

KIC 010909733

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})
010909733-01	OBS	No	281.480164	352.106379	119.5	8.164	7.3	5.9	2.18	8529	2.71	19.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010909733-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—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.

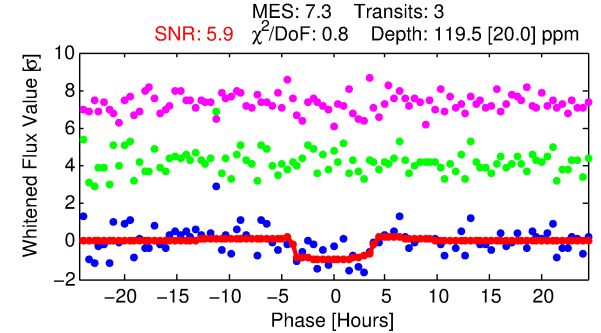
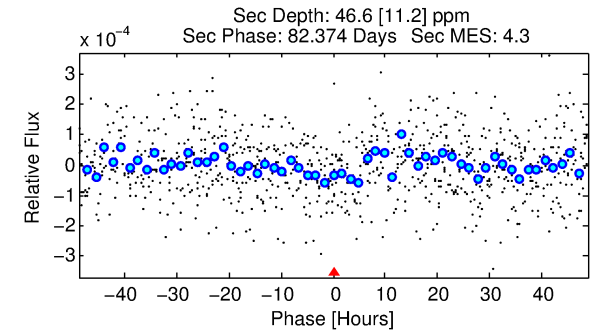
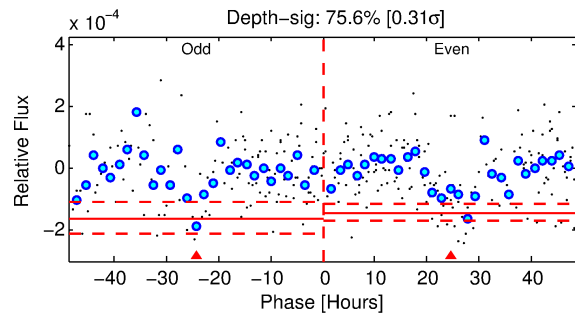
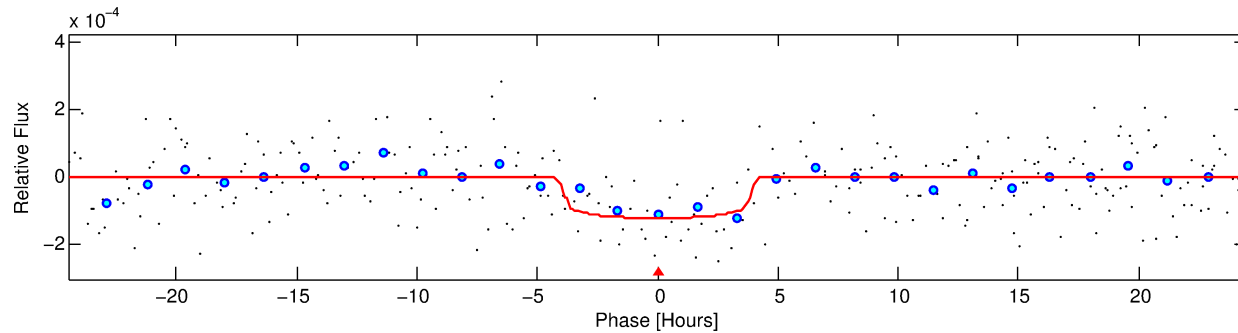
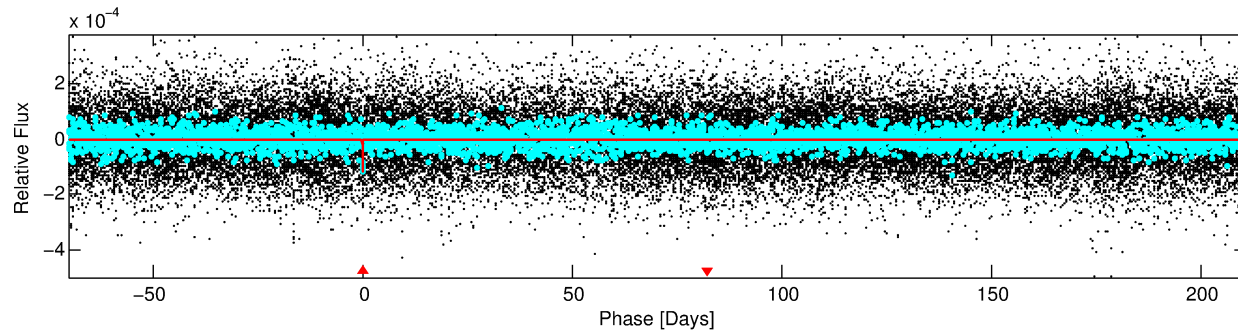
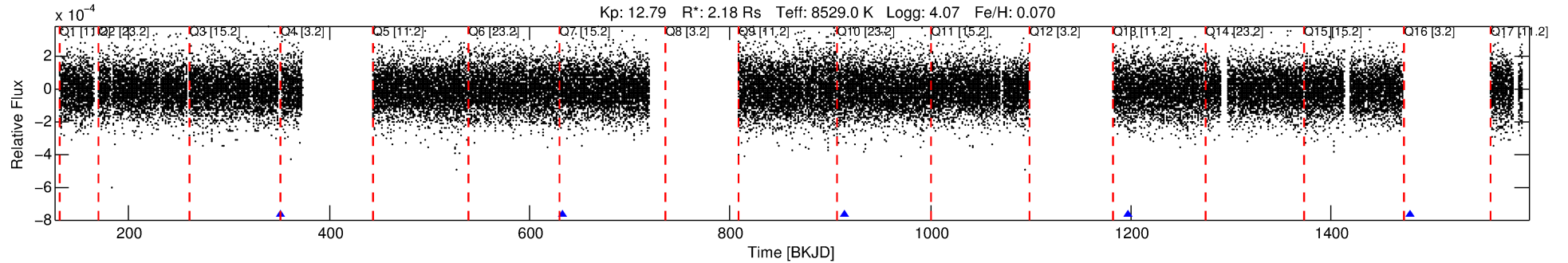
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010909733-01

No Significant Match Found

DV One-Page Summary

KIC: 10909733 Candidate: 1 of 1 Period: 281.480 d



DV Fit Results:

Period = 281.48016 [0.01435] d
Epoch = 352.1064 [0.0356] BKJD
Rp/R* = 0.0114 [0.0057]
a/R* = 138.66 [442.75]
b = 0.86 [0.95]
Seff = 19.98 [7.06]
Teq = 539 [48] K
Rp = 2.70 [1.49] Re
a = 1.0634 [0.2155] AU
Ag = 3966.21 [4240.43] [0.94 σ]
Teffp = 6615 [1726] K [3.52 σ]

