

KIC 003859512

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})
003859512-01	OBS	No	281.801669	161.388406	2010.2	6.904	13.8	6.4	0.71	4415	3.22	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003859512-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

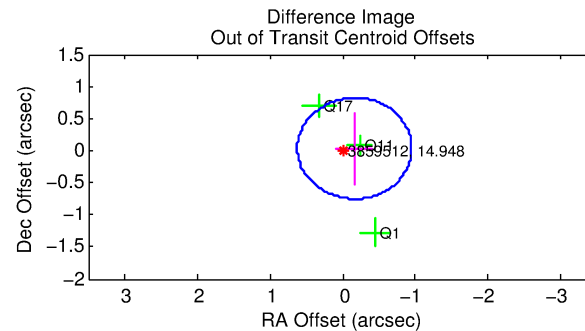
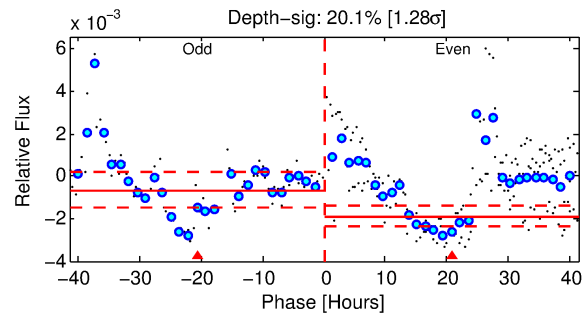
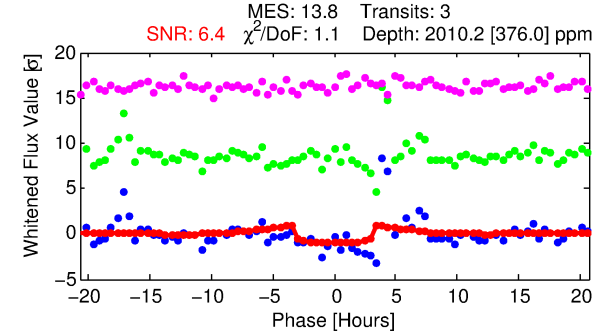
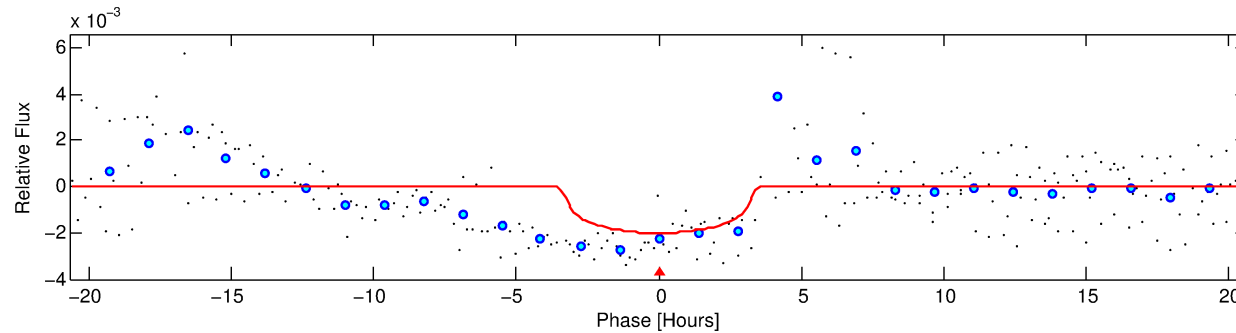
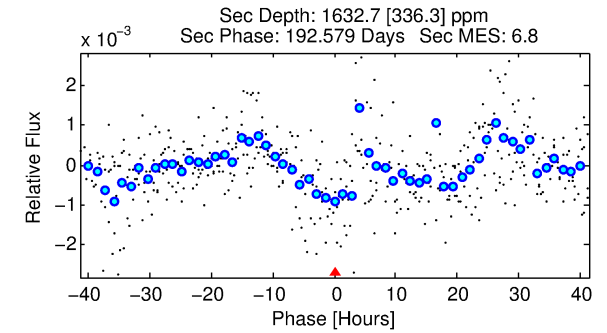
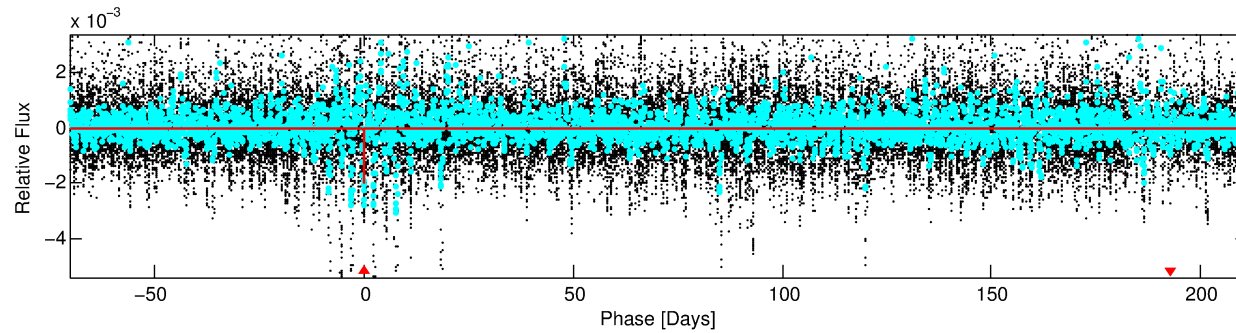
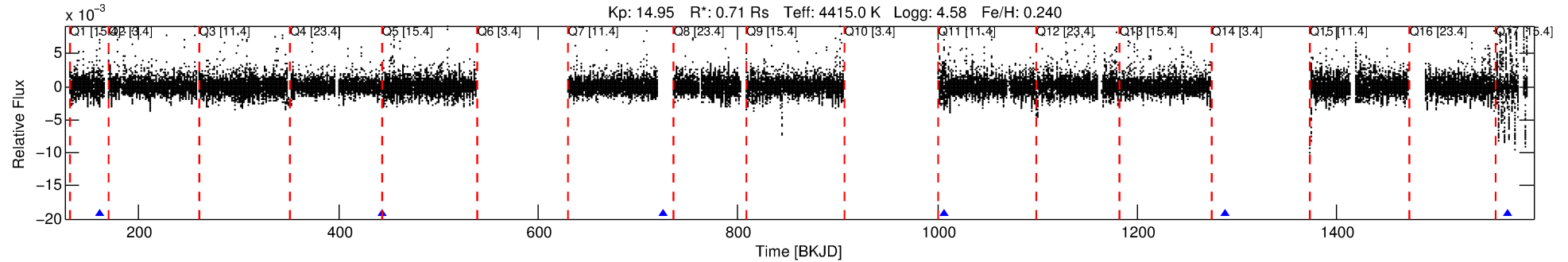
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003859512-01

No Significant Match Found

DV One-Page Summary

KIC: 3859512 Candidate: 1 of 1 Period: 281.802 d



DV Fit Results:

Period = 281.80167 [0.00336] d
Epoch = 161.3884 [0.0123] BKJD
Rp/R* = 0.0413 [0.0352]
a/R* = 280.05 [686.82]
b = 0.53 [3.41]
Seff = 0.31 [0.05]
Teq = 190 [8] K
Rp = 3.22 [2.76] Re
a = 0.7502 [0.0546] AU
Ag = 48633.26 [83552.48] [0.58σ]
Teffp = 4366 [1877] K [2.22σ]

