

KIC 010271785

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})
010271785-01	OBS	No	302.608844	333.660340	282.6	16.913	7.4	7.4	0.79	5485	1.41	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010271785-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_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.

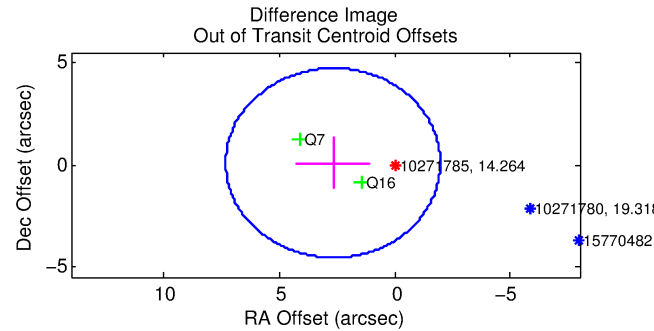
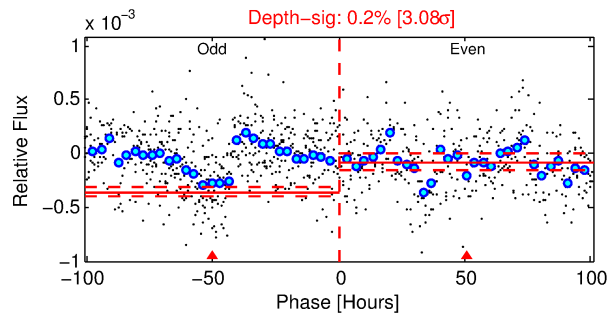
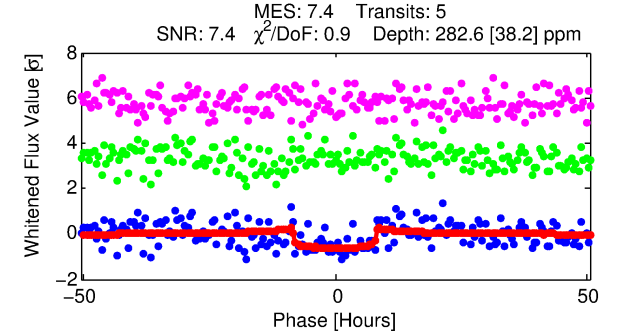
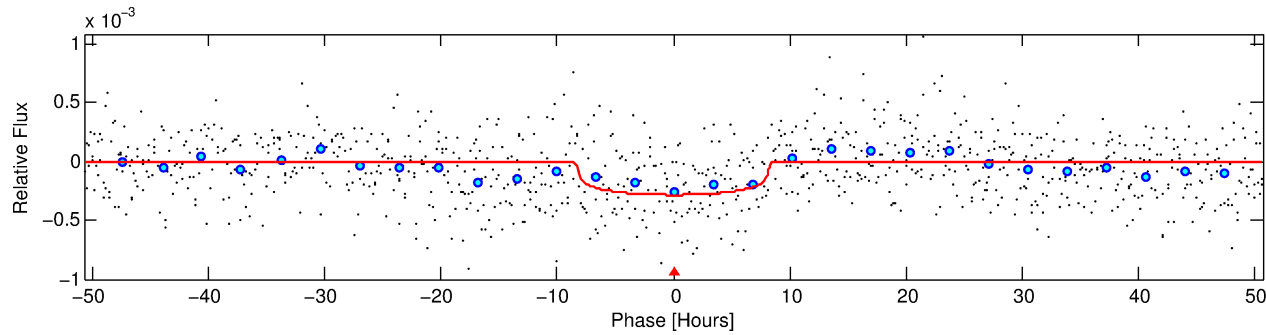
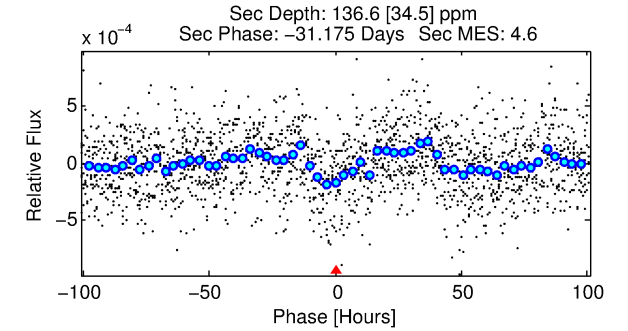
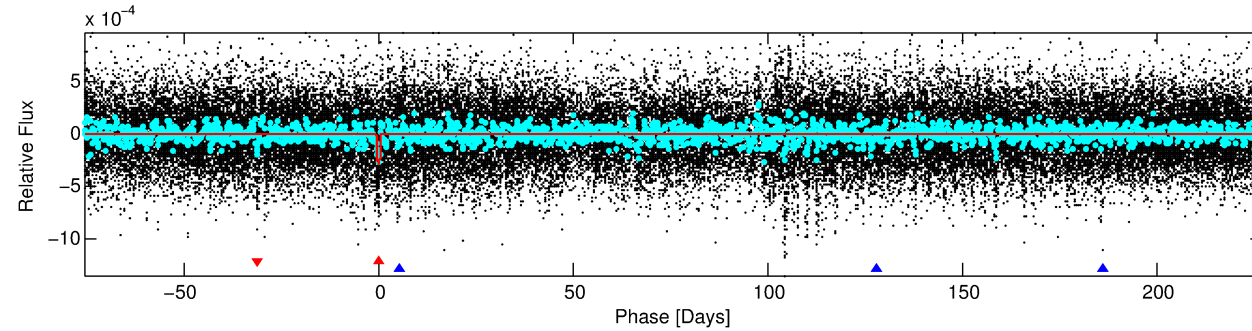
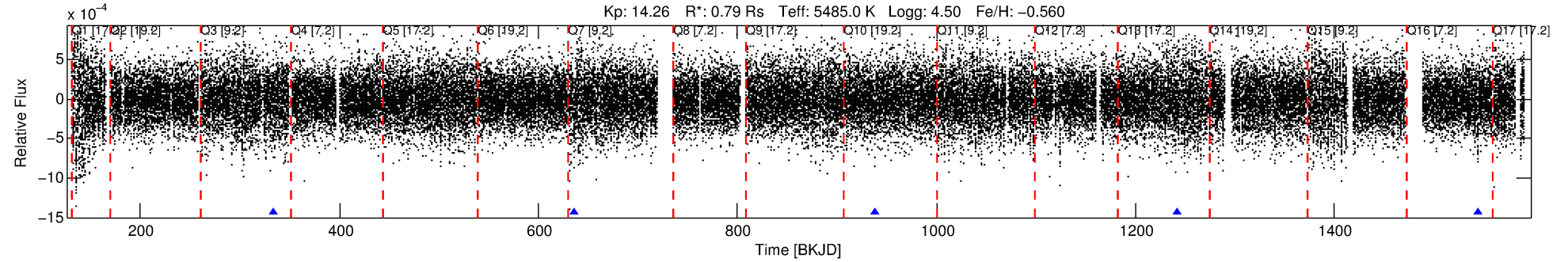
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010271785-01

No Significant Match Found

DV One-Page Summary

KIC: 10271785 Candidate: 1 of 2 Period: 302.609 d



DV Fit Results:

Period = 302.60884 [0.00837] d
Epoch = 333.6603 [0.0220] BKJD
Rp/R* = 0.0164 [0.0065]
a/R* = 102.15 [177.35]
b = 0.69 [1.33]
Seff = 0.81 [0.19]
Teq = 242 [14] K
Rp = 1.41 [0.60] Re
a = 0.7894 [0.1057] AU
Ag = 23590.73 [20250.67] [1.16 σ]
Teff = 4632 [976] K [4.50 σ]

