

KIC 009644336

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})
009644336-01	OBS	No	304.444209	322.184154	1333.0	12.806	10.3	6.1	1.07	6017	4.12	1.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009644336-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

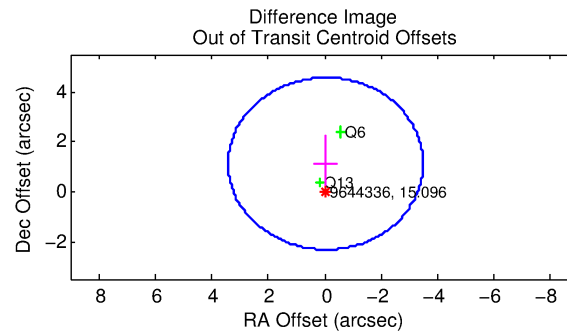
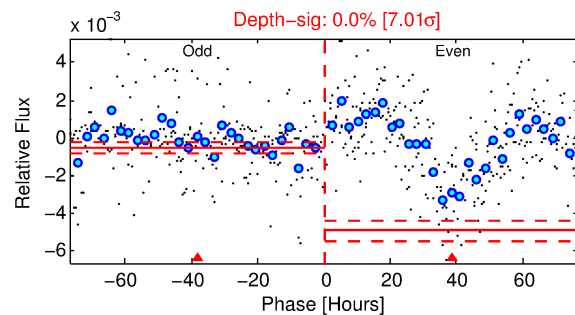
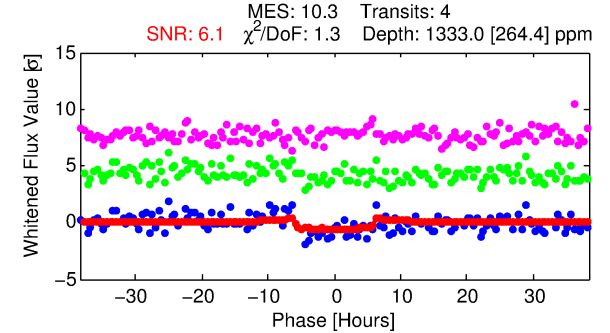
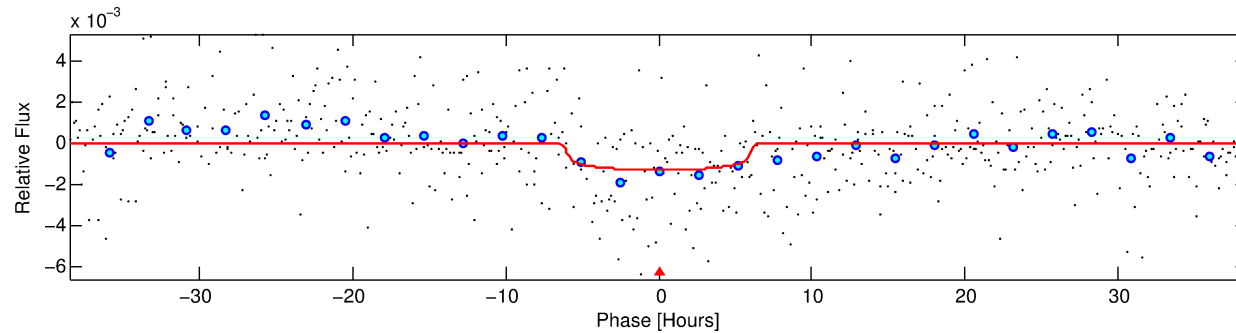
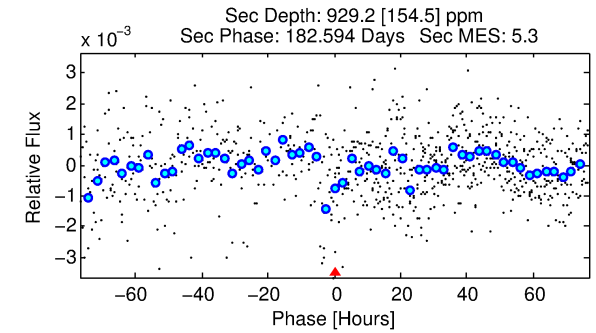
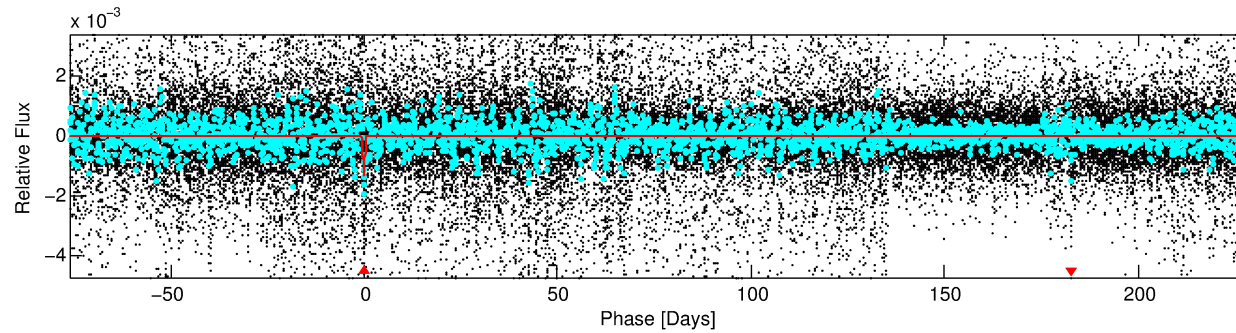
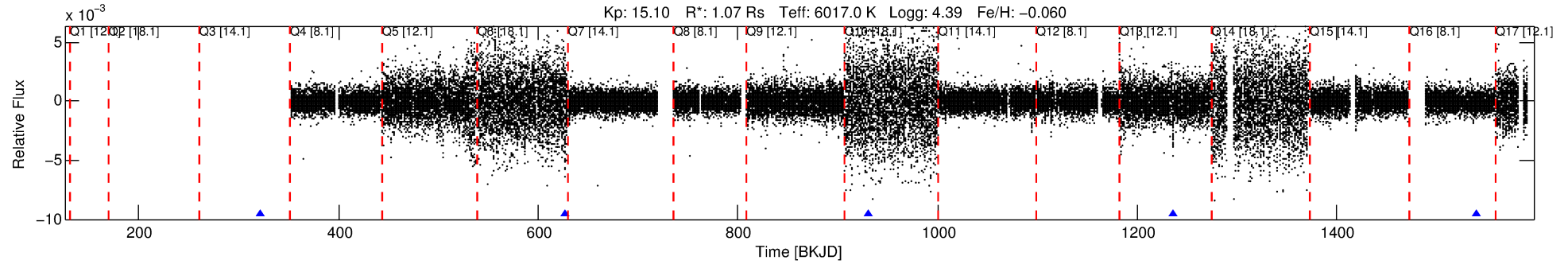
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009644336-01

No Significant Match Found

DV One-Page Summary

KIC: 9644336 Candidate: 1 of 1 Period: 304.444 d



DV Fit Results:

Period = 304.44421 [0.01313] d
Epoch = 322.1842 [0.0482] BKJD
Rp/R* = 0.0351 [0.0110]
a/R* = 149.49 [204.82]
b = 0.63 [1.33]
Seff = 1.70 [0.67]
Teq = 291 [29] K
Rp = 4.12 [1.82] Re
a = 0.8939 [0.2293] AU
Ag = 24081.90 [17940.07] [1.34σ]
Teffp = 5606 [936] K [5.68σ]