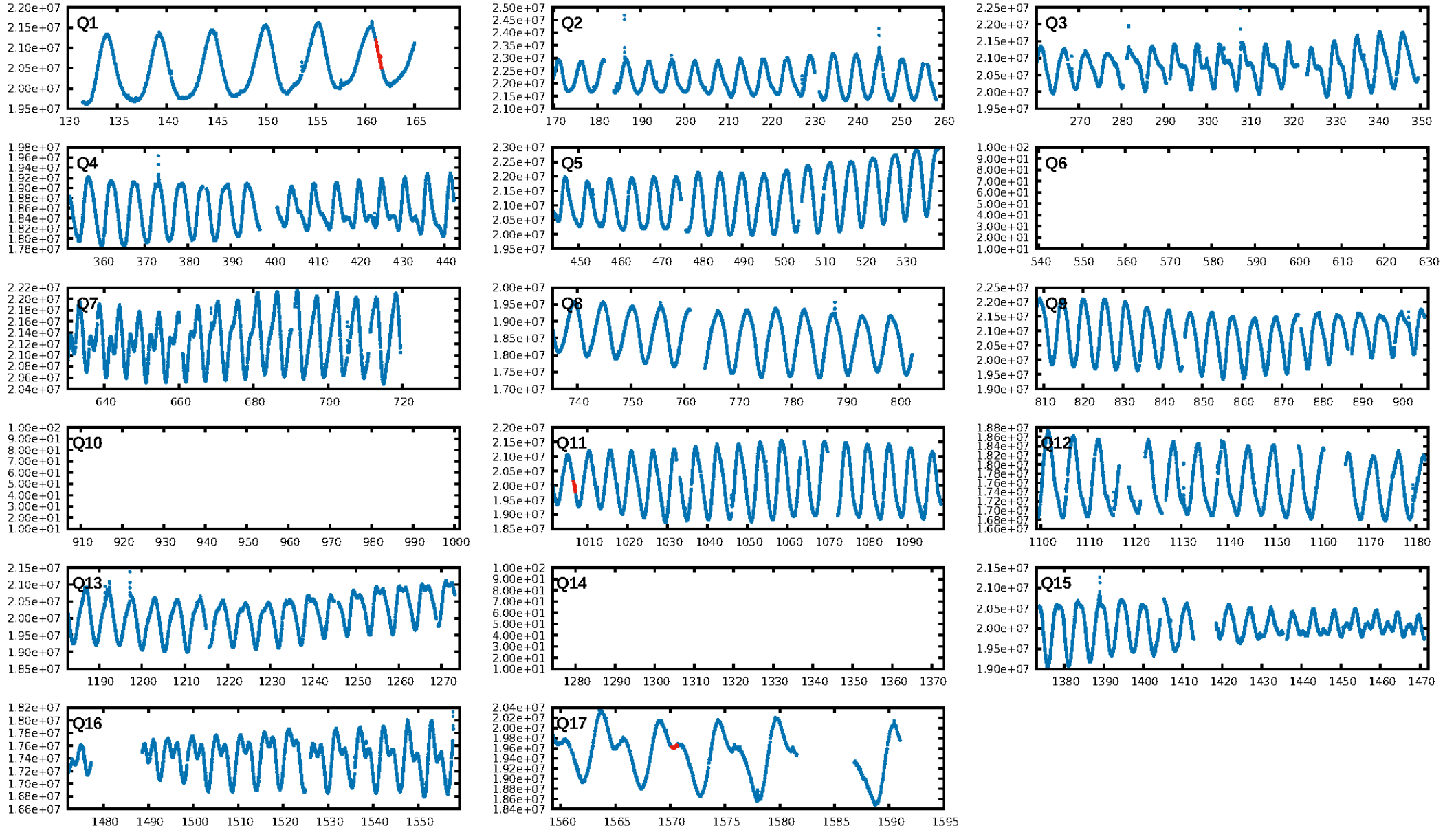
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.3%
ModelChiSquareGof-sig: 97.1%
Bootstrap-pfa: 7.78e-13
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: 1.235
Centroid-sig: 0.2%
Centroid-so: 2.156 arcsec [2.20σ]
OotOffset-rm: 0.168 arcsec [0.64σ]
KicOffset-rm: 0.178 arcsec [0.28σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

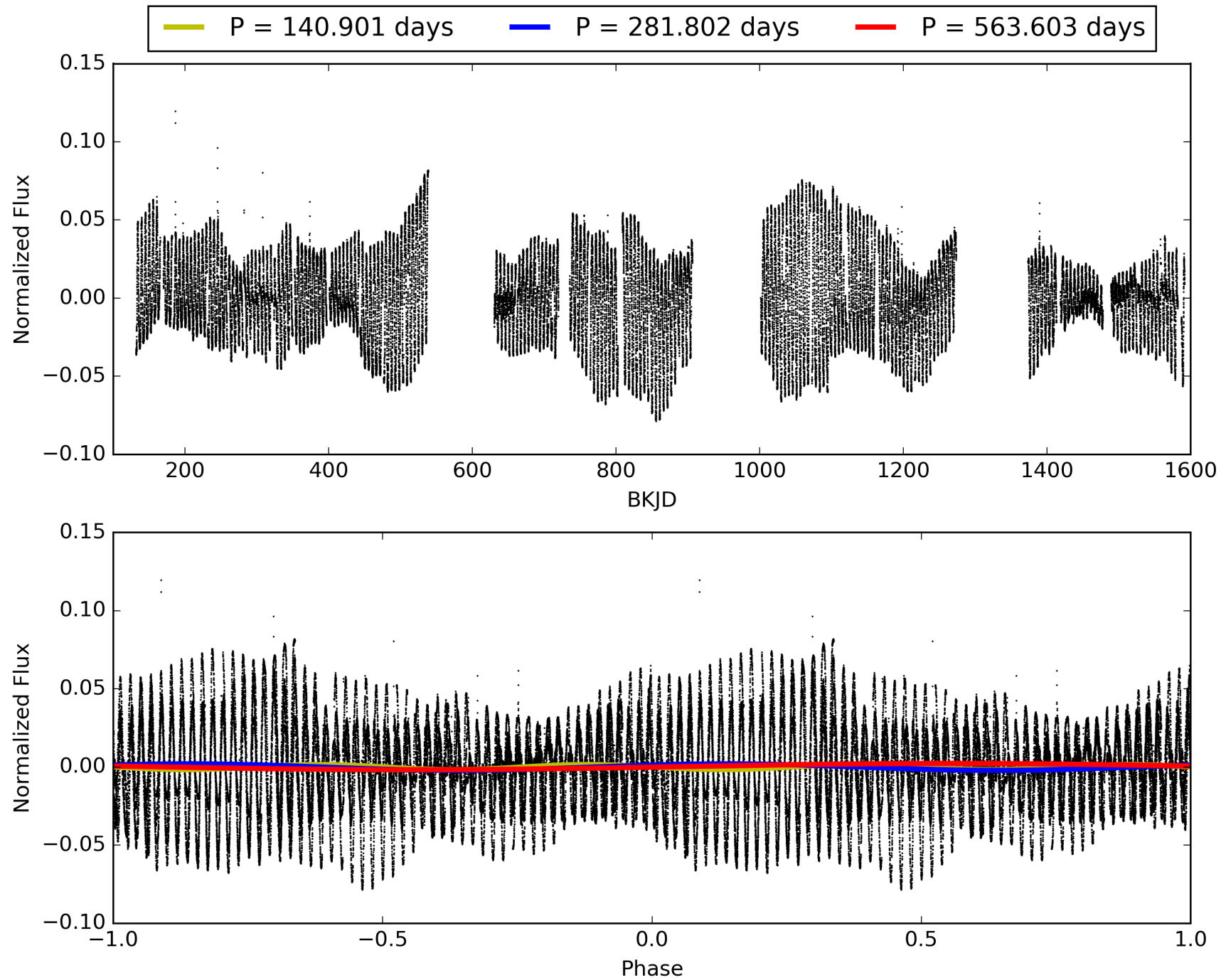
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:39:04 Z