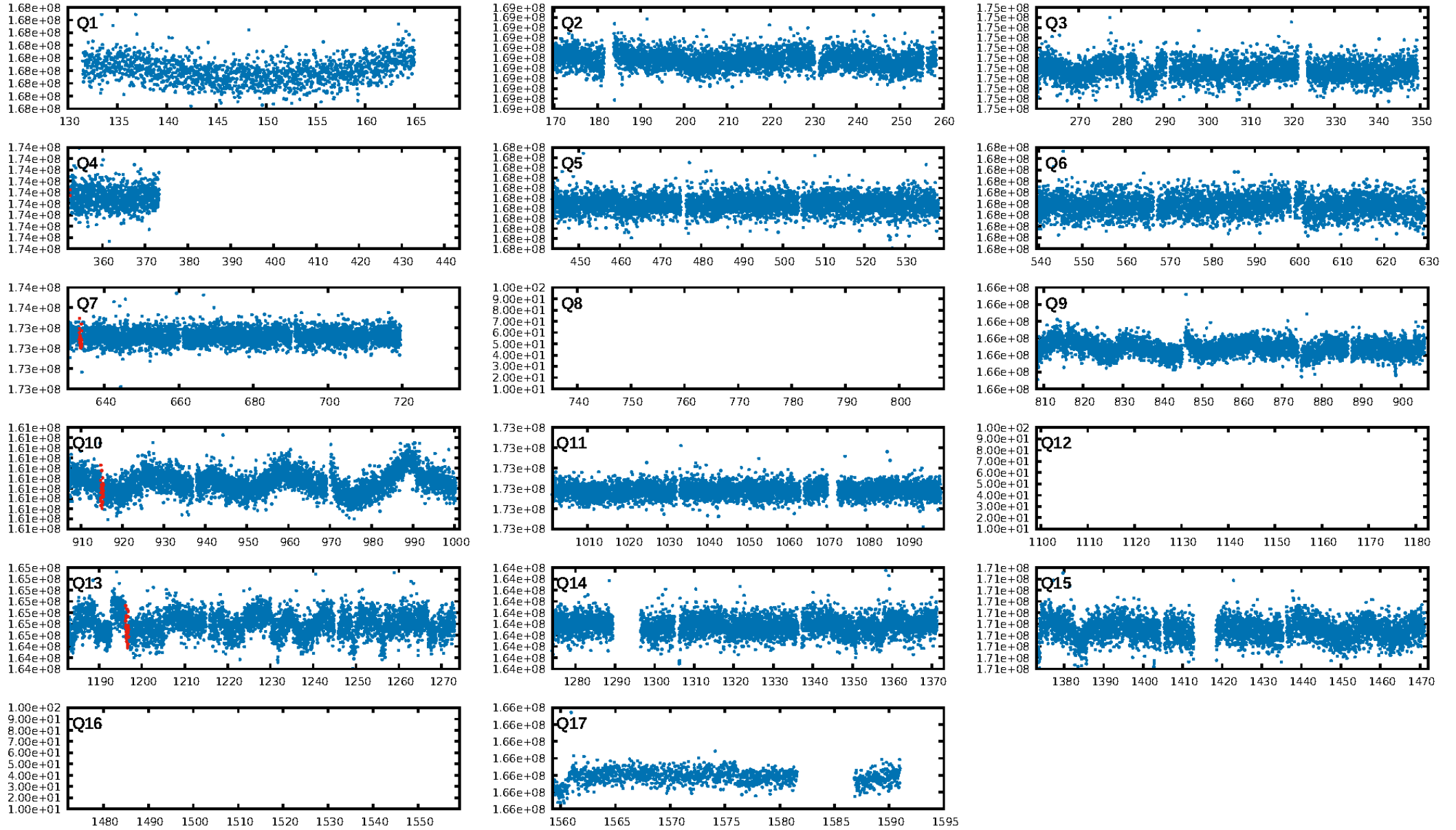
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.80e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.862
Centroid-sig: 68.6%
Centroid-so: 1.650 arcsec [0.81 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

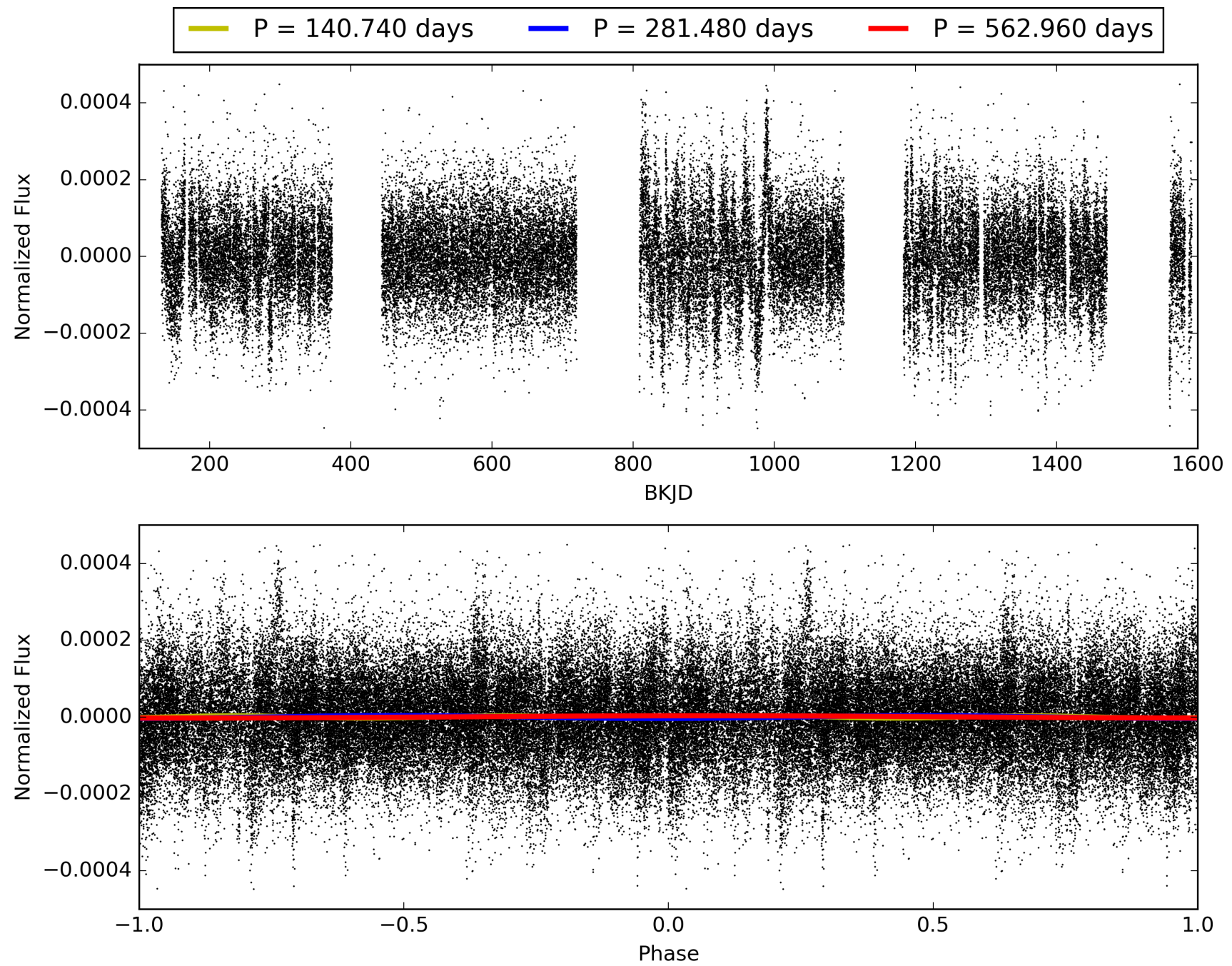
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:11:22 Z