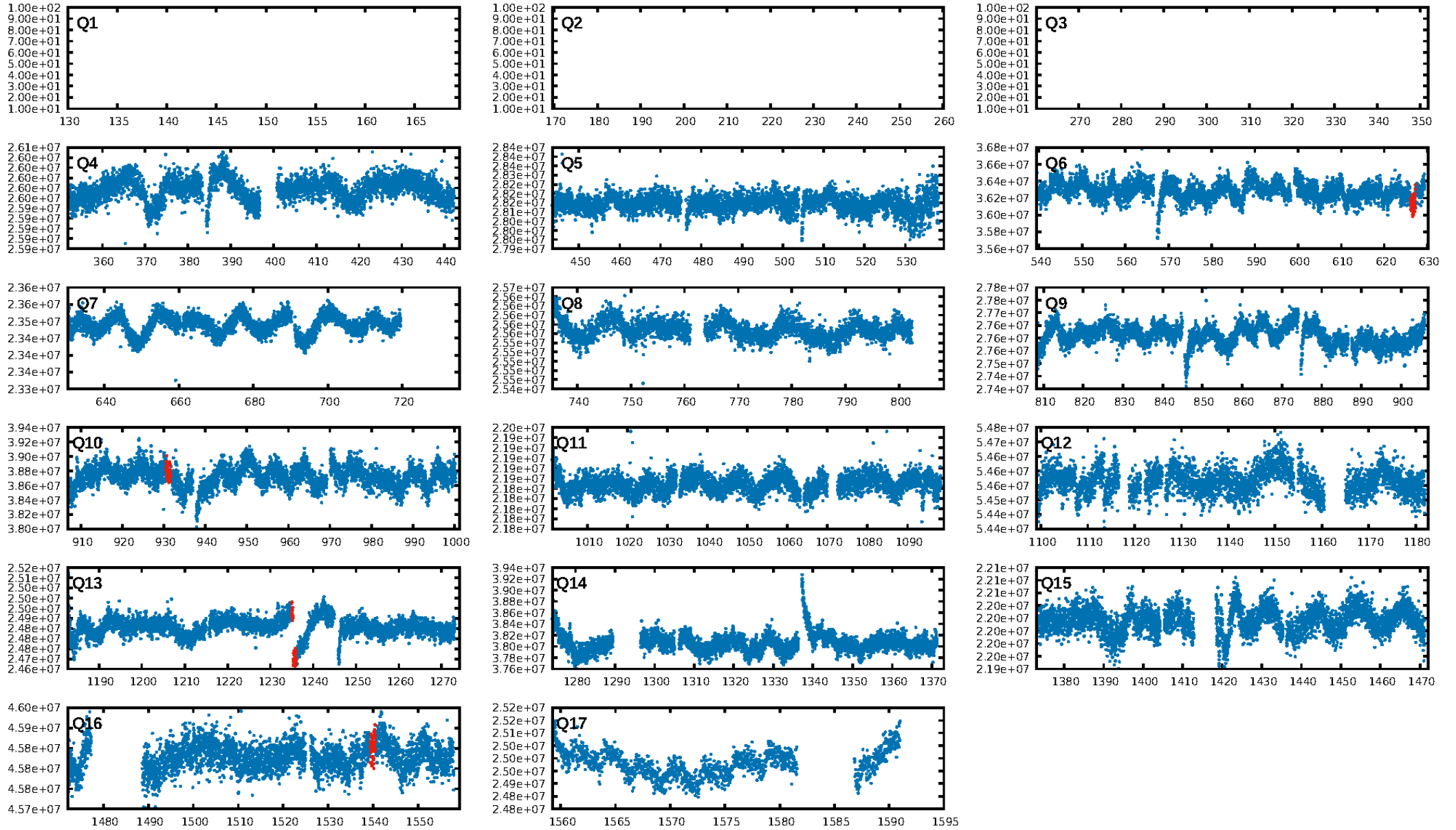
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 21.7%
Bootstrap-pfa: 5.81e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.9875
Centroid-sig: 0.5%
Centroid-so: 3.987 arcsec [32.81σ]
OotOffset-rm: 1.118 arcsec [0.97σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 4.105 arcsec [4.25σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

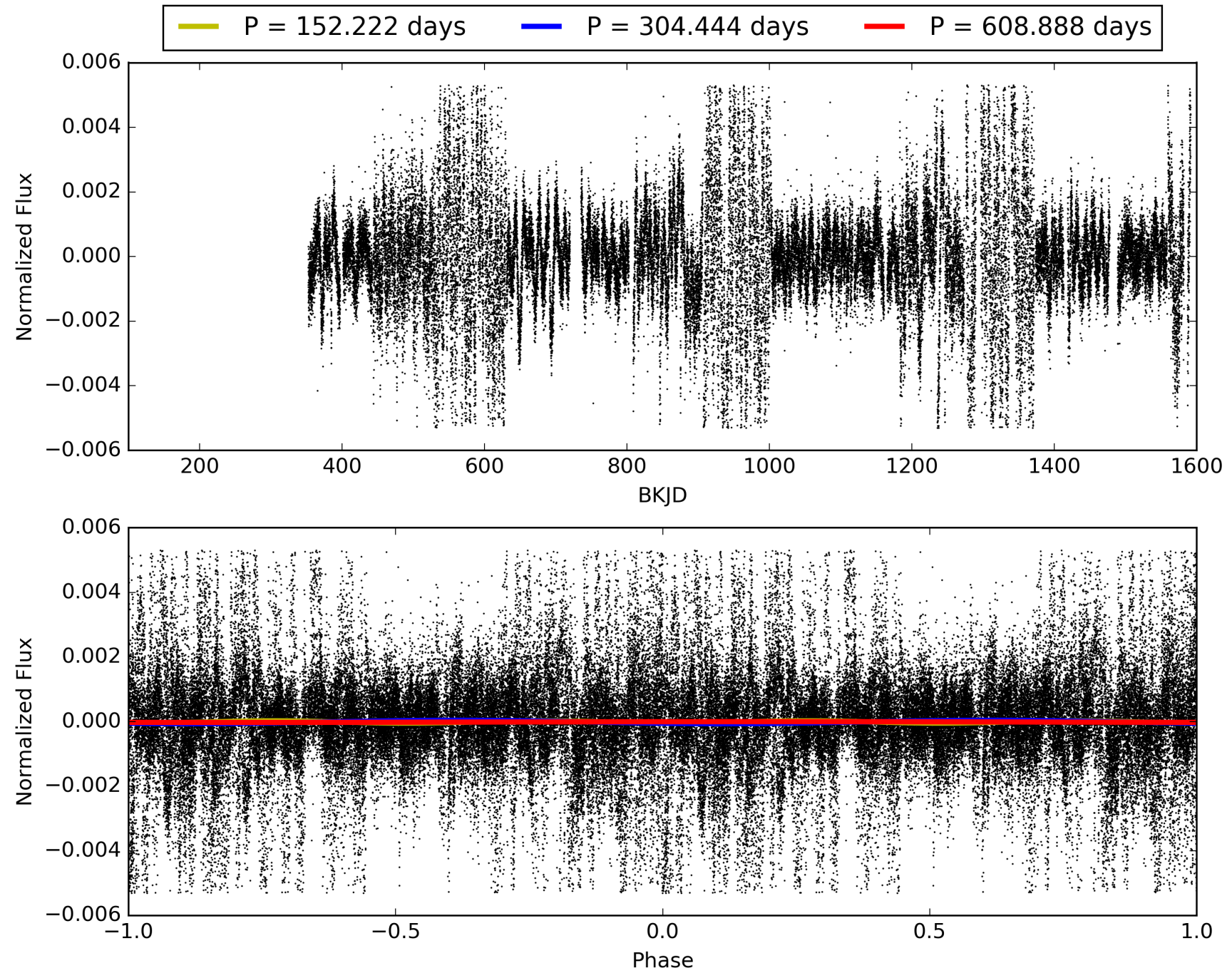
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:37:49 Z

