

KIC 012454841

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})
012454841-01	OBS	No	437.922708	374.805362	324.3	26.839	7.3	11.0	1.25	6339	2.32	1.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012454841-01	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.

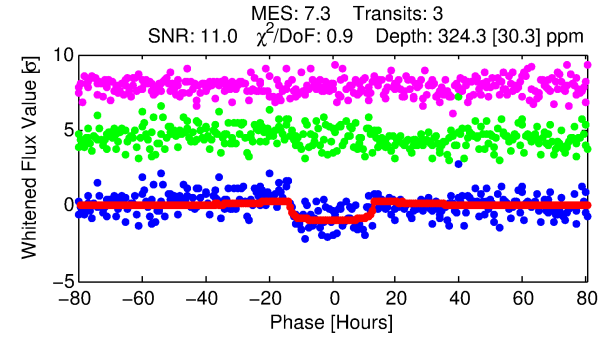
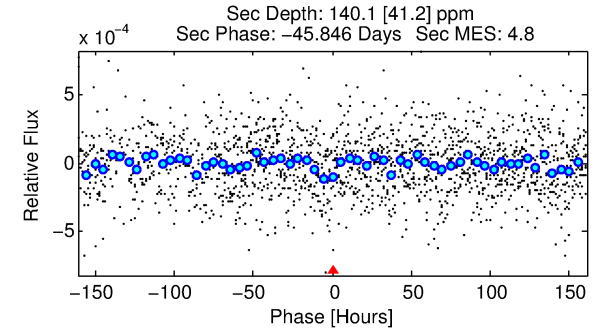
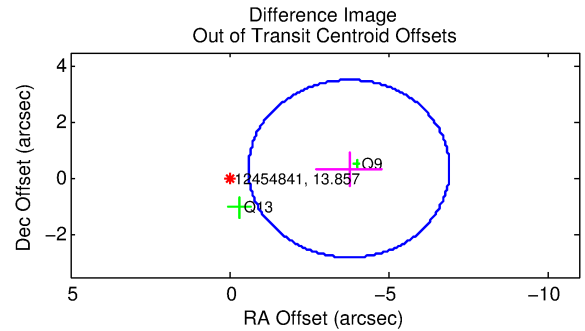
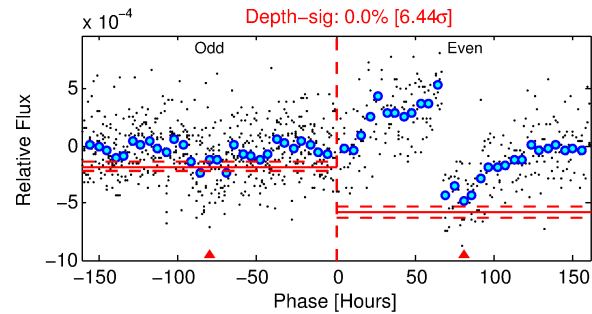
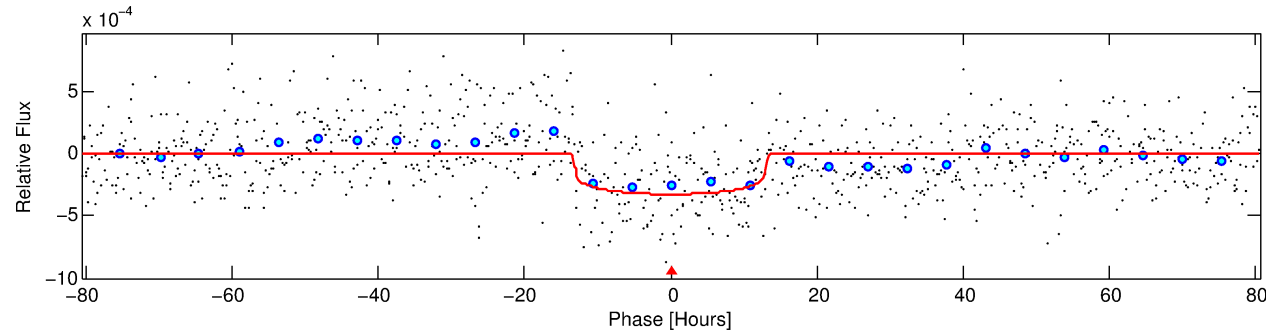
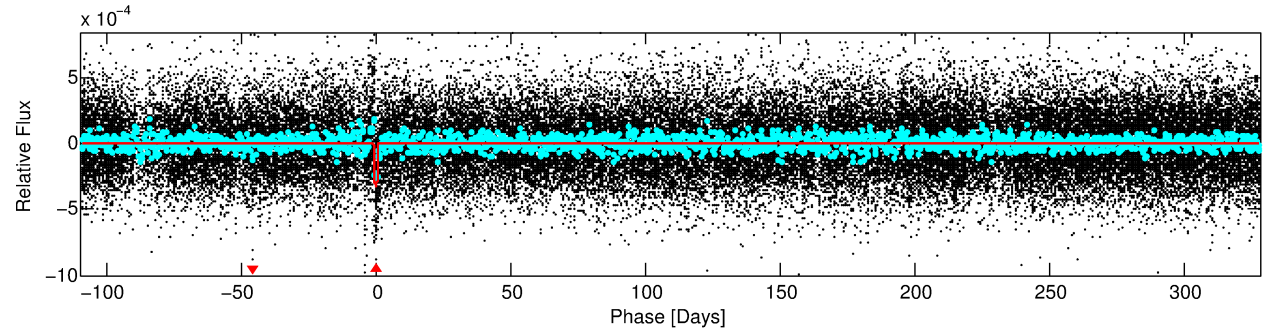
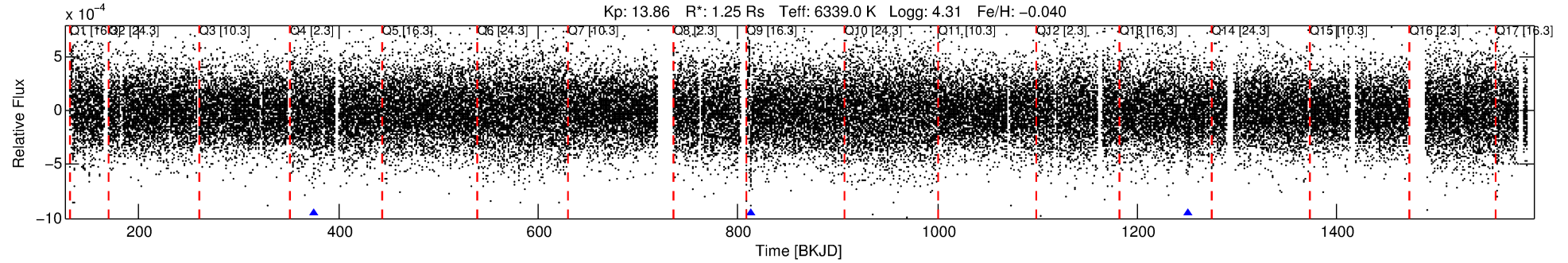
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012454841-01

