

KIC 005791366

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})
005791366-01	OBS	No	496.756004	569.719998	621.2	18.151	7.7	7.9	0.77	5332	2.18	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005791366-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—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.

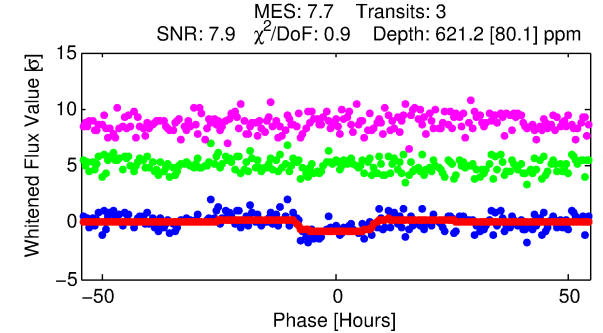
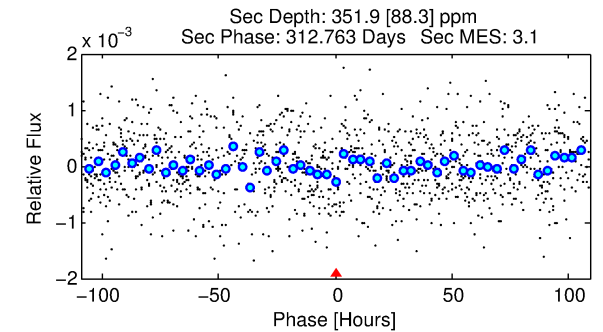
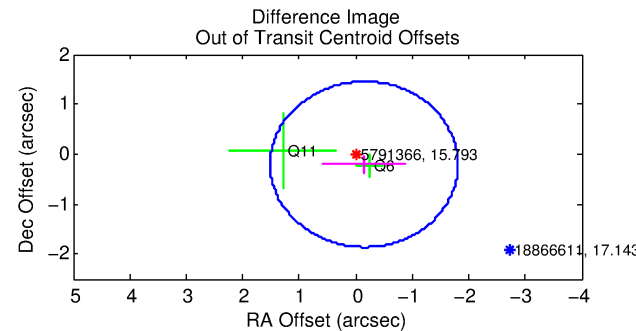
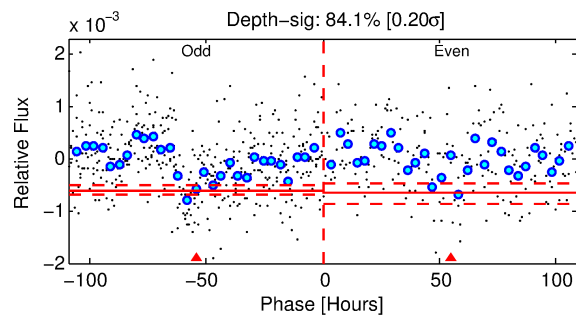
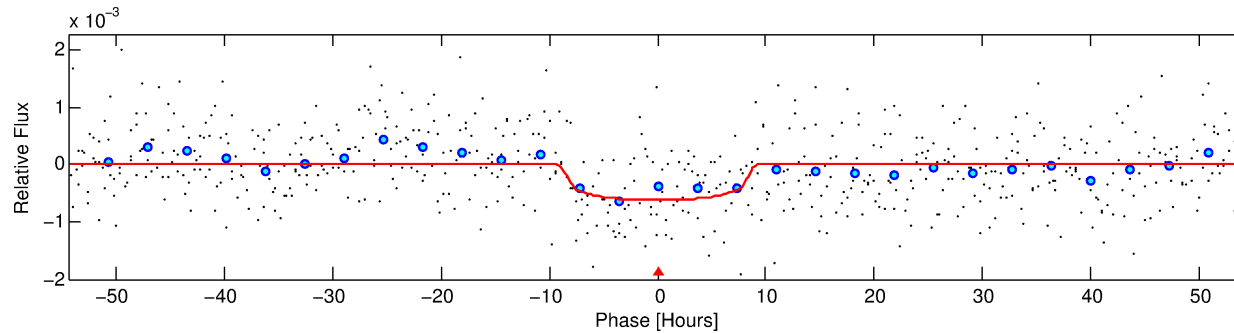
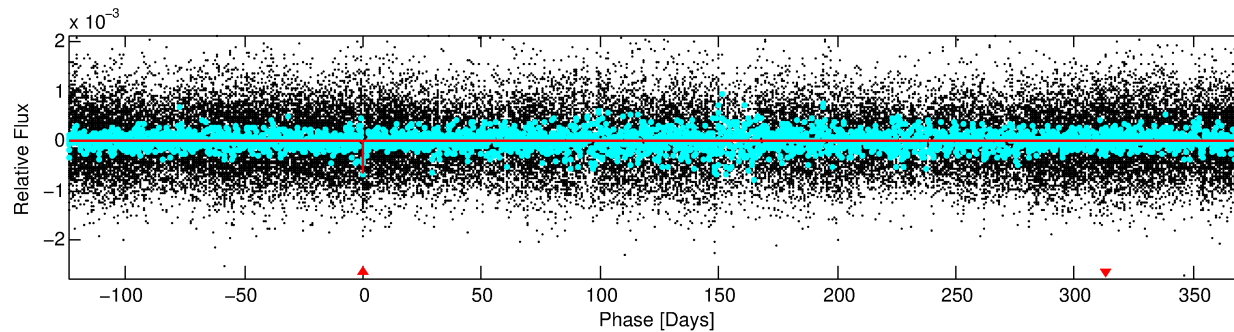
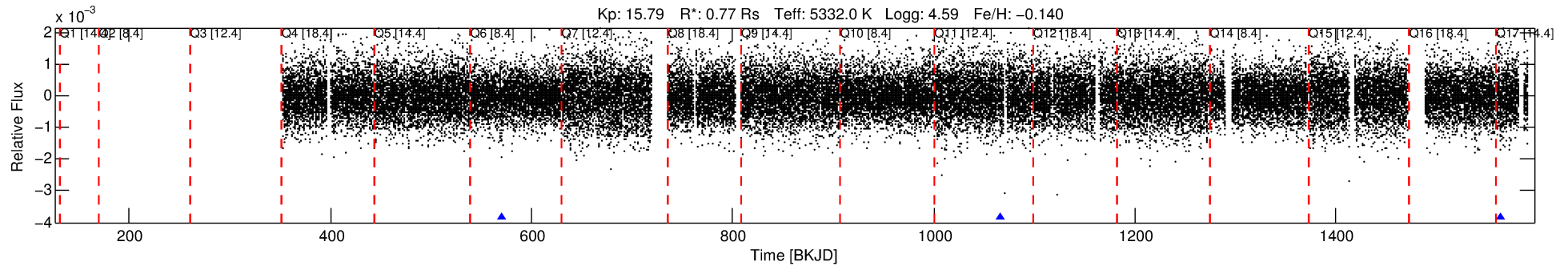
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005791366-01

No Significant Match Found

DV One-Page Summary

KIC: 5791366 Candidate: 1 of 1 Period: 496.756 d



DV Fit Results:

Period = 496.75600 [0.02213] d
Epoch = 569.7200 [0.0278] BKJD
Rp/R* = 0.0260 [0.0060]
a/R* = 125.35 [112.40]
b = 0.83 [0.34]
Seff = 0.32 [0.08]
Teq = 191 [12] K
Rp = 2.18 [0.65] Re
a = 1.1646 [0.1754] AU
Ag = 55073.53 [31361.43] [1.76 σ]
Teffp = 4533 [619] K [7.01 σ]