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

TCE 010909733-01, PDC Light Curves

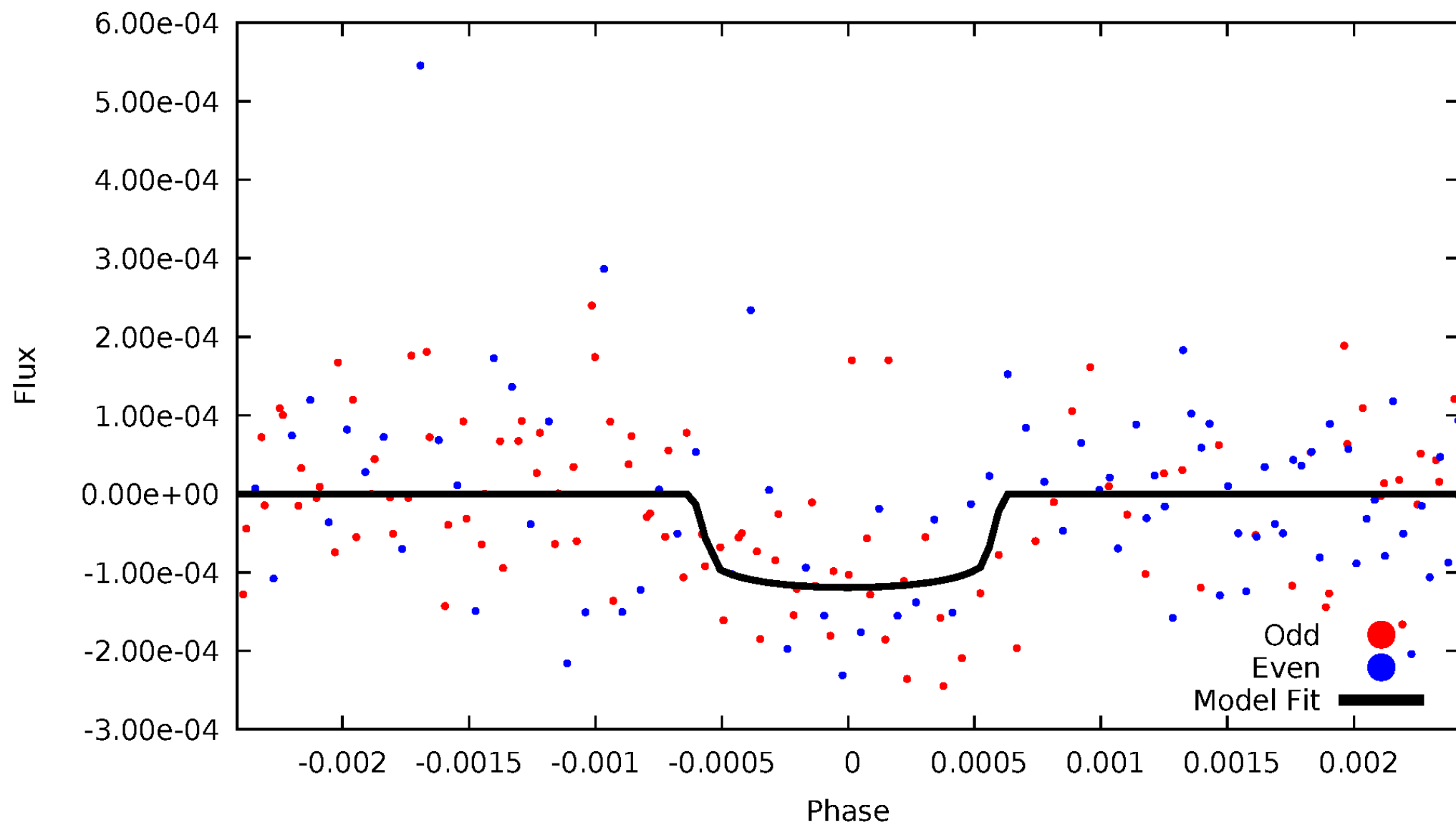


TCE 010909733-01



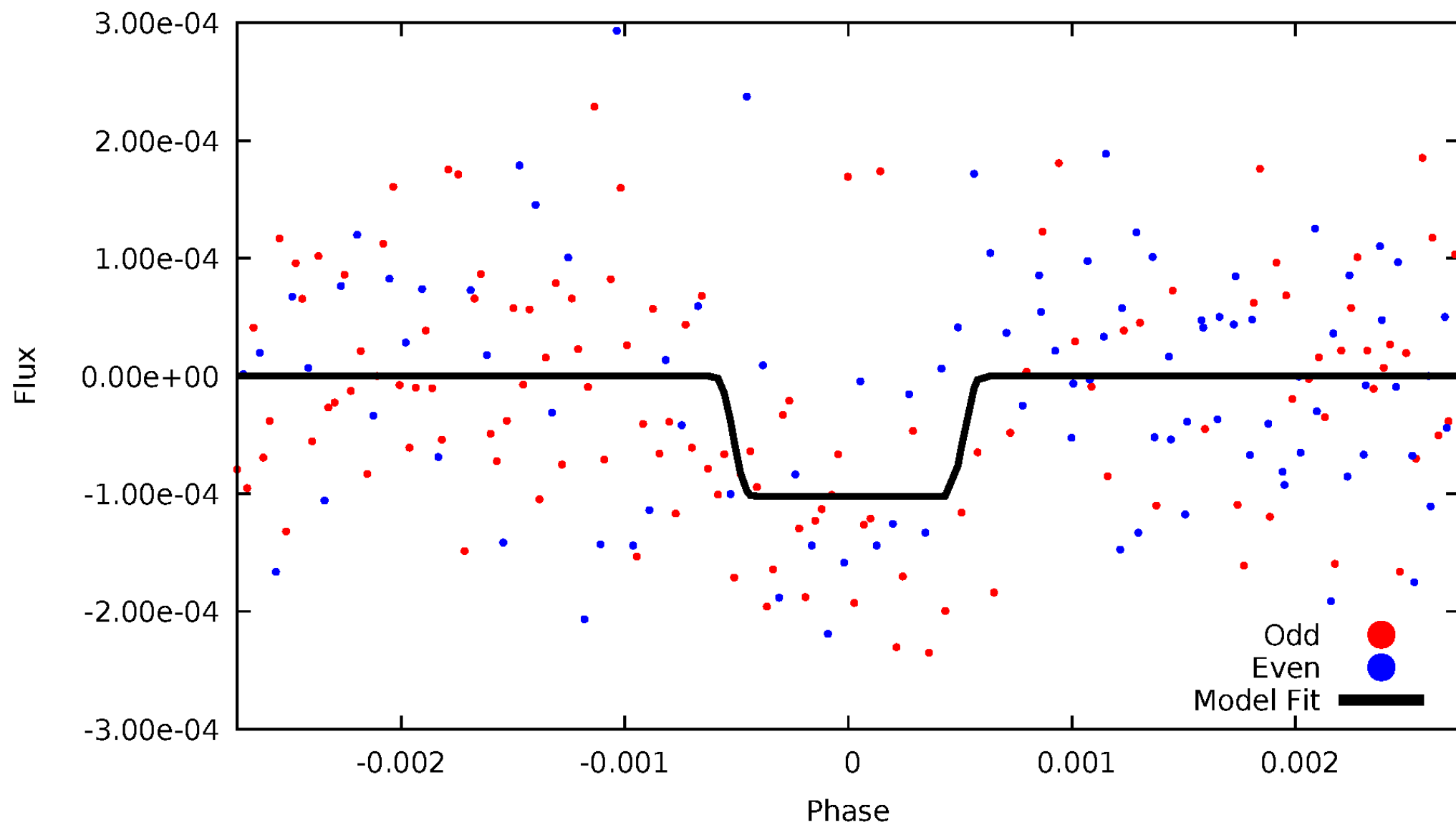
DV Odd/Even

TCE 010909733-01



