

KIC 010454077

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})
010454077-01	OBS	No	537.108033	251.615317	140.0	22.022	8.3	8.8	2.04	6201	2.67	3.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010454077-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

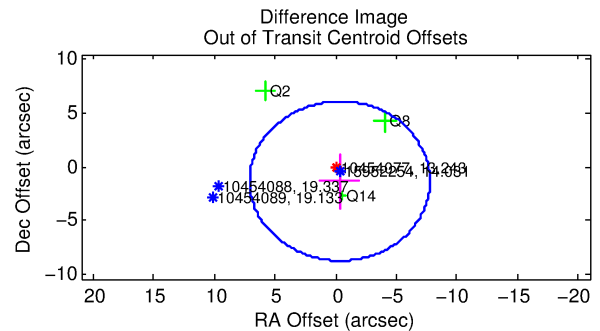
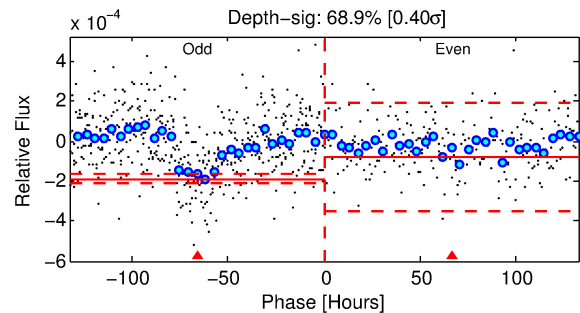
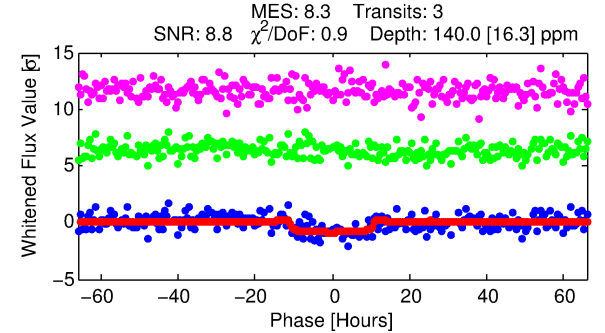
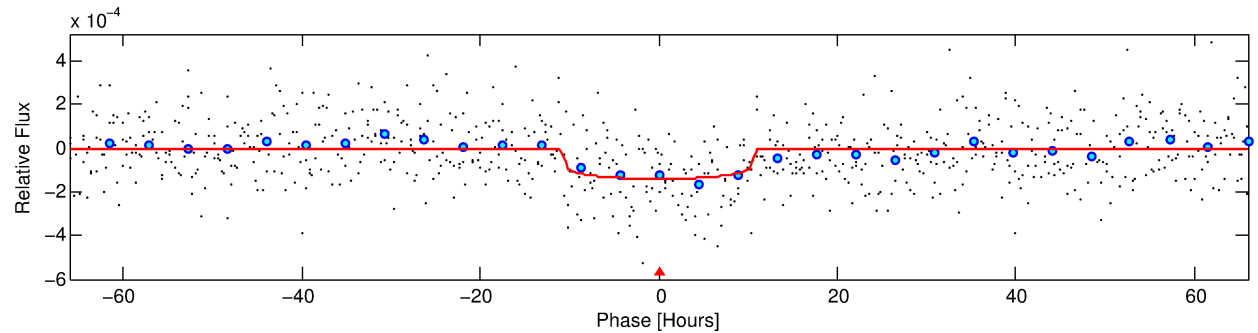
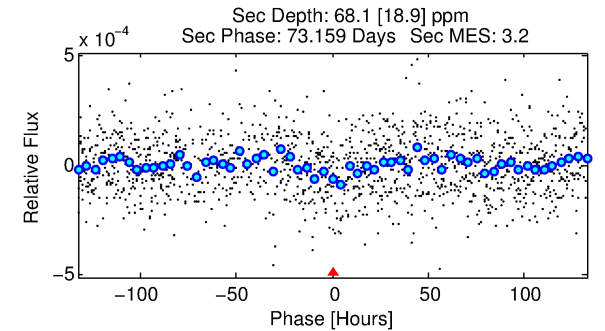
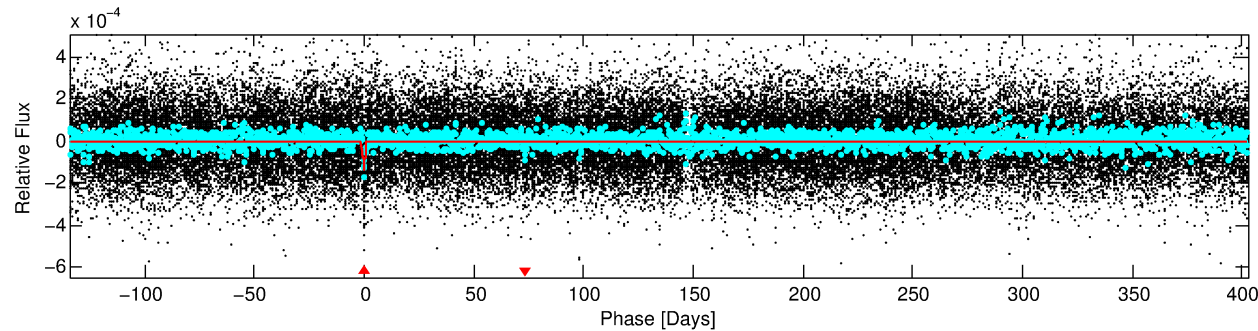
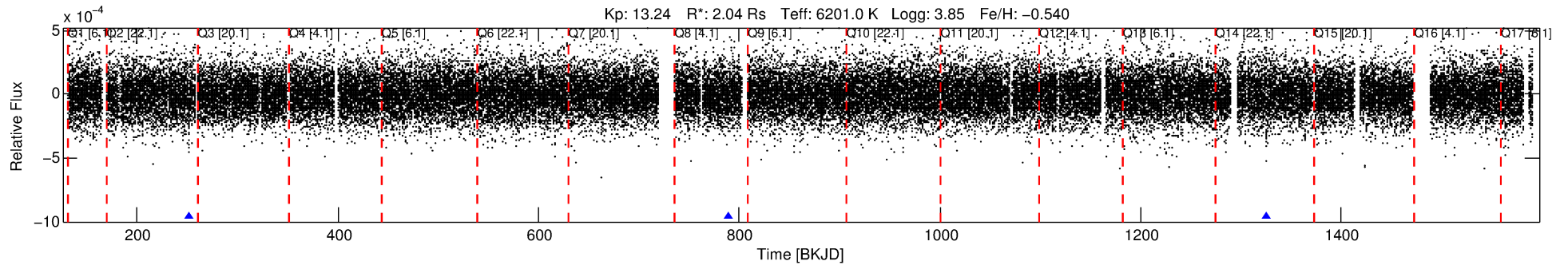
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010454077-01

No Significant Match Found

DV One-Page Summary

KIC: 10454077 Candidate: 1 of 1 Period: 537.108 d



DV Fit Results:

Period = 537.10803 [0.01991] d
Epoch = 251.6153 [0.0258] BKJD
Rp/R* = 0.0120 [0.0028]
a/R* = 116.04 [141.77]
b = 0.80 [0.56]
Seff = 3.14 [1.77]
Teff = 339 [48] K
Rp = 2.67 [1.13] Re
a = 1.3267 [0.4550] AU
Ag = 9280.01 [7134.05] [1.30σ]
Teffp = 5150 [709] K [6.77σ]