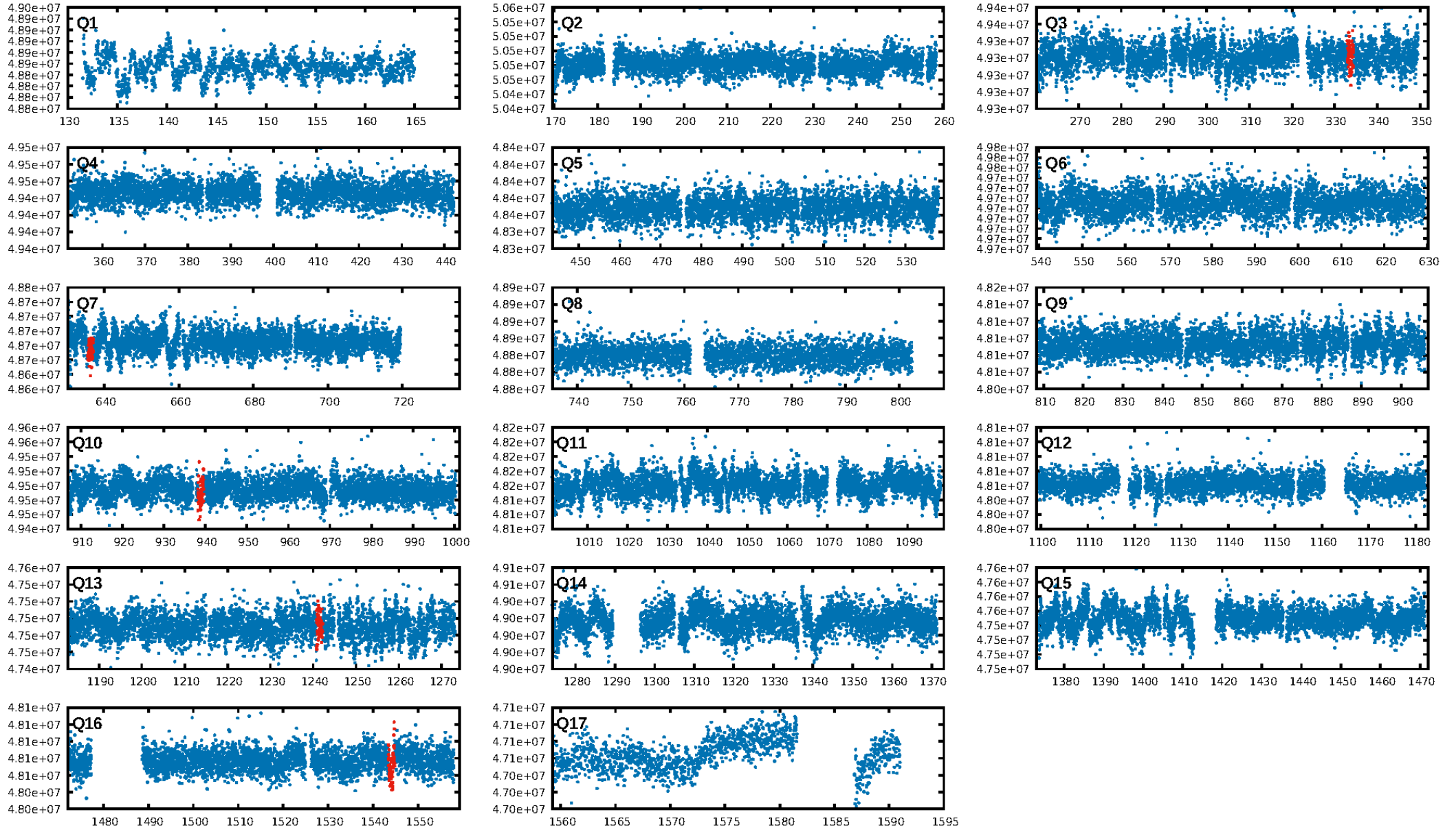
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [168.43 σ]
ModelChiSquare2-sig: 2.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.31e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.794
Centroid-sig: 28.3%
Centroid-so: 1.560 arcsec [0.91 σ]
OotOffset-rm: 2.674 arcsec [1.73 σ]
KicOffset-rm: 2.718 arcsec [1.73 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

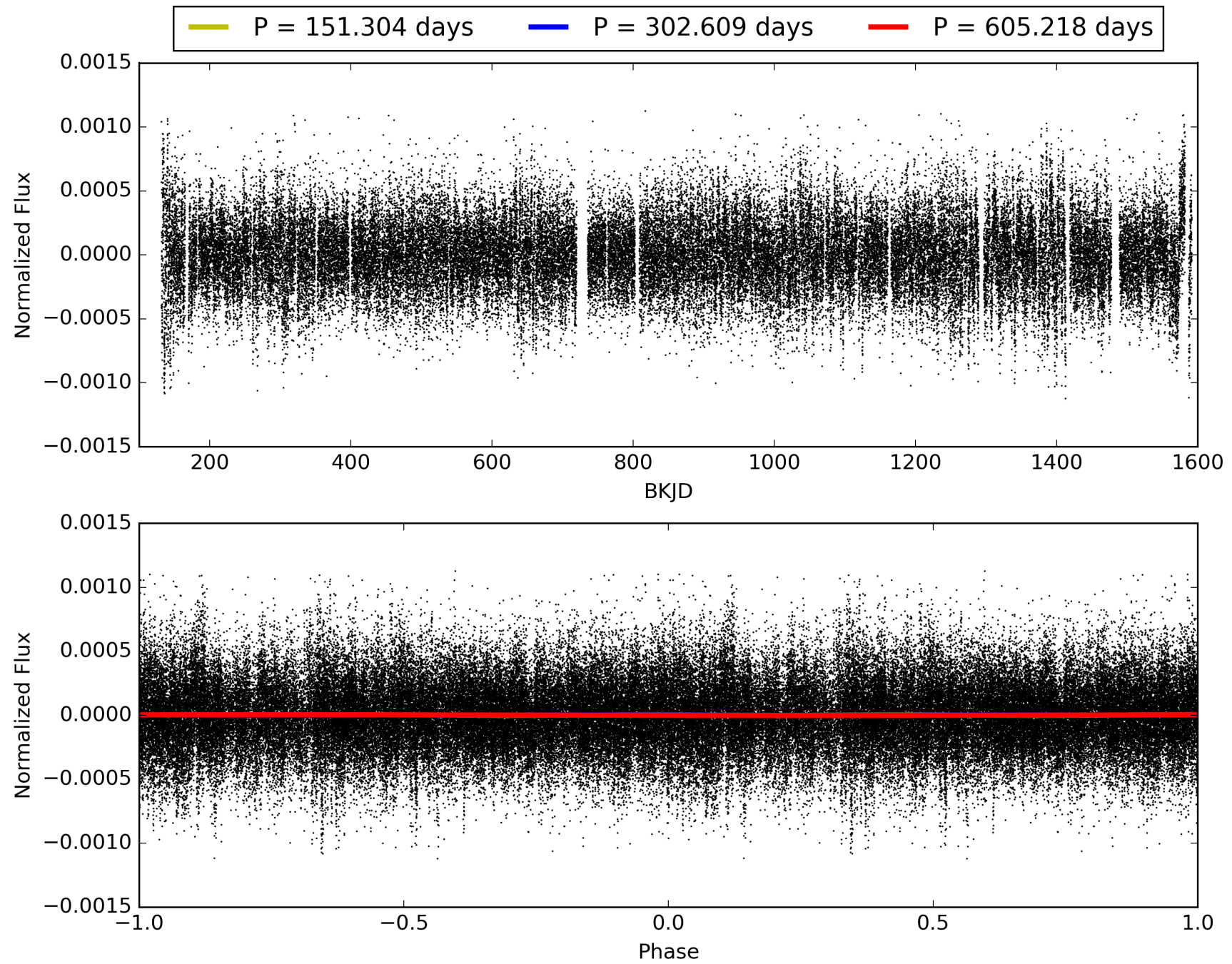
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:16:34 Z

