

KIC 006846531

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})
006846531-01	OBS	No	540.310747	380.176625	188.0	11.737	10.4	9.9	1.35	6656	2.02	1.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006846531-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

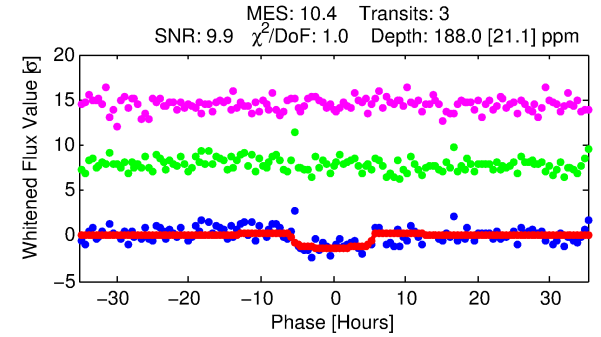
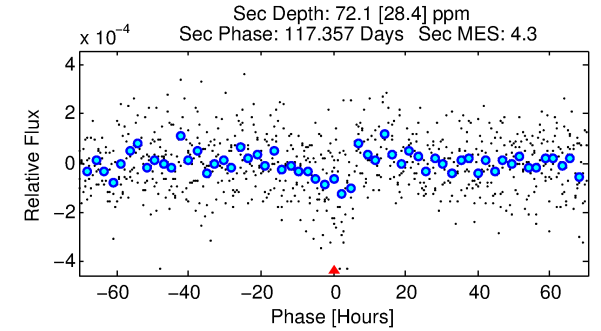
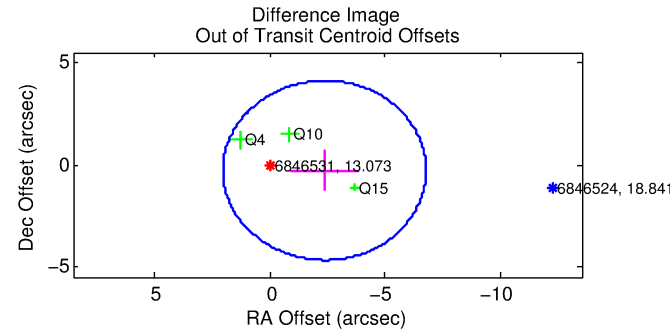
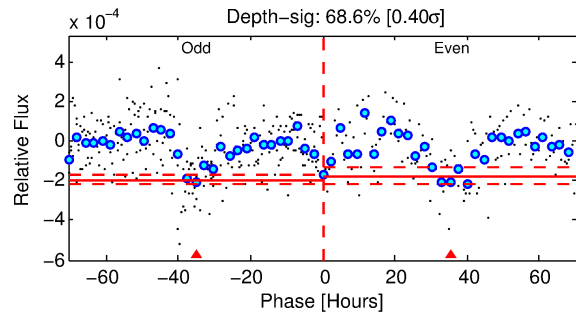
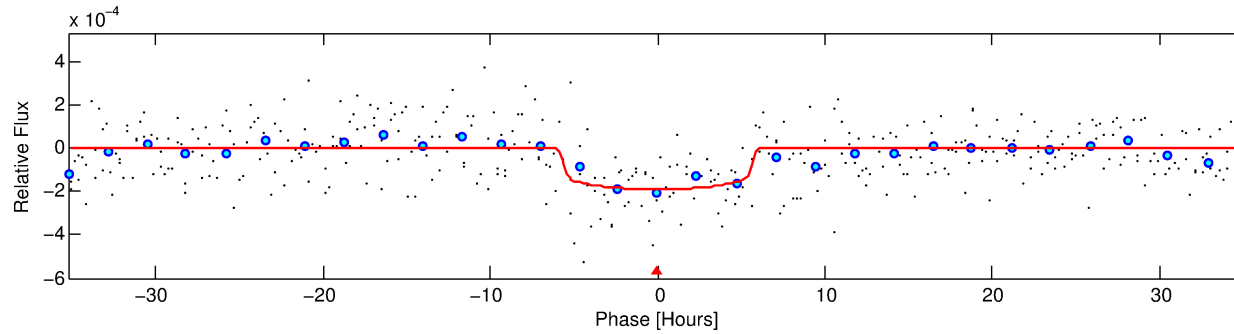
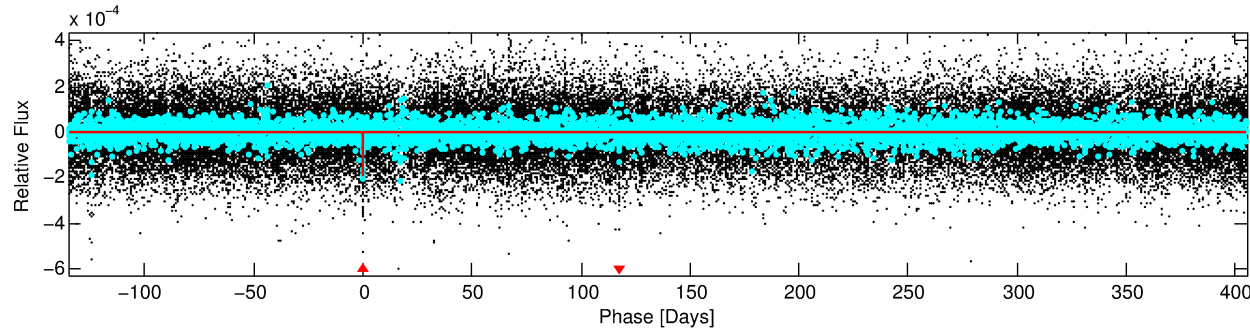
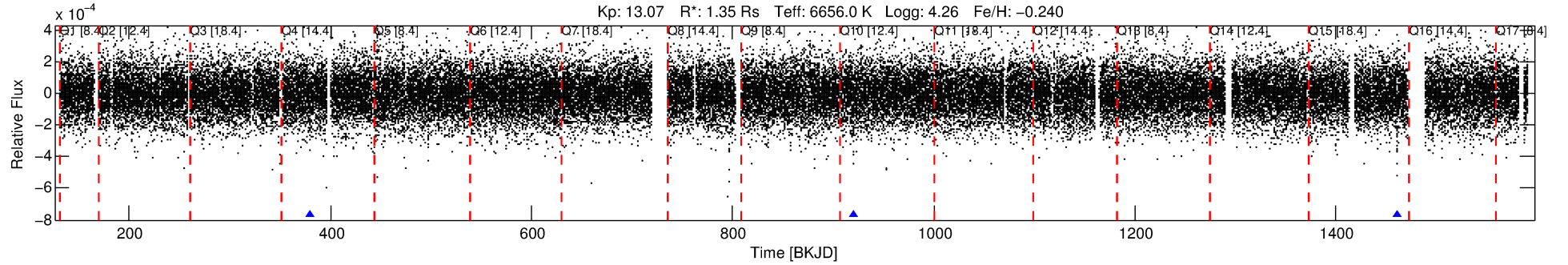
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006846531-01

No Significant Match Found

DV One-Page Summary

KIC: 6846531 Candidate: 1 of 1 Period: 540.311 d



DV Fit Results:

Period = 540.31075 [0.01137] d
Epoch = 380.1766 [0.0133] BKJD
Rp/R* = 0.0137 [0.0050]
a/R* = 233.20 [478.34]
b = 0.77 [1.11]
Seff = 1.68 [0.47]
Teq = 290 [20] K
Rp = 2.02 [0.85] Re
a = 1.3826 [0.2424] AU
Ag = 18600.56 [16102.85] [1.16 σ]
Teffp = 5239 [1095] K [4.52 σ]

