

KIC 009710153

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})
009710153-01	OBS	No	365.727671	150.480220	572.4	37.682	8.2	9.9	0.88	5830	2.76	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009710153-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

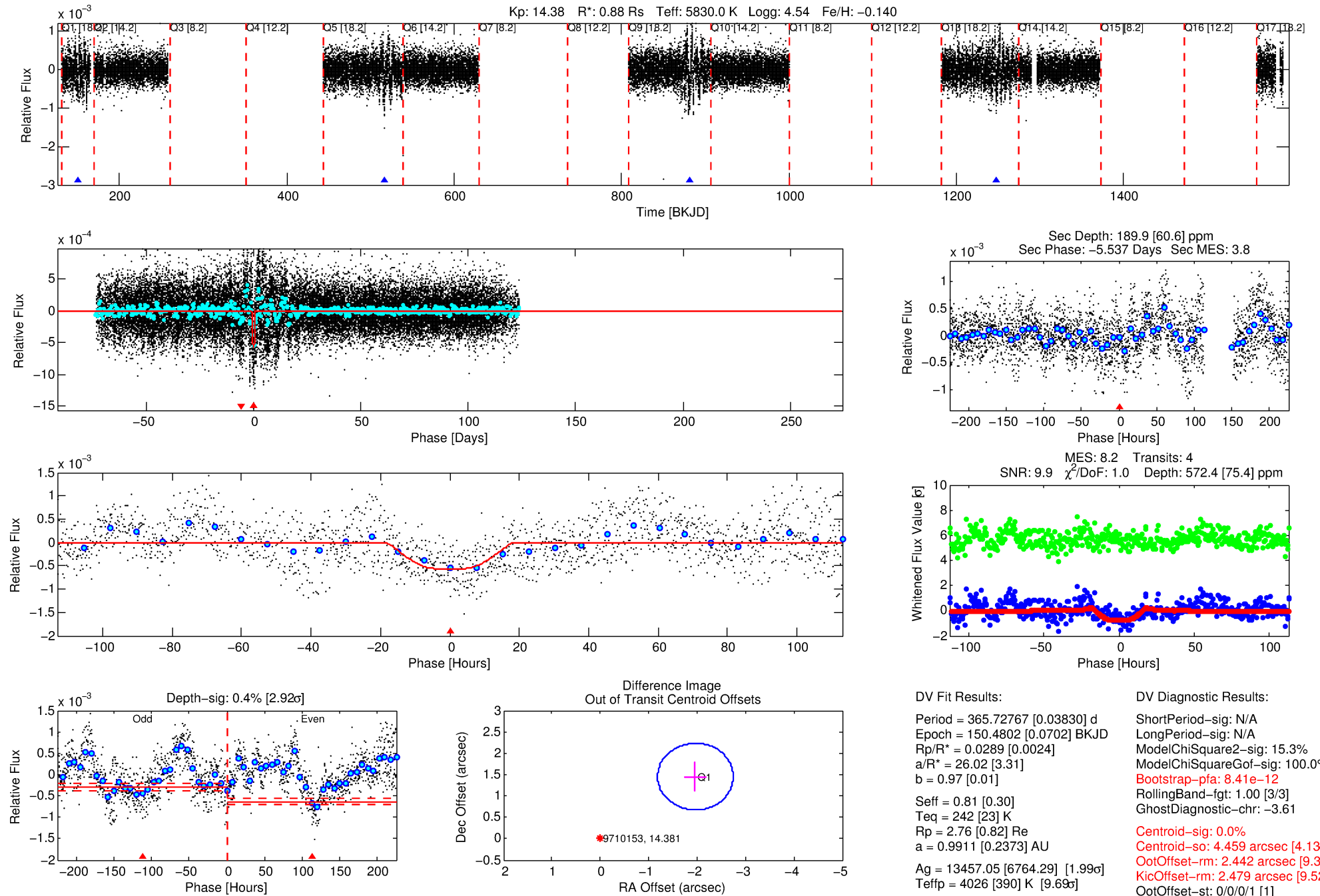
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009710153-01

No Significant Match Found

DV One-Page Summary

KIC: 9710153 Candidate: 1 of 1 Period: 365.728 d



DV Fit Results:

Period = 365.72767 [0.03830] d
Epoch = 150.4802 [0.0702] BKJD
Rp/R* = 0.0289 [0.0024]
a/R* = 26.02 [3.31]
b = 0.97 [0.01]
Seff = 0.81 [0.30]
Teq = 242 [23] K
Rp = 2.76 [0.82] Re
a = 0.9911 [0.2373] AU
Ag = 13457.05 [6764.29] [1.99 σ]
Teffp = 4026 [390] K [9.69 σ]

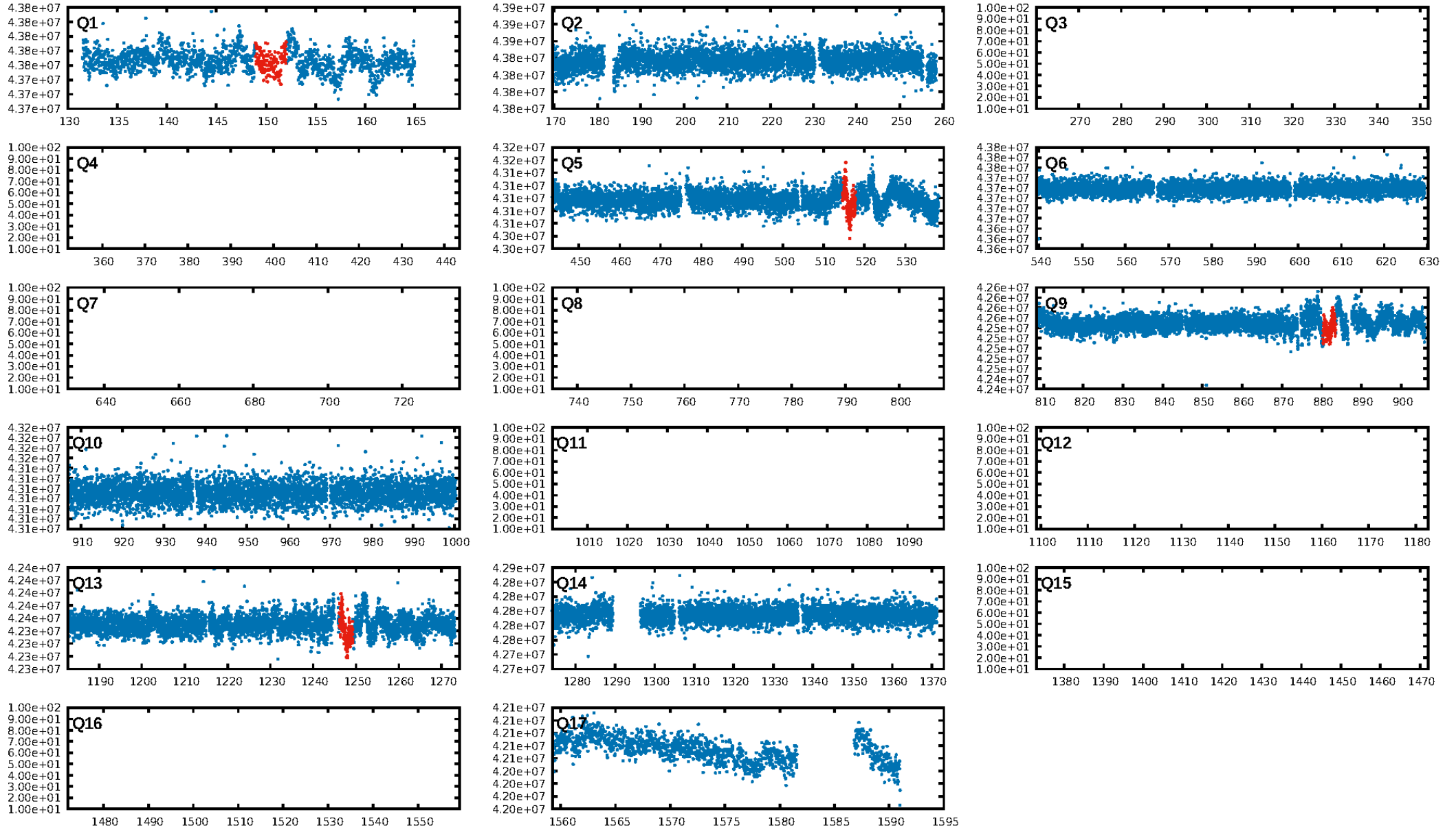
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.41e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.61
Centroid-sig: 0.0%
Centroid-so: 4.459 arcsec [4.13 σ]
OotOffset-rm: 2.442 arcsec [9.39 σ]
KicOffset-rm: 2.479 arcsec [9.52 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