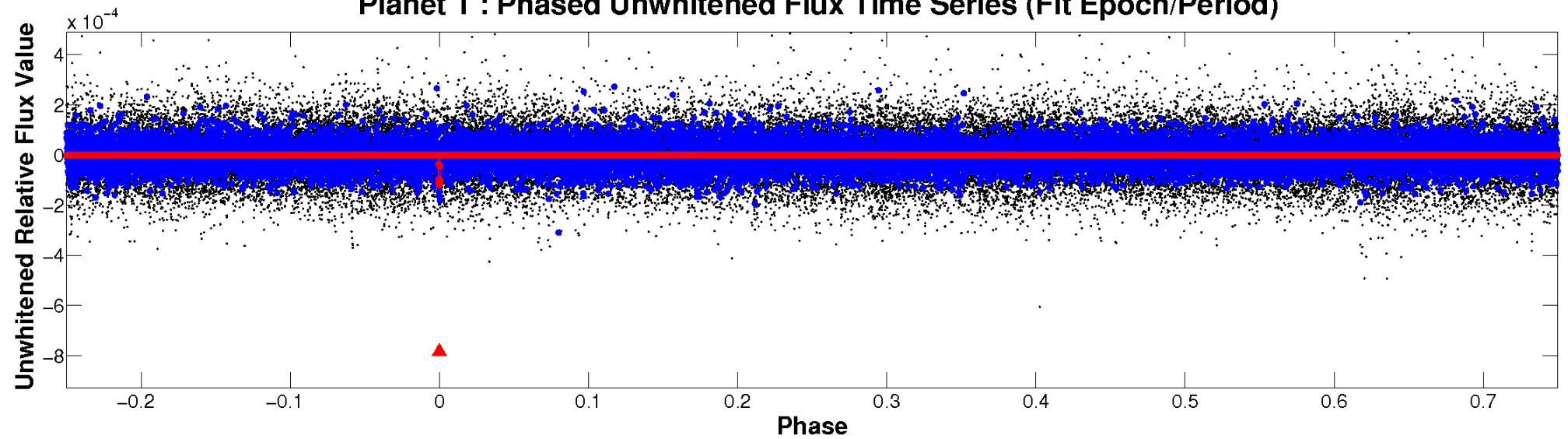
ALT Odd/Even

TCE 010909733-01

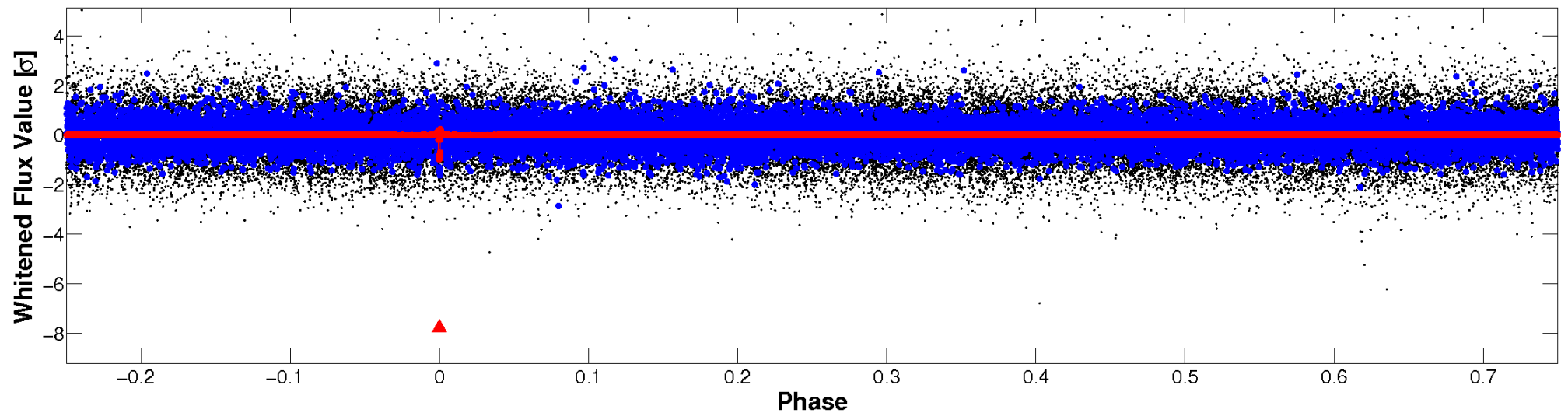


Non-Whitened Vs. Whitened Light Curve

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

