

KIC 008937867

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})
008937867-01	OBS	No	371.751940	229.766154	741.9	25.855	7.6	12.0	0.94	5782	2.54	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008937867-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—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.

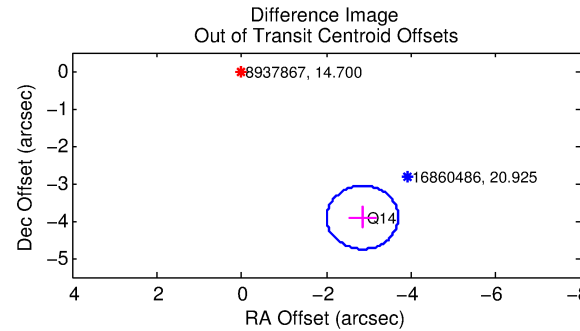
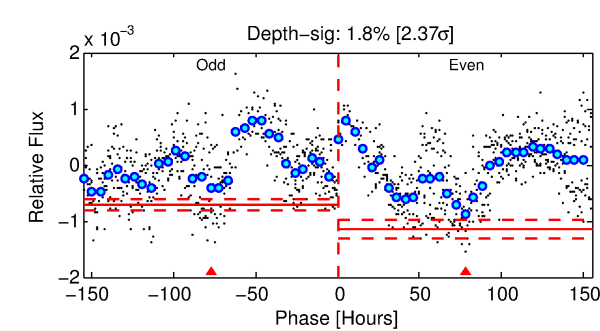
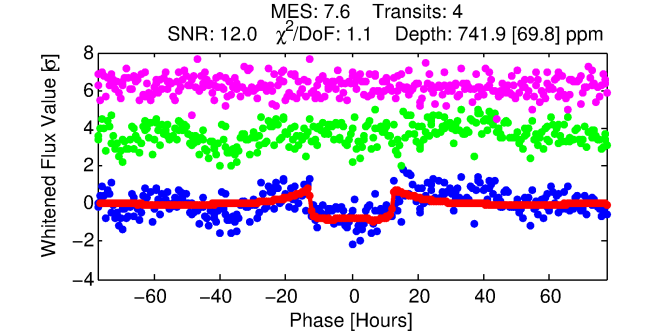
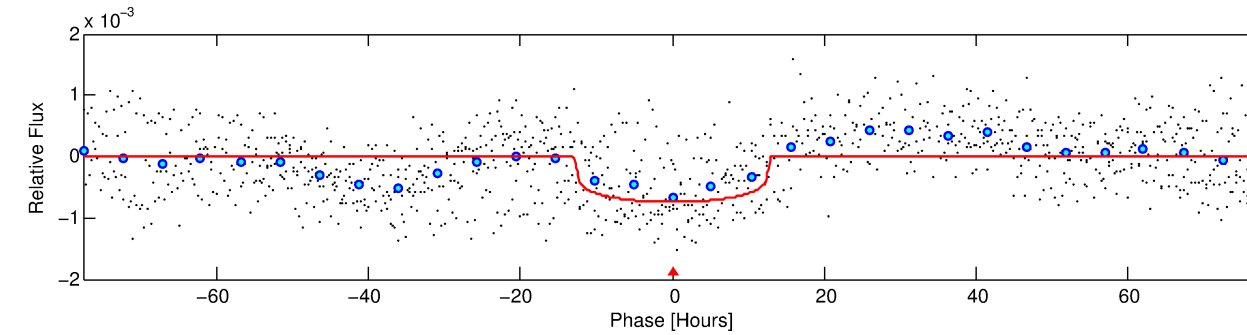
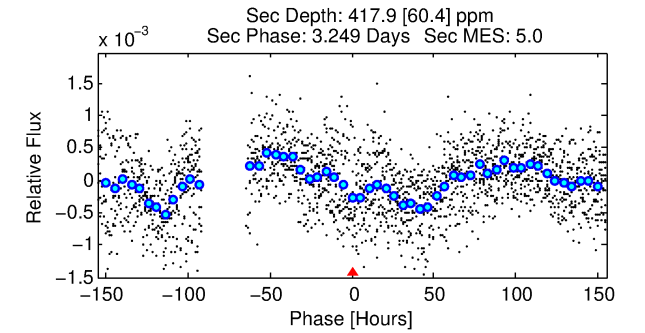
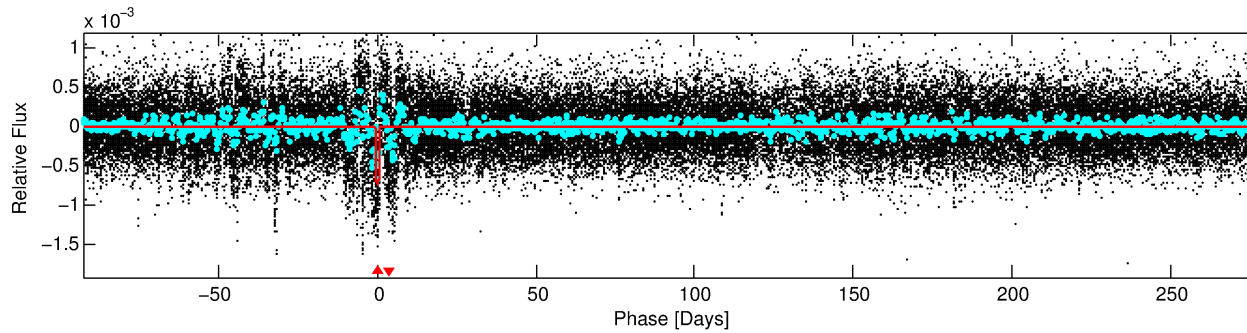
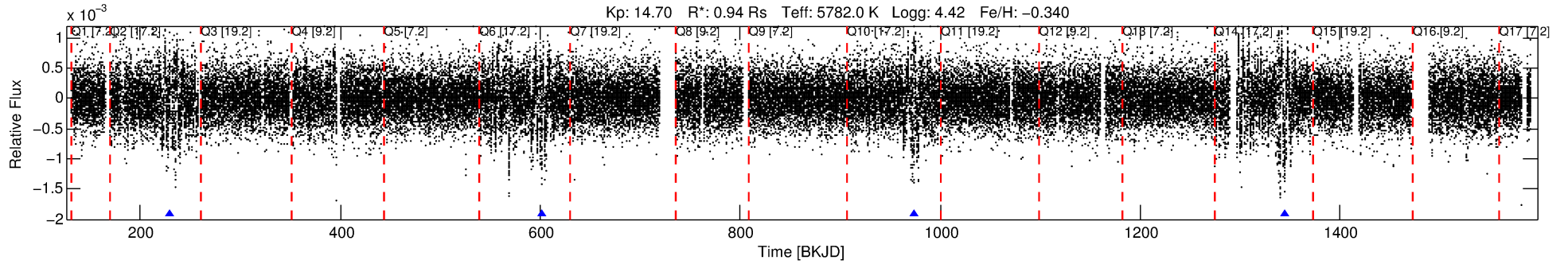
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008937867-01

No Significant Match Found

DV One-Page Summary

KIC: 8937867 Candidate: 1 of 1 Period: 371.752 d



DV Fit Results:

Period = 371.75194 [0.00725] d
Epoch = 229.7662 [0.0129] BKJD
Rp/R* = 0.0249 [0.0069]
a/R* = 111.21 [141.08]
b = 0.16 [7.77]
Seff = 0.96 [0.33]
Teq = 252 [22] K
Rp = 2.54 [0.98] Re
a = 0.9580 [0.2147] AU
Ag = 32629.40 [21650.64] [1.51σ]
Teffp = 5242 [769] K [6.49σ]

