

KIC 007538307

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})
007538307-01	OBS	No	363.185125	401.866701	1162.9	17.569	9.5	10.4	0.62	4313	2.31	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007538307-01	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.

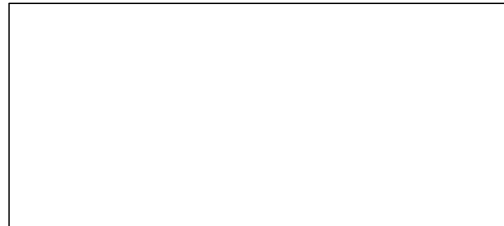
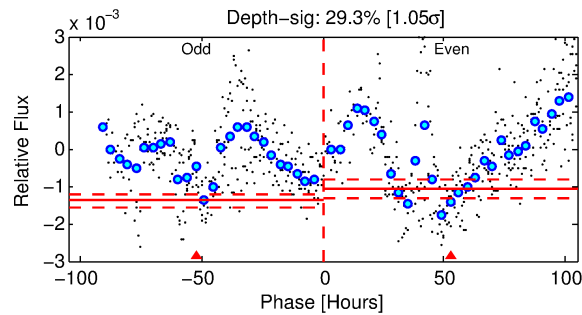
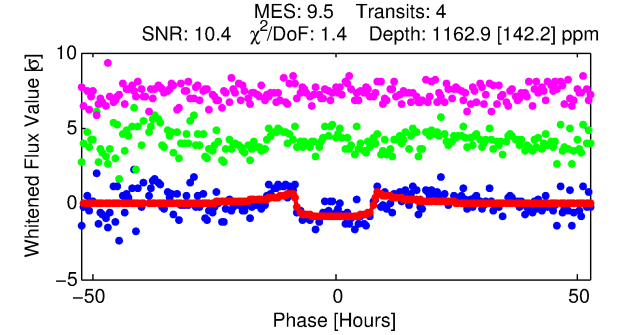
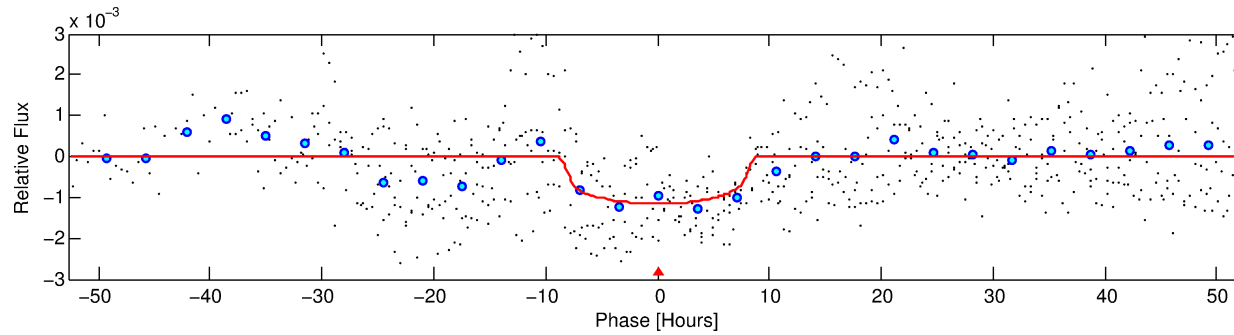
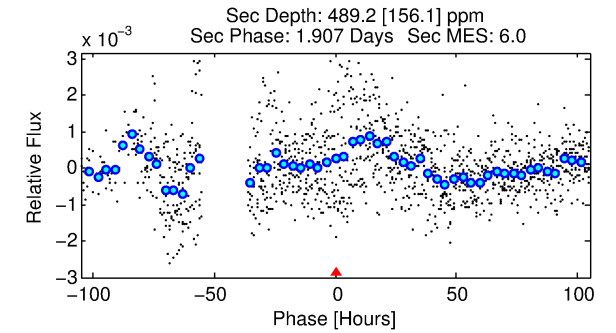
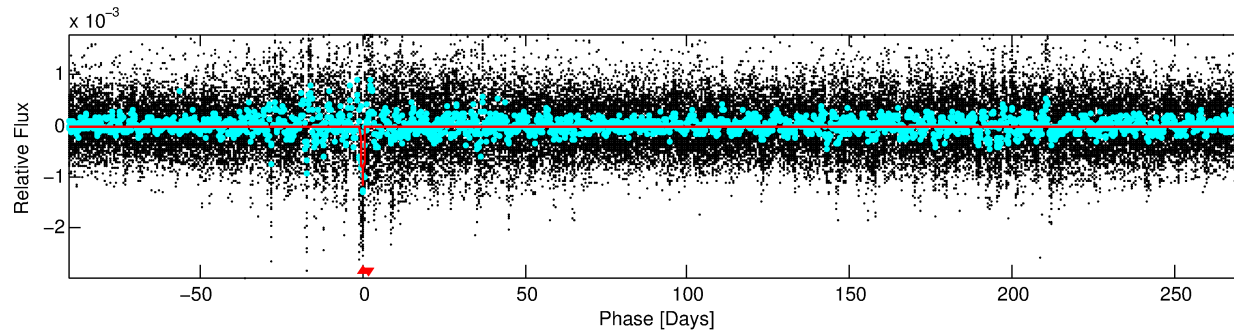
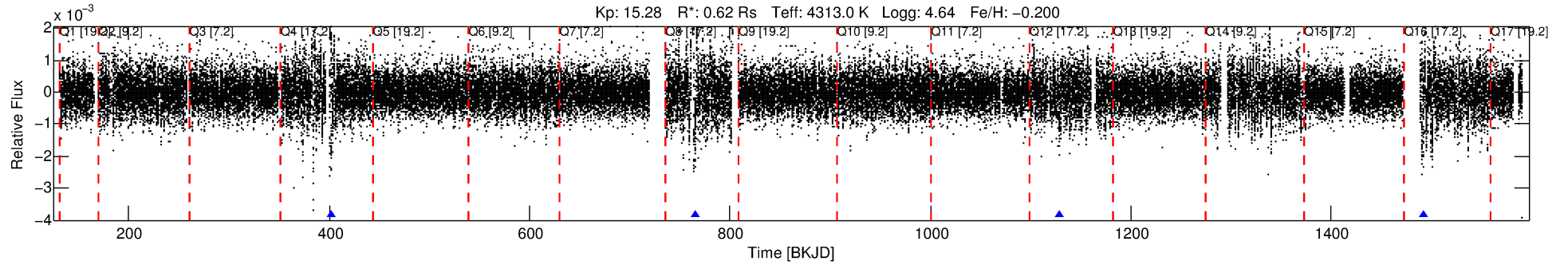
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007538307-01