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

TCE 003859512-01, PDC Light Curves

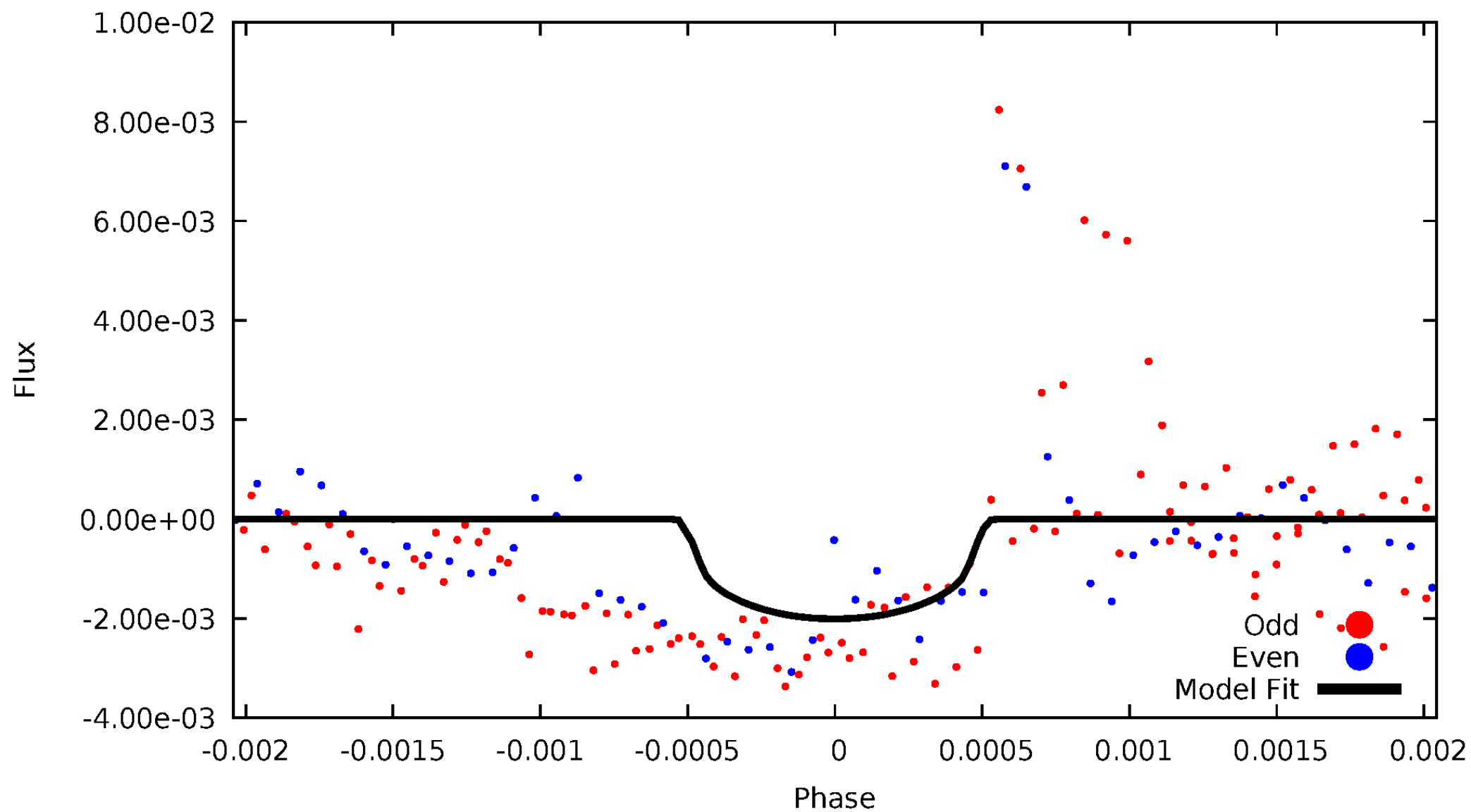


TCE 003859512-01