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

TCE 009644336-01, PDC Light Curves

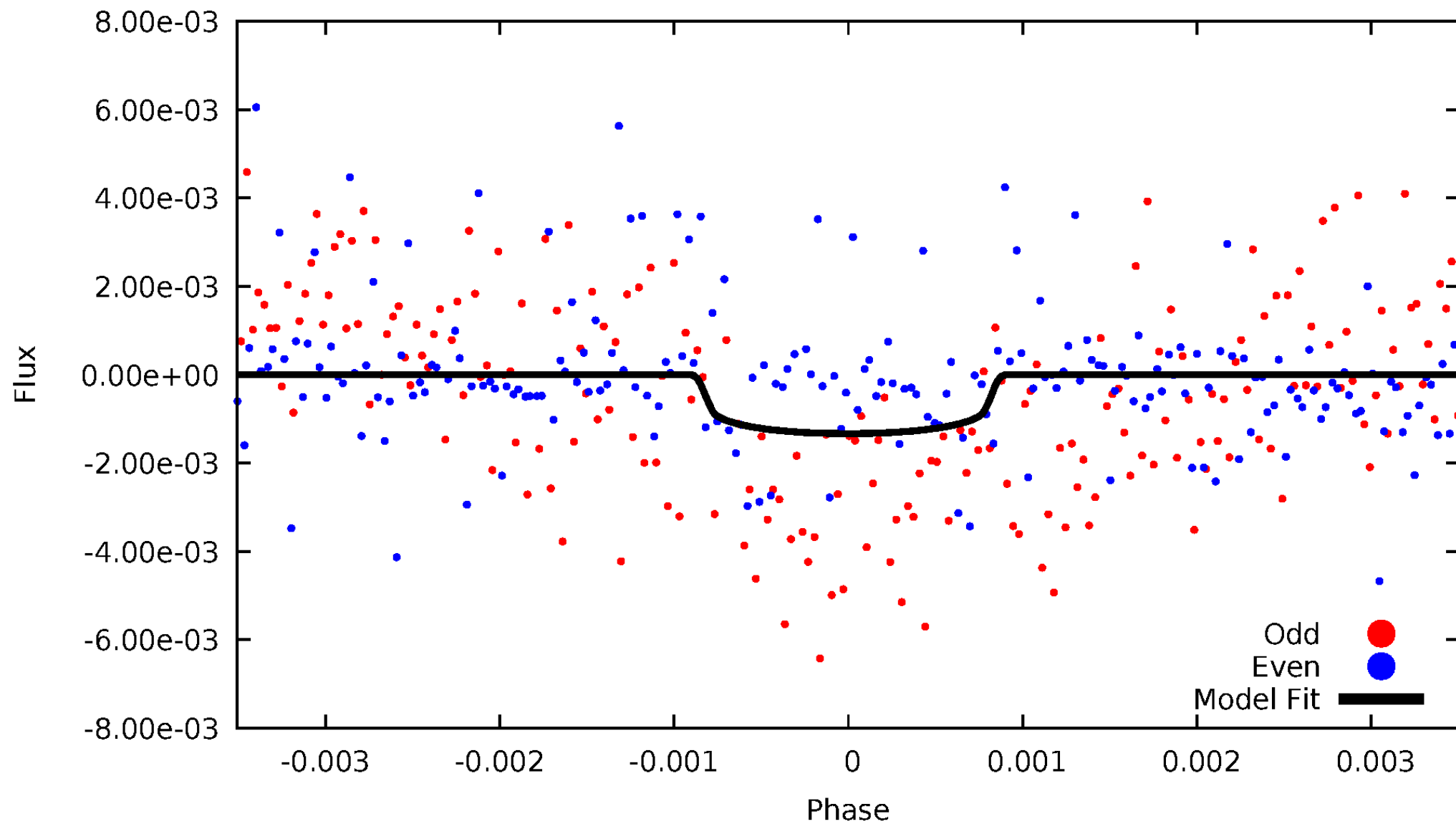


TCE 009644336-01



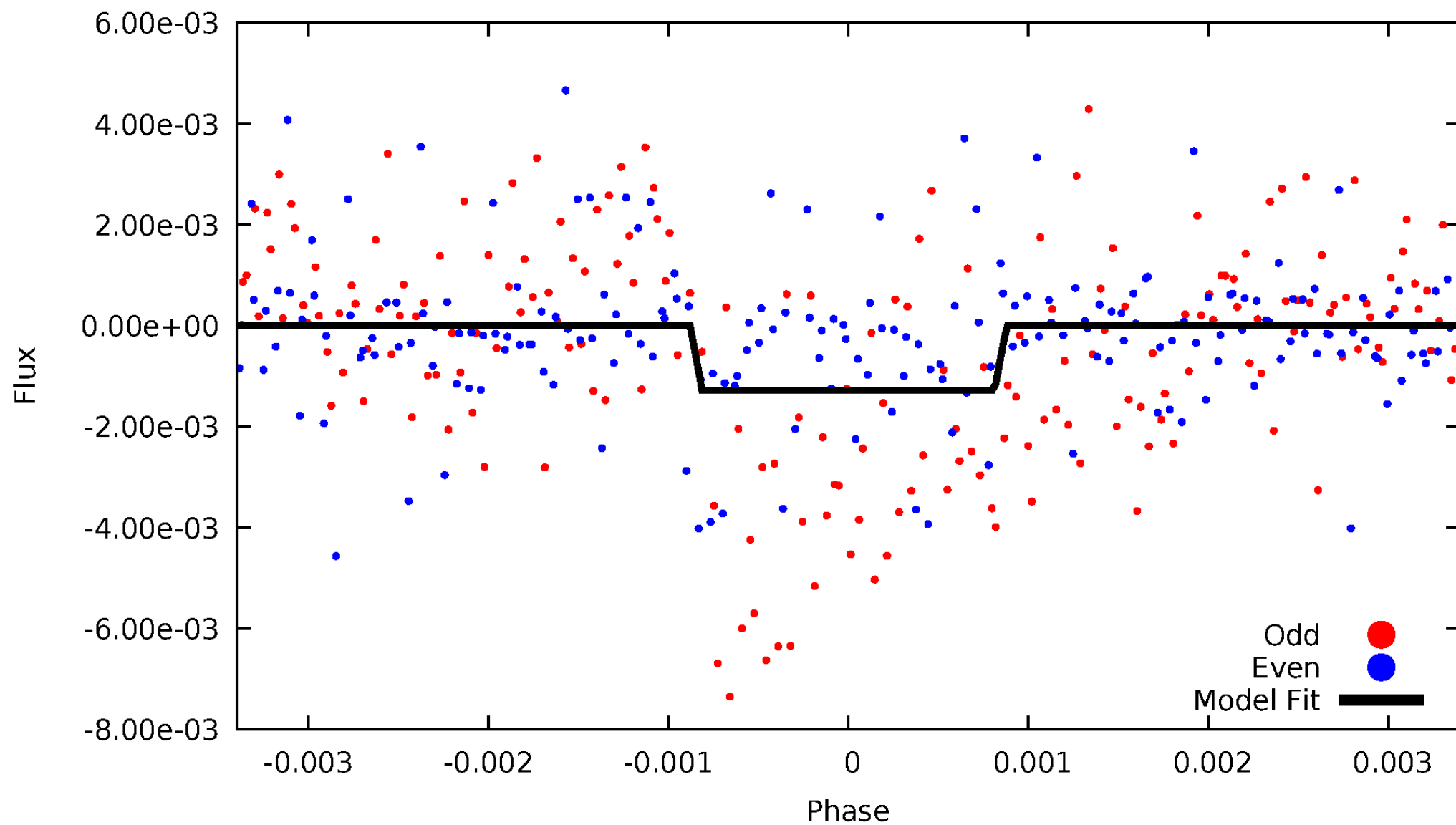
DV Odd/Even

TCE 009644336-01



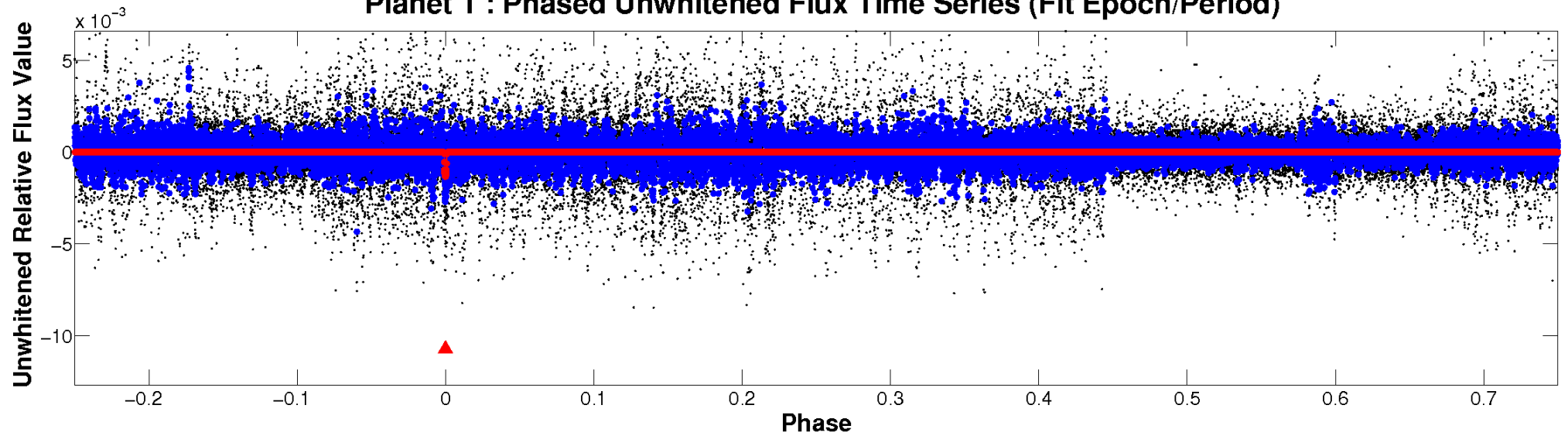
ALT Odd/Even

TCE 009644336-01