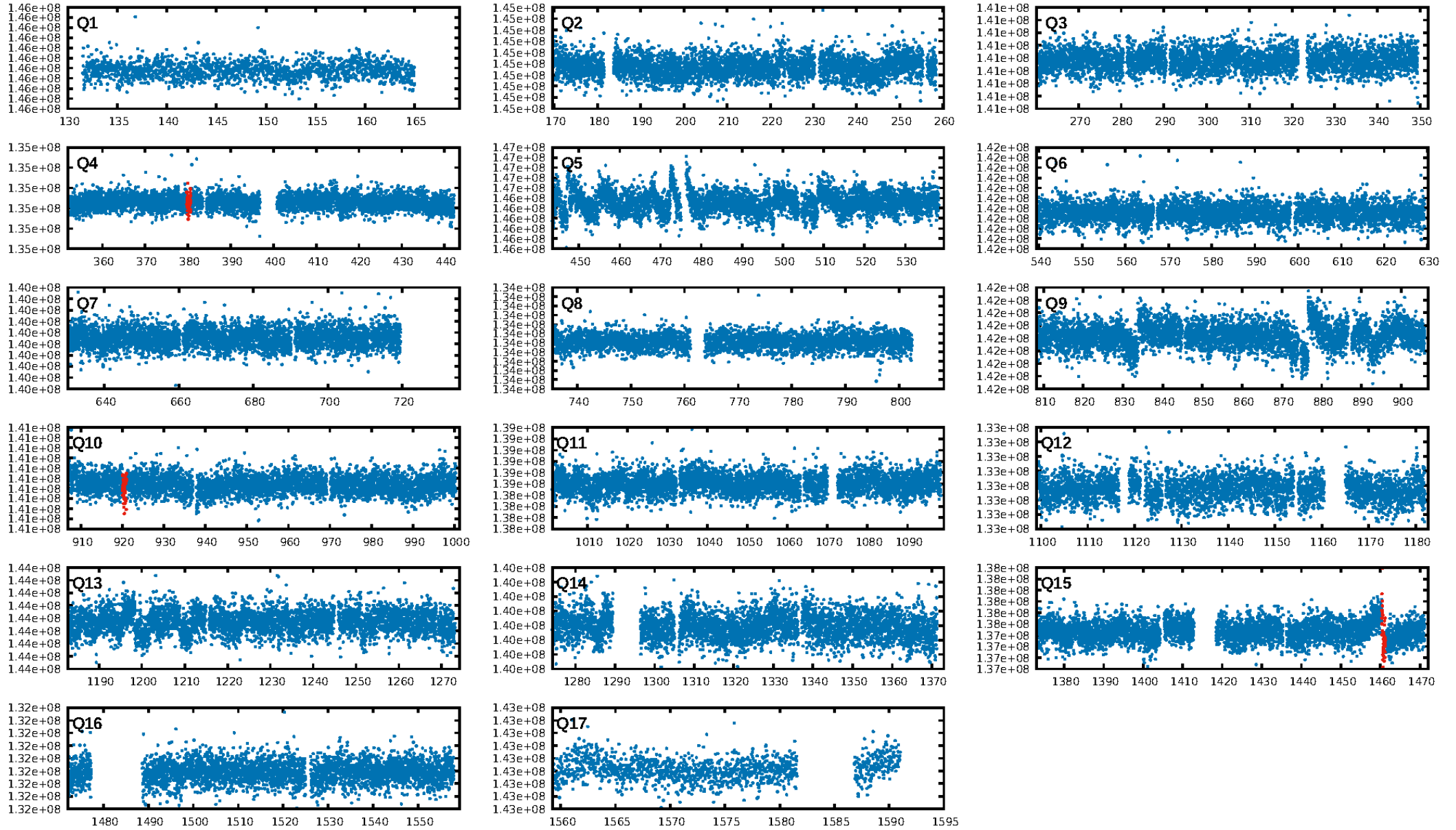
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 3.81e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.206
Centroid-sig: 1.3%
Centroid-so: 2.216 arcsec [1.81 σ]
OotOffset-rm: 2.384 arcsec [1.63 σ]
KicOffset-rm: 2.294 arcsec [1.58 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

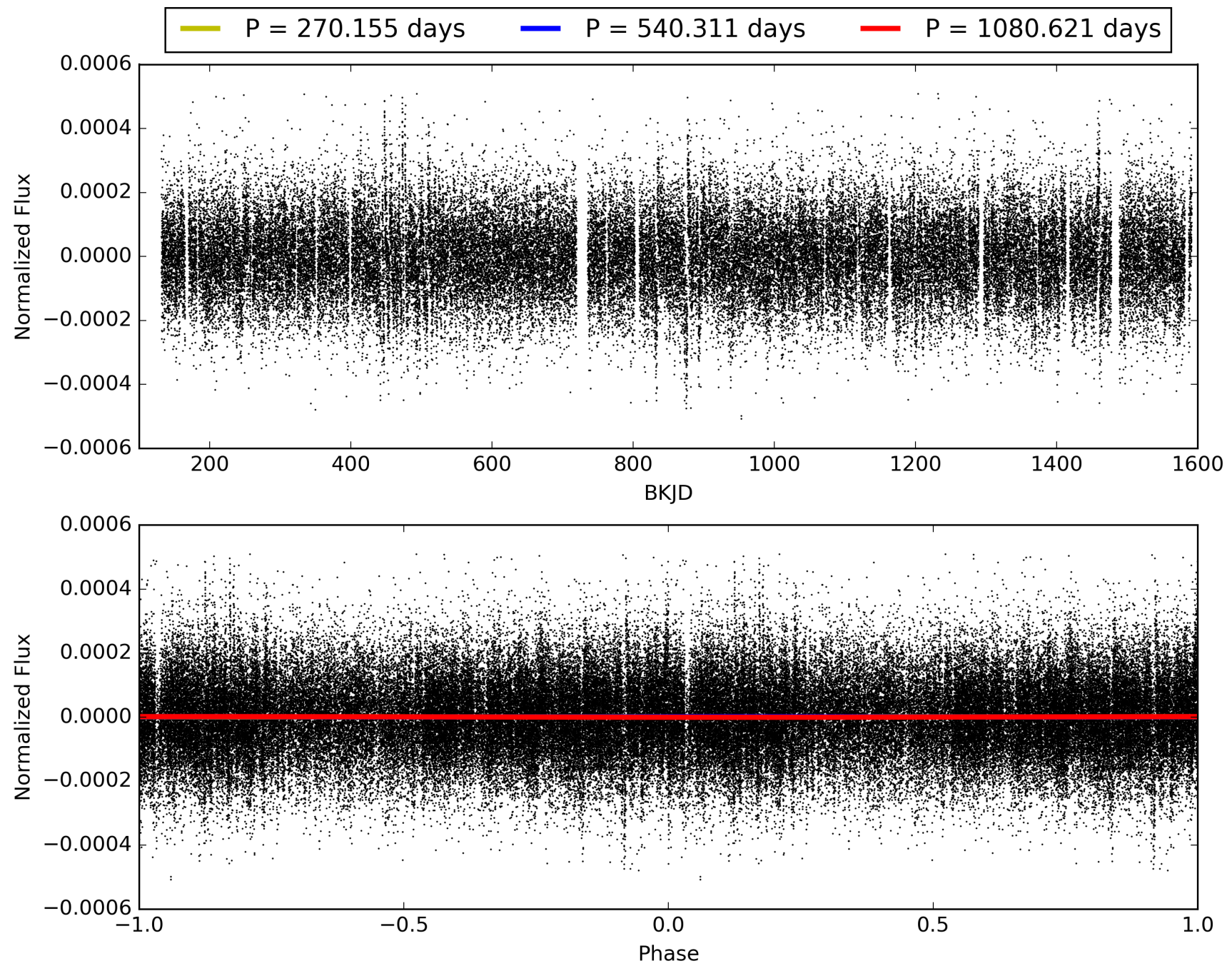
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:46:07 Z