No Significant Match Found

DV One-Page Summary

KIC: 7538307 Candidate: 1 of 1 Period: 363.185 d



DV Fit Results:

Period = 363.18513 [0.01096] d
Epoch = 401.8667 [0.0213] BKJD
Rp/R* = 0.0339 [0.0064]
a/R* = 114.62 [66.09]
b = 0.74 [0.37]
Seff = 0.17 [0.03]
Teq = 163 [6] K
Rp = 2.31 [0.49] Re
a = 0.8479 [0.0629] AU
Ag = 36197.25 [18194.72] [1.99σ]
Teffp = 3484 [442] K [7.52σ]

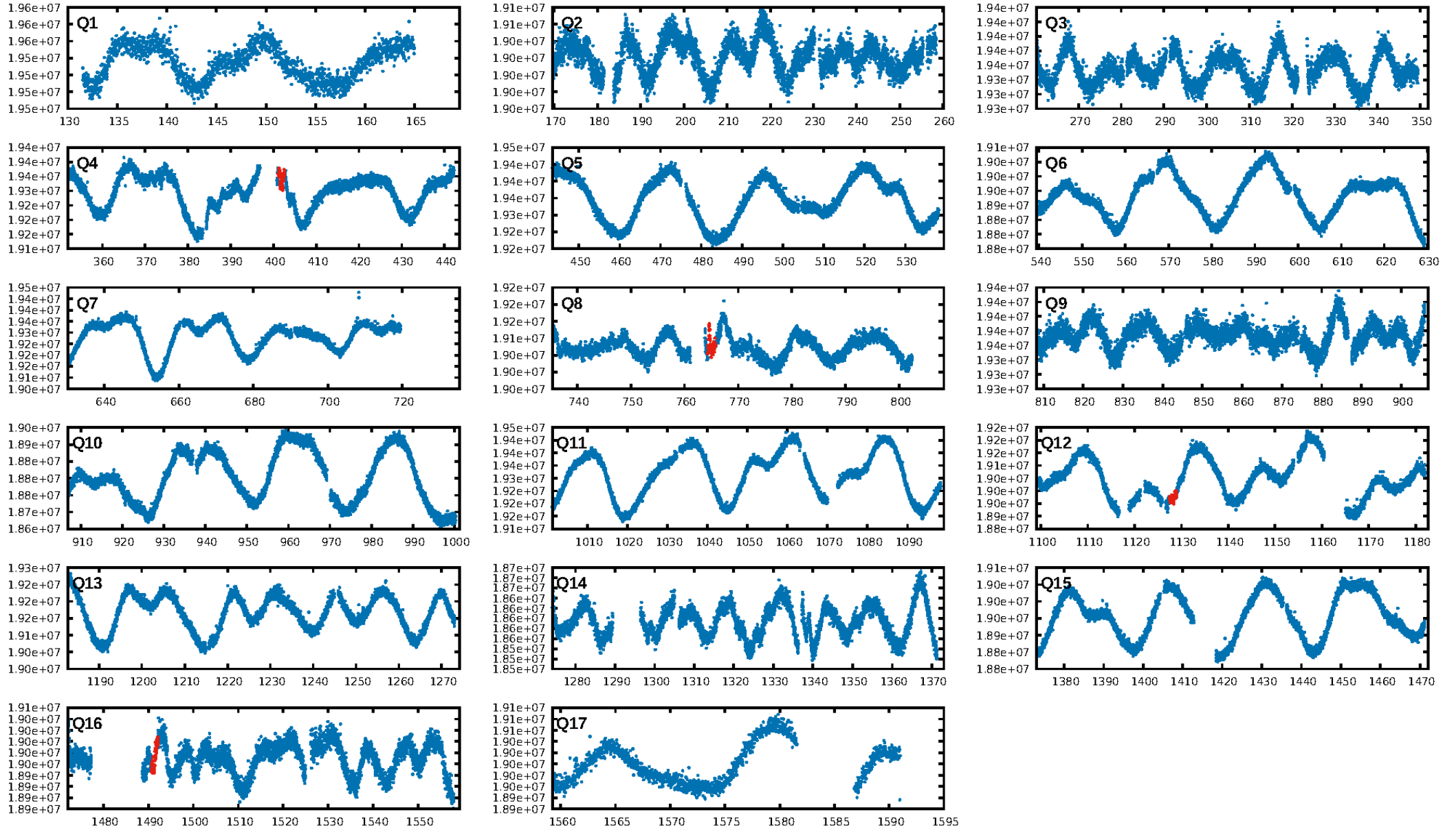
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 72.3%
Bootstrap-pfa: 3.33e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.84
Centroid-sig: 75.9%
Centroid-so: 0.730 arcsec [0.52σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