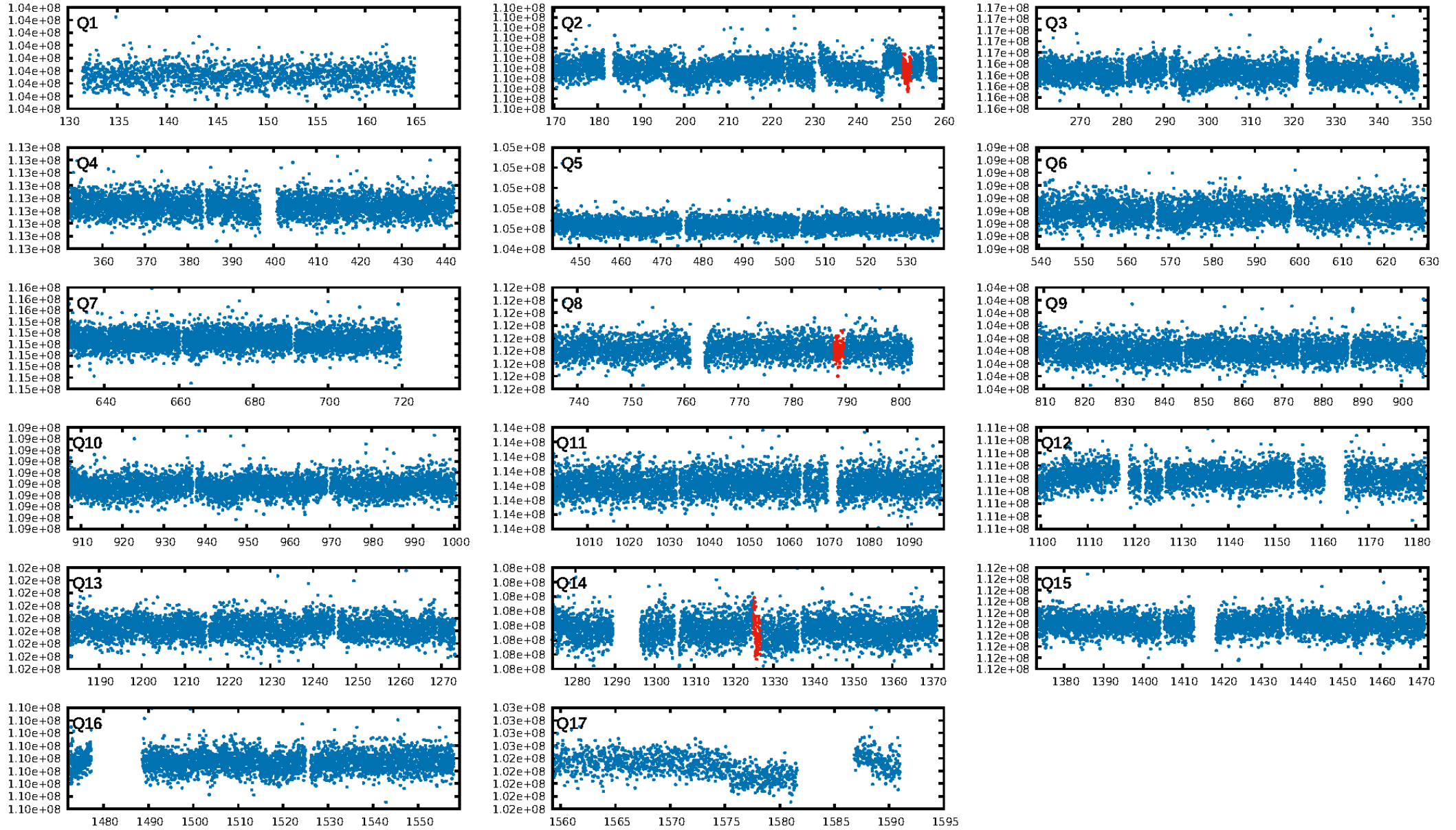
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.36e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.6814
Centroid-sig: 65.5%
Centroid-so: 1.164 arcsec [0.65σ]
OotOffset-rm: 1.393 arcsec [0.56σ]
KicOffset-rm: 1.813 arcsec [0.73σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

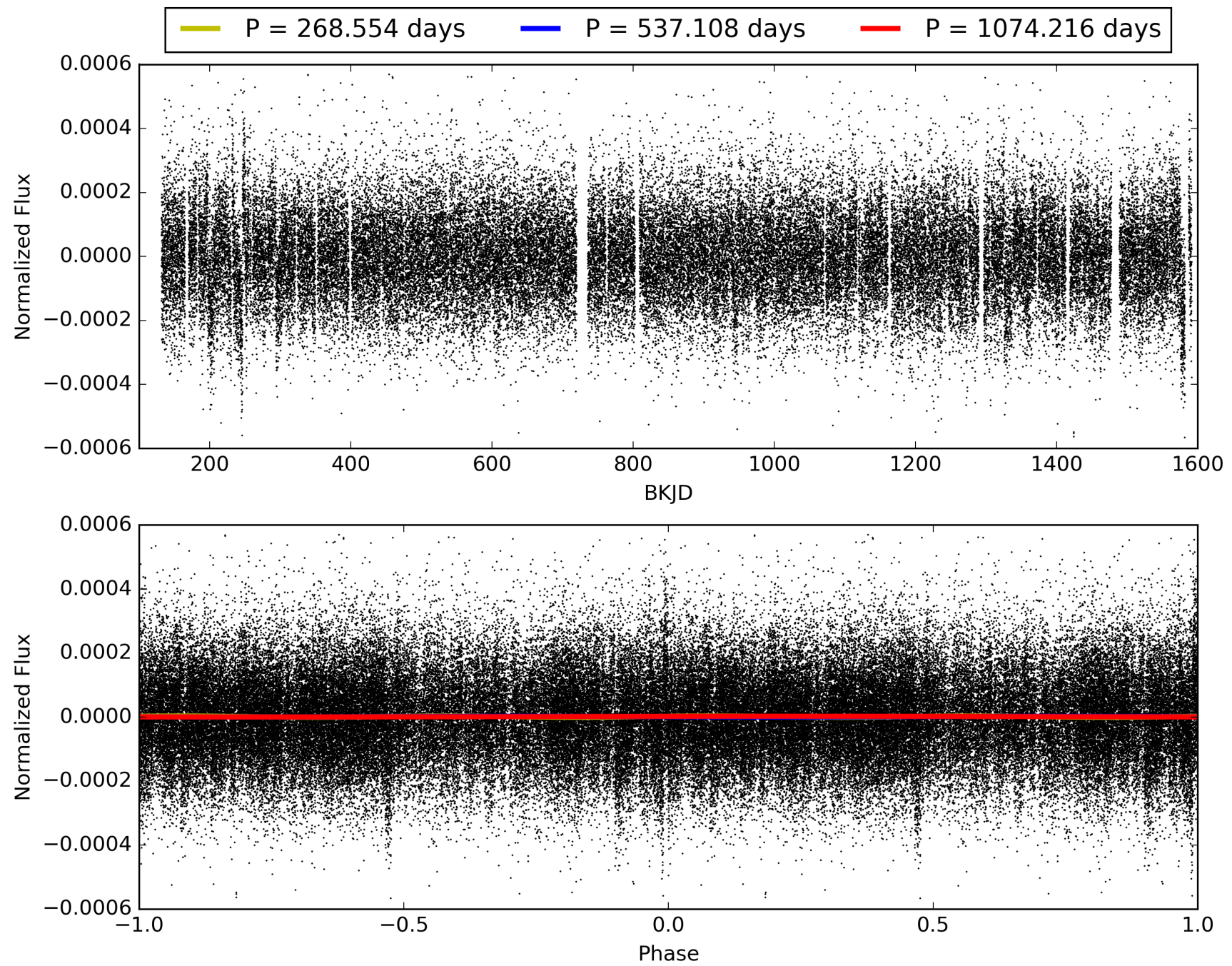
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:12:51 Z