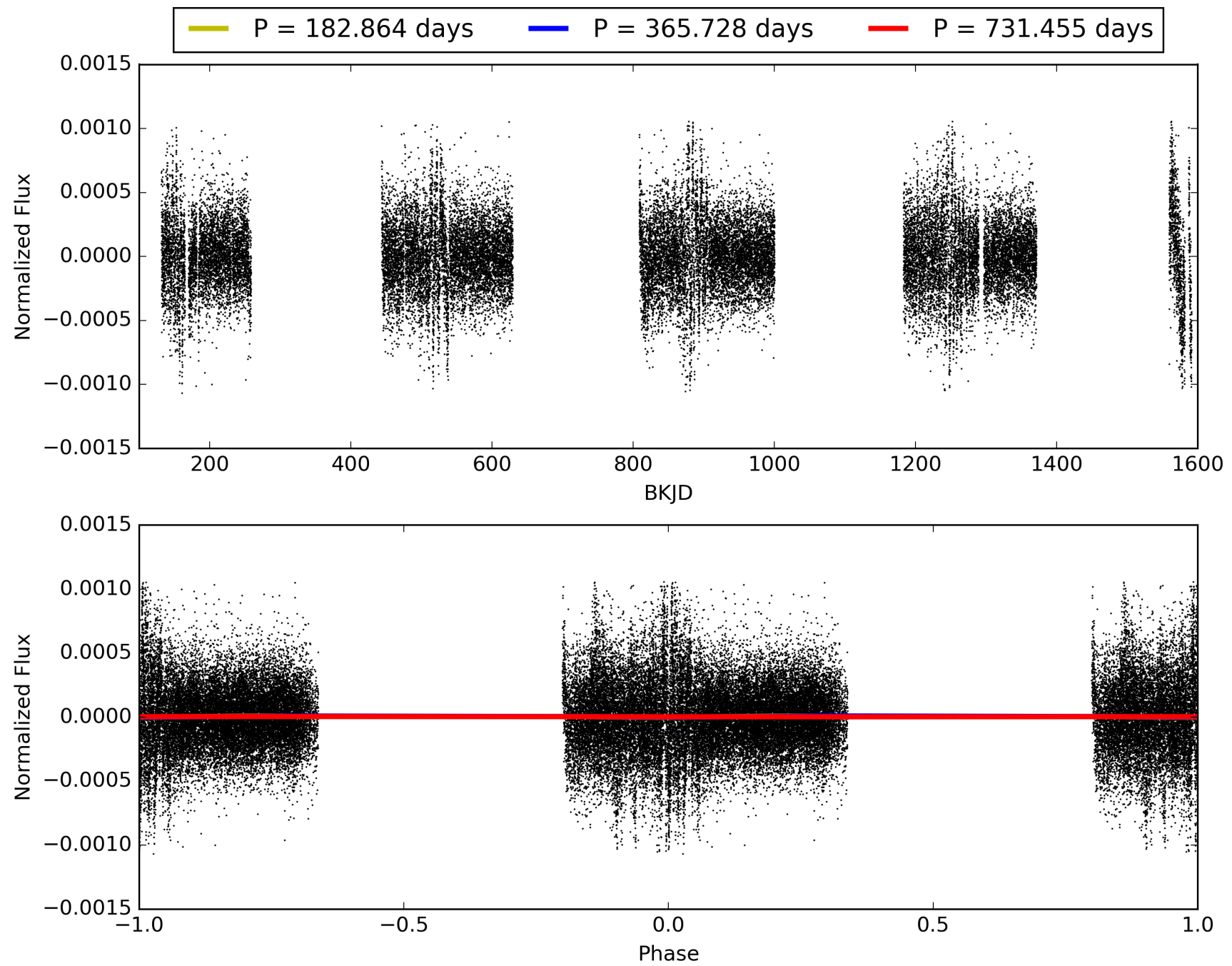
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:14:15 Z