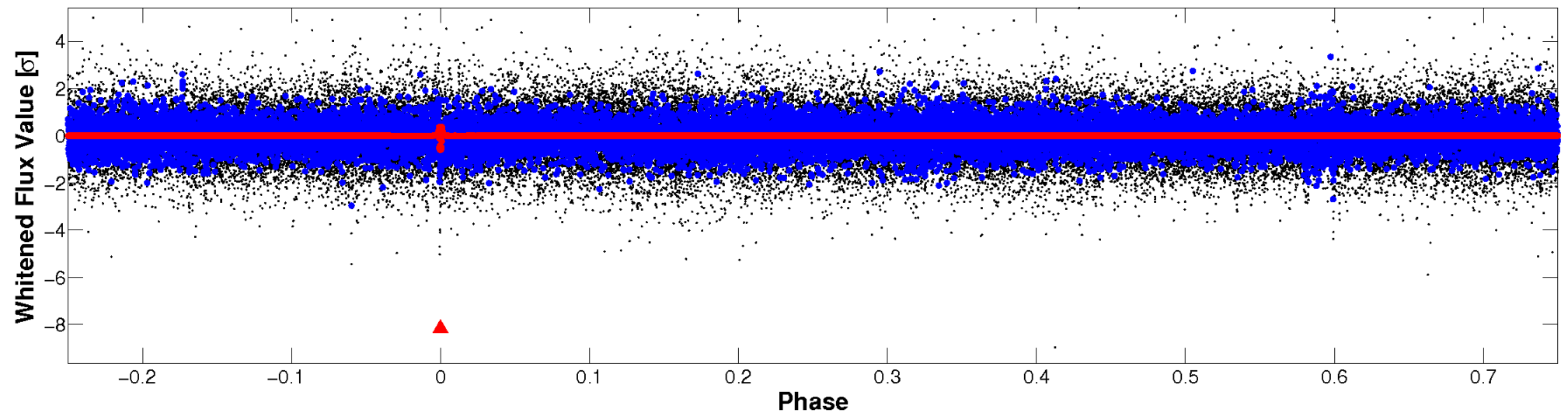


Non-Whitened Vs. Whitened Light Curve

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



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



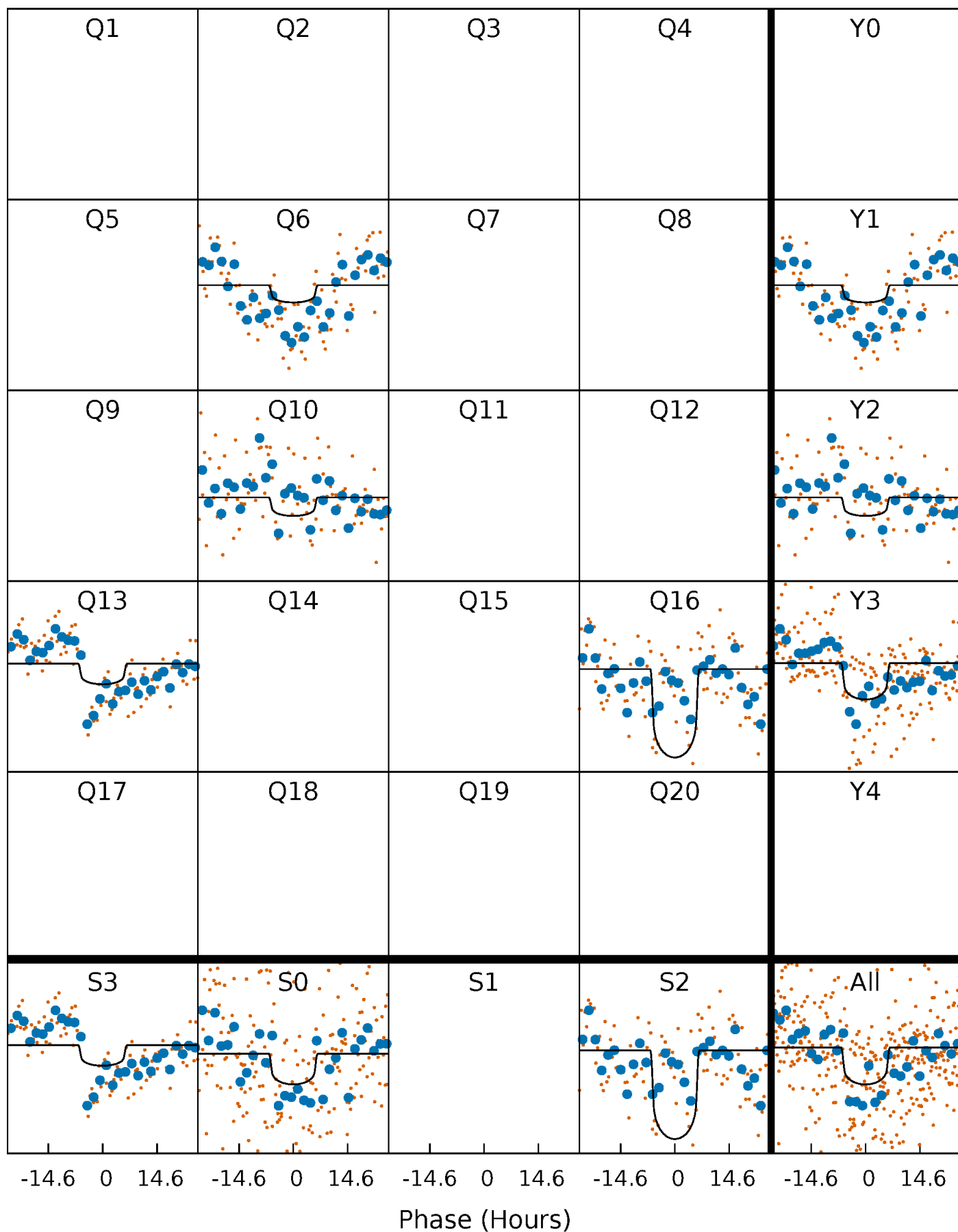
PDC Quarter-Phased Transit Curves

TCE 009644336-01 P=304.444209 Days $T_0=322.184154$ (BKJD)