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

TCE 010454077-01, PDC Light Curves

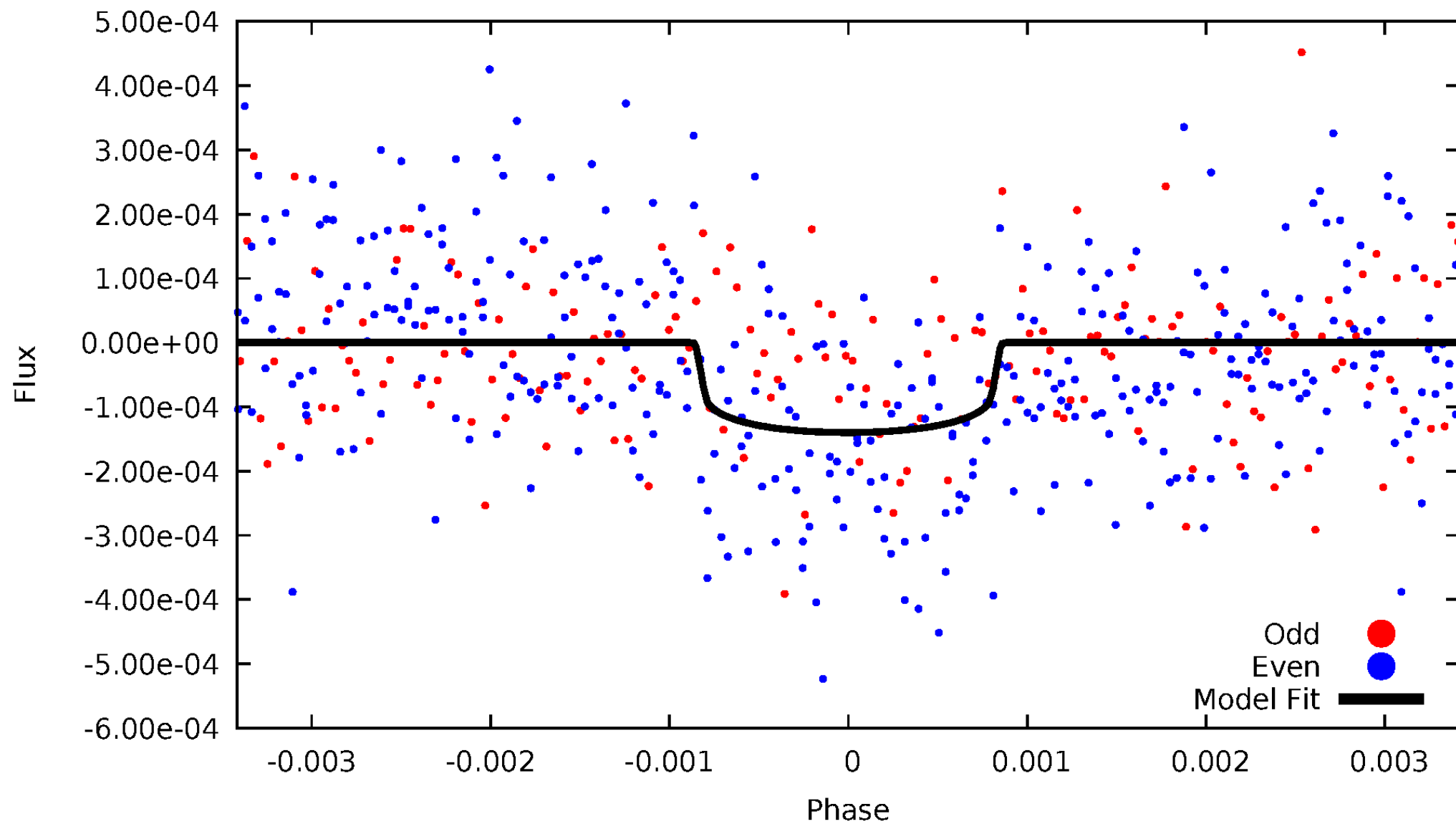


TCE 010454077-01



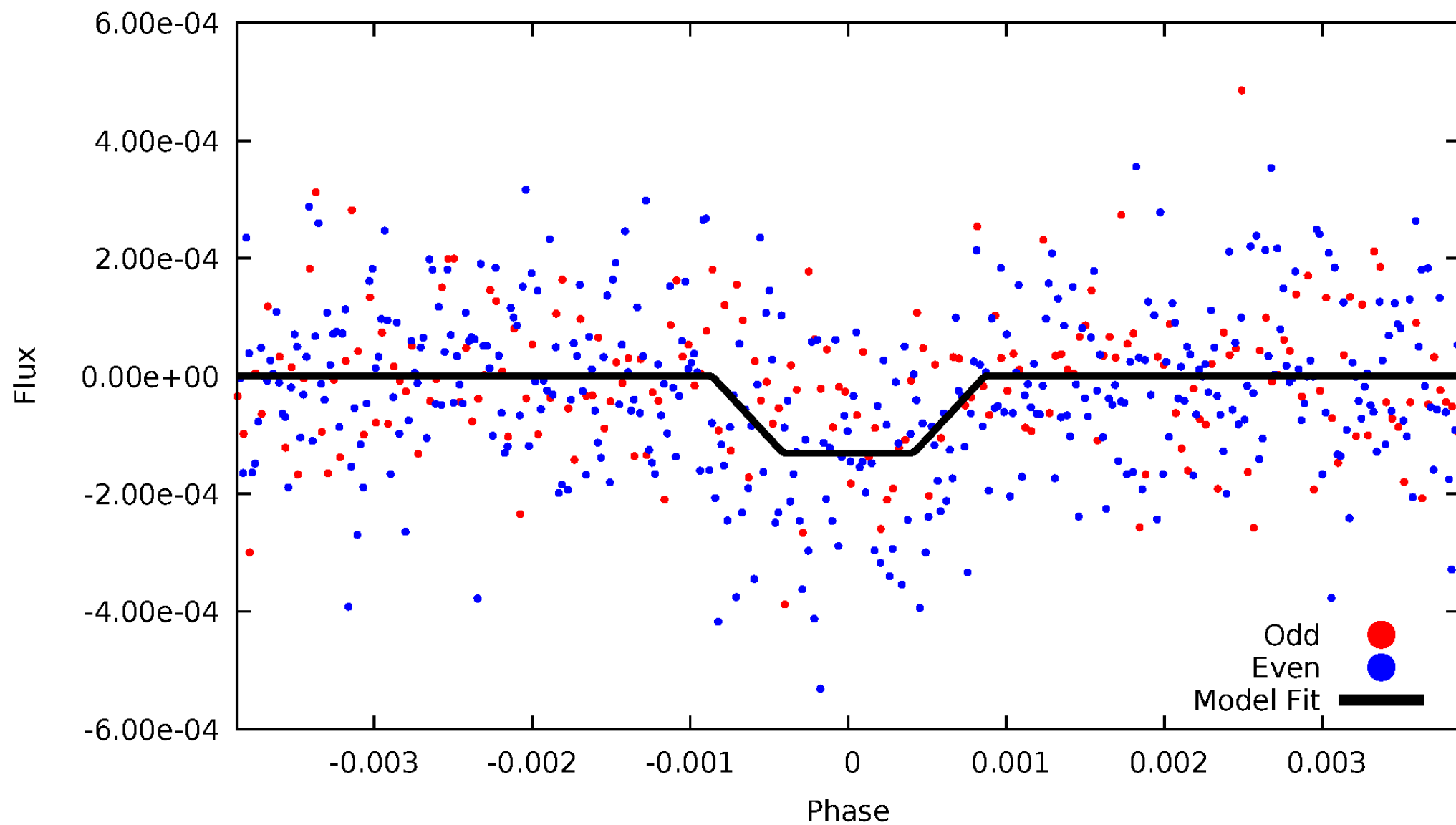
DV Odd/Even

TCE 010454077-01

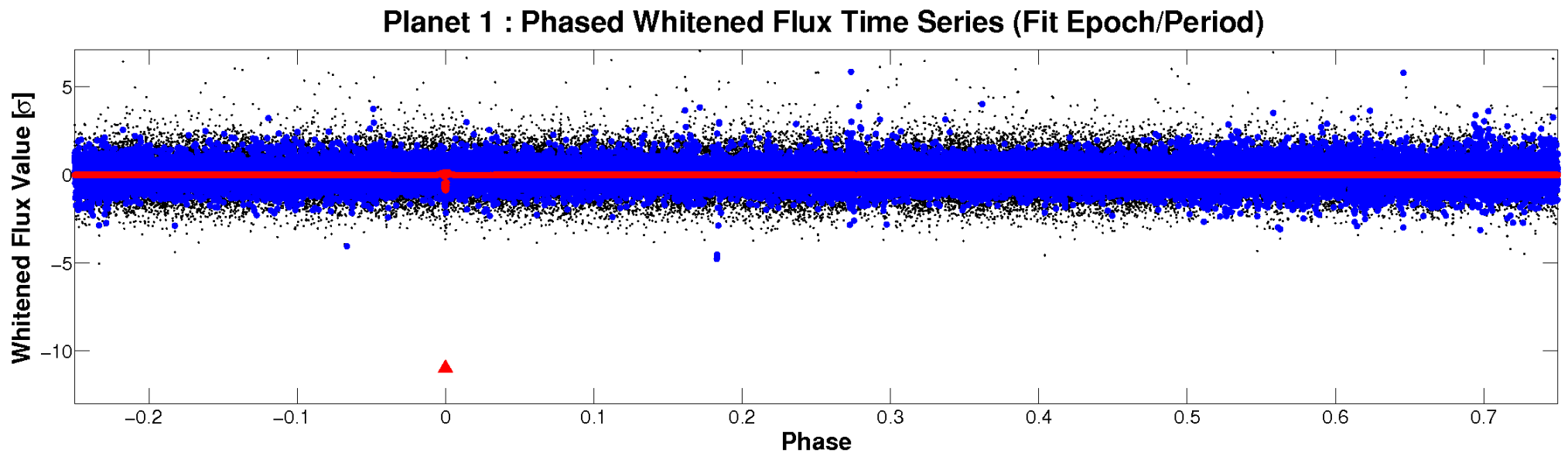
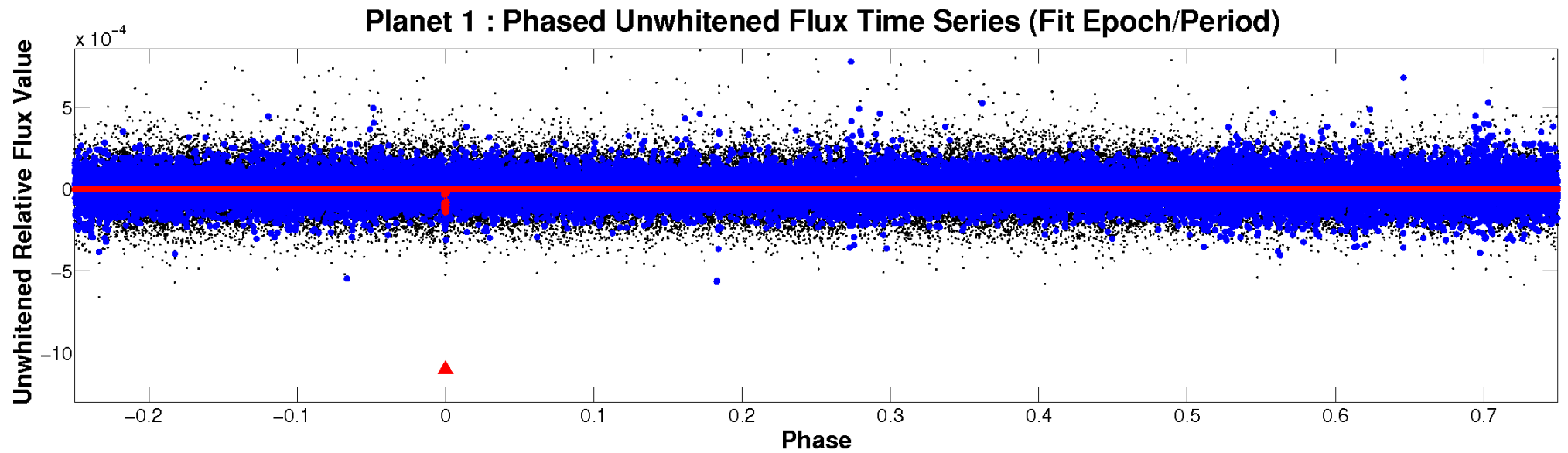