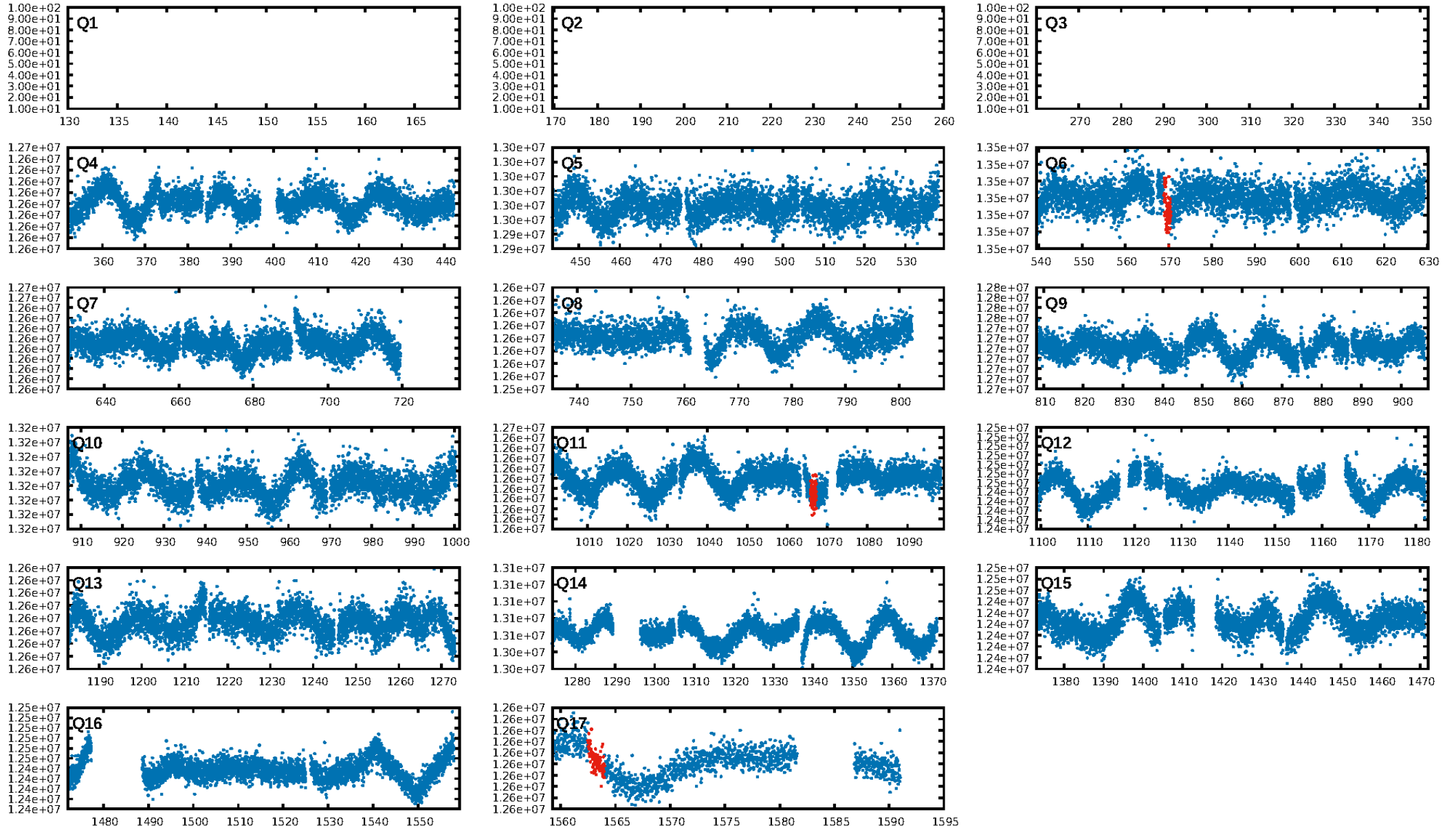
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.07e-15
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.8568
Centroid-sig: 0.4%
Centroid-so: 2.348 arcsec [1.83 σ]
OotOffset-rm: 0.253 arcsec [0.46 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 0.560 arcsec [1.37 σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

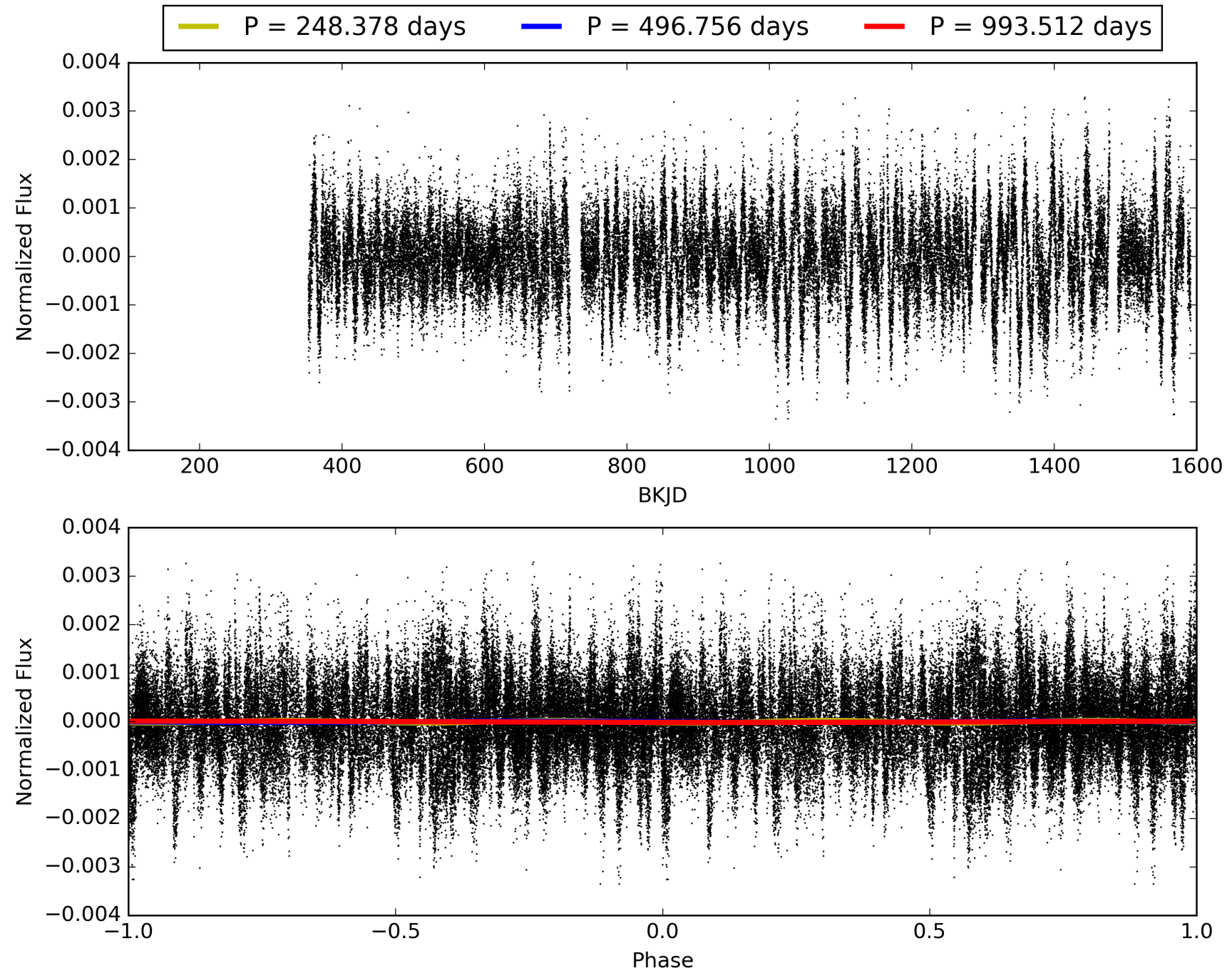
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:52:54 Z