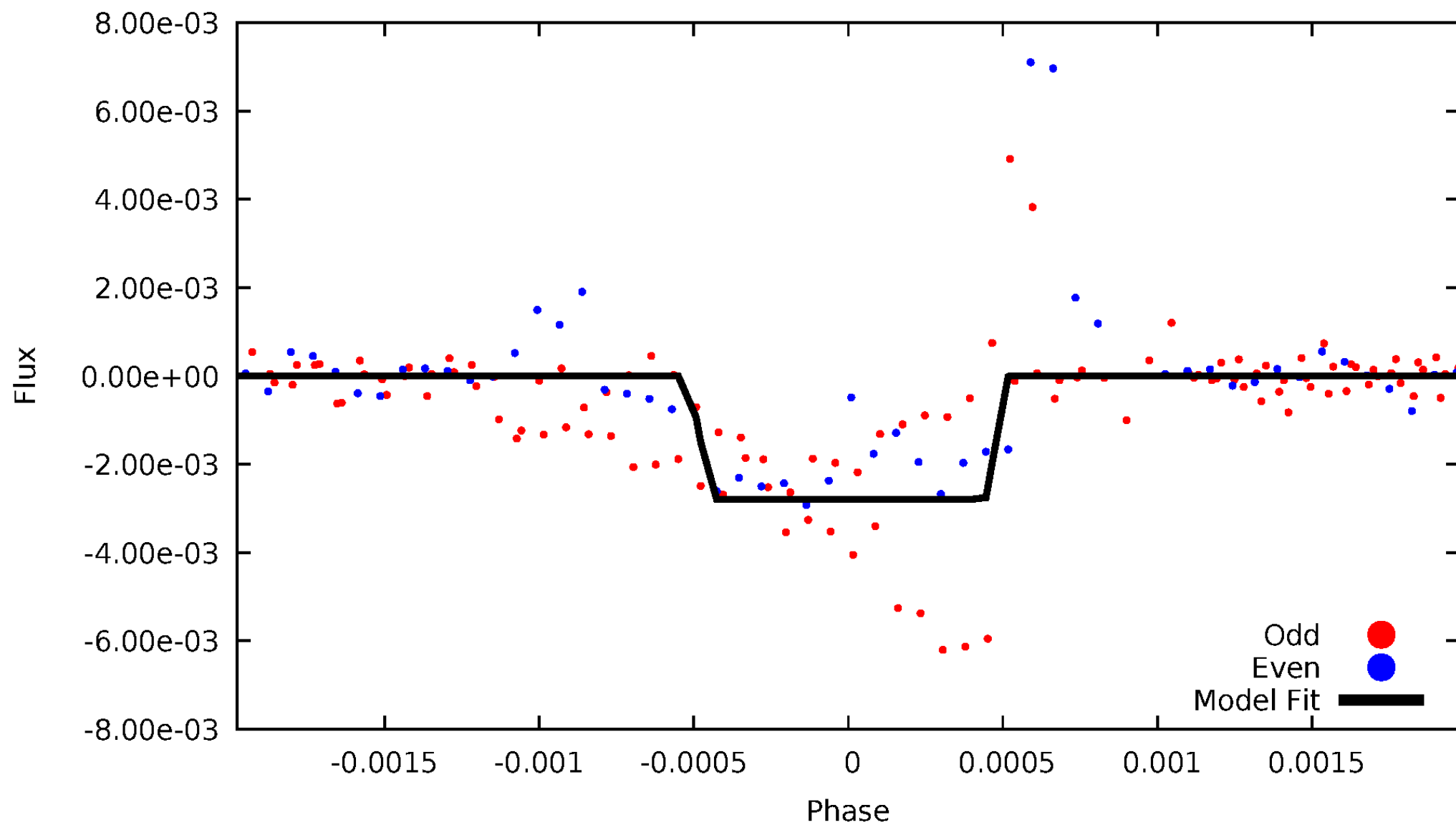
DV Odd/Even

TCE 003859512-01

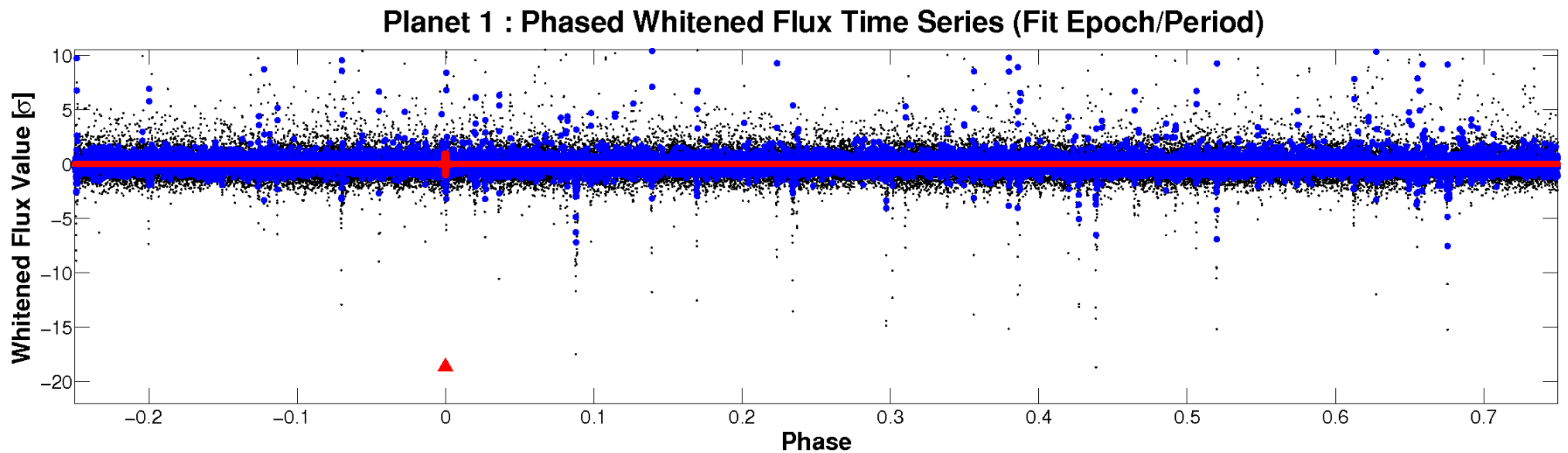
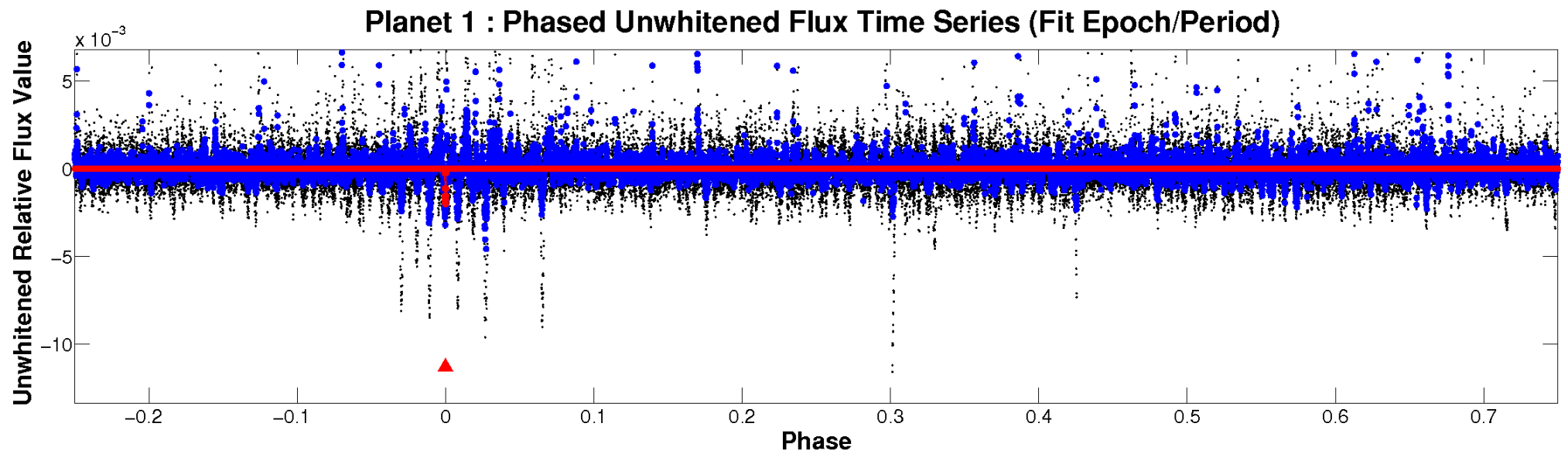