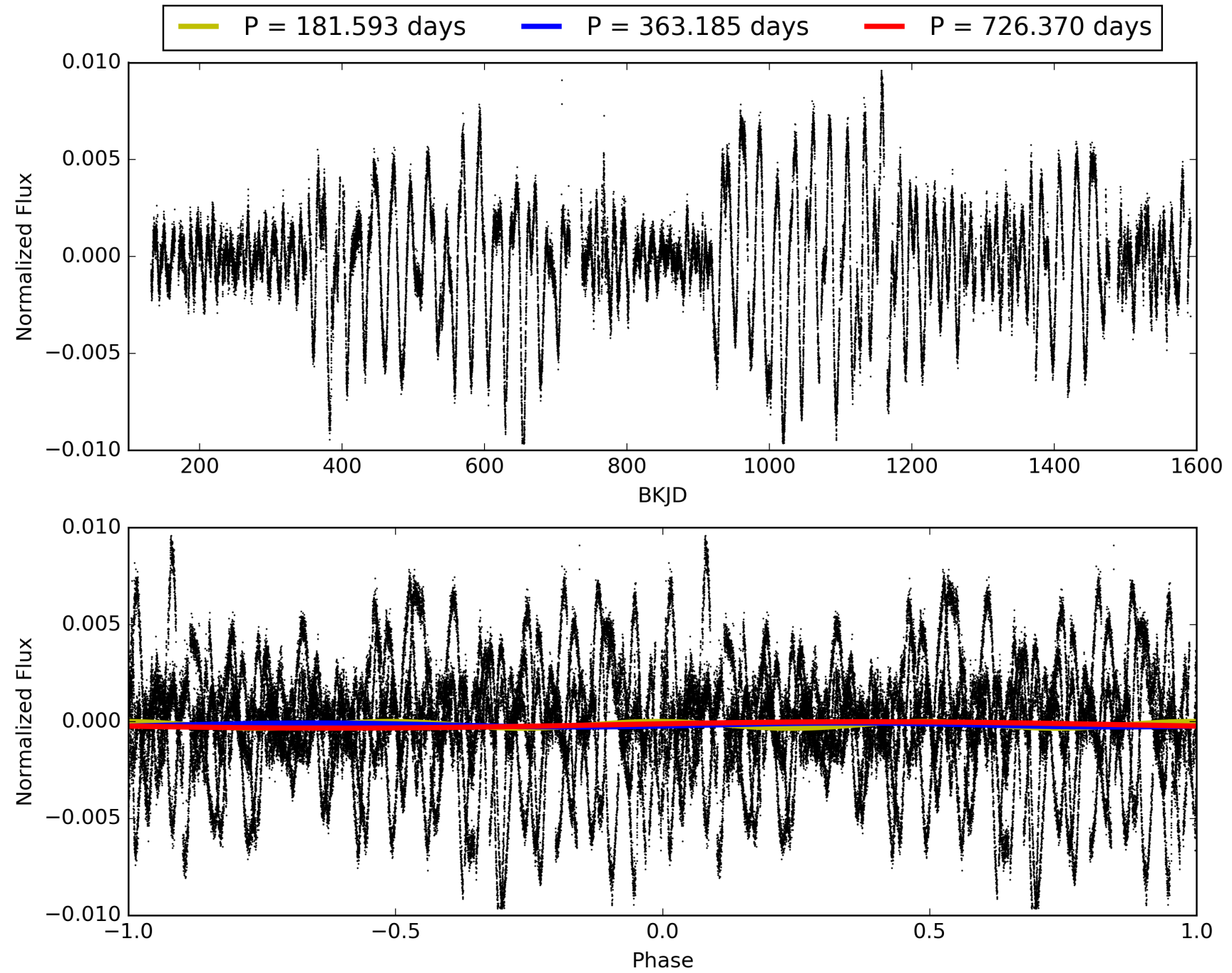
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:12:49 Z