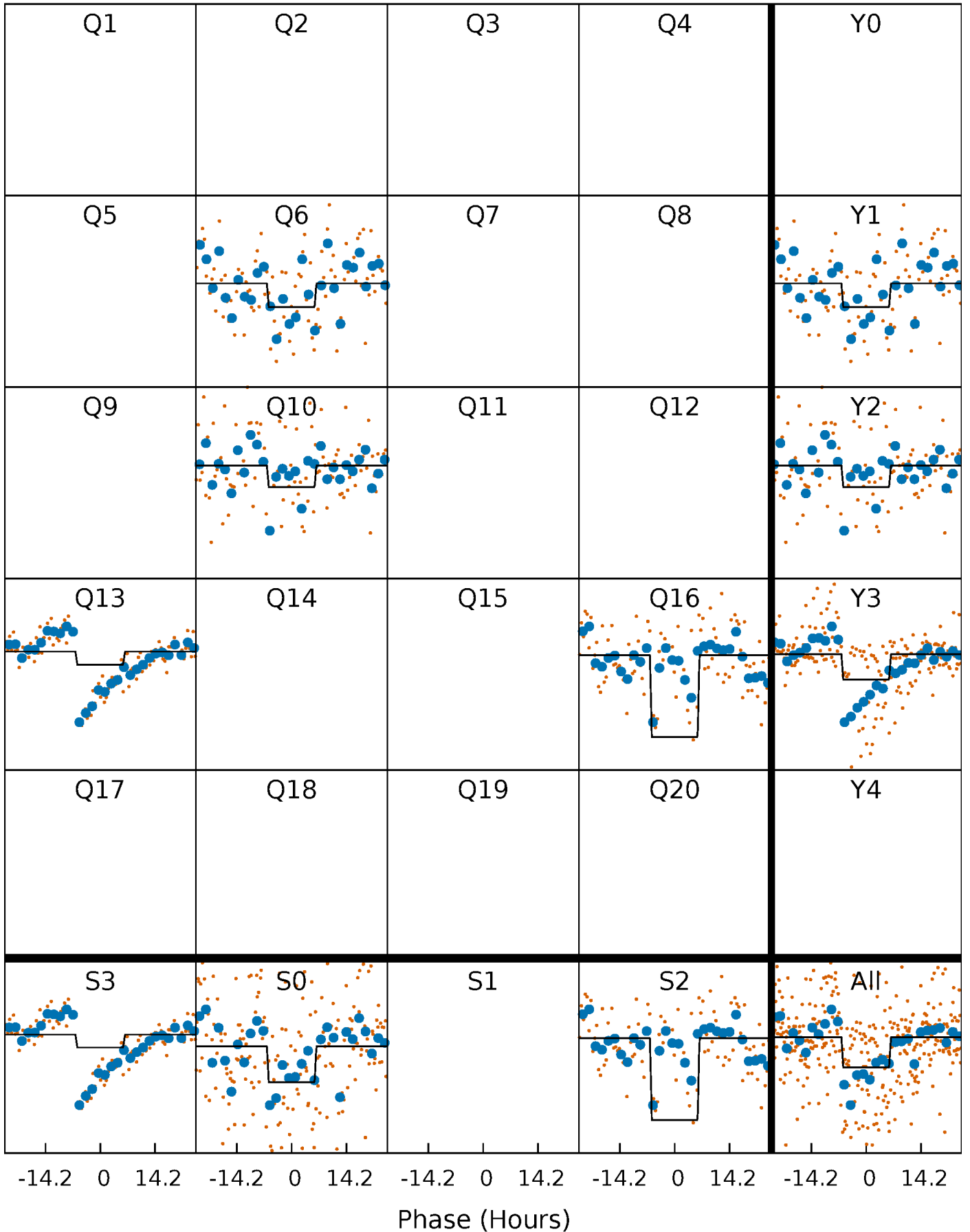
DV Quarter-Phased Transit Curves

TCE 009644336-01 P=304.444209 Days $T_0=322.184154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

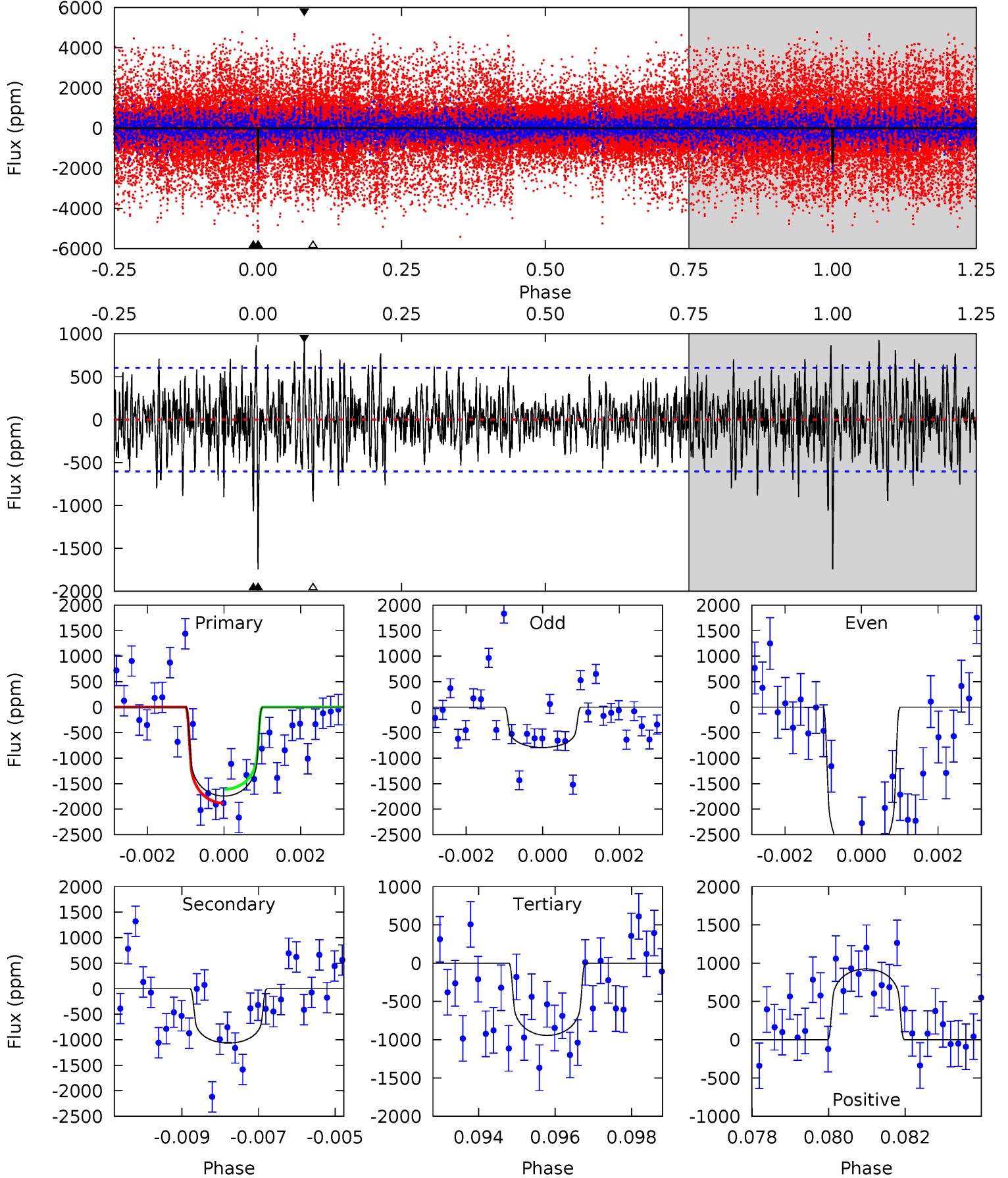
TCE 009644336-01 P=304.405554 Days $T_0=322.338907$ (BKJD)



DV Model-Shift Uniqueness Test

009644336-01, P = 304.444209 Days, E = 322.184154 Days

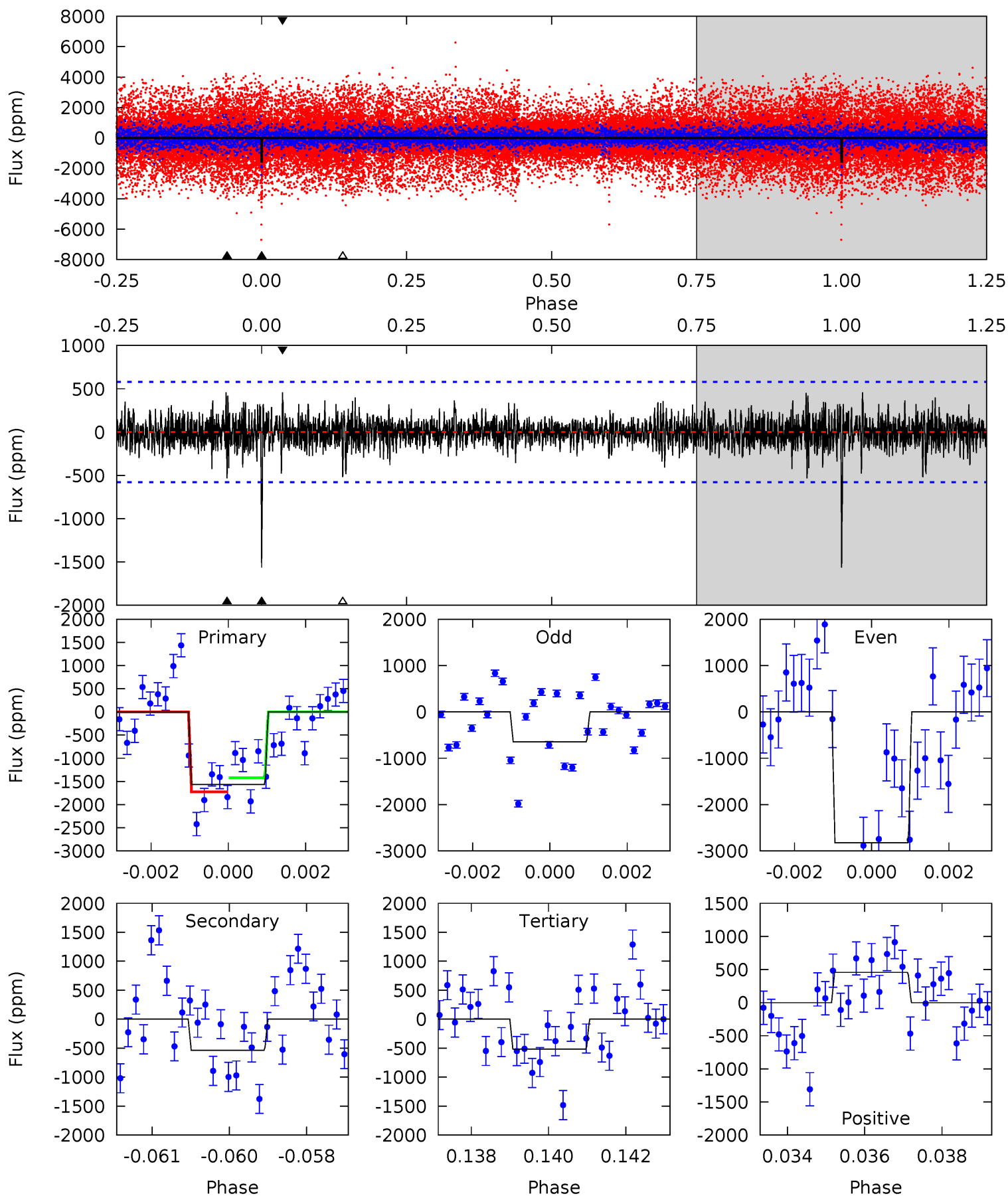
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	9.44	8.36	8.19	5.34	3.12	2.19	7.08	7.25	1.08	1.25	9.53	1.10	0.35	1.22