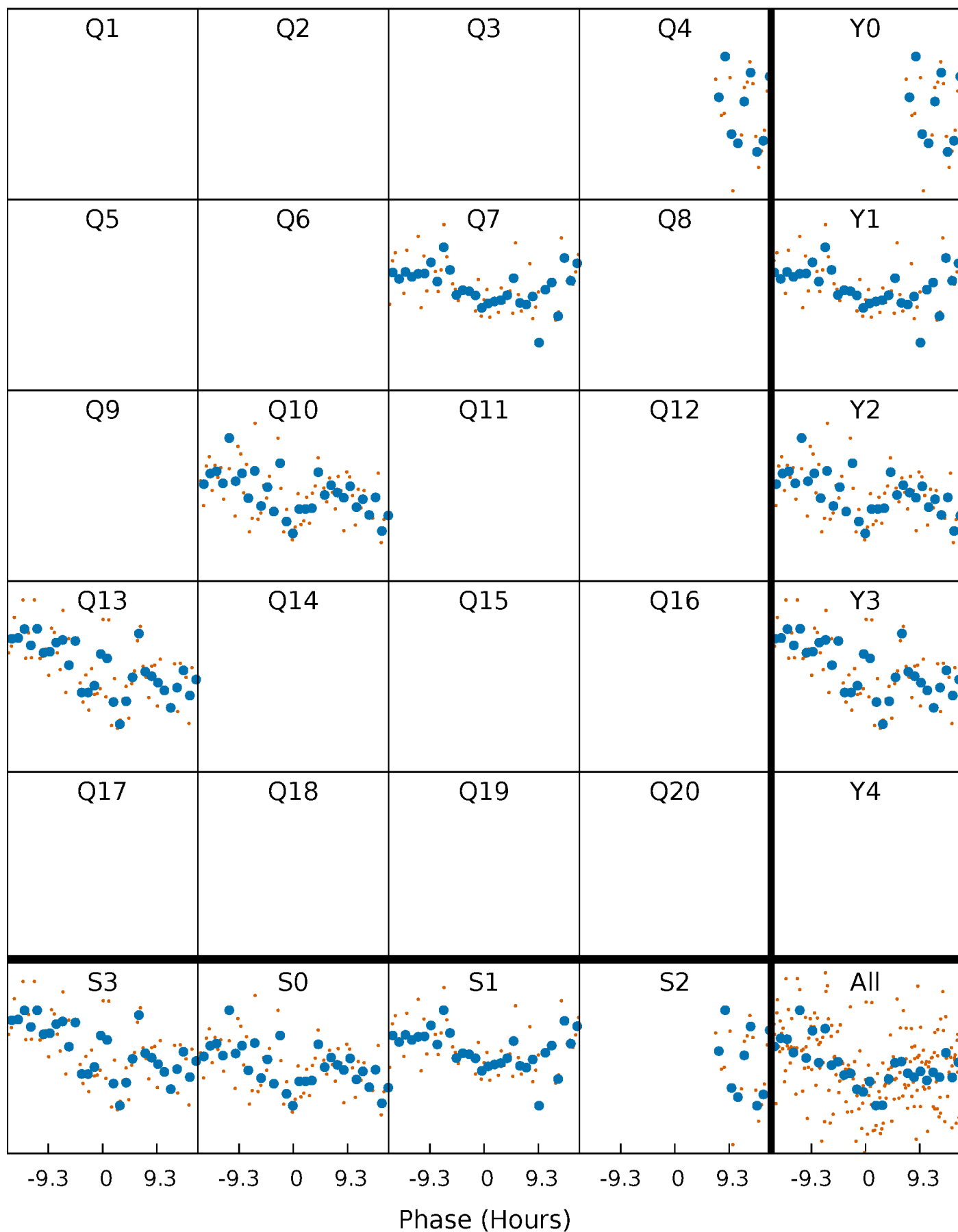


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



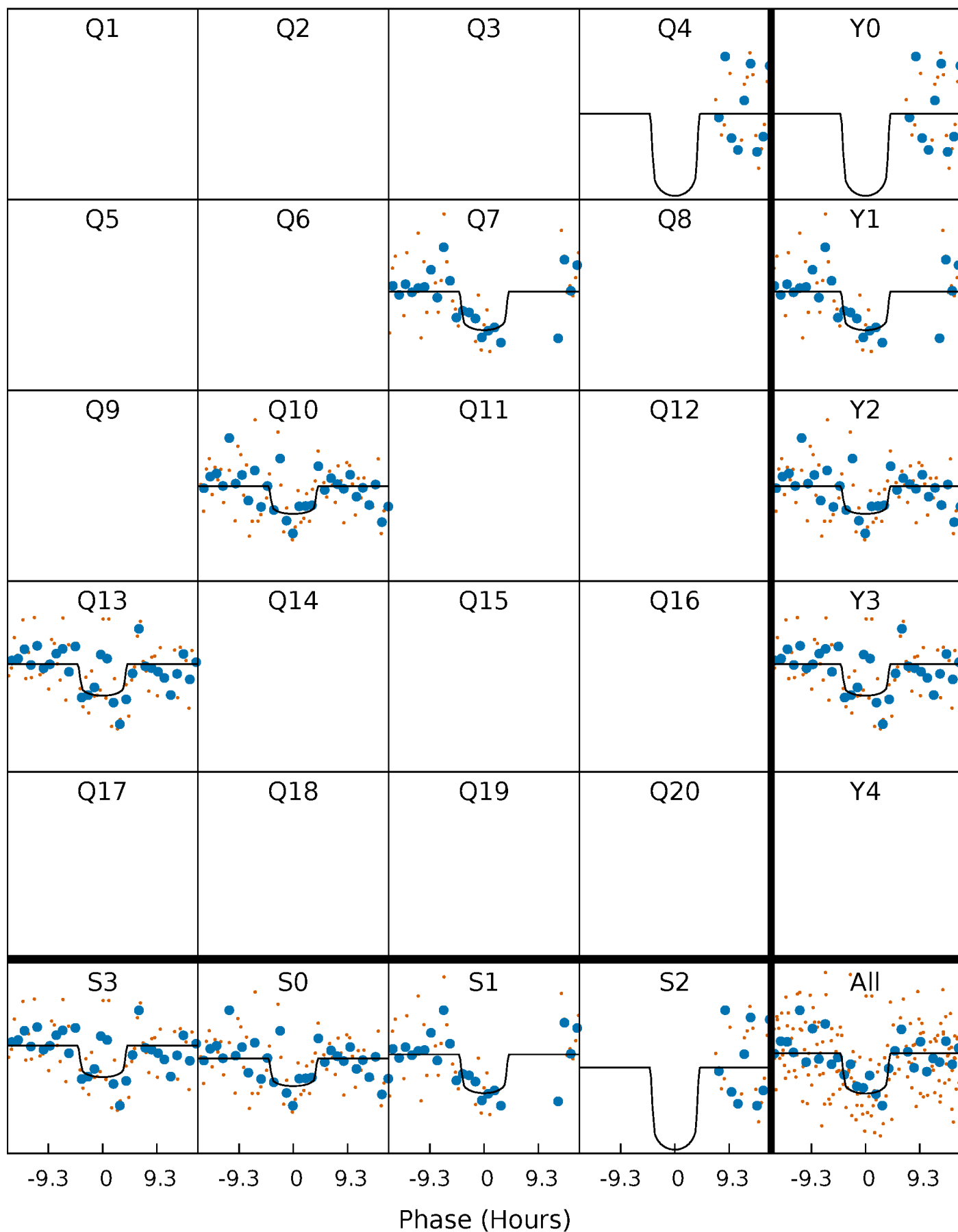
PDC Quarter-Phased Transit Curves

TCE 010909733-01 P=281.480165 Days $T_0=352.106379$ (BKJD)