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

TCE 010271785-01, PDC Light Curves

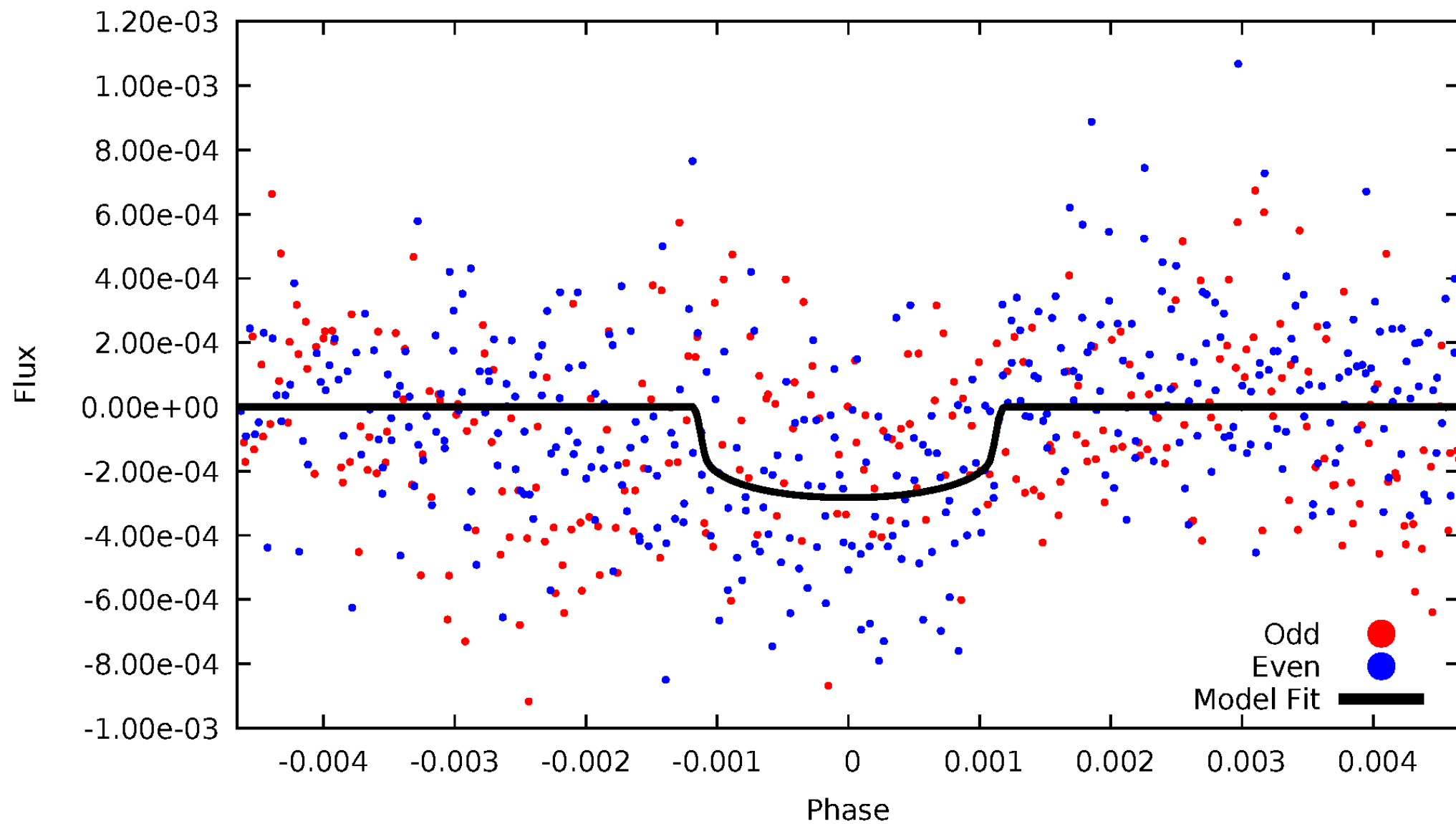


TCE 010271785-01



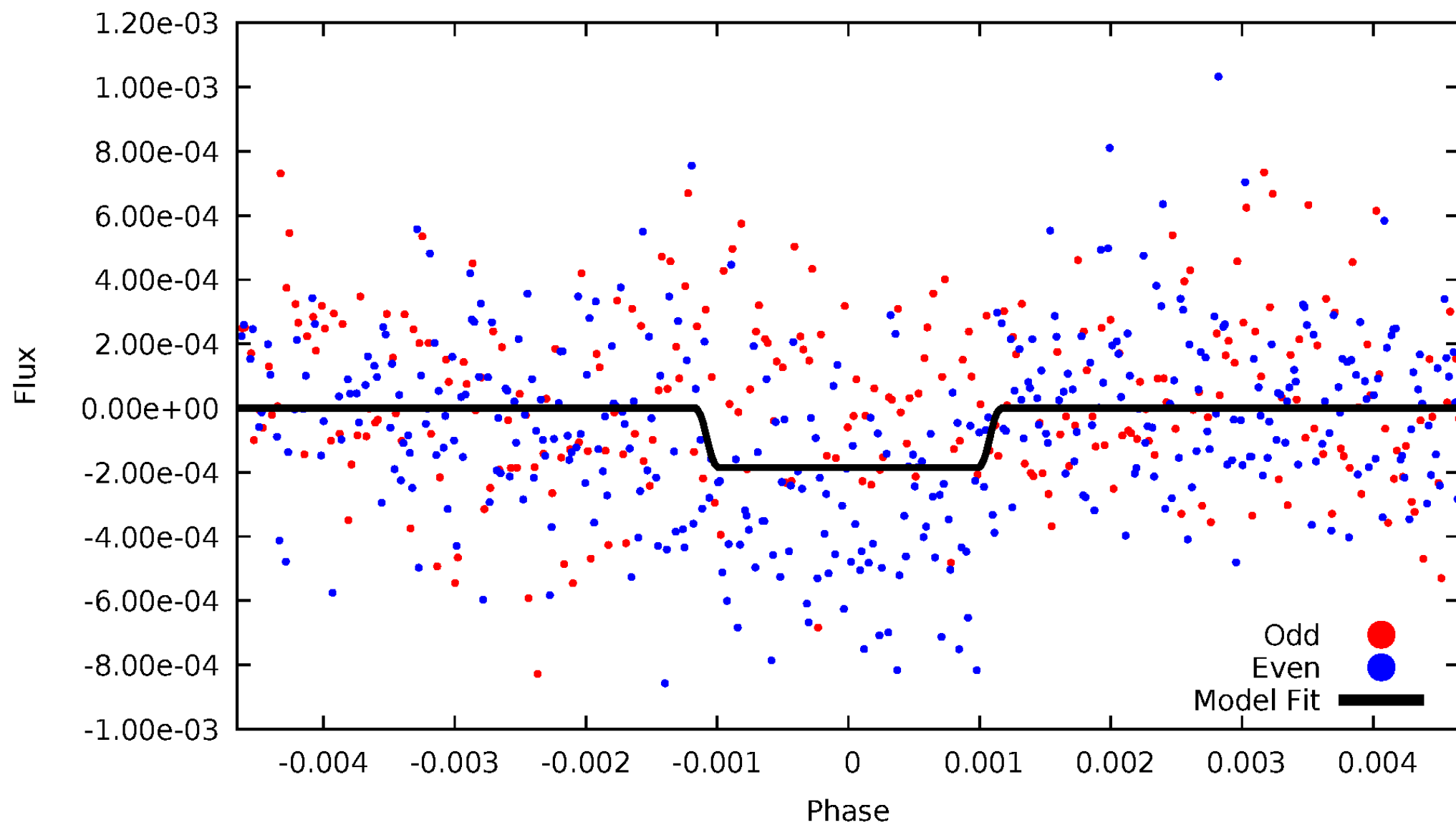
DV Odd/Even

TCE 010271785-01



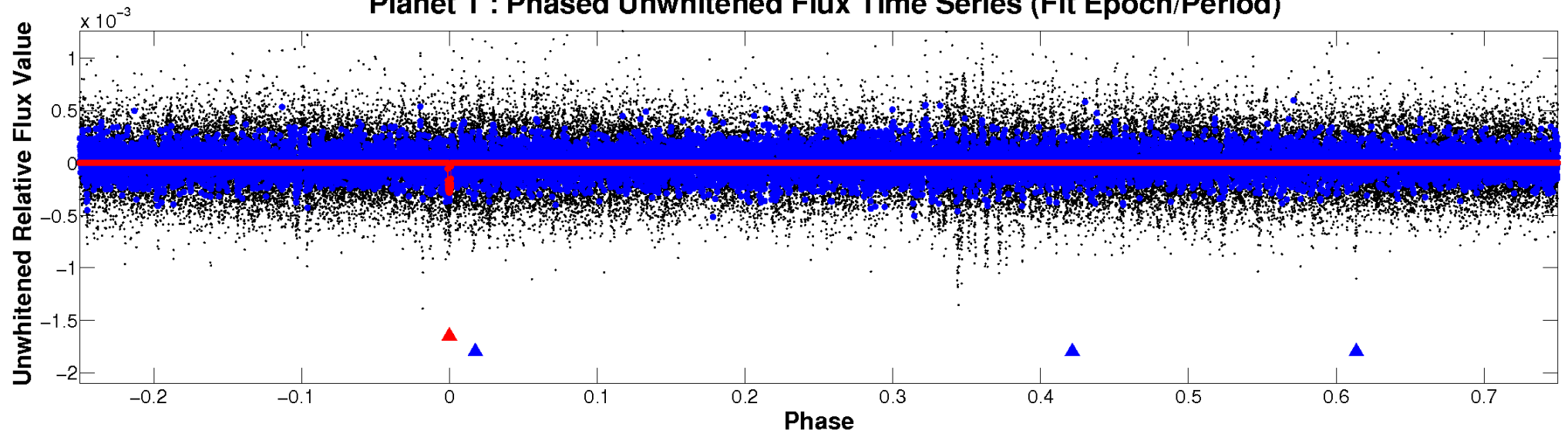