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

TCE 007538307-01, PDC Light Curves

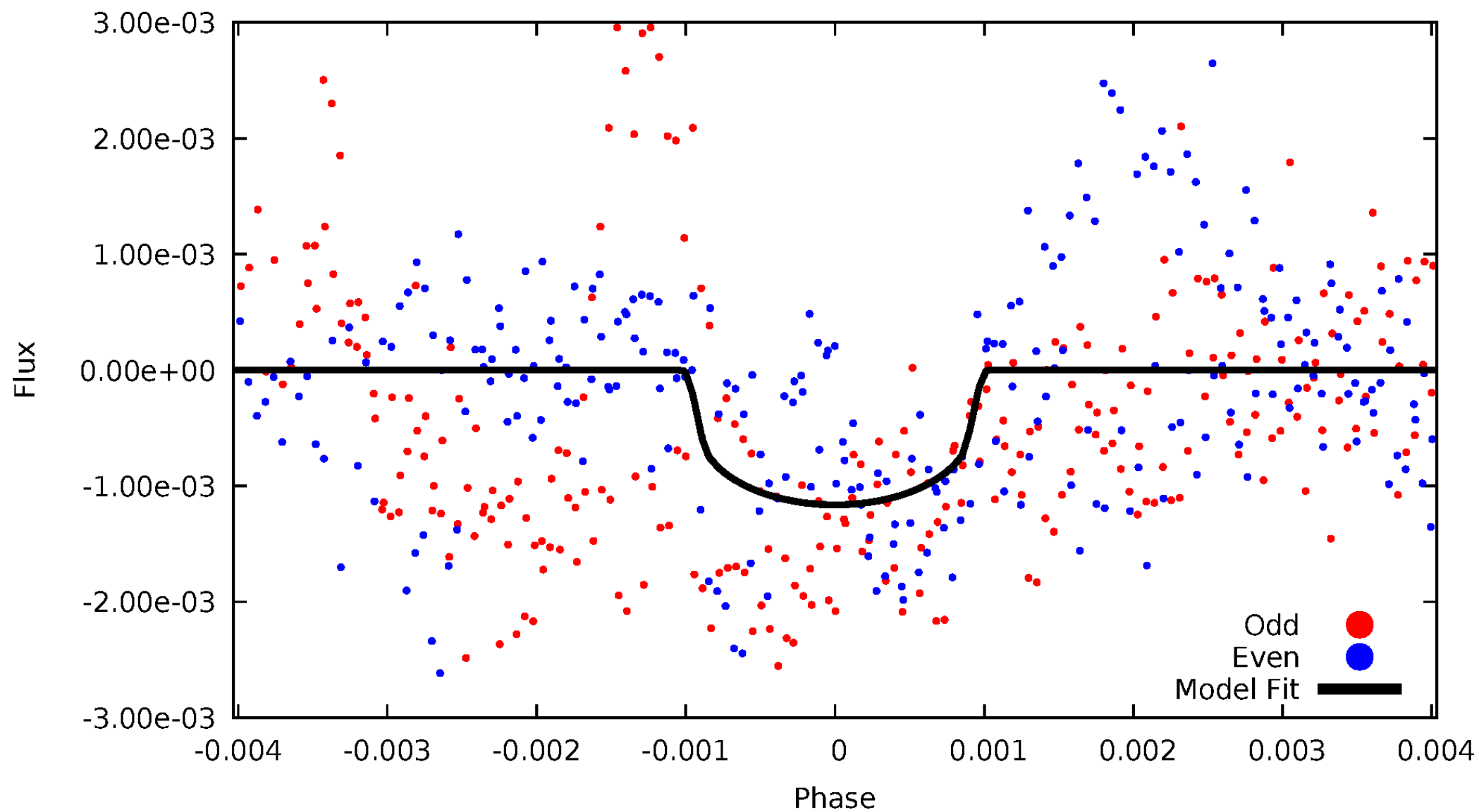


TCE 007538307-01



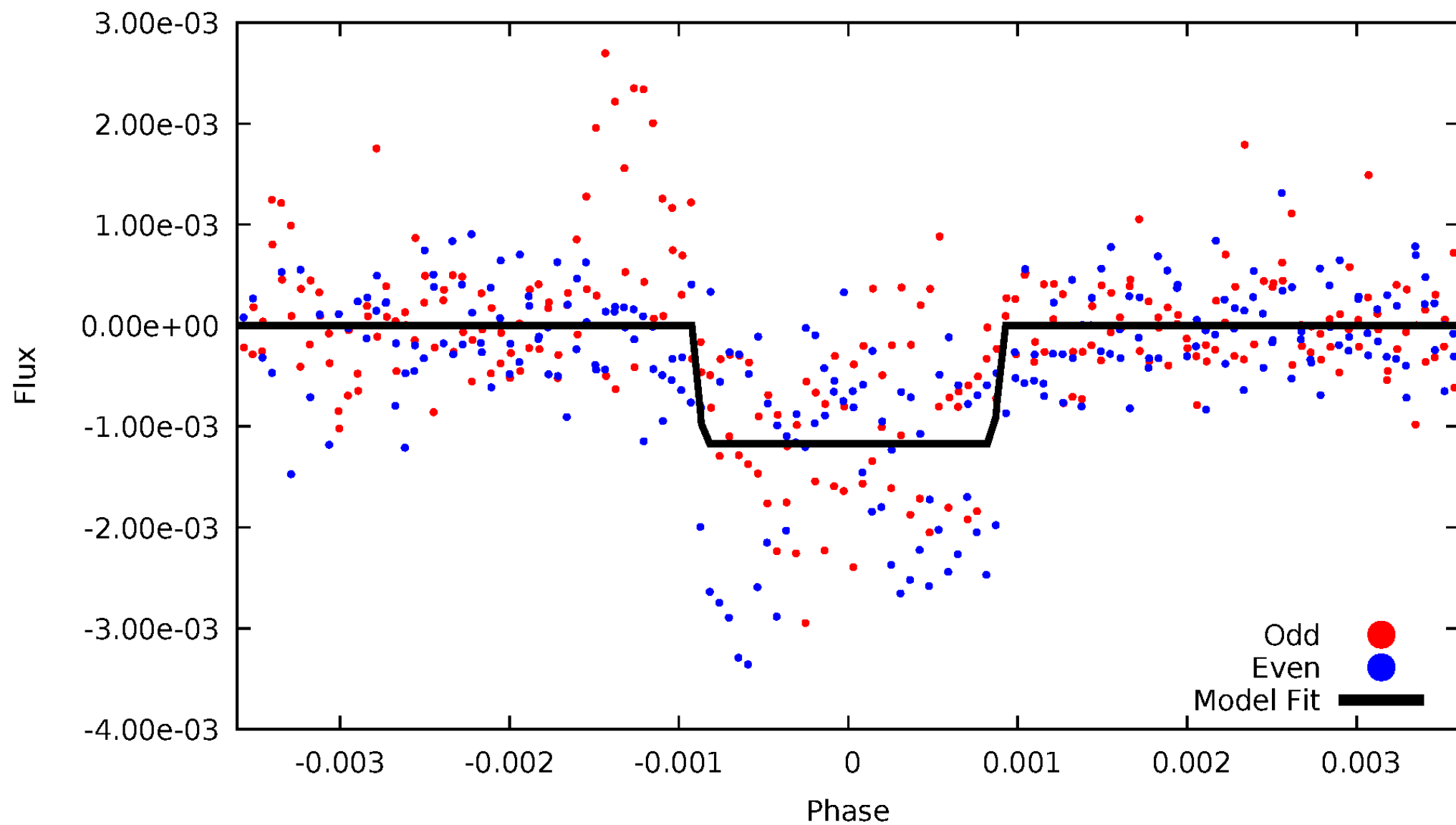
DV Odd/Even

TCE 007538307-01



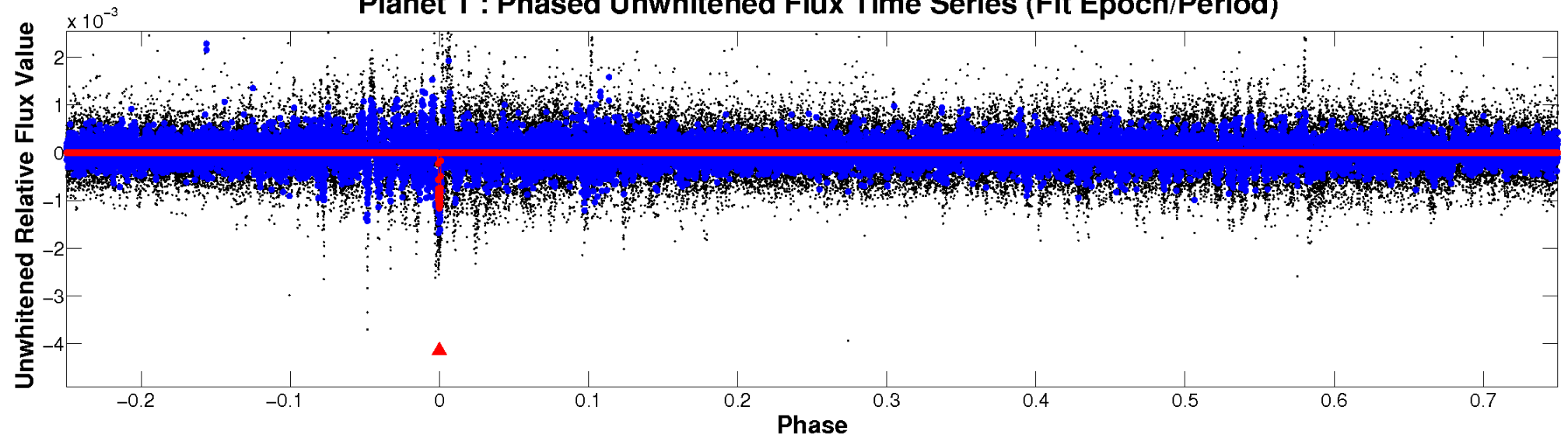
ALT Odd/Even

TCE 007538307-01