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

TCE 006846531-01, PDC Light Curves

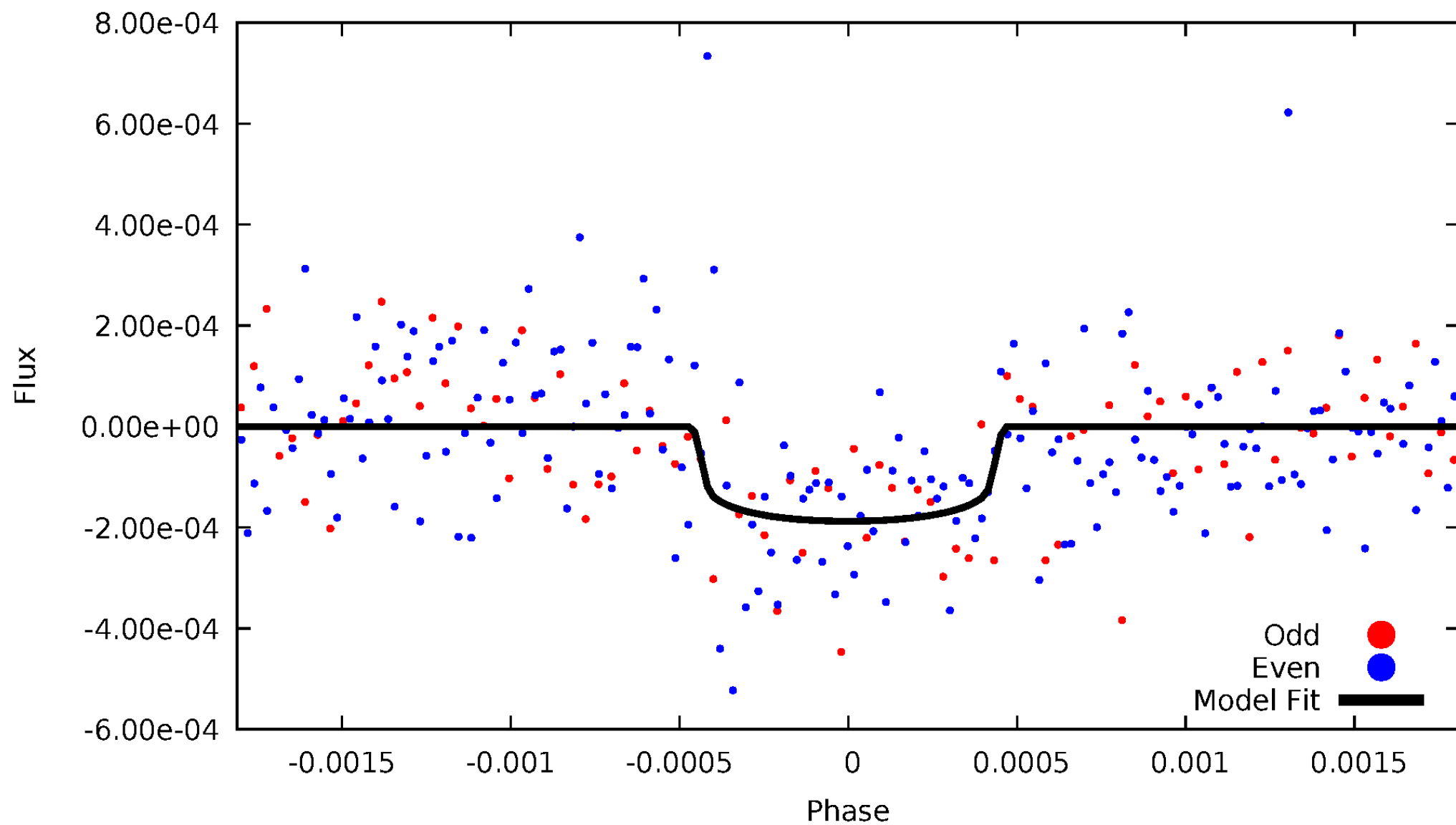


TCE 006846531-01