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

TCE 009710153-01, PDC Light Curves

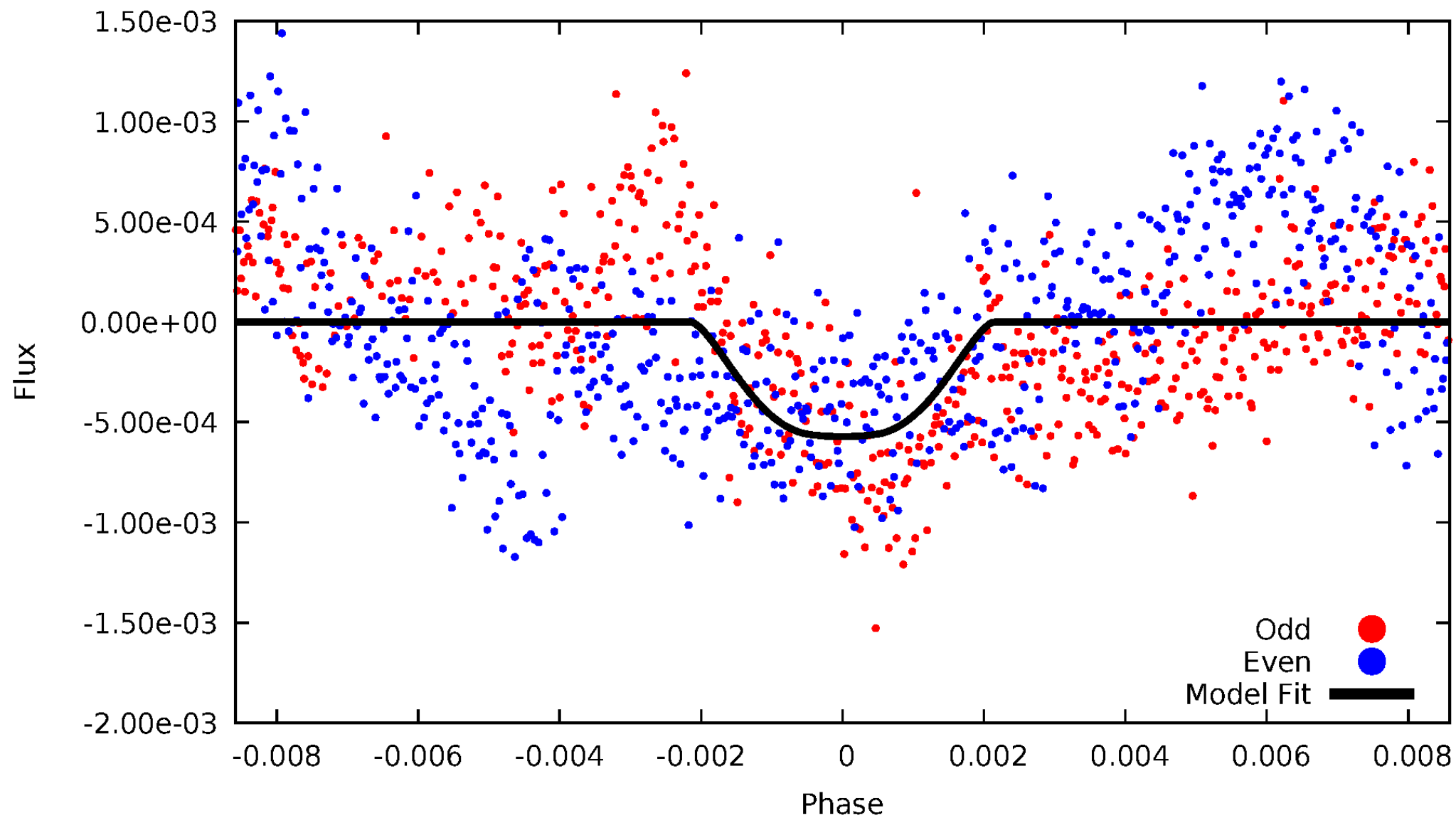


TCE 009710153-01



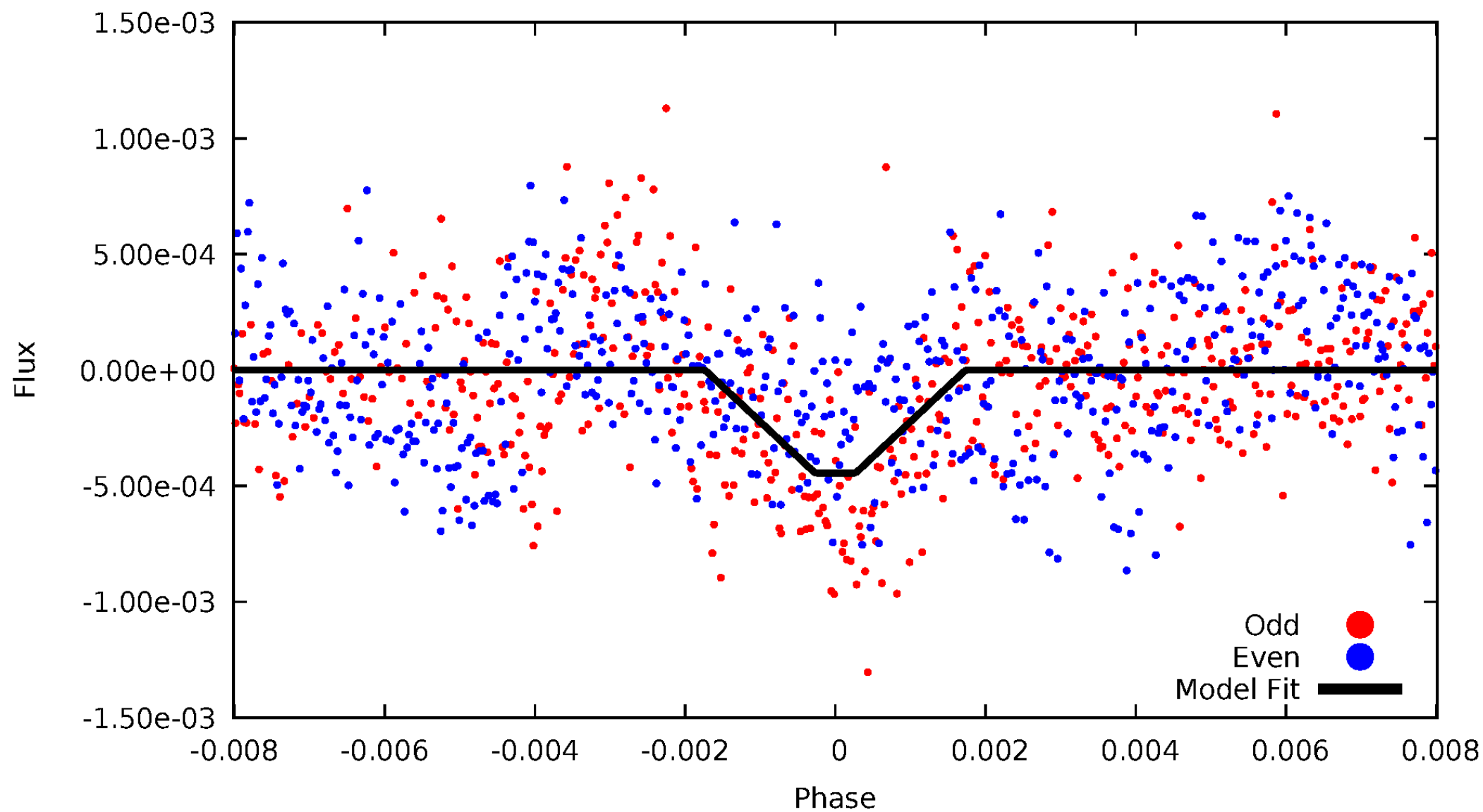
DV Odd/Even

TCE 009710153-01

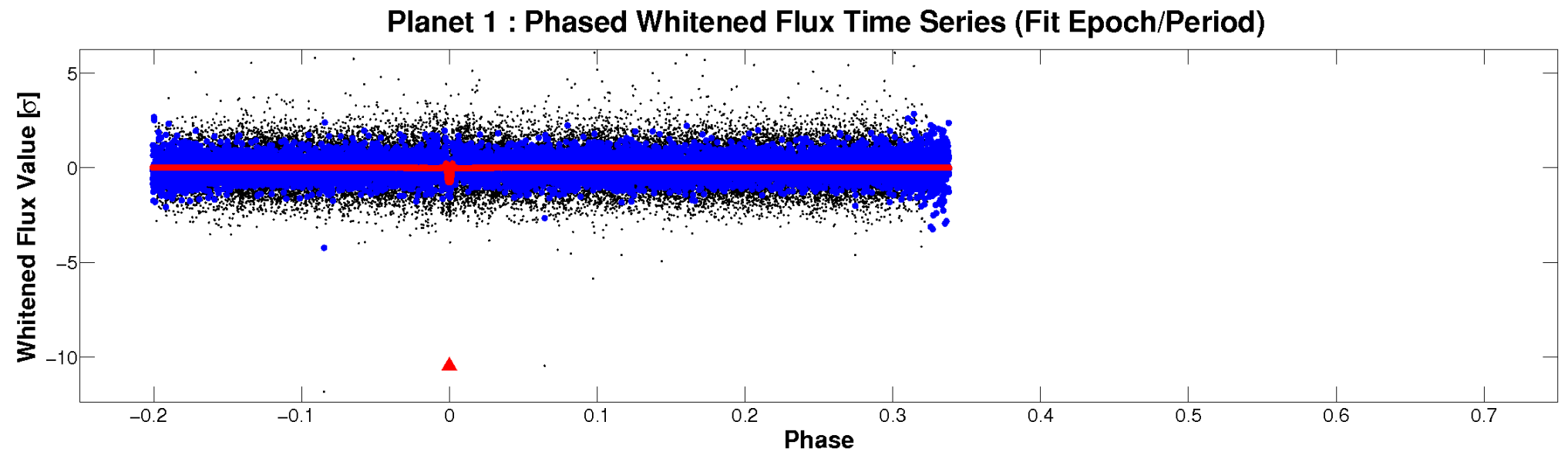
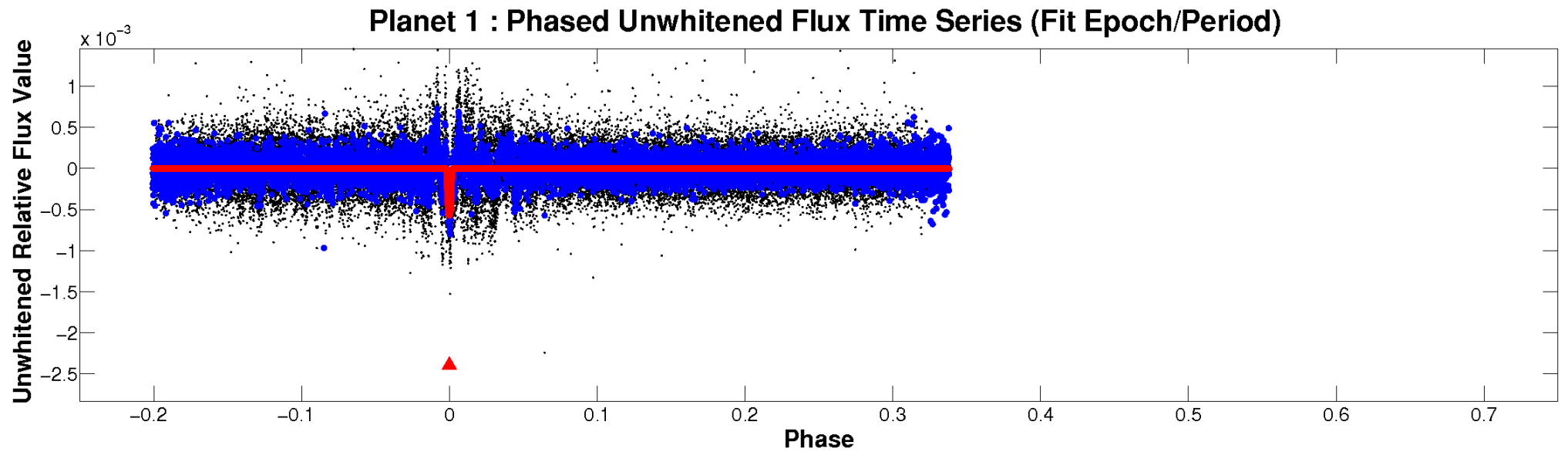