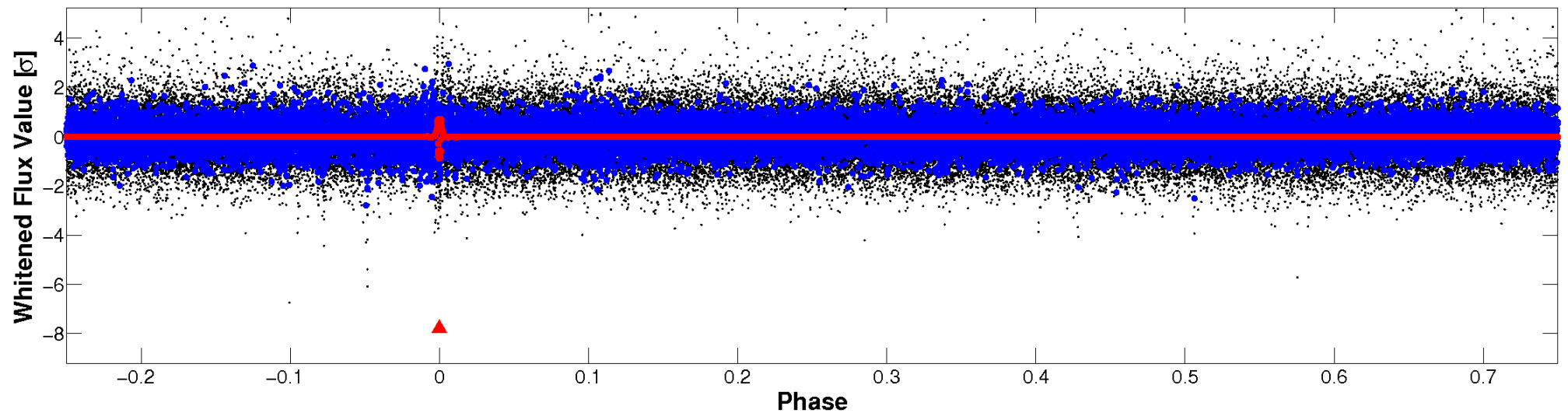


Non-Whitened Vs. Whitened Light Curve

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

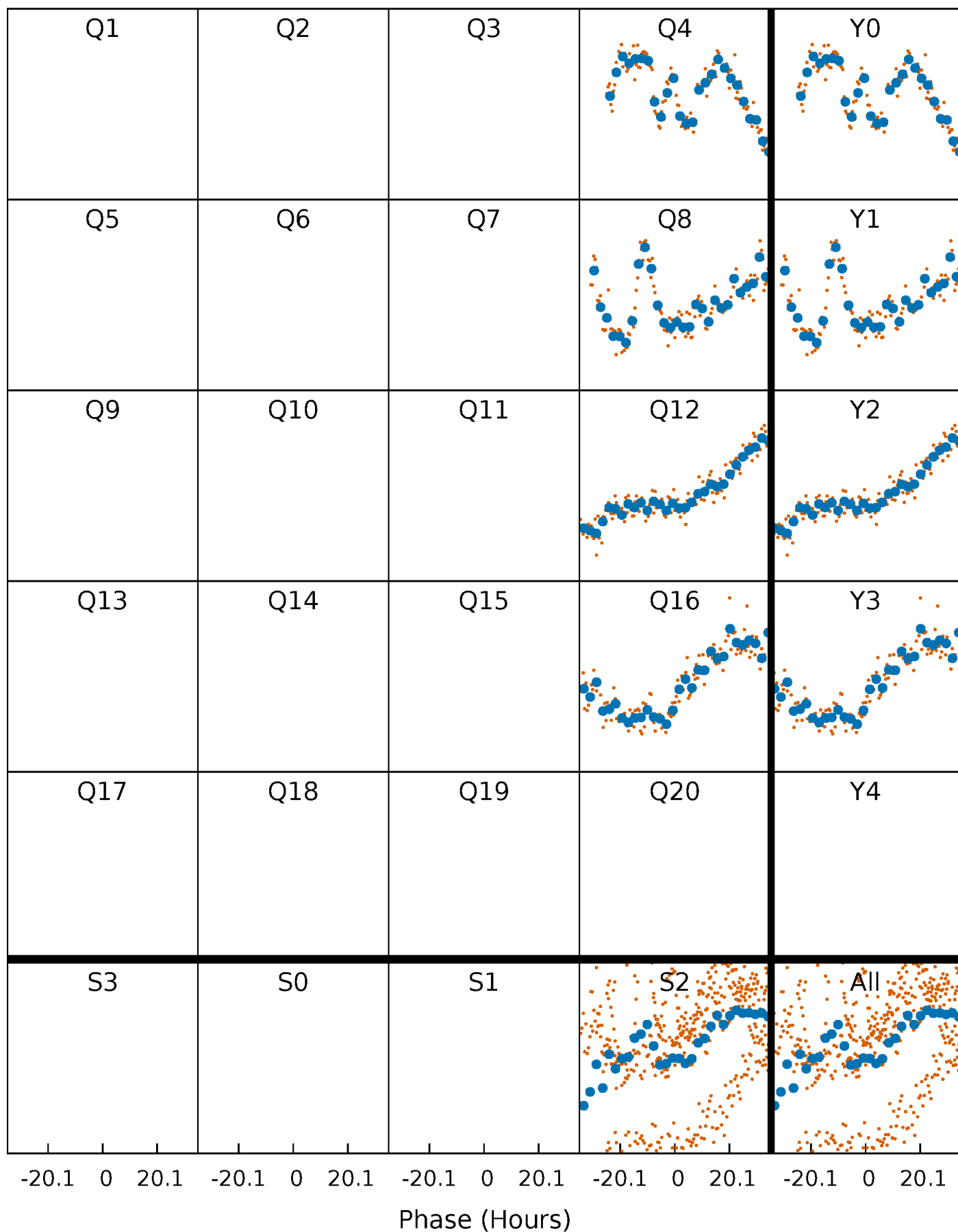


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007538307-01 P=363.185125 Days $T_0=401.866701$ (BKJD)