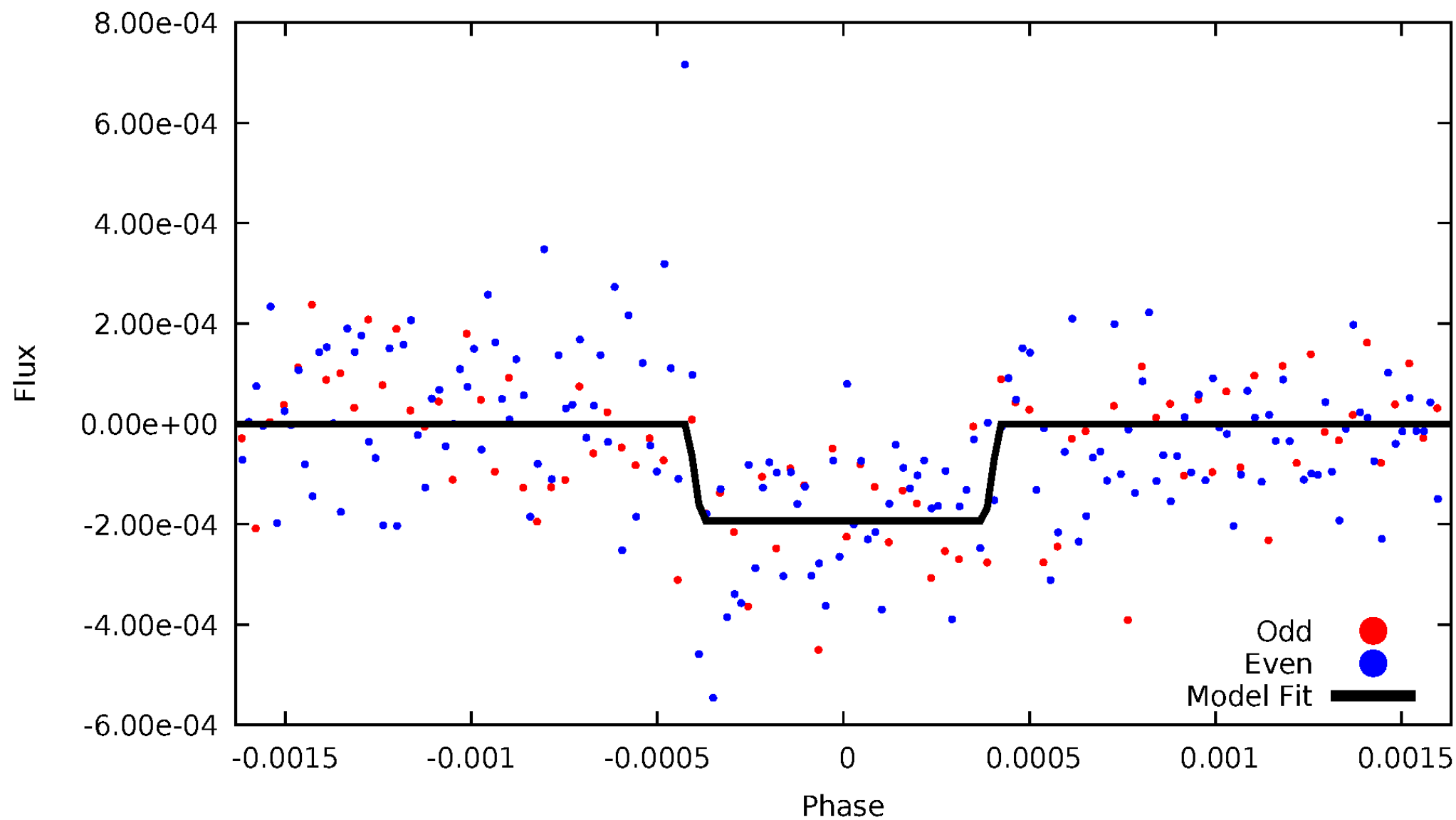
DV Odd/Even

TCE 006846531-01

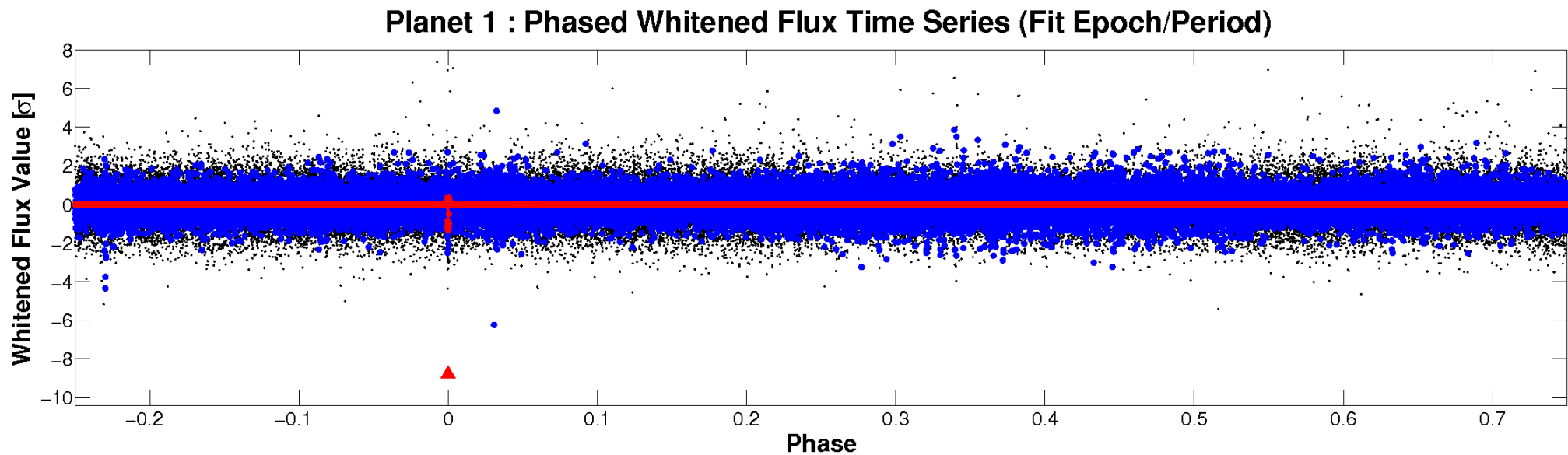
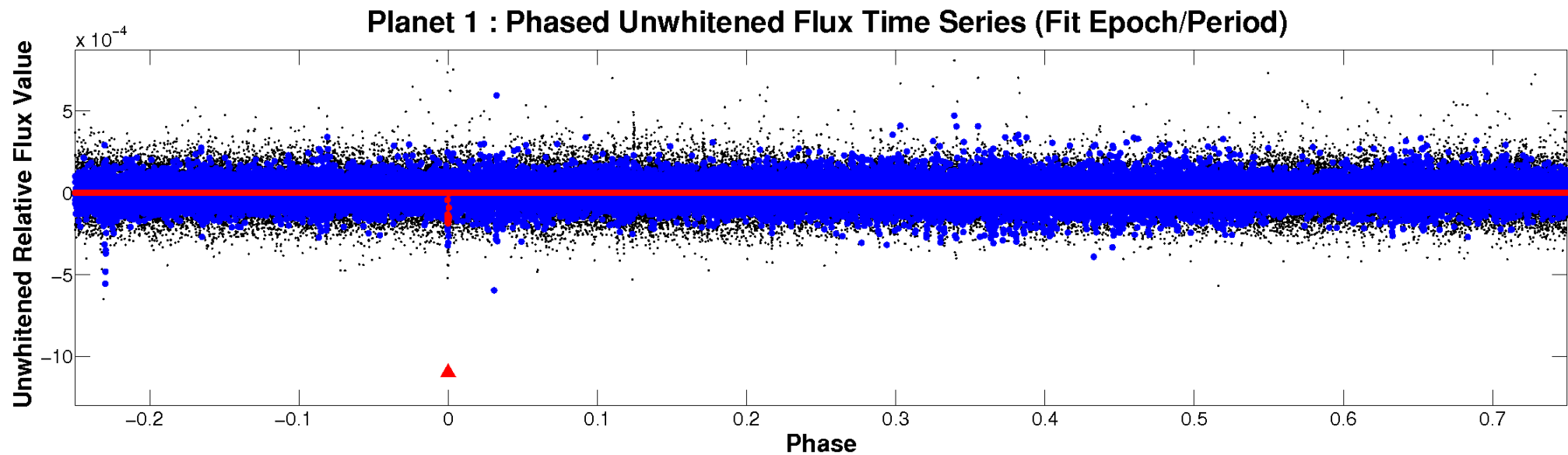