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

TCE 005791366-01, PDC Light Curves

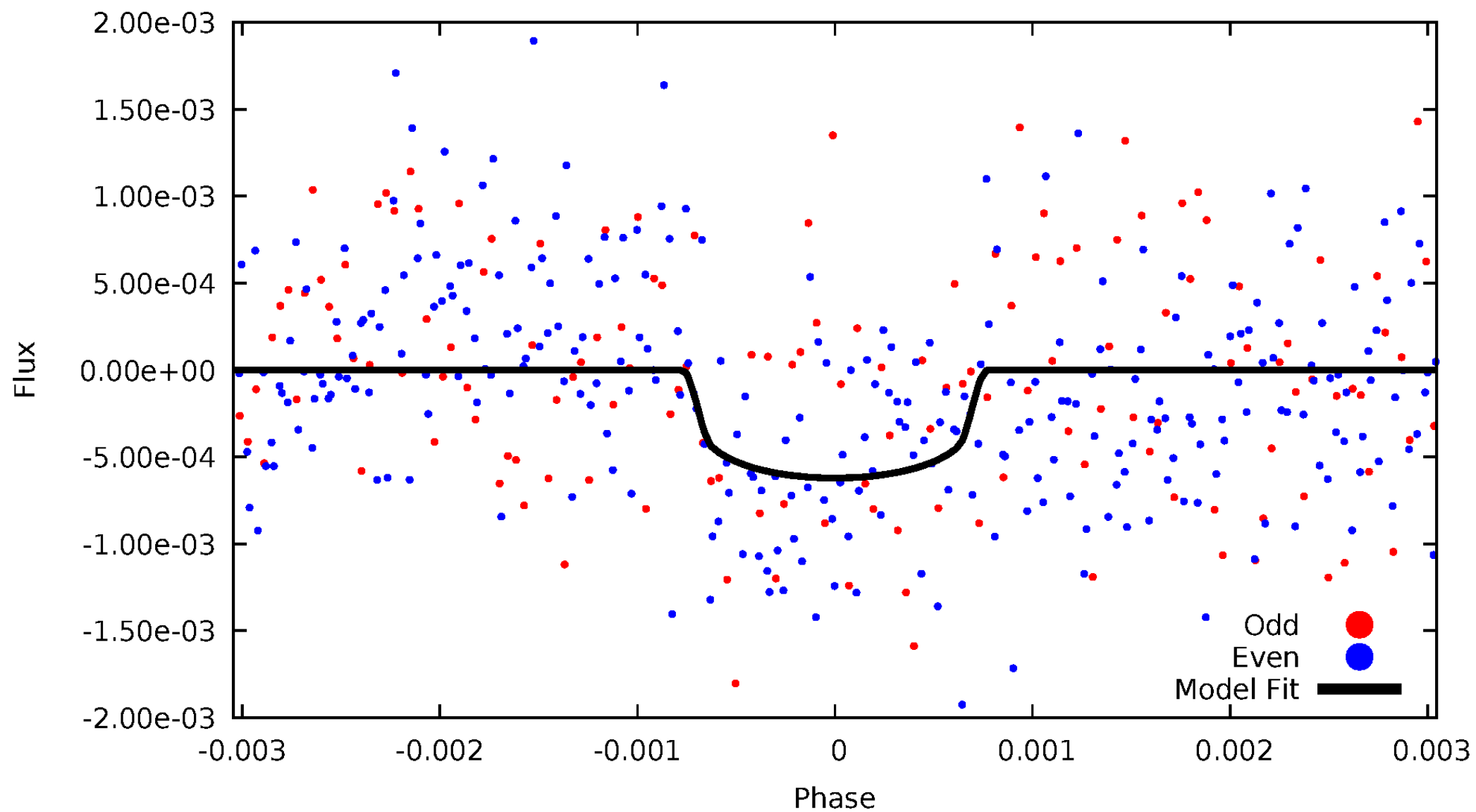


TCE 005791366-01



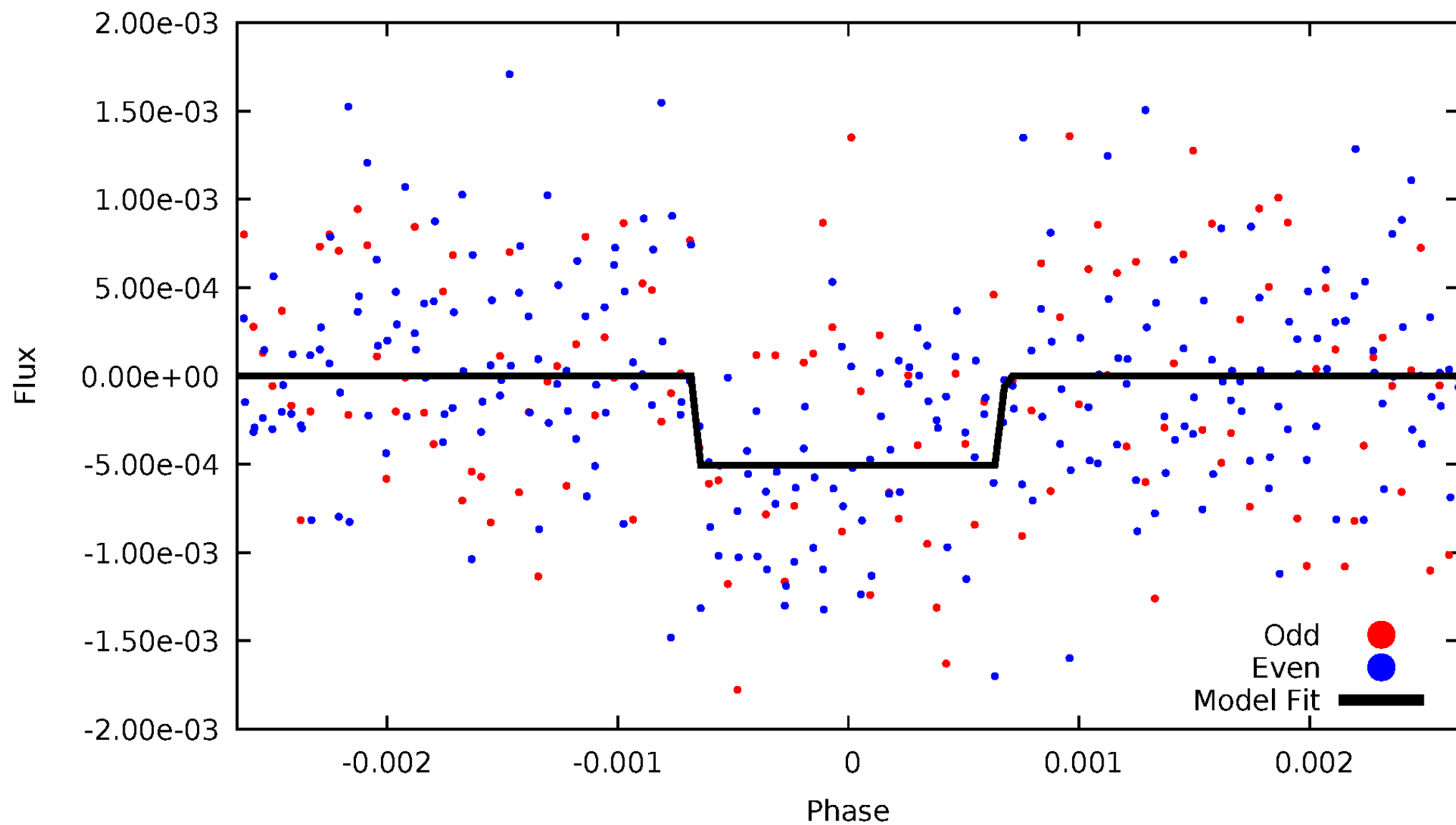
DV Odd/Even

TCE 005791366-01

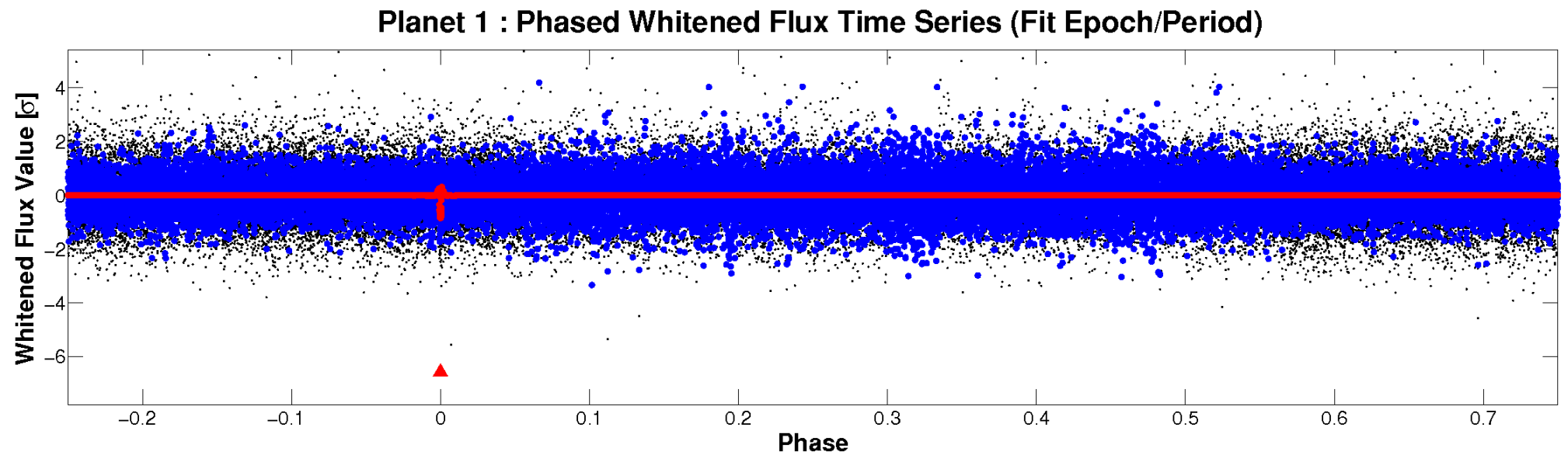
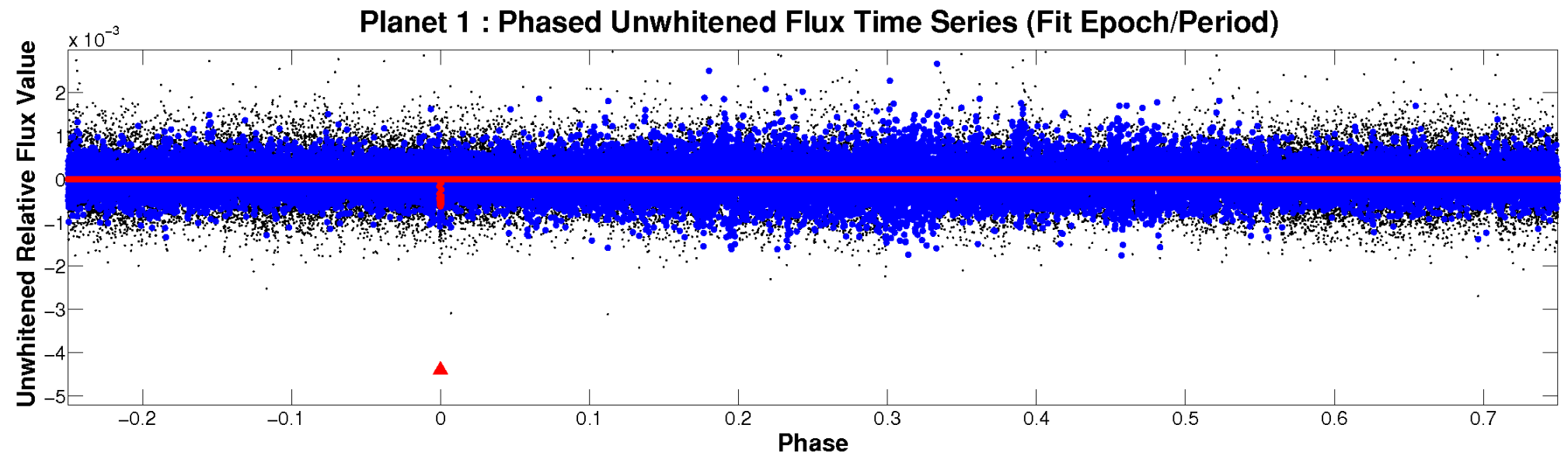