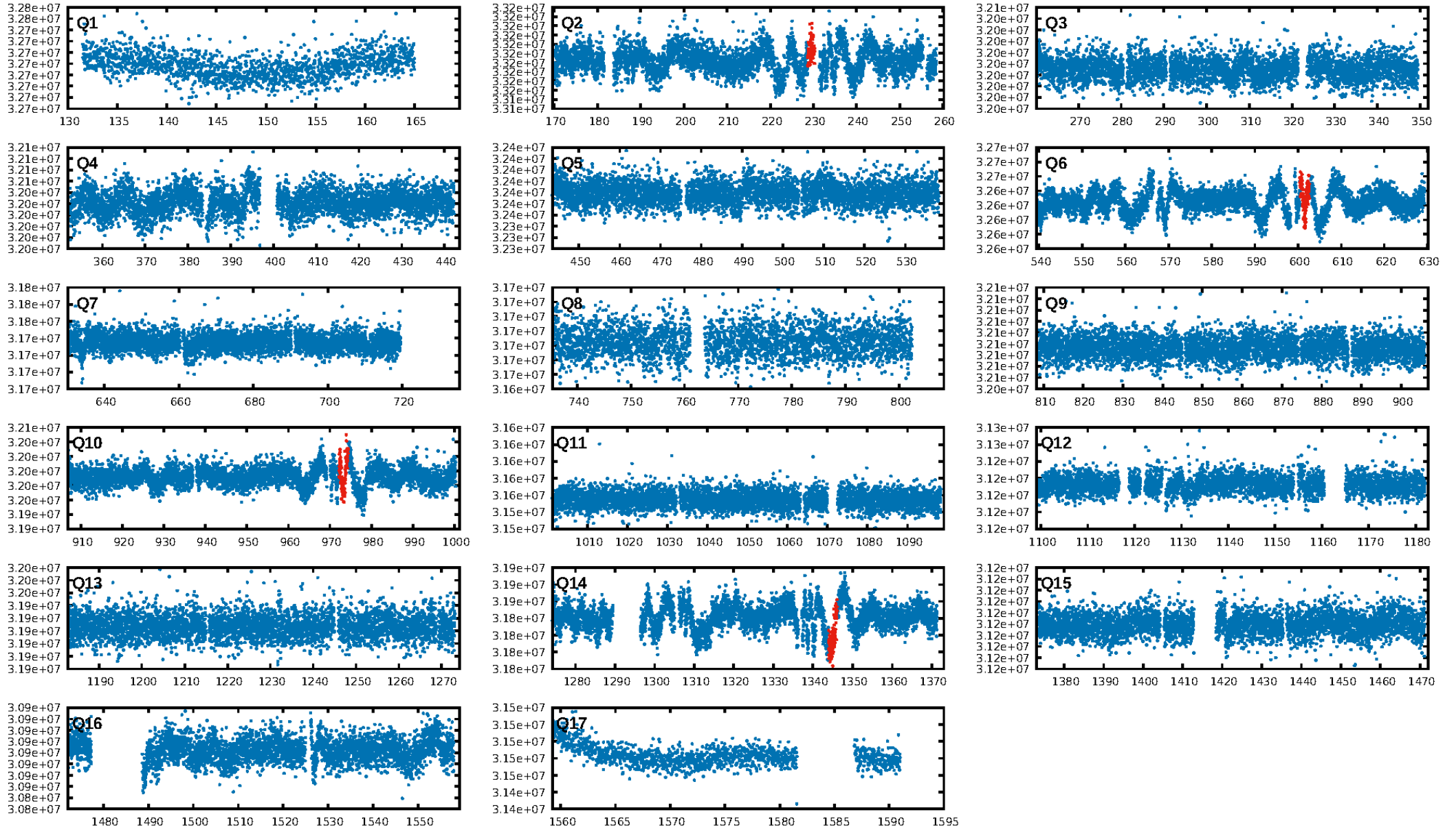
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 6.40e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 92.01
Centroid-sig: 0.5%
Centroid-so: 4.846 arcsec [2.64σ]
OotOffset-rm: 4.841 arcsec [17.15σ]
KicOffset-rm: 4.945 arcsec [17.57σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

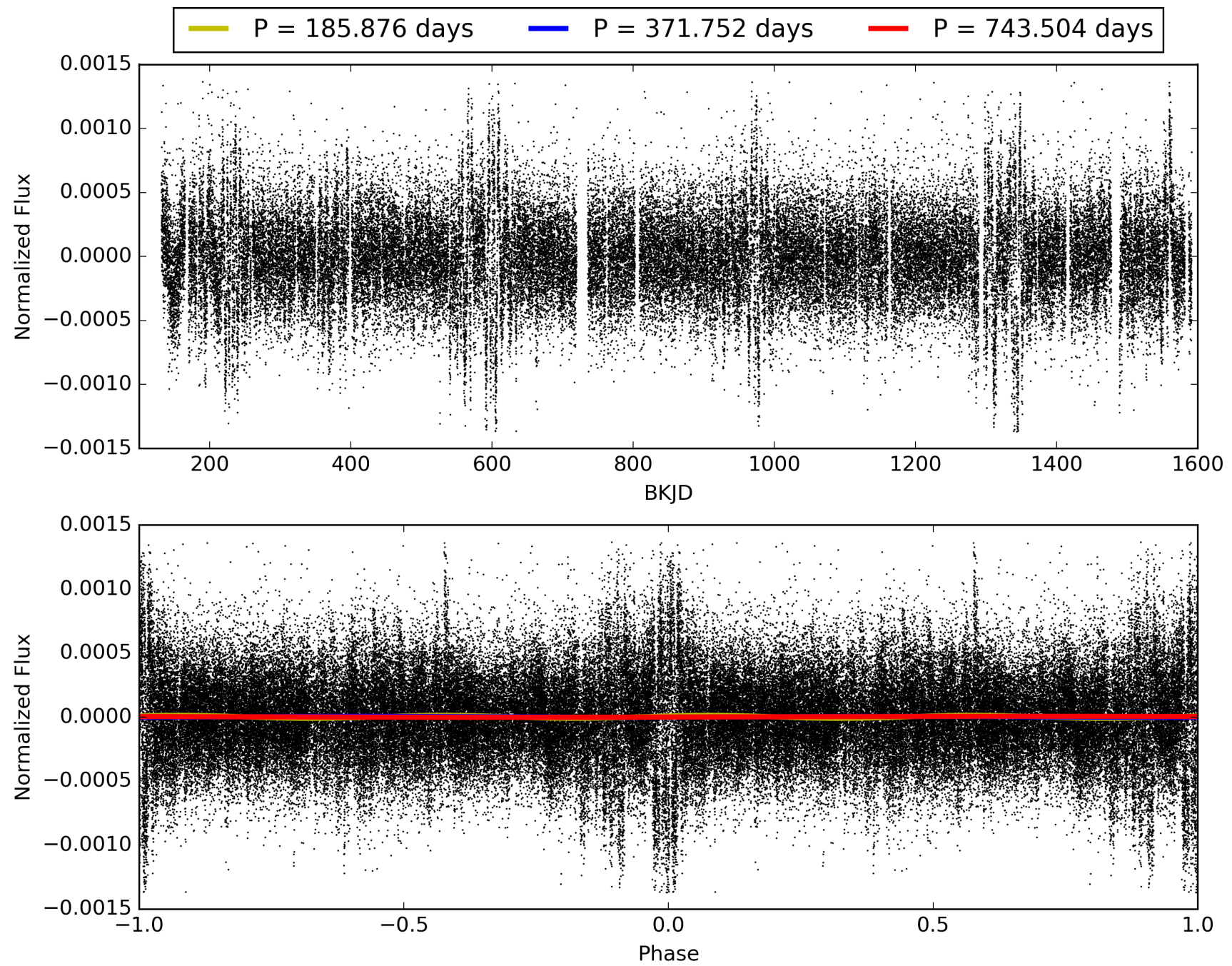
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:59:32 Z