Alt Model-Shift Uniqueness Test

009644336-01, P = 304.405554 Days, E = 322.338907 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	4.95	4.79	4.22	5.36	3.14	1.05	9.67	10.2	0.15	0.73	10.1	1.52	0.23	1.44



Stellar Parameters For KIC 009644336

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6017^{+189}_{-232}	$4.387^{+0.105}_{-0.195}$	$-0.060^{+0.250}_{-0.300}$	$1.075^{+0.336}_{-0.168}$	$1.026^{+0.153}_{-0.126}$	$1.163^{+0.553}_{-0.600}$
	+3%/-4%	+2%/-4%	+417%/-500%	+31%/-16%	+15%/-12%	+48%/-52%
Source	KIC0	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 009644336-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1065 ± 113	$4.13^{+1.54}_{-1.25}$	410^{+33}_{-26}	5814^{+1250}_{-730}	26600^{+30344}_{-12334}
Alt.	-535 ± 108	$4.42^{+1.45}_{-1.42}$	410^{+30}_{-23}	4904^{+833}_{-560}	11870^{+14303}_{-5397}

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 $A_{obs} \gg 1.0$

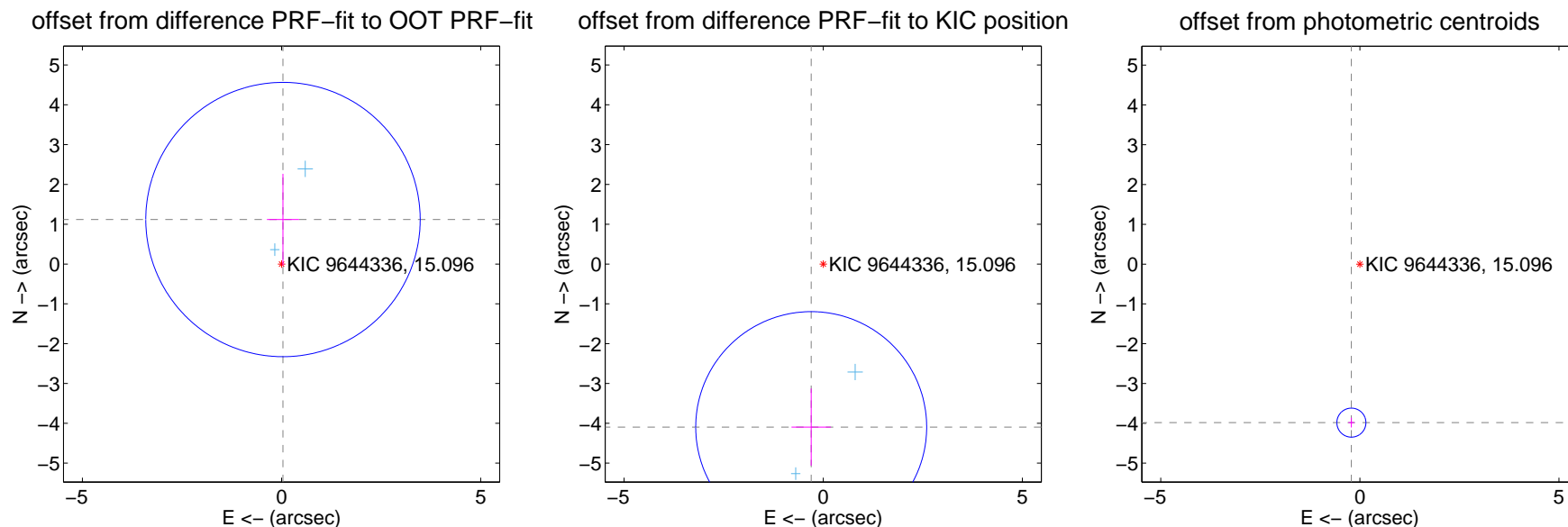
DV Centroid Data

Supplemental centroid analysis for 009644336-01. Kepler magnitude: 15.10. Transit SNR 6.13

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 5.65 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.118 ± 1.148	0.97	-0.036 ± 0.402	1.117 ± 1.149
PRF-fit source offset from KIC position	4.105 ± 0.966	4.25	0.302 ± 0.496	-4.094 ± 0.968
photometric centroid source offset	3.99 ± 0.12	32.81	0.21 ± 0.08	-3.98 ± 0.12