No Significant Match Found

DV One-Page Summary

KIC: 12454841 Candidate: 1 of 1 Period: 437.923 d



DV Fit Results:

Period = 437.92271 [0.01538] d
Epoch = 374.8054 [0.0217] BKJD
Rp/R* = 0.0170 [0.0049]
a/R* = 109.50 [160.11]
b = 0.51 [2.11]
Seff = 1.61 [0.65]
Teff = 287 [29] K
Rp = 2.32 [1.02] Re
a = 1.1840 [0.3196] AU
Ag = 20064.41 [15053.68] [1.33σ]
Teffp = 5285 [872] K [5.73σ]

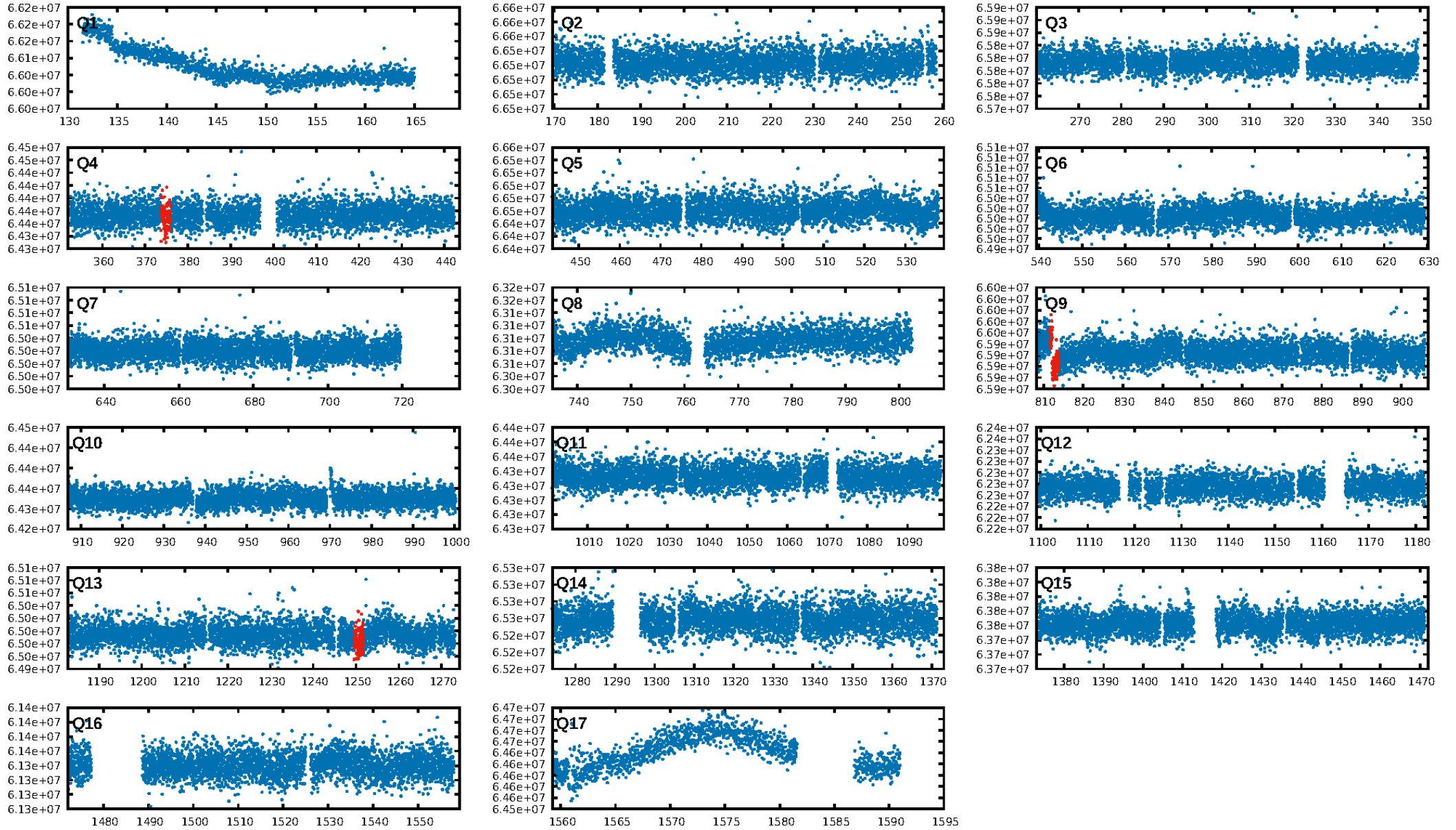
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.58e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 11.88
Centroid-sig: 60.7%
Centroid-so: 1.336 arcsec [1.15σ]
OotOffset-rm: 3.783 arcsec [3.59σ]
KicOffset-rm: 3.756 arcsec [3.60σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

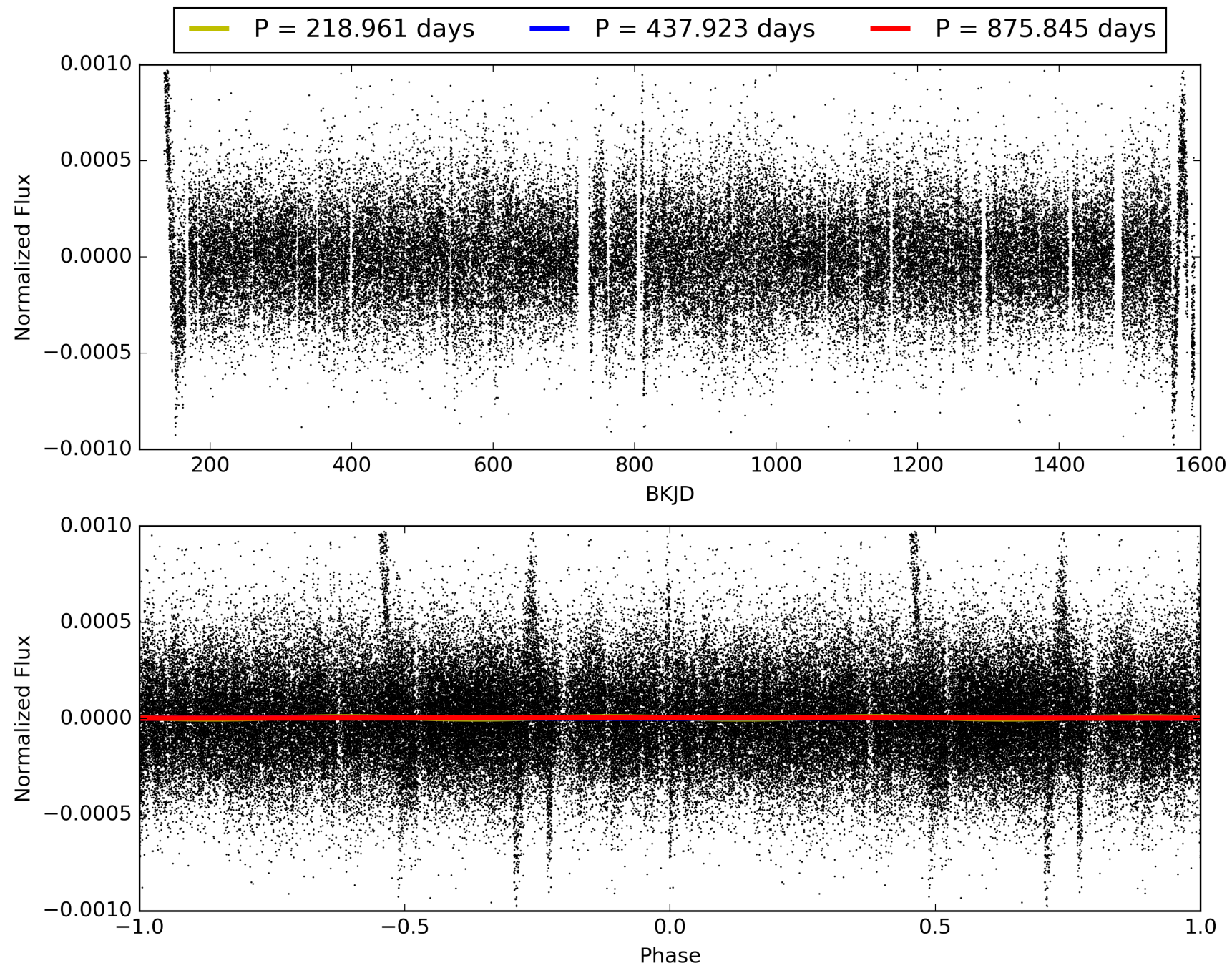
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:33:57 Z