ALT Odd/Even

TCE 003859512-01

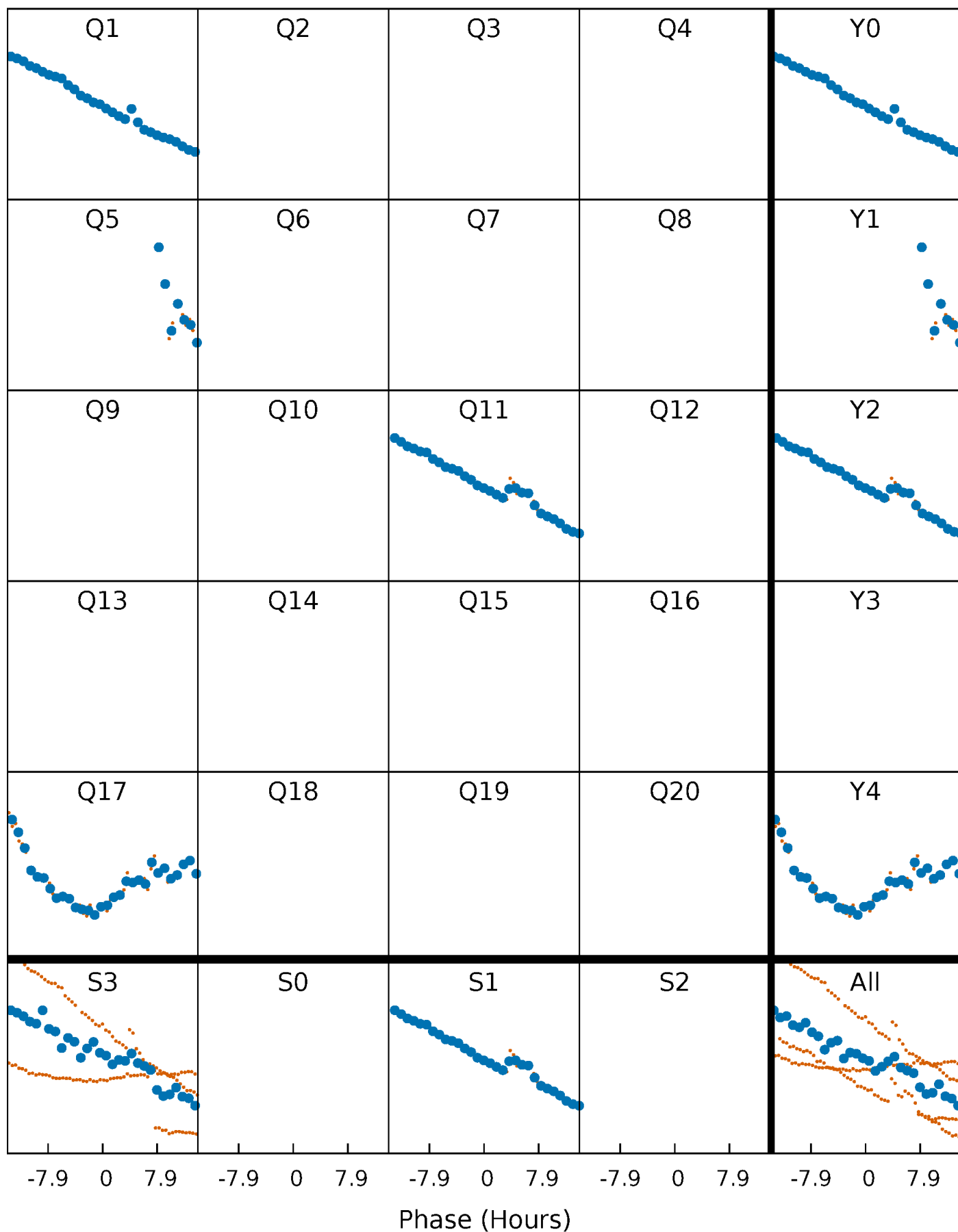


Non-Whitened Vs. Whitened Light Curve



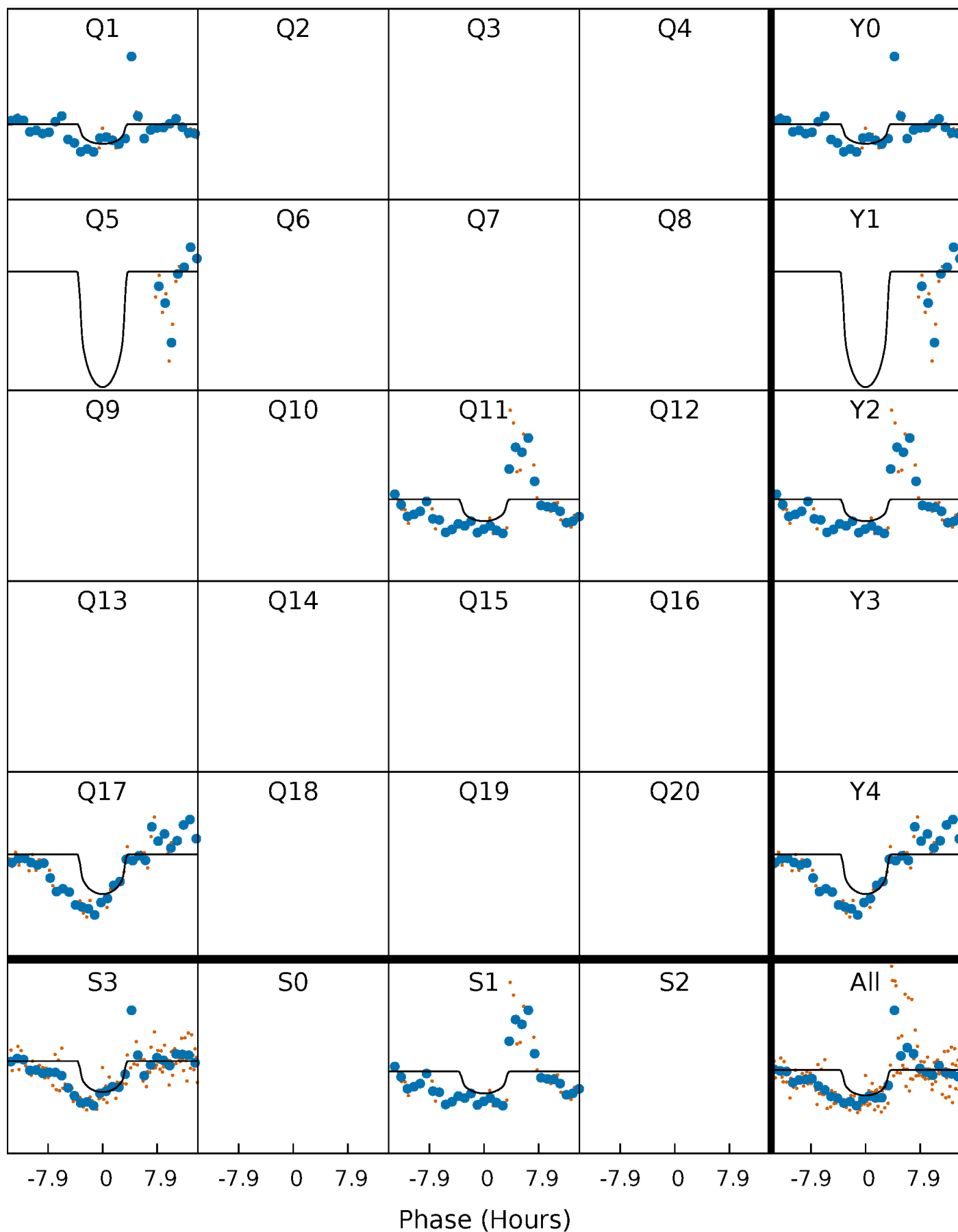
PDC Quarter-Phased Transit Curves

TCE 003859512-01 P=281.801669 Days $T_0=161.388406$ (BKJD)