ALT Odd/Even

TCE 006846531-01

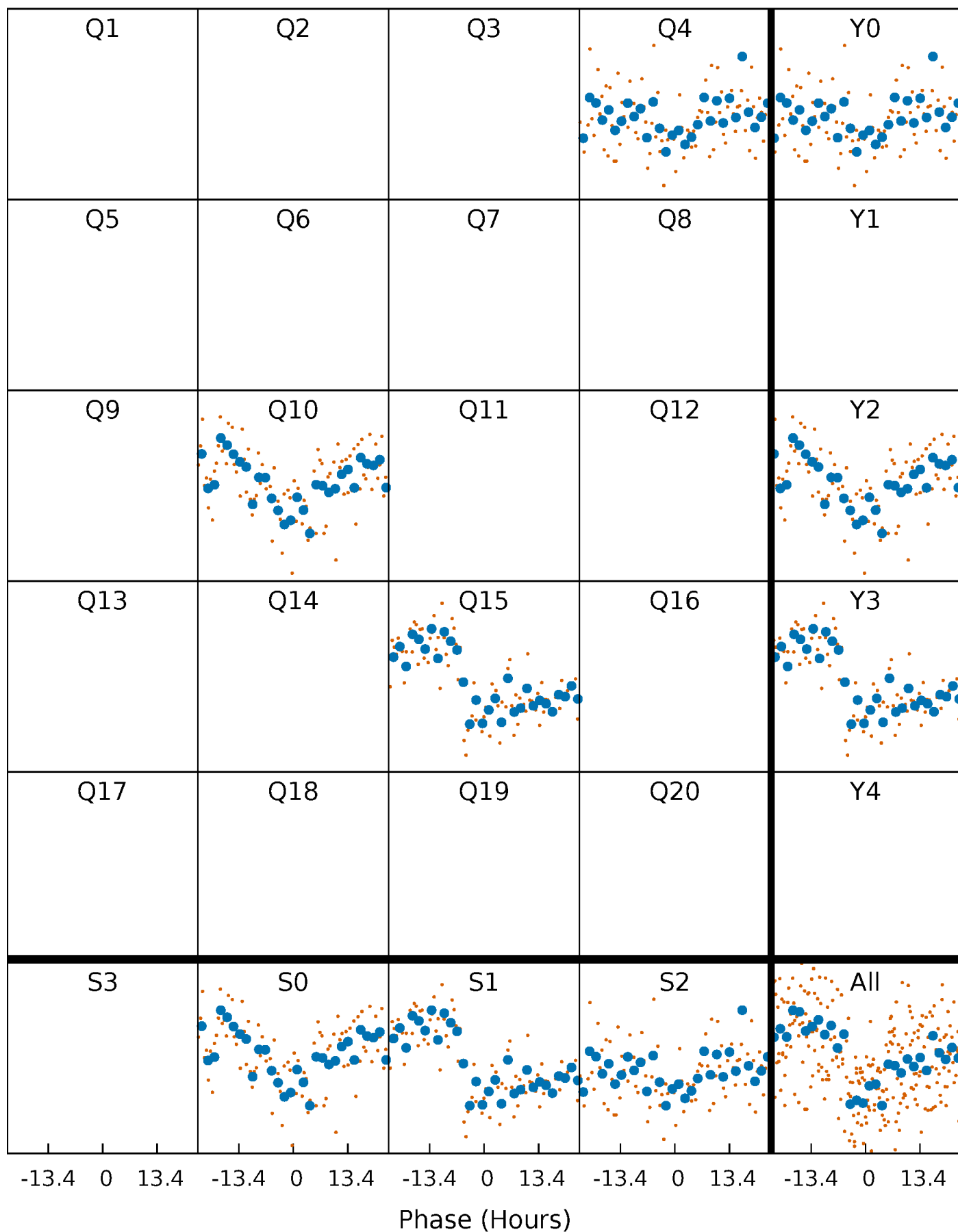


Non-Whitened Vs. Whitened Light Curve



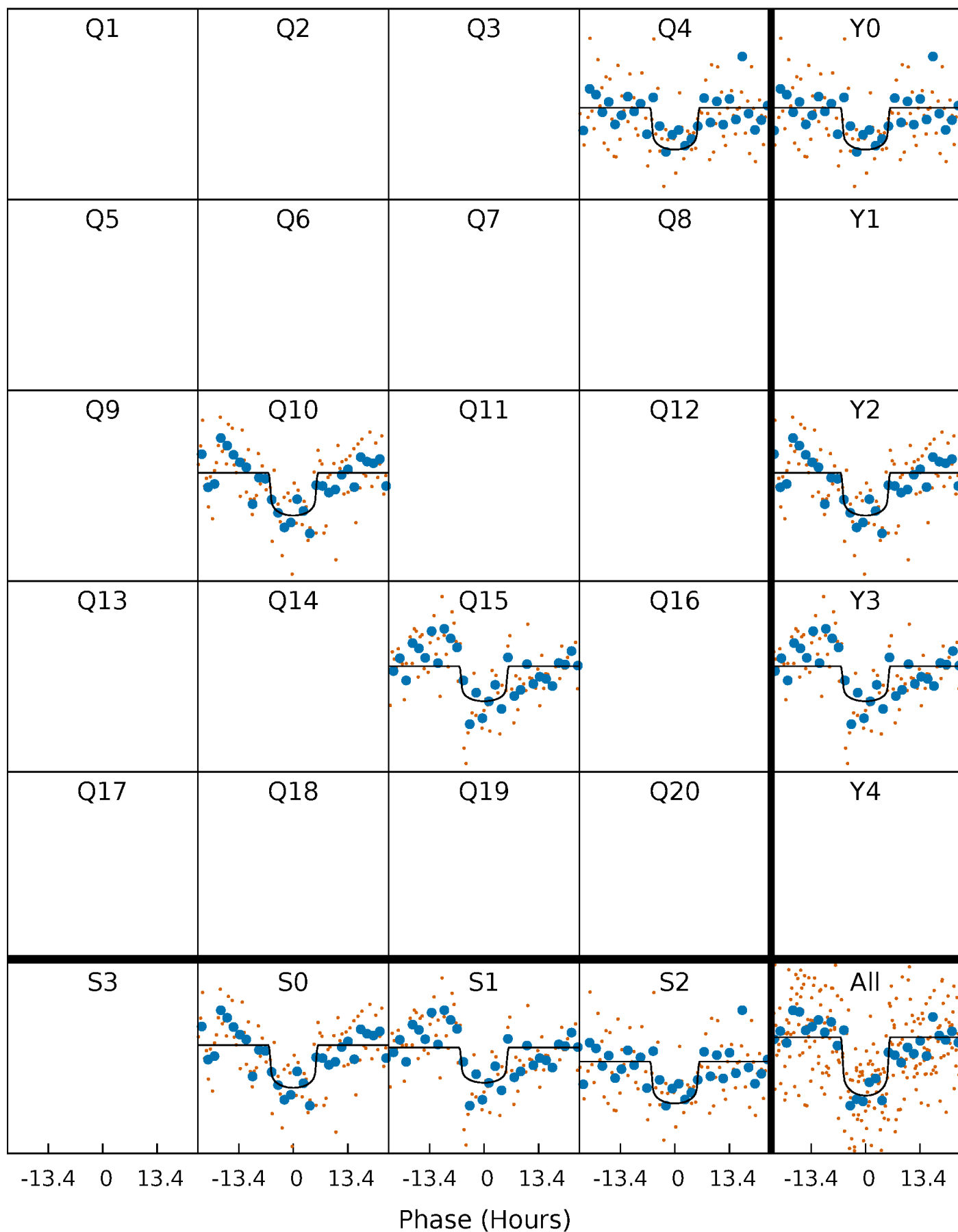
PDC Quarter-Phased Transit Curves

TCE 006846531-01 P=540.310747 Days $T_0=380.176625$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006846531-01 P=540.310747 Days $T_0=380.176625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

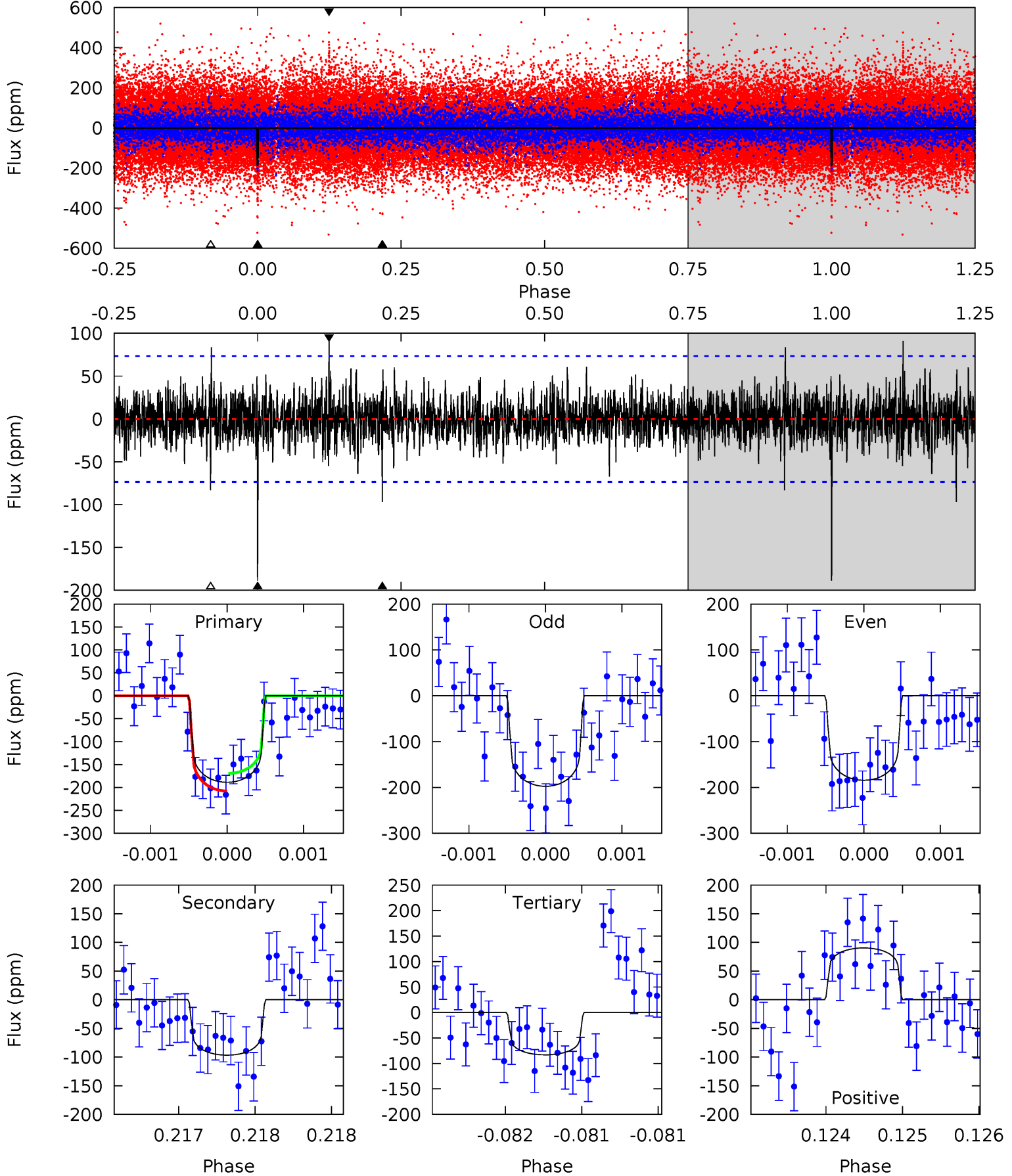
TCE 006846531-01 P=540.290571 Days $T_0=380.221489$ (BKJD)