ALT Odd/Even

TCE 010271785-01

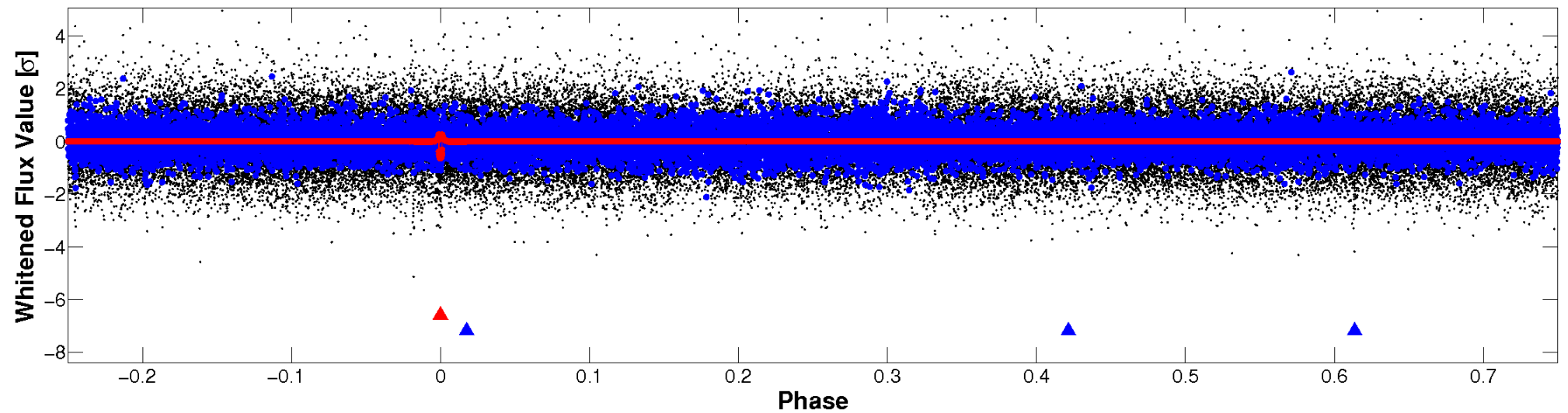


Non-Whitened Vs. Whitened Light Curve

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



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



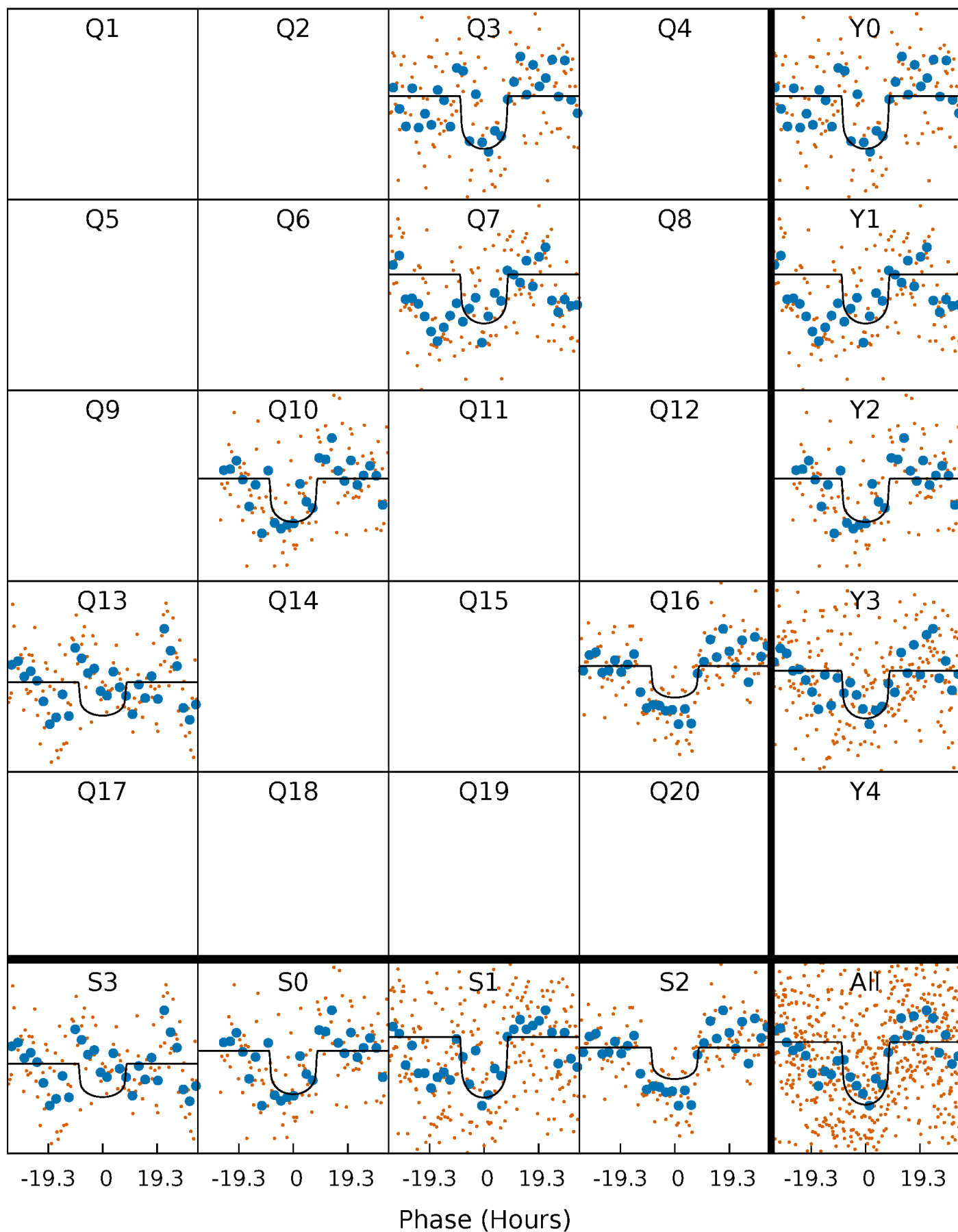