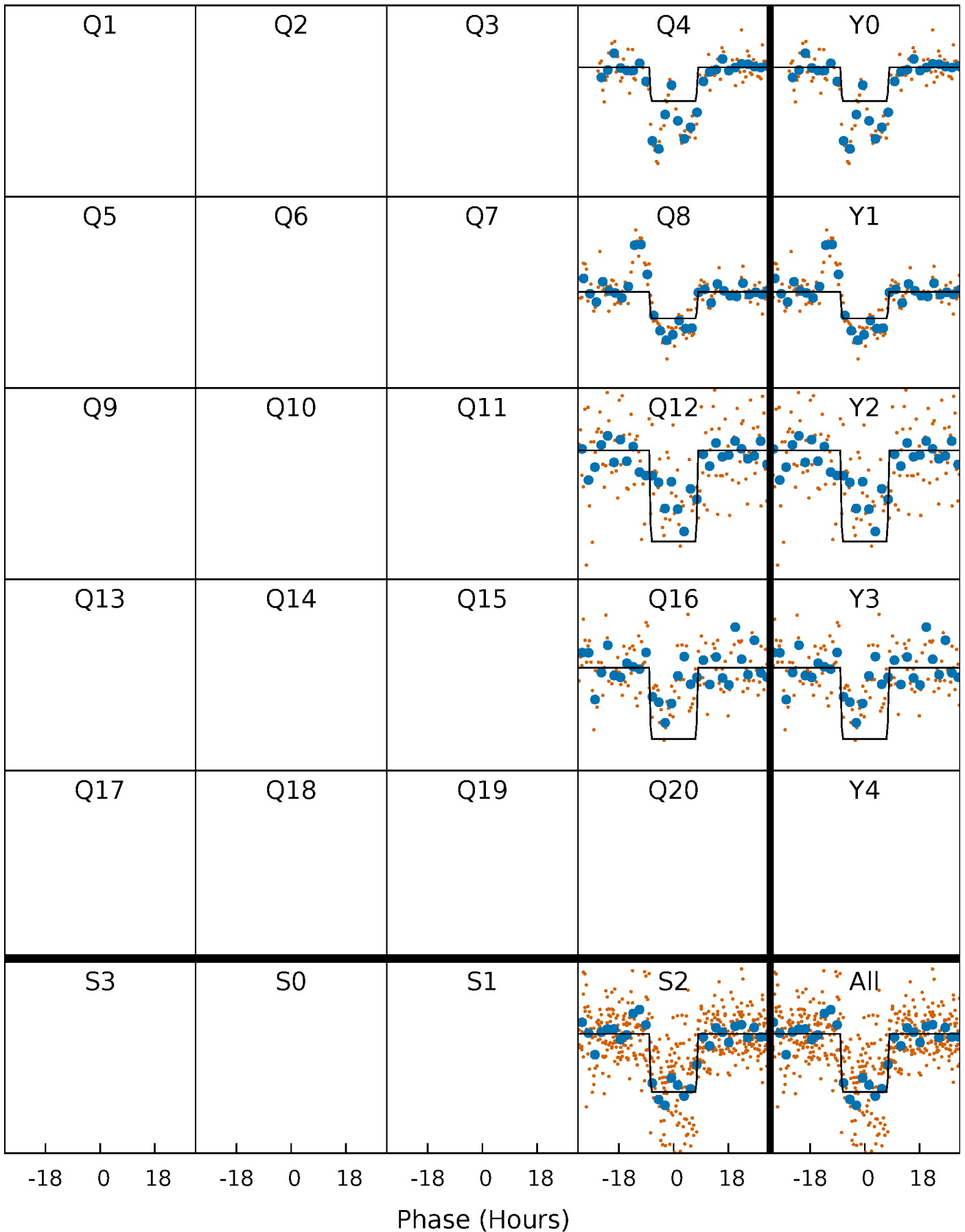
DV Quarter-Phased Transit Curves

TCE 007538307-01 P=363.185125 Days $T_0=401.866701$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

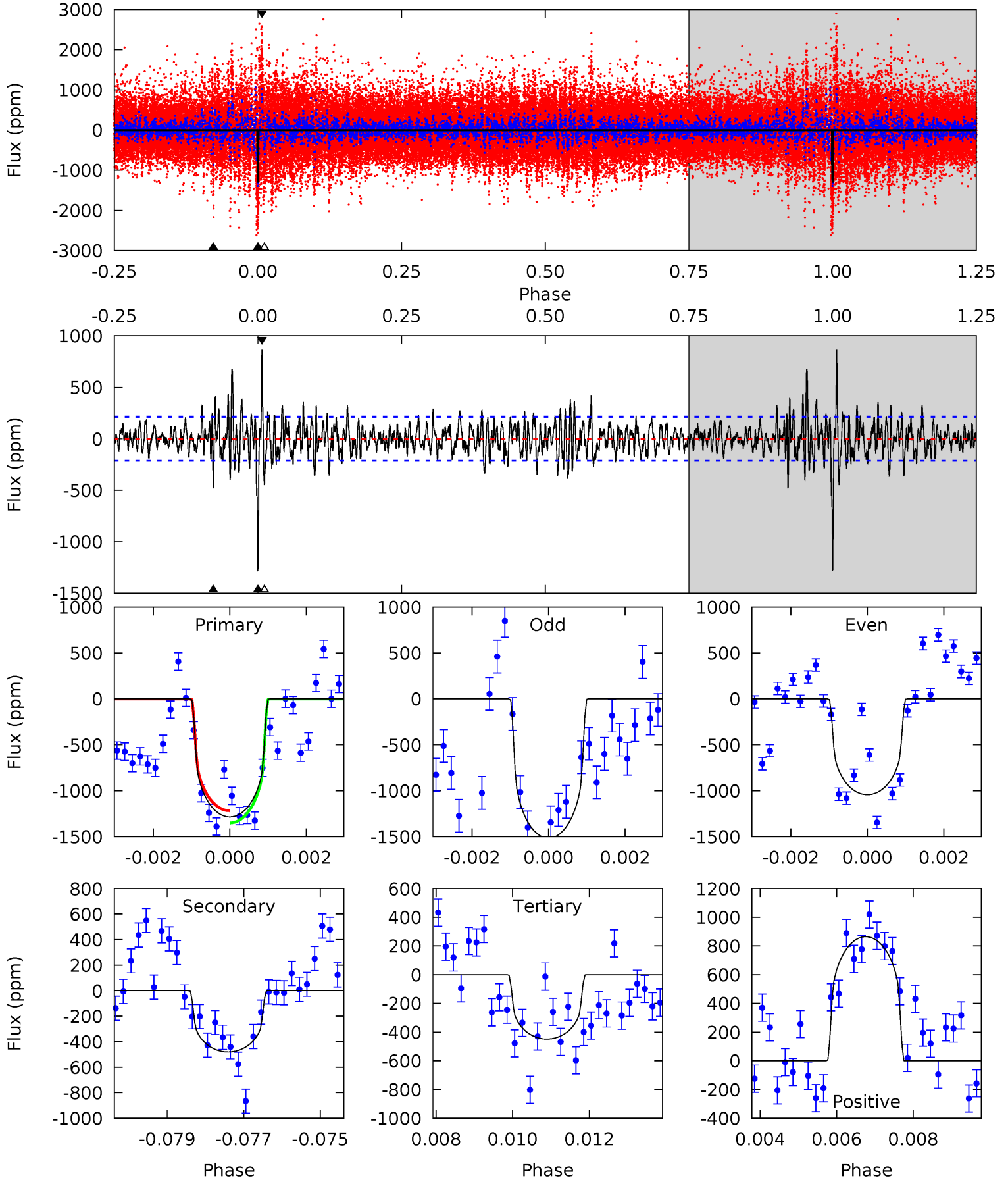
TCE 007538307-01 P=363.186095 Days $T_0=401.856420$ (BKJD)