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

TCE 012454841-01, PDC Light Curves

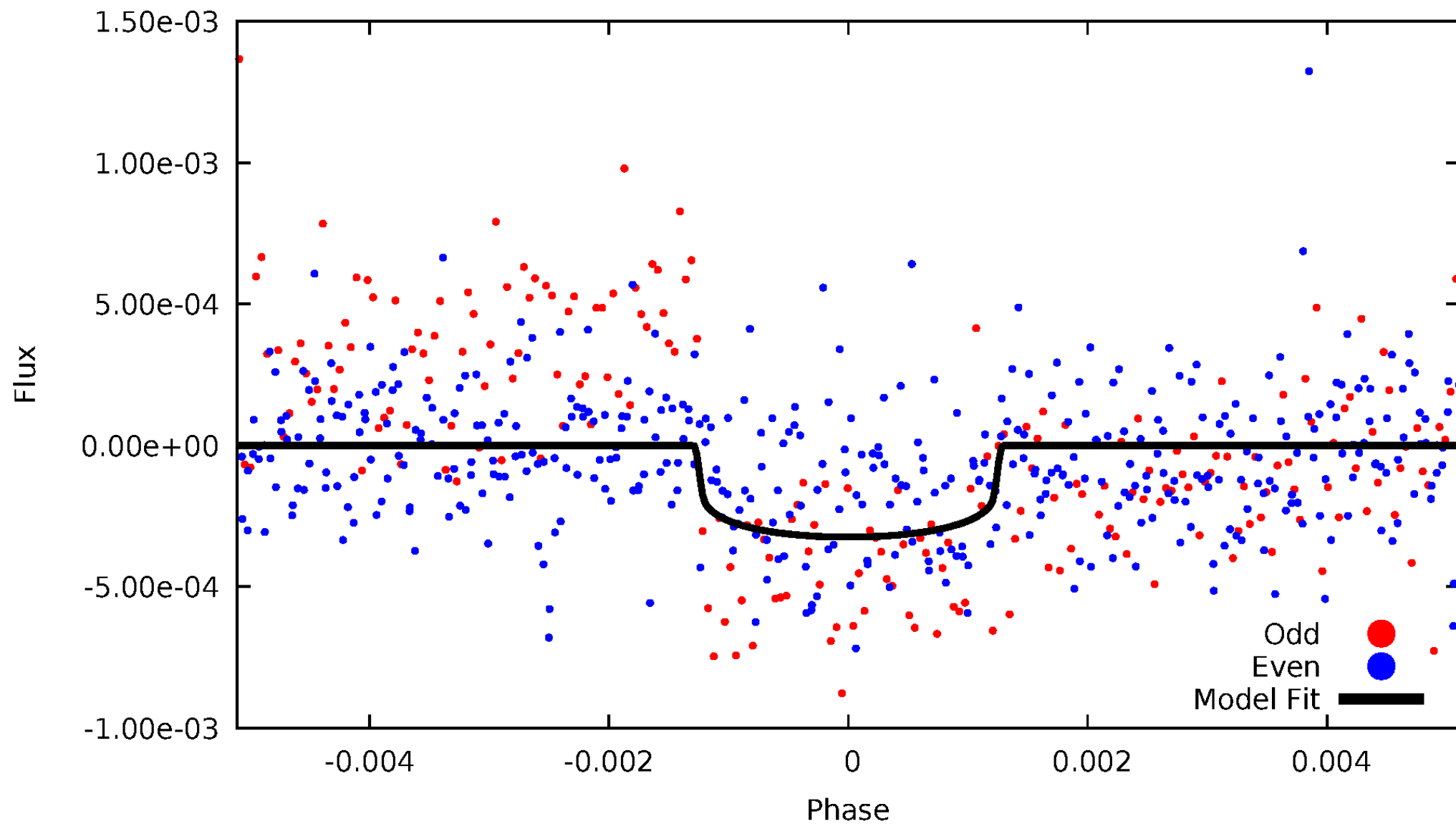


TCE 012454841-01