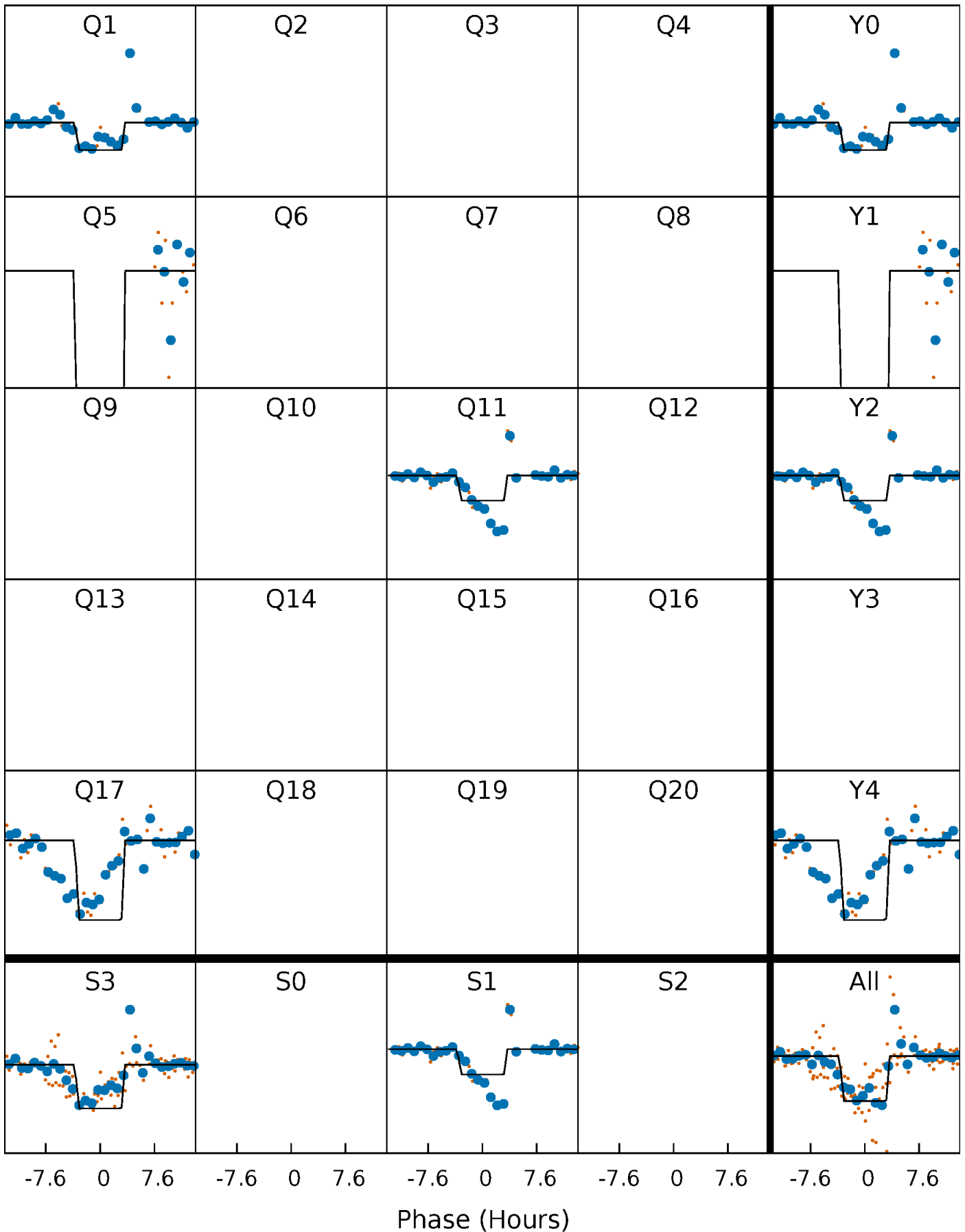
DV Quarter-Phased Transit Curves

TCE 003859512-01 P=281.801669 Days $T_0=161.388406$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

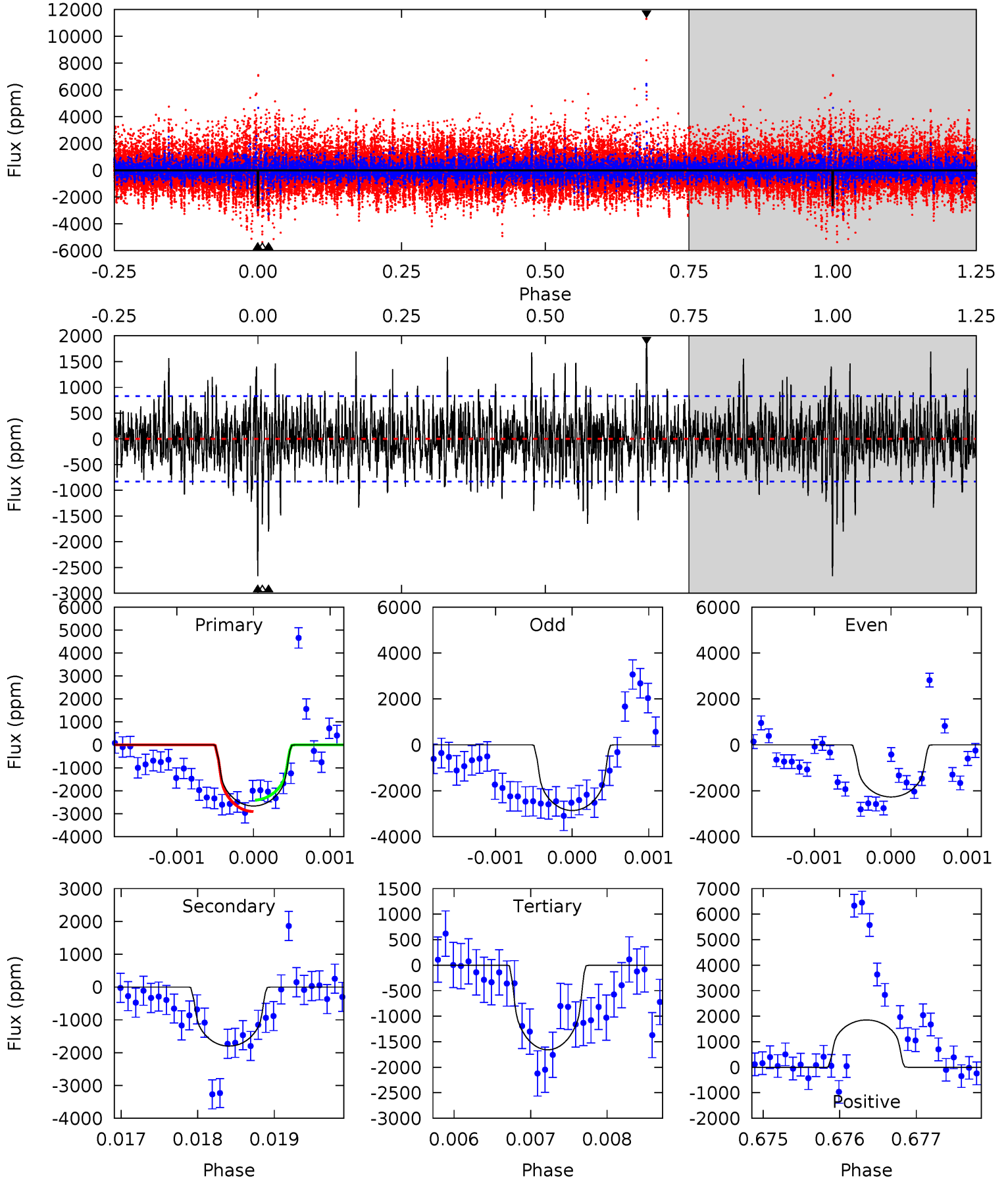
TCE 003859512-01 P=281.806037 Days $T_0=161.385018$ (BKJD)