DV Model-Shift Uniqueness Test

006846531-01, P = 540.310747 Days, E = 380.176625 Days

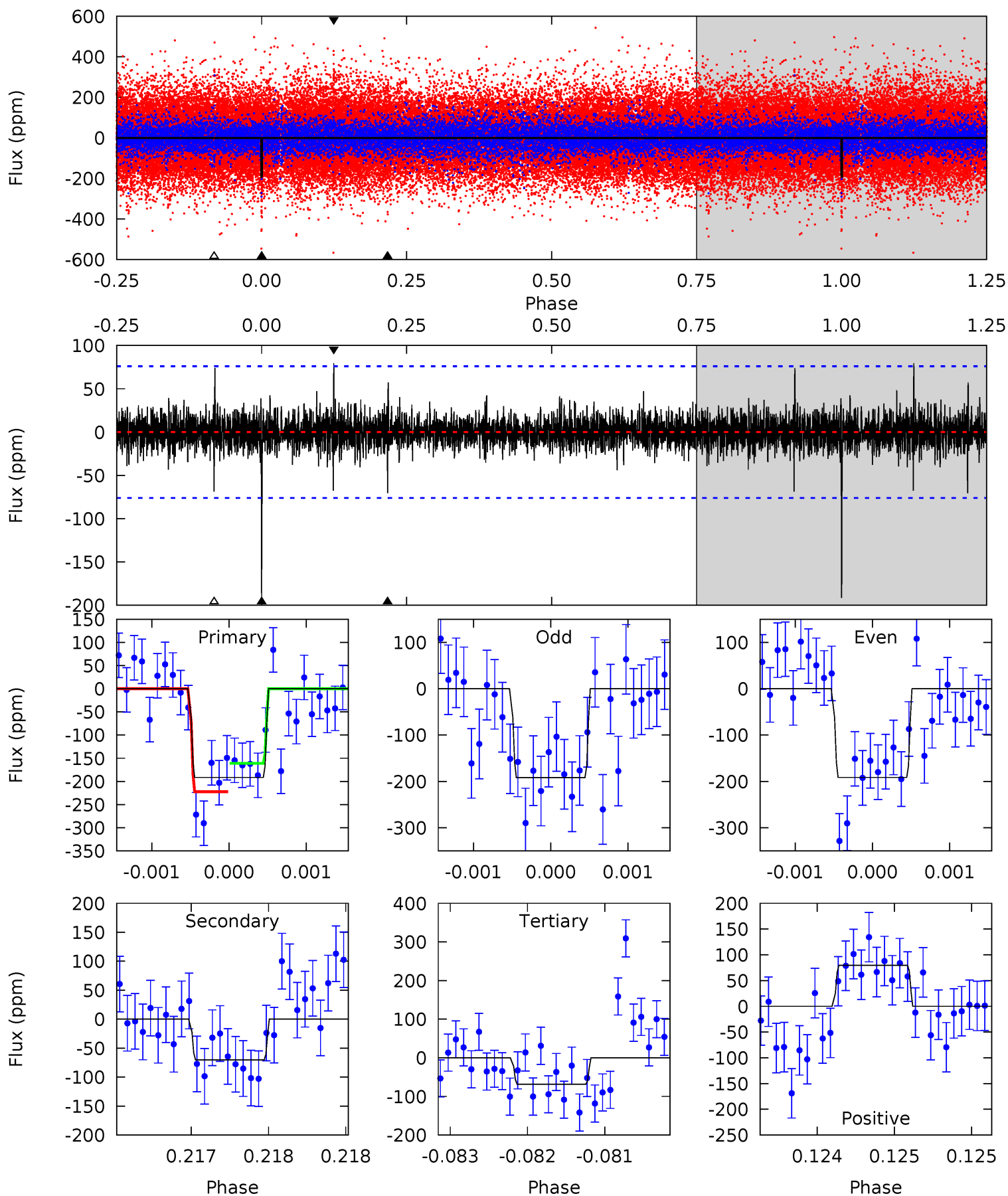
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	7.20	6.19	6.73	5.47	3.31	1.32	7.87	7.33	1.01	0.47	0.47	0.91	0.32	1.42



Alt Model-Shift Uniqueness Test

006846531-01, P = 540.290571 Days, E = 380.221489 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	5.07	4.94	5.72	5.48	3.34	0.90	8.86	8.08	0.13	-0.65	0.00	1.00	0.29	2.21



Stellar Parameters For KIC 006846531

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6656^{+150}_{-200}	$4.259^{+0.112}_{-0.138}$	$-0.240^{+0.250}_{-0.300}$	$1.350^{+0.283}_{-0.231}$	$1.215^{+0.145}_{-0.177}$	$0.695^{+0.375}_{-0.287}$
	+2%/-3%	+3%/-3%	+104%/-125%	+21%/-17%	+12%/-15%	+54%/-41%
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 006846531-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-97 ± 13	$2.00^{+0.81}_{-0.74}$	406^{+22}_{-20}	5654^{+1566}_{-749}	24713^{+40273}_{-11860}
Alt.	-70 ± 14	$2.10^{+0.78}_{-0.83}$	407^{+23}_{-21}	5187^{+1314}_{-663}	16734^{+29803}_{-8228}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

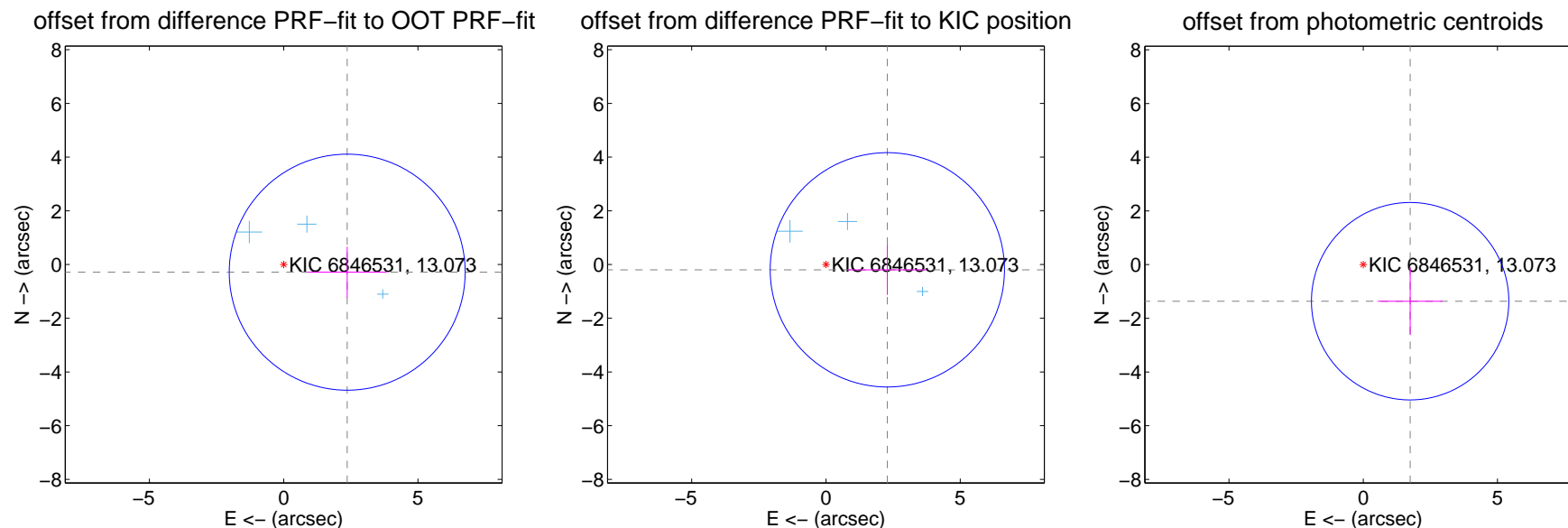
DV Centroid Data

Supplemental centroid analysis for 006846531-01. Kepler magnitude: 13.07. Transit SNR 9.86