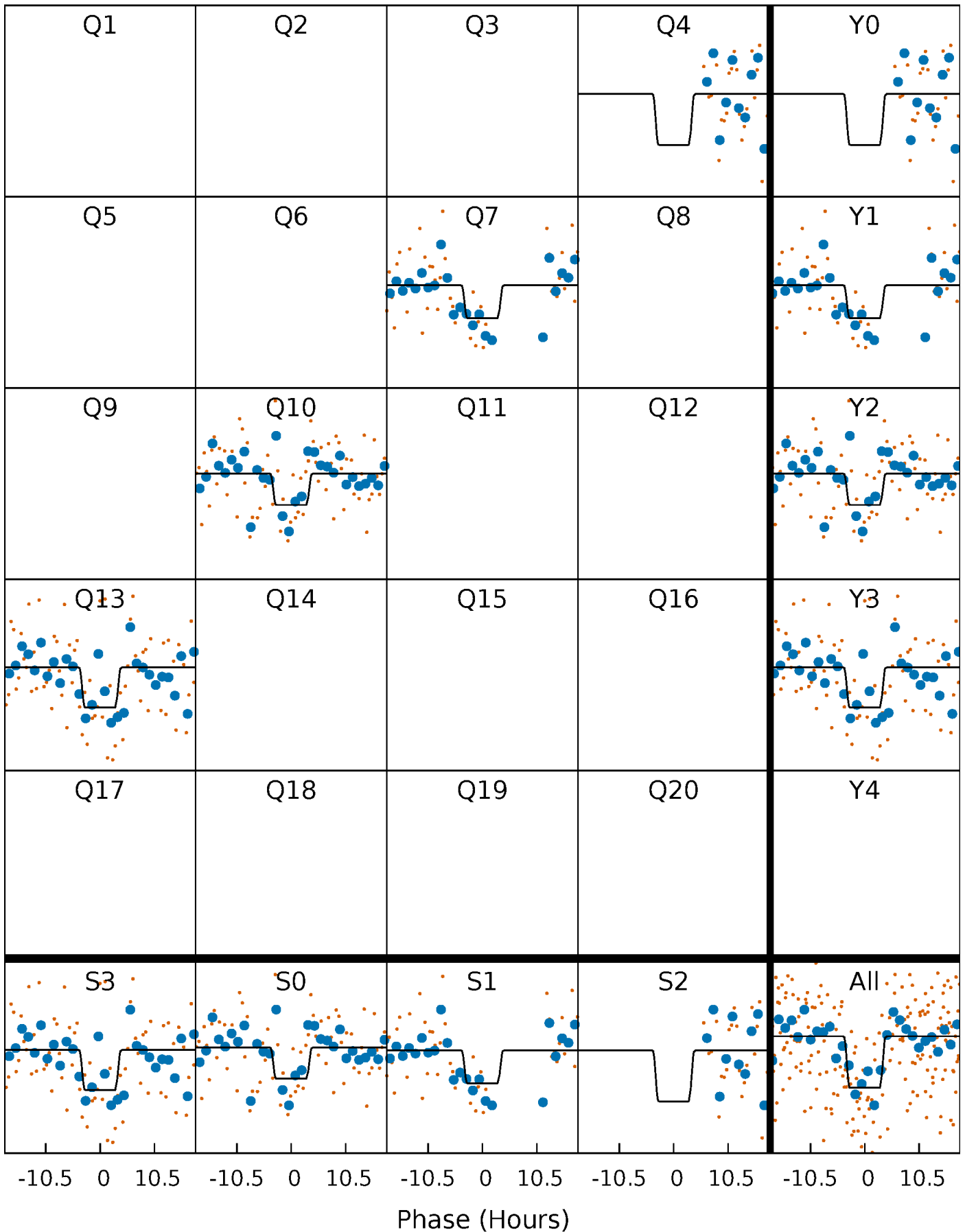
DV Quarter-Phased Transit Curves

TCE 010909733-01 P=281.480165 Days $T_0=352.106379$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

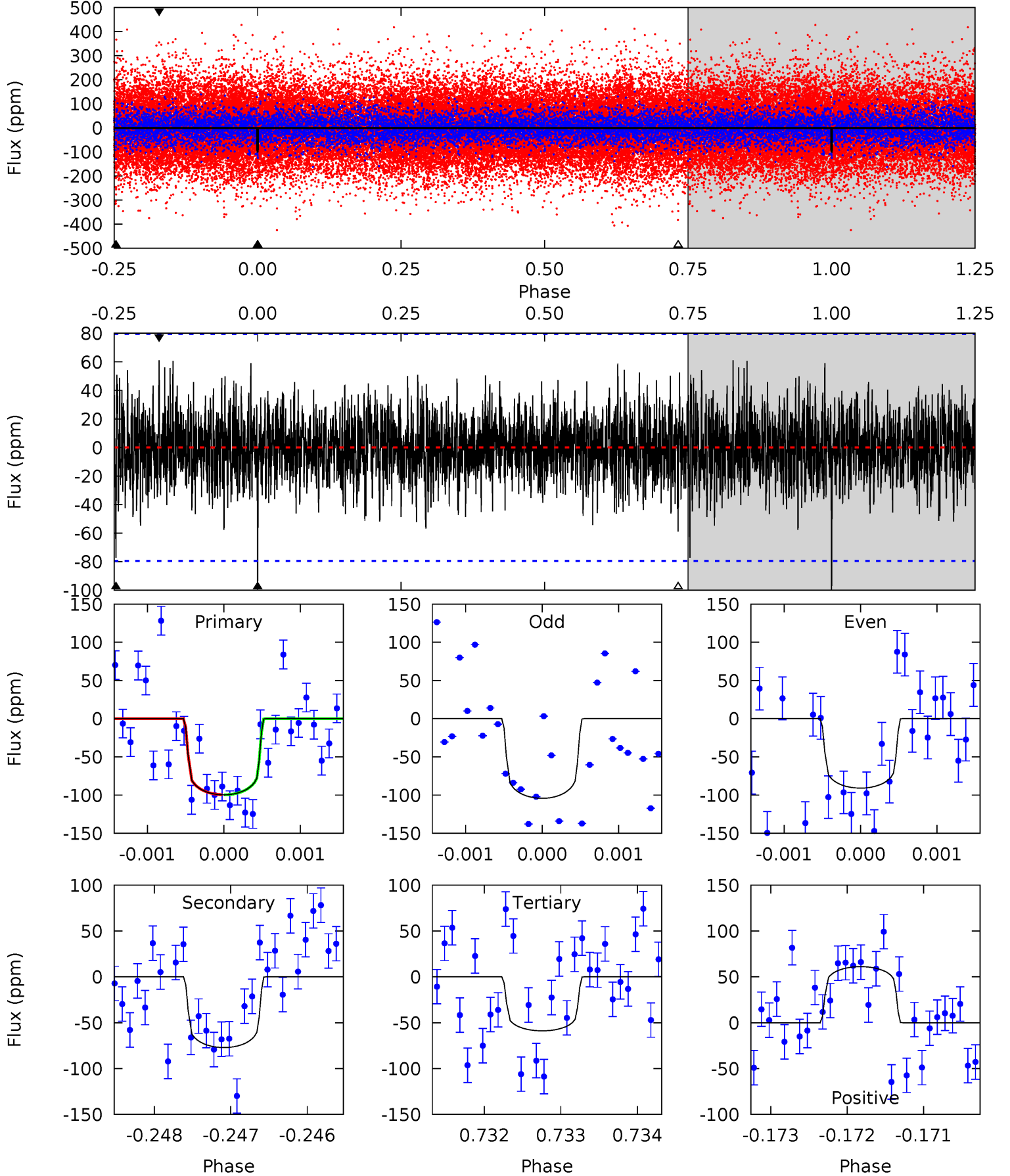
TCE 010909733-01 P=281.465478 Days $T_0=352.154985$ (BKJD)