DV Model-Shift Uniqueness Test

003859512-01, P = 281.801669 Days, E = 161.388406 Days

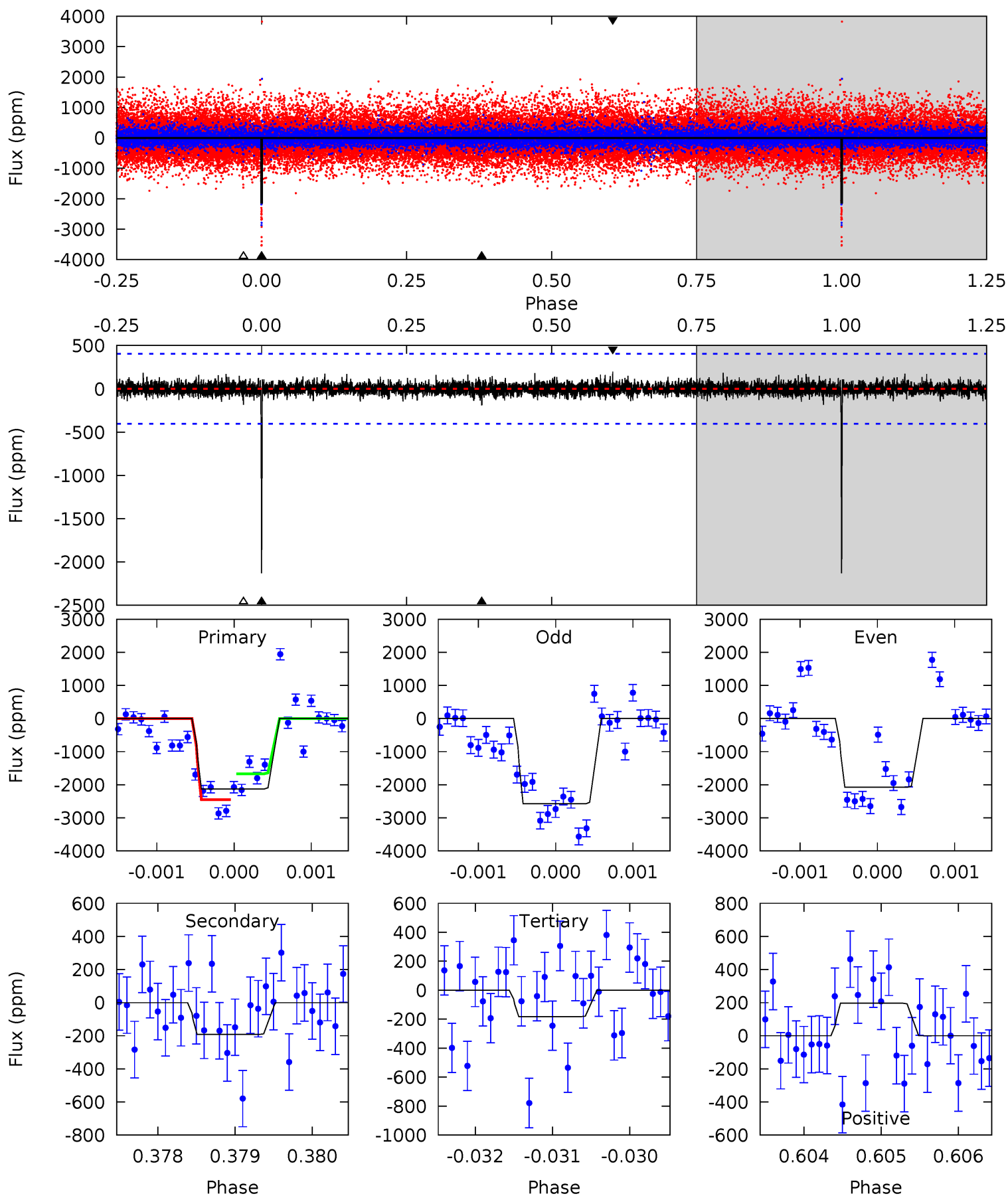
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	11.8	10.9	12.1	5.44	3.27	2.81	6.60	5.32	0.93	-0.35	1.65	1.00	0.41	1.64



Alt Model-Shift Uniqueness Test

003859512-01, P = 281.806037 Days, E = 161.385018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	2.59	2.46	2.65	5.45	3.29	0.55	26.3	26.1	0.13	-0.06	3.46	1.23	0.08	5.25



Stellar Parameters For KIC 003859512

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4415^{+132}_{-145}	$4.580^{+0.056}_{-0.018}$	$0.240^{+0.150}_{-0.300}$	$0.715^{+0.025}_{-0.063}$	$0.708^{+0.046}_{-0.050}$	$2.730^{+0.636}_{-0.197}$
	+3%/-3%	+1%/-0%	+62%/-125%	+3%/-9%	+6%/-7%	+23%/-7%
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 003859512-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1800 ± 153	$3.39^{+2.58}_{-2.15}$	264^{+9}_{-9}	4334^{+2359}_{-763}	$48850^{+318645}_{-33503}$
Alt.	-192 ± 74	$4.28^{+2.54}_{-2.44}$	264^{+8}_{-11}	2837^{+755}_{-387}	3309^{+13070}_{-2224}

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

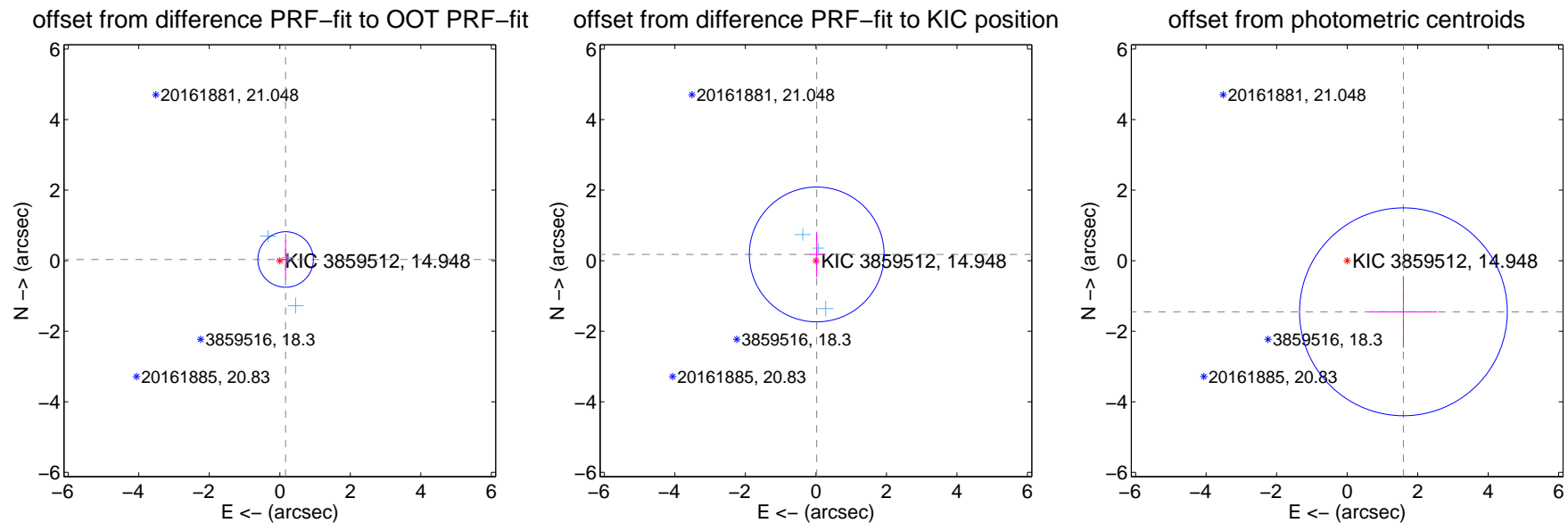
DV Centroid Data

Supplemental centroid analysis for 003859512-01. Kepler magnitude: 14.95. Transit SNR 6.42