There are 3 quarters with good PRF difference image offsets

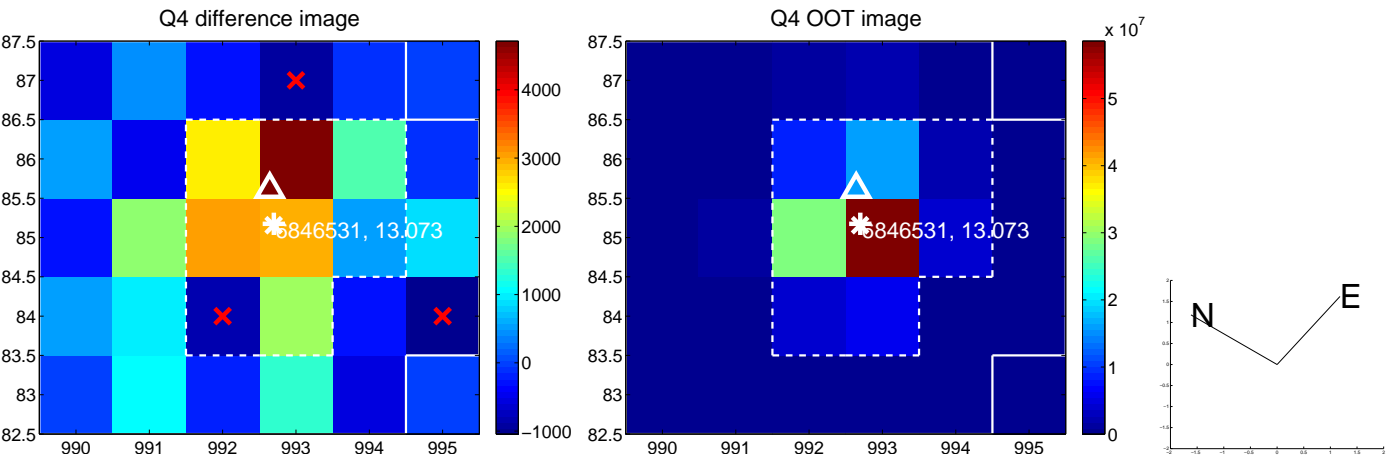
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.384 ± 1.465	1.63	-2.367 ± 1.471	-0.285 ± 0.947
PRF-fit source offset from KIC position	2.294 ± 1.454	1.58	-2.286 ± 1.457	-0.197 ± 0.935
photometric centroid source offset	2.22 ± 1.23	1.81	-1.75 ± 1.21	-1.36 ± 1.26



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.

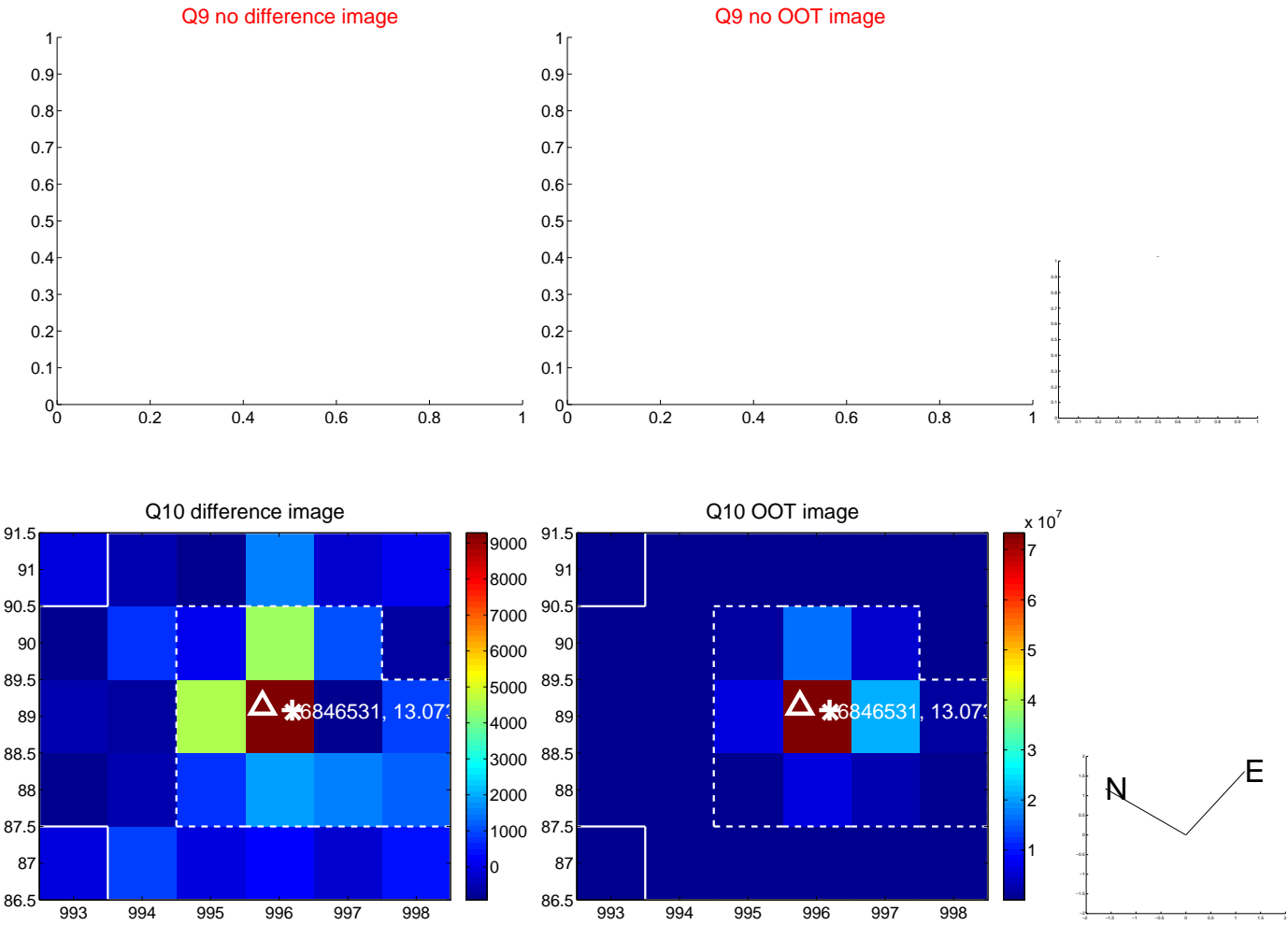
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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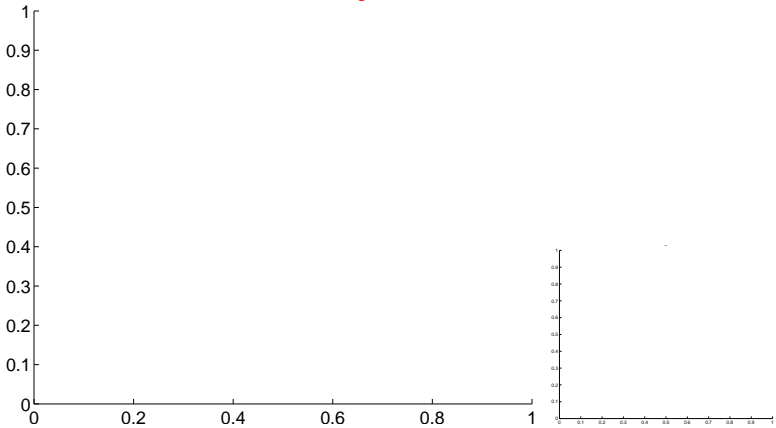