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

TCE 008937867-01, PDC Light Curves

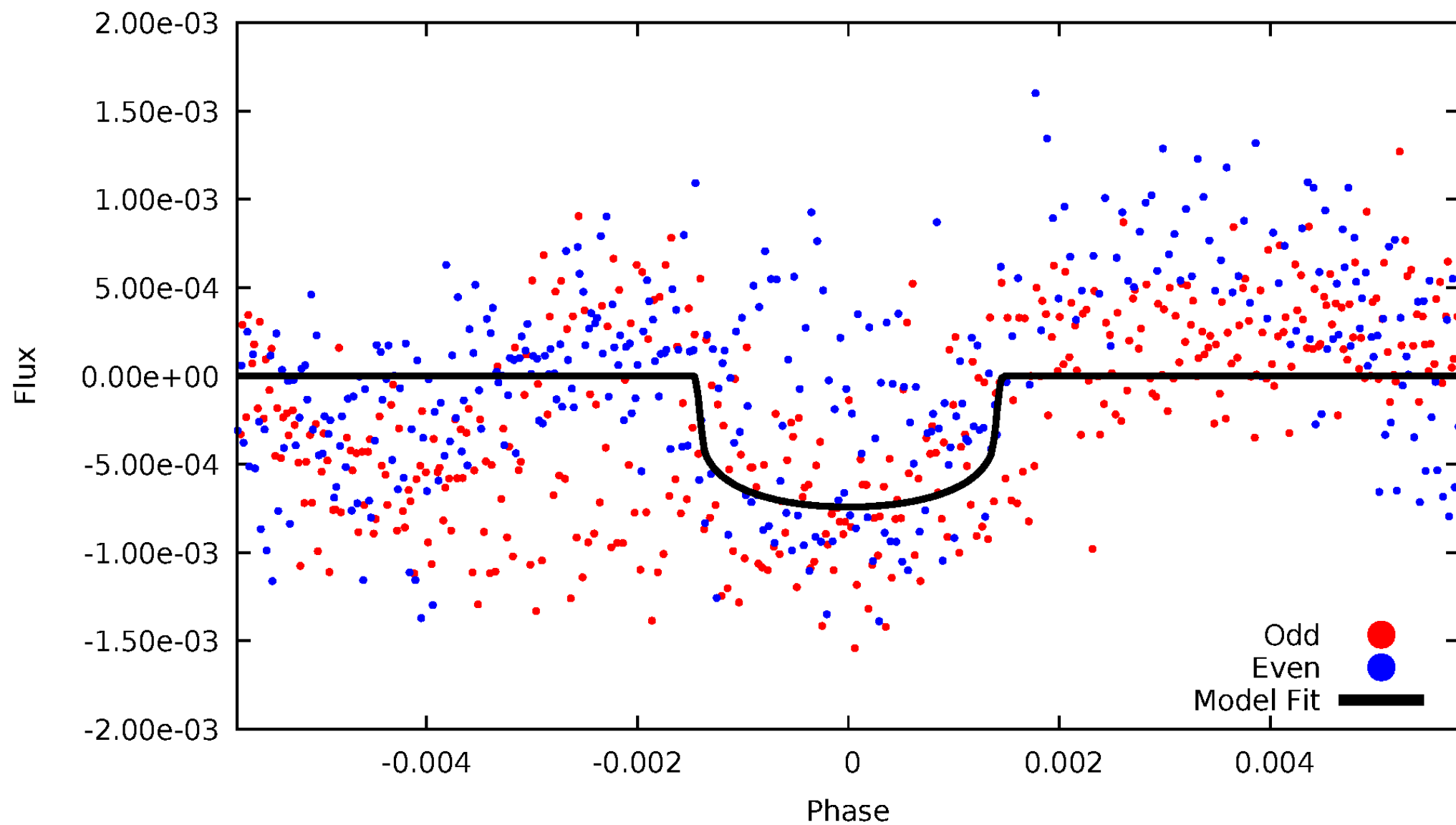


TCE 008937867-01



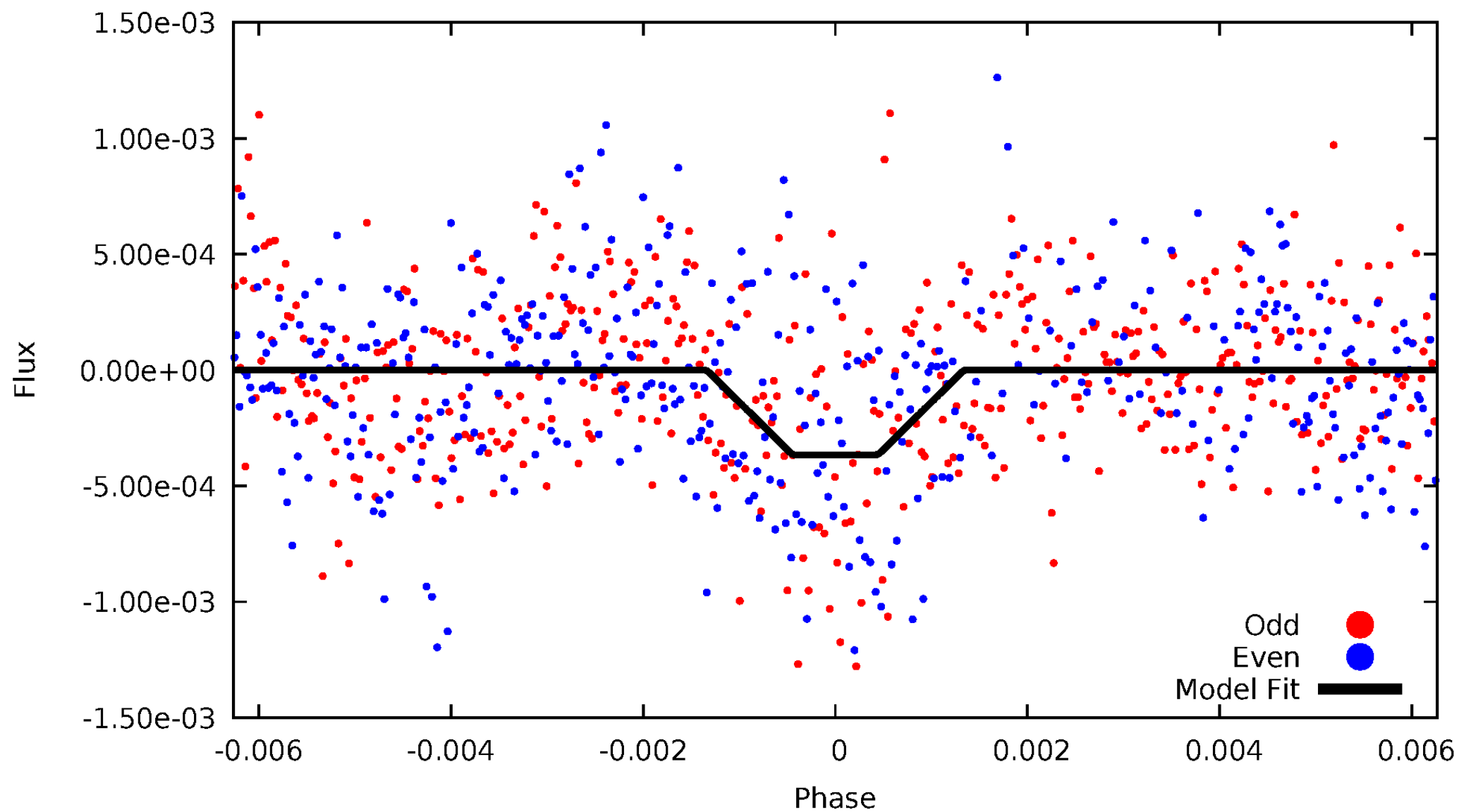
DV Odd/Even

TCE 008937867-01



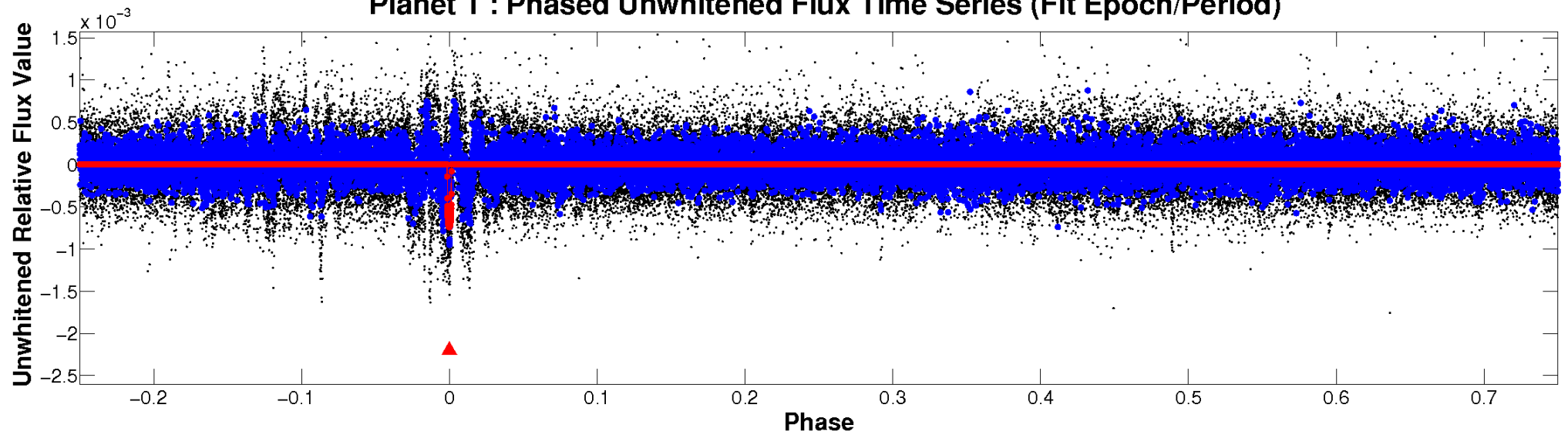
ALT Odd/Even

TCE 008937867-01

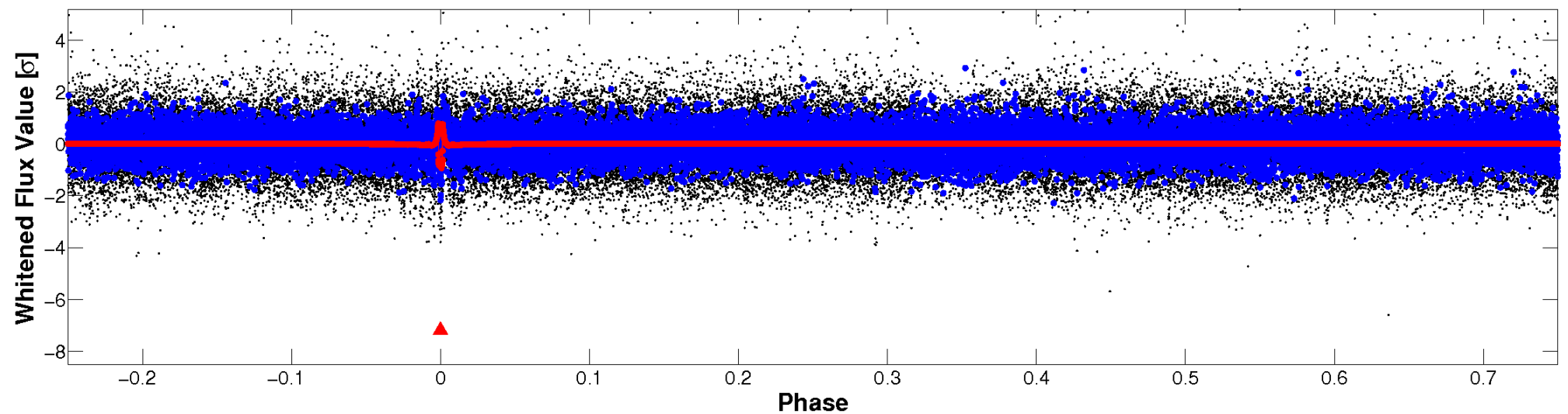


Non-Whitened Vs. Whitened Light Curve