PDC Quarter-Phased Transit Curves

TCE 010271785-01 P=302.608844 Days $T_0=333.660340$ (BKJD)



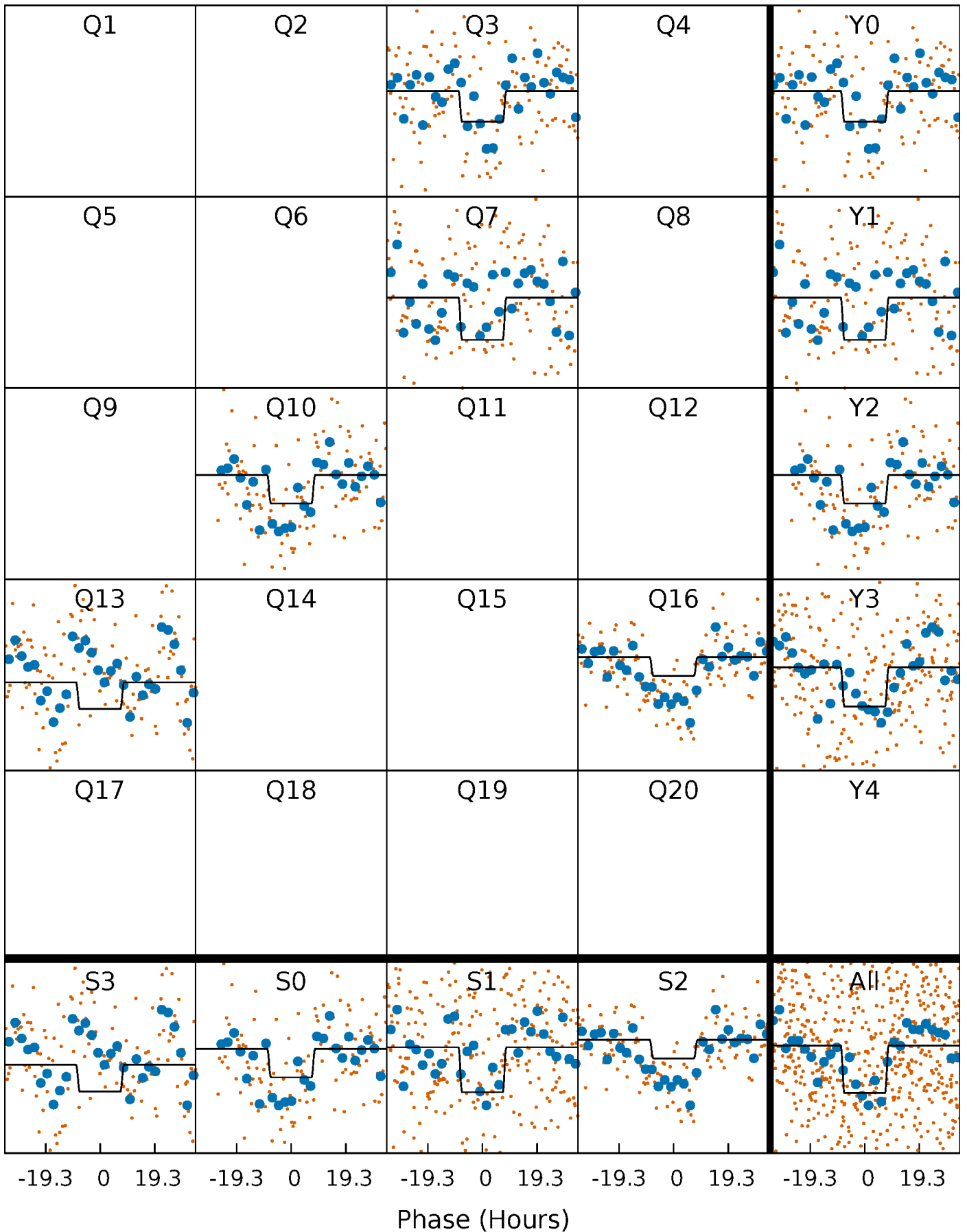
DV Quarter-Phased Transit Curves

TCE 010271785-01 P=302.608844 Days $T_0=333.660340$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