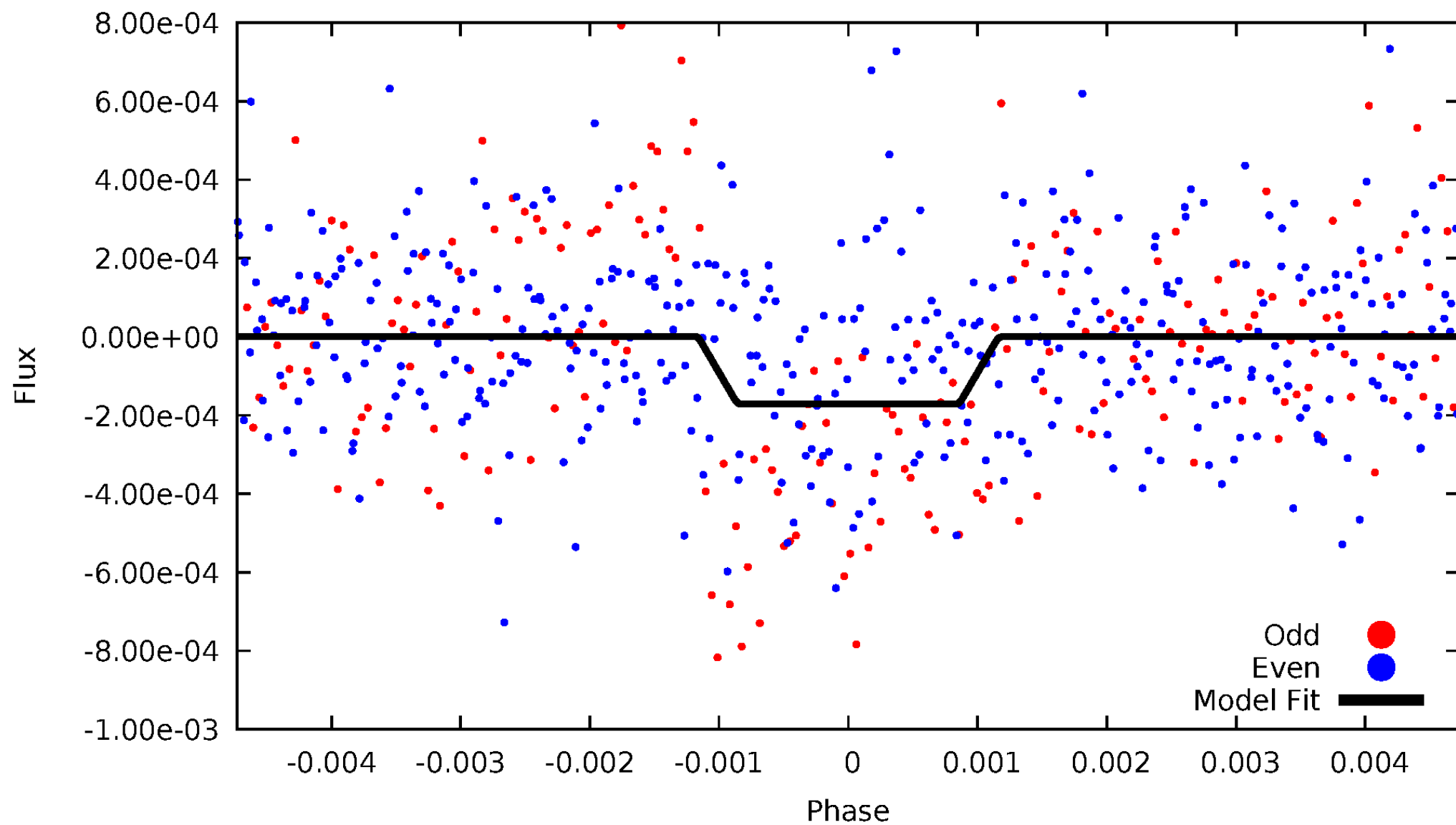
DV Odd/Even

TCE 012454841-01

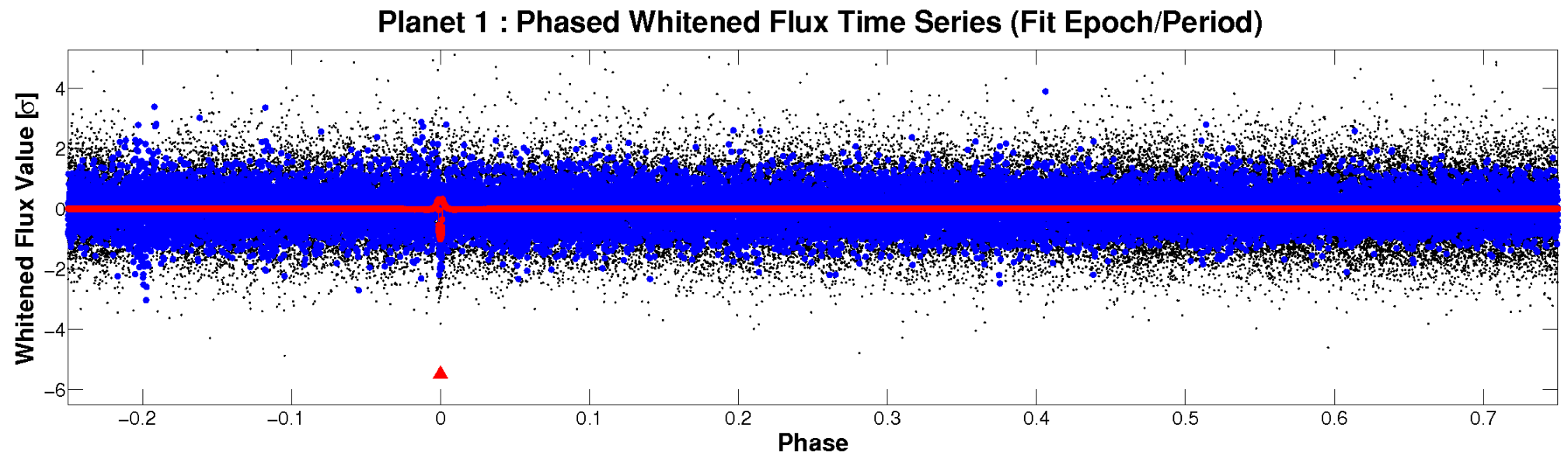
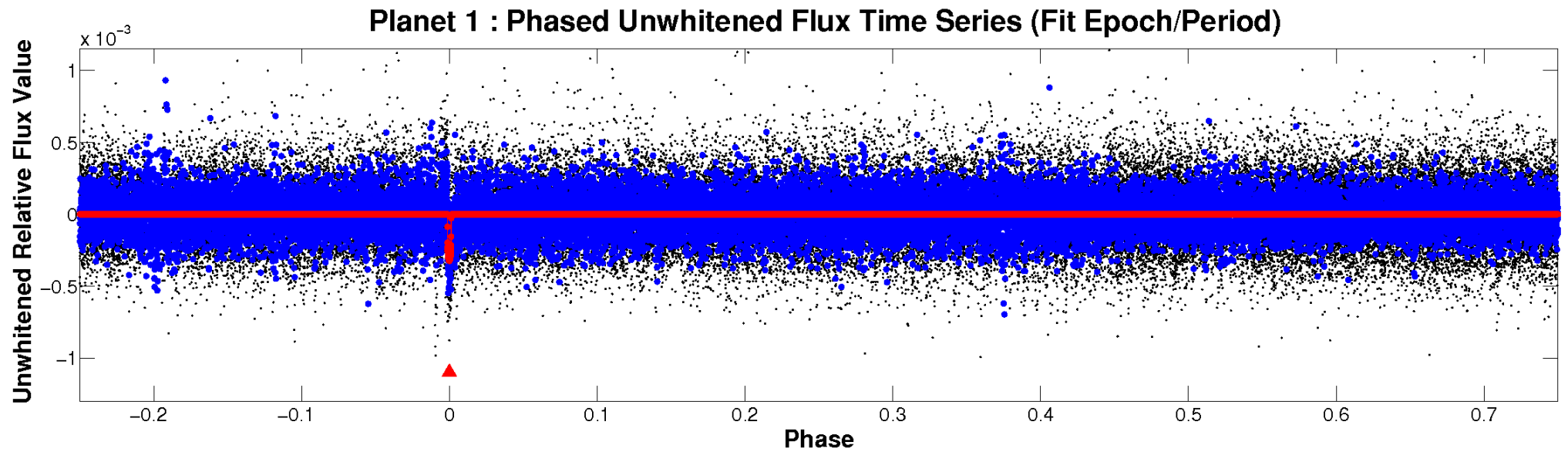