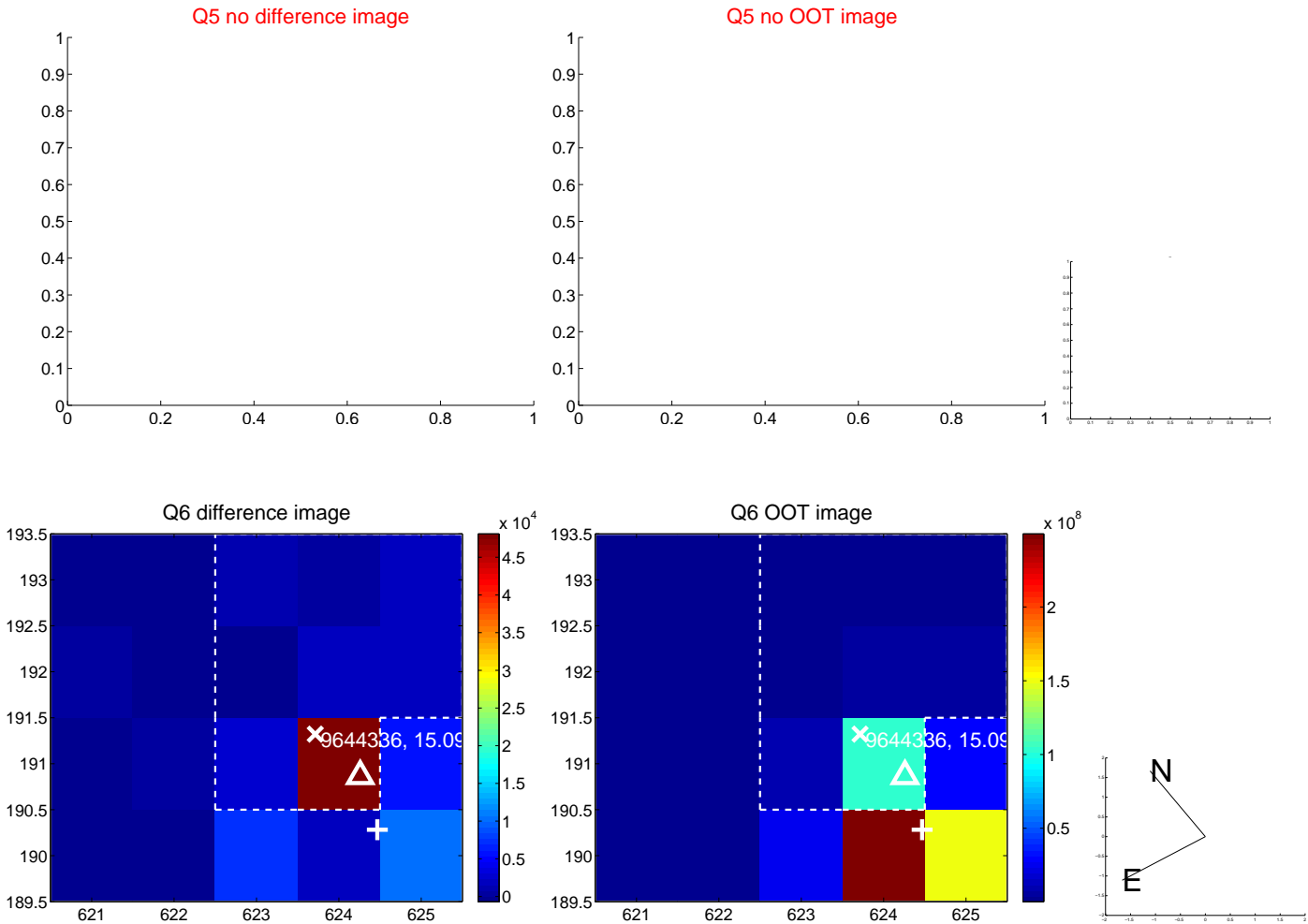


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

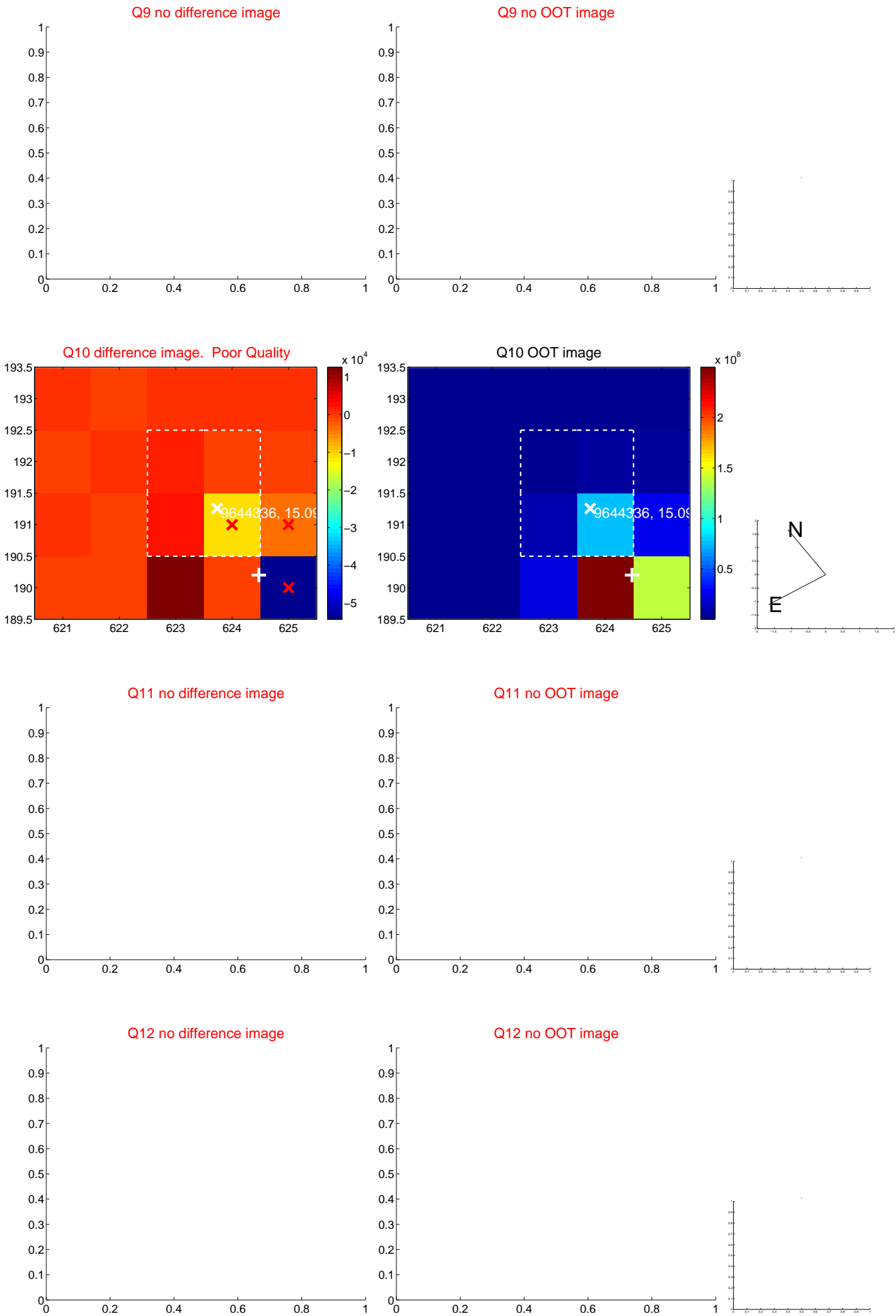
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