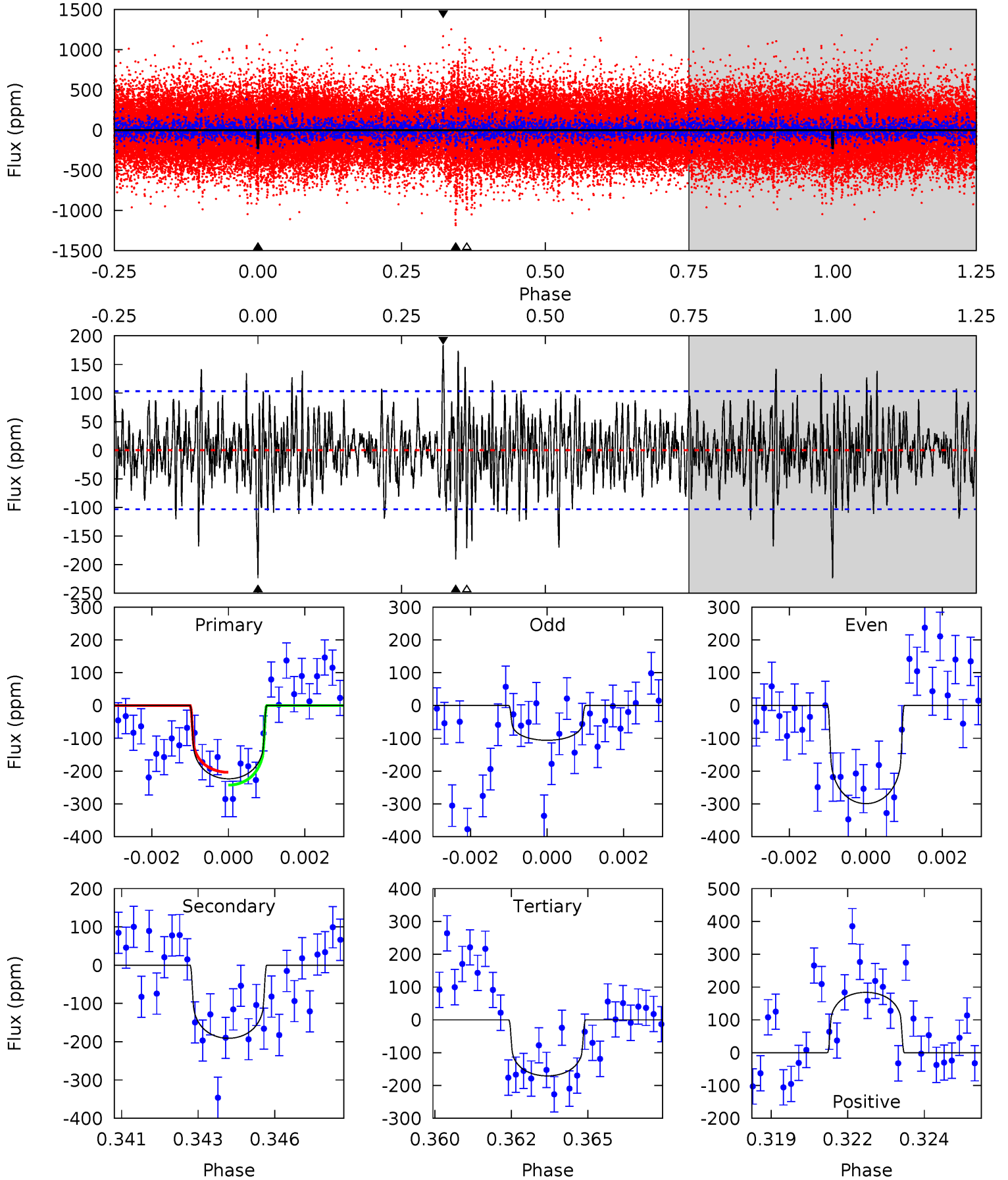
TCE 010271785-01 $P=302.586968$ Days $T_0=333.705871$ (BKJD)



DV Model-Shift Uniqueness Test

010271785-01, P = 302.608844 Days, E = 31.051496 Days

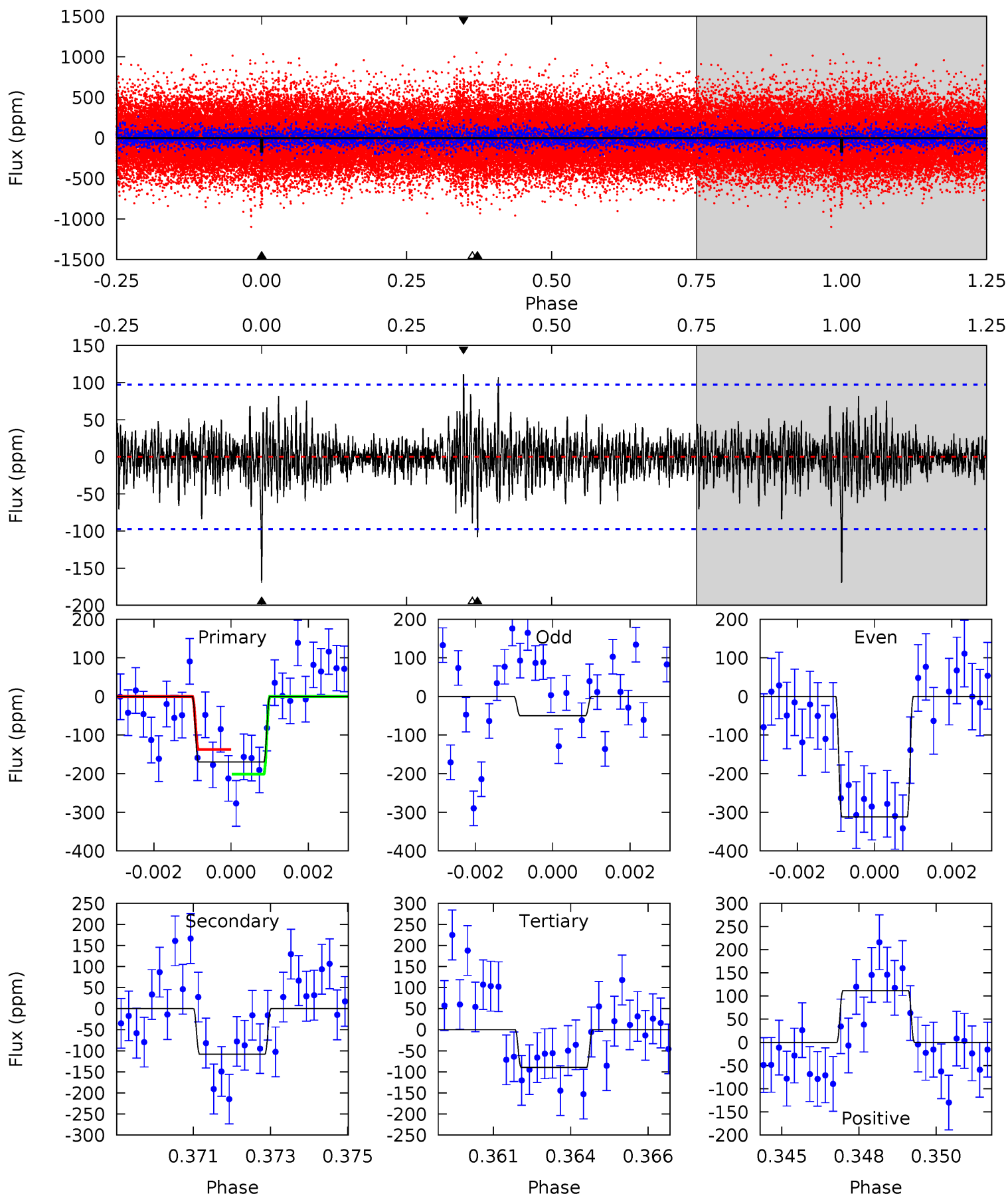
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	9.81	8.77	9.44	5.29	3.04	2.37	2.71	2.04	1.03	0.37	4.81	0.96	0.45	1.00



Alt Model-Shift Uniqueness Test

010271785-01, P = 302.586968 Days, E = 31.118903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.24	5.88	4.88	6.08	5.30	3.04	1.23	4.37	3.16	1.01	-0.20	6.98	0.84	0.40	1.74



Stellar Parameters For KIC 010271785

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5485^{+163}_{-163}	$4.500^{+0.115}_{-0.115}$	$-0.560^{+0.350}_{-0.300}$	$0.788^{+0.119}_{-0.095}$	$0.716^{+0.103}_{-0.037}$	$2.063^{+1.002}_{-0.677}$
	+3%/-3%	+3%/-3%	+62%/-54%	+15%/-12%	+14%/-5%	+49%/-33%
Source	PHO1	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 010271785-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-191 ± 19	$1.40^{+0.59}_{-0.53}$	337^{+17}_{-17}	5069^{+1302}_{-651}	33016^{+54056}_{-16474}
Alt.	-108 ± 18	$1.21^{+0.59}_{-0.54}$	338^{+19}_{-16}	4810^{+1547}_{-666}	24550^{+59920}_{-13282}