ALT Odd/Even

TCE 009710153-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009710153-01 P=365.727671 Days $T_0=150.480220$ (BKJD)



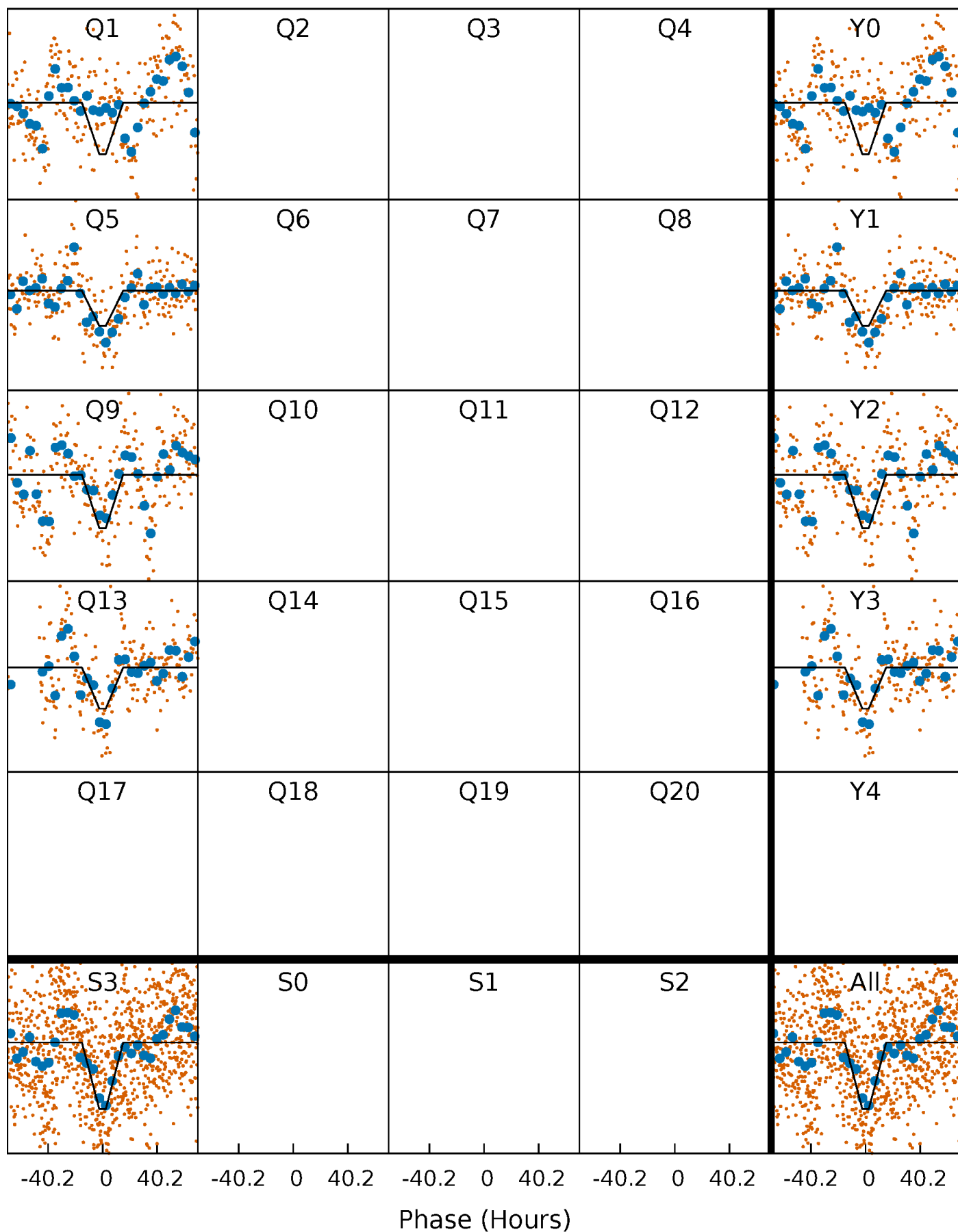
DV Quarter-Phased Transit Curves

TCE 009710153-01 P=365.727671 Days $T_0=150.480220$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