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

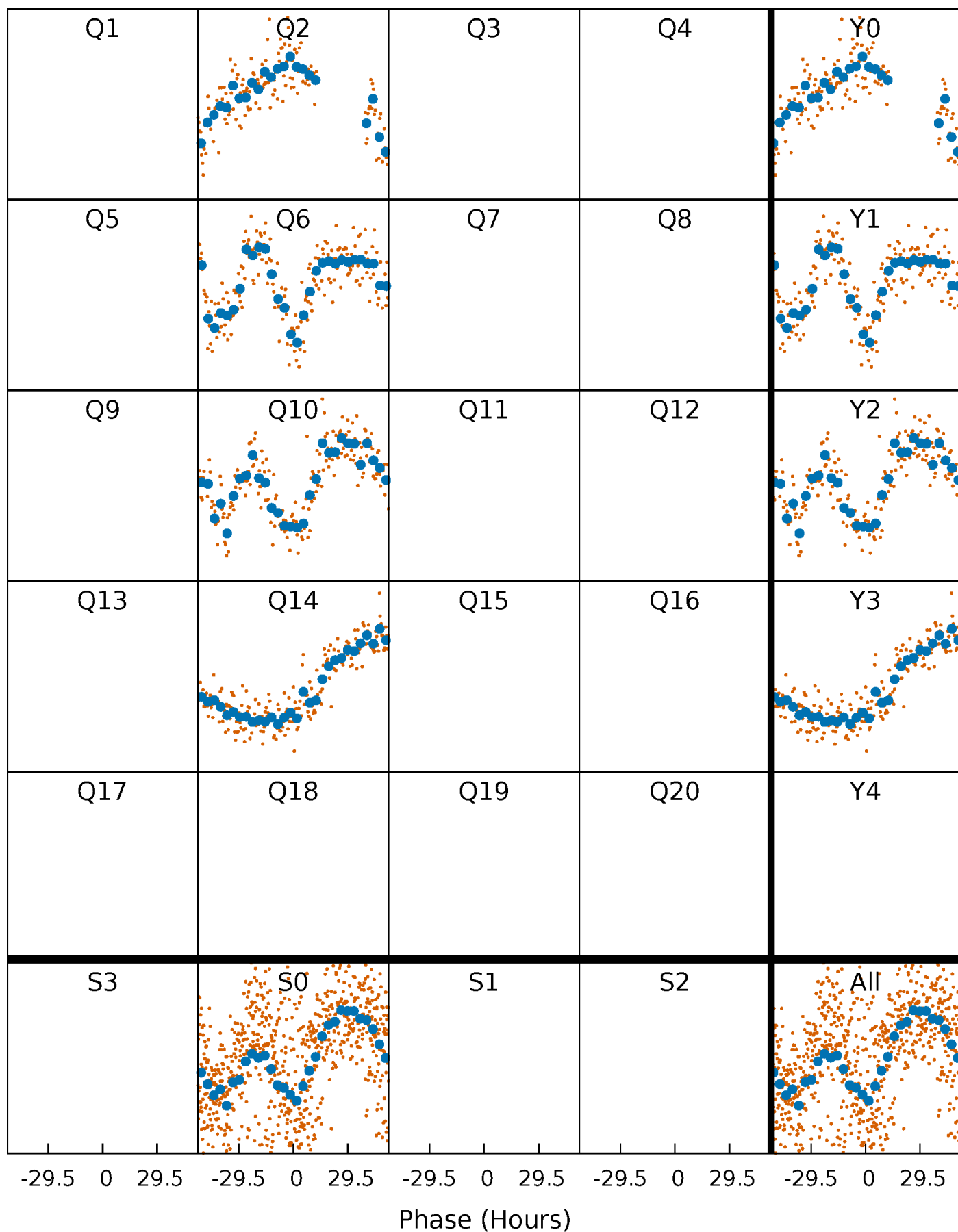


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



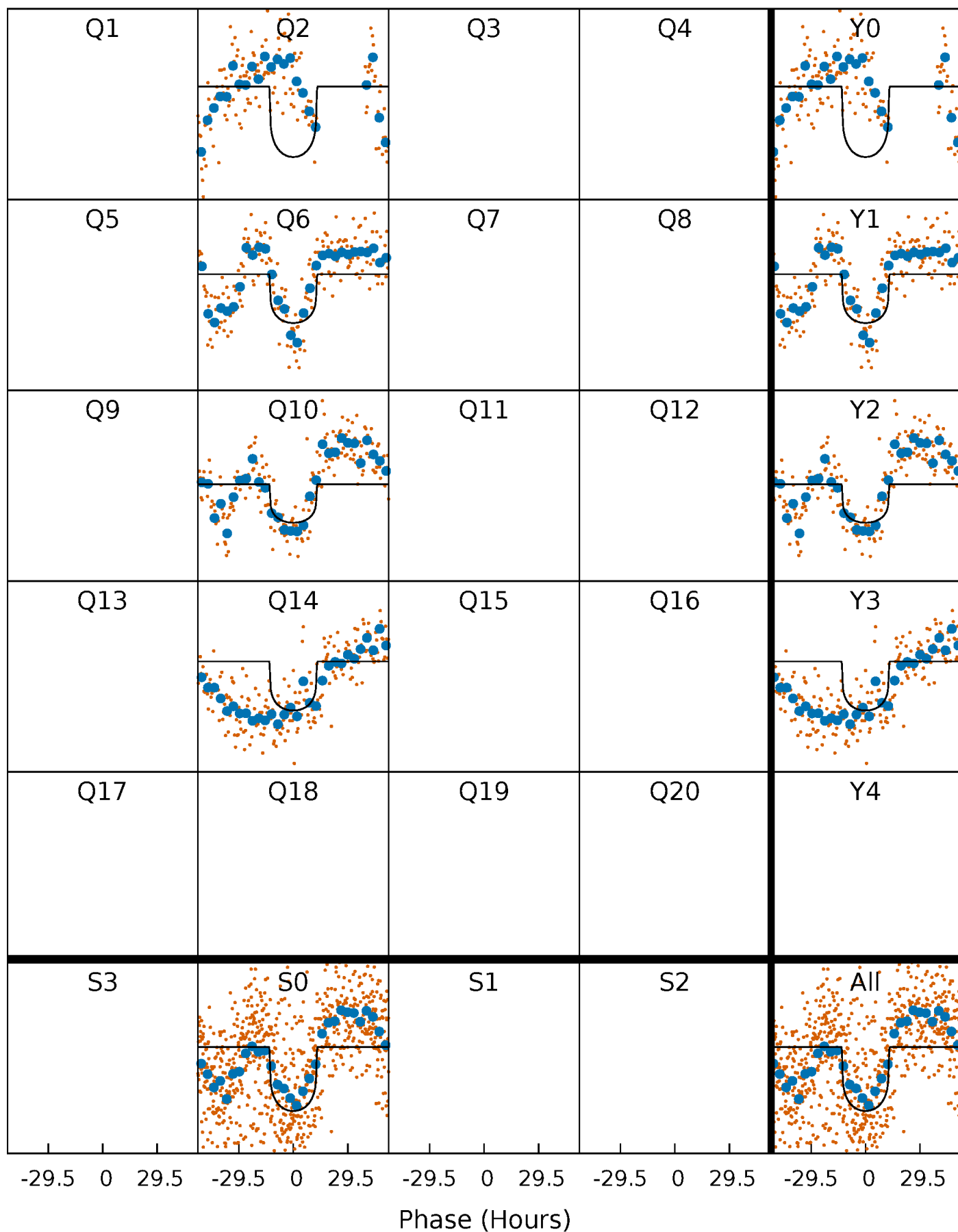
PDC Quarter-Phased Transit Curves

TCE 008937867-01 P=371.751940 Days $T_0=229.766154$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008937867-01 P=371.751940 Days $T_0=229.766154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