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 $A_{\text{obs}} \gg 1.0$

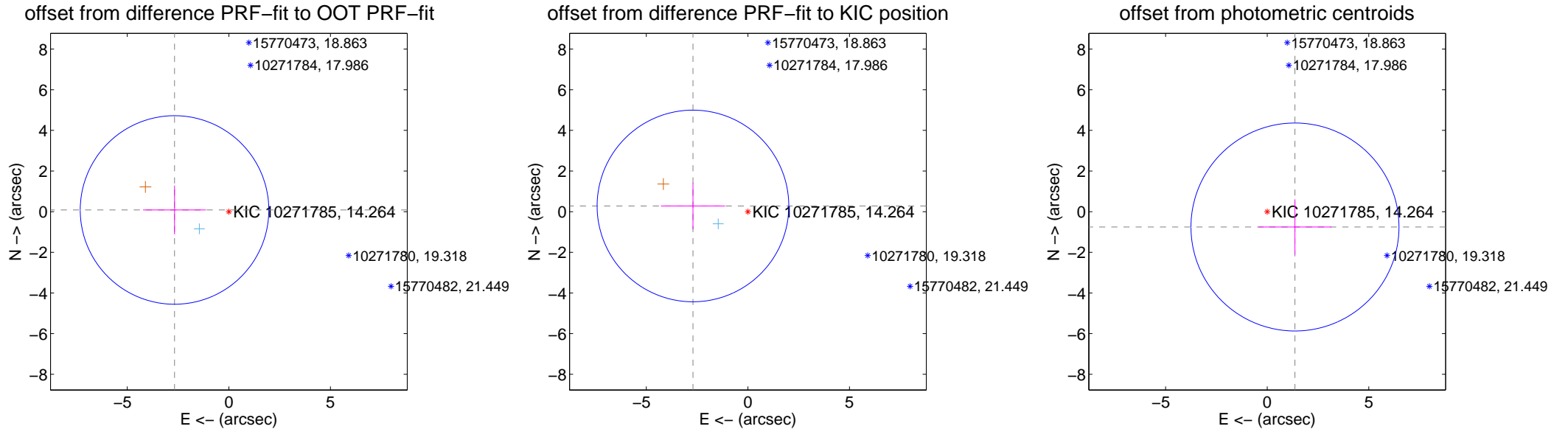
DV Centroid Data

Supplemental centroid analysis for 010271785-01. Kepler magnitude: 14.26. Transit SNR 7.44

There are 1 quarters with good PRF difference image offsets

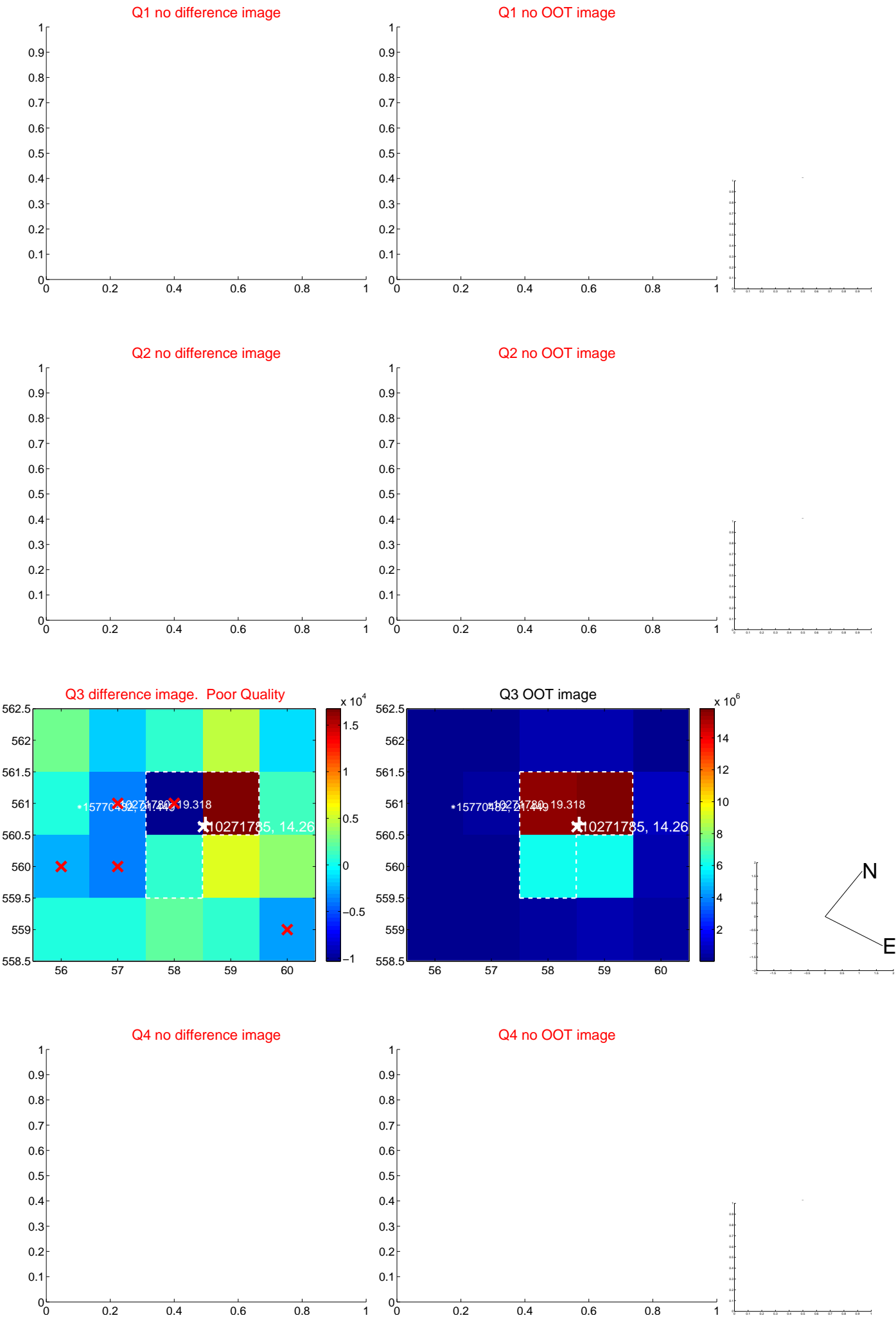
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.674 ± 1.546	1.73	2.673 ± 1.546	0.084 ± 1.201
PRF-fit source offset from KIC position	2.718 ± 1.571	1.73	2.703 ± 1.576	0.281 ± 1.139
photometric centroid source offset	1.56 ± 1.71	0.91	-1.37 ± 1.80	-0.75 ± 1.36



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.