DV Model-Shift Uniqueness Test

007538307-01, $P = 363.185125$ Days, $E = 38.681576$ Days

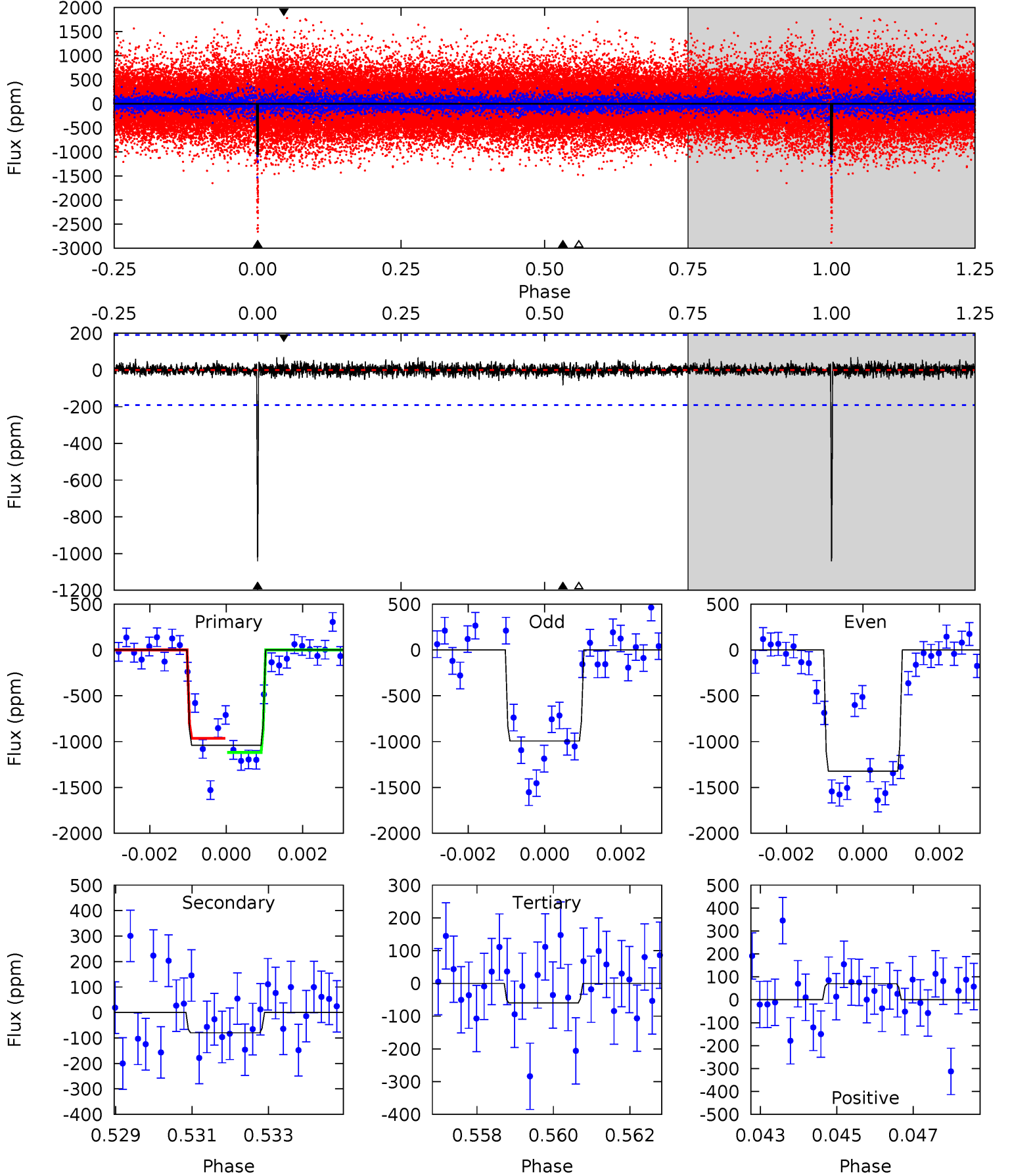
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.1	12.0	11.2	21.6	5.32	3.09	3.27	20.9	10.5	0.80	-9.61	5.90	0.97	0.40	1.66



Alt Model-Shift Uniqueness Test

007538307-01, $P = 363.186095$ Days, $E = 38.670325$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	2.23	1.67	1.95	5.35	3.12	0.43	27.5	27.2	0.55	0.28	4.82	1.07	0.06	2.17



Stellar Parameters For KIC 007538307

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4313^{+116}_{-129}	$4.636^{+0.049}_{-0.024}$	$-0.200^{+0.300}_{-0.300}$	$0.625^{+0.045}_{-0.060}$	$0.618^{+0.067}_{-0.050}$	$3.556^{+0.828}_{-0.379}$
	+3%/-3%	+1%/-1%	+150%/-150%	+7%/-10%	+11%/-8%	+23%/-11%
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 007538307-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-480 ± 40	$2.31^{+0.45}_{-0.45}$	227^{+7}_{-8}	3688^{+289}_{-224}	36485^{+19107}_{-11014}
Alt.	-80 ± 36	$2.34^{+0.46}_{-0.48}$	227^{+7}_{-8}	2805^{+242}_{-246}	5707^{+4310}_{-2839}

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 007538307-01. Kepler magnitude: 15.28. Transit SNR 10.36

There are 0 quarters with good PRF difference image offsets

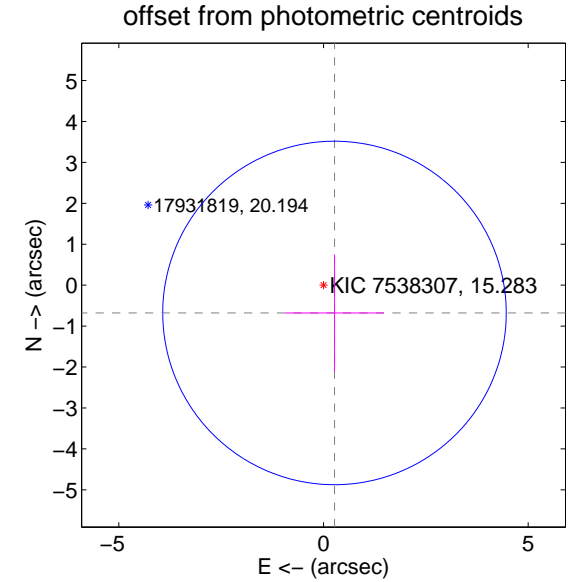
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	0.73 ± 1.40	0.52	-0.27 ± 1.21	-0.68 ± 1.43

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.



