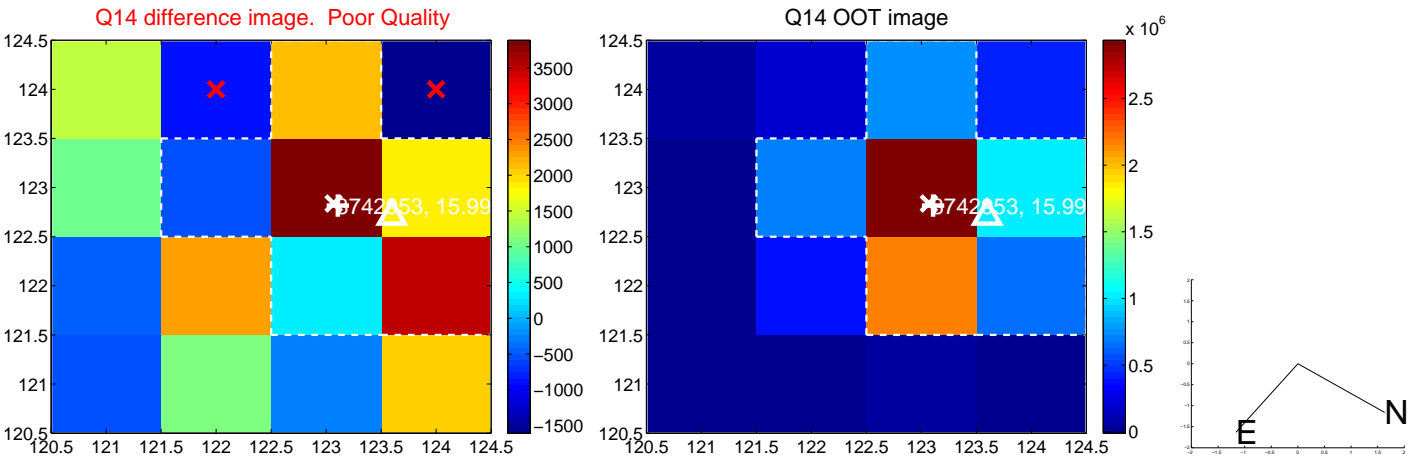
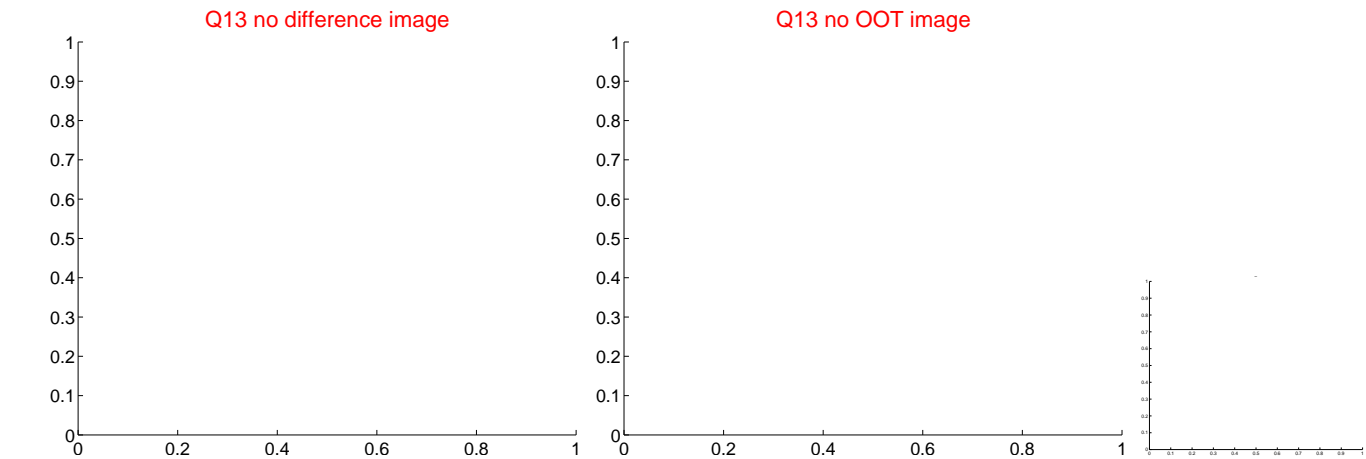
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