ALT Odd/Even

TCE 012454841-01



Non-Whitened Vs. Whitened Light Curve



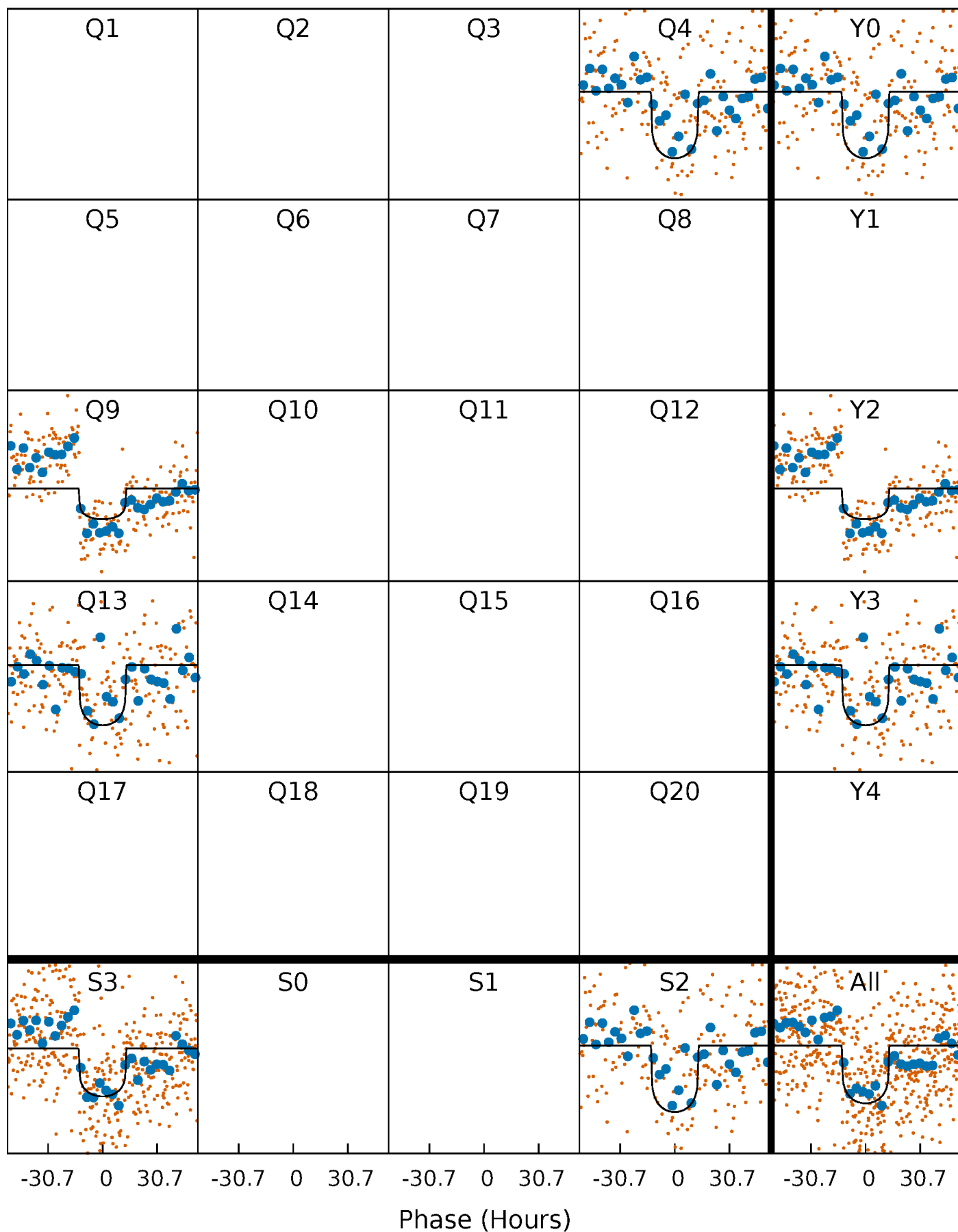
PDC Quarter-Phased Transit Curves

TCE 012454841-01 P=437.922708 Days $T_0=374.805362$ (BKJD)



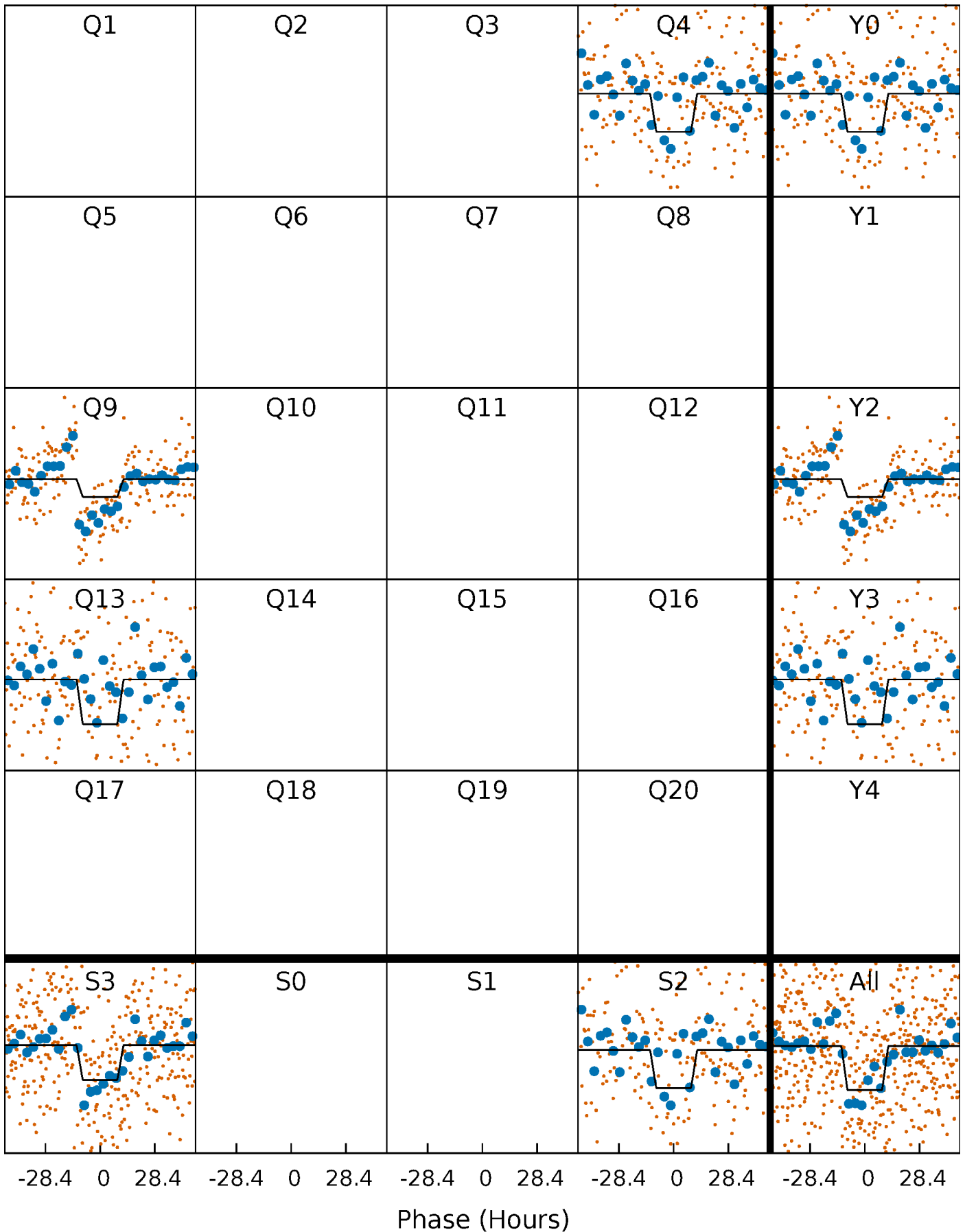
DV Quarter-Phased Transit Curves

TCE 012454841-01 P=437.922708 Days $T_0=374.805362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