ALT Odd/Even

TCE 005791366-01

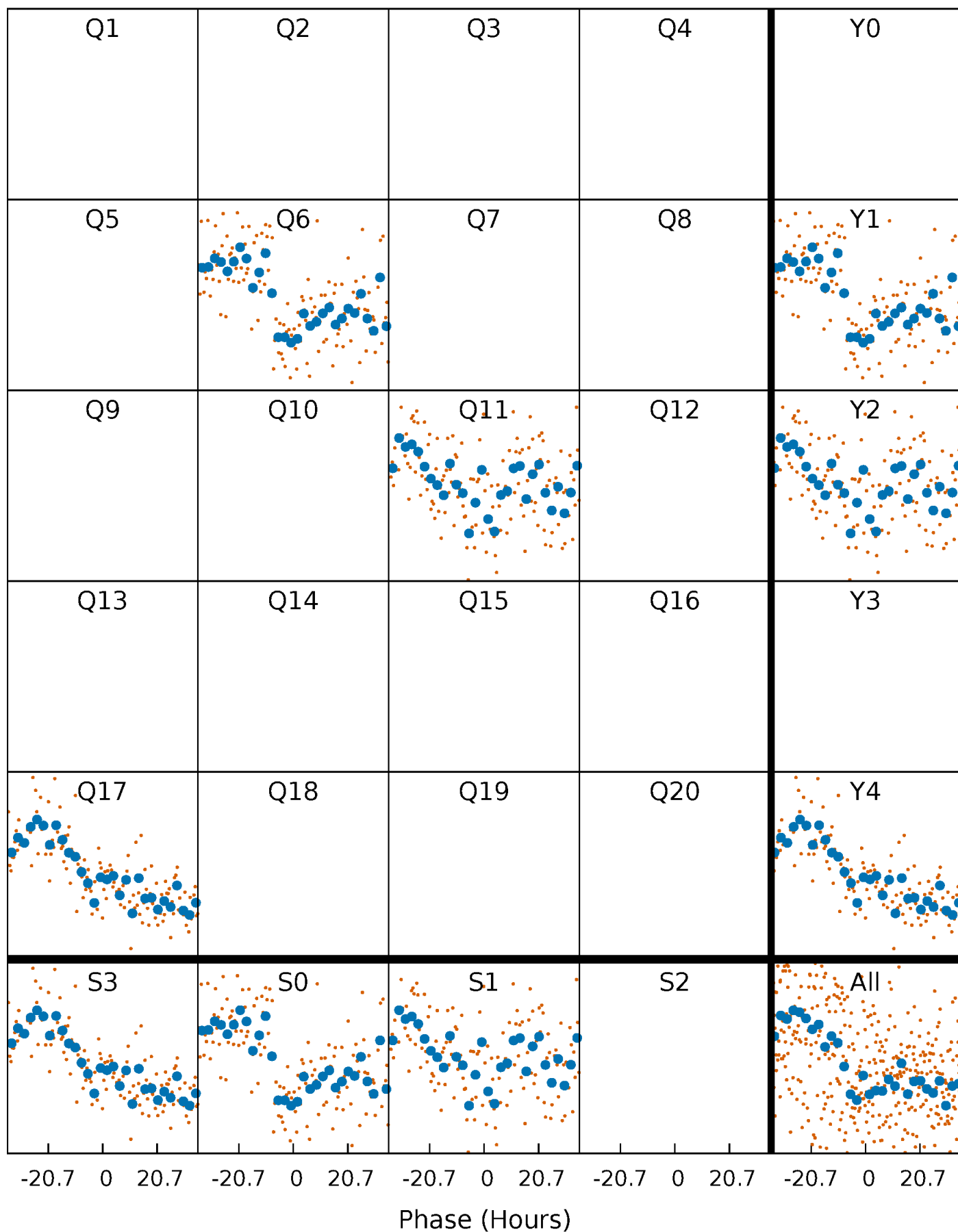


Non-Whitened Vs. Whitened Light Curve



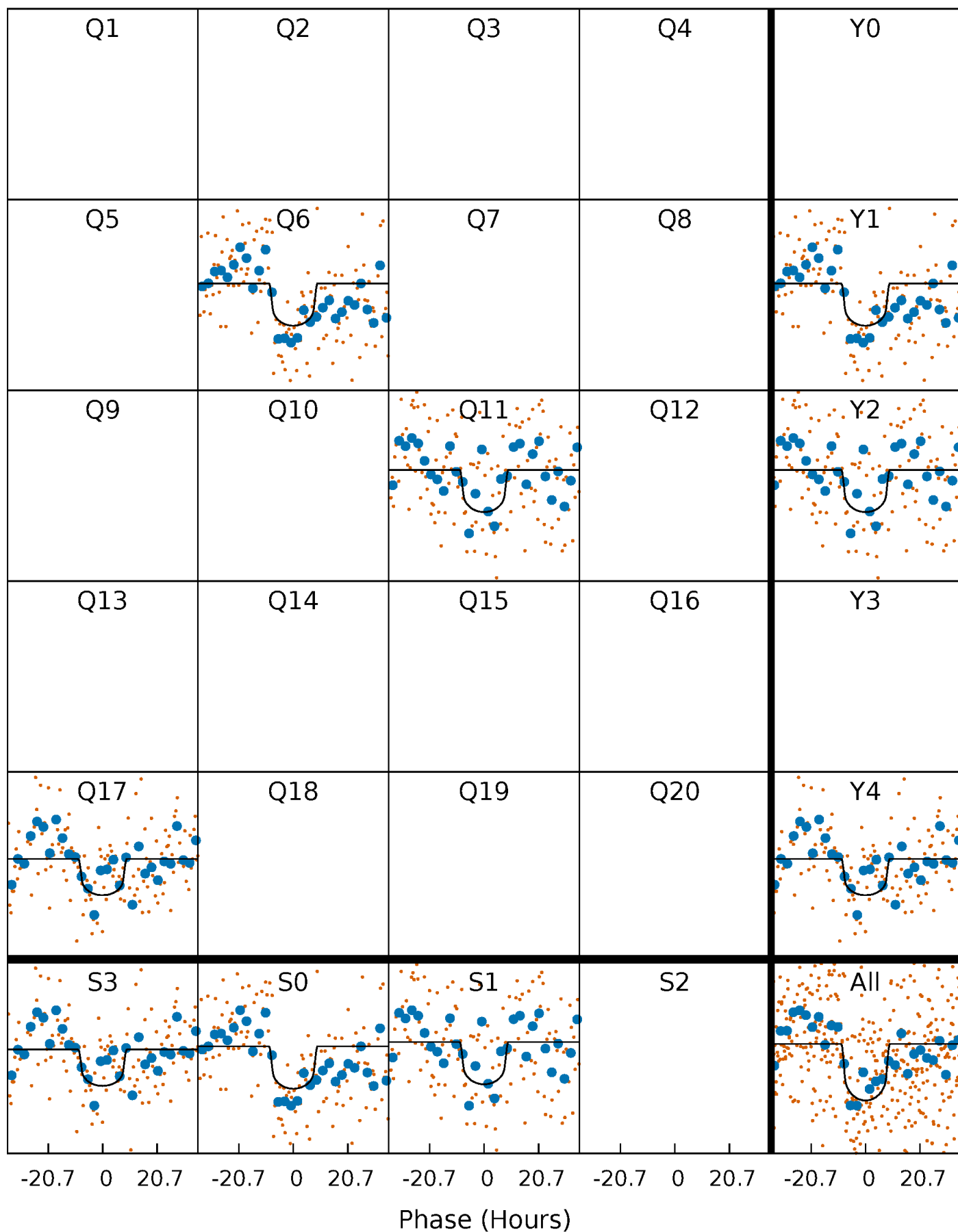
PDC Quarter-Phased Transit Curves

TCE 005791366-01 P=496.756004 Days $T_0=569.719998$ (BKJD)



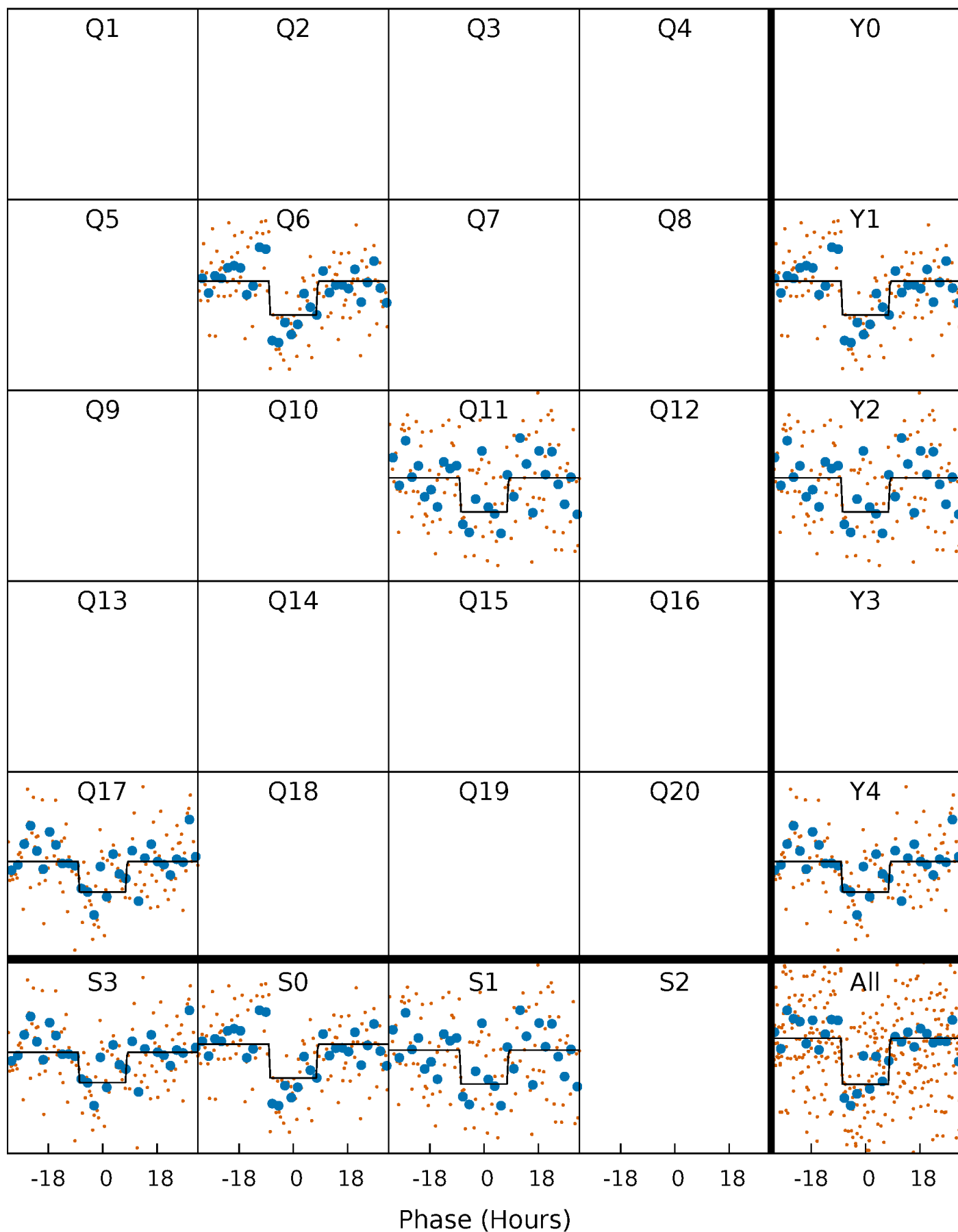
DV Quarter-Phased Transit Curves

TCE 005791366-01 P=496.756004 Days $T_0=569.719998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