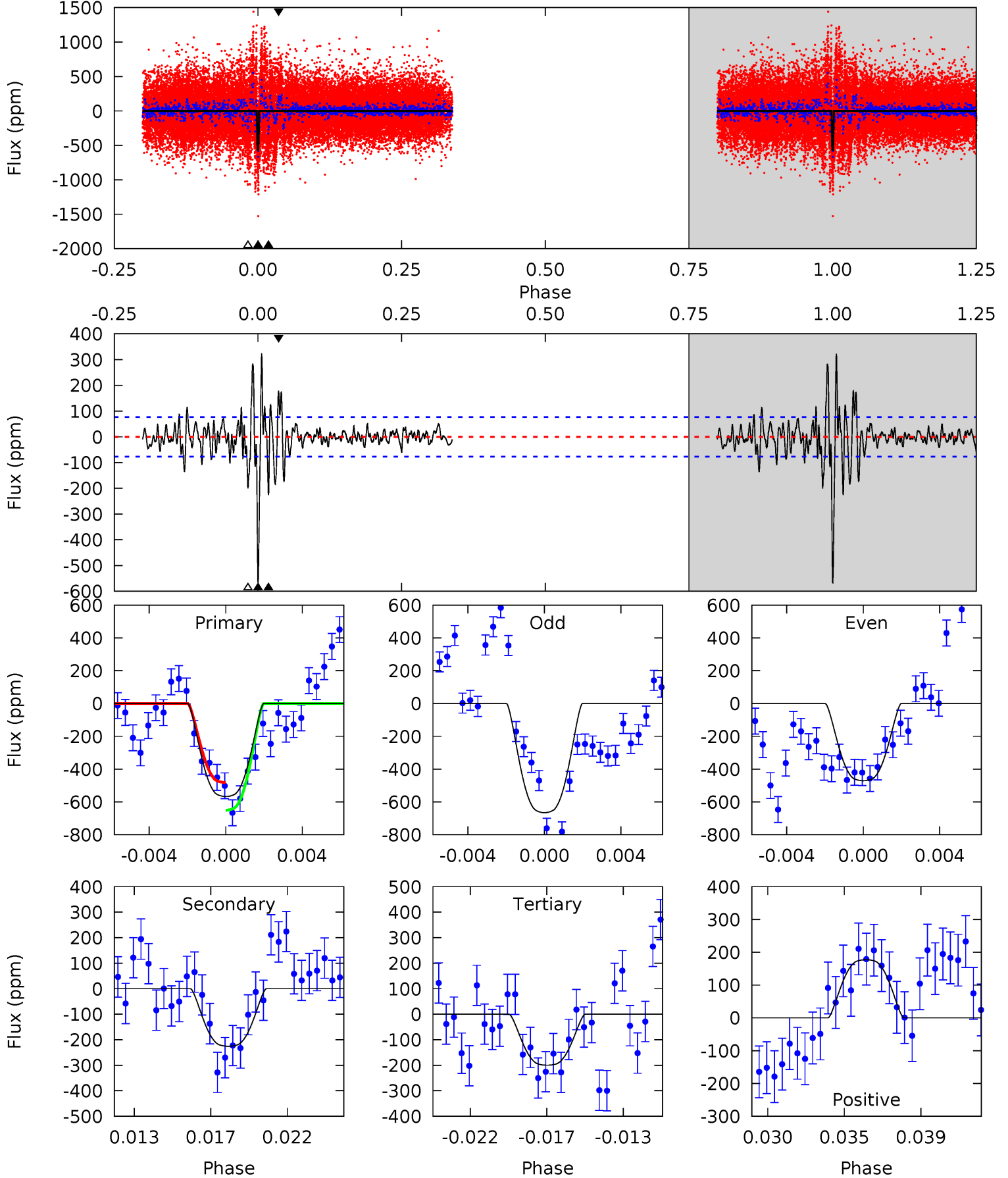
TCE 009710153-01 P=365.787969 Days $T_0=150.434158$ (BKJD)



DV Model-Shift Uniqueness Test

009710153-01, P = 365.727671 Days, E = 150.480220 Days

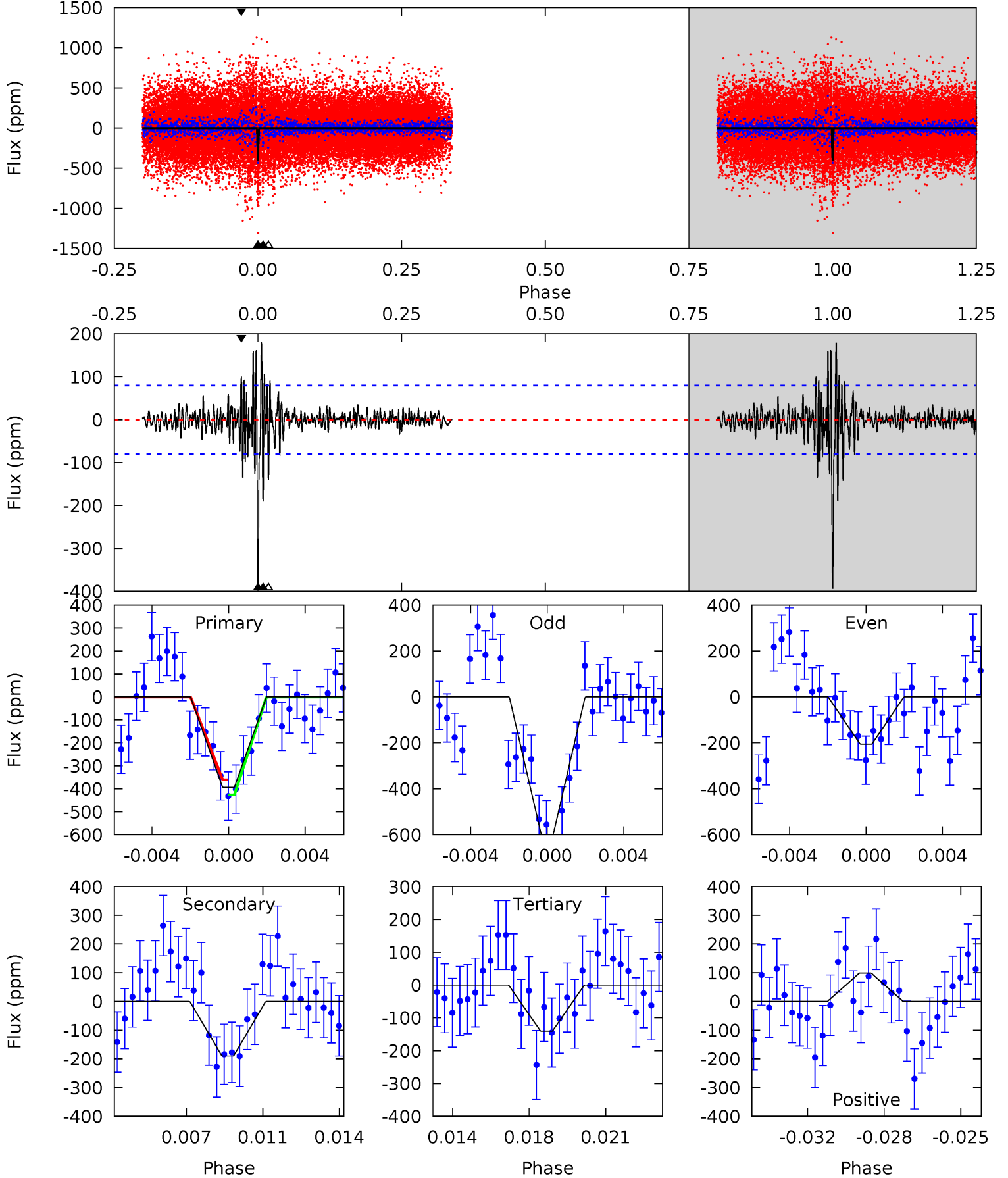
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.2	15.2	13.5	11.9	5.18	2.85	3.72	24.7	26.2	1.73	3.25	6.57	0.97	0.36	5.59



Alt Model-Shift Uniqueness Test

009710153-01, P = 365.787969 Days, E = 150.434158 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	12.4	9.22	6.49	5.22	2.92	1.68	16.6	19.4	3.22	5.95	13.0	0.94	0.31	2.13



Stellar Parameters For KIC 009710153

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5830^{+164}_{-205}	$4.540^{+0.048}_{-0.192}$	$-0.140^{+0.300}_{-0.300}$	$0.876^{+0.248}_{-0.083}$	$0.970^{+0.111}_{-0.122}$	$2.036^{+0.394}_{-0.981}$
	+3%/-4%	+1%/-4%	+214%/-214%	+28%/-9%	+11%/-13%	+19%/-48%
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 009710153-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-225 ± 15	$2.82^{+0.43}_{-0.31}$	343^{+21}_{-16}	4405^{+202}_{-184}	14873^{+3962}_{-3335}
Alt.	-190 ± 15	$2.11^{+0.36}_{-0.30}$	344^{+23}_{-16}	4800^{+305}_{-251}	22562^{+8065}_{-5844}

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

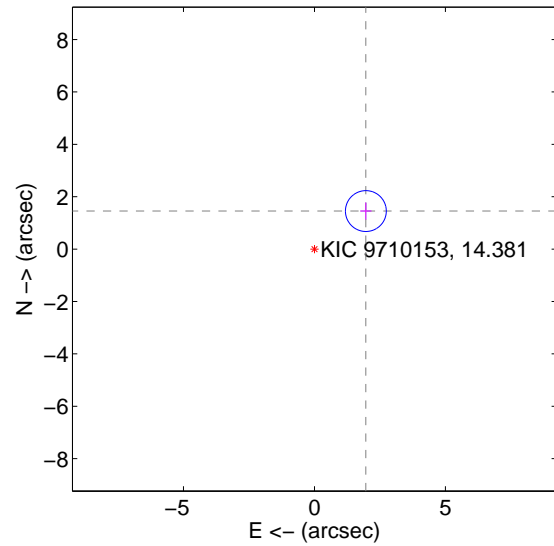
Supplemental centroid analysis for 009710153-01. Kepler magnitude: 14.38. Transit SNR 9.94