ALT Odd/Even

TCE 010454077-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 010454077-01 P=537.108033 Days $T_0=251.615317$ (BKJD)



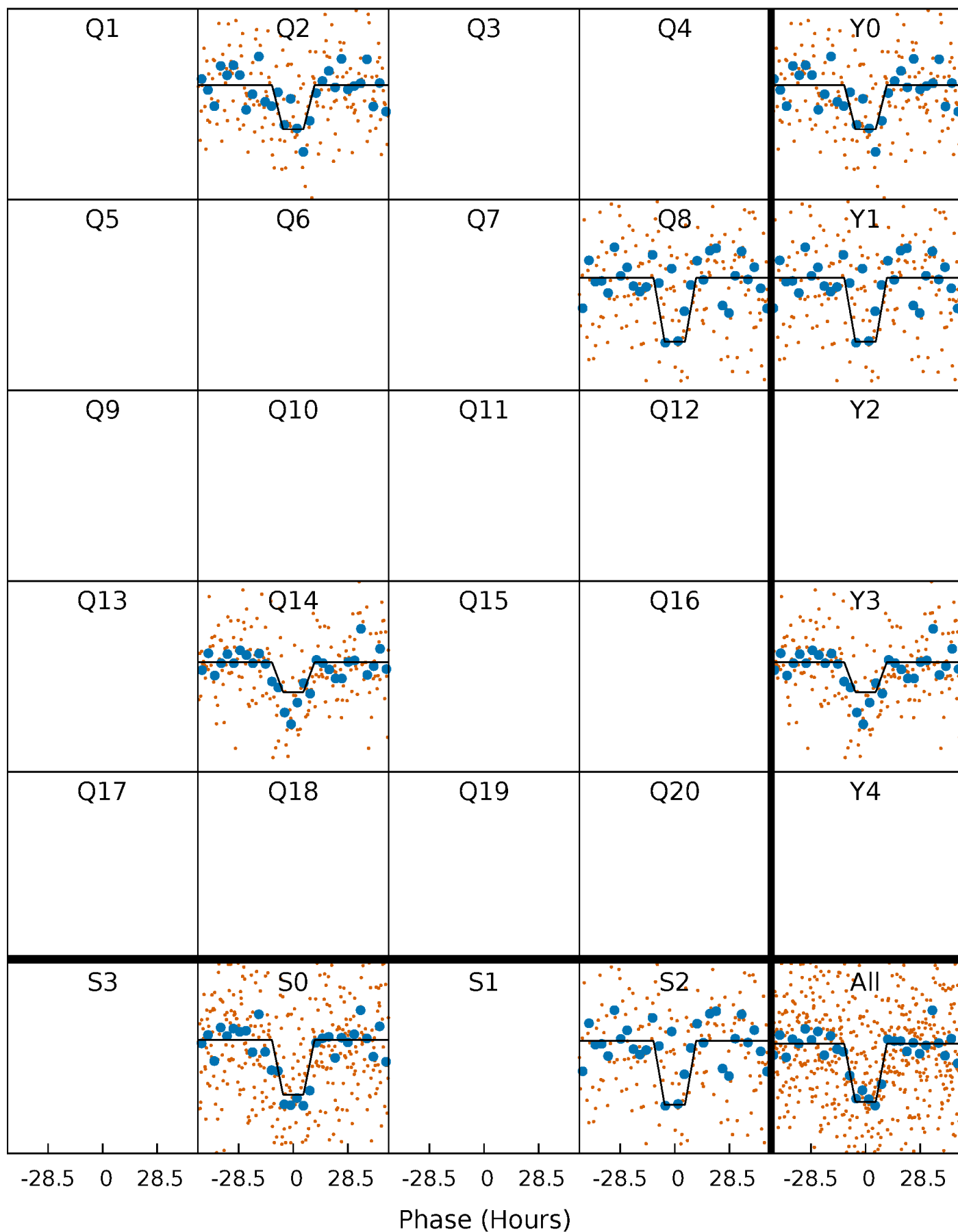
DV Quarter-Phased Transit Curves

TCE 010454077-01 P=537.108033 Days $T_0=251.615317$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