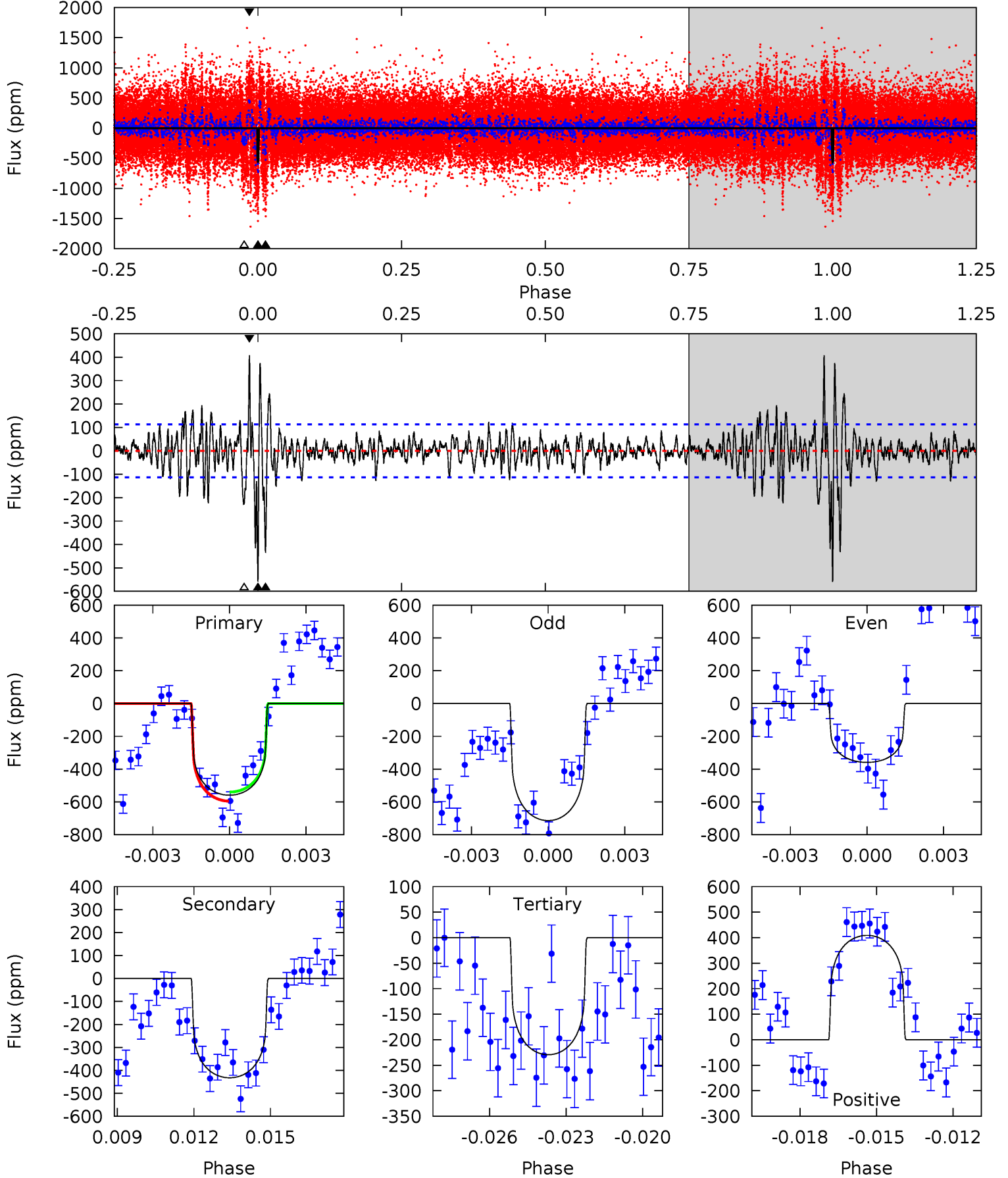
TCE 008937867-01 P=371.734135 Days $T_0=229.835440$ (BKJD)



DV Model-Shift Uniqueness Test

008937867-01, P = 371.751940 Days, E = 229.766154 Days

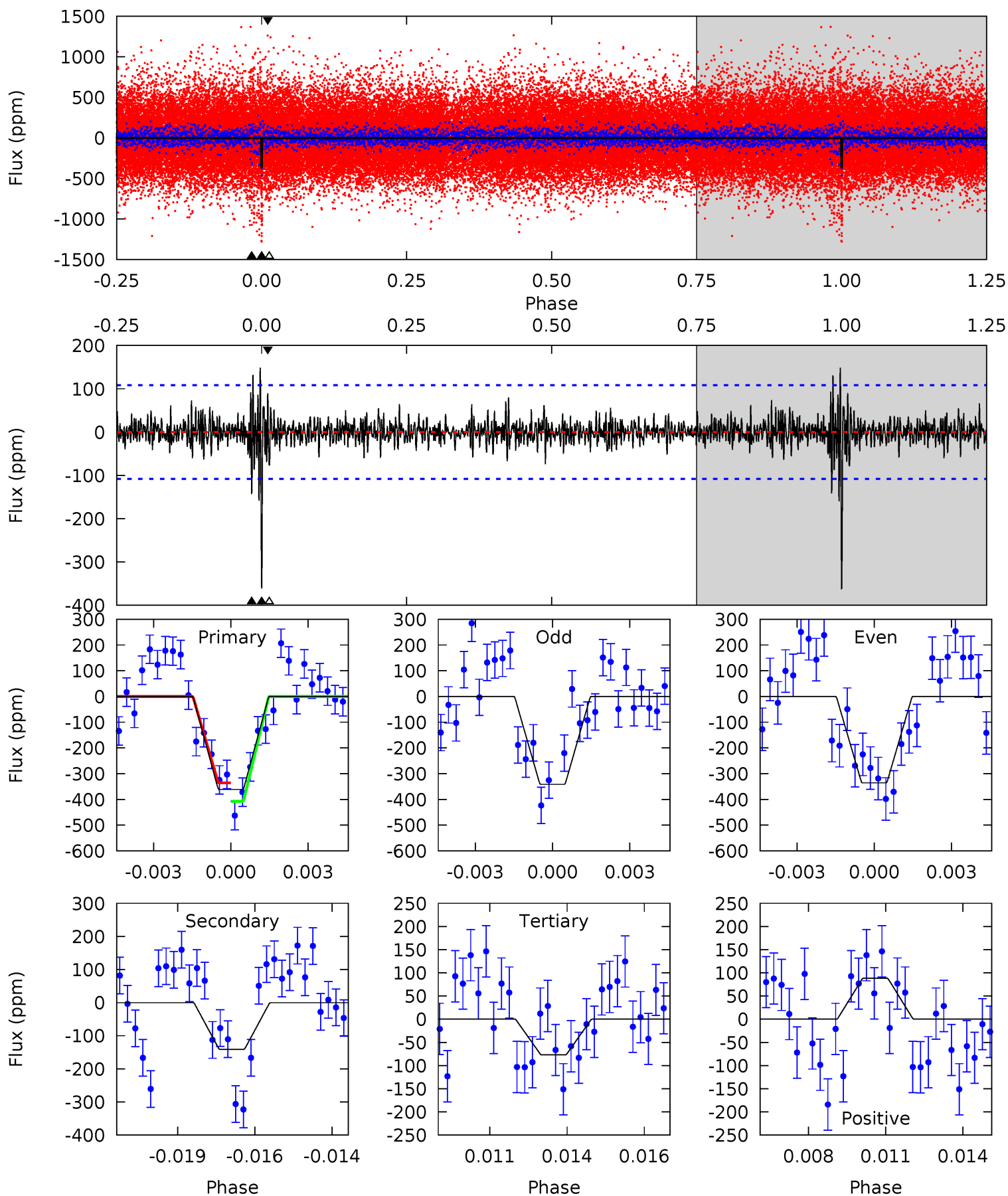
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	20.1	10.7	19.0	5.26	2.98	2.85	15.3	6.97	9.43	1.08	8.31	0.77	0.42	1.27