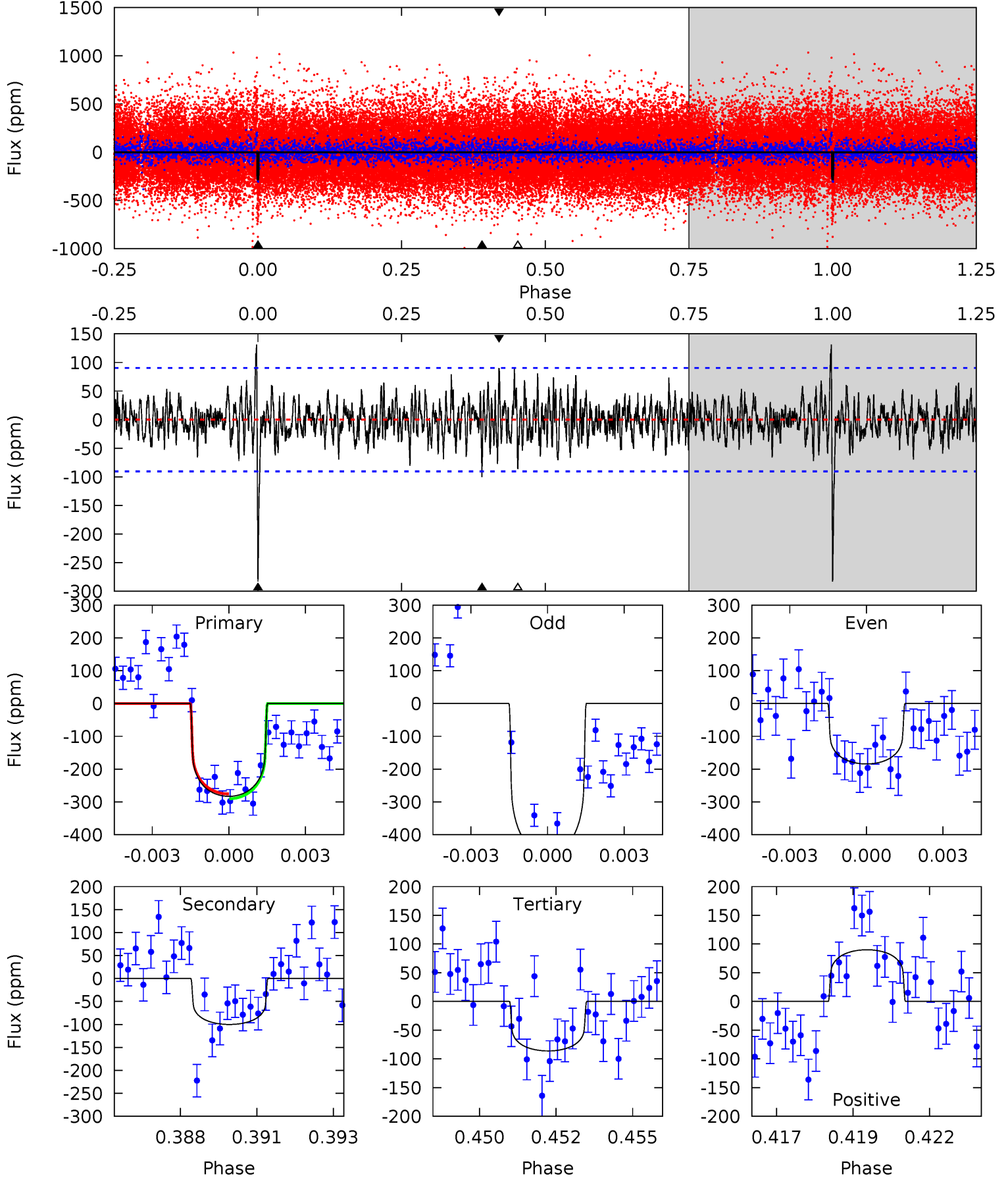
TCE 012454841-01 P=437.802645 Days $T_0=374.875491$ (BKJD)



DV Model-Shift Uniqueness Test

012454841-01, P = 437.922708 Days, E = 374.805362 Days

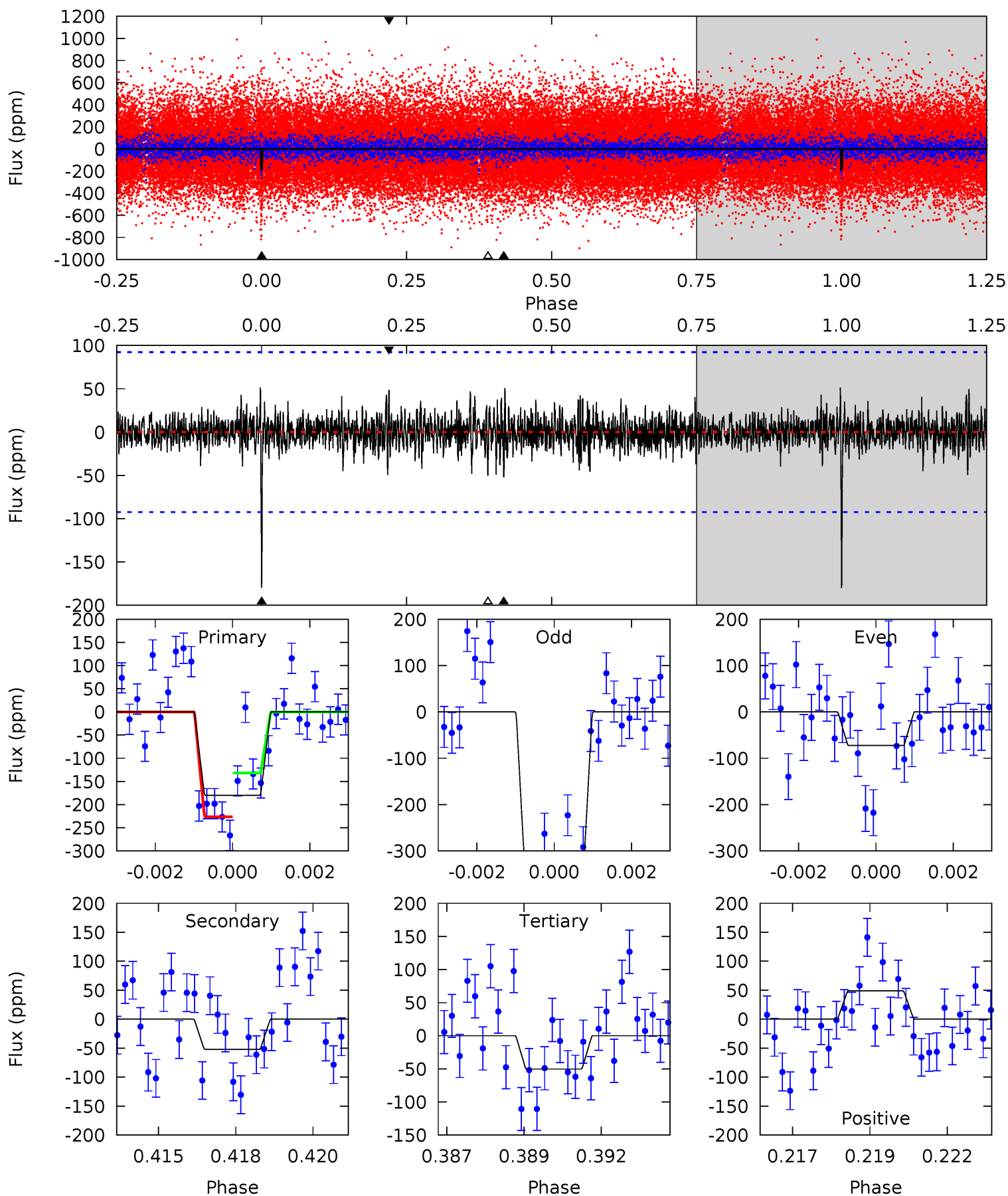
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	5.84	5.03	5.25	5.28	3.01	1.54	11.5	11.3	0.81	0.59	7.42	1.43	0.32	0.43