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

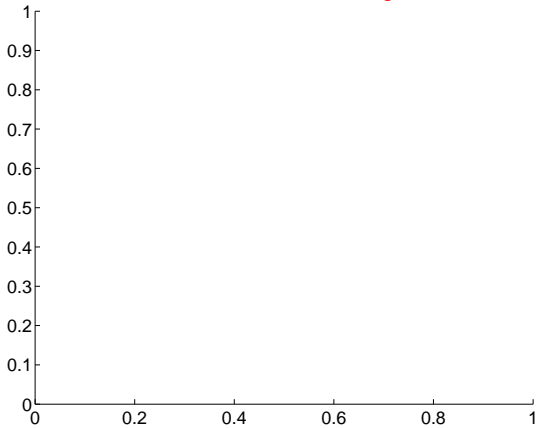
Q13 no difference image



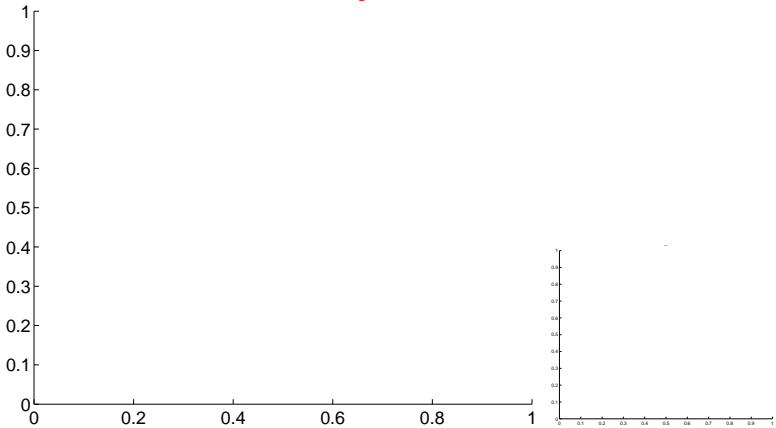
Q13 no OOT image



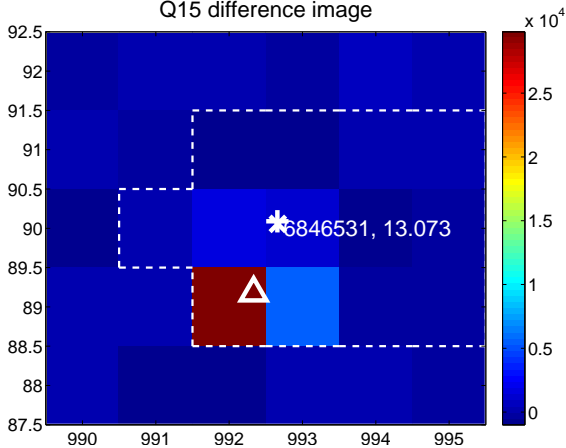
Q14 no difference image



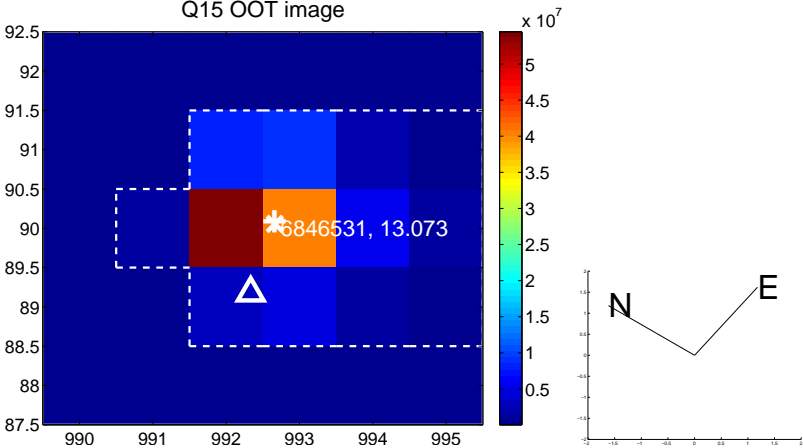
Q14 no OOT image



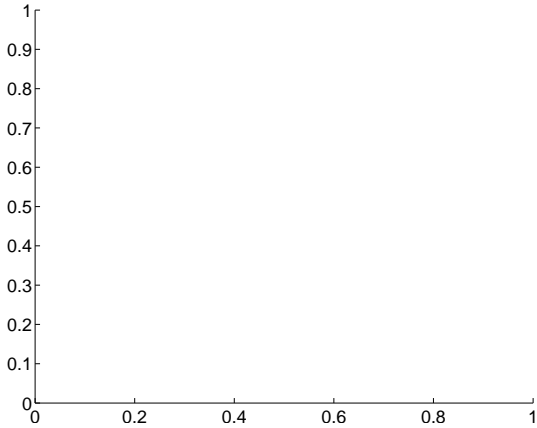
Q15 difference image



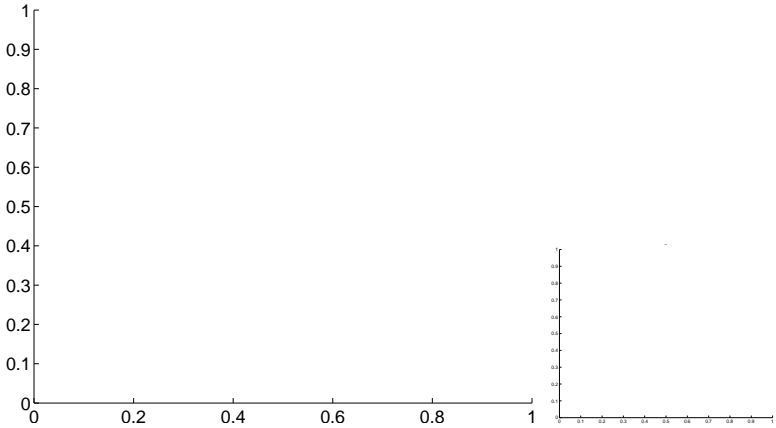
Q15 OOT image



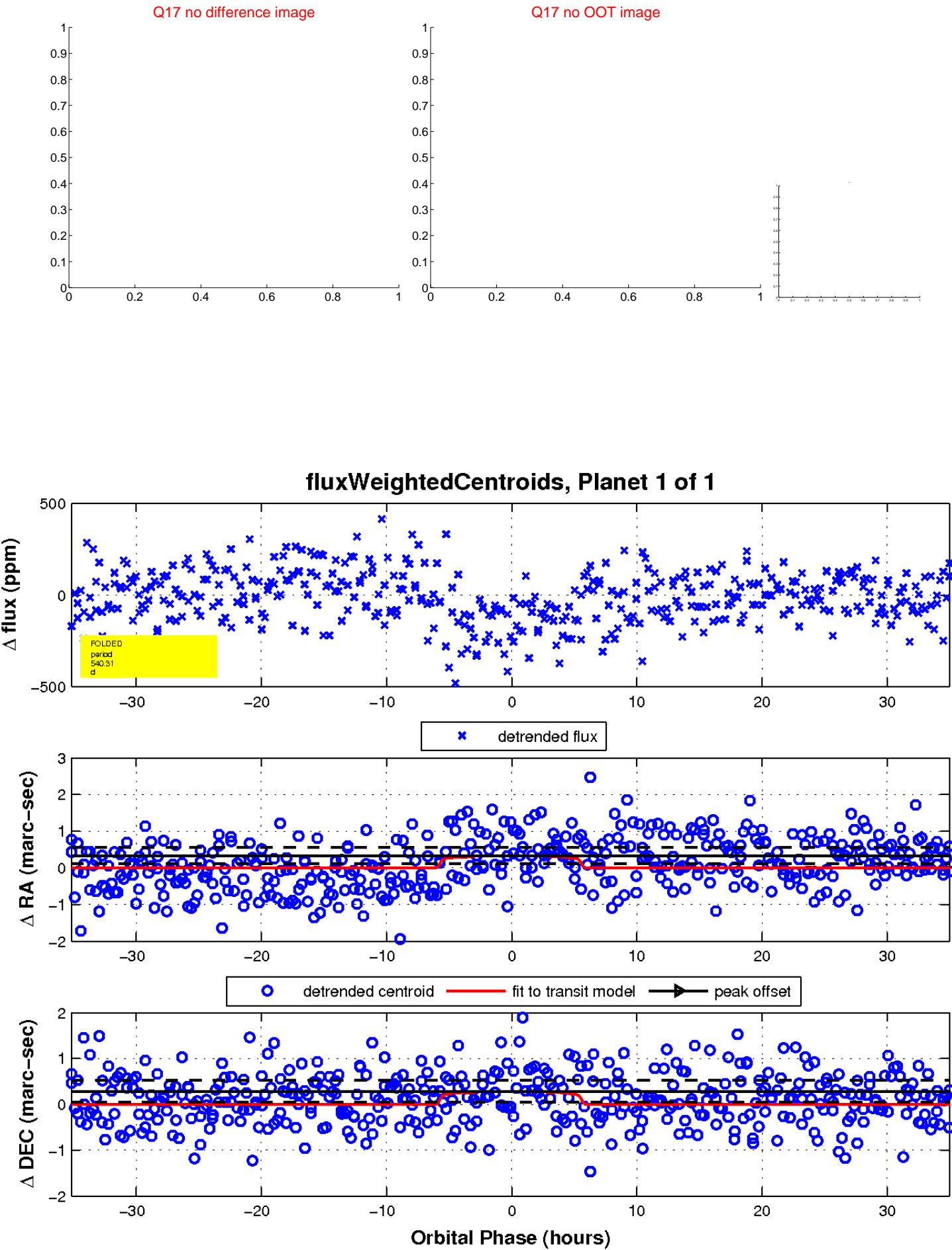
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