Alt Model-Shift Uniqueness Test

008937867-01, P = 371.734135 Days, E = 229.835440 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	6.88	3.75	4.30	5.27	3.00	1.04	13.8	13.3	3.12	2.58	0.14	0.98	0.29	1.73



Stellar Parameters For KIC 008937867

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5782^{+155}_{-155}	$4.423^{+0.120}_{-0.180}$	$-0.340^{+0.300}_{-0.300}$	$0.937^{+0.248}_{-0.134}$	$0.849^{+0.118}_{-0.073}$	$1.453^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+88%/-88%	+26%/-14%	+14%/-9%	+56%/-49%
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 008937867-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-432 ± 22	$2.60^{+0.85}_{-0.79}$	354^{+24}_{-19}	5316^{+987}_{-537}	32610^{+34581}_{-13912}
Alt.	-141 ± 21	$1.99^{+0.77}_{-0.75}$	354^{+23}_{-18}	4734^{+1059}_{-581}	18577^{+27938}_{-9398}

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

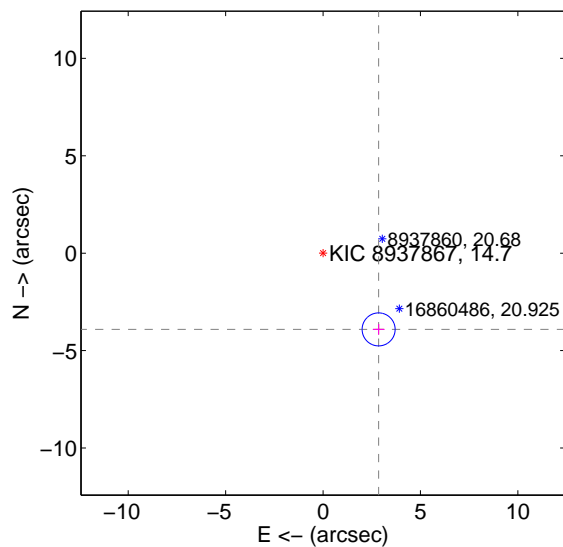
Supplemental centroid analysis for 008937867-01. Kepler magnitude: 14.70. Transit SNR 12.03

There are 0 quarters with good PRF difference image offsets

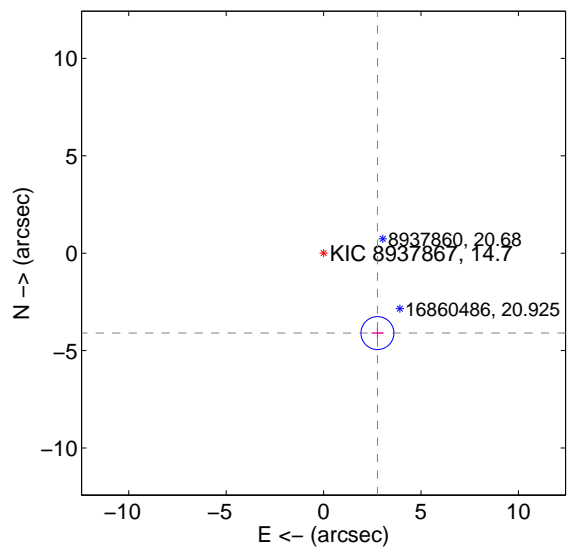
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.841 ± 0.282	17.15	-2.852 ± 0.297	-3.911 ± 0.274
PRF-fit source offset from KIC position	4.945 ± 0.281	17.57	-2.763 ± 0.297	-4.101 ± 0.274
photometric centroid source offset	4.85 ± 1.83	2.64	-4.70 ± 1.86	-1.18 ± 1.37

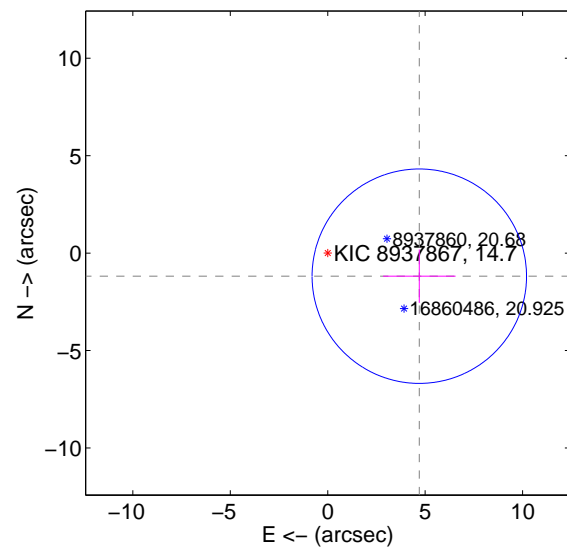
offset from difference PRF-fit to OOT PRF-fit



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.