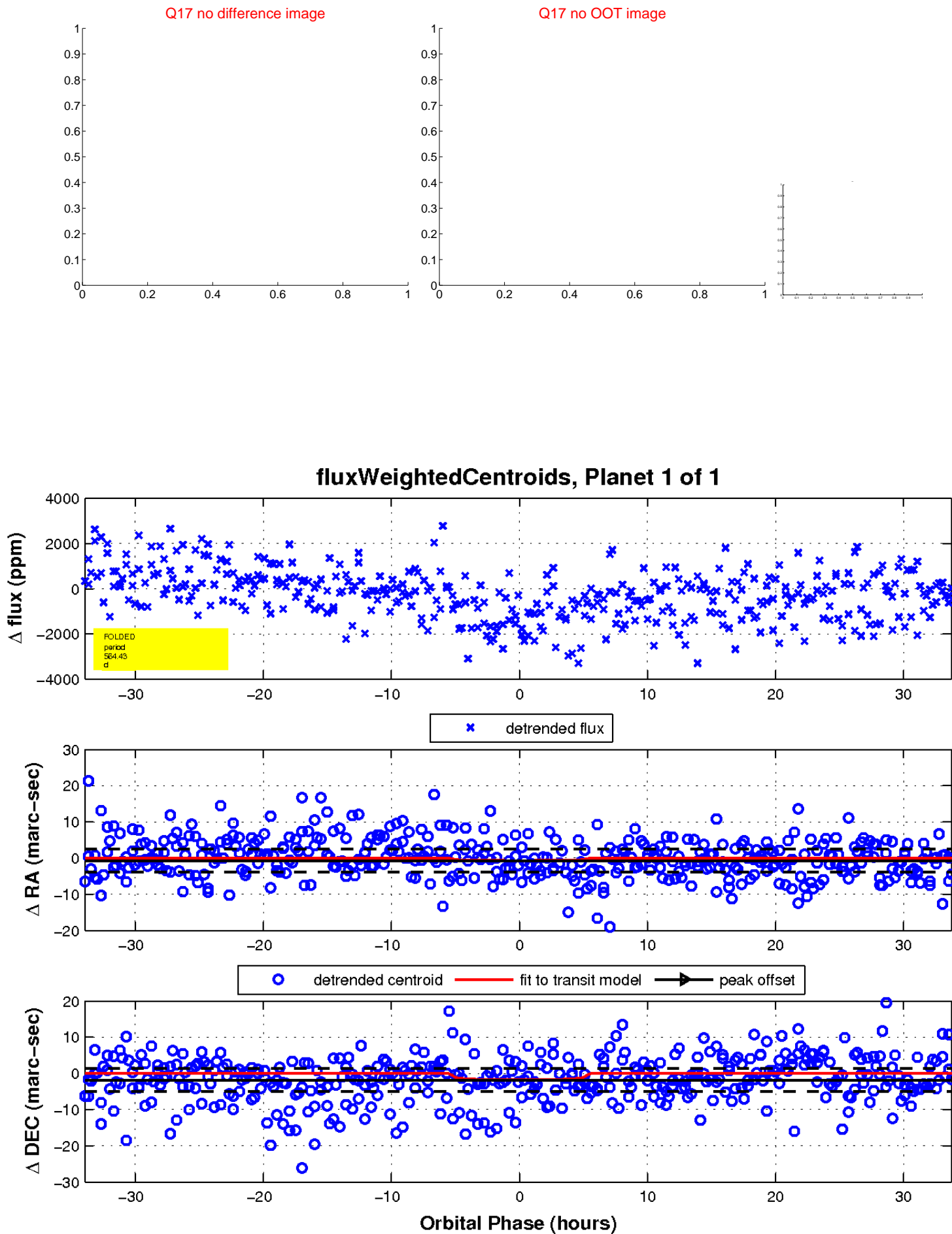
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