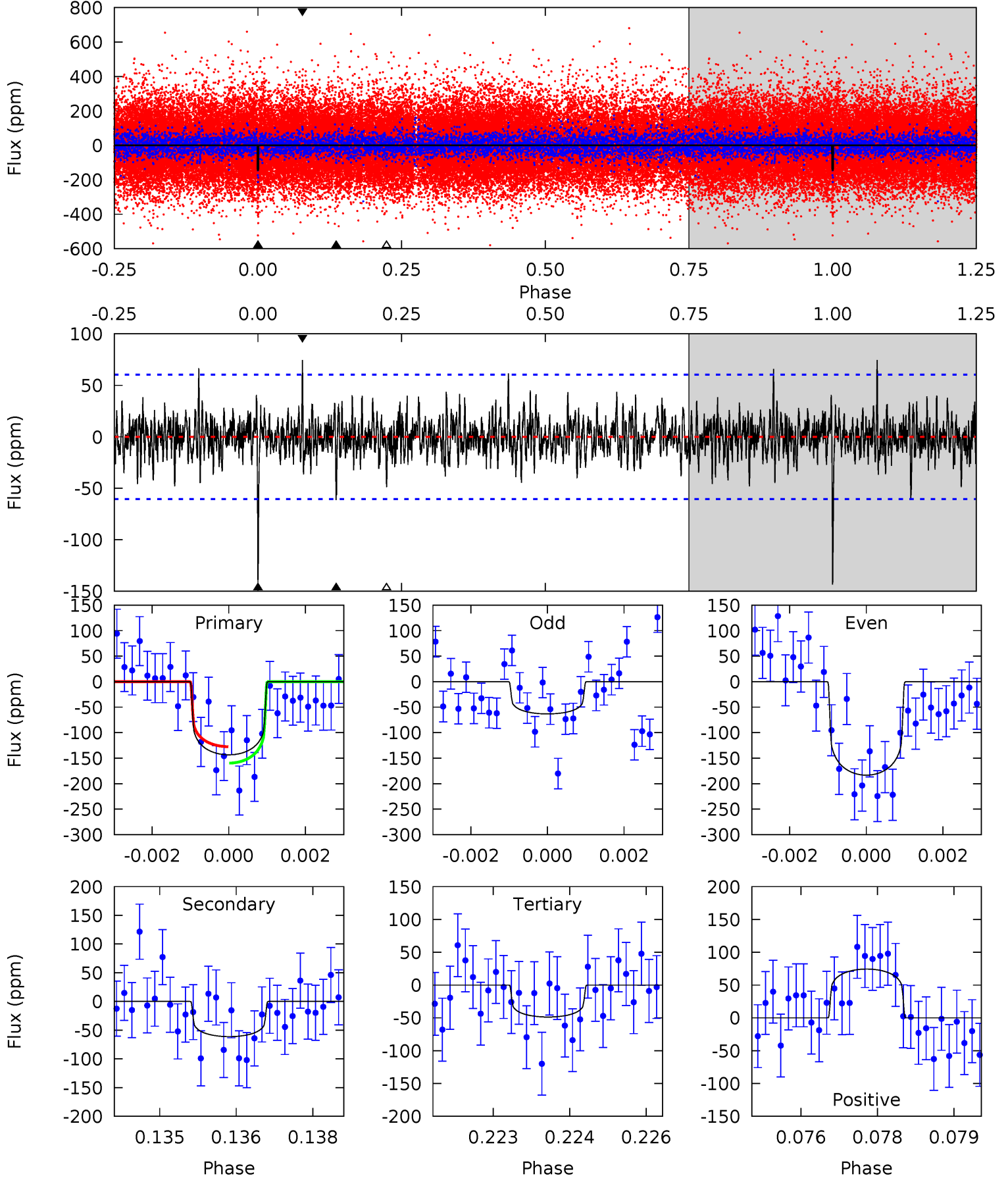
TCE 010454077-01 P=537.102936 Days $T_0=251.644864$ (BKJD)



DV Model-Shift Uniqueness Test

010454077-01, $P = 537.108033$ Days, $E = 251.615317$ Days

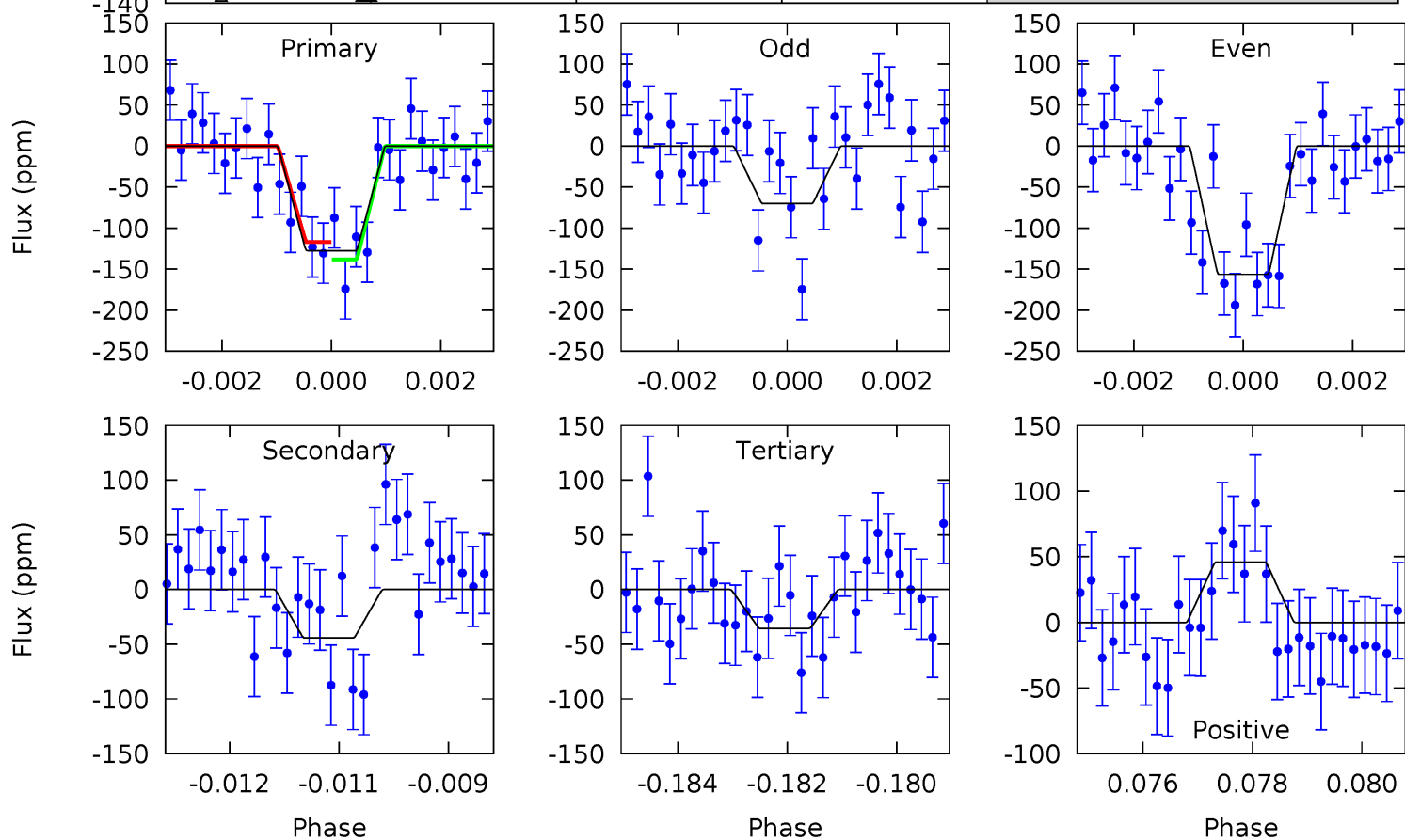
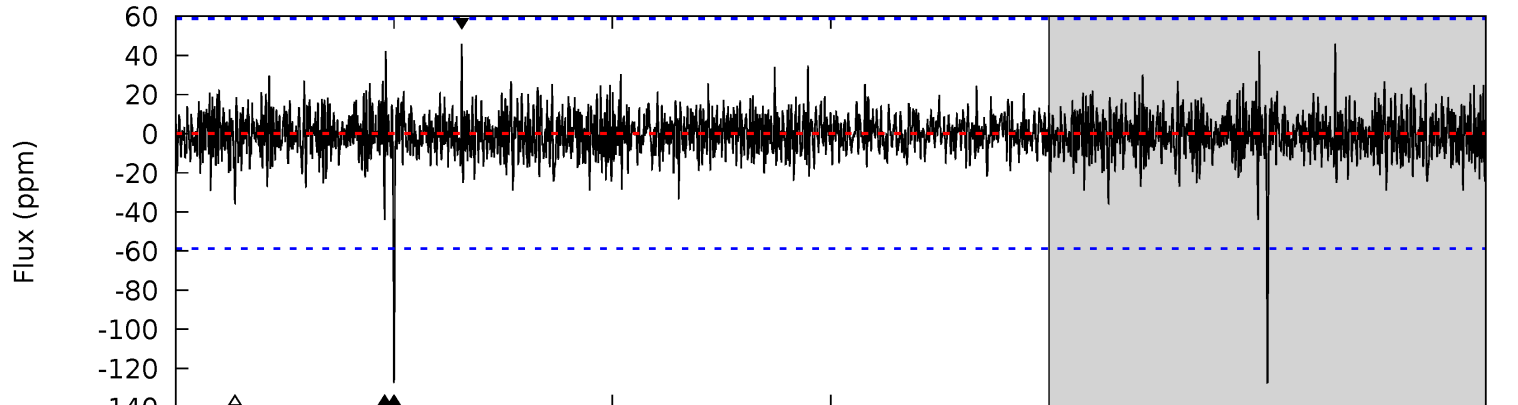
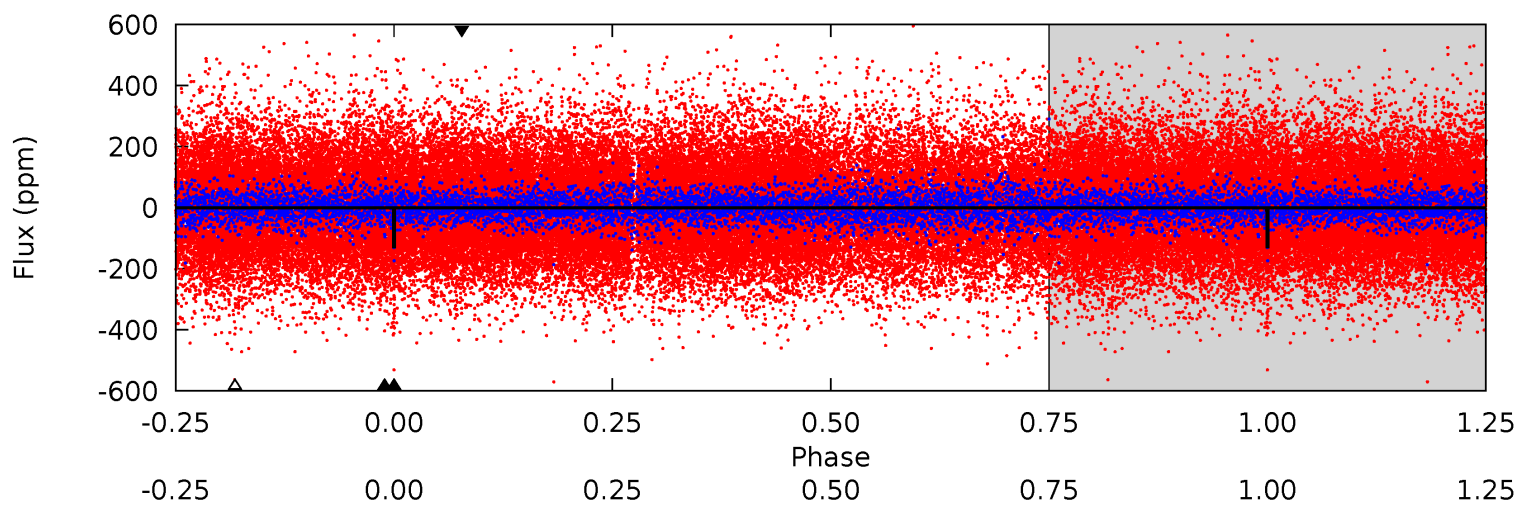
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	5.42	4.32	6.59	5.35	3.13	1.30	8.39	6.12	1.11	-1.16	5.00	0.79	0.34	1.43