Q5 no difference image



Q5 no OOT image



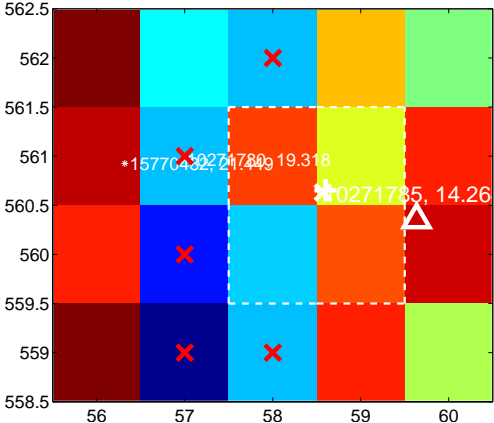
Q6 no difference image



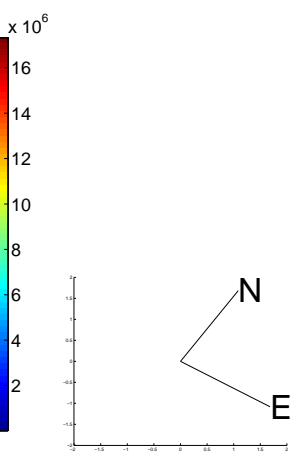
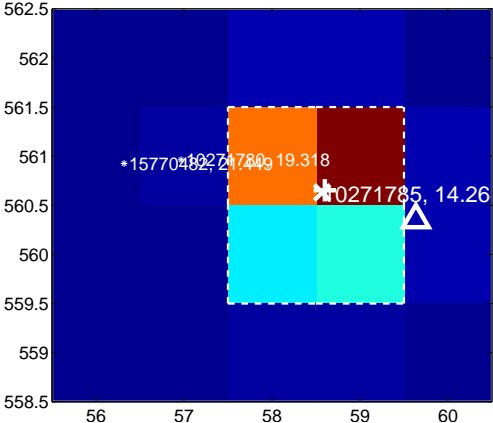
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



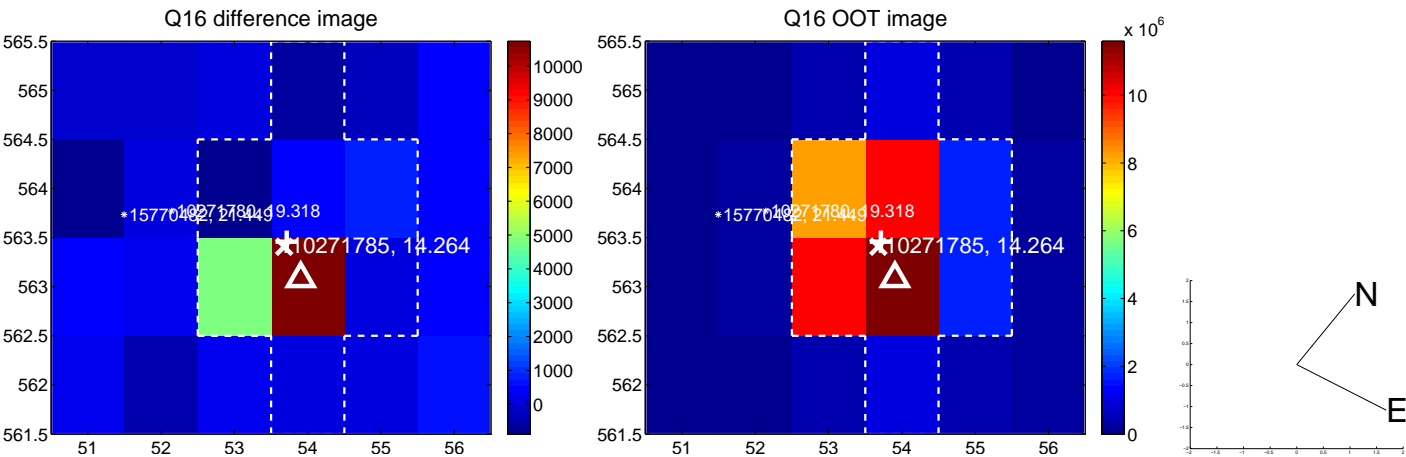
Q8 no OOT image



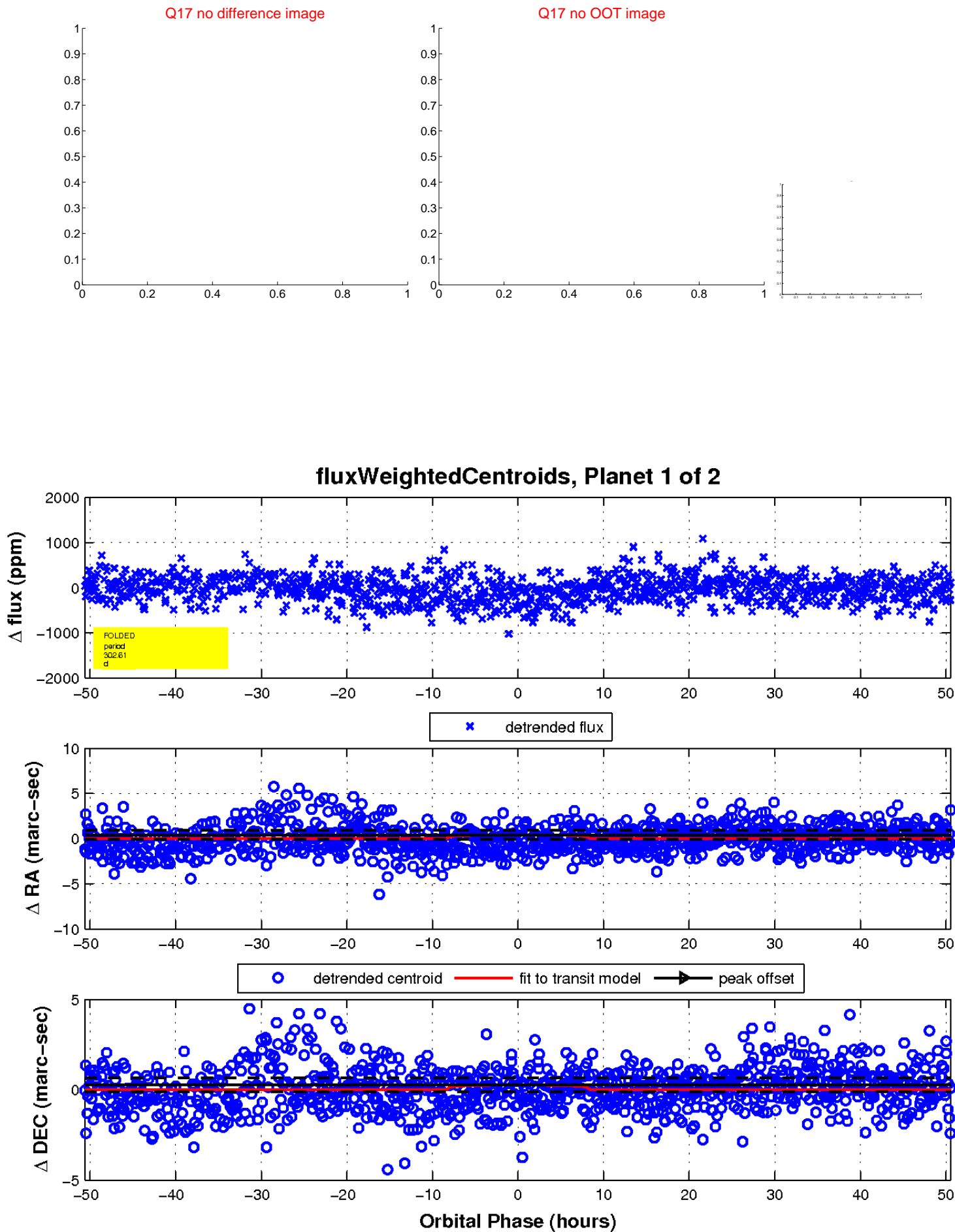
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