There are 1 quarters with good PRF difference image offsets

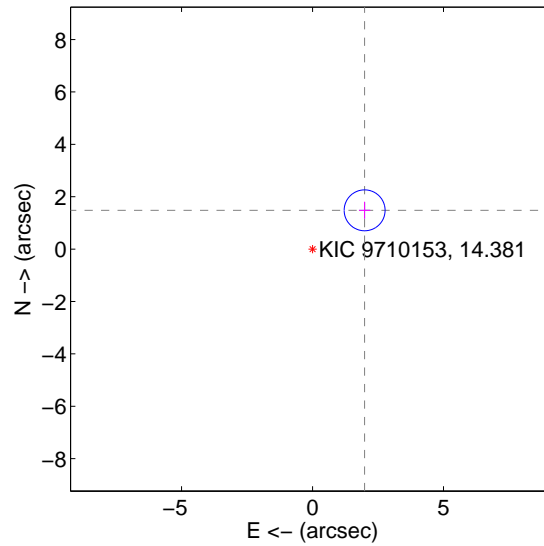
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.442 ± 0.260	9.39	-1.963 ± 0.216	1.452 ± 0.326
PRF-fit source offset from KIC position	2.479 ± 0.260	9.52	-1.989 ± 0.216	1.480 ± 0.326
photometric centroid source offset	4.46 ± 1.08	4.13	-3.08 ± 1.10	3.22 ± 1.06

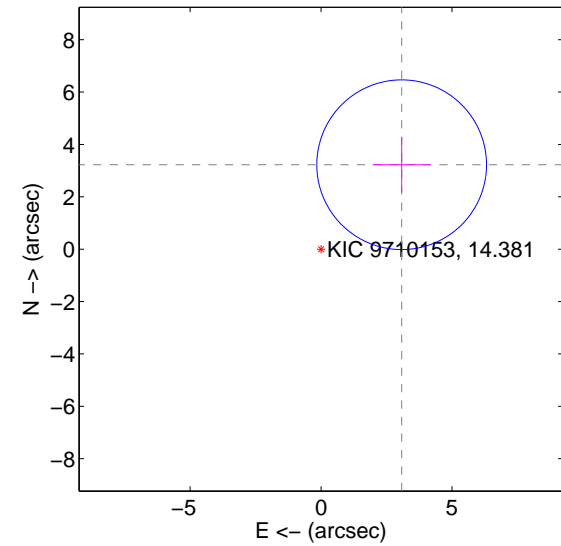
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

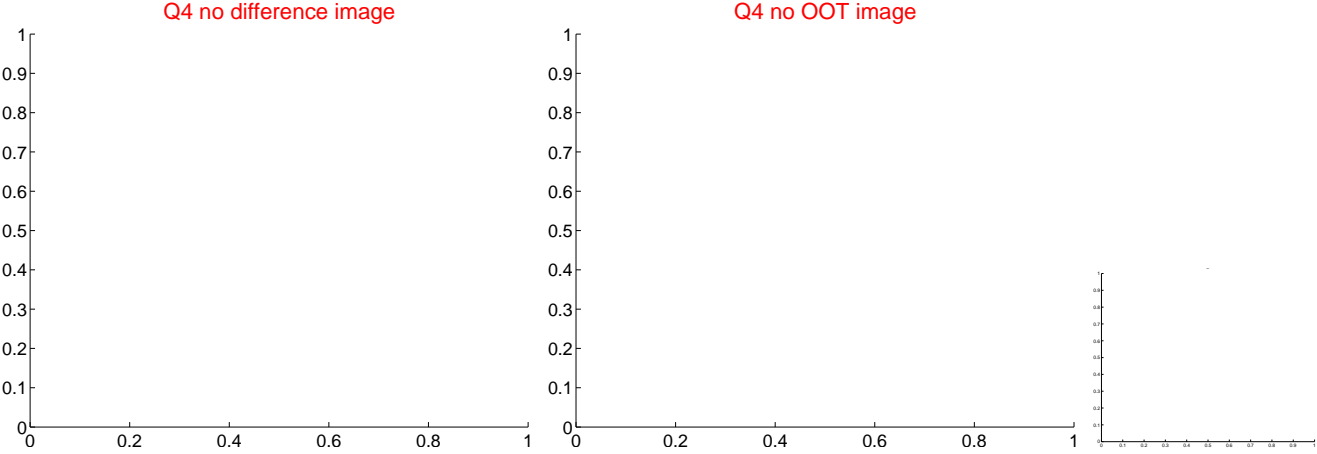
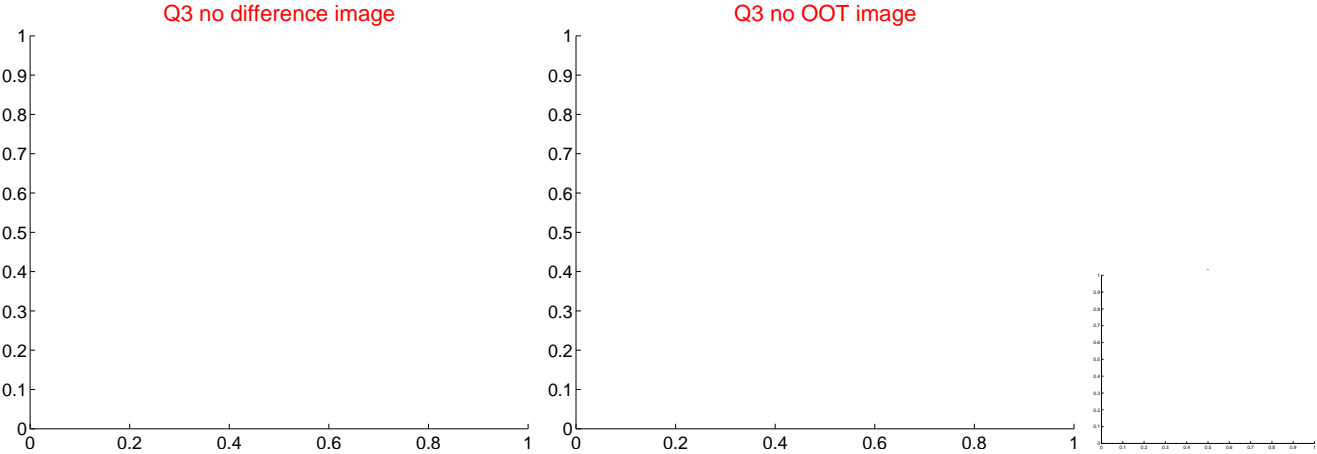
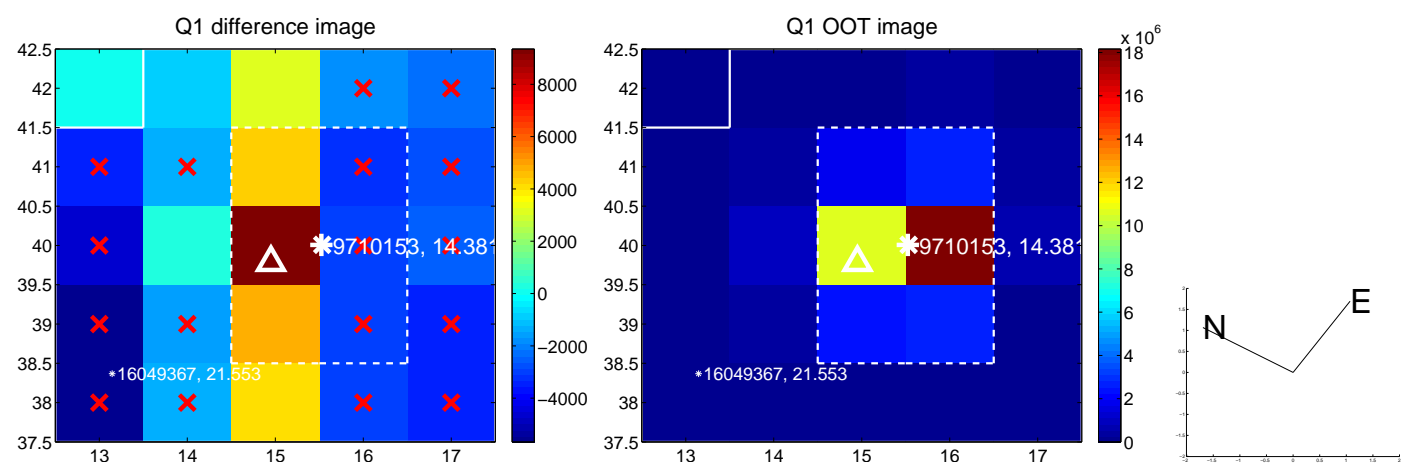