Alt Model-Shift Uniqueness Test

012454841-01, P = 437.802645 Days, E = 374.875491 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	2.98	2.89	2.81	5.30	3.04	0.77	7.43	7.51	0.10	0.18	8.47	1.68	0.22	2.71



Stellar Parameters For KIC 012454841

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6339^{+170}_{-208}	$4.307^{+0.108}_{-0.201}$	$-0.040^{+0.250}_{-0.300}$	$1.249^{+0.415}_{-0.178}$	$1.154^{+0.181}_{-0.148}$	$0.834^{+0.433}_{-0.455}$
	+3%/-3%	+3%/-5%	+625%/-750%	+33%/-14%	+16%/-13%	+52%/-55%
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 012454841-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-100±17	$2.35^{+0.82}_{-0.69}$	404^{+30}_{-22}	4944^{+832}_{-529}	13585^{+14649}_{-6386}
Alt.	-52±17	$1.79^{+0.79}_{-0.62}$	403^{+31}_{-23}	4826^{+1022}_{-703}	12158^{+18305}_{-7085}

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 $A_{obs} \gg 1.0$

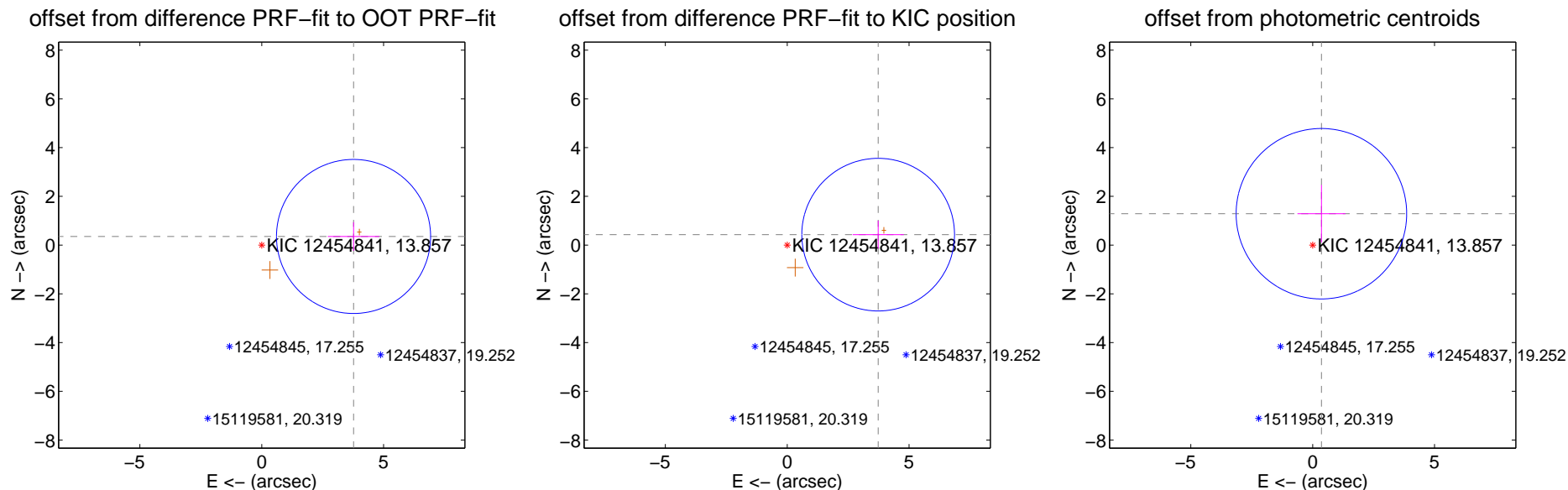
DV Centroid Data

Supplemental centroid analysis for 012454841-01. Kepler magnitude: 13.86. Transit SNR 11.05

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.783 ± 1.054	3.59	-3.766 ± 1.057	0.354 ± 0.587
PRF-fit source offset from KIC position	3.756 ± 1.044	3.60	-3.731 ± 1.049	0.428 ± 0.577
photometric centroid source offset	1.34 ± 1.17	1.15	-0.36 ± 0.98	1.29 ± 1.18



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.