DV Model-Shift Uniqueness Test

010909733-01, P = 281.480165 Days, E = 70.626214 Days

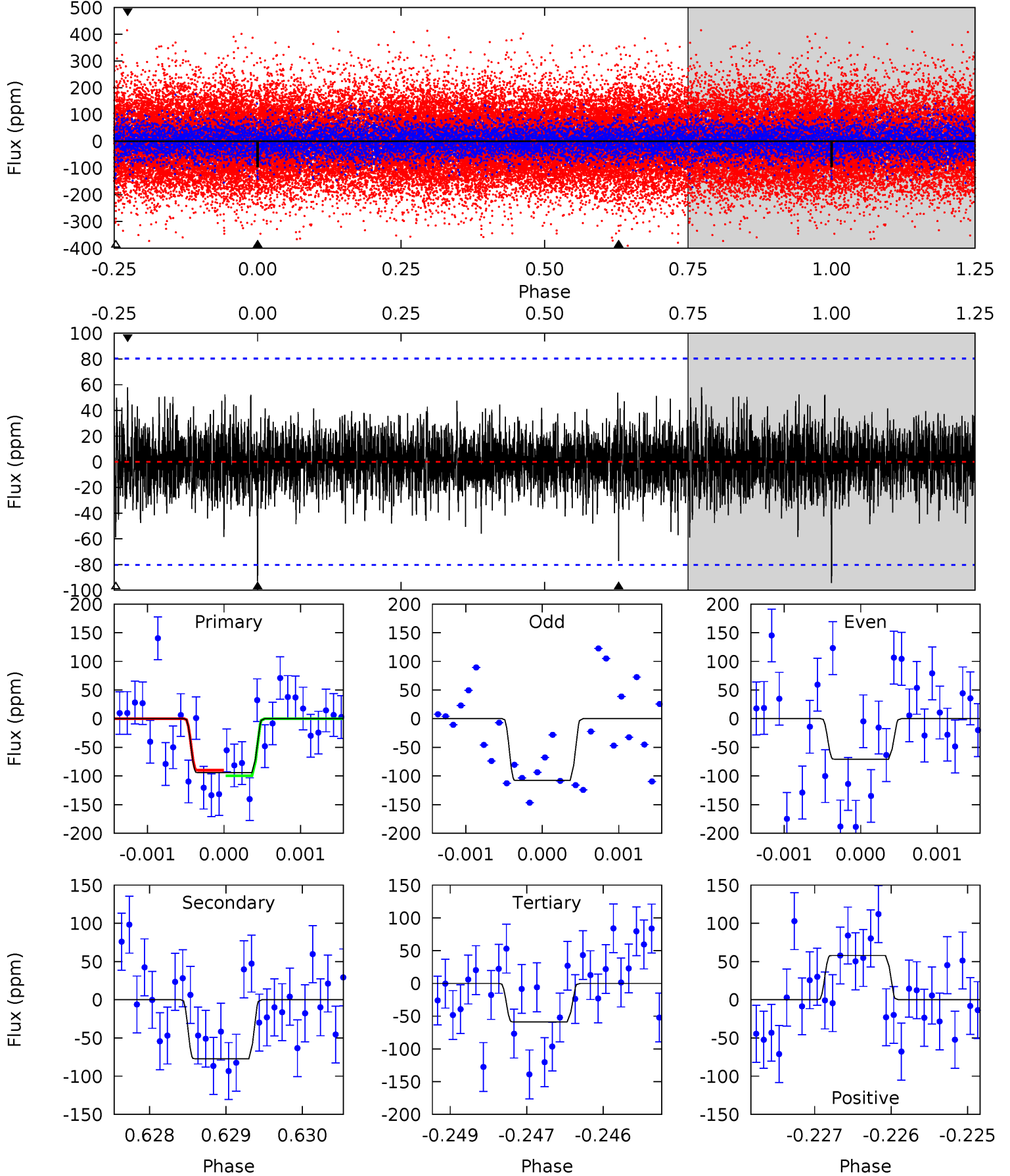
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.79	5.25	4.01	4.16	5.42	3.24	1.18	2.78	2.63	1.24	1.09	0.44	1.00	0.38	0.00



Alt Model-Shift Uniqueness Test

010909733-01, $P = 281.465478$ Days, $E = 70.689507$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	5.21	3.96	3.90	5.42	3.24	1.05	2.39	2.45	1.24	1.30	1.22	1.01	0.38	0.33



Stellar Parameters For KIC 010909733

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8529^{+234}_{-402}	$4.066^{+0.165}_{-0.150}$	$0.070^{+0.250}_{-0.550}$	$2.183^{+0.518}_{-0.518}$	$2.024^{+0.358}_{-0.438}$	$0.274^{+0.245}_{-0.111}$
	+3%/-5%	+4%/-4%	+357%/-786%	+24%/-24%	+18%/-22%	+89%/-40%
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 010909733-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-77 ± 15	$2.69^{+1.37}_{-1.36}$	746^{+52}_{-54}	7170^{+4512}_{-1346}	6662^{+21057}_{-3869}
Alt.	-77 ± 15	$2.35^{+1.48}_{-1.20}$	750^{+52}_{-56}	7755^{+4848}_{-1725}	8213^{+26127}_{-5064}

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

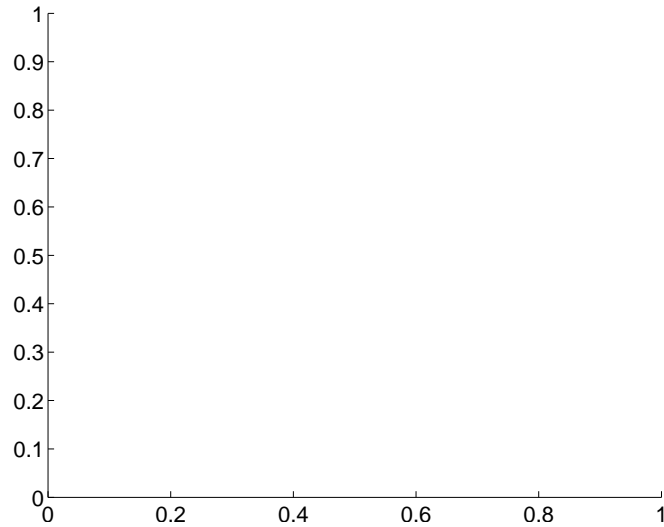
Supplemental centroid analysis for 010909733-01. Kepler magnitude: 12.79. Transit SNR 5.86