offset from photometric centroids

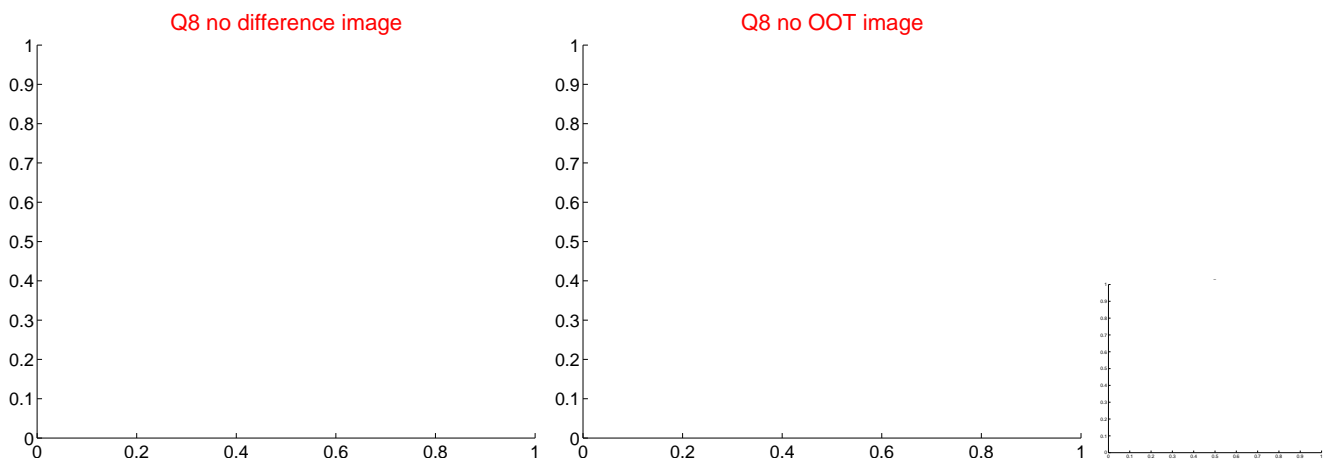
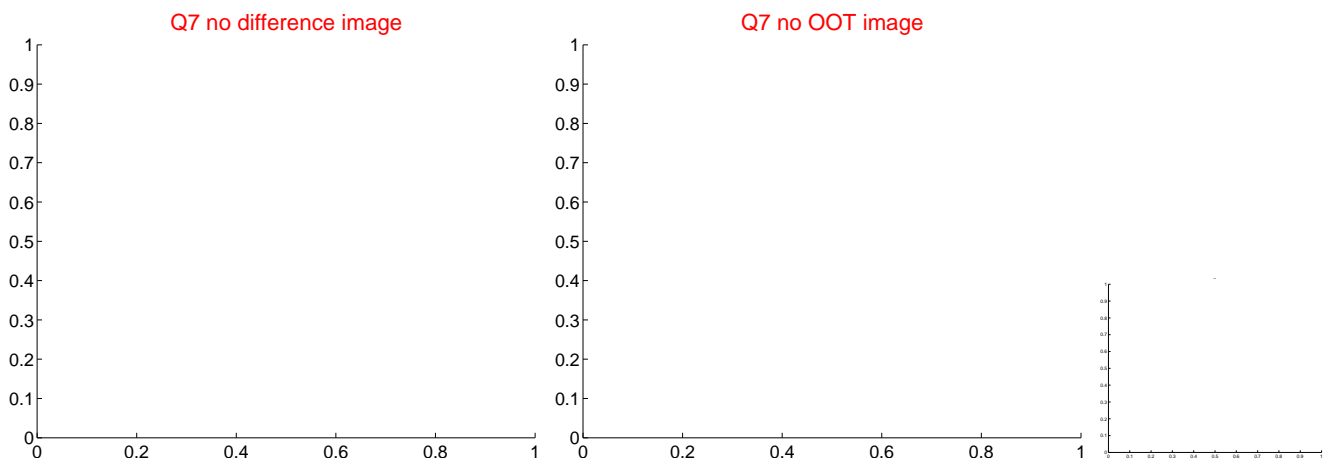
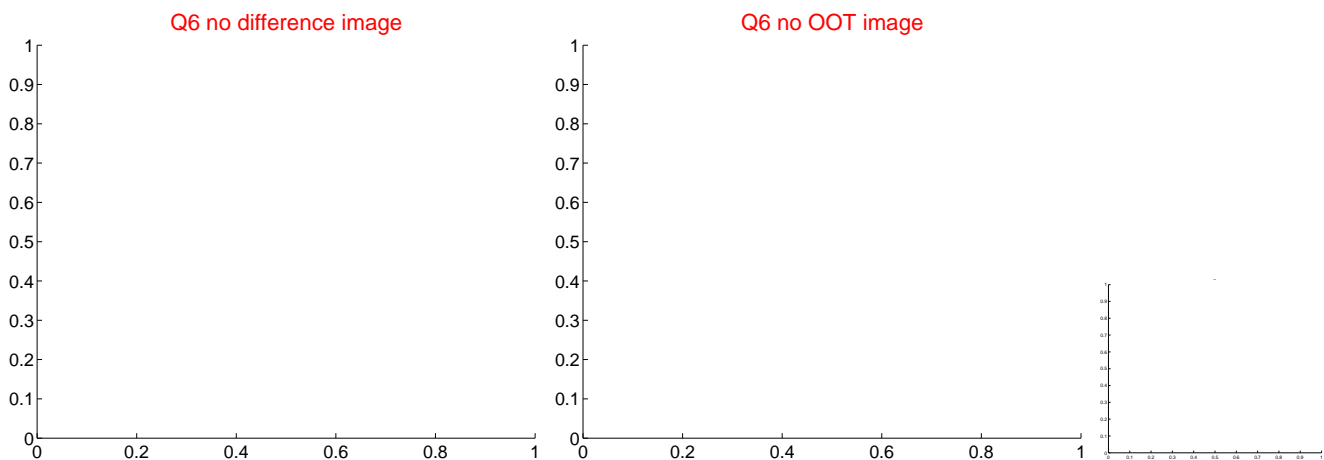
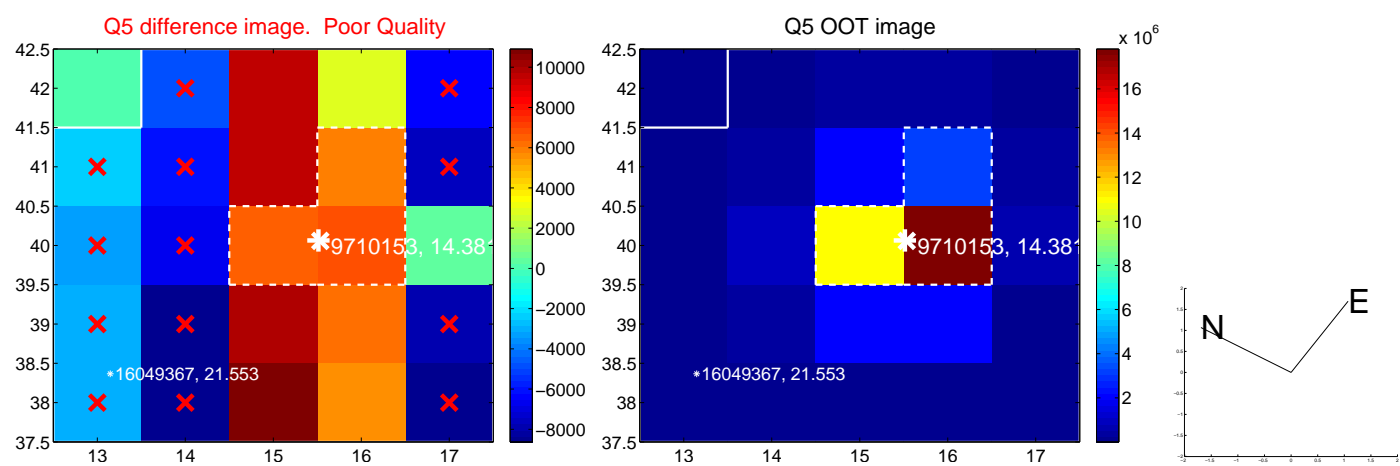