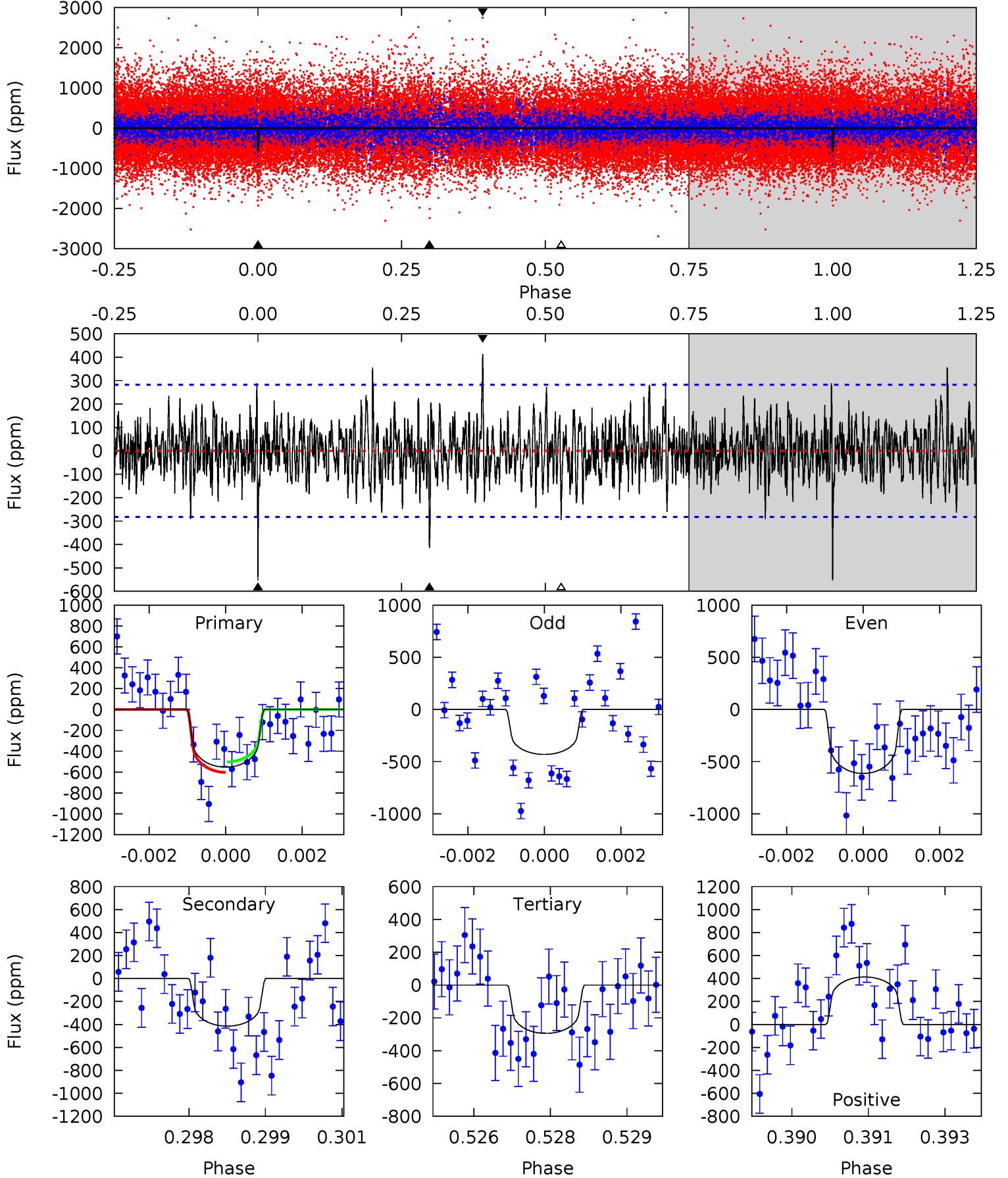
TCE 005791366-01 P=496.739844 Days $T_0=569.724543$ (BKJD)



DV Model-Shift Uniqueness Test

005791366-01, P = 496.756004 Days, E = 72.963994 Days

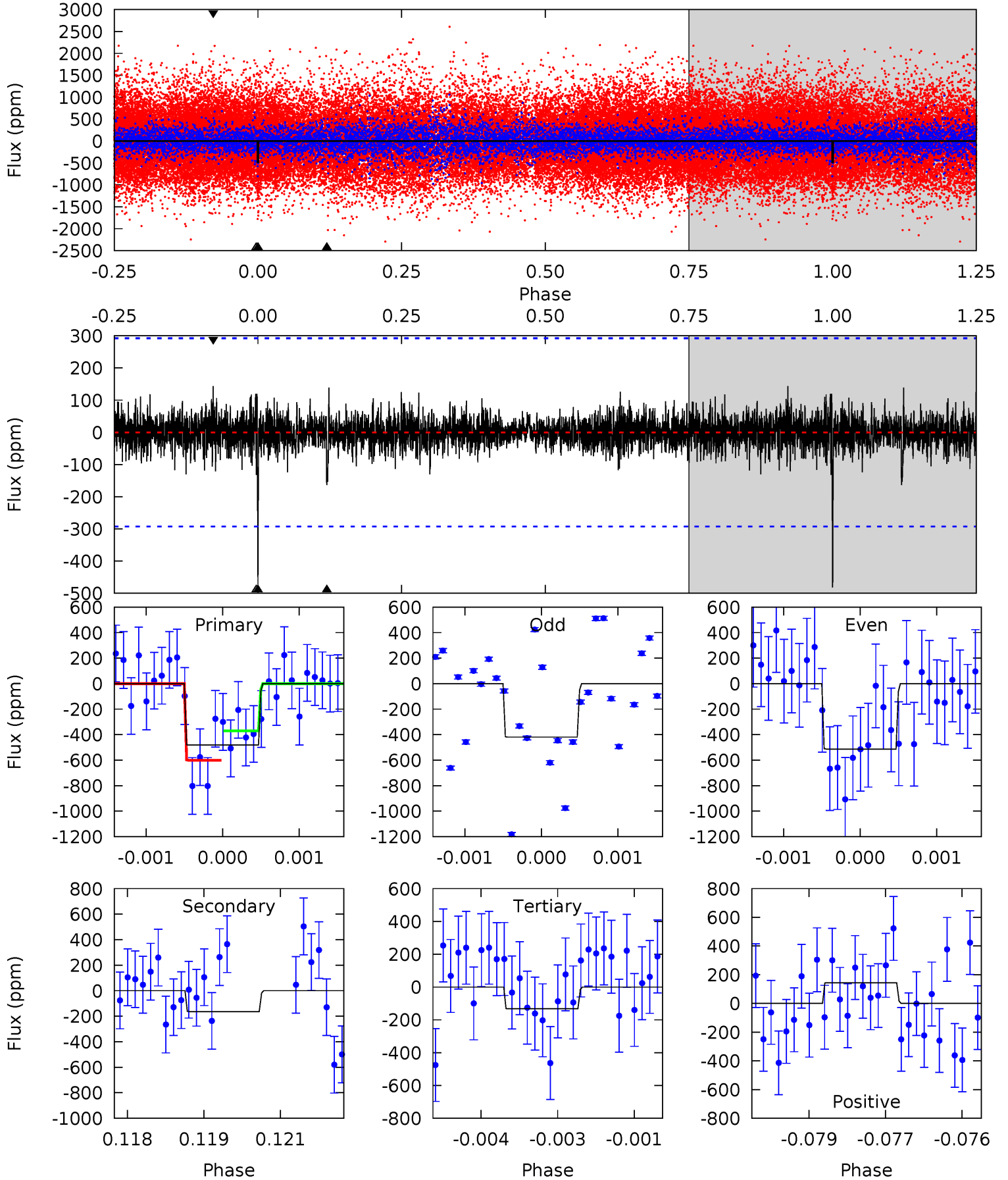
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	7.90	5.61	7.87	5.37	3.17	1.69	4.92	2.66	2.29	0.03	1.64	1.28	0.43	0.94



Alt Model-Shift Uniqueness Test

005791366-01, $P = 496.739844$ Days, $E = 72.984699$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	3.02	2.44	2.65	5.40	3.20	0.62	6.46	6.24	0.58	0.37	0.82	1.15	0.23	2.12



Stellar Parameters For KIC 005791366

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5332^{+185}_{-185}	$4.595^{+0.035}_{-0.112}$	$-0.140^{+0.300}_{-0.300}$	$0.771^{+0.143}_{-0.061}$	$0.865^{+0.078}_{-0.104}$	$2.656^{+0.426}_{-0.903}$
	+3%/-3%	+1%/-2%	+214%/-214%	+19%/-8%	+9%/-12%	+16%/-34%
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 005791366-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-415 ± 52	$2.26^{+0.53}_{-0.57}$	271^{+14}_{-11}	4777^{+658}_{-393}	58454^{+48767}_{-20167}
Alt.	-164 ± 54	$1.92^{+0.55}_{-0.53}$	271^{+13}_{-12}	4254^{+681}_{-449}	32848^{+36344}_{-14936}

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

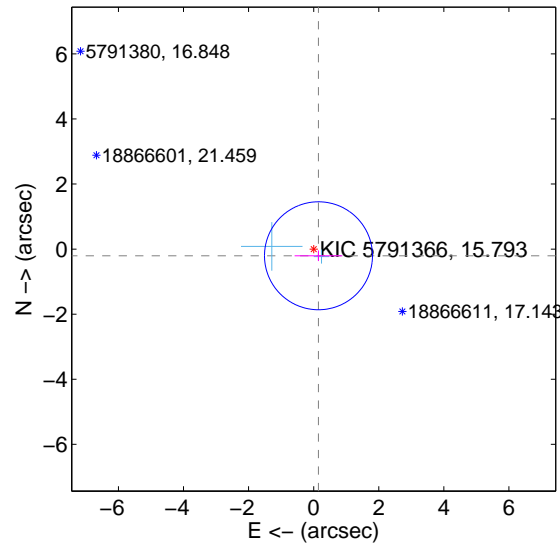
Supplemental centroid analysis for 005791366-01. Kepler magnitude: 15.79. Transit SNR 7.89