There are 3 quarters with good PRF difference image offsets

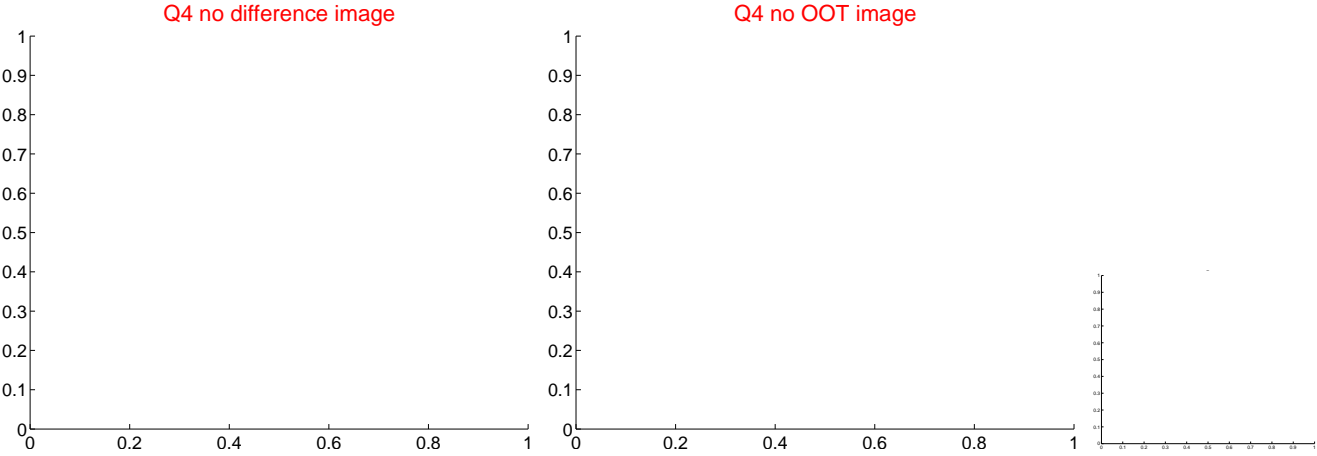
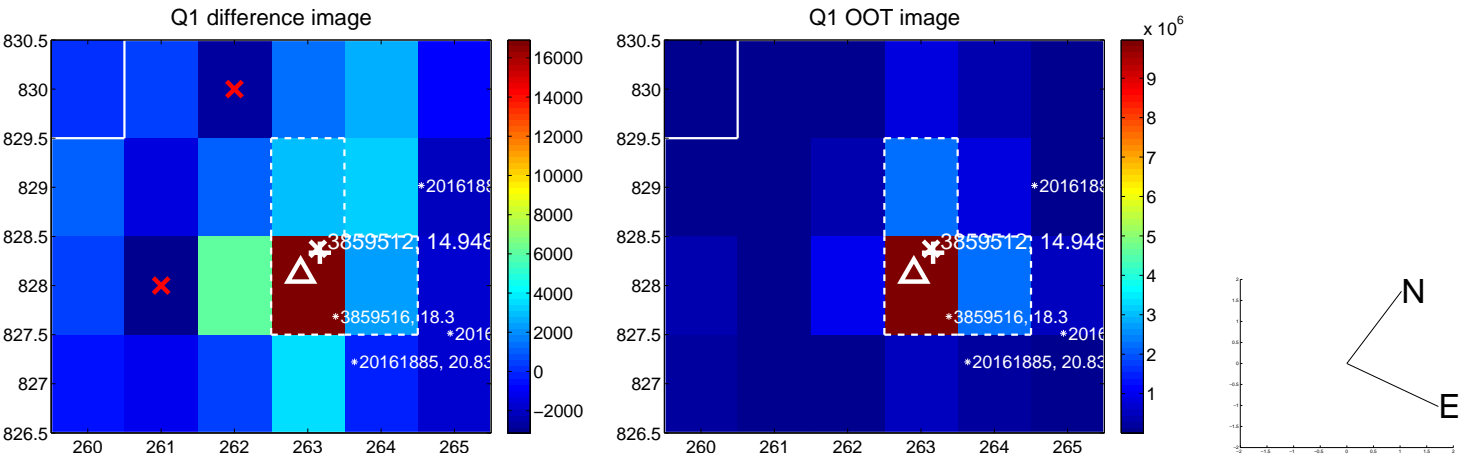
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.168 ± 0.262	0.64	-0.165 ± 0.242	0.034 ± 0.556
PRF-fit source offset from KIC position	0.178 ± 0.637	0.28	-0.023 ± 0.199	0.177 ± 0.642
photometric centroid source offset	2.16 ± 0.98	2.20	-1.60 ± 0.95	-1.45 ± 1.02



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



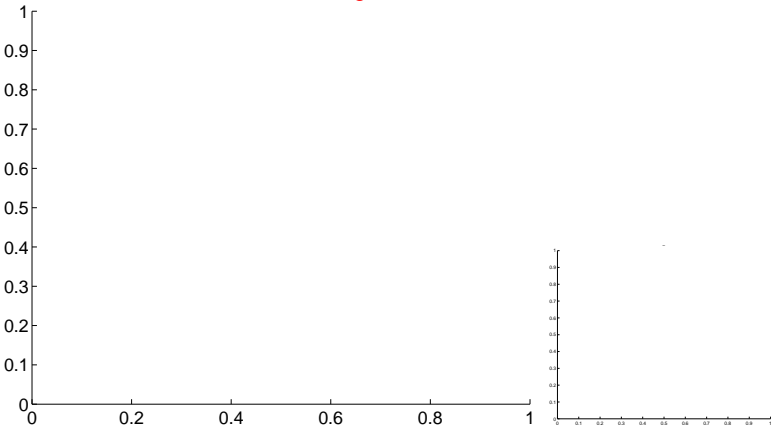
Q9 no OOT image



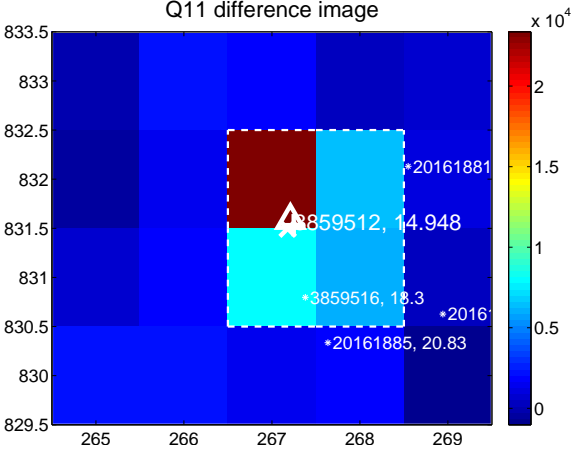
Q10 no difference image



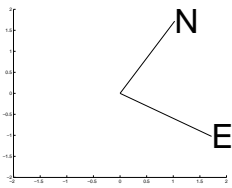
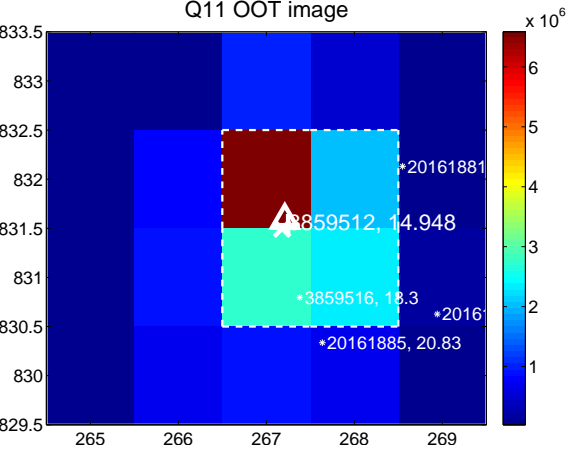
Q10 no OOT image



Q11 difference image



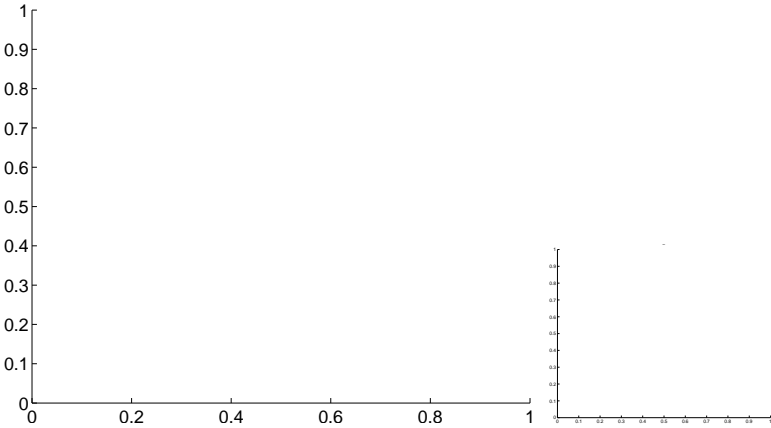
Q11 OOT image



Q12 no difference image



Q12 no OOT image



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



UKIRT Image

Declination