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

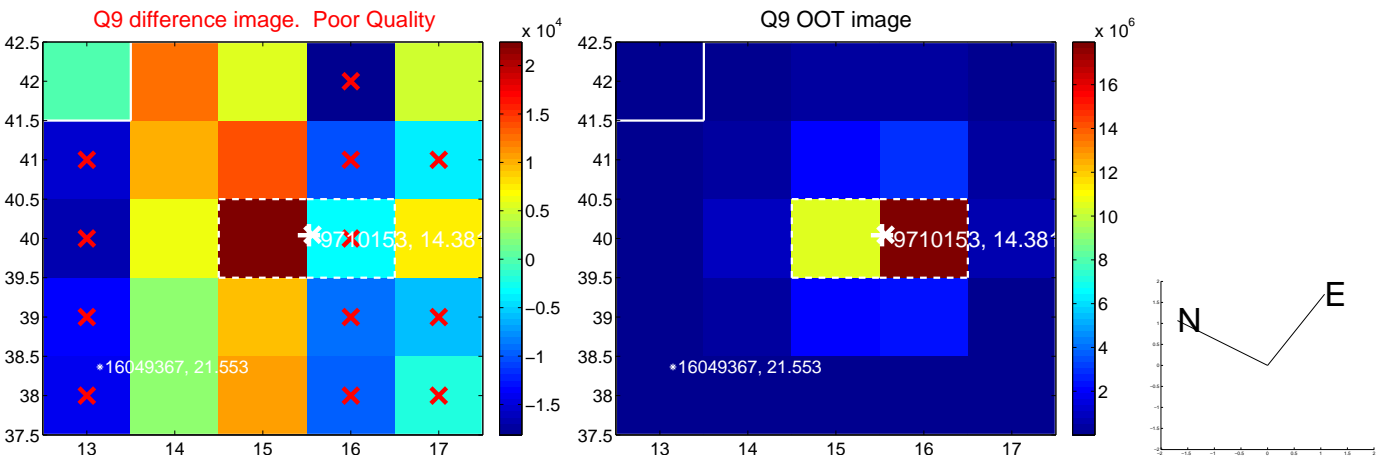
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



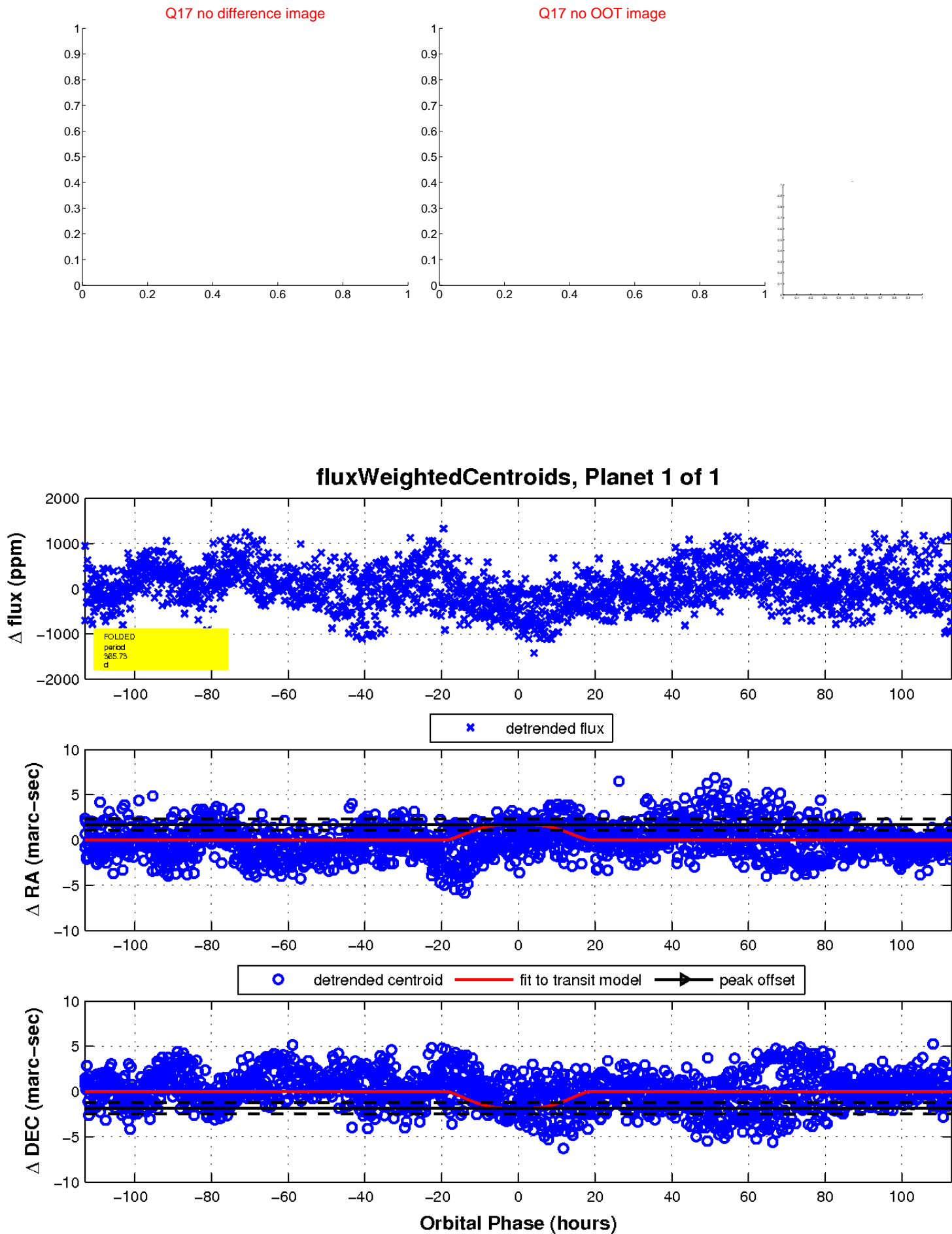
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UKIRT Image

Declination