There are 0 quarters with good PRF difference image offsets

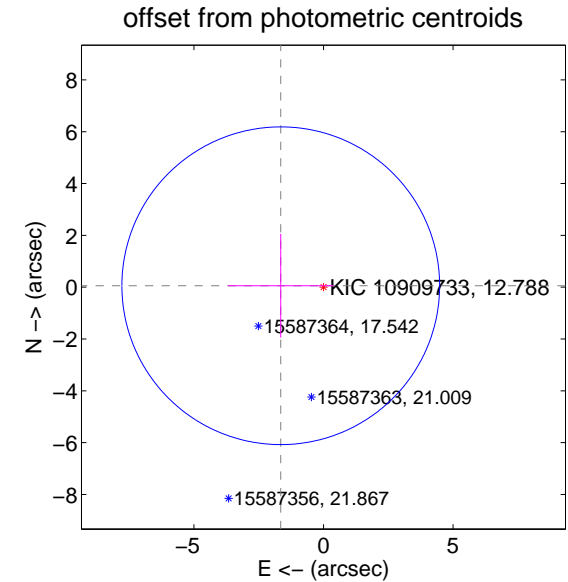
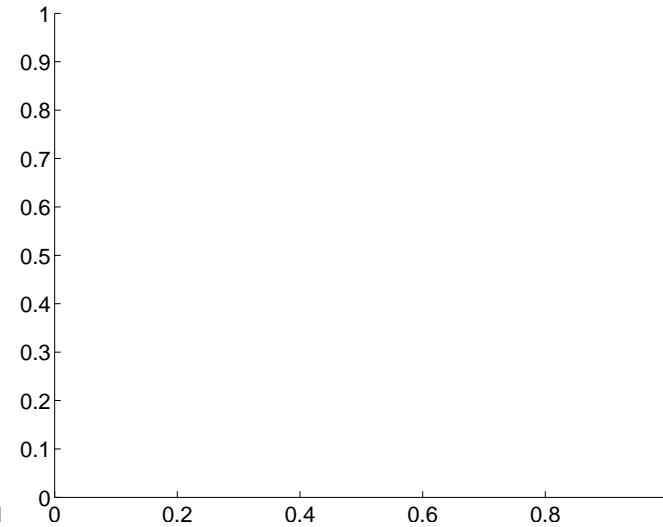
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.65 ± 2.04	0.81	1.65 ± 2.04	0.05 ± 2.00

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.

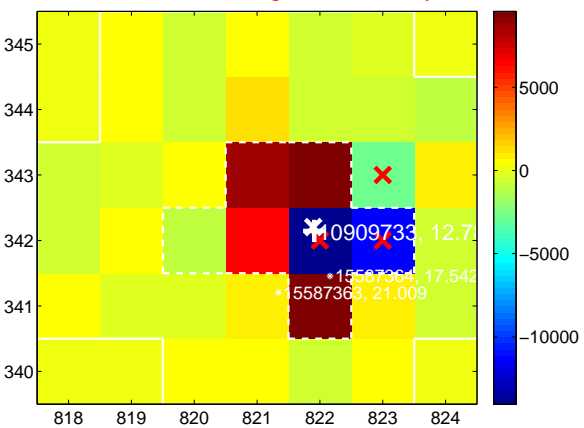
Q9 no difference image



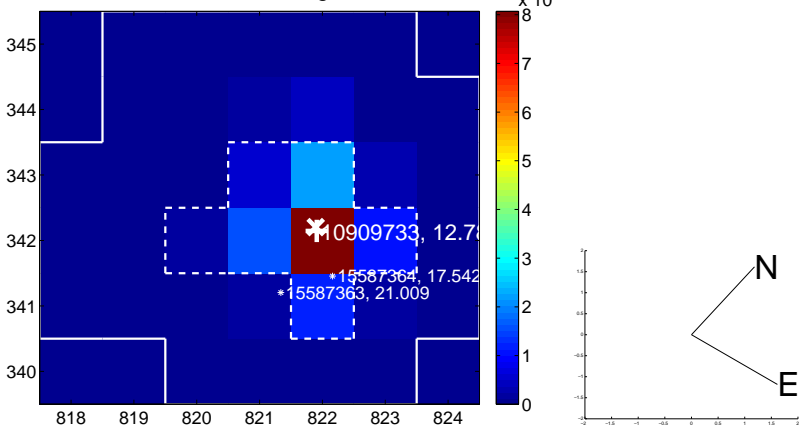
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



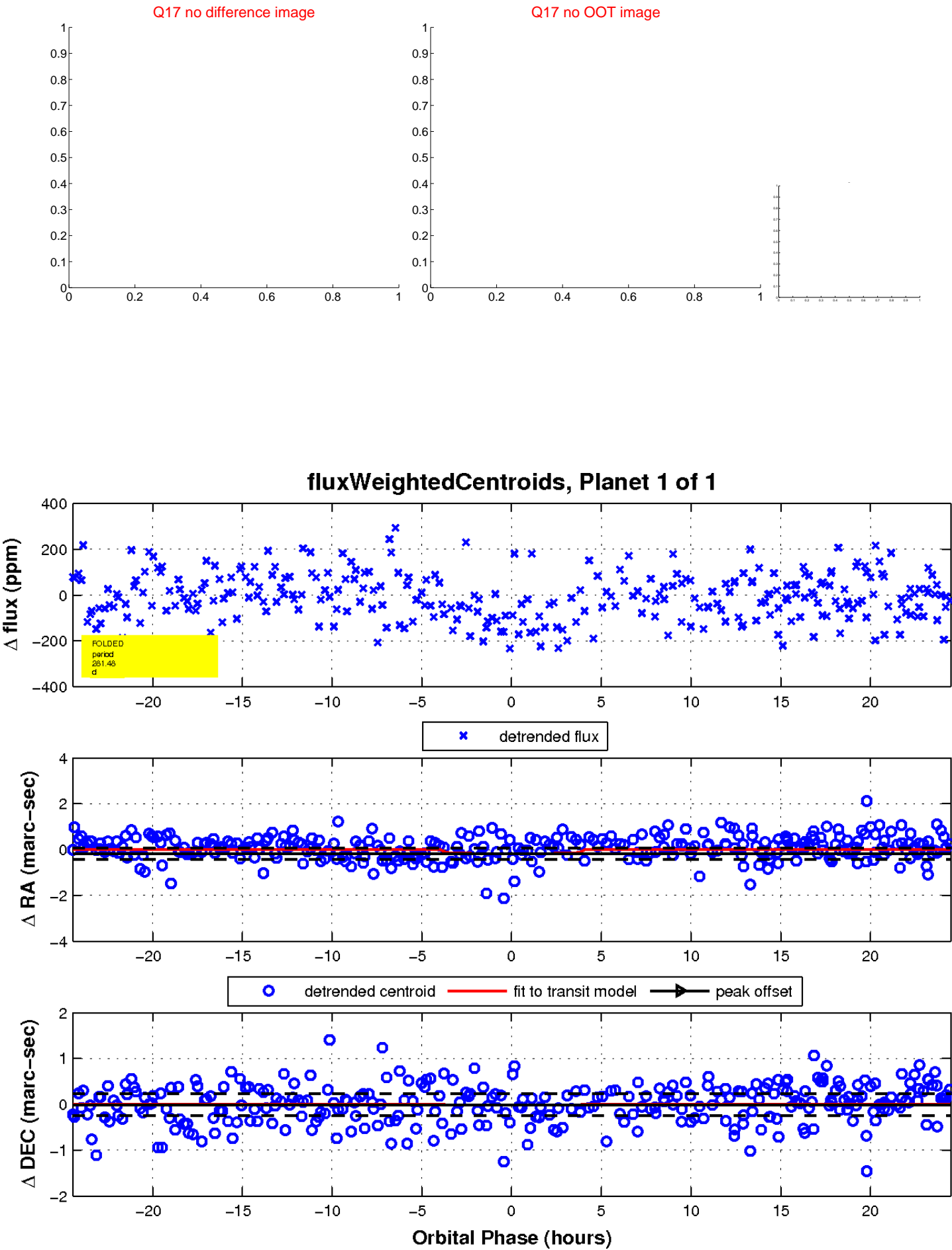
Q12 no OOT image



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.



UKIRT Image

Declination