Alt Model-Shift Uniqueness Test

010454077-01, P = 537.102936 Days, E = 251.644864 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	4.01	3.23	4.18	5.35	3.13	0.82	8.36	7.41	0.78	-0.16	3.70	1.06	0.26	0.96



Stellar Parameters For KIC 010454077

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6201^{+186}_{-167}	$3.851^{+0.323}_{-0.108}$	$-0.540^{+0.350}_{-0.250}$	$2.042^{+0.391}_{-0.726}$	$1.080^{+0.185}_{-0.185}$	$0.179^{+0.376}_{-0.060}$
	+3%/-3%	+8%/-3%	+65%/-46%	+19%/-36%	+17%/-17%	+210%/-34%
Source	PHO1	FLK73	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 010454077-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-61 ± 11	$2.54^{+0.75}_{-0.75}$	467^{+29}_{-44}	5078^{+755}_{-470}	9149^{+9700}_{-3754}
Alt.	-44 ± 11	$2.39^{+0.74}_{-0.70}$	464^{+31}_{-44}	4835^{+700}_{-470}	7479^{+7709}_{-3320}

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

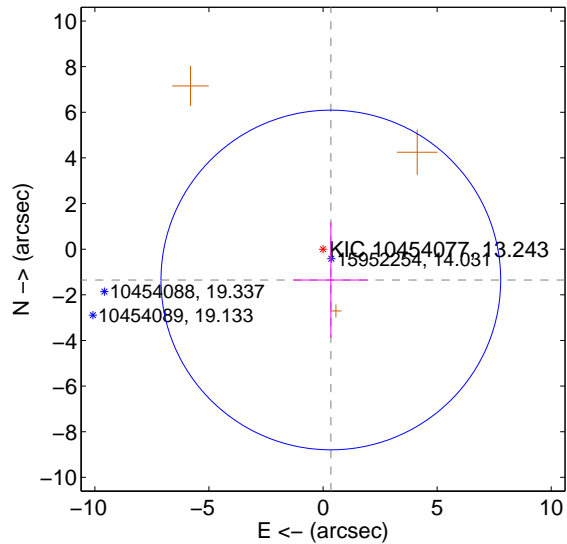
Supplemental centroid analysis for 010454077-01. Kepler magnitude: 13.24. Transit SNR 8.76

There are 0 quarters with good PRF difference image offsets

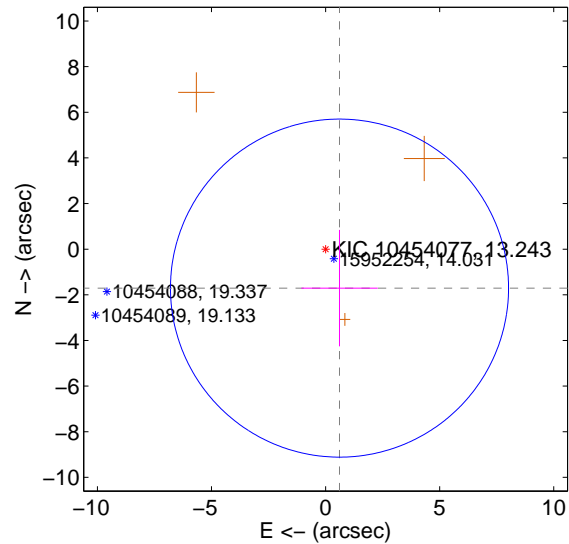
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.393 ± 2.481	0.56	-0.342 ± 1.638	-1.350 ± 2.525
PRF-fit source offset from KIC position	1.813 ± 2.469	0.73	-0.610 ± 1.673	-1.707 ± 2.553
photometric centroid source offset	1.16 ± 1.78	0.65	-1.12 ± 1.81	0.31 ± 1.45

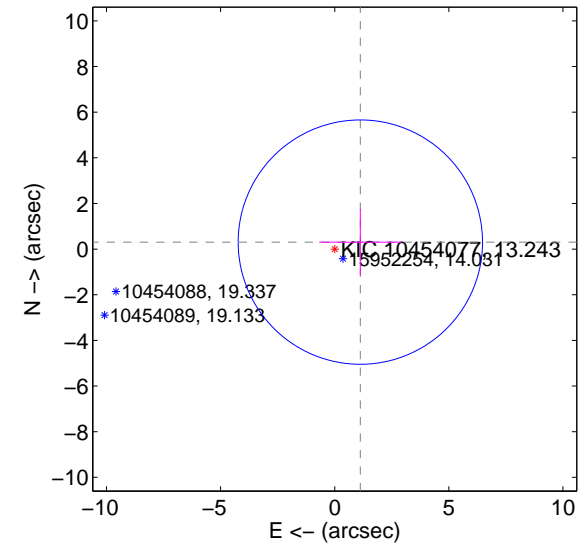
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