There are 2 quarters with good PRF difference image offsets

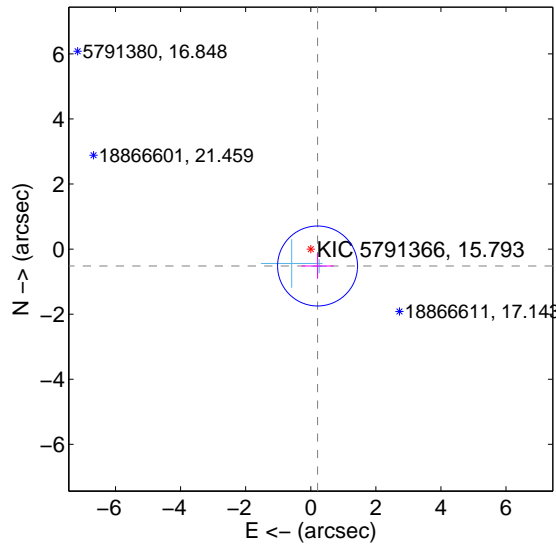
The direct PRF centroid is offset from the target star catalog position by about 0.88 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.553	0.46	-0.148 ± 0.734	-0.205 ± 0.164
PRF-fit source offset from KIC position	0.560 ± 0.410	1.37	-0.209 ± 0.493	-0.519 ± 0.394
photometric centroid source offset	2.35 ± 1.28	1.83	0.35 ± 1.27	-2.32 ± 1.28

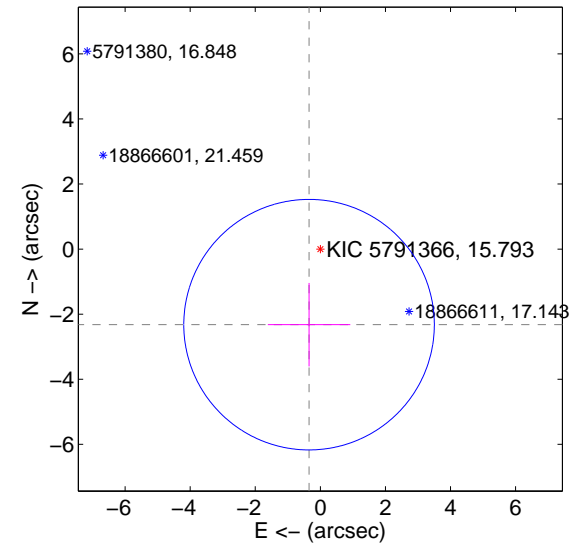
offset from difference PRF-fit to OOT PRF-fit



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.