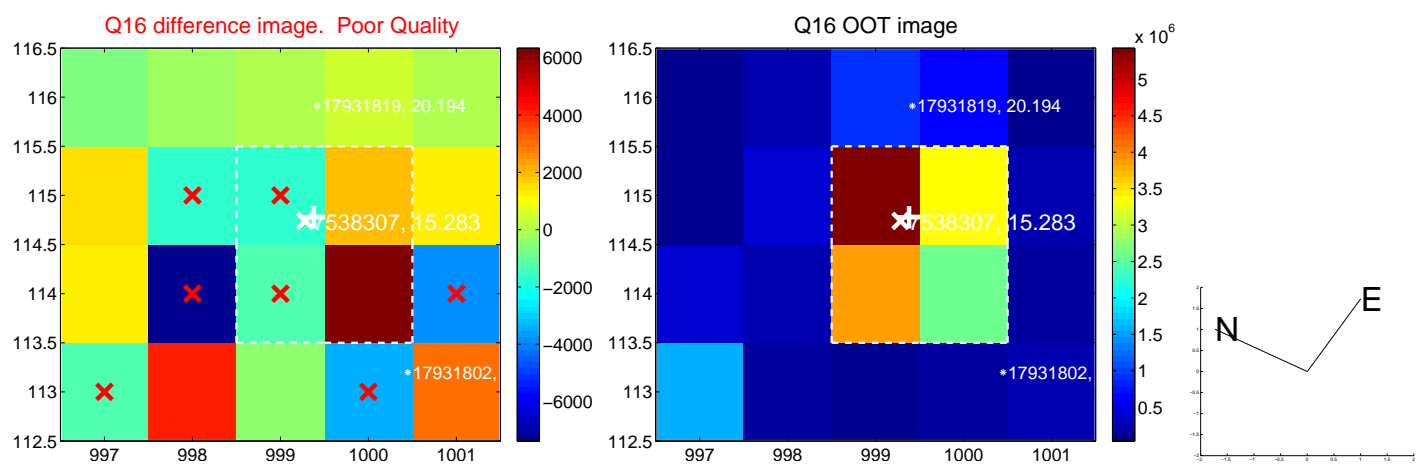
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



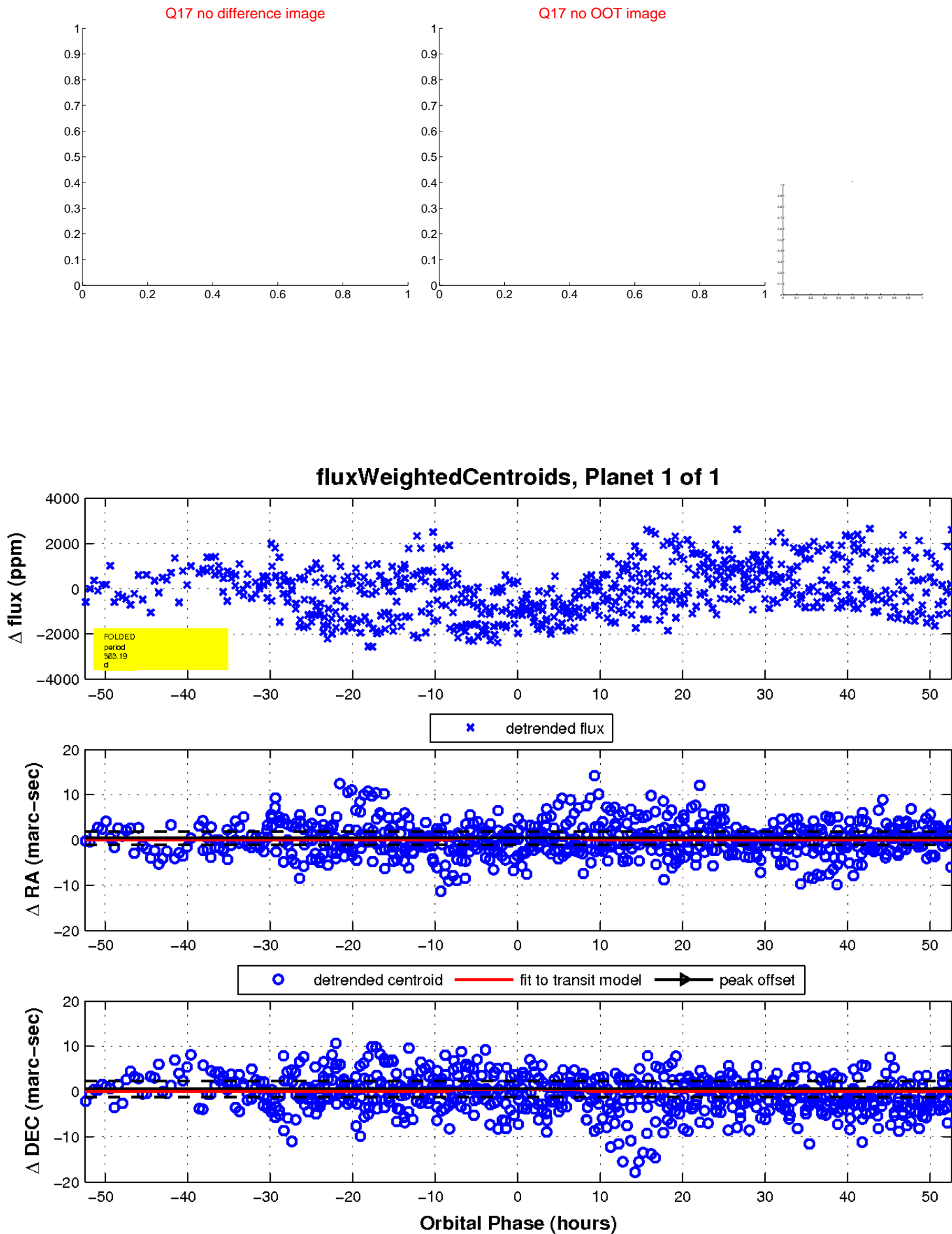
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