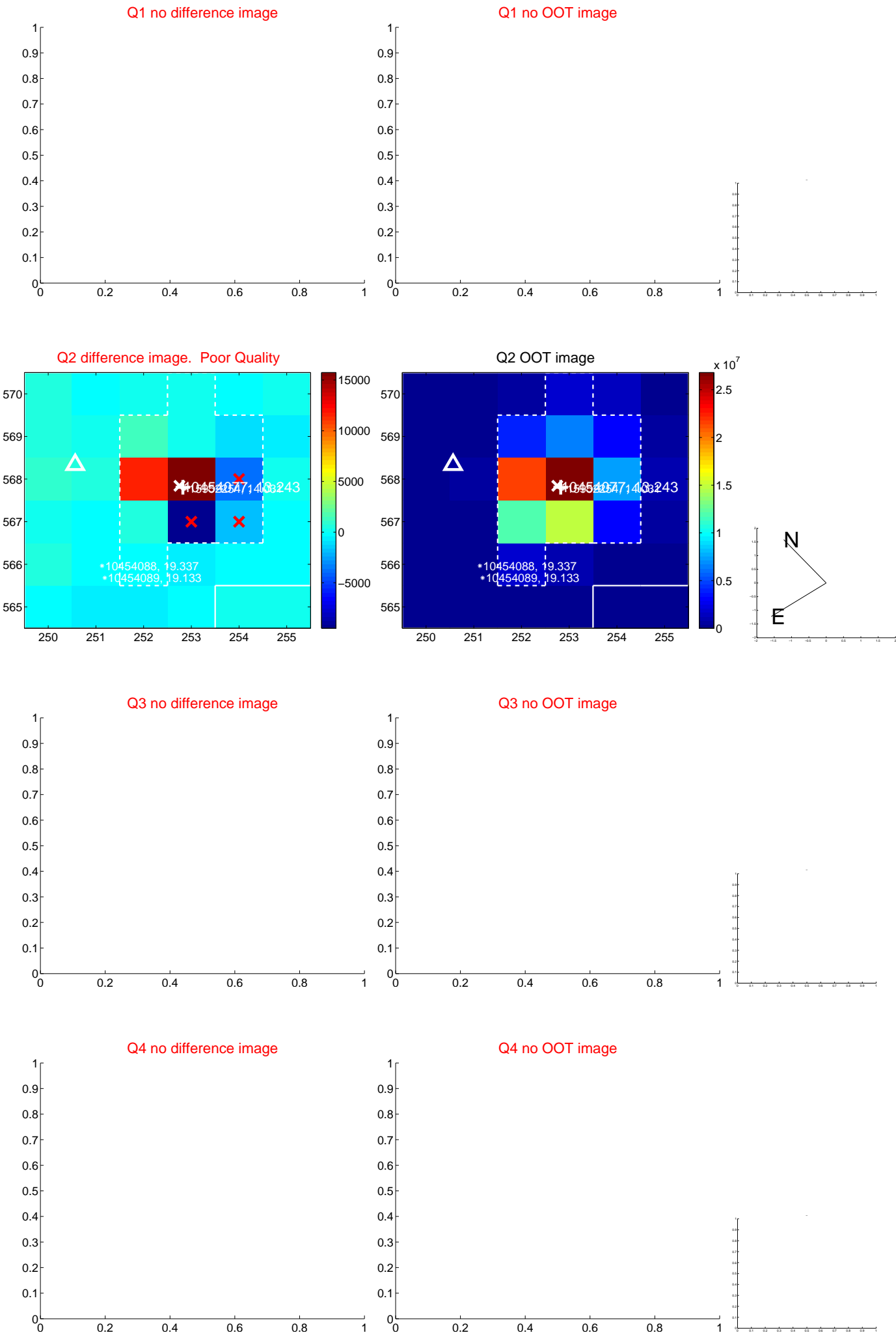


offset from photometric centroids

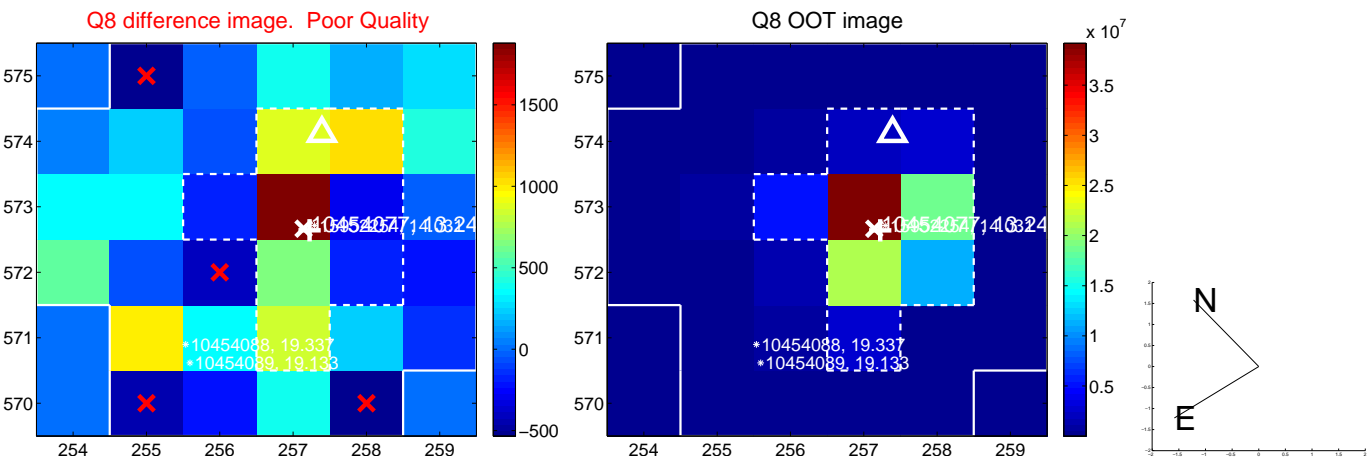
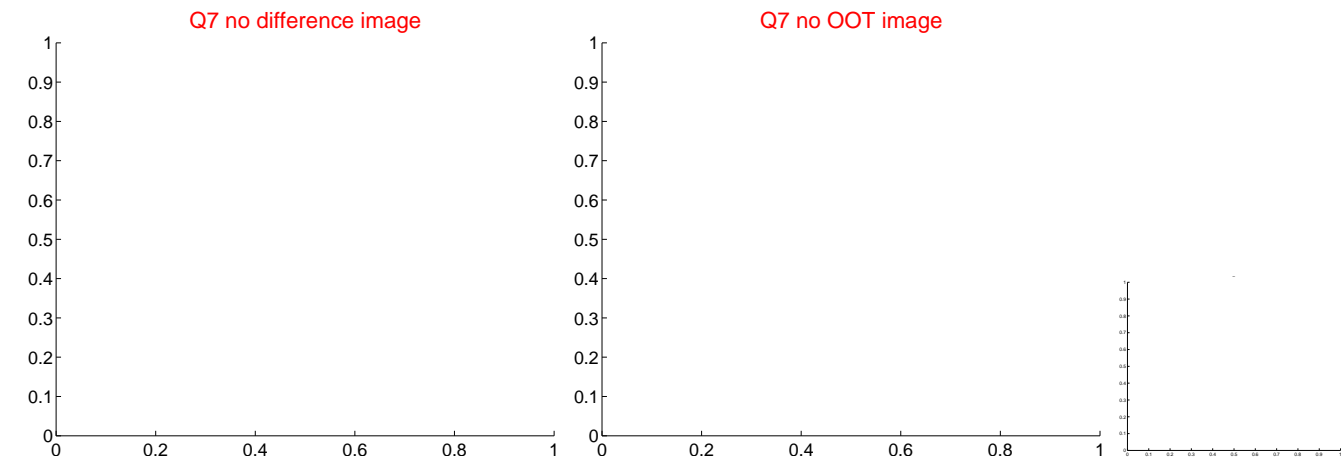
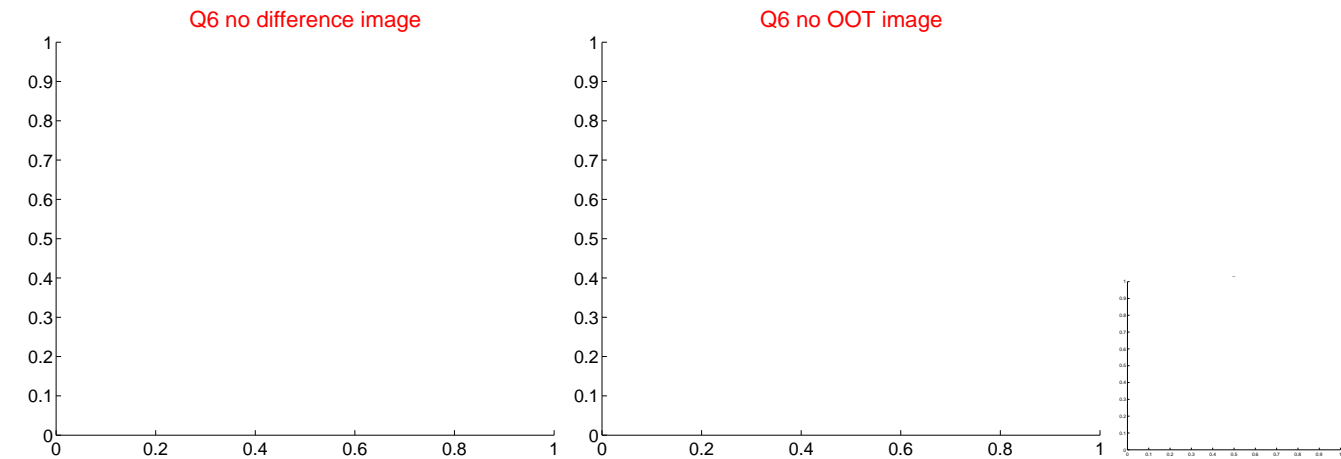