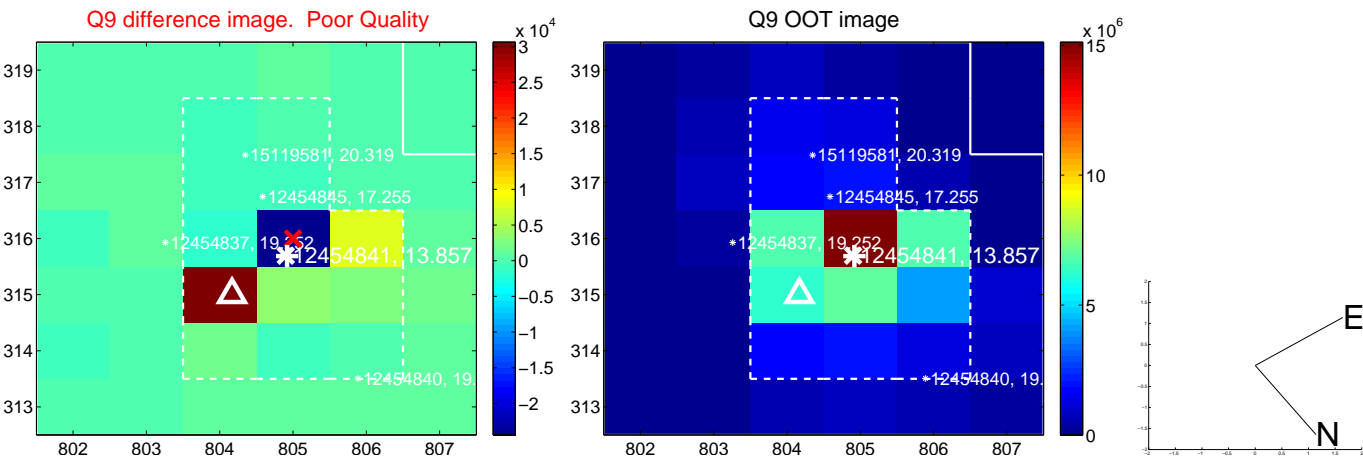
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



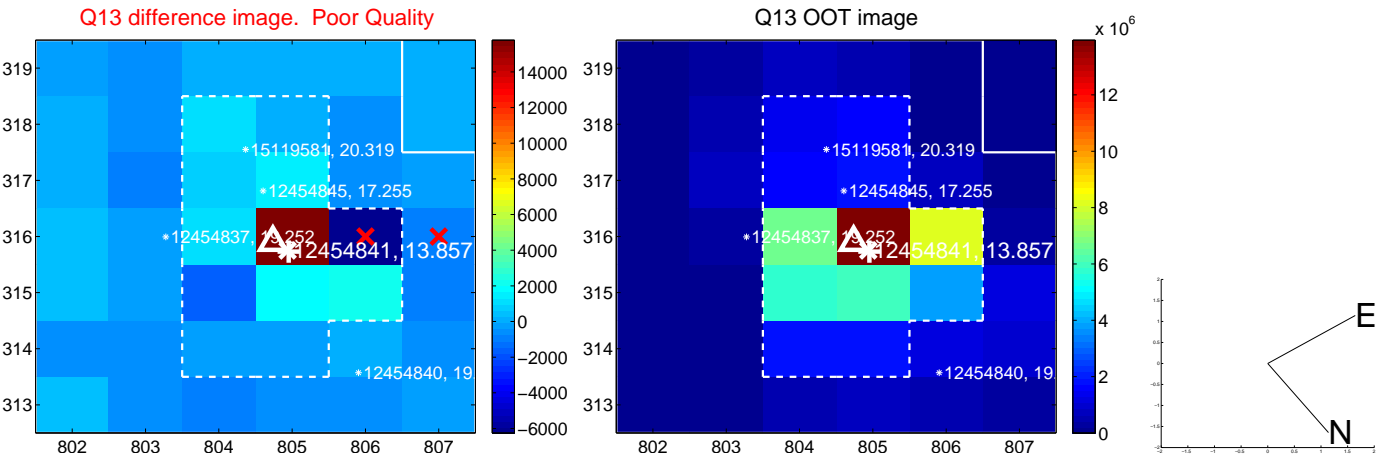
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



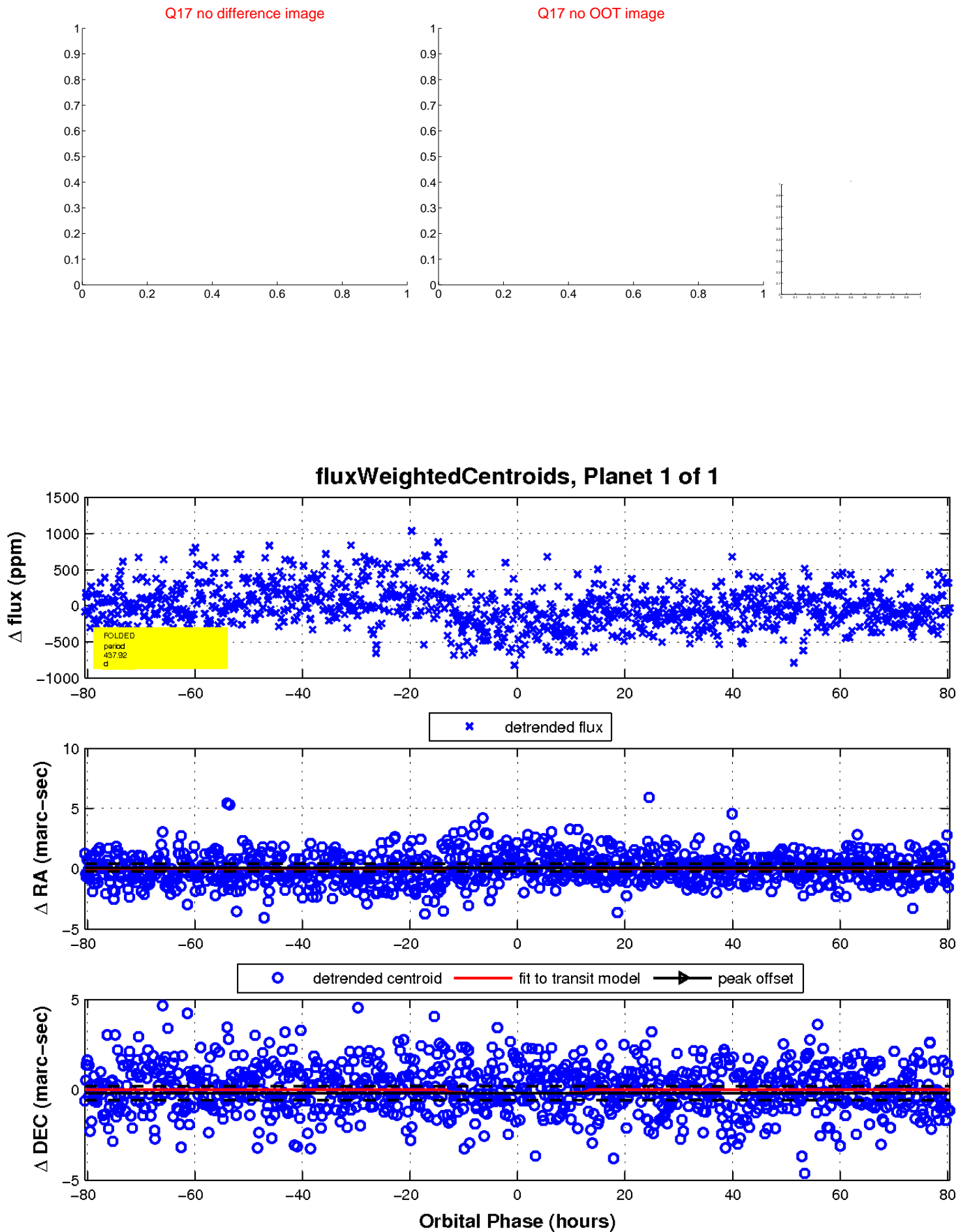
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