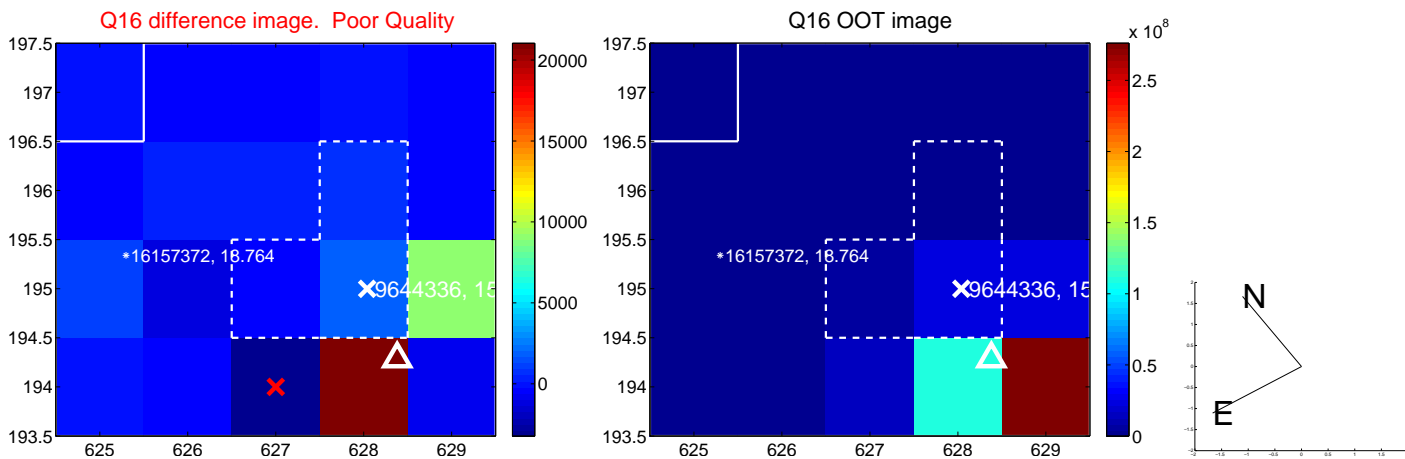
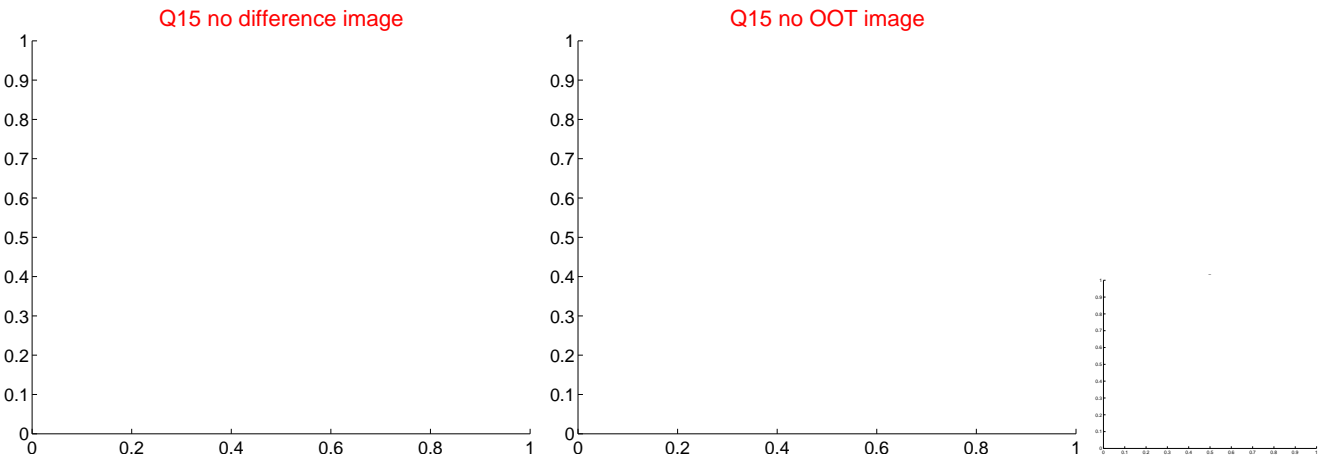
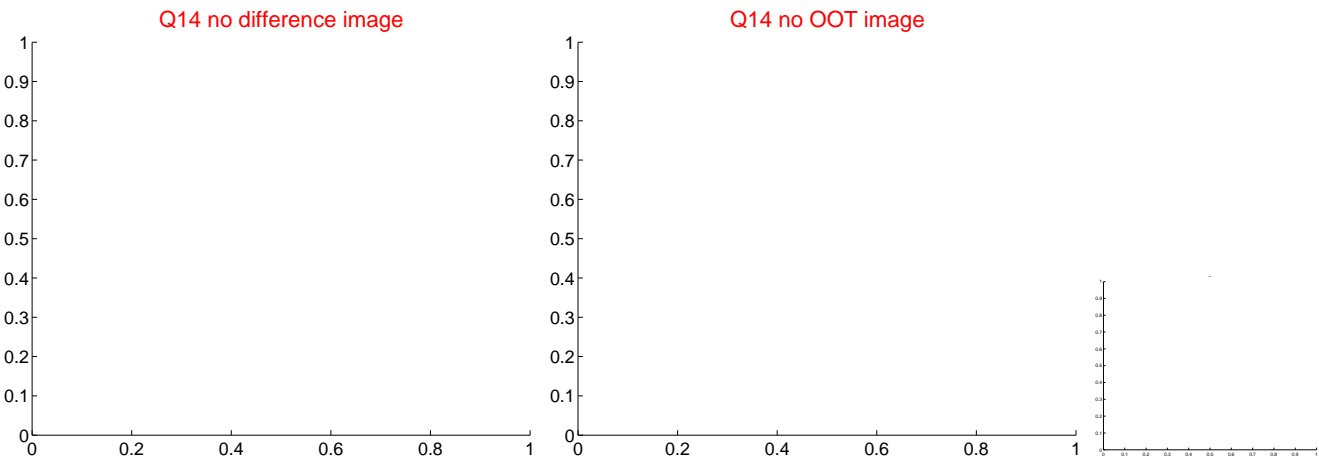
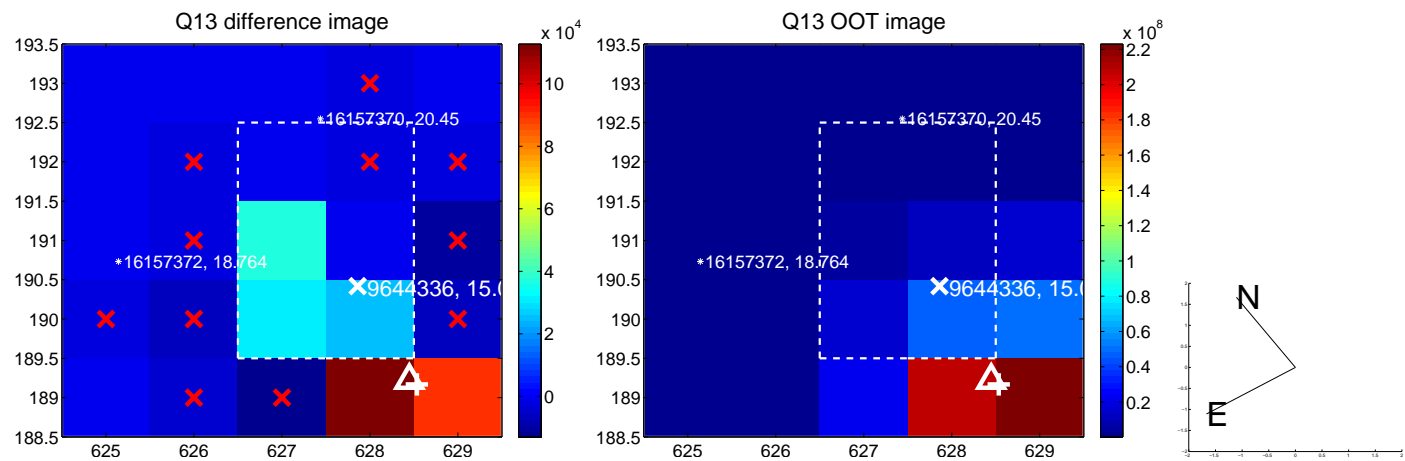
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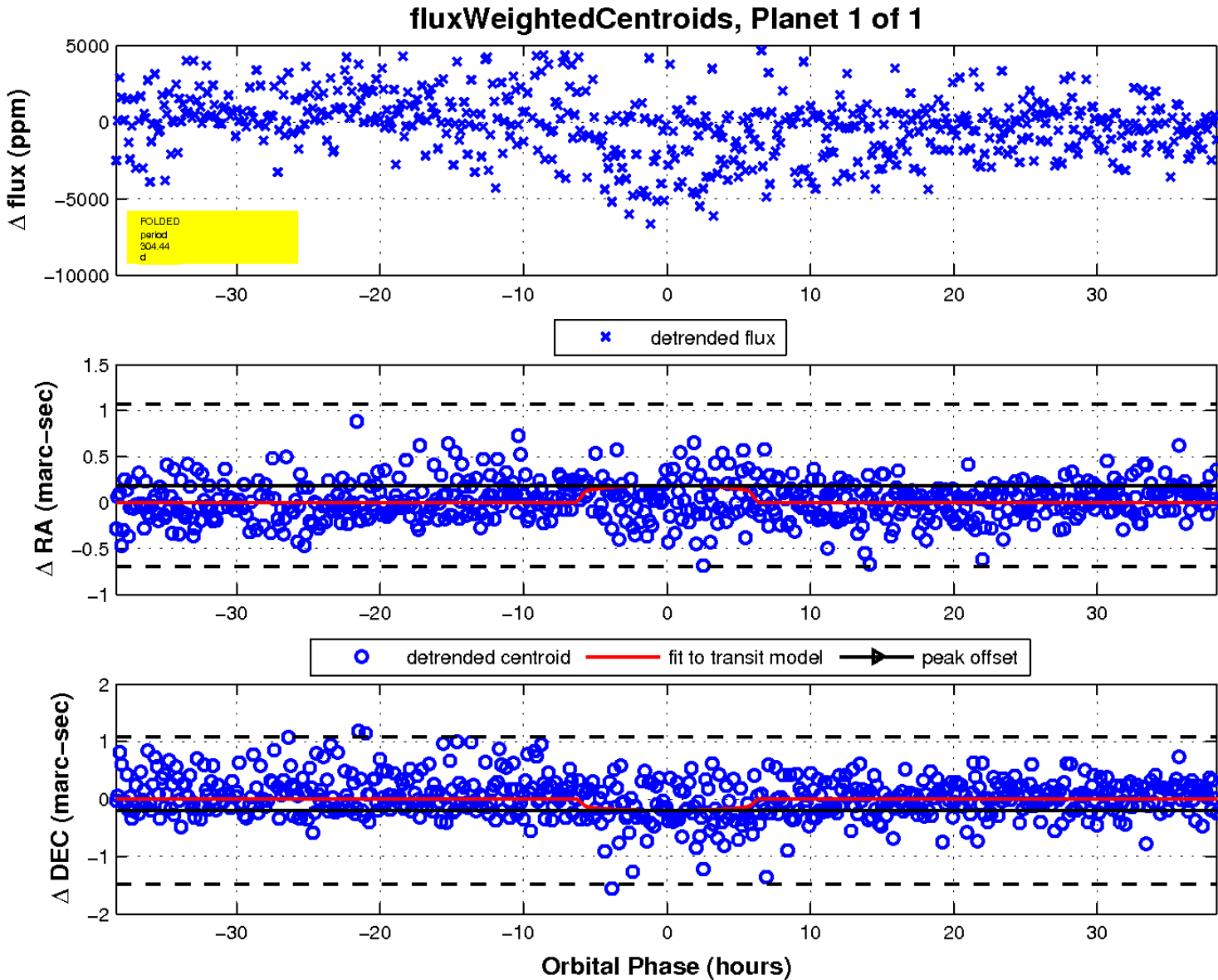
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination