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



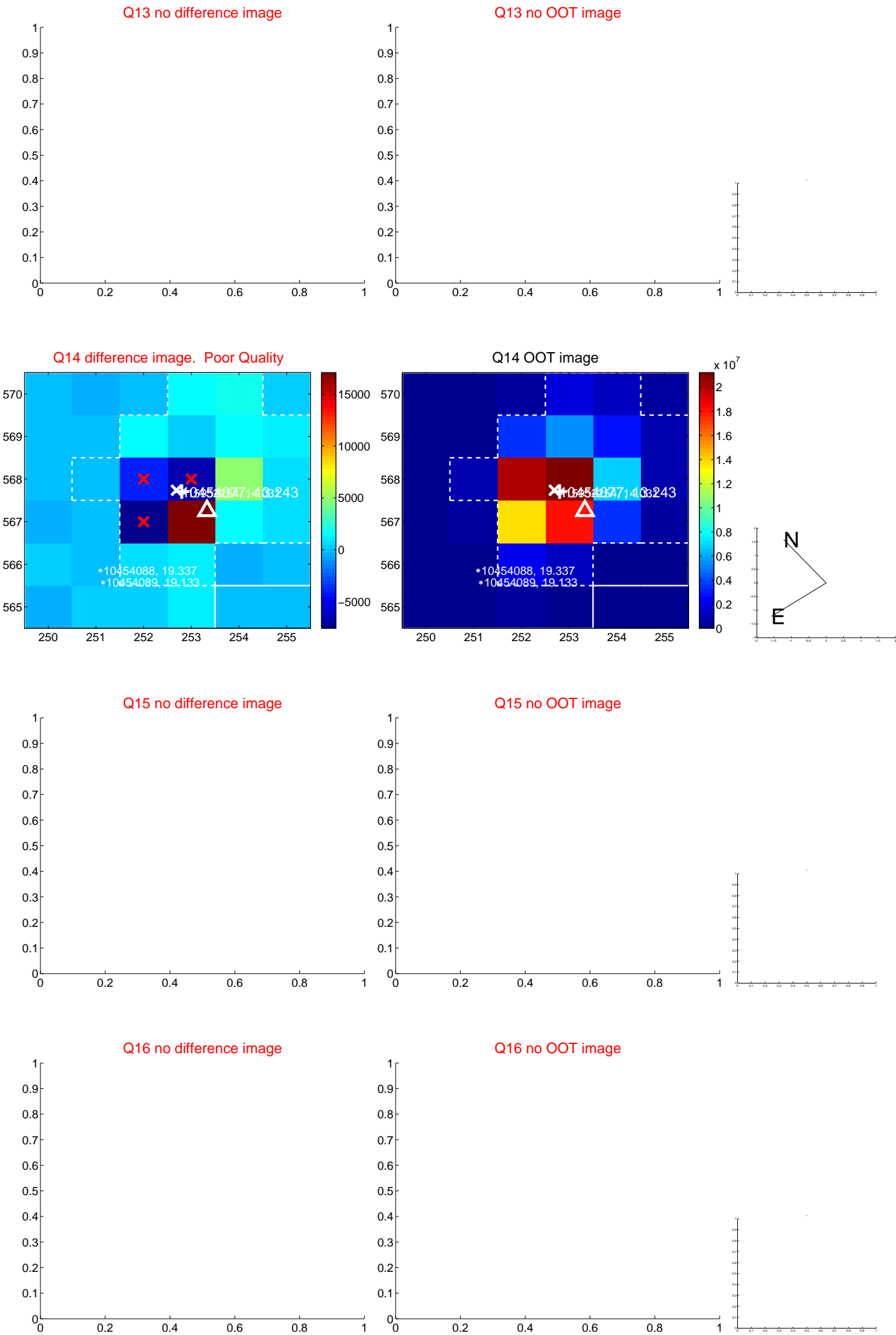
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



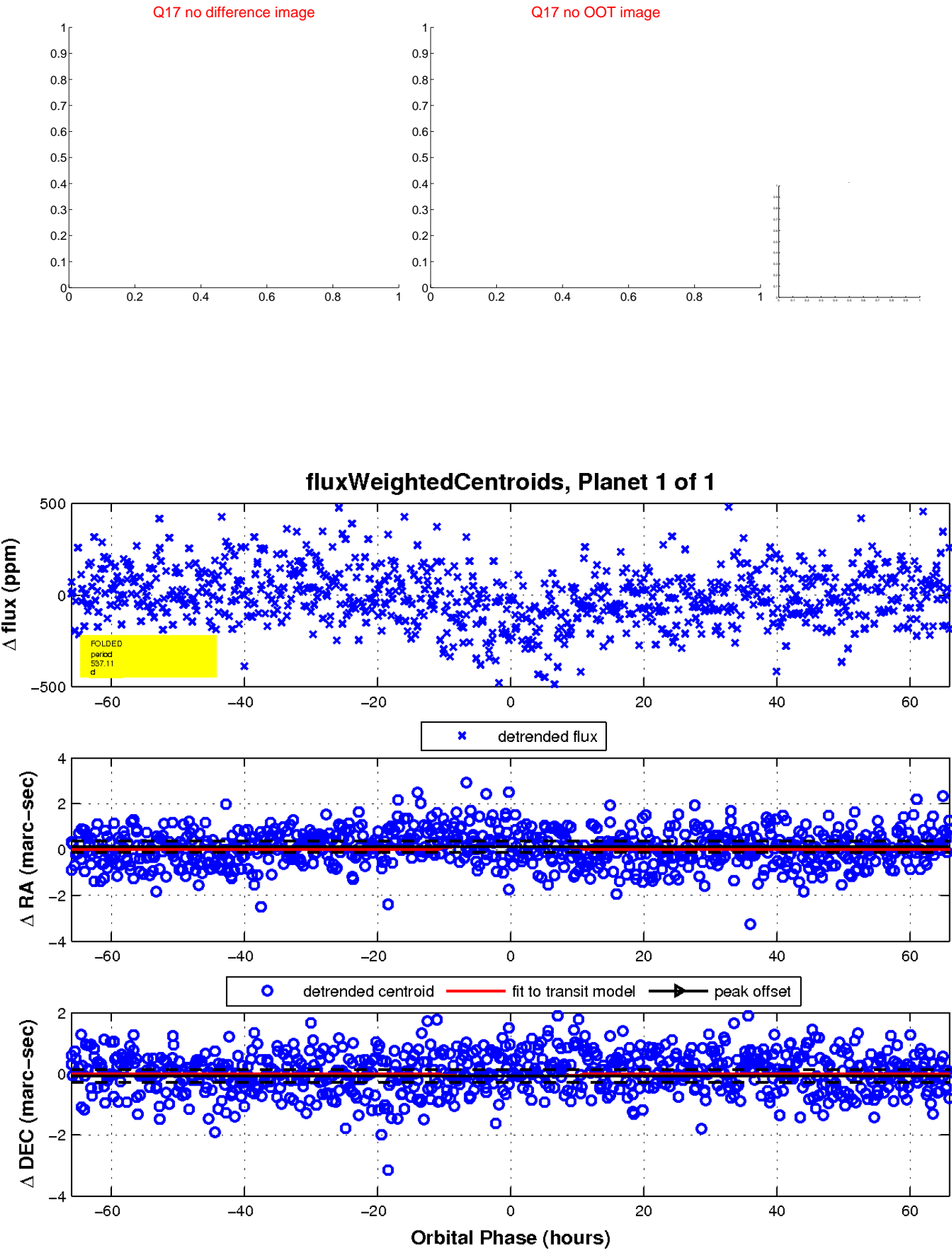
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