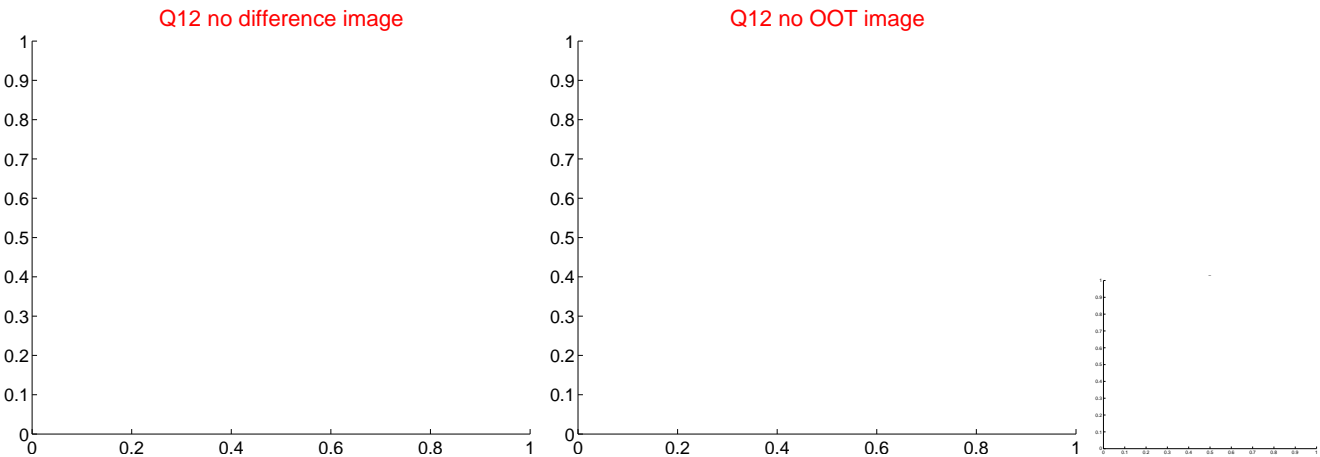
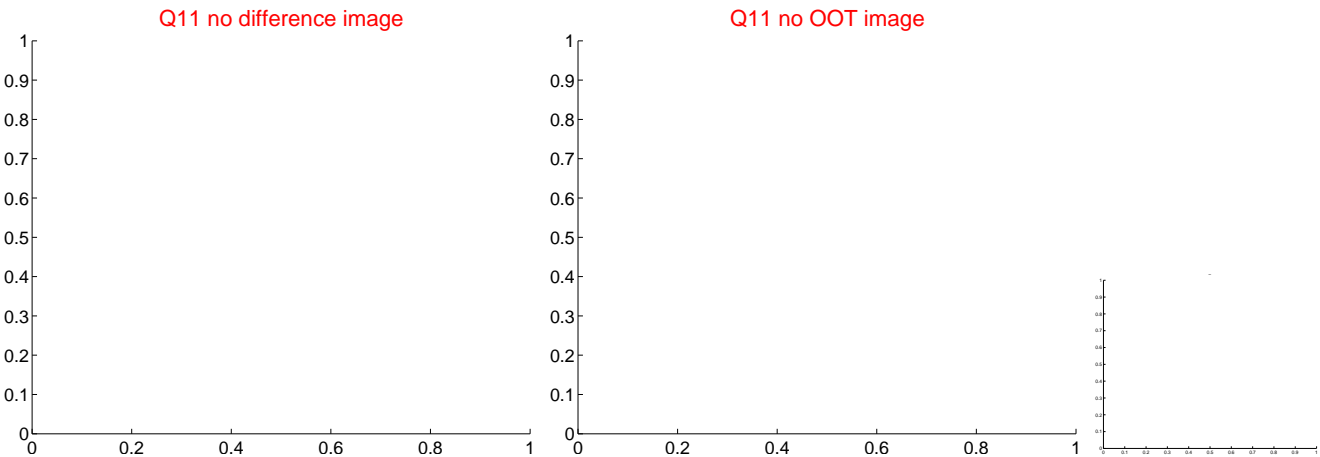
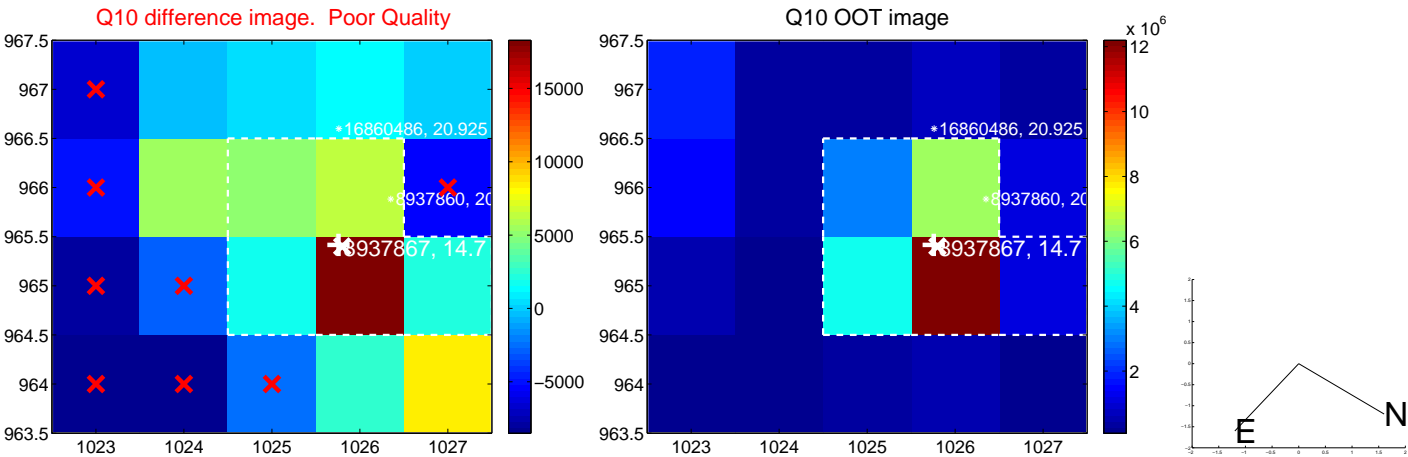
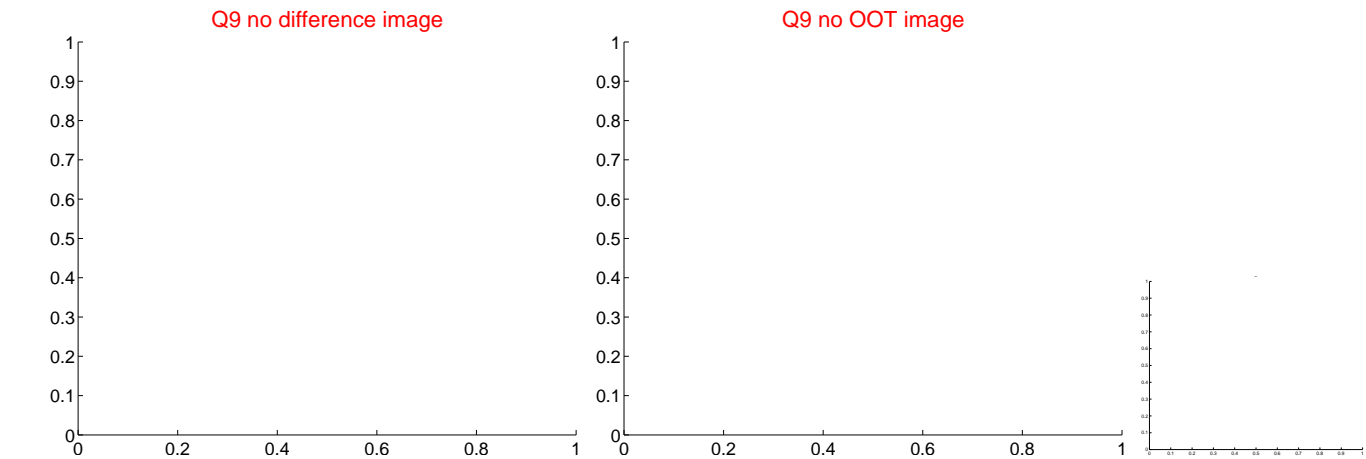
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