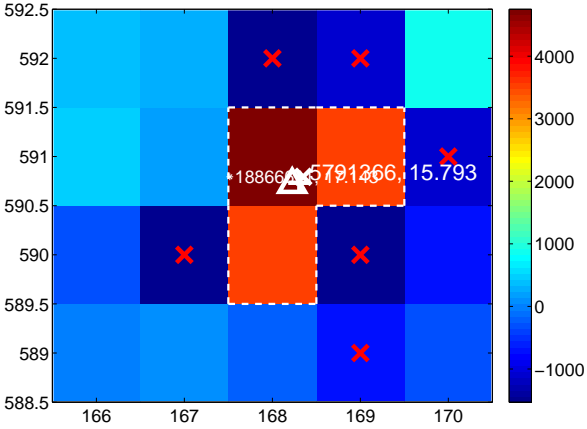
Q5 no difference image



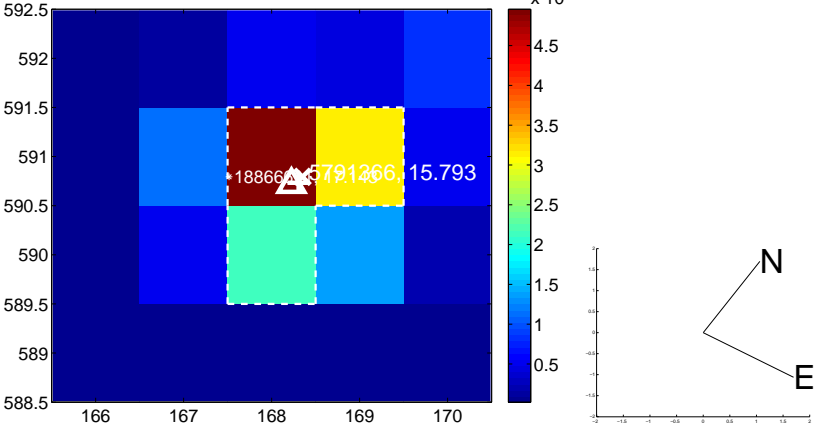
Q5 no OOT image



Q6 difference image



Q6 OOT image



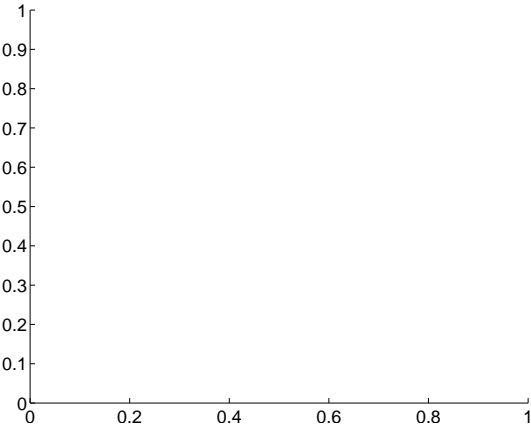
Q7 no difference image



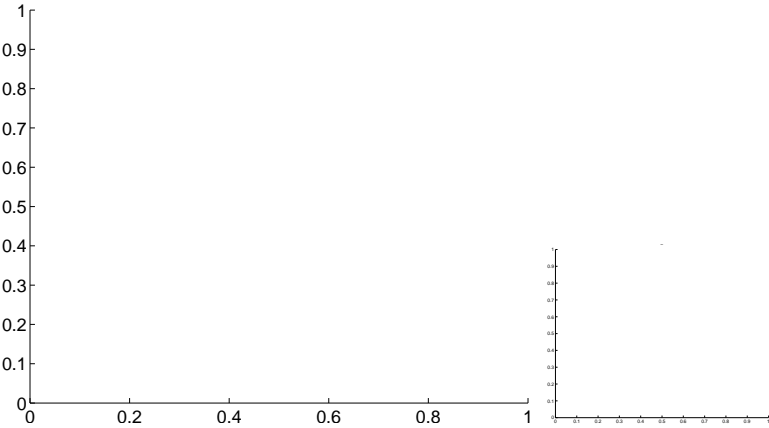
Q7 no OOT image



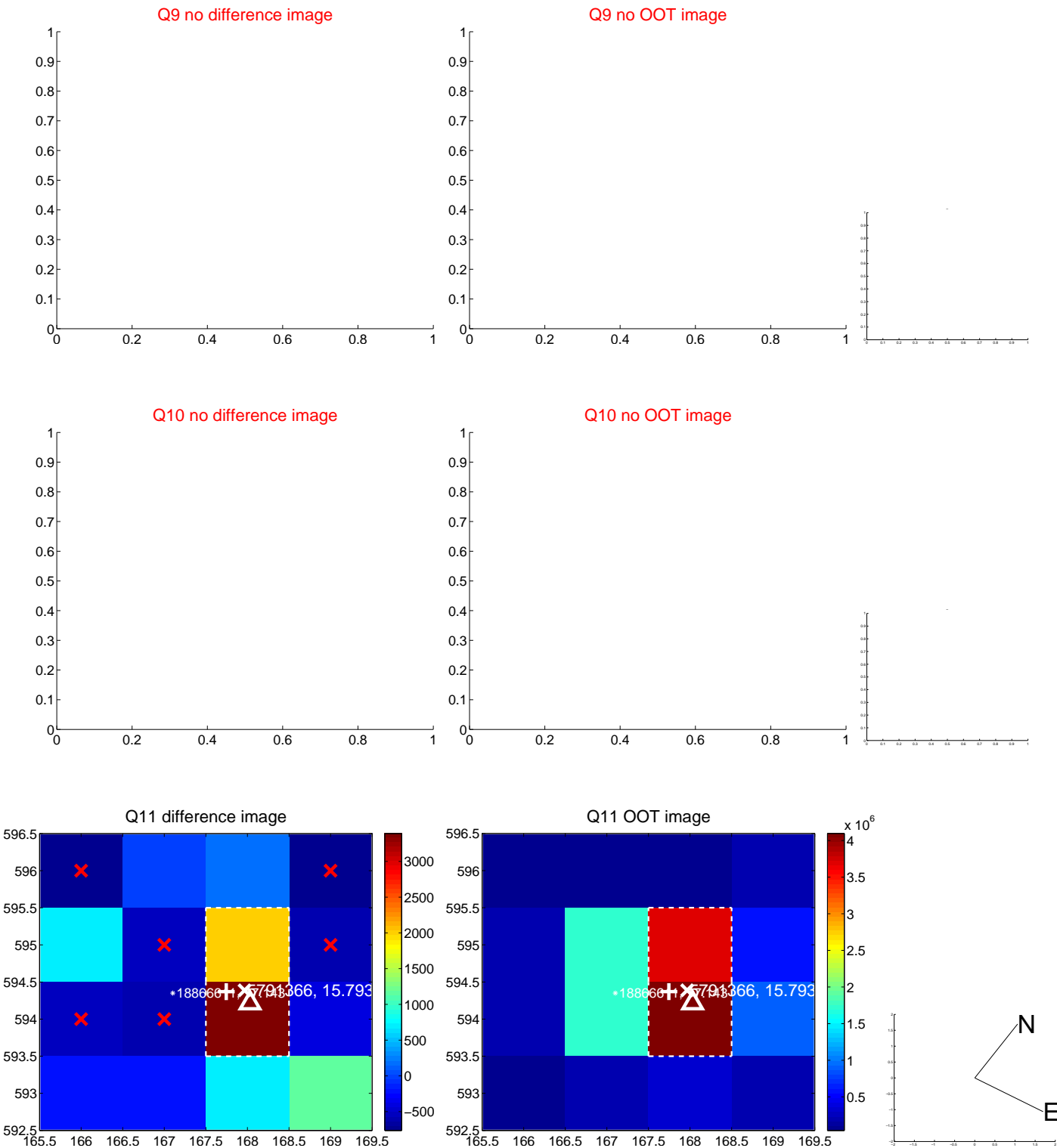
Q8 no difference image



Q8 no OOT image



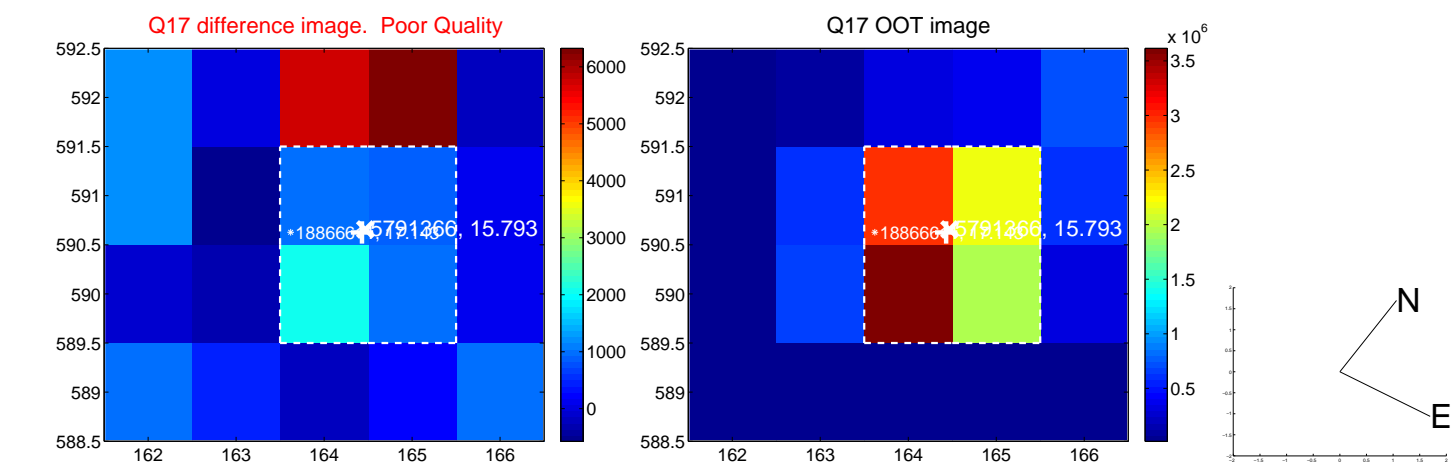
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



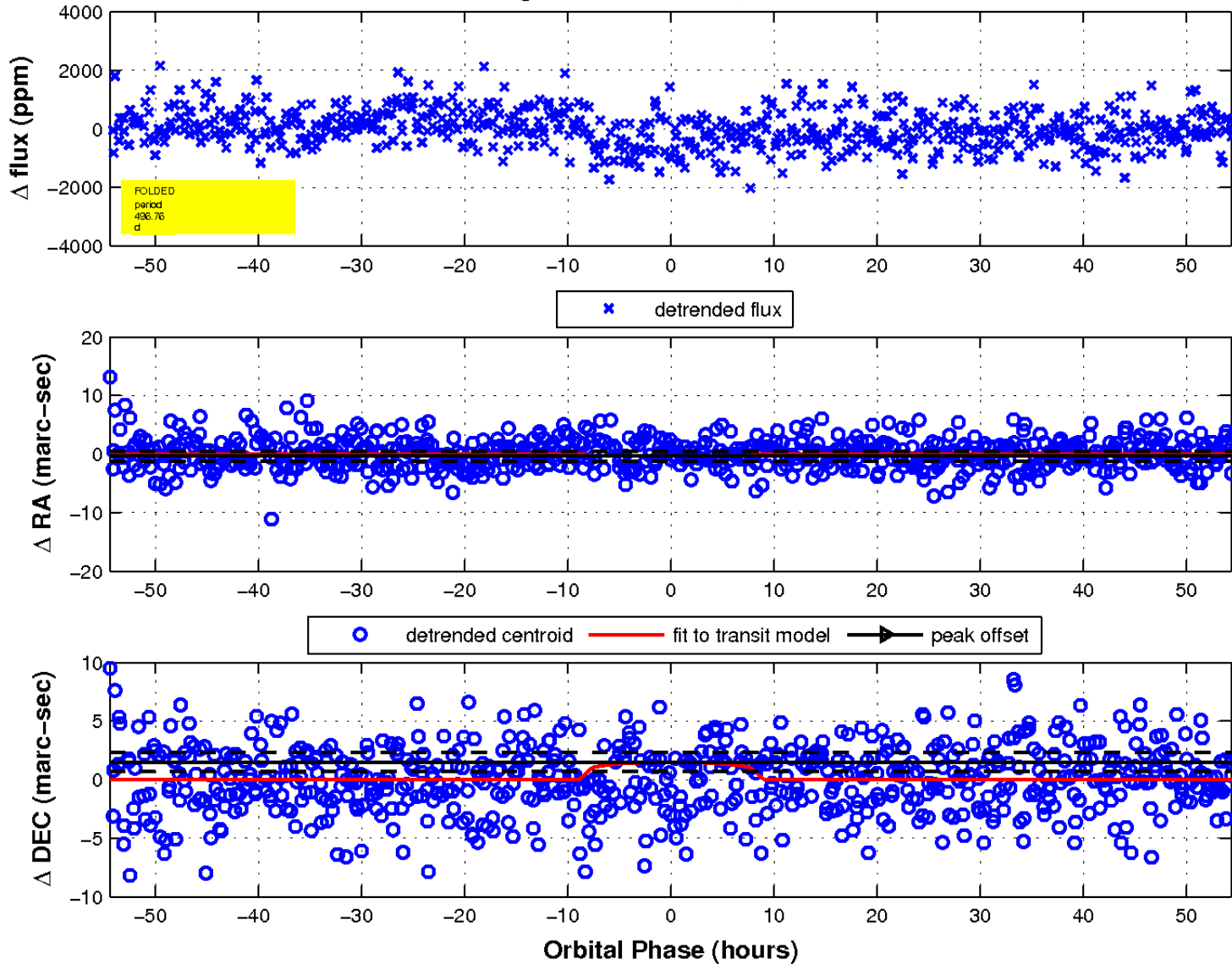
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