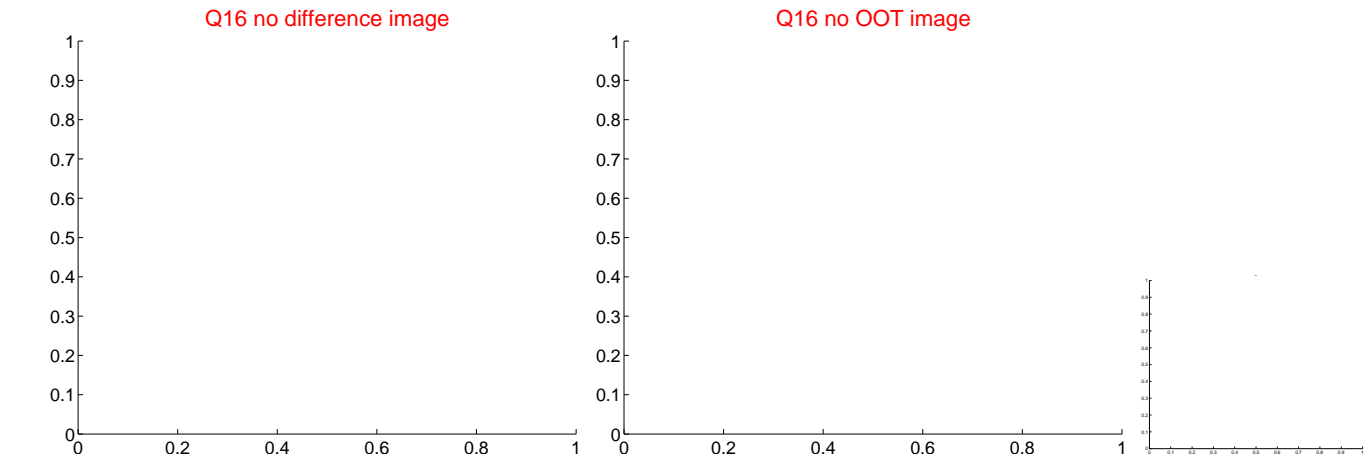
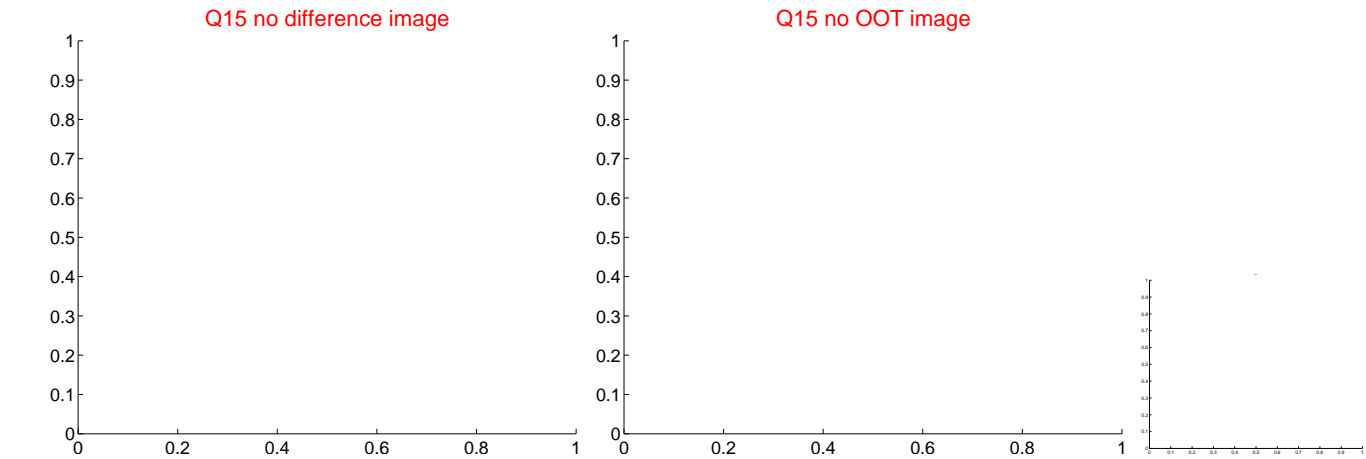
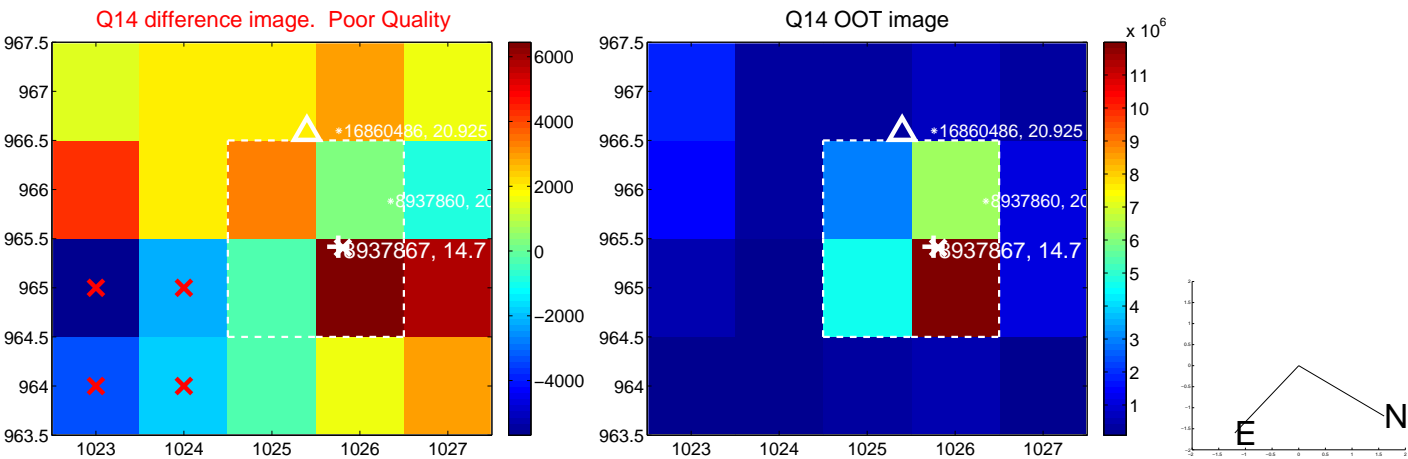
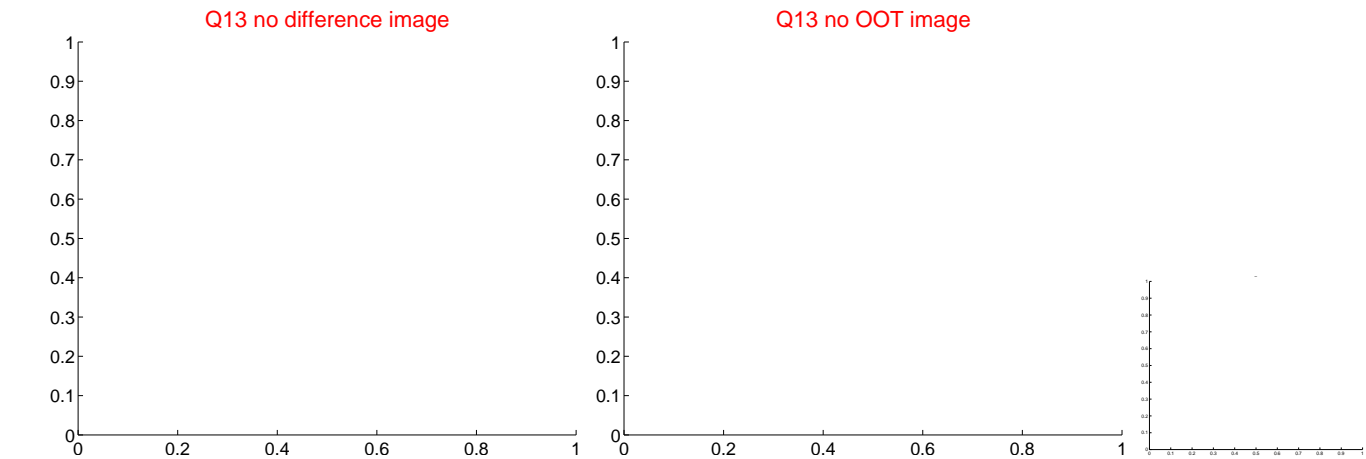
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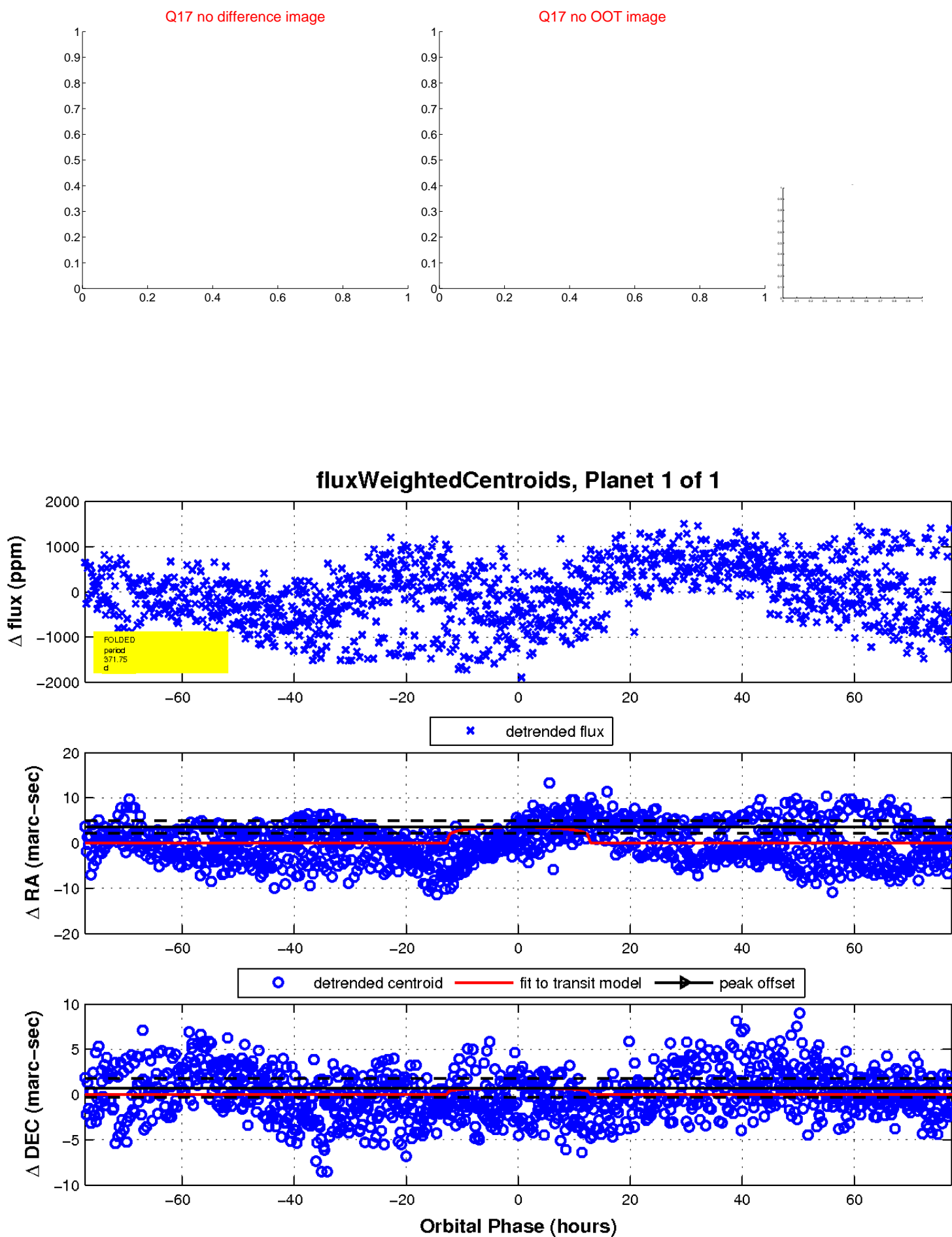
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UKIRT Image

